



@server

iSeries

Plan for hardware and software

Version 5





@server

iSeries

Plan for hardware and software

Version 5

Contents

Chapter 1. Cabling instructions	1
Create a custom planning checklist	1
EZ-Setup Error	1
Planning reference information for iSeries	1
Operations Console requirements	2
Choosing a system console	3
Print this topic	3
Planning quickpath	3
Related information for planning	3
Plan your fix strategy	4
Program temporary fix (PTF) strategy	4
Plan for electronic support	5
Review additional support resources	5
Twinaxial console requirements	5
Model 250 planning checklist	5
Model 270 planning checklist	6
Model 820 planning checklist	7
Models 830 and SB2 planning checklist	8
Models 840 and SB3 planning checklist	8
Model 800 and 810 planning checklist	9
Model 825 planning checklist	10
Model 870 or 890 planning checklist	10
iSeries 870 and 890 power considerations	11
Doors and covers	11
Moving the iSeries 870 and 890	11
Power and electrical requirements	12
Phase imbalance and bulk power regulator configuration	12
Balancing power panel loads	12
Power cord configuration	14
Checking the facility outlets and power source	14
Dual power installation	15
Additional installation considerations	17
Multiple server installation considerations	17
Service clearance for multiple server installations	17
Cooling requirements for multiple server installations	18
Chilled air flow area requirements	19
What's new for V5R2	19
Chapter 2. Server planning: Hardware	21
Hardware planning tasks	21
Server planning: Logical partitions	22
Logical partition planning tasks	22
Server planning: Availability	23
Availability planning tasks	23
Server planning: Software	24
Software planning tasks	25
Server planning: Connecting to iSeries	25
Planning tasks for your connection to iSeries	26
Server planning: Integrated operating environments	27
Planning tasks for integrated operating environments	27
Server planning: Performance	28
Performance planning tasks	28
Server planning: Consumables	29

Planning tasks for consumables	29
Server planning: Services	30
Services planning tasks	30
Chapter 3. 2618/8664 Fiber Distributed Data Interface (FDDI) Adapter	33
#2665/#8665 Shielded Twisted-Pair Distributed Data Interface (SDDI) Adapter	33
2666 High-Speed Communications Adapter	33
Cabling your Model 270 system	34
Cabling your Model 820 system	34
General ASCII considerations	34
Cables available from IBM	34
ASCII cables from IBM	43
ASCII cables	44
ASCII workstations	44
Local console directly attached to the server	46
iSeries Access for Windows console cables	46
Cable connectors	46
Determining cable requirements	47
General cabling considerations	47
HSL cable options and loop maximums	48
Cable options for the system unit.	48
Cable options for the expansion unit	49
Maximum expansion units on an HSL Loop	49
High Speed Link (HSL) Glossary	50
High Speed Link (HSL) Information	50
Integrated FAX Adapter	51
Labeling cables	52
Label templates	52
Optical cable fiber specifications	52
Operations Console and Remote Control Panel cables.	53
Operations Console cables for Server Models 270, 820, 830, 840, and SBx	54
Ordering server cables	54
Twinaxial cables	55
ASCII cables	55
iSeries Access Console Cables	55
Plan for cables	55
Cabling considerations	55
Twinaxial Cables.	56
Service clearances	56
Model 15x 2-Port Twinaxial Attachment	56
Model 2xx and 4xx 2-Port Twinaxial Attachment	57
Model 2xx, 4xx, 5xx, 6x0, 7xx and SB1 8-Port Twinaxial Attachment.	58
Distance guidelines for workstation cabling	59
Twinaxial workstations cabling configurations	60
General twinaxial cabling considerations	60
Twinaxial Cables from IBM	60
Twinaxial cables	61
Workstations	61
Wireless LAN Communications	61
Cables	63
Chapter 4. Installation Planning Checklist for models 150, 250, 170 and server 270	65
Chapter 5. Installation Planning Checklist Power Recommendations	67
Chapter 6. 6299 Mid-Range System Hub	69

7299-2EX, 2FX Express Hub	69
7857-017 Modem (Electronic Customer Support)	70
2480 Wireless Access Point	71
3174 Controller	72
3835 Controller	73
5208 Link Protocol Converter	73
5209 Link Protocol Converter	74
5259 Migration Data Link	75
5294 Controller	76
5299 3 Terminal Multiconnector	77
5308 ASCII Wireless Connection	78
5394 Controller	79
5494-EXT Controller	80
5853 Electronic Customer Support (ECS) Modem	81
6611 N-way Multiprotocol Router	81
7855 Electronic Customer Support (ECS) Modem	82
7857 Electronic Customer Support (ECS) Modem	83
8209 LAN Bridge	84
8229 Bridge	85
9335 Device Function Controller	86
ASCII 12-port Workstation Attachment	87
ASCII 6-port Workstation Attachment	88
Twinaxial Workstation Attachment	89
2210 N-ways Multiprotocol Router	89
Chapter 7. Plug and Receptacle Types: 12, 18	91
Plug and Receptacle Types: 12, 22	91
Plug and Receptacle Types: 23, 12, 46 (P+N+G) [16A]	92
Plug and Receptacle Types: 18, 46 (P+N+G) [32A]	92
Plug and Receptacle Types: 18, 46 (3P+N+G), 46 (P+N+G) [32A], 46 (P+N+G) [16A]	93
Plug and Receptacle Types: 23, 46 (P+N+G) [32A], 46 (P+N+G) [16A]	94
Plug and Receptacle Types: 24, 46 (P+N+G) [16A], 46 (P+N+G) [32A], 46 (3P+N+G)	94
Plug and Receptacle Types: 25, 46 (P+N+G) [32A]	95
Plug and Receptacle Types: 4, 10, 12, 29	96
Plug and Receptacle Types: 4, 5, 12, 29	96
Plug and Receptacle Types: 2, 6, 11, 12	97
Plug and Receptacle Types: 6, 54, PDL	98
Countries or Regions: A	98
Plug and Receptacle Types: 4, 23, 5, 12, 29	99
Countries or Regions: B	99
Plug and Receptacle Types: 4, 6, 46 (P+N+G) [16A], 46 (P+N+G) [32A], 64, 70	100
Plug and Receptacle Types: 4, 7, 51, 5, 10, 34, 40, 12, 11, 29, 35	100
Countries or Regions: C, D	102
Plug and Receptacle Types: 25	102
Plug and Receptacle Types: 6, 54, 12	102
Plug and Receptacle Types: 19, 46 (P+N+G) [32A], 46 (3P+N+G), 46 (P+N+G) [16A]	103
Countries or Regions: E, F, G	103
Plug and Receptacle Types: 4, 23, 5, 46 (P+N+G) [16A], 46 (P+N+G) [32A]	104
Countries or Regions: H, I, J, K	104
Plug and Receptacle Types: 32, 46 (P+N+G) [32A], 46 (3P+N+G)	105
Plug and Receptacle Types: 4, 29, 59, 34, 5, 12, 11, 35	105
Plug and Receptacle Types: 18, KP	106
Countries or Regions: L, M	107
Countries or Regions: N, O, P, Q, R	107
Plug and Receptacle Types: 22, 46 (P+N+G) [32A]	107
Plug and Receptacle Types: 22, 46 (P+N+G) [32A], 46 (3P+N+G)	108

Countries or Regions: S	108
Plug and Receptacle Types: 5, 12, 29	108
Countries or Regions: T, U, V, W, X, Y, Z	109
Plug and Receptacle Types: 4, 7, 51, 5, 10, 34, 40, 12, 11, 29, 35	109
Plug and Receptacle Types: 6, 54, 46 (P+N+G) [32A].	111
Chapter 8. 3101 Display Station	113
3153-Bx3, Cx3 InfoWindow ^(R) II ASCII Displays	113
3161 Display Station	114
3162 Display Station	115
3163 Display Station (with stand)	116
3164 Display Station	117
3179 Display Station	118
3180 Display Station	119
3196 Display Station	120
3197 Display Station	121
3476-EA, EG Display Stations	121
3477 Display Station	122
3482 InfoWindow ^(R) II Display Station (with stand)	123
3483 Modular Display Station	124
3486 Display Station (with stand)	125
3487 HA and HG Display Station (with stand)	126
3488 Display Station Logic Unit	127
3489 InfoWindow ^(R) II Modular Display Station	128
5251 Display Station	129
5251 12 Display Station Controller.	129
5291 Display Station	130
5292 Display Station	131
5295-001 Display Station	132
5295-002, 0C2 Display Station	133
5295-LK1 Display Station	134
Chapter 9. 5030, 5031 I/O Card Unit	135
2440-A12 Magnetic Tape Drive	135
3422-A01 Magnetic Tape Drive	136
3422-B01 Magnetic Tape Drive	137
3430-A01 Magnetic Tape Drive	138
3430-B01 Magnetic Tape Drive	139
3480-A11, A22 Magnetic Tape Drive	140
3480-B11, B22 Magnetic Tape Drive	141
3490-A01 Magnetic Tape Drive	141
3490-A02 Magnetic Tape Drive	142
3490-A10, B20 Magnetic Tape Drive	143
3490-A20 Magnetic Tape Drive	144
3490-B02 Magnetic Tape Drive	145
3490-B04 Magnetic Tape Drive	146
3490-B40 Magnetic Tape Drive	147
3490-C22 Magnetic Tape Drive	147
3490-D31 Magnetic Tape Drive	148
3490-D32 Magnetic Tape Drive	149
3490-D41, D42 Magnetic Tape Drive	150
3490-E01 Magnetic Tape Drive	151
3490-E11 Magnetic Tape Drive	152
3494 [FC.5300] C1A, C2A Magnetic Tape Drive	153
3494 [FC.5400] Magnetic Tape Drive	153
3580 Tape Drive	154

3995-C40, C42, C62 Optical Disk Drives	155
3995-C44 Optical Disk Drive	156
3995-C48 Optical Disk Drive	156
5032 Magnetic Tape Drive	157
9331-001, 002 Diskette Unit	158
9331-011 Diskette Unit	159
9331-012 Diskette Unit	160
9332-200, 400, 600 Disk Unit	161
9335 Device Function Controller	162
9335-B01 Disk Unit	163
9336-25 Disk Unit	164
9336-10, 20 Disk Unit	165
9337 Disk Unit	166
9337 Disk Unit Stand-Alone FC.2400, FC.2410	166
FC.6135 Disk Unit.	167
3450-001 Magnetic Tape Drive	168
3490-C10 Tape Unit	169
3490-C11 Tape Unit	170
3490-C1A Tape Unit	171
3490-C2A Tape Unit	172
3490E - F00 Tabletop Tape Unit.	172
3490E-F11 Tabletop Tape Unit	173
3490E - F01 Tabletop Tape Unit.	174
3494-L10 Tape Library	175
3494-L12 Tape Library	176
3494-L14 Tape Library	177
3570-B00 Tape Subsystem	177
3570-B01 Tape Subsystem	178
3570-B02 Tape Subsystem	179
3570-B11 Tape Subsystem	180
3570-B12 Tape Subsystem	181
3570-C00 Tape Subsystem	182
3570-C01 Tape Subsystem	183
3570-C02 Tape Subsystem	184
3570-C11 Tape Subsystem	185
3570-C12 Tape Subsystem	186
3575-L06 Tape Subsystem	186
3575-L12 Tape Subsystem	187
3575-L18 Tape Subsystem	188
3575-L24 Tape Subsystem	189
3575-L32 Tape Subsystem	190
3590-A50 Tape Controller	191
3590-B11 Tape Unit	192
3590-B1A Tape Unit	192
5032 Tape Unit	193
7208-012 Tape Drive (Stand-Alone & Rack Mount).	194
7208-222 Tape Drive.	195
7208-232, 234 Tape Drive	196
9346-001 Tape Unit	196
9347 Tape Unit	197
9348-001 Tape Drive.	198
9348-002 Tape Drive.	199
9427-210 Tape System	200
9427-211 Tape System	201
Chapter 10. Air quality.	203

Altitude	203
Bonding to a signal reference grid (SRG)	203
Earthquake prone environments	204
Raised-floor environment	204
Electromagnetic interference	204
Environmental factors	205
Humidity	205
Lighting	205
Neutral-to-ground voltage	206
Noise emissions	206
Environment reference	207
Do not stack units	207
Temperature	207
Chapter 11. Electronic Support Access	209
Chapter 12. Physical Planning Forms	215
Server Information Form 3A	215
Workstation Information Form 3B	216
Electronic Customer Support (ECS) Form 3C	217
Wide Area Network (WAN) Form 3D	217
Local Area Network (LAN) Form 3E	218
Chapter 13. FC 0550 Model 830 Rack	221
FC 0551 iSeries rack.	223
Plan for server specifications	224
Model 170 and Model 250	224
Plan for server specifications	226
Model 270	226
FC 0551 Model 270 Rack System Units.	229
FC 5033 Migration Tower (for server 820/830)	230
FC 5034 & FC 5035 Migration Towers (for server 820/830).	232
FC 5052 Disk Expansion Unit	233
FC 5055 Disk Expansion Unit	233
FC 5057 Disk Expansion Unit	233
FC 5058 Disk Expansion Unit	233
FC 5064 Expansion for Model S20	233
FC 5065 Storage/PCI Expansion Tower	234
FC 5066 1.8M Storage/PCI Expansion Tower.	235
FC 5070 Expansion Tower.	237
FC 5071 Expansion Tower (Ultra SCSI)	238
FC 5072 Expansion Tower.	239
FC 5073 Expansion Tower (Ultra SCSI)	241
Feature Code 5074 Expansion Unit (for servers 820, 830, 840) or 9079 Expansion Unit with 5078 Expansion Unit (for Model 840)	242
FC 5075 PCI Expansion Entry Tower (for server 270/820)	243
FC 5077 Migration Tower (for server 830/840)	245
Feature Code 5078 Expansion Unit for 5074 Expansion Unit, 9079 Base I/O Tower (840 only), or 0551 iSeries rack	246
FC 5080 Storage Expansion Tower	247
FC 5081 Storage Expansion Tower (Ultra SCSI).	249
FC 5082 Storage Expansion Tower	250
FC 5083 Storage Expansion Tower (Ultra SCSI).	251
Feature code 0588 and 5088 PCI-X expansion unit for 5094 expansion unit, 9094 I/O expansion unit, 5074 expansion unit, 9079 I/O expansion unit, or 0551 iSeries rack.	253

Feature Code 5094 expansion unit (for Models 800, 810, 820, 825, 830, 840, 870, and 890) or 9094 I/O expansion unit with 5088 PCI-X expansion unit (for Models 870 and 890)	254
FC 0595 or 5095 PCI-X expansion unit (for Models 270, 800, 810, 820, 825, 830, 840, 870, and 890)	255
Server Towers 510 and 50S with Disk Expansion 5051 and 5052	257
FC 5294 1.8M I/O rack (for Models 820, 830, 840, 825, 870, and 890)	258
Plan for server specifications	259
Model 800 and 810	260
Plan for server specifications	261
Model 825	262
Plan for server specifications	263
Model 870 and 890	264
FC 7101 or 7102 Expansion Unit for Models 170 and 250	267
FC 7104 Expansion Unit for the Model 270	267
FC 7116 expansion unit for Model 800 or 810	267
Feature code 8079 optional base 1.8m model 840 I/O rack	267
FC 8094 base I/O expansion unit (for servers 870 and 890) optional 1.8M rack	269
Plan for server specifications	270
Model 820	271
Plan for server specifications	272
Models 830 and SB2.	272
Plan for server specifications	274
Models 840 and SB3.	274
FC 9074 Base I/O Enclosure (for server 830/SB2)	276
FC 9079 base I/O expansion unit (for server 840 or SB3) or 5074 expansion unit	277
FC 9094 base I/O expansion unit or 5094 expansion unit	278
FC 9251 I/O unit	279
FC 9364 Expansion Unit for Model 620 and 720	281
FC 9364 expansion unit for the migration tower FC 5034 and FC 5035	281
9406 FC 5040 Bus Extension Rack	281
9406 FC 5042 System Expansion Rack	282
9406 FC 5044 System Expansion Rack	284
FC 5079 1.8M Storage/PCI Expansion Unit (for server 820/830/840)	285
FC9309 Rack Enclosure	286
9406 B30, B35, B40, B45 System Processor Rack.	288
9406 B50, B60, B70 Rack	289
9406 D35, D45, D50, D60, D70, D80 System Processor Rack.	290
9406 E35, E45, E50, E60, E70, E80, E90, E95 Processor Rack	291
9406 F35, F45, F50, F60, F70, F80, F90, F95 Processor Rack	291
9406 F97 Processor Rack	292
9402 Model Cxx -Fxx System Units	293
9404 Model Bxx-Fxx System Units.	294
Model 150	295
Planning for a Model 250	296
9402/9404-2xx, 4xx System Unit with Expansion Unit 7117, 9117	297
9402/9404 - 2xx, 4xx System Unit	298
9404/9406 3xx Expansion Tower (5061, 5062, and 5063) with Disk Expansion 5052	299
9404/9406 3xx System Tower with Disk Expansion 5051, 5052, or 9250	300
Server Tower 500 with Disk Expansion 5051 and 5052	301
Servers (Processor and I/O Sides) 530 and 53S	302
Model 600 and Model S10.	303
Models 620, S20, and 720.	305
Models 640, S30, and 730.	306
Models 650, S40, 740, and SB1	308
9406 6xx and 7xx System Units.	309
Chapter 14. Line cord options for an 0551 iSeries Rack:	311

Line cord feature 1300 for Models 870 and 890	311
Line cord feature 1301 for Models 870 and 890	312
Line cord feature 1302 for Models 870 and 890	312
Line cord feature 1303 for Models 870 and 890	312
Line cord feature 1304 description	312
Line cord feature 1397 description	312
Line cord feature 1398 description	312
Line cord feature 1399 description	312
Line cord feature 1401 description	312
Line cord feature 1406 description	312
Line cord feature 1407 description	313
Line cord feature 1408 description	313
Line cord feature 1409 description	313
Line cord feature 1410 description	313
Line cord feature 1412 description	314
Line cord feature 1414 description	314
Line cord feature 1415 description	314
Line cord feature 1418 description	314
Line cord feature 1419 description	315
Line cord feature 1420 description	315
Line cord feature 1421 description	315
Line cord feature 1422 description	315
Line cord feature 1426 description	316
Line Cord Feature 1427 Description	316
Line cord feature 1438 description	316
Line cord feature 1439 description	316
Line cord feature 1440 description	316
Line cord feature 1441 description	316
Line Cord Feature 1442 Description	317
Line cord feature 1443 description	317
Line cord feature 1444 description	317
Line cord feature 1445 description	317
Line cord feature 1446 description	317
Line cord feature 1447 description	318
Line cord feature 1448 description	318
Line cord feature 1449 description	318
Line cord feature 1450 description	318
Line cord feature 1451 description	318
Line cord feature 1452 description	318
Line cord feature 1453 description	319
Line cord feature 1454 description	319
Line cord feature 1455 description	319
Line cord feature 1456 description	319
Line cord feature 1457 description	320
Line Cord Feature 1458 Description	320
Line cord feature 1459 description	320
Line cord feature 1476 description	320
Line Cord Feature 2960 Description	320
Line Cord Feature 2961 Description	321
Line Cord Feature 4961 Description	321
Line cord feature 9002 description	321
Line Cord Feature 9080 Description	321
Line Cord Feature 9082 Description	322
Line Cord Feature 9083 Description	322
Line Cord Feature 9180 Description	322
Line Cord Feature 9182 Description	322

Line Cord Feature 9183 Description	322
IBM Rochester's position on modifying of IBM-provided power cords	322
Plug Type 12 Countries or Regions	323
Plug Type 18 Countries or Regions	323
Plug Type 46 (P+N+G) [32A] Countries or Regions	324
Plug Type 46 (P+N+G) [16A] Countries or Regions	324
Line cord features	324
Note	326
Plug and Receptacle Type 12 Part Numbers	326
Determine line cord, plug, and receptacle type	326
iSeries Plug and Receptacle Types: By Model	327
Plug and receptacle types for FC#s: 8079, 8093 and 9094	329
Plug and receptacle types for the 0550 and 0551 (1.8 m) racks	330
Plug and receptacle types for server models 170 and 250	330
Plug and receptacle types for server models: 15x, P0x, 2xx, 4xx, 620, S20, 720	331
Plug and receptacle types for server model 270	331
Plug and receptacle types for: server models 3xx/5xx, 53x I/O Side, expansion units 5070, 5072, 5080, 5082	332
Plug and receptacle types for the 5065 expansion unit	333
Plug and receptacle types for Models 870 and 890	333
Plug and receptacle types for: Models 800, 810, 825, and FC#s 5075, 5095, 7116, 7316, and 9316	334
Plug and receptacle types for FC 5094 and 5294	334
Plug and receptacle types for the 53x Processor	335
Plug and receptacle types for server models 600 and S10	335
Plug and receptacle types for server model 620, S20, 720	336
Plug and receptacle types for server models 640, 650, S30, S40, 730, 740, & SB1	336
Plug and receptacle types: Model 820 and Expansion Units 5074, 5075, 5077, 5078, and 5079	337
Plug and Receptacle Types: Models 830 and SB2; Base I/O Enclosure 9074; and Expansion units 5065, 5066, 5074, & 5079	338
Plug and receptacle types for server models 840 and SB3	338
Plug and receptacle types: 9079 Base I/O Tower (for Models 840 and SB3)	339
Plug and receptacle types: 9251 Base I/O Tower and Expansion units 5071, 5073, 5081, 5083	339
Plug and Receptacle Configurations	340
Plug and Receptacle Type 10	341
Plug and Receptacle Type 11	343
Plug and Receptacle Type 12	344
Plug and Receptacle Type 18	345
Plug and Receptacle Type 19 (P+N+G) [10A].	346
Plug and Receptacle Type 2	347
Plug and Receptacle Type 22	348
Plug and Receptacle Type 23	350
Plug and Receptacle Type 24	352
Plug and Receptacle Type 25	353
Plug and Receptacle Type 29	355
Plug and Receptacle Type 32	355
Plug and Receptacle Type 34	357
Plug and Receptacle Type 35	358
Plug and receptacle type 4	359
Plug and Receptacle Type 40	360
Plug and Receptacle Type 46 (P+N+G) [32A].	361
Plug and Receptacle Type 46 (3P+N+G)	362
Plug and Receptacle Type 46 (P+N+G) [16A].	362
Plug and Receptacle Type 5	363
Plug and Receptacle Type 51	365
Plug and Receptacle Type 54	366
Plug and Receptacle Type 59	367

Plug and Receptacle Type 6	367
Plug and Receptacle Type 64	368
Plug and receptacle type 70	369
Plug and receptacle type 7	370
Power line cords; plugs and receptacles	371
Plug and Receptacle Type KP	372
Plug and Receptacle Type PDL	373
Plug and Receptacle Type 26	374
Plug and Receptacle Type 430 R7W	374
Plug and Receptacle Type 460 R9W	375
Line Cord Feature 5102 Description	375
Line Cord Feature 5103 Description	375
Line Cord Feature 5104 Description	375
Line Cord Feature 5105 Description	375
Line Cord Feature 5106 Description	376
Chapter 15. B40 UPS (Model 150)	377
B41 UPS (Model 150)	377
B72 UPS (Model 150)	378
E12 UPS (Model 150)	379
E19 UPS (Model 150)	379
E02 UPS (Model 150)	380
E20 UPS (Model 150)	381
E21 UPS (Model 150)	381
E03 UPS (Model 150)	382
E09 UPS (Model 150)	383
EX3 UPS (Model 150)	383
IBM 800W CPM UPS for Model 170	384
IBM 1400W CPM UPS for Model 170 with Feature Code 7101 or 7102	385
EP8 Powerware UPS with PPDM 6567 (server 820)	385
B38 BEST UPS (server 830/SB2)	386
B42 BEST UPS (server 830/SB2)	387
B43 BEST UPS (server 830)	387
B46 BEST UPS (server 830/SB2)	388
B47 BEST UPS (server 830/SB2)	388
EP5 Powerware UPS with PPDM 6561 (server 830)	389
EP5 Powerware UPS with PPDM 6562 (server 830)	390
EP8 Powerware UPS with PPDM 6566 (server 830)	390
EP8 Powerware UPS with PPDM 6567 (server 830)	391
AC Module Power Connector J11 for 3xx, 5xx, 6x0, 7x0, Sx0 Systems	391
B52 UPS (Models S30, S40, SB1, 730, 740, 640, 650)	392
B53 UPS (Models S30, S40, SB1, 730, 740, 640, 650)	393
B54 UPS (Models S30, S40, SB1, 640, 650)	393
continuously powered main storage (CPM)	394
Emergency Power Off (EPF) on 3xx, 5xx, and 6x0, Sx0, and SB1 Towers	394
External System Attention	395
Extended continuously powered main storage (CPM)	395
General Power Considerations	396
Uninterruptable Power Supply connector J14 pinouts	396
Communications Power Specifications	397
Magnetic Storage Media Devices Power Specifications	397
Display Stations Power Specifications	401
General Power Considerations	403
Determining your power requirements	404
Personal Computers Power Specifications	404
Printers Power Specifications	406

Racks Power Specifications	412
Units and Towers Power Specifications	413
Remote Power On (RPO)	419
Signal levels for TTL are as follows	419
Signal levels for RS 232 are as follows	419
Plan for power	419
Review power considerations	420
B31 UPS (Models S10, S20, 720, 600, 610)	420
B33 UPS (Models S10, S20, 720, 600, 610)	421
B73 UPS (Models S10, 600)	422
B74 UPS (Models S10, 600)	422
E19 UPS (Models 600 and S10) with PPDM 6560	423
E03 UPS (Models 600 and S10) with PPDM 6560	424
E09 UPS (Models 600 and S10) with PPDM 6559	424
EX3 UPS (Models 600 and S10) with PPDM 6559	425
IBM 1400W UPS for Models 60x and S10	426
B52 UPS (Models S20, 620, & 720)	426
B53 UPS (Models S20, 620, & 720)	427
B54 UPS (Models S20, 620, & 720)	427
EP5 UPS (Models S20, 620, and 720) with PPDM 6561	428
EP5 UPS (Models S20, 620, and 720) with PPDM 6562 or PPDM 6563	429
EP8 UPS (Model S20, 620, and 720) with PPDM 6557	429
EP8 UPS (Model S20, 620, and 720) with PPDM 6558	430
EP8 UPS (Model S30, S40, 730 and 740, 640, 650) with PPDM 6557	431
EP8 UPS (Model S30, S40, SB1, 730 and 740, 640, 650) with PPDM 6558	431
System and Devices Power Specifications	432
Uninterruptible power supply systems	432
BEST Power™	433
Uninterruptible Power Supply (UPS)	434
IBM Cord	434
IBM cord for UPS	434
UPS power line cords, plugs, and receptacles	435
Chapter 16. 2380-001, 002 Printer	441
2381-001, 002 Printer	441
2390-001, 002 Printer	442
2391-001, 002 Printer	443
3816-01S, 01D Printer	444
3820 Printer	445
3912-AS0, AS1 Page Printer	446
3916-AS0, AS1 Page Printer	447
3930 Printer D Models	448
3930 Printer S Models	449
3935-001 Printer	449
4019 Laser Printer	450
4028 Laser Printer	451
4029 Laser Printer	452
4037-5E Printer.	453
4039-10D Printer	454
4039-10R Printer	455
4039-12L Printer	456
4039-12R Printer	456
4039-16L Printer	457
4070-001 Printer	458
4070-002 Printer	459
4072-001 Printer	460

4076-001 Printer	461
4079-1 Printer	462
4201-1, 2 Proprinter I, II, III, XL	463
4202-1, 2, 3 Proprinter I, II, III, XL	463
4207-1, 2 Proprinter X24, X24E	464
4208-1, 2 Proprinter XL24, XL24E	465
4210-1 Printer	466
4214-2 Printer	467
4216-10, 30, 31 Pageprinter	468
4224-101, 102, 1E2, 1C2, 301, 302, 1A3, 3A3, 1X1, 1X2 Printer	469
4224-1E3, 3E3 Printer	470
4226-302 Printer	471
4230-101, 102, 1E2, 1C2, 301, 302 Printer	471
4230-4I3, 4S3 Printer	472
4234-2, 12, 13 Printer [with stand]	473
4245-T12 Printer	474
4245-T20 Printer	475
5201-2 Quietwriter	476
5202 Quietwriter	477
5204 Quickwriter Printer	477
5216-2 Wheelprinter	478
5219-D01, D02 Printer	479
5223 Wheelprinter E	480
5224-1, 2 Printer	481
5225-1, 2, 3, 4 Printer	482
5227-001, 002, 003, 005 Printer	483
5256 Printer	484
5262-1 Printer	484
5317-001 Printer	485
5327-001 Printer	486
5337-001 Printer	487
5417-001, 002, 003, 005 Printer	488
5427-001, 002, 003, 005 Printer	489
5553-B01, B02 Printer	490
5557-B01 Printer	491
5563-B02, H02 Printer	492
5572-B01 Printer	492
5572-B02 Printer	493
5575-B01, B02, F01, F02 Printer	494
5577-B01, B02, F01, F02, G01 Printer	495
5582-P01 Printer	496
5583-200 Printer	497
5587-G01 Printer	498
6412 Printer	499
3130 Advanced Function Printers	499
3160 Printer	500
3170 Printer	501
3828 Printer	502
3829 Printer	503
3835 Printer	504
3900 Printer	505
4232 Printer	506
4247 Serial Matrix Printer	507
4312 Network Printer 12 (Laser Printer)	507
4317 Network Printer 17 (Laser Printer)	508
4324-001, 003 Network Printer 24 (Laser Printer)	509

4324-002, 004 Network Printer 24 (Laser Printer)	510
6252 Printer	511
6262-T22 Printer	512
6262-T12, T14 Printers	513
6400 Printer	514
Chapter 17. Cabling schematic for 5077 migration tower to 830 CEC frame	517
Cabling schematic for 5077 Migration Tower, 9079 Base I/O tower, and 840 CEC frame	517
Console and Modem Location	518
Size and Weight: Communications.	518
Size and Weight: Display Stations	519
Preparing for system delivery	520
Size and Weight: Personal Computers	521
Size and Weight: Printers	523
Size and Weight: Racks, Controllers, Processors, and Battery Backup Units	527
Size and Weight: Magnetic Media Storage Devices	528
Size and Weight: System Towers and Units	530
Sample site plan	533
HSL loop configuration	534
Plan for computer room floor plan	534
Mapping out your site	534
Packaging dimensions	535
Location considerations	536
Display Station Service Clearances	537
Personal Computer Service Clearances	538
Printer Service Clearances	538
Rack, Controller, and Communication Service Clearances	541
Magnetic Media Storage Device Service Clearances	542
System Unit and Tower Service Clearances	543
Choose a site	543
Site considerations	543
Size and Weight tables	544
Consider your strategy for physical security	544
Considering the size of your server	545
Chapter 18. Communication Controller, Hub, Router, and Modem Specifications	547
Display Station Specifications	547
Expansion Tower and Unit Specifications	548
Printer Specifications.	548
Hardware requirements	550
Hardware specification sheets	550
Server specifications	551
Removable media storage device specifications	551
Specifications for expansion units, migration towers, advanced servers, and racks	553

Chapter 1. Cabling instructions

This page will list the available cabling instruction links based on the customer's server and expansion units.

Example links:

Model 820 Twinaxial

- With an expansion unit
- Without an expansion unit

Operations Console

- With an expansion unit
- Without an expansion unit

Create a custom planning checklist

From here you can run an interview wizard through EZ-Setup for iSeries^(TM).

When you are ready to run this interview, you can do so only from the Internet.

Follow the prompts to answer a comprehensive series of questions and to create a customized planning checklist tailored to your needs.

You will need to know detailed information about your order, such as model, release, features, whether it is an upgrade, and any additional solutions you have ordered. If you need help answering the interview questions, contact your marketing representative.

If this is a new server order:

This interview generates a customized checklist of server and environment planning tasks. It also generates a configuration file to use with EZ- Setup and provides a shortcut to your setup process when your server arrives.

If this is an upgrade or data migration:

This interview generates a customized checklist of server and environment planning tasks.

Create a custom planning checklist

EZ-Setup Error

Custom Setup, a feature in the EZ-Setup wizard, will display a fatal error if it can not communicate with your server from your personal computer over the LAN. This should not stop you from completing your setup. **The configuration you have already finished in EZ-Setup has not been affected.**

In order to accomplish the other recommended tasks, start Operations Console from its icon in the iSeries^(TM) Access for Windows^(R) folder from the desktop on your personal computer. This will provide a command line interface to your server.

Use the following link for recommendations and instructions to complete the additional tasks through this command line interface: Making your system operational . You can skip the steps you have already completed.

Planning reference information for iSeries

This quick reference organizes your site planning information into categories. Within each category, you can choose topics that consist of explanations and step-by-step processes to give you the information you need to prepare your site for your server.

Server specifications

Dimensions, electrical, power, temperature, environment, and service clearances.

Hardware specification sheets

All the information you need to know about your system equipment in one place.

Location considerations

Unit size and weight, physical security, and site planning.

Power

Power, line cord, and plug specifications.

Cables

Twinaxial, ASCII, and iSeries Access cables and their requirements, and workstation cabling configurations.

Environment

Air quality, temperature, humidity, and other environmental requirements.

Operations Console requirements

Operations Console is an installable component of iSeries^(TM) Access for Windows^(R). It allows you to use one or more PCs to access and control, either remotely or locally, the iSeries console and control panel.

Operations Console allows you to use a familiar Windows^(R)-style graphical interface through a personal computer that is set up as your system console. In addition, you can use the EZ-Setup wizard to help you configure your Operations Console. The EZ-Setup wizard helps you to install iSeries Navigator; set the system name, date, time, and some basic security values; and perform some other tasks.

Before you decide to install Operations Console, you may want to verify that your PC can be used for EZ-Setup or the Operations Console. You can download IBM^(R)'s quick and easy PC Checking Tool to determine whether your PC meets the key hardware and software requirements to run Operations Console.

Note: The PC Checking Tool only checks for key hardware and software requirements.

See the instructions below for more information on both of these considerations.

- V4R5 PC Checking Tool
- V5R1 PC Checking Tool
- V5R2 PC Checking Tool

To use the PC Checking Tool, download the program to your PC. Be sure to run the tool on the same PC that you will use for Operations Console, or to run the EZ-Setup wizard. Go to the directory to which you downloaded the PC Checking Tool and double-click **ezchkuti.exe**. Follow the instructions presented to install and run the program. (The file is 252 KB in size and takes approximately 2 minutes to download over a 28.8 kbps connection.)

•

Operations Console is supported on:

- Windows 98
- Windows NT^(R) Workstation 4.0 or later
- Windows M E
- Windows 2000 Professional
- Windows XP

See Operations Console for specific planning and setup information.

Choosing a system console

To interact with your new server, you will need a system console. You have two choices for your system console.

Choose one of these console options to make sure you have the necessary equipment ready when your system arrives:

- **Operations console requirements (recommended)**

Operations Console allows you to use a familiar Windows^(R)-style graphical interface through your own personal computer set up as a system console.

- **Twinaxial console requirements**


A twinaxial console allows you to use a basic command line interface and does not require you to use a personal computer as a system console.

Print this topic

To view or download the PDF version, select Plan for hardware and software.

To save a PDF on your workstation for viewing or printing:

1. Open the PDF in your browser (click the link above).
2. In the menu of your browser, click **File**.
3. Click **Save As...**
4. Navigate to the directory in which you would like to save the PDF.
5. Click **Save**.

If you need Adobe Acrobat Reader to view or print these PDFs, you can download a copy from the Adobe Web site  (www.adobe.com/prodindex/acrobat/readstep.html).

Planning quickpath

This is the parent article that introduces the three sub-topics that follow in the planning topic.

Use these links as a quick path to the appropriate information:

Cabling instructions

Cabling instructions by server model.

“Server planning: Software” on page 24

Information to verify that your PC can be used for EZ-Setup or the Operations Console.

“Planning reference information for iSeries” on page 1

This quick reference organizes your planning information by category.

Related information for planning

Use these pages to find additional planning information:

iSeries^(TM) upgrade

Use this information to help you plan an upgrade from one release to another.

iSeries migration

Use this information to help you plan a migration from one server to another.



Customer installable feature instructions

View or print installation instructions for hardware features.

AS/400e^(TM) Handbook

This is a reference for the iSeries server hardware and software options.

IBM^(R) services

- **Plan for system installation** 
IBM provides site preparation and installation services for your server for a fee.
- **Support** 
IBM provides planning support services for your server.

Plan your fix strategy

This page introduces the tasks that are recommended for programming temporary fix (PTF) strategy planning, and it links to detailed information.


Important: You must have a PC with CD capability or have Internet access to view IBM^(R) Support documentation.

Before you begin your planning tasks, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Identify your software version and release.
<input type="checkbox"/> Locate and identify your licensed program number.
<input type="checkbox"/> Determine which cumulative (CUM) PTFs are already applied on your server.


Program temporary fix (PTF) strategy

Use the following resources to build a strategy for PTFs or fixes. Refer to the checklist at the bottom of this page for the required elements for your fix strategy.

- For a description of a PTF, go to Use software fixes. This link also explains the importance of keeping your software current.
- The iSeries^(TM) fix management strategy discusses why you should plan your fix management and develop a strategy for handling fixes.
- If you need to report a problem, contact IBM eServer iSeries Support .

When you are finished
<input type="checkbox"/> Determine a PTF management strategy that works best for your company.
<input type="checkbox"/> Know how to display, distribute, install, and manage fixes.
<input type="checkbox"/> Understand what fixes are and the IBM fix implementation and schedule.

Plan for electronic support


Important: You must have a PC with CD capability or have Internet access to view IBM^(R) eServer iSeries^(TM) Support .





This page includes information regarding the electronic customer support features built into your iSeries server, such as:

- Hardware and software problem analysis, reporting, and management
- Copy screen image
- Question-and-answer support
- Product information access

Review additional support resources

This page includes a list of useful support resources.

Important: You must have a PC with CD capability or have Internet access to view IBM^(R) eServer iSeries^(TM) Support  ..

- The iSeries product home page  (<http://www-1.ibm.com/servers/eserver/iseries>)
- iSeries Nation  (<http://www.ibm.com/eserver/iseries/nation>)
A gathering place for members of iSeries Nation, a community of IBM iSeries and AS/400^(R) owners, developers, journalists, user and advocacy groups, IBM Business Partners and employees. Here, a global community shares a common bond: an understanding and appreciation of the IBM iSeries and its unique benefits.
- IBM eServer iSeries Support  (<http://www.ibm.com/eserver/iseries/support/>)
- Search400.com  (<http://www.search400.com/>)
This is the search engine specific to iSeries.

Twinaxial console requirements

A twinaxial console allows you to use a basic command line interface and does not require you to use a personal computer as a system console. A twinaxial console requires:

- A console monitor and keyboard.
- A twinaxial console cable (supplied by the customer).
The twinaxial console cable must be ordered separately.
See **Twinaxial cables** to verify the the correct part number required for the console.

Model 250 planning checklist

Use the following checklist to guide and simplify your planning process. The items that appear in the checklist are categories of tasks you must consider. The categories of planning tasks that appear in the checklist link to the in-depth information that you need to build your plan. Each topic indicates what you need to know before you can begin your planning process and what you should have or know when you are finished. You may need to have your server order information or know the requirements of your existing server as reference.

Server planning

- Plan for Chapter 2, “Server planning: Hardware” on page 21
- Plan for “Server planning: Logical partitions” on page 22

Server planning

- Plan for “Server planning: Availability” on page 23
- Plan for “Server planning: Software” on page 24
- Plan for “Server planning: Connecting to iSeries” on page 25
- Plan for “Server planning: Integrated operating environments” on page 27
- Plan for “Server planning: Performance” on page 28
- Plan for “Server planning: Consumables” on page 29
- Plan for “Server planning: Services” on page 30

Physical planning

- Plan for “Plan for server specifications” on page 224
- Plan for “Plan for power” on page 419
- Plan for “Plan for cables” on page 55
- Print server cabling instructions
- Choose a “Choose a site” on page 543
- Plan for “Plan for computer room floor plan” on page 534

Support planning

- Plan your “Plan your fix strategy” on page 4
- Plan for “Plan for electronic support” on page 5
- Review “Review additional support resources” on page 5

Model 270 planning checklist

Use the following checklist to guide and simplify your planning process. The items that appear in the checklist are categories of tasks you must consider. The categories of planning tasks that appear in the checklist link to the in-depth information that you need to build your plan. Each topic indicates what you need to know before you can begin your planning process and what you should have or know when you are finished. You may need to have your server order information or know the requirements of your existing server as reference.

Server planning

- Plan for Chapter 2, “Server planning: Hardware” on page 21
- Plan for “Server planning: Logical partitions” on page 22
- Plan for “Server planning: Availability” on page 23
- Plan for “Server planning: Software” on page 24
- Plan for “Server planning: Connecting to iSeries” on page 25
- Plan for “Server planning: Integrated operating environments” on page 27
- Plan for “Server planning: Performance” on page 28
- Plan for “Server planning: Consumables” on page 29
- Plan for “Server planning: Services” on page 30

Physical planning

- Plan for “Plan for server specifications” on page 226
- Plan for “Plan for power” on page 419
- Plan for “Plan for cables” on page 55
- Print server cabling instructions

Server planning

- Print rack cabling instructions
- Choose a “Choose a site” on page 543
- Plan for “Plan for computer room floor plan” on page 534

Support planning

- Plan your “Plan your fix strategy” on page 4
- Plan for “Plan for electronic support” on page 5
- Review “Review additional support resources” on page 5

Model 820 planning checklist

Use the following checklist to guide and simplify your planning process. The items that appear in the checklist are categories of tasks you must consider. The categories of planning tasks that appear in the checklist link to the in-depth information that you need to build your plan. Each topic indicates what you need to know before you can begin your planning process and what you should have or know when you are finished. You may need to have your server order information or know the requirements of your existing server as reference.

Server planning

- Plan for Chapter 2, “Server planning: Hardware” on page 21
- Plan for “Server planning: Logical partitions” on page 22
- Plan for “Server planning: Availability” on page 23
- Plan for “Server planning: Software” on page 24
- Plan for “Server planning: Connecting to iSeries” on page 25
- Plan for “Server planning: Integrated operating environments” on page 27
- Plan for “Server planning: Performance” on page 28
- Plan for “Server planning: Consumables” on page 29
- Plan for “Server planning: Services” on page 30

Physical planning

- Plan for “Plan for server specifications” on page 270
- Plan for “Plan for power” on page 419
- Plan for “Plan for cables” on page 55
- Print server cabling instructions
- Choose a “Choose a site” on page 543
- Plan for “Plan for computer room floor plan” on page 534

Support planning

- Plan your “Plan your fix strategy” on page 4
- Plan for “Plan for electronic support” on page 5
- Review “Review additional support resources” on page 5

Models 830 and SB2 planning checklist

Use the following checklist to guide and simplify your planning process. The items that appear in the checklist are categories of tasks you must consider. The categories of planning tasks that appear in the checklist link to the in-depth information that you need to build your plan. Each topic indicates what you need to know before you can begin your planning process and what you should have or know when you are finished. You may need to have your server order information or know the requirements of your existing server as reference.

Server planning

- Plan for Chapter 2, “Server planning: Hardware” on page 21
- Plan for “Server planning: Logical partitions” on page 22
- Plan for “Server planning: Availability” on page 23
- Plan for “Server planning: Software” on page 24
- Plan for “Server planning: Connecting to iSeries” on page 25
- Plan for “Server planning: Integrated operating environments” on page 27
- Plan for “Server planning: Performance” on page 28
- Plan for “Server planning: Consumables” on page 29
- Plan for “Server planning: Services” on page 30

Physical planning

- Plan for “Plan for server specifications” on page 272
- Plan for “Plan for power” on page 419
- Plan for “Plan for cables” on page 55
- Choose a “Choose a site” on page 543
- Plan for “Plan for computer room floor plan” on page 534

Support planning

- Plan your “Plan your fix strategy” on page 4
- Plan for “Plan for electronic support” on page 5
- Review “Review additional support resources” on page 5

Models 840 and SB3 planning checklist

Use the following checklist to guide and simplify your planning process. The items that appear in the checklist are categories of tasks you must consider. The categories of planning tasks that appear in the checklist link to the in-depth information that you need to build your plan. Each topic indicates what you need to know before you can begin your planning process and what you should have or know when you are finished. You may need to have your server order information or know the requirements of your existing server as reference.

Server planning

- Plan for Chapter 2, “Server planning: Hardware” on page 21
- Plan for “Server planning: Logical partitions” on page 22
- Plan for “Server planning: Availability” on page 23
- Plan for “Server planning: Software” on page 24
- Plan for “Server planning: Connecting to iSeries” on page 25
- Plan for “Server planning: Integrated operating environments” on page 27
- Plan for “Server planning: Performance” on page 28

Server planning

- Plan for “Server planning: Consumables” on page 29
- Plan for “Server planning: Services” on page 30

Physical planning

- Plan for “Plan for server specifications” on page 274
- Plan for “Plan for power” on page 419
- Plan for “Plan for cables” on page 55
- Choose a “Choose a site” on page 543
- Plan for “Plan for computer room floor plan” on page 534

Support planning

- Plan your “Plan your fix strategy” on page 4
- Plan for “Plan for electronic support” on page 5
- Review “Review additional support resources” on page 5

Model 800 and 810 planning checklist

Use the following checklist to guide and simplify your planning process. The items that appear in the checklist are categories of tasks you must consider. The categories of planning tasks that appear in the checklist link to the in-depth information that you need to build your plan. Each topic indicates what you need to know before you can begin your planning process and what you should have or know when you are finished. You may need to have your server order information or know the requirements of your existing server as reference.

Server planning

- Plan for Chapter 2, “Server planning: Hardware” on page 21
- Plan for “Server planning: Logical partitions” on page 22
- Plan for “Server planning: Availability” on page 23
- Plan for “Server planning: Software” on page 24
- Plan for “Server planning: Connecting to iSeries” on page 25
- Plan for “Server planning: Integrated operating environments” on page 27
- Plan for “Server planning: Performance” on page 28
- Plan for “Server planning: Consumables” on page 29
- Plan for “Server planning: Services” on page 30

Physical planning

- Plan for “Plan for server specifications” on page 259
- Plan for “Plan for power” on page 419
- Plan for “Plan for cables” on page 55
- Print server cabling instructions
- Choose a “Choose a site” on page 543
- Plan for “Plan for computer room floor plan” on page 534

Support planning

- Plan your “Plan your fix strategy” on page 4
- Plan for “Plan for electronic support” on page 5
- Review “Review additional support resources” on page 5

Model 825 planning checklist

Use the following checklist to guide and simplify your planning process. The items that appear in the checklist are categories of tasks you must consider. The categories of planning tasks that appear in the checklist link to the in-depth information that you need to build your plan. Each topic indicates what you need to know before you can begin your planning process and what you should have or know when you are finished. You may need to have your server order information or know the requirements of your existing server as reference.

Server planning

- Plan for Chapter 2, “Server planning: Hardware” on page 21
- Plan for “Server planning: Logical partitions” on page 22
- Plan for “Server planning: Availability” on page 23
- Plan for “Server planning: Software” on page 24
- Plan for “Server planning: Connecting to iSeries” on page 25
- Plan for “Server planning: Integrated operating environments” on page 27
- Plan for “Server planning: Performance” on page 28
- Plan for “Server planning: Consumables” on page 29
- Plan for “Server planning: Services” on page 30

Physical planning

- Plan for “Plan for server specifications” on page 261
- Plan for “Plan for power” on page 419
- Plan for “Plan for cables” on page 55
- Print server cabling instructions
- Choose a “Choose a site” on page 543
- Plan for “Plan for computer room floor plan” on page 534

Support planning

- Plan your “Plan your fix strategy” on page 4
- Plan for “Plan for electronic support” on page 5
- Review “Review additional support resources” on page 5

Model 870 or 890 planning checklist

Use the following checklist to guide and simplify your planning process. The items that appear in the checklist are categories of tasks you must consider. The categories of planning tasks that appear in the checklist link to the in-depth information that you need to build your plan. Each topic indicates what you need to know before you can begin your planning process and what you should have or know when you are finished. You may need to have your server order information or know the requirements of your existing server as reference.

Server planning

- Plan for Chapter 2, “Server planning: Hardware” on page 21
- Plan for “Server planning: Logical partitions” on page 22
- Plan for “Server planning: Availability” on page 23
- Plan for “Server planning: Software” on page 24

Server planning

- Plan for “Server planning: Connecting to iSeries” on page 25
- Plan for “Server planning: Integrated operating environments” on page 27
- Plan for “Server planning: Performance” on page 28
- Plan for “Server planning: Consumables” on page 29
- Plan for “Server planning: Services” on page 30

Physical planning

- Plan for “Plan for server specifications” on page 263
- Plan for “Plan for power” on page 419
- Plan for “Plan for cables” on page 55
- Choose a “Choose a site” on page 543
- Plan for “Plan for computer room floor plan” on page 534

Support planning

- Plan your “Plan your fix strategy” on page 4
- Plan for “Plan for electronic support” on page 5
- Review “Review additional support resources” on page 5

iSeries 870 and 890 power considerations

Your iSeries 870 or 890 has the following special power considerations:

- “Doors and covers”
- “Moving the iSeries 870 and 890”
- “Power and electrical requirements” on page 12
- “Phase imbalance and bulk power regulator configuration” on page 12
- “Balancing power panel loads” on page 12
- “Power cord configuration” on page 14
- “Checking the facility outlets and power source” on page 14
- “Dual power installation” on page 15
- “Additional installation considerations” on page 17

Doors and covers

The covers are an integral part of the server and are required for product safety and EM compliance.

The enhanced acoustical cover consists of a special rear door which is approximately 200 mm (8 in.) in depth and contains acoustical treatment that lowers the noise level of the machine by approximately 6dB compared to a non-acoustical rear door. With this door, the server meets the acoustical *Specifications for Category 1A for Data Processing Areas*, with a declared A-weighted sound power level, LWAd of 7.4 bels (B) for the most common system configuration.

Moving the iSeries 870 and 890

The customer should determine the path that the system must take to be moved from the delivery location to the installation site. The customer should verify that the height of all doorways, elevators, and so on are sufficient to allow movement of the system to the installation site. The customer should also determine that the weight limitation of elevators, ramps and so on are sufficient to allow movement of the system to the installation site. If it is determined that the height or weight of the system can cause a problem in movement to the installation site, contact your local site planning , marketing or sales representative.

If height is a concern, order feature code 0126, Model 870 and 890 EIA reduction option. This feature indicates that the system frame is to be shipped in two pieces to be fully assembled at the customer's location. The top section of the system frame (including the power subsystem) is removed. The height of the system frame with the upper section removed is approximately 1.65 meters (65 inches).

Power and electrical requirements

Redundant power and line cords are standard on the Servers 870 and 890. The server uses dual A/C power cords. For maximum availability, each of the line cords should be fed from independent power grids.

The following table illustrates the line cord options for the Servers 870 and 890 with their geographic, breaker rating, and cord information.

3-Phase supply voltage (50/60 Hz)	200-240 V	380-415 V	480 V
Geography	United States, Canada, Japan	Europe, Middle East, Africa, Asia Pacific	United States, Canada
Customer circuit breaker rating (See note 1) (See 12)	60 A	30 A	30 A
Cord information	6 and 14 foot, 6 AWG line cord	14 foot, 6 or 8 AWG line cord, (electrician installed)	6 and 14 foot, 10 AWG line cord
Recommended receptacle	IEC309, 60 A, type 460R9W (not provided)	Not specified, electrician installed	IEC309, 30 A, type 430R7W (not provided)

Note 1: The exact circuit breaker ratings may not be available in all countries. Where the specified circuit breaker ratings are not acceptable, use the nearest available rating. Use of a time delayed circuit breaker is recommended.

Phase imbalance and bulk power regulator configuration

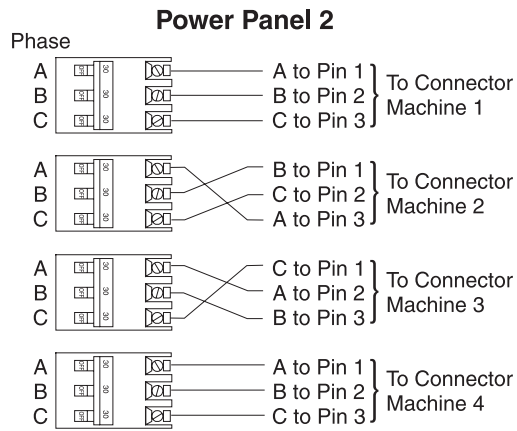
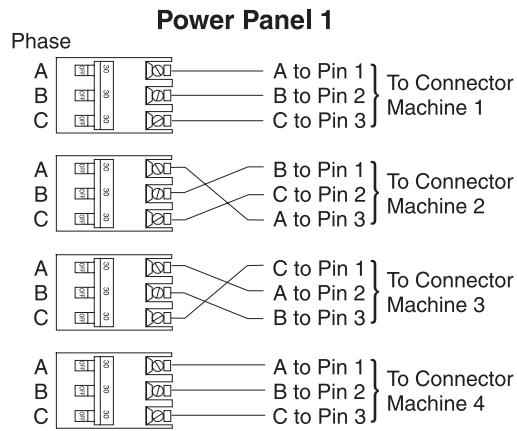
Depending on the number of Bulk Power Regulators (BPRs) in your system, phase imbalance can occur in line currents. All systems are provided with 2 bulk power assemblies (BPAs), with separate line cords. The following table illustrates phase imbalance as a function of BPR configuration.

Number of BPRs per BPA	Phase A line current	Phase B line current	Phase C line current
1	Power / V line	Power / V line	0
2	0.5 power / V line	0.866 power / V line	0.5 power / V line

V line is line-to-line nominal input voltage.

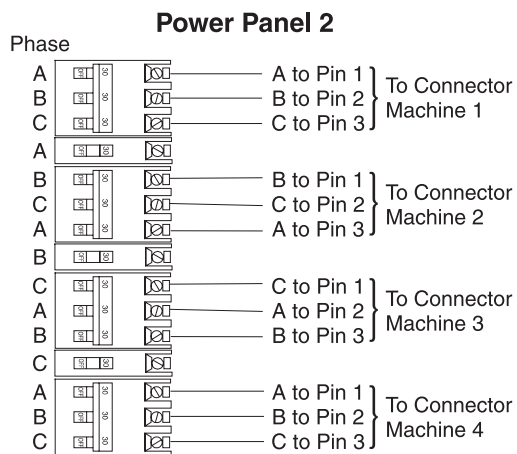
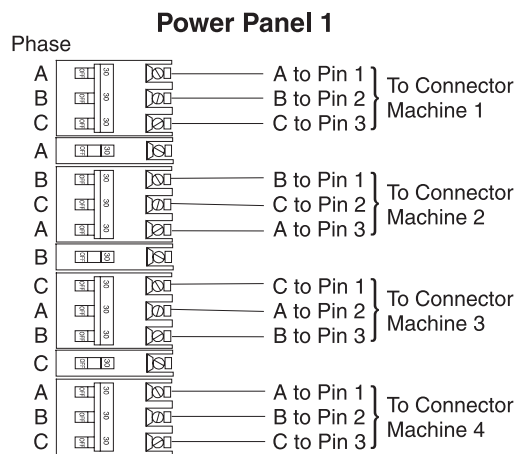
Balancing power panel loads

The servers 870 and 890 require three phase power. Depending on the system configuration, the phase currents can be single phase, line-to-line, or unbalanced. System configurations with two bulk power regulators (BPRs) per bulk power assembly (BPA) have unbalanced power panel loads. With two BPRs per BPA, two of the three phases will draw an equal amount of current, and will be, nominally, 57.8% of the current on the third phase. With one BPR per BPA, two of the three phases will carry an equal amount of current, with no current drawn on the third phase. The following figure is an example of feeding several loads of this type from two power panels in a way that balances the load among the three phases.



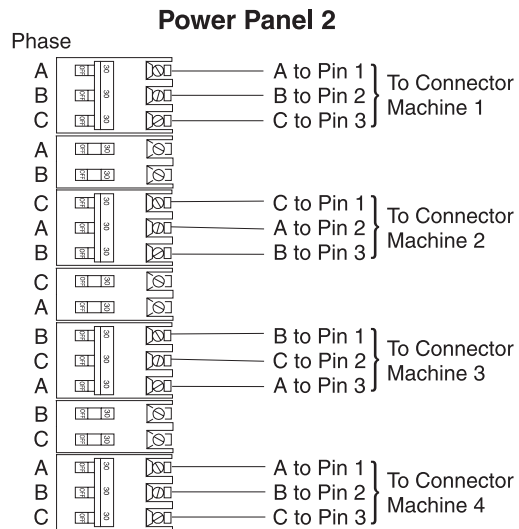
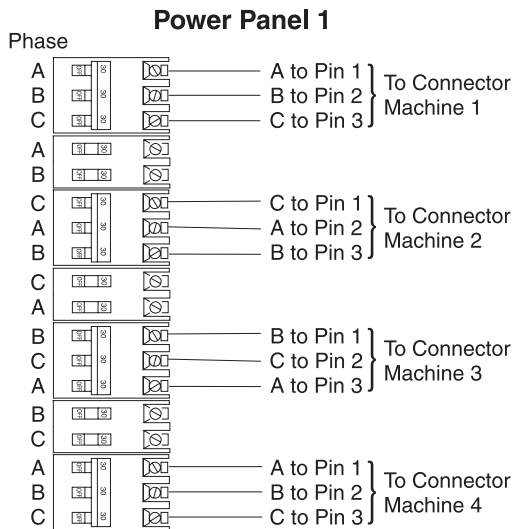
RBAGP700-0

The method illustrated in the figure requires that the connection from the three poles of each breaker to the three phase pins of a connector be varied. Some electricians may prefer to maintain a consistent wiring sequence from the breakers to the connectors. The following figure shows a way to balance the load without changing the wiring on the output of any breakers. The three-pole breakers are alternated with single-pole breakers. This way the three-pole breakers do not all begin on Phase A.



RBAGP701-0

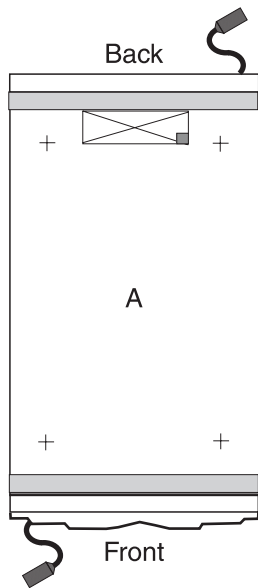
The following figure shows another way of distributing the unbalanced load evenly. In this case, the three-pole breakers are alternated with two-pole breakers.



RBAGP702-0

Power cord configuration

The power cords exit the system from different points of the servers 870 and 890 frame as indicated in the following illustration.



Single-Frame Systems
(Top Down View)

RBAGP720-0

Checking the facility outlets and power source

Attention: Do not touch the receptacle or the receptacle faceplate with anything other than your test probes before you have met the requirements below.

Performing the following will ensure that appropriate power will be used by the iSeries 870 and 890 system frames. The following checklist is for reference purposes and will likely be performed by a service engineer prior to installation.

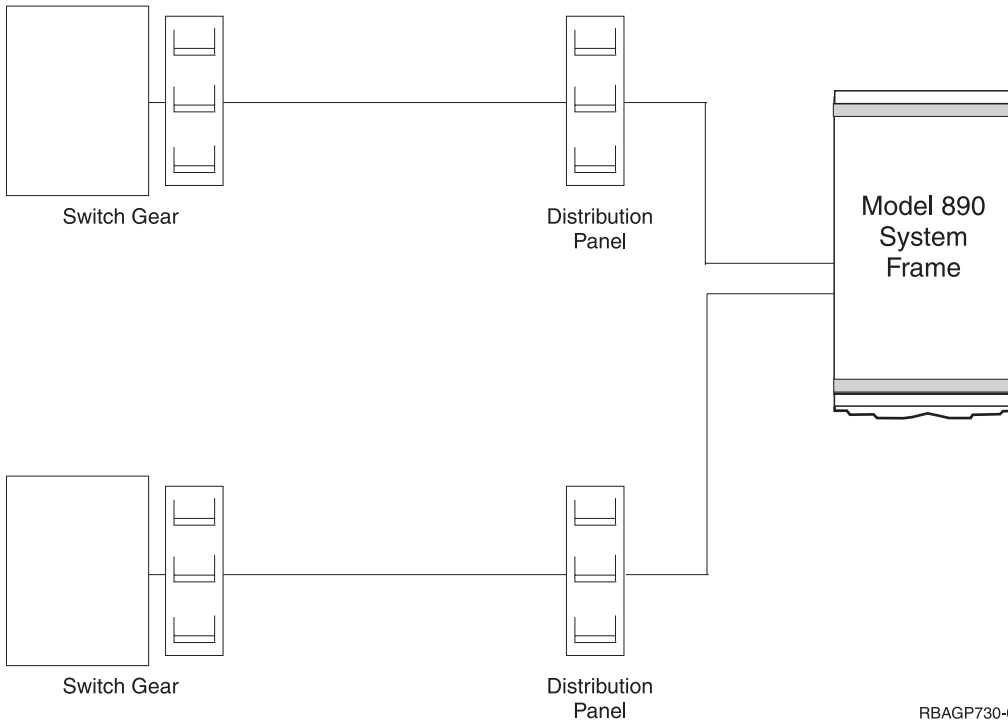
1. The iSeries 870 and 890 system frames are equipped to use 200-240 V, 380-415 V, and 480 V alternating current, three phase. Check that the correct power source is available.

2. Before system installation, locate and turn off the branch circuit circuit breaker. Attach the "Do not operate" tag, S229-0237.
3. **Note:** All measurements are made with the receptacle faceplate in the normally installed position. If the receptacle case or faceplate is painted, be sure the probe tip penetrates the paint and makes good electrical contact with the metal. Do not use a digital multimeter to measure grounding resistance.
Some receptacles are enclosed in metal housings. On receptacles of this type, perform the following steps:
 - a. Check for less than 1 volt from the receptacle case to any grounded metal structure in the building, such as a raised floor metal structure, water pipe, building steel, or similar structure.
 - b. Check for less than 1 volt from receptacle ground pin to a grounded point in the building.
4. Check the resistance from the ground pin of the receptacle to the receptacle case. Check resistance from the ground pin to building ground. The reading should be less than 1.0 ohm, which indicates the presence of a continuous grounding conductor.
5. If any of the checks made in steps 2 and 3 are not correct, remove the power from the branch circuit and make the wiring corrections; then check the receptacle again.
6. Check for infinite resistance between the phase pins. This is a check for a wiring short.
Attention: If the reading is other than infinity, do not proceed. You must make the necessary wiring corrections to satisfy the above criteria before continuing. Do not turn on the branch circuit circuit breaker until all the above steps are satisfactorily completed.
7. Remove the "Do not operate" tag, S229-0237.
8. Turn on the branch circuit circuit breaker. Measure for appropriate voltages between phases. If no voltage is present on the receptacle case or grounded pin, the receptacle is safe to touch.
9. With an appropriate meter, verify that the voltage at the outlet is correct.
10. Verify that the grounding impedance is correct by using the ECOS 1020, 1023, B7106, or an appropriately approved ground impedance tester.
11. Turn off the branch circuit circuit breaker.
12. Attach the "Do not operate" tag, S229-0237.
13. You are now ready to install and connect the power cables to the iSeries 870 and 890 system frames.

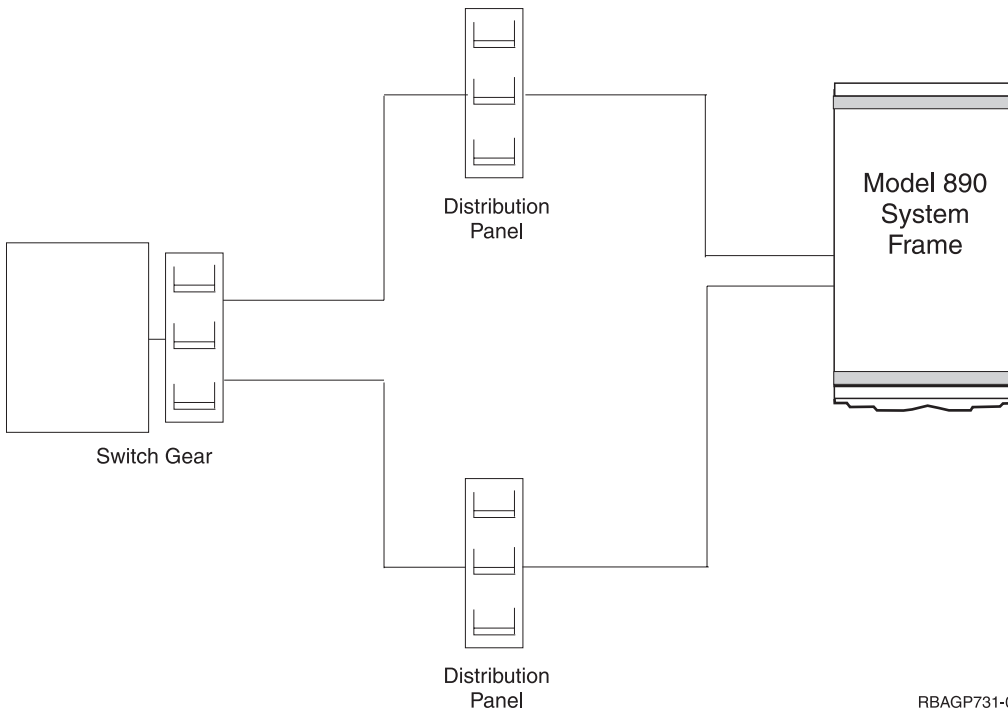
Dual power installation

The iSeries 890 system frame is designed with a fully redundant power system. Each system has two line cords attached to two power input ports which, in turn, power a fully redundant power distribution system within the system. To take full advantage of the redundancy and reliability that is built into the computer system, the system must be powered from two distribution panels. There are three possible power installation configurations.

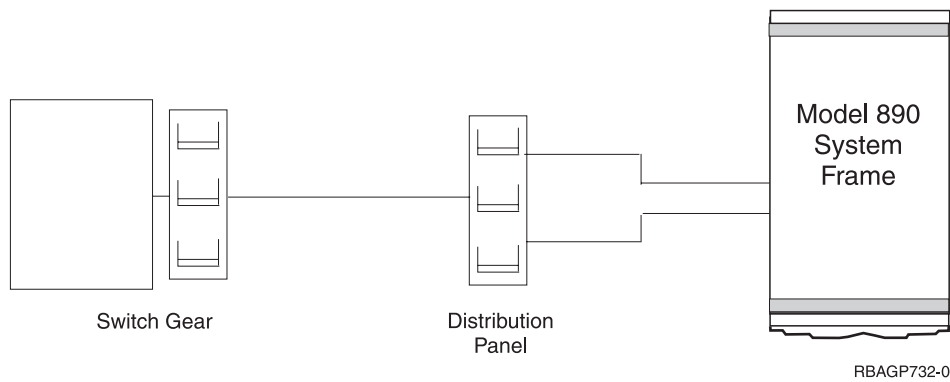
Dual power installation - redundant distribution panel and switch: This configuration requires that the system receives power from two separate power distribution panels. Each distribution panel receives power from a separate piece of building switch gear. This level of redundancy is not available in most facilities.



Dual power installation - redundant distribution panel: This configuration requires that the system receives power from two separate power distribution panels. The two distribution panels receive power from the same piece of building switch gear. Most facilities should be able to achieve this level of redundancy.



Single distribution panel - dual circuit breakers: This configuration requires that the system receives power from two separate circuit breakers in a single power panel. This does not make full use of the redundancy provided by the processor. It is, however, acceptable if a second power distribution panel is not available.



Additional installation considerations

In the United States, installation must be made in accordance with Article 645 of the National Electric Code (NEC). In Canada, installation must be made in accordance with Article 12-020 of the Canadian Electrical Code (CEC).

Multiple server installation considerations

In a multiple server installation, it is possible that a floor tile with cable cutouts will bear two concentrated static loads up to 900 lbs (per caster or leveler). The total concentrated load can be as high as 1800 lbs. Contact the floor tile manufacturer or consult a structural engineer to ensure that the raised floor assembly can support this load.

When you are integrating an iSeries 870 or 890 into an existing multiple server environment, or when adding additional servers to an iSeries 870 or 890, consider the following requirements:

- Minimum aisle width

For multiple rows of servers containing one or more iSeries 870 or 890, the minimum aisle width in the front of the server is 1041 mm (41 in.) and 838 mm (33 in.) in the rear of the server to allow room to perform service operations. The minimum aisle width is in addition to the front and rear service clearances of 1143 mm (45 in.) and 914 mm (36 in.) respectively. Service clearances are measured from the edges of the frame (with doors open) to the nearest obstacle.

- Thermal interactions

The minimum aisle width between rows on the computer room floor is 33 or 41 inches for optimal cooling. In addition, servers should be faced front to front and rear to rear to create "cool" and "hot" aisles to maintain effective server thermal conditions.

Cool aisles need to be of sufficient width to support the airflow requirements of the installed servers. The airflow per tile will be dependent on the under floor pressure and perforations in the tile. A typical under floor pressure of 0.025 in. of water will supply 300-400 cfm through a 25% open 2 ft. x 2 ft. floor tile.

- Floor loading

The server can induce a concentrated load of 900 lbs. per caster. It is possible that a panel structure has to sustain a total load as high as 1800 lbs. Consult the panel manufacturer and obtain the services of a qualified consultant or structural engineer to insure the concrete floor and the structure panel can support these loads.

Service clearance for multiple server installations

The minimum service clearance measurements for the i870 or i890 server unit are:

- Back 1143 mm (45.0 in)
- Front 914 mm (36.0 in)
- Right side 660 mm (26.0 in)

- Left side 66 mm (2.6 in)

The service clearance measurements for the left and right side can be reversed depending on the availability of space and the location of the expansion unit.

Cooling requirements for multiple server installations

The iSeries 870 and 890 require air for cooling. Sites with multiple servers must use the floor layout explained in “Multiple server installation considerations” on page 17. The use of a raised floor is recommended to provide air through perforated floor panels placed in rows between the fronts of servers.

Note: Do not place perforated tiles in the hot aisles. Heated exhaust air must exit the computer room through the ceiling air return system.

The following tables provide server cooling requirements based on server configuration. The letters in the table correspond to the letters in the following graph.

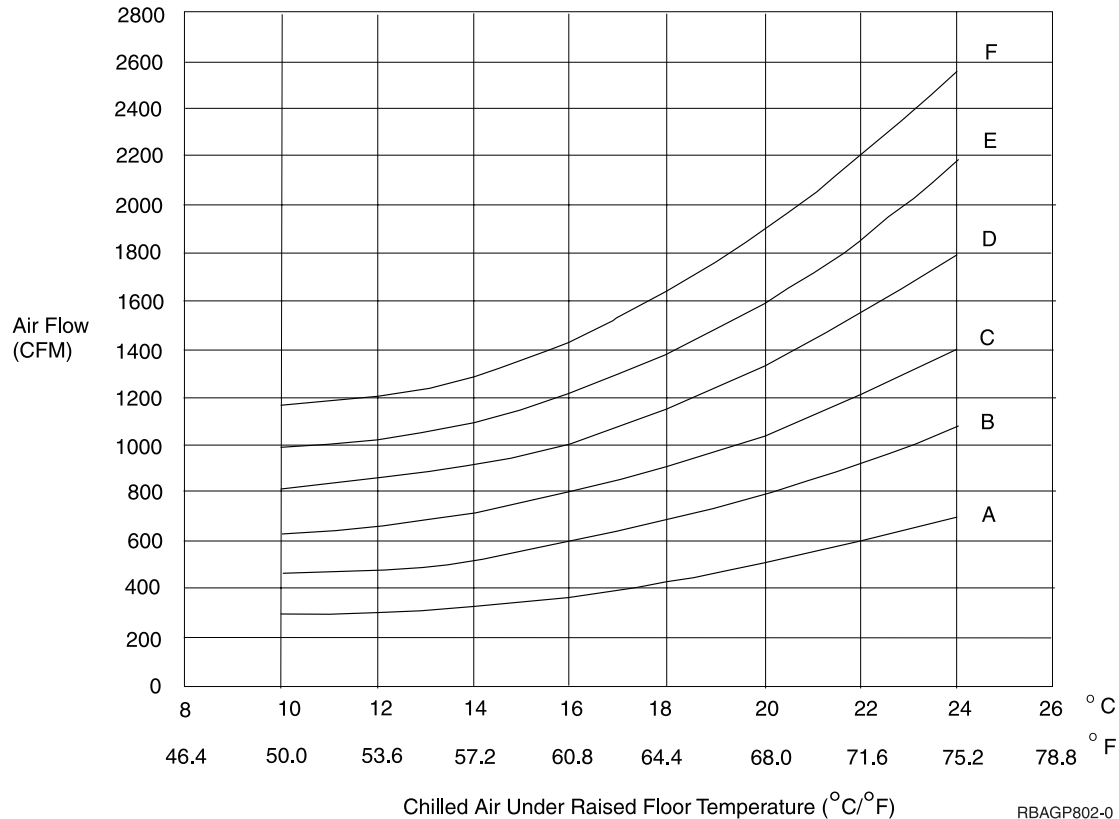
1.1 GHz 8-way modules (cooling chart reference)

Number of expansion units (9094, 5094, 5074, 9079, 8079, 8093)	8-way	16-way
1	A	B
2	B	B
3	N/A	C
4	N/A	C
5	N/A	N/A
6	N/A	N/A
7	N/A	N/A
8	N/A	N/A

1.3 GHz 8-way modules (cooling chart reference)

Number of expansion units (9094, 5094, 5074, 9079, 8079, 8093)	24-way	32-way
1	C	C
2	C	D
3	C	D
4	D	D
5	D	E
6	D	E
7	N/A	F
8	N/A	F

Cooling Requirements Graph



Chilled air flow area requirements

Use the server cooling requirements tables and the cooling requirements graph to determine the area of floor tiles to supply chilled air to the server.

What's new for V5R2

The major changes or additions for the software and hardware planning follow:

- The top-level pages that you see in the Planning topic have been updated and improved to streamline your server planning process.
- A helpful interview wizard has been added. This interview results in a customized checklist for new server customers and for customers who are doing a migration or an upgrade.
- A new planning checklist for each server type has been added to help determine the tasks necessary to prepare for your new server.
- The new servers are 810, 825, 870, and 890. You can find all of their specifications and requirements in the Information Center this release.

To find other information about what's new or changed this release, see the Memo to Users .

Chapter 2. Server planning: Hardware





This information introduces the tasks that are recommended for hardware planning, and it links to the places where you can find more detailed information. Before you begin your planning tasks, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Have a final or proposed hardware order.


Hardware planning tasks

Use the following resources to build a complete plan for hardware. Refer to the checklist at the bottom of this page for the required elements of your plan for hardware.

1. **Identify replacements for hardware features that are no longer supported.**

Develop a plan for upgrading to newer hardware technology by identifying hardware you may have that is no longer supported. For information on hardware features that you may need to replace, see the iSeries Upgrade Planning  Web site. For example, you can use this information to identify PCI-attached replacements for any SPD-attached hardware  on your system.  Use the Convert expansion units for a partitioned server topic to convert SPD-based expansion units to PCI-based expansion units.  Use the Add or replace a hardware feature topic to help you prepare to replace other hardware features no longer supported by IBM. If you are planning to replace a hardware feature as part of a server upgrade, be sure to use the Upgrades topic in the iSeries Information Center.

2. **Identify disk storage requirements.**


Use the Calculate disk space requirements topic in the Information Center to determine your disk storage requirements. In addition, you should also consider the size of licensed programs you may be planning to install as well as the storage requirements for the OS/400 release. Refer to the Licensed program sizes information and the Memo to Users  for help determining the disk storage requirements for different software. Disk storage also affects performance. Use the Plan for performance topic to help you understand the performance impacts of disk storage options.

3. **Plan for disk unit and disk pool availability and management.**

A plan for independent disk pools (also known as independent auxiliary storage pools) and switchable disk units are key elements of a hardware solution. Use the Plan for disk management topic in the Information Center to effectively plan for independent disk pools and switchable disk units.



4. **Identify any tape incompatibilities.**

If you are planning for a data migration, be sure your current and target servers and tape devices are compatible. Use the Plan the migration topic to help you identify any tape incompatibilities.

Specific tape drive incompatibilities are located in the System Handbook . To learn more about tape devices in general, use the Tape topic in the Information Center.

5.  **Plan for service.**

The IBM Electronic Service Agent can automatically monitor your server's functional hardware and selected peripherals and electronically report potential problems to your local iSeries Support

Center. With early knowledge of potential problems, IBM service representatives can proactively respond to maintain higher availability on your server. For information about the Electronic Service Agent, see the Electronic Services Web site.  

When you have completed the tasks identified in this topic, you should have constructed a plan for hardware that identifies the following elements:

When you are finished
<input type="checkbox"/> Identify and record any changes to your hardware order that result from your planning process.
<input type="checkbox"/> Record a complete strategy for eliminating hardware that is no longer supported by IBM. This needs to include a plan for your SPD-to-PCI transition, if applicable.
<input type="checkbox"/> Identify and record disk storage requirements.
<input type="checkbox"/> Record a plan for independent disk pools and switchable disk units.
<input type="checkbox"/> Record a complete strategy to consider any media incompatibilities (such as tape drive incompatibility).

Server planning: Logical partitions



This information introduces the tasks that are recommended to plan for logical partitions, and it links to more detailed information. Before you begin your planning tasks, be sure you have completed the item in the following checklist:

Before you begin
<input type="checkbox"/> Understand and document your current partitioning environment.


Logical partition planning tasks

Use the following resources to build a complete plan for logical partitions. Refer to the checklist at the bottom of this page for the required elements of your plan for logical partitions.

1. **Build a plan for logical partitions.**

 All iSeries server models now support up to four OS/400 partitions or ten Linux partitions on each processor. Select iSeries models now support up to ten OS/400 partitions or ten Linux partitions on each processor. The Plan for logical partitions topic in the Information Center will guide you through the complete process to plan for running either OS/400 or Linux in your logical partitions. Use this information to identify the hardware and software required for logical partitions and to design your logical partition configuration. 

2. **Design and validate your partition configuration.**

Use the Logical Partition Validation Tool  (LVT) to help you design a partitioned system. The LVT provides you with a validation report that reflects your system requirements while not exceeding logical partition recommendations.

3. **Plan for software licensing in a partitioned environment.**

Use the information about software licensing and logical partitions in the Software licensing and licensed programs for logical partitions topic. Determine the software licensing requirements for your logical partition configuration.

When you have completed the tasks identified in this topic, you should have constructed a plan for logical partitions that identifies the following elements:

When you are finished
<input type="checkbox"/> Identify and record a single set of hardware requirements for your logical partition solution.
<input type="checkbox"/> Record a complete and validated plan for logical partition configuration.
<input type="checkbox"/> Ensure the hardware requirements for your logical partition configuration have been met.
<input type="checkbox"/> Ensure the software licensing requirements for your logical partition configuration have been met.
<input type="checkbox"/> Record a complete hardware feature placement plan, which includes your post-installation strategy to move features to match your logical partition configuration.

Server planning: Availability

This information introduces the tasks that are recommended to plan for availability, and it links to more detailed information.

Availability planning tasks


Use the following resources to build a complete plan for availability. Refer to the checklist at the bottom of this page for the required elements of your plan for availability.

1. **Build a backup and recovery strategy.**

A backup and recovery plan for your server is a key part of system availability. Use the Plan a backup and recovery strategy topic to plan and build a backup and recovery strategy that is customized for your computing environment.

2. **Learn more about high availability**

Use the Roadmap to Availability on the iSeries 400  and the High Availability on the AS/400

System: A System Manager's Guide  to learn more about availability strategies and solutions.


3. **Estimate the level of availability you need in your business environment.**

Use the Availability topic to find out about iSeries high availability concepts and solutions. Find the information you need to build a complete availability plan.



4. **Build an availability plan.**



Use the Availability roadmap topic to choose your availability options based on your environment and business needs. Build an availability plan that addresses the options from the following list that are relevant to your environment:

- Journaling
- Mirrored protection
- Device parity protection
- Commitment control
- Disk pools
- Online backups
- Concurrent maintenance
- Capacity upgrade on demand
- Clusters

Clusters are a key iSeries high availability solution. Use the information in the Plan for clusters topic to identify your clustering requirements and to build a clustering plan. Use the iSeries High Availability and Clusters Web site  to learn more about availability strategies and solutions using clusters.

Independent disk pools and switchable disk units are also key iSeries availability technologies. Find the information you need to understand how these technologies fit into your availability strategy in the Independent disk pools topic.

IBM Business Continuity and Recovery Services  can also assist you with complex availability planning, such as clusters and independent disk pools. 


The IBM Electronic Service Agent can help you achieve higher availability by detecting errors and transmitting them to the iSeries Support Center, where skilled technicians will review the problem details and inventory information. The Support Center can then send a service representative to your site to replace the failing hardware. For information about the Electronic Service Agent, see the Electronic Services Web site.  

When you have completed the tasks identified in this topic, you should have constructed a plan for availability that identifies the following elements:



When you are finished
<input type="checkbox"/> Record a complete availability strategy for a single server or multiple server environment.
<input type="checkbox"/> Record a complete strategy for backing up your server.
<input type="checkbox"/> Record a complete strategy for server recovery.
<input type="checkbox"/> Record a complete strategy for data protection that includes solutions such as mirroring, concurrent maintenance, and Redundant Array of Independent Disks (RAID).
<input type="checkbox"/> Highlight any unique V5R2 considerations for clusters, if applicable.
<input type="checkbox"/> Record a complete and validated plan for cluster configuration, if applicable.
<input type="checkbox"/> Ensure the hardware requirements for your cluster configuration have been met, if applicable.
<input type="checkbox"/> Record a complete strategy for cluster communications that highlights any key considerations, such as OptiConnect, if applicable.

Server planning: Software

This information introduces the tasks that are recommended for software planning. More specifically, this topic helps you plan to install a new release of the iSeries OS/400 operating system, and it links to more detailed information. Before you begin your planning tasks, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Ensure that this release can be installed on your hardware. The System Handbook  describes current hardware models for the release and describes the software releases that can be installed on them.
<input type="checkbox"/> Know the minimum release requirements for each server or logical partition. A load-source disk unit of 2 GB or larger must be installed and the minimum memory size is 128 MB.


Before you begin

- Become familiar with changes in the release that could affect your programs or system operations. These are described in the Memo to Users .
- Become familiar with the Install the OS/400 release and related software topic in the Information Center.
- Be sure you have the latest iSeries Access service packs installed on the PC you are using as a console. More information on service packs is on the iSeries Access Service Packs  Web page.
- Be sure you have the latest fixes installed. More information on fixes is available in the Ensure you have required software fixes (or PTFs) topic.

Software planning tasks

Use the following resources to build a complete plan for the OS/400 release and any additional licensed programs. Refer to the checklist at the conclusion of this page for the required elements of your software plan.

1. Identify release-to-release impacts to your server.

Read the Memorandum to Users  to understand changes that could affect the operating system and existing licensed program functions.

2. Evaluate disk storage space requirements.

Ensure the server meets disk storage requirements before you start to install or replace software.

3. Identify available licensed programs and their sizes.

Use the Licensed program releases and sizes topic in the Information Center to identify the current compatible releases and storage requirements for available licensed programs.



4. Identify possible upgrade paths for licensed programs.

Use the Licensed programs no longer supported topic to identify licensed programs that are no longer available at this release and their replacements where applicable.

5. Evaluate release interoperability.

Review the Release interoperability topic if you have several iSeries servers in a network, if data is exchanged between servers, or if you save and restore objects.

6. Plan for service.

The IBM Electronic Service Agent can automate PTF downloads to your server and provide automatic hardware problem reporting and system inventory collection. This software resides on your server, but must be activated before you can use it. For information about using the Electronic Service Agent, see the Electronic Services Web site.  

When you have completed the tasks identified in this topic, you should have constructed a software plan that identifies the following elements:

When you are finished

- Record a plan for disk capacity to handle storage requirements of your software solution. This analysis might cause changes to your software or hardware order.
- Record a strategy for eliminating hardware that is not compatible with your target software release.

Server planning: Connecting to iSeries




This information introduces the tasks that are recommended to plan your connection to iSeries, and it links to more detailed information. Before you begin your planning tasks, be sure you have completed the items in the following checklist:

Before you begin

- Be familiar with the “Planning reference information for iSeries” on page 1 information. Understand the cabling and physical environment requirements related to the different consoles.
- Know your current strategy for connecting to iSeries, including iSeries clients and consoles, and understand your business environment, including your Management Central network and wireless environment.

Planning tasks for your connection to iSeries

Use the following resources to build a complete plan for your connection to iSeries. Refer to the checklist at the bottom of this page for the required elements of your plan.

1. **Determine the kind of client and interface you need to connect to your iSeries.**
Use the Connecting to iSeries topic to find information about how to connect to your iSeries with Windows, Web, and wireless clients using these iSeries Access components; iSeries Navigator, iSeries Navigator for Wireless, Operations Console, and the control panel. Think through all connection issues, including your Management Central network strategy, wireless environment, and console.
Currently, iSeries Access for Windows is supported on OS/400 V5R1 and later servers, and it supports PC clients running Windows 98, Windows Me, Windows 2000, Windows NT 4.0, and Windows XP operating systems. For more information on setting up iSeries Access for Windows, or migrating from a previous Client Access client, see iSeries Access for Windows - Setup  .
2. **Determine the kind of console you need to connect to your iSeries.**
Use the Operations Console topic and Setting up your Twinaxial system  information to find out about how to connect to your iSeries with a console.
3. **Determine the kind of control panel you want to use for your iSeries.**
Use the Control panel topic to understand the functions of the control panel.
4. **Verify that you meet the requirements for Operations Console.**
If you are using Operations Console, use the Operations Console topic to plan and prepare for your console. You can also use the PC Checking tool  to verify that you have met the hardware and software requirements for Operations Console.
5. **Identify your cabling requirements.**
Refer to the “Plan for cables” on page 55 topic in the Information Center to identify cabling requirements and to build your cabling plan. Your cabling plan may change as a result of your console plan and your larger strategy for connecting to iSeries.

When you have completed the tasks identified in this topic, you should have constructed a plan for your connection to iSeries that identifies the following elements:

When you are finished

- Record a complete strategy for your client environment including Web connections, wireless connections, and Windows connections.
- Record a complete strategy for your console connection.
- Identify and ensure you have met the requirements for your chosen console and related PC.
- Record a complete plan for using the control panel, if applicable.
- Record a complete plan for using iSeries Navigator, if applicable.

When you are finished
<input type="checkbox"/> Record a complete plan for the implementation of your connection strategy in your business environment.
<input type="checkbox"/> Record a complete plan for internal education about your connection strategy.

Server planning: Integrated operating environments


This information introduces the tasks that are recommended to plan for integrated operating environments, and it links to more detailed information. Refer to the checklist at the end of this page for the required elements of your plan for integrated operating environments.

Planning tasks for integrated operating environments

Use the following resources to build a complete plan for integrated operating environments. Refer to the checklist at the bottom of this page for the required elements of your plan for integrated operating environments.

1. **Plan for Linux on iSeries.**

If your solution includes Linux, be sure to use the Linux topic to help you identify the requirements for configuring Linux in an iSeries logical partition. If you are upgrading to a system with a Power4 processor and are running Linux in an iSeries logical partition, you must ensure that the version of Linux you are running supports the new hardware. See the Linux for IBM

iSeries  Web page for a list of Linux distributions that support the new hardware. If your current Linux distribution does not support the new hardware, you must upgrade your Linux distribution before upgrading to the new hardware.

2. **Plan for Domino.**

If your solution includes Domino, be sure to use the Domino topic. This topic will direct you to all the information you need to plan for a Domino solution on iSeries.

3. **Plan for OS/400 PASE.**

If you are planning to port AIX solutions to your iSeries environment, you will need to consider OS/400 Portable Applications Solution Environment (OS/400 PASE). Use the Plan for OS/400 PASE topic to guide you through the planning process and identify hardware and software requirements.

4. **Plan for Windows server on iSeries.**

If your solution includes the licensed program iSeries Integration for Windows Server or the Integrated xSeries Server, use the Windows server on iSeries topic to help you identify hardware and software requirements as well as other planning considerations. If you are upgrading, be sure to identify any new requirements for the release. For example, do you have any older hardware (such as FSIOs) that is no longer supported and must be replaced before you can upgrade?

When you have completed the tasks identified in this topic, you should have constructed a plan for integrated operating environments that identifies the following elements:

When you are finished
<input type="checkbox"/> Record a complete plan for any Linux hardware and software requirements.
<input type="checkbox"/> Record a complete plan for any Domino hardware and software requirements.
<input type="checkbox"/> Record a complete plan for any OS/400 PASE hardware and software requirements.

When you are finished

- Record a complete plan for any Windows server on iSeries hardware and software requirements. Ensure your plan includes hardware that is no longer supported and release incompatibilities.

Server planning: Performance

This information introduces the tasks that are recommended to plan for performance, and it links to more detailed information. Before you begin your planning tasks, be sure you have completed the item in the following checklist:

Before you begin

- Read the Memo to Users .

Performance planning tasks


Use the following resources to build a complete performance plan. Refer to the checklist at the bottom of this page for the required elements of your performance plan.

1. **»» Build a plan for performance.**



The Plan for performance topic in the Information Center will guide you through the complete process of setting performance objectives and using those objectives to plan a performance management strategy.




2. **Use the Performance Capabilities Reference information.**

Use the detailed technical information in the *Performance Capabilities Reference* to do complex performance planning. You can access various release-levels of this publication on the Performance Management  Web site.

3. **Plan for performance management services.**

»» The IBM Electronic Service Agent can capture performance information that can then be used for performance management. You can access performance management services as an optional fee-based service. For information about the Electronic Service Agent, see the Electronic Services Web site.  «« Refer to IBM Global Services  to plan for any performance management services you need.

4. **Identify performance considerations for OS/400 release requirements.**

Refer to the Install the OS/400 release and related software topic and the Memo to Users  to identify the disk storage, CPU, memory, and other requirements of the OS/400 release. Identify any implications for your performance planning.

5. **»» Understand that you can upgrade the capacity of your server.**

Capacity Upgrade on Demand lets you activate standby processors on select server models as changing business needs demand more resources. You can activate these processors for a 14-day trial period or you can order and permanently activate these processors. ««

When you have completed the tasks identified in this topic, you should have constructed a plan for performance that identifies the following elements:

When you are finished
<input type="checkbox"/> Record a complete strategy for meeting the performance requirements of projected workloads.
<input type="checkbox"/> Identify and record any necessary changes to the server's operating environment, such as adding a large number of users or a significant software product.
<input type="checkbox"/> Identify and record any considerations for upgrading to a new OS/400 release such as requirements for disk storage, CPU, and memory.
<input type="checkbox"/> Identify and record cache requirements.
<input type="checkbox"/> Identify and record interactive CPU or CPW requirements.
<input type="checkbox"/> Identify and record memory requirements.
<input type="checkbox"/> Identify and record communications performance requirements.
<input type="checkbox"/> Identify and record database accessibility requirements as they relate to disk and disk device requirements.
<input type="checkbox"/> Identify and record performance considerations for replacing hardware or features no longer supported by IBM, for example replacing SPD-based hardware with PCI-based hardware.
<input type="checkbox"/> Record a strategy for IBM billable services, such as reassignment of IOAs and IOPs.

Server planning: Consumables

This information introduces the tasks that are recommended to plan for consumables, which are the non-IBM media and supplies that you need to have on hand before your server arrives. Consumables include supplies for your server, PC, and printer. This information also links you to more detailed information. Before you begin your planning tasks, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Know your current tape environment.
<input type="checkbox"/> Know your current DVD environment.
<input type="checkbox"/> Know your planned console solution.

Planning tasks for consumables

Use the following resources to build a complete plan for consumables. Refer to the checklist at the bottom of this page for the required elements of your consumables plan.

- 1. Identify tape requirements.**
 Identify your requirements for tape media, cartridges, and cleaning cartridges. For more information about tape devices, refer to the Tape topic.
- 2. Identify DVD requirements.**
 Identify your requirements for DVD devices. For more information about DVD devices, refer to the Optical topic.
- 3. Identify PC requirements.**
 To use IBM iSeries information, you must have a PC with a CD-ROM drive or access to the Internet. Many services and support are also available only on the Internet. In addition, you may have certain PC hardware and software requirements depending on the iSeries console you have

selected. Refer to the “Server planning: Connecting to iSeries” on page 25 topic to learn more about console requirements.

4. Identify printing requirements.

Be sure you have met your printer, toner, printer cartridge, and other printer-related requirements. For more information, refer to the Printing topic.

When you have completed the tasks identified in this topic, you should have constructed a plan for consumables that identifies the following elements:

When you are finished
<input type="checkbox"/> Record a complete list of what kind and how many tapes you need.
<input type="checkbox"/> Record a complete list of what kind and how many PC diskettes, CD-ROMs, or DVDs you need.
<input type="checkbox"/> Record a complete list of any other consumable supplies you need to have on hand before the IBM service representative arrives.


Server planning: Services






This information introduces the tasks that are recommended to plan for IBM services, and links to more detailed information.











Services planning tasks

IBM offers a comprehensive range of technical support services designed to keep your IT systems up and performing at the highest possible level. Flexible service options at IBM can help protect your IT investment, integrate new technologies into your environment, and give your staff access to the support they need to stay productive. Use the following resources to build a complete plan for services. Refer to the checklist at the bottom of this page for the required elements of your services plan.

1. Identify IBM services offerings and requirements.

Use the IBM Global Services Consulting group’s Technical Support Services  Web site to evaluate the service offerings and determine the services required for your environment in the following areas:

- **Design Services** 
Software design services that support your multivendor operating systems software and middleware products.
- **High Availability Services** 
Reduce the impact of outages and their costs with IT services designed to help increase system reliability and availability of your business-critical environments.
- **Installation Services** 
Help ensure efficient, effective software and hardware installations in your multivendor operating environment without draining your resources.
- **Integration Services** 
Technical consulting services to help you plan and implement your software technology.
- **Maintenance Services** 
Help keep your hardware up and running with single-source, flexible maintenance services for your multivendor environment.

- **Migration Services**  Hardware and software services that help you efficiently migrate applications and data in your multivendor environment.
- **Operational Support Services**  Remote and onsite support services for your hardware and software technical support needs.
- **Planning Services**  Services that include analysis, installation and/or migration planning for your multivendor hardware and software systems.
- **Power Protection Services**  Help reduce downtime with power protection solutions that include planning, design, installation coordination, software monitoring and testing.
- **Relocation Services**  Relocate your IT systems with services that help you plan, manage and move your facilities safely and efficiently.
- **ServicePac Services**  Prepackaged support services that range from operational support for server systems to warranty and maintenance options.
- **Site Services**  Services to help you plan, design and make physical changes to your new or existing IT facilities, including wiring, cabling and equipment modification.
- **SmoothStart Services**  Customized services designed to help get your hardware or software solution up and running quickly, with planning, installation and training for your staff.
- **Software Support Services**  Remotely delivered and onsite support services designed to help protect your investment and meet your business goals.
- **Storage Area Network Services**  Services to help you plan, design and implement an optimal SAN solution for your environment.

When you have completed the tasks identified in this topic, you should have constructed a services plan that identifies the following elements:

When you are finished	
<input type="checkbox"/>	Record a complete plan for what billable IBM services you will contract.
<input type="checkbox"/>	Record a schedule for services that fits into your overall plan.
<input type="checkbox"/>	Identify and create a timeline for any tasks you must complete prior to any IBM services activities.

Chapter 3. 2618/8664 Fiber Distributed Data Interface (FDDI) Adapter

This feature provides one interface to connect your server to an FDDI LAN, which complies with ANSI X3T9.5 and ISO 9314 standards.

The Fiber Distributed Data Interface (FDDI) Adapter needs multimode (62.5/125 micron) FDDI optical jumper cables to connect the Adapter into an FDDI ring. Customers supply these jumper cables. If necessary, order them from a local authorized IBM cabling distributor. For EMEA customers, cables are available from Montpellier through customer service representative offerings.

Use a fixed duplex-shrouded connector on both ends of the optical cable. To determine the proper connector used, examine the ring attachment device you use for the connection into an FDDI ring.

#2665/#8665 Shielded Twisted-Pair Distributed Data Interface (SDDI) Adapter

This feature provides an interface to connect your server to an FDDI LAN. The FDDI LAN is constructed of IBM Cabling server Type 1, 2, 6, or 9 shielded twisted-pair wiring.

The SDDI Adapter requires copper jumper cables that are made from IBM Cabling server Type 1, 2, 6, or 9 shielded twisted-pair wiring to connect the adapter into an FDDI ring. The jumper cables are to be supplied by the customer and may be ordered from a local authorized IBM cabling distributor. For EMEA customers, cables are available from Montpellier through a customer service representative offering.

Use a 9-pin subminiature D-shell shielded connector with 4-40 jack screws for connection to the SDDI adapter. Also, use an IBM token ring connector for connection to the ring attachment device. This cable is available from IBM by ordering part number 33G2762 or part number 6339098. Before ordering a cable, examine the ring attachment device to determine the proper connector to use.

2666 High-Speed Communications Adapter

The High-Speed Communications Adapter provides your server with one communications line capable of T1/E1 (1.544/2.048 Mbps) speeds. This feature consists of a card, a wrap connector, and a cable. You can obtain three physical interface types. The cable type that plugs into the adapter determines which interface to use. All cables are UL listed as CL2 per NEC 725 and CSA Certified as FT4.

When using the 2666, you can use either the RS-449/V.36 or V.35 cable for full T-1 speeds.

- RS-449/V.36

The RS/449/V.36 comes in 20ft (9882) or 80ft (9883), for full T-1 speeds. The RS-449/V.36 comes in 20ft (9882), 80ft (9883), and 150ft (9884) lengths. You can use the 80 and 150ft cables only if the DCE provides looped clocking.

Specify one of the following cables when ordering feature 2666.

–

- 9882 20ft/6m RS449/V.36 CCITT Cable (part number 17G4000)

- 9883 80ft/24.4m RS449/V.36 CCITT Cable (part number 17G4001)

- 9884 150ft/45.7m RS449/V.36 CCITT Cable (part number 17G4002)

- V.35

Specify one of the following cables when ordering feature 2666:



–


- 9879 20ft/6m V.35 CCITT Cable (part number 17G3991)

- 9880 80ft/24.4m V.35 CCITT Cable (part number 17G3992)
- X.21
 -
 - 9885 20ft/6m X.21 CCITT Cable (part number 17G3987)

Cabling your Model 270 system



For instructions on cabling your Model 270 system, choose one of the following:


-  Cabling your Model 270
-  Cabling your Model 270 to a PC

Each set of cabling instructions is a high quality image that you can view or download for viewing and printing. You must have Adobe Acrobat Reader installed to view this image. You can download a free copy from the Adobe home page .

Cabling your Model 820 system

For instructions on cabling your Model 820 system, choose one of the following:

-  Cabling your Model 820
-  Cabling your Model 820 to a PC

Each set of cabling instructions is a high quality image that you can view or download for viewing and printing. You must have Adobe Acrobat Reader installed to view this image. You can download a free copy from the Adobe home page .

General ASCII considerations

- **ASCII Workstations:** Workstations (displays or printers) connect directly to your server unit or to a workstation attachment. You can attach a printer to each display through its auxiliary port.
- **Limitations:** You can only have one active workstation per port. Thus, 18 ports means 18 display stations. Since you can connect a printer to each display station (through an auxiliary port), you can have, in fact, 36 devices connected (directly and indirectly) to your 18-port ASCII workstation attachment. However, the ASCII controller in this example can only have a total of 18 devices varied on and actively used at one time.
- **Signal Lines:** Use direct connections if signal lines are required by your devices (printers, display stations, modems). Check your device documentation to find out if signal lines are required.

Cables available from IBM

Note:

Some parts may be labeled with part numbers different from the ones specified in your order. Check to make sure your parts match the parts in this table.

Description	Length	Part number	CIN	Fire-resistance characteristics
<i>For racks attached to Model B</i>				
Bus Cable	4.0 m (13.1 ft)	62X3427	9984	–
Bus Cable	8.0 m (26.2 ft)	62X3428	9985	–

Description	Length	Part number	CIN	Fire-resistance characteristics
Power Sequence Cable	3.0 m (10.0 ft)	89X2926	–	–
Power Sequence Cable	6.0 m (19.7 ft)	89X2925	–	–
Power Sequence Cable	12.0 m (39.3 ft)	93X2000	9120	CL2, FT4
Power Sequence Cable	30.0 m (98.4 ft)	93X2147	9117	CL2, FT4
Power Sequence Cable (plenum)	30.0 m (98.4 ft)	21F5135	9117	CL2P, FT6
Power Sequence Cable	60.0 m (196.8 ft)	93X2148	9118	CL2, FT4
Power Sequence Cable (plenum)	60.0 m (196.8 ft)	21F5136	9117	CL2P, FT6
SPD Communications Cable Non-Enhanced				
RS232 Cable Germany	15.2 m (50 ft)	21F9353	9836	CL2, FT4
RS232 Cable Japan	15.5 m (50 ft)	21F9349	9836	CL2, FT4
RS232 Cable	6.1 m (20 ft)	22F0149	9022	CL2, FT4
RS232 Cable	15.2 m (50 ft)	22F9348	9836	CL2, FT4
RS232 Cable Germany	6.1 m (20 ft)	22F0150	9022	CL2, FT4
RS232 Cable Japan	6.1 m (20 ft)	22F0151	9022	CL2, FT4
RS366 Cable	6.1 m (20 ft)	72X5643	9840	CL2, FT4
RS366 Cable Japan	6.1 m (20 ft)	21F4415	9840	CL2, FT4
SPD Communications Cable Enhanced				
V.24 Cable	6.1 m (20 ft)	22F0152	9203	CL2, FT4
V.24 Cable Germany	6.1 m (20 ft)	22F0153	9023	CL2, FT4
V.24 Cable Japan	6.1 m (20 ft)	22F0154	9023	CL2, FT4
V.24 Cable	15.2 m (50 ft)	21F9350	9835	CL2, FT4
V.24 Cable Japan	15.2 m (50 ft)	21F9351	9835	CL2, FT4
V.24 Cable Germany	15.2 m (50 ft)	21F9352	9835	CL2, FT4
V.24 Cable	24.2 m (80 ft)	74F1837	9869	CL2, FT4
Other SPD Communications Cables				
X.21 Cable	6.1 m (20 ft)	72X5640	9021	CL2, FT4
X.21 Cable	15.2 m (50 ft)	21F9356	9839	CL2, FT4
V.35 Cable	6.1 m (20 ft)	72X5641	9020	CL2, FT4
V.35 Cable	15.2 m (50 ft)	21F9357	9838	CL2, FT4
V.35 Cable	24.4 m (80 ft)	74F1839	9870	CL2, FT4
2 Port Comm Cable	3 m (9.8 ft)	21F9345	9843	CL2, FT4
SPD and PCI Twinaxial Workstation Attachment Cables				
Twinaxial 8 Port Cable	6.1 m (20 ft)	21F5093	9842	CL2, FT4

Description	Length	Part number	CIN	Fire-resistance characteristics
SPD ASCII				
ASCII 6 Port Cable	6.1 m (20 ft)	21F5097	9841	CL2, FT4
ASCII 12 Port Cable	6.1 m (20 ft)	59X3829	9825	CL2, FT4
Removable Media Device Attachment (2621)				
SCSI 1 Cable	2.6 m (8.5 ft)	17G4142	9826	CL2, FT4
SCSI 1 Cable	4 m (13.1 ft)	6495268	9826	CL2, FT4
SCSI 1 Cable	12 m (39.3 ft)	6495269	9827	CL2, FT4
SCSI 1 Cable	20 m (65.6 ft)	21F4980	9846	CL2, FT4
Direct Access Storage Device Controller (6500)				
SCSI 2 Cable	2 m (6.6 ft)	21F9043	9870	CL2, FT4
SCSI 2 Cable	4 m (13.1 ft)	21F9044	9871	CL2, FT4
SCSI 2 Cable	64 m (19.7 ft)	56F0382	9872	CL2, FT4
SCSI 2 Cable	24 m (78.7 ft)	21F9045	9873	CL2, FT4
Tape and Disk Device Controller (6501)				
SCSI P Cable	2 m (6.6 ft)	17G2007	9875	CL2, FT4
SCSI P Cable	4 m (13.1 ft)	21F9047	9876	CL2, FT4
SCSI P Cable	6 m (19.7 ft)	56F0381	9877	CL2, FT4
SCSI P Cable	24 m (78.7 ft)	21F9048	9878	CL2, FT4
Tape Device Controller (6534, 2729)				
3490 Model Fxx and 3570 Cables				
SCSI 2 Cable	0.5 m (2 ft)	49G6456	5205	CL2, FT4
SCSI 2 Cable	4.5 m (15 ft)	49G6457	5245	CL2, FT4
SCSI 2 Cable	12 m (39 ft)	49G6458	5212	CL2, FT4
SCSI 2 Cable	18 m (59 ft)	49G6459	5218	CL2, FT4
3590 Cables				
SCSI 2 Cable	4.5 m (15 ft)	05H4648	5145	CL2, FT4
SCSI 2 Cable	12 m (39 ft)	05H4649	5112	CL2, FT4
SCSI 2 Cable	18 m (59 ft)	05H4650	5118	CL2, FT4
SCSI 2 Cable	25 m (82 ft)	49G6459	5125	CL2, FT4
Tape and Disk Feature Device Controller (6112)				
DFCI Cable	.6 m (2 ft)	6495253	9801	CL2, FT4
DFCI Cable	1.5 m (5 ft)	6495254	9802	CL2, FT4
DFCI Cable	2.5 m (8.2 ft)	6495250	9803	CL2, FT4
DFCI Cable	4 m (13.1 ft)	6495252	9804	CL2, FT4
DFCI Cable	6 m (19.7 ft)	6495251	9805	CL2, FT4
DFCI Cable	10 m (32.8 ft)	6495255	9806	CL2, FT4
DFCI Cable	20 m (65.6 ft)	6495256	9807	CL2, FT4
DFCI Cable	30 m (98.4 ft)	6495257	9808	CL2, FT4
DFCI Cable (plenum)	30 m (98.4 ft)	6495275	9811	CL2P, FT6

Description	Length	Part number	CIN	Fire-resistance characteristics
DFCI Cable	40 m (131.2 ft)	6495258	9809	CL2, FT4
DFCI Cable (plenum)	40 m (131.2 ft)	6495276	9812	CL2P, FT6
DFCI Cable	60 m (196.8 ft)	6495264	9810	CL2, FT4
DFCI Cable (plenum)	60 m (196.8 ft)	6495277	9813	CL2P, FT6
SPD High-Speed Communications Adapter (2666)				
X.21 Cable	6.1 m (20 ft)	17G3987	9885	CL2, FT4
V.35 Cable	6.1 m (20 ft)	17G3991	9879	CL2, FT4
V.35 Cable	24.4 m (80 ft)	17G3992	9880	CL2, FT4
RS449 Cable	6.1 m (20 ft)	17G4000	9882	CL2, FT4
RS449 Cable	24.4 m (80 ft)	17G4001	9883	CL2, FT4
RS449 Cable	45.7 m (150 ft)	17G4002	9884	CL2, FT4
PCI and SPD Miscellaneous server cables				
Diskette Cable	2.4 m (7.9 ft)	46G3658	9886	CL2, FT4
Diskette/Twinaxial Cable	2.4 m (7.9 ft)	46G3585	9887	CL2, FT4
BBU cable	2.4 m (7.9 ft)	86G7712	5144	AWM, FT1
Ethernet	3.0 m (9.8 ft)	86G7691	9025	CL2, FT4
Token Ring	2.44 m (8 ft)	6339098	9024	CL2
For 9406 Model Dxx-Fxx Racks and 9406/9404 3xx, 5xx, 6x0, Sx0, and SB1 Expansion Units				
SPCN Cable (plenum)	0.6 m (1.96 ft)	21F9362	9216	CL2P, FT6
SPCN Cable (plenum)	1.2 m (3.9 ft)	17G2017	9220	CL2P, FT6
SPCN Cable (plenum)	2.0 m (6.6 ft)	87G6235	9206	CL2P, FT6
SPCN Cable (plenum)	6.0 m (19.7 ft)	21F9469	9219	CL2P, FT6
SPCN Cable (plenum)	15.0 m (49.2 ft)	21F9358	9213	CL2P, FT6
SPCN Cable (plenum)	30.0 m (98.4 ft)	21F9359	9214	CL2P, FT6
SPCN Cable (plenum)	60.0 m (196.8 ft)	21F9360	9215	CL2P, FT6
SPCN Cable (plenum)	60.0 m (196.8 ft)	21F9414	9211	OFNP, OFN FT6
SPCN Cable (plenum)	100 m (328 ft)	21F9415	9212	OFNP, OFN FT6
BUS Cable	4.0 m (13.1 ft)	62X3427	9984	AWM(VW-1)
BUS Cable	8.0 m (26.2 ft)	62X3428	9985	AWM(VW-1)
BUS Cable (plenum)	6.0 m (19.7 ft)	46F2440	9851	OFNP, OFN FT6

Description	Length	Part number	CIN	Fire-resistance characteristics
BUS Cable (plenum)	10.0 m (32.8 ft)	46F2441	9852	OFNP, OFN FT6
BUS Cable (plenum)	20.0 m (65.6 ft)	46F2442	9853	OFNP, OFN FT6
BUS Cable (plenum)	6.0 m (19.7 ft)	16G5707	9893	OFNP, OFN FT6
BUS Cable (plenum)	10.0 m (32.8 ft)	16G5708	9894	OFNP, OFN FT6
BUS Cable (plenum)	20.0 m (65.6 ft)	16G5709	9895	OFNP, OFN FT6
BUS Cable	2.4 m (8 ft)	72X5638	–	–
BUS Cable	3 m (9.8 ft)	72X5638	–	–
ISDN Cable	7.0 m (22.9 ft)	72X6348	9844	AWM(VW-1)
ISDN Cable (France)	7.0 m (22.9 ft)	17G2528	9844	AWM(VW-1)
ISDN Cable (Switzerland)	7.0 m (22.9 ft)	8191781	9844	AWM(VW-1)
ISDN Cable (Europe NIA)	7.0 m (22.9 ft)	8191822	9844	AWM(VW-1)
Data Encryption Cable	6.1 m (20.0 ft)	85F8109	9848	CL2, FT4
Operations Console Cables				
Server maintenance cable (SAMI) for Models 150, 170, 600, 620, S10, and S20	6.1 m (20.0 ft)	97H7591	0381	CL, FT4
Server maintenance cable (SAMI) for Models 640, 650, S30, S40, SB1	6.1 m (20.0 ft)	97H7584	0380	CL, FT4
Operations Console (P for 2721 and 2745) for models 150, 170, 600, 620, S10, and S20	6.1 m (20.0 ft)	97H7557	0367	CL2, FT4
Operations Console (D for 2699) for models 640, 650, S30, S40, and SB1	6.1 m (20.0 ft)	97H7556	0328	CL2, FT4
Operations Console (9p to 25p for 2609 and 2612) for Models 4xx and 5xx	6.1 m (20.0 ft)	97H7555	0327	CL2
Operations Console for Models 8xx and SBx	6.0 m (20.0 ft)	97H7557	0367	CL2, FT4, or CMG
PCI Communications Cables for Models 15X, 170, 600, 620, S10, and S20				
RS232	6.1 m (20.0 ft)	44H7480	0348	CL2, CMG

Description	Length	Part number	CIN	Fire-resistance characteristics
RS232, Germany	6.1 m (20.0 ft)	44H7482	0348	CL2, CMG
RS232, Japan	6.1 m (20.0 ft)	44H7484	0348	CL2, CMG
V.24	6.1 m (20.0 ft)	44H7486	0350	CL2, CMG
V.24, Germany	6.1 m (20.0 ft)	44H7489	0350	CL2, CMG
V.24, Japan	6.1 m (20.0 ft)	44H7492	0350	CL2, CMG
V.35	6.1 m (20.0 ft)	44H7495	0353	CL2, CMG
V.36	6.1 m (20.0 ft)	44H7498	0356	CL2, CMG
X.21	6.1 m (20.0 ft)	44H7501	0359	CL2, CMG
Communication Console	6.1 m (20.0 ft)	44H7504	0362	CL2, CMG
PCI Communications Cables for Models 600, S10, 620, and S20				
RS232 Cable	15.2 m (50 ft)	44H7481	0349	CL2, FT4
RS232 Cable	15.2 m (50 ft) Germany	44H7483	0349	CL2, FT4
RS232 Cable	15.5 m (50 ft)	44H7485	0349	CL2, FT4
V.24 Cable	15.2 m (50 ft)	44H7487	0351	CL2, FT4
V.24 Cable	15.2 m (50 ft) Germany	44H7490	0351	CL2, FT4
V.24 Cable	15.5 m (50 ft)-JAPAN	44H7493	0351	CL2, FT4
V.24 Cable	24.4 m (80 ft)	44H7488	0352	CL2, FT4
V.24 Cable	24.4 m (80 ft)-GERMANY	44H7491	0352	CL2, FT4
V.24 Cable	24.4 m (80 ft)-JAPAN	44H7494	0352	CL2, FT4
V.35 Cable	15.2 m (50 ft)	44H7496	0354	CL2, FT4
V.35 Cable	24.4 m (80 ft)	44H7497	0355	CL2, FT4
V.36 Cable	15.2 m (50 ft)	44H7499	0357	CL2, FT4
V.36 Cable	45.7 m (150 ft)	44H7500	0358	CL2, FT4
X.21 Cable	15.2 m (50 ft)	44H7502	0360	CL2, FT4
SPD Book Type Communications Cables for Models 6x0, Sx0, and SB1				
RS232 Cable	24.4 m (80 ft)	97H7389	0329	
RS232 Cable Germany	24.4 m (80 ft)	97H7390	0329	
RS232 Cable Japan	24.4 m (80 ft)	97H7391	0329	
RS232 Cable	6.1 m (20 ft)	21H3764	0330	CL2, FT4
RS232 Cable Germany	6.1 m (20 ft)	21H3765	0330	CL2, FT4
RS232 Cable Japan	6.1 m (20 ft)	21H3766	0330	CL2, FT4
RS232 Cable	15.2 m (50 ft)	21H3767	0331	CL2, FT4
RS232 Cable Germany	15.2 m (50 ft)	21H3768	0331	CL2, FT4
RS232 Cable Japan	15.2 m (50 ft)	21H3769	0331	CL2, FT4

Description	Length	Part number	CIN	Fire-resistance characteristics
V.24 Cable	6.1 m (20 ft)	21H3770	0332	CL2, FT4
V.24 Cable	6.1 m (20 ft)-Germany	21H3771	0332	CL2, FT4
V.24 Cable	6.1 m (20 ft)-JAP	21H3772	0332	CL2, FT4
V.24 Cable	15.2 m (50 ft)	21H3773	0333	CL2, FT4
V.24 Cable	15.2 m (50 ft)-GERM	21H3774	0333	CL2, FT4
V.24 Cable	15.5 m (50 ft)-JAP	21H3775	0333	CL2, FT4
V.24 Cable	24.4 m (80 ft)	21H3776	0334	CL2, FT4
V.24 Cable	24.4 m (80 ft)-GERM	21H3777	0334	CL2, FT4
V.24 Cable	24.4 m (80 ft)-JAP	21H3778	0334	CL2, FT4
V.36 Cable	6.1 m (20 ft)	21H3787	0335	CL2, FT4
V.36 Cable	15.2 m (50 ft)	21H3788	0336	CL2, FT4
V.36 Cable	45.7 m (150 ft)	21H3789	0337	CL2, FT4
V.35 Cable	6.1 m (20 ft)	21H3792	0338	CL2, FT4
V.35 Cable	15.2 m (50 ft)	21H3785	0339	CL2, FT4
V.35 Cable	24.4 m (80 ft)	21H3786	0340	CL2, FT4
X.21 Cable	6.1 m (20 ft)	21H3782	0341	CL2, FT4
X.21 Cable	15.2 m (50 ft)	21H3783	0342	CL2, FT4
Console Cable	6.1 m (20 ft)	21H3779	0344	CL2, FT4
<i>Fax Coupler Cables</i>				
Fax Coupler Cable Belgium		21H4903		
Fax Coupler Cable Israel		21H4905		
Fax Coupler Cable South Africa		21H4904		
Fax Coupler Cable Italy		75G3802		
Fax Coupler Cable France		75G3803		
Fax Coupler Cable Germany		75G3804		
Fax Coupler Cable United Kingdom		75G3805		
Fax Coupler Cable Sweden		75G3806		
Fax Coupler Cable Australia		75G3807		
Fax Coupler Cable China (Hong Kong S.A.R.)		75G3808		
Fax Coupler Cable Finland		75G3809		

Description	Length	Part number	CIN	Fire-resistance characteristics
Fax Coupler Cable Netherlands		75G3810		
Fax Coupler Cable Switzerland		75G3811		
Fax Coupler Cable Denmark		75G3812		
Fax Coupler Cable US/Canada		87G6236		
Miscellaneous Cables for Models 640, S30, 730, 650, S40, 740, and SB1				
HSL Cable	15 m (32.8 ft)	21H7377	0346	CL2, CMG, or FT4
Cables for servers 270, 820, 830, 840, SB2, and SB3				
VS COM Cable	6 m (19.8 ft)	44L0007	031A	
HSL Cable 250/500	3 m (10 ft)	44L0005	0343	
HSL Cable 250/500	6 m (19.8 ft)	97H7490	0361	
HSL Cable 250/500	15 m (32.8 ft)	04N7014	0368	
ISDN PRI Cable WT	10 m (32.8 ft)	97H7698	984B	
ISDN PRI Cable BRI	10 m (32.8 ft)	97H7699	984C	
ISDN PRI Cable US	10 m (32.8 ft)	97H7697	984A	
JTAG A Cable	6 m (19.8 ft)	97H7468	033A	
JTAG E Cable	6 m (19.8 ft)	97H7604	033C	
JTAG C Cable	6 m (19.8 ft)	97H7487	033B	
SPCN 2 Port Cable	3 m (9.8 ft)	04N2652	036A	
RS232 Cable	24.4 m (80 ft)	97H7386	0365	
RS232 Cable Germany	24.4 m (80 ft)	97H7387	0365	
V.24 Cable Japan	24.4 m (80 ft)	97H7388	0365	
High-Speed Link Cables for Models 650, 740, S40, SB1, 820, 830, and 840				
HSL Cable	6 m (19.7 ft)	21H7643	0347	CL2, CMG or FT4
System Interconnect Cables for Models 65X				
OP Panel	5 m (16.4 ft)	21H7374	9819	CL2, CMG
JTAG Cable	3 m (9.8 ft)	21H7375	9817	CL2, CMG
Cables for Models 870 and 890				
HSL (copper)	3.0 m	44L0005	1460	
HSL (copper)	6.0 m	97H7490	1461	
HSL (copper)	15.0 m	97H7491	1462	
HSL (optical)	6.0 m	21P5014	1470	
HSL (optical)	30.0 m	21P5015	1471	
HSL (optical)	100.0 m	21P5016	1472	
HSL (optical)	250.0 m	21P6326	1473	
HSL to HSL2 (copper)	6.0 m	21P5477	1474	
HSL to HSL2 (copper)	10.0 m	21P5458	1475	

Description	Length	Part number	CIN	Fire-resistance characteristics
HSL2 (copper)	1.0 m	21P5454	1481	
HSL2 (copper)	3.5 m	53P2676	1482	
HSL2 (copper)	10.0 m	21P5456	1483	
HSL2 (copper)	15.0 m	21P5457	1485	
IPCS video extension cables for NT	4.5 m (15.0 ft)	44H8676	0325	CL2, CL2, CMG or FT4
IPCS mouse or keyboard extension cables for NT	5.0 m (16.0 ft)	44H8677	0325	AWM (VW-1)
RS232	6.0 m (20.0 ft)	44H7480	0348	CL2, CMG or FT4
RS232, Germany	6.0 m (20.0 ft)	44H7482	0348	CL2, CMG or FT4
RS232, Japan	6.0 m (20.0 ft)	44H7484	0348	CL2, CMG or FT4
RS232	15.0 m (50.0 ft)	44H7481	0349	CL2, CMG or FT4
RS232, Germany	15.0 m (50.0 ft)	44H7483	0349	CL2, CMG or FT4
RS232, Japan	15.0 m (50.0 ft)	44H7485	0349	CL2, CMG or FT4
V.35	6.0 m (20.0 ft)	44H7495	0353	CL2, CMG or FT4
V.36	6.0 m (20.0 ft)	44H7498	0356	CL2, CMG or FT4
X.21	6.0 m (20.0 ft)	44H7501	0359	CL2, CMG or FT4
X.21	15.0 m (50.0 ft)	44H7502	0360	CL2, CMG or FT4
RS232	24.5 m (80.0 ft)	97H7386	0365	CL2, CMG or FT4
RS232, Germany	24.5 m (80.0 ft)	97H7387	0365	CL2, CMG or FT4
RS232, Japan	24.5 m (80.0 ft)	97H7388	0365	CL2, CMG or FT4
LC-SC adapter kit (50um)	0.2 m (0.7 ft)	11P1373	0371	OFNR, FT4
LC-SC adapter kit (62.5um)	0.2 m (0.7 ft)	11P1374	0372	OFNR, FT4
Remote control panel cable	6.0 m (20.0 ft)	4N5592	0382	CL2, CMH
Modem cable - Austria	10.0 m (33.0 ft)	21H4902	1010	AWM (VW-1)
Modem cable - Belgium	10.0 m (33.0 ft)	21H4903	1011	AWM (VW-1)
Modem cable - Africa	10.0 m (33.0 ft)	21H4904	1012	AWM (VW-1)
Modem cable - Israel	10.0 m (33.0 ft)	21H4905	1013	AWM (VW-1)
Modem cable - Italy	10.0 m (33.0 ft)	75G3802	1014	AWM (VW-1)
Modem cable - France	10.0 m (33.0 ft)	75G3803	1015	AWM (VW-1)
Modem cable - Germany	10.0 m (33.0 ft)	75G3804	1016	AWM (VW-1)
Modem cable - UK	10.0 m (33.0 ft)	75G3805	1017	AWM (VW-1)
Modem cable - Iceland/Sweden	10.0 m (33.0 ft)	75G3806	1018	AWM (VW-1)
Modem cable - Australia	10.0 m (33.0 ft)	75G3807	1019	IEC 60950 (V2)

Description	Length	Part number	CIN	Fire-resistance characteristics
Modem cable - China (Hong Kong S.A.R.) and New Zealand	10.0 m (33.0 ft)	75G3808	1020	AWM (VW-1)
Modem cable - Finland and Norway	10.0 m (33.0 ft)	75G3809	1021	AWM (VW-1)
Modem cable - Netherlands	10.0 m (33.0 ft)	75G3810	1022	AWM (VW-1)
Modem cable - Switzerland	10.0 m (33.0 ft)	75G3811	1023	AWM (VW-1)
Modem cable - Denmark	10.0 m (33.0 ft)	75G3812	1024	AWM (VW-1)
Modem cable - US/Canada	10.0 m (33.0 ft)	87G6236	1025	AWM (VW-1)
Note: Fire-resistance characteristics are defined in <i>National Electrical Code</i> , UL 1950/IEC 950/CSA 22.2-950.				

ASCII cables from IBM

Note: Some parts may be labeled with part numbers different from the ones specified in your order. Check this table to make sure your parts say what they are supposed to say and are not the wrong parts.

Description	Length	Part number to order	Part number on cable	Comments
ASCII Workstation Controller Attachment Cable Assemblies				
6-port	6.0 meters (20 feet)	21F5097	21F5097 (9841)	Ports 0 - 5
12-port	3.0 meters (10 feet)	59X3816	59X3816	Ports 6 - 17
12-port	6.0 meters (20 feet)	59X3829	59X3830 (9825)	Ports 6 - 17
Personal System/2 Computer Cables				
ASCII Workstation Controller Attachments	6.0 meters (20 feet)	85F8096	85F9036	Common
Modem	6.0 meters (20 feet)	21F9965	21F9966	Common
Display Station Cables				
Plug-type Connector	6.0 meters (20 feet)	21F9965	21F9966	Common
Receptacle-type Connector	6.0 meters (20 feet)	21F4505	21F4339	Common
Receptacle-type Connector	12.0 meters (40 feet)	21F4342	21F4344	Common
Modem to ASCII Workstation Cables				

Description	Length	Part number to order	Part number on cable	Comments
Japan	6.0 meters (20 feet)	21F2674	93X0185	Common
Germany	6.0 meters (20 feet)	21F2671	21F2591	Common
All others	6.0 meters (20 feet)	69X7016	59X3833	Common

ASCII cables

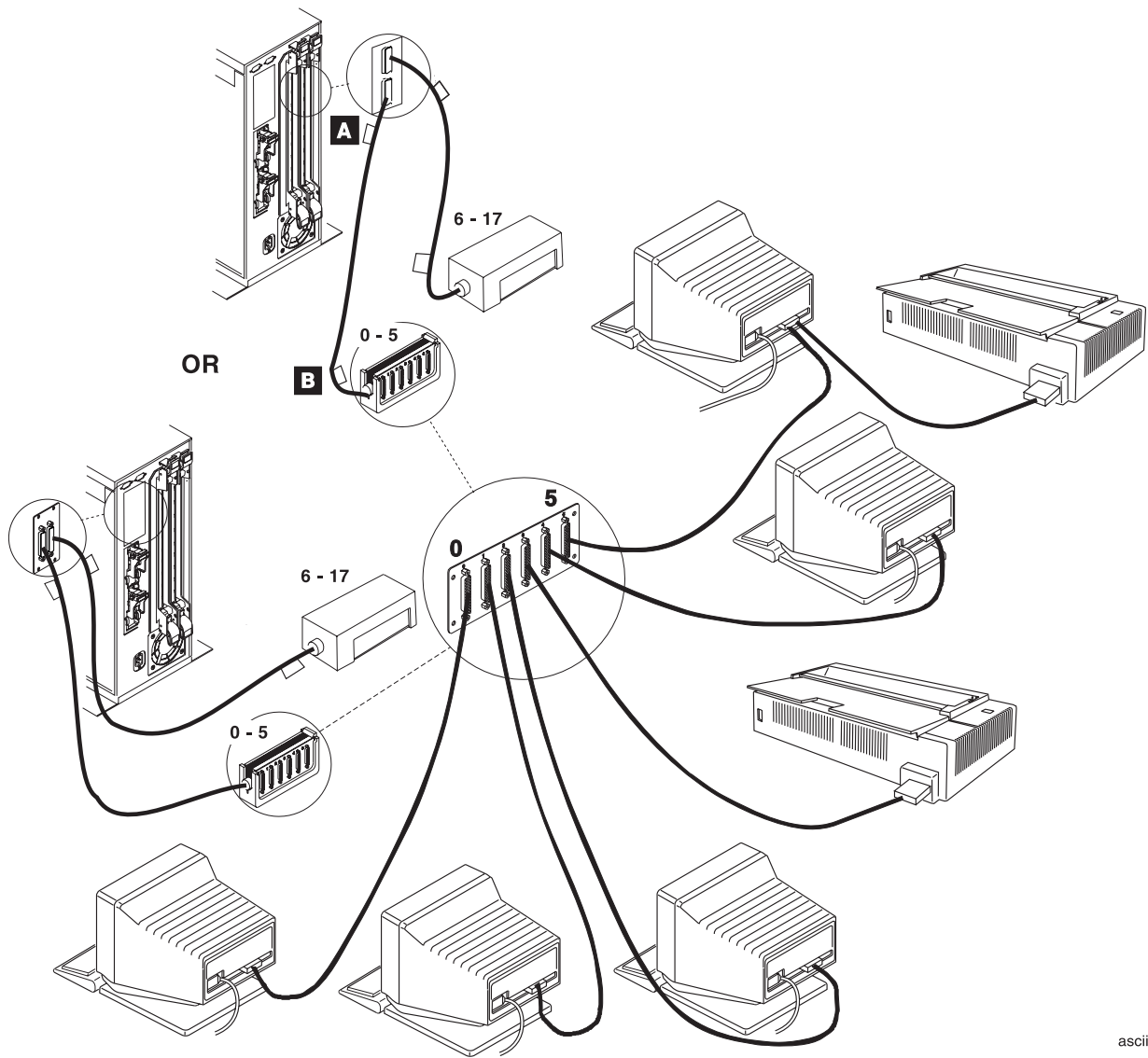
ASCII cables and what you need to know about them.

- General ASCII considerations
- ASCII Cabling Configurations
- Workstation Configuration
- ASCII cables you can order from IBM

ASCII workstations

This diagram shows ASCII workstation connections to a 2xx/4xx system. Your unit may look different, but the same cabling concepts still apply.

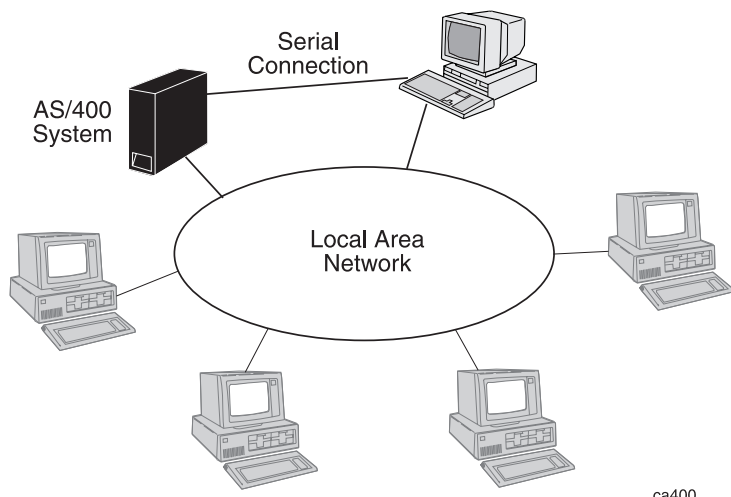
Click on the diagram to view a larger image.



ascii

Local console directly attached to the server

Click on diagram to see larger image.



iSeries Access for Windows console cables

You can connect a personal computer to your server with iSeries Access for Windows^(R) console support. The PC is attached through a serial connection to a communications input/output adapter installed on the server. You can then use the PC as your server console. Use a special iSeries Access for Windows console cable to do this.

iSeries Access for Windows Console Cables			
Model	Cable length	Part number	Feature code
640 and 650 S30, S40, and SB1	6 m (20 ft)	21H3779	0344
600 and 620 S10, S20, and 15X	6 m (20 ft)	44H7504	0362
P0x, 10S; 2xx, 4xx, 5xx	6 m (20 ft)	46G0450	9026
P0x, 10S; 2xx, 4xx, 5xx	2.5 m (8 ft)	46G0479	9027

Cable connectors

This table lists the connectors for cables used by IBM servers.

Feature Code	Description	iSeries Connector	Network Connector
2811	25 Mbps (UTP-3) I/O Adapter Card	RJ-45	
2812	45 Mbps (DS-3) I/O Adapter Card	BNC	
2815	155 Mbps (UTP-5) I/O Adapter Card	RJ-45	
2816	155 Mbps (MMF) I/O Adapter Card	SC	
2818	155 Mbps (SMF) I/O Adapter Card	SC	
2819	34 Mbps (E-3) I/O Adapter Card	BNC	

Determining cable requirements

You will need to order, install, label, and test all your own workstation cables. These are cables to your server(s), tower(s), PCs, display stations, and printers. Since assembling cables can be complex, it is recommended that you purchase pre-assembled cables.

If you plan to use high-speed link (HSL) cabling, click [here](#) for more information.

If you ordered a package with one or more display stations, you will get one 6 meter (20 foot) cable with your server. If you ordered one or more printers, you will get one 6 meter (20 foot) cable. You must order any additional cables separately.

Follow this procedure to order your cables:

1. From the site plan that you drew, determine how much cable you need.
2. Select the types of cables below to view specifications and part numbers:
 - HSL cables
 - Operations Console cables
 - Twinaxial cables (workstations, remote workstation controllers, host servers)
 - ASCII cables (workstations, display stations, printers, modems)
 - iSeries Access for Windows^(R) console cables
3. Write down the type and quantity of cables you need in the Workstation Information Form 3B.
4. Using the information you entered in the form, order your cables. Make sure you specify:
 -
 - Type of cable (for instance, ASCII)
 - Lengths and quantity of cable (such as, ten 6-foot cables, and so on)
 - Type of covering if applicable (like vinyl covered twinaxial cables)

Remember to order any necessary cable accessories, such as adapters and T-connectors.

Note: If you are ordering cables from IBM, you must specify part numbers and, in some cases, length or feature number. Verify the cable part tables (twinaxial cables, ASCII cables, and iSeries Access for Windows console cables).

For more details on cables, contact an IBM service representative.

General cabling considerations

Cabling can be fairly complex. You have to purchase, install, label, and test all your own workstation cables. These are cables to your server, PCs, display stations, and printers. Without cables, however, a server cannot exist. What you really have is a system of cables, connecting everything together. And, if your cables cause problems, your server goes down. Because cables are critical to your business, you should purchase pre-assembled cables rather than assemble the cables yourself.

If you ordered a Total System Package with one or more display stations, you will get one 6-meter (20-foot) cable with your server. If you ordered one or more printers, you will get one 6-meter (20-foot) cable. You have to order any additional cables.

When you map out where your cables will run:

- **Do not create a safety hazard.** Do not route cables where they can harm personnel and equipment. For instance, make sure people can not trip over cables.
- **Do not expose a cable to damage.** Do not route cables near a heat source or where they can be pinched (like under a door).
- **Avoid sources of electrical interference.** Do not route cables near electric motors or transformers.
- **Be careful not to exceed the bend radius** of the cable. This is especially true for the high-speed link cables.
- **Do not lay cables over sharp edges**, the weight of the cable along with vibrations will eventually wear through the cable.

HSL cable options and loop maximums

The following tables show the HSL cables available for the system units, expansion units and the maximum number of expansion units on an HSL loop.

Cable options for the system unit

Cable feature	Cable name	i270	i810	i820	i825	i830 i840	i870 i890
Copper							
1460	3m HSL copper cable	X	X	X		X	
1461	6m HSL copper cable	X	X	X		X	
1462	15m HSL copper cable			note 2		X	
1482	4m HSL-2 cable				X		X
1483	10m HSL-2 cable				X		X
1485	15m HSL-2 cable				X		X
1474	6m HSL to HSL-2 cable	X	X	X	X	X	X
1475	10m HSL to HSL-2 cable			X	X	X	X
Fiber Optic	see note 1						
1470	6m HSL fiber optic cable					X	X
1471	30m HSL fiber optic cable					X	X
1472	100m HSL fiber optic cable					X	X
1473	250m HSL fiber optic cable					X	X
SPCN							
1463	2m SPCN cable	X	X	X	X	X	X
1464	6m SPCN cable	X	X	X	X	X	X
1465	15m SPCN cable	X	X	X	X	X	X
1466	30m SPCN cable	X	X	X	X	X	X

Note 1: Fiber optic cable requires a base or feature optical HSL port card in the system.

Note 2: 15 meter HSL copper cables are not supported on the A1 port of Model 820. They can be used on the A0 port of Model 820.

Cable options for the expansion unit

Cable feature	Cable name	5074	5075	5078 0578	5079 8079	IXA card	0694 5094 9094	5095 0595	5088 0588	5294 8094
Copper										
1460	3m HSL copper cable	X	X	X	X	X				
1461	6m HSL copper cable	X	X	X	X	X				
1462	15m HSL copper cable	X	X	X	X	X				
1482	4m HSL-2 cable						X	X	X	X
1483	10m HSL-2 cable						X	X	X	X
1485	15m HSL-2 cable						X	X	X	X
1474	6m HSL to HSL-2 cable	X	X	X	X	X	X	X	X	X
1475	10m HSL to HSL-2 cable	X	X	X	X	X	X	X	X	X
Optical	see note									
1470	6m HSL fiber optic cable	X		X	X		X	X	X	X
1471	30m HSL fiber optic cable	X		X	X		X	X	X	X
1472	100m HSL fiber optic cable	X		X	X		X	X	X	X
1473	250m HSL fiber optic cable	X		X	X		X	X	X	X
SPCN										
1463	2m SPCN cable	X	X	X	X	X	X	X	X	X
1464	6m SPCN cable	X	X	X	X	X	X	X	X	X
1465	15m SPCN cable	X	X	X	X	X	X	X	X	X
1466	30m SPCN cable	X	X	X	X	X	X	X	X	X

Note: Optical cable requires a base or feature optical HSL port card in the expansion unit.

Maximum expansion units on an HSL Loop

System Maximums	i270	i810	i820	i825	i830	i840	i870	i890
HSL loops	1	1	1	3	4	8	8	14
Fiber optic cable	0	0	0	3	1	2	6	12
I/O expansion units	1	4	5	18	13	23	47	47
IXA cards in xSeries ^(TM) expansion units	2	7	8	18	16	60	60	60
I/O expansion units and IXA cards	3	8	9	27	21	60	60	60
HSL OptiConnect loops	1	1	1	2	2	4	8	14
HSL migration expansion unit	0	0	1	0	1	1	0	0
HSL Loop Maximums								
I/O expansion units	1	4	5	6	6	6	6	6
IXA cards in xSeries expansion units	2	7	8	8	8	8	8	8
I/O expansion units and IXA cards	3	8	9	9	9	9	9	9
HSL OptiConnect Loop - 2 systems								
I/O expansion units and IXA cards	4	4	4	4	4	4	4	4
HSL OptiConnect Loop - 3 systems								

I/O expansion units and IXA cards	N/A	N/A	N/A	N/A	0	0	0	0
-----------------------------------	-----	-----	-----	-----	---	---	---	---

High Speed Link (HSL) Glossary

- **Alternate server:** For a given tower, the server to which a tower can be switched.
- **Base tower:** Same as power-controlled tower.
- **Central electronics complex (CEC) node:** A node which is the hub for a server.
- **External Tower:** An I/O tower which is contained within a physical package separate from a CEC. Note that more than one external tower may be contained within a single physical package (e.g. a 5079 tower is actually two external towers).
- **Home server:** Same as power-controlling server.
- **HSL:** High speed link technology. A high-speed connection mechanism that takes advantage of the I/O bus structure or the memory to connect multiple systems or partitions.
- **HSL loop segment:** A portion of an HSL loop whose endpoints are defined by two CEC nodes (servers) and which contains only I/O nodes.
- **HSL OptiConnect:** The iSeries 400^(R) system area network that provides high-speed interconnectivity between multiple iSeries 400 systems in a local environment. Along with WAN and LAN technologies, OptiConnect provides the high-speed connectivity between cluster nodes in iSeries 400 cluster environments.
- **Internal Tower:** An I/O tower which is contained within the same physical package as a server.
- **I/O node:** A node which is the bridge to an I/O tower (internal or external) or IXS tower.
- **IXS tower:** Integrated xSeries^(TM) Server tower (cannot be switchable, i.e. an IXS tower is always a private tower).
- **Managing server:** Same as owning server.
- **Node:** An addressable entity on an HSL loop.
- **Owning server:** The server which is currently responsible for accessing and controlling a tower.
- **Power-controlling server:** For a given tower, the server which has system power control network (SPCN) control over that tower.
- **Power-controlled tower:** For a given system, a tower over which that system has SPCN control.
- **Private tower:** A tower which is not switchable.
- **Switchable tower:** A tower which has been configured to allow it to be owned by an alternate system.
- **Switched tower:** A tower which is currently owned by the alternate system.

High Speed Link (HSL) Information

HSL cables connect system units to I/O towers, IXA cards in xSeries^(TM) towers and other system units.

HSL OptiConnect Loop is the designation for an HSL loop which connects multiple systems. It provides system to system connectivity and switch disk environments.

This topic provides you with information to plan for HSL cabling.

“HSL cable options and loop maximums” on page 48

Contains HSL cable feature codes and lists the maximum loops for each server.





“High Speed Link (HSL) Glossary”

Provides definitions for some of the common terms used in HSL cabling information.

HSL and SPCN cable planning guide

Lists cables and feature codes and also contains cable planning diagrams.

For HSL configuration and installation information see:

- Setting Up Your 5088, 5094, or 5095 Expansion Unit 
HSL installation and configuration instructions.
- Setting Up Your 0578, 5074, 5078, or 5079 Expansion Unit 
HSL installation instructions.
- Setting Up Your 5075 Expansion Unit 
HSL installation instructions.
- OptiConnect for OS/400^(R) 
OS/400 Opticonnect documentation and system connectivity.

Integrated FAX Adapter

The Integrated Fax Adapter and the latest version of Facsimile Support/400 (5798-TAY) provide the server with two ports, and both are capable of transmission and receipt of facsimile data. The data is sent to or received from a Group 3 capable fax machine, another system with an Integrated Fax Adapter, or PCs with appropriately programmed fax adapters. Feature 2664 consists of a card, a wrap cable (one per machine), two country-unique attachment couplers, telephone cables, and Licensed Internal Code.

The Integrated Fax Adapter is supported by the Facsimile Support/400 licensed program offering that, until now, supported only the PS/2^(R) LAN-based facsimile product. This program provides configuration parameters for the Integrated Fax Adapter, schedules fax transmissions between multiple adapters, and manages sending and receiving faxes to and from the adapter.

The Integrated Fax Adapter can simultaneously support two send, two receive, or one send and one receive operation. To the server, the Integrated Fax Adapter appears as an IPDS^(TM) (Intelligent Printer Data Stream^(TM)) printer for outbound faxes. Most output, including text, image, graphics, and bar codes that can be printed on an IPDS printer can be faxed by using the Integrated Fax Adapter. Double-byte character sets (DBCS) are supported for in-bound faxes, but not for out-bound faxes. One or two RJ11 adapters are required for this feature.

Documents transmitted from the server through the Integrated Fax Adapter are limited to a maximum of approximately 30 text pages per port, per telephone call. If only a single port is configured for sending fax documents, then the limit is raised to approximately 60 text pages. Resident cover pages are counted against this limit.

The Integrated FAX Adapter is designed to be directly attached to the public switched telephone network (PSTN). Attachment to a private branch exchange (PBX) may give unsatisfactory results.

The Integrated FAX Adapter supports the facsimile protocols defined in CCITT Blue Book Volume VII, Facsimile VII.3 Recommendations T.4 and T.30. Integrated Fax Adapter supports the following compression algorithms in fax mode:

- Group 3 MR
- Group 3 MH

Integrated Fax Adapter supports the following modem standards:

- V.21 (300bps)
- V.27 (2400, 4800bps)
- V.29 (7200, 9600bps)

Initial country support includes: USA, Canada, France, United Kingdom, Germany, Italy, Japan, and Sweden. Country support is subject to approval in that country. Two country-unique couplers and country-specific PSTN attachment cables (one for each port) are required. The couplers and cables are included with the Integrated Fax Adapter feature.

OS/400^(R) Version 3 Release 5 or later and Facsimile Support/400 Version Release 0.5 or later are required to support this feature.

Labeling cables

Labeling the cables you install helps you keep track of which cable goes where. You can use these label templates to label your cables. Just print them, fill in the information, and tape a label to each end of each cable. The label contains all the information you need to know about the cable and where it should be connected.

- Label templates

Label templates

Optical cable fiber specifications

The preferred optical fiber for the server is 50/125 multimode fiber. This is because its bandwidth is a factor of three higher than 62.5/125 at the 780 nm wavelength at which the system operates. The 62.5/125 multimode fiber is also supported but at reduced distances. For 3xx systems at 220 Mbps and 5xx, 6x0, Sx0, and SB1 servers at 266 Mbps, a 50/125 fiber will support a distance of 2000 meters. A 62.5/125 fiber will support a distance of 700 meters.

For 5xx, 6x0, Sx0, and SB1 systems that use the higher speed 1063 Mbps link, optical technology with 50/125 fiber will support a distance of 500 meters. A 62.5/125 fiber will support a distance of 175 meters.

Care should be taken so that optical fiber cables are not coiled to a diameter less than 16 cm (6.3 in) and not bent to a radius less than 3 cm (1.2 in). Do not grip optical cables with mechanical tools.

More information about optical cable installation can be found in *940x Installation and Upgrade*, SY44-5950.

Note: Although optical technology will support these distances, not all functions can operate at those distances in all cases. Review disk unit and tape unit operation functions before supporting distances beyond 100 meters.

The cable specifications follow:

for 50/125:

Bandwidth:

400 MHz-km at 780nm. This is equivalent to 500 MHz-km at 850nm.

Attenuation:

4.0 dB/km at 780nm. This is equivalent to 3.0 dB/km at 850nm.

for 62.5/125:

Bandwidth:

160 MHz-km at 850nm.

Attenuation:

4.0 dB/km at 850nm wavelength.

Depending on the data rate, the allowable link loss available to the user varies from 6 to 12 dB. Typical optical fiber connectors have a loss of 0.2 dB with a 0.5 dB maximum loss, and splices run 0.1 to 0.3 dB loss.

Connectors:**for 3xx systems:**

The connections to the optical ports of I/O Bus Expansion are SC duplex connectors. The jumper cables available with the server when shipped are duplex cables. These cables terminate with SC duplex connectors with a PC polish. Use the simplex ST connectors for the system power control network (SPCN).

Connectors for 5xx, 6x0, Sx0, and SB1 systems:

The connector used for the 266 and 1063 data rate is slightly different than that used on the 220 Mbps links. For 3xx, a duplex SC connector is used. The 5xx, 6x0, Sx0, and SB1 machines have been changed to conform to industry standard Fiber Channel Support (FCS) duplex SC connector. The FCS SC connector is similar in appearance to the 3xx duplex SC connector but the keying orientation is different. The FCS duplex connector used for 5xx, 6x0, Sx0, and SB1 also employs two SC connectors joined together but the two SC connectors are rotated 90 degrees from the connectors used on 3xx systems.

- 2618/8664 Fiber Distributed Data Interface (FDDI) Adapter
- 2665/8665 Shielded Twisted-Pair Distributed Data Interface (SDDI) Adapter
- 2666 High Speed Communications Adapter
- Wireless LAN Communications
- Integrated FAX Adapter

Operations Console and Remote Control Panel cables

You can connect a personal computer to your server as an Operations Console. The PC is attached through a serial connection to a communications input/output adapter (IOA) installed on the server. You can then use the PC as your Operations Console. Use a special Operations Console cable to do this.

Operations Console cables			
Model	Part number	Cable length	Feature code
Models 640 and 650 Models S30, S40, 730, 740 and SB1(#36-pin, square)	97H7556	6 m (20 ft)	2699
Models 150, 170, 600 and 620 Models S10, S20 and 720 (36-pin PCI)	97H7557	6 m (20 ft)	2721, 2745
Models 4xx and 5xx	97H7555	6 m (20 ft)	2609, 2612
Models 270, 810, 820, 825, 830, 840, 870, 890, SB2, SB3	97H7557	6 m (20 ft)	2721, 2742, 2745, 2771, 2793

Remote Control Panel cables	
Model	Part number
Models 640, 650, S30, and S40	97H7584

Remote Control Panel cables	
Model	Part number
Models 270, 820, 830, and 840	04N5592
All other servers	97H7591

Notes:

- The console and the remote control panel functions each need a special cable.
- On servers other than the 270, 820, 830, and 840 the cables for the console and the control panel cannot be interchanged, even though both are serial cables. The cable connector with a missing pin goes to the server.
- If you are currently using electronic customer support, you must move the electronic customer support cabling to another communications port before trying to install Operations Console. If you are configuring a local console through dial-up support, do not move the electronic customer support resources.
- The Operations Console table only pertains to the primary partition. Any supported card might be used in a secondary partition. In some cases, the MFIOP may not support certain IOA types in a secondary partition. When in doubt, contact your service representative.

Operations Console cables for Server Models 270, 820, 830, 840, and SBx

You can connect a personal computer to your server as an Operations Console. The PC is attached through a serial connection to a communications input/output adapter installed on the server. You can then use the PC as your Operations Console. Use a special Operations Console cable to do this.

Operations Console cables			
Model	Part number	Cable length	CIN
Console cable for Models 270, 820, 830, 840, SB2, and SB3	97H7557	6 m (20 ft)	0367

Ordering server cables

To order your server cables, follow these steps:

1. Check out General Cabling Considerations.
2. Figure out how much cable you need by consulting the site plan you drew.
3. Click on types of cable to view specifications and part numbers.
 - Twinaxial Cables (workstations, remote workstation controllers, host servers)
 - ASCII Cables (workstations, display stations, printers, modems, PTTs)
 - iSeries Access Console Cables
4. Write down the type and quantity of cables you need in the Workstation Information Form 3B.
5. Using the information you entered in the form, order your cables. Make sure you specify:
 - Type of cable (for instance, ASCII)
 - Lengths and quantity of cable (as in, 10 6-foot cables, and so on)
 - Type of covering if applicable (like vinyl- or Teflon**-covered twinaxial cables)

Remember to order any necessary cable accessories, such as **adapters** and **T connectors**.

Note: If you are ordering cables from IBM, you must specify part numbers and, in some cases, length or feature number. Double check the cable part tables (twinaxial cables, ASCII cables, and iSeries Access Console cables).

For more details on cables, contact an IBM installation representative.

Twinaxial cables

If you plan to use devices that require twinaxial cables, see these topics for more information. The first topic covers some general things you should know about twinaxial cables. The second topic shows you what twinaxial cables and accessories you can order from IBM, including the part numbers of these items.

- General twinaxial considerations
- Twinaxial cables you can order from IBM

ASCII cables

- Workstation Configuration
- ASCII Cables from IBM

iSeries Access Console Cables

- Console Configuration
- iSeries Access Console Cables from IBM

Plan for cables

This page introduces the tasks that are recommended for cable planning with links to more detailed information.

Before you begin your planning tasks, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Have your server order and your existing system information available for reference.
<input type="checkbox"/> Have an idea of your cabling requirements and site layout.
<input type="checkbox"/> Determine your cabling needs, for example ASCII, twinaxial, Operations Console, modem, optical, Ethernet, high-speed link (HSL).

Cabling considerations

Use the following resources to build a complete cabling plan. Refer to the checklist at the bottom of this page for the required elements of your cabling plan.

- **General cabling considerations**
This information describes basic cabling do's and don'ts for optimum service and performance.
- **Ordering cables**
This page provides a step-by-step procedure to order cables.
- **Twinaxial cables**
Find detailed information for twinaxial cables.
- **High-speed link (HSL) information**
This information includes configuration rules, examples, limitations, and a glossary of terms unique to HSL cabling.
- **ASCII cables**
Find detailed information for ASCII cables.

- **iSeries Access for Windows^(R) cables**
Find cable lengths, part numbers, and feature codes for iSeries Access for Windows.
- **Operations Console cables**
Find cable lengths, part numbers, and feature codes for Operations Console.
- **Optical cable fiber specifications**
Find cable lengths, part numbers, and feature codes for optical cables.
- **Modem cabling configurations**
Find cable lengths, part numbers, and feature codes for modem cabling.
- **Ethernet cabling configurations**
Find cable lengths, part numbers, and feature codes for Ethernet cabling.
- **Labels for cabling**
Find labeling templates to keep track of your cables.
- **All cables**
This page provides a complete list of cables available from IBM.
- **Workstation cabling configurations**
View configurations for twinaxial, ASCII, and iSeries Access for Windows.
- **Cable connectors**
View a list of connectors for cables used by IBM.

When you are finished	
<input type="checkbox"/>	Know your responsibilities and requirements for cabling your server and devices.
<input type="checkbox"/>	Identify and order all cables needed for your system.
<input type="checkbox"/>	Know what cables are available from IBM.
<input type="checkbox"/>	Have a clear idea for how to label your cables.

Twinaxial Cables

- Workstation Configuration
- Cable Distance
- Twinaxial Cables from IBM

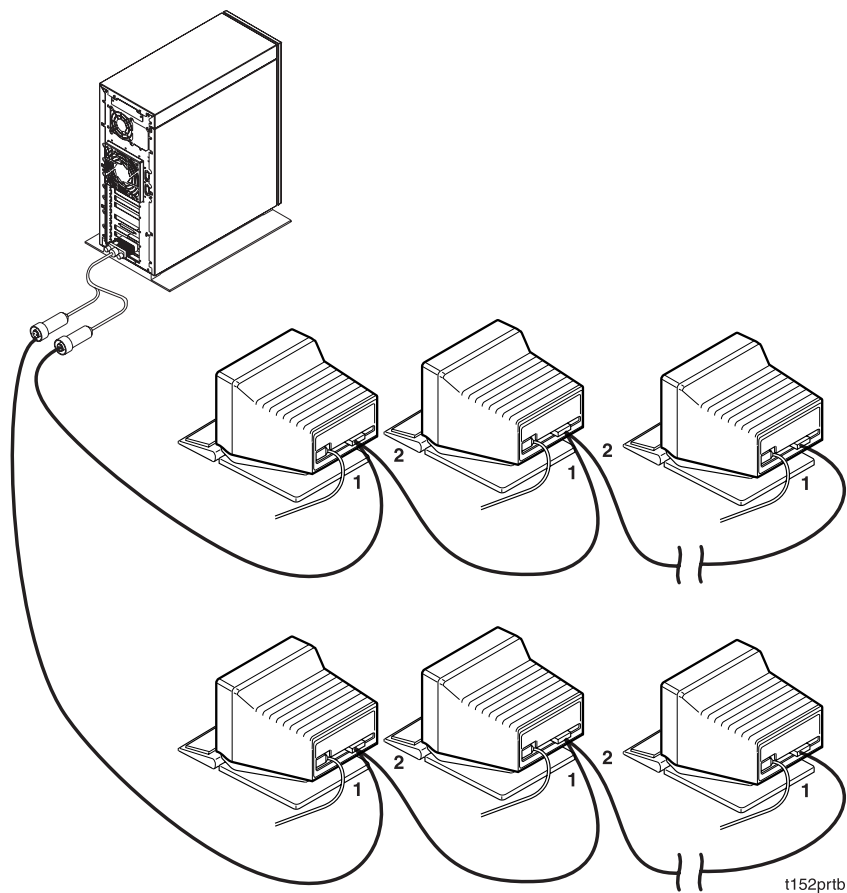
Service clearances

Service clearance is the minimum open space you must leave around system units and devices for safety and service considerations. Check the system requirements for all your equipment. Keep these requirements in mind when you plan where you will put each unit.

Model 15x 2-Port Twinaxial Attachment

This diagram shows workstation connections to a 9402 15x server unit. Your unit may look different, but the same cabling concepts still apply.

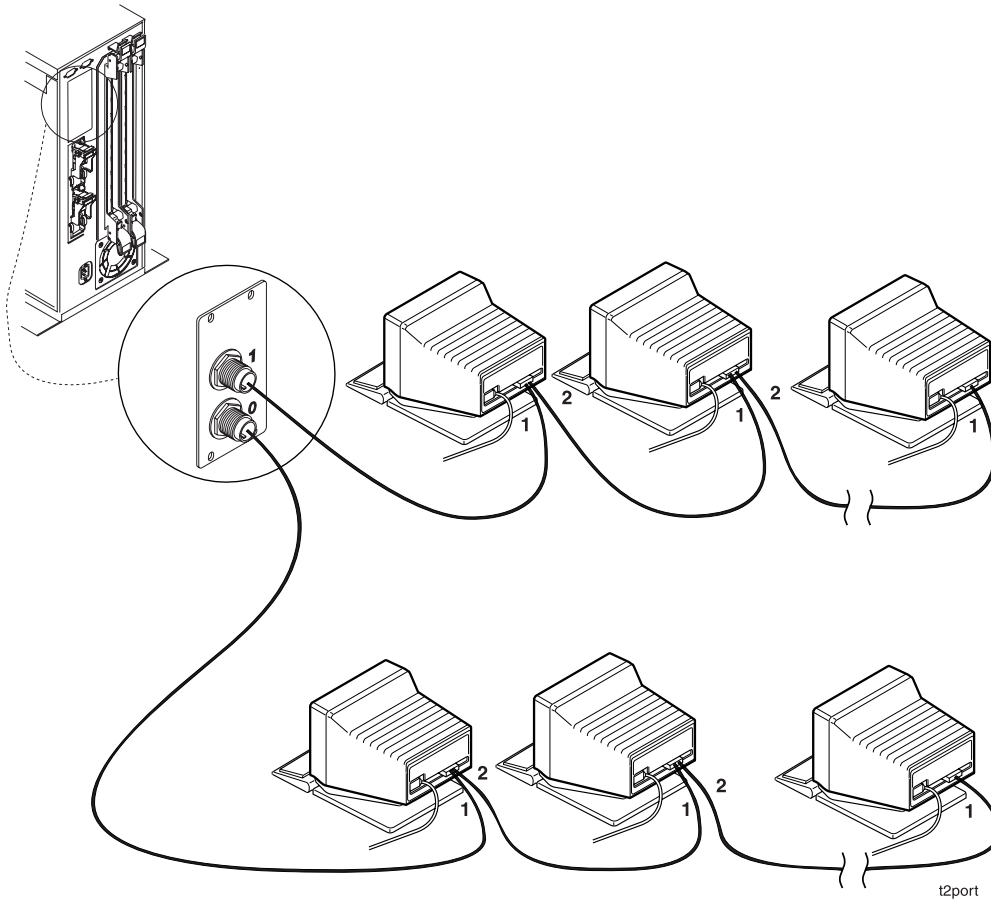
Click on the diagram to view a larger image **Cabling Twinaxial Workstations to the Standard Twinaxial 2-Port Workstation Plate**



Model 2xx and 4xx 2-Port Twinaxial Attachment

This diagram shows workstation connections to a 9402 2xx server unit. Your unit may look different, but the same cabling concepts still apply.

Click on the diagram to view a larger image. **Cabling Twinaxial Workstations to the Standard Twinaxial 2-Port Workstation Plate**

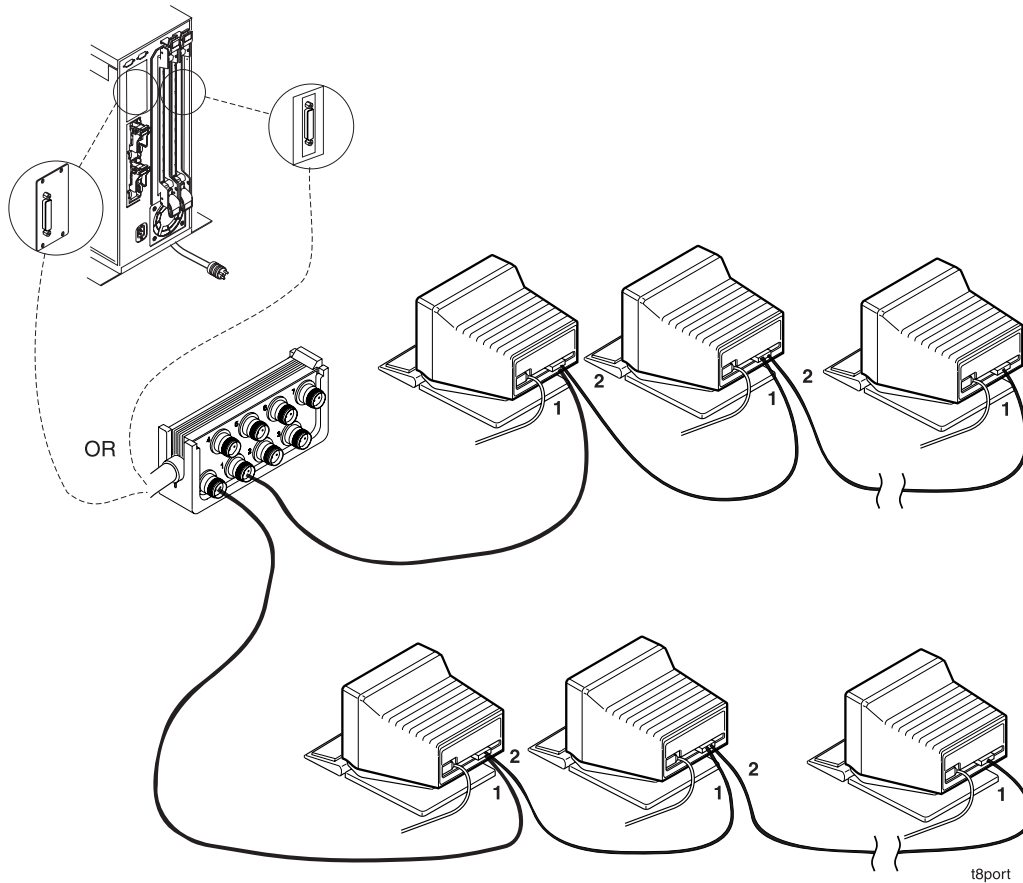


Model 2xx, 4xx, 5xx, 6x0, 7xx and SB1 8-Port Twinaxial Attachment

This diagram shows connections to a 9402 2xx server unit. Your unit may look different, but the same cabling concepts still apply.

[Click on the diagram to view a larger image.](#)

Cabling Twinaxial Workstations to the Twinaxial 8-Port Workstation Attachment



Distance guidelines for workstation cabling

When using the following equipment, it must be the minimum distance listed from workstation cables.

Fluorescent, Neon, or Incandescent lighting fixtures	Minimum distance from workstation cables 127 mm (5 in)
Unshielded Power Lines or Electrical Equipment 0 - 2 kVA 2 - 5 kVA 5+ kVA	Minimum distance from workstation cables 127 mm (5 in) 305 mm (12 in) 610 mm (24 in)

With Workstation Cable Enclosed in Metallic Conduit

Unshielded Power Lines or Electrical Equipment 0 - 2 kVA 2 - 5 kVA 5+ kVA	Minimum distance from workstation cables 63.5 mm (2.5 in) 152 mm (6 in) 305 mm (12 in)
--	---

With Workstation Cable Enclosed in Grounded Metallic Conduit

Power Lines Enclosed in Grounded Metallic Conduit	Minimum distance from workstation cables
0 - 2 kVA	30.5 mm (1.2 in)
2 - 5 kVA	76 mm (3 in)
5+ kVA	152 mm (6 in)

Twinaxial workstations cabling configurations

Possible cabling configurations are:

- Model 2xx, 4xx 2-port Attachment
- Model 15x 2-port Cable Attachment
- Model 2xx, 4xx, 5xx, 6x0, Sx0, SB1, 7xx and server 8xx 8-port Attachment

General twinaxial cabling considerations

- **Cable types:** To connect twinaxial devices (that is, workstations) to your server, you can use vinyl-covered cables, Teflon-covered cables, or both. The only major difference between vinyl- and Teflon-covered cables is that Teflon-covered cables should be used for installation in an air plenum.
- **Adapters:** If you plan to connect two or more lengths of cable, order cable-to-cable adapters for the type of cable you are using. *Do not splice cables.*
- **Maximum workstation distance:** The last workstation in your series can be no more than 1525 meters (5000 feet) in cable distance away from your host server or remote workstation controller.
- **Cable junctions:** A cable junction occurs when a cable attaches to a workstation or when an adapter which joins two cables. (Each pair of connections to a device is considered one junction.) *Do not make more than 11 cable junctions per line.*
- **Outdoor cables:** If you plan to install cables outside a building, consult an IBM service representative.
- **Cabling configurations:** See diagrams of how to arrange twinaxial workstations.
- **Cable placement and electrical equipment:** Do not install workstation cables near any power lines (transmitting more than 440 volts) or electrical equipment (using more than 440 volts). You can install cables near equipment of less than 440 volts if you follow distance guidelines.
- **Workstation connections:** Workstations have two sockets each for cable connections. Workstations are connected in a series. Your server can have up to seven workstation addresses on each twinaxial port. The last workstation in each of your series must have a cable terminator. Most workstations have this feature built in. Older workstations may need an external terminating plug. Review your workstation documentation.

Twinaxial Cables from IBM

When ordering cables from IBM, remember to specify the total length of each cable.

Part Name	Part Number
Cable Assembly (cable in specified length with connectors at both ends)	IBM part 4236482 (with vinyl covering)
	IBM part 7362062 (with Teflon covering)
Adapter (cable-to-cable)	IBM part 7362230 Amphenol 82-5588
Bulk Cable (cable in specified length, without connectors)	IBM part 7362211 (with vinyl covering) AWM
	IBM part 7362061 (with Teflon covering) CL2P
	IBM part 483699 (tubing used with Teflon-covered cables) CL2P

Part Name	Part Number
Connector (single plug connector)	IBM part 7362229 82-5589 Amphenol AMP 22724-1
Terminator Plug	IBM part 7362188 AMP 227504-1, 110 Ohms (twinaxial cabling)
	IBM part 6091068 AMP 227504-2, 150 Ohms (IBM cabling server)
T Connector	IBM part 94X3678 or 81X5387
Station Protector	IBM part 7362426 (single station protector)
	IBM part 7361807 (pair of station protectors)
Twinaxial Connector Shield	Twinaxial Connector Shield Kits: IBM part 94X3698
Connector Kit (two plug connectors)	IBM part 7362268 (for vinyl-covered cables)
	IBM part 7362063 (for Teflon-covered cables)

Twinaxial cables

Refer to the topics below if you plan to use devices that require twinaxial cables.

- General twinaxial considerations
- Twinaxial cabling configurations
- Workstation configuration
- Cable distance
- Twinaxial cables you can order from IBM

Workstations

- Twinaxial workstations
- ASCII workstations
- iSeries Access for Windows^(R)

Wireless LAN Communications

Before installing a wireless network, or expanding an existing LAN with wireless access points, a site survey should be performed on the area of coverage within the location this feature is to be placed.

The wireless function is performed within a microcell that is bounded by the device's communication range, type of antenna used, and other factors. These factors include building materials, items stored in the building, building environment, and how the wireless devices are used in an all wireless environment (or a backbone network with wireless access points).

Each cell's size will be determined by transmitter power, receiver sensitivity, antenna cable losses, the efficiency of the antenna, and the building environment.

A site survey should include reviewing the building blueprint or diagram, mapping out the areas to be covered by the wireless feature, preliminary testing all areas to be covered, and recording of location points for each device.

In site preparation, the type of materials used in the construction of the building must be determined. For example steel walls block radio energy, while other types of barriers absorb it. Reflecting walls and ceilings can produce multiple signal reflections, that interfere with each other. Spread spectrum transmission is less susceptible to this, but still can be affected.

The following are some examples of transmission ranges for planning purposes only. It is recommended that preliminary testing be done using an antenna centrally located and elevated to 1.8 meters (6 ft).

Environment

Transmission range

Cluttered office

100 - 150 feet (30.48 - 45.72 m)

Open office

150 - 300 feet (45.72 - 91.44 m)

Open warehouse

1500 feet (457.5 m)

Outdoors

3 miles (4.8 km) (with specialized antenna)

For more information about planning for a wireless LAN, see the following publications:

Publication

Title

GA33-0189,

Wireless LAN Designing Your Network

G571-0303,

AS/400 Wireless Installation and Planning Guide

G571-0323,

AS/400 Wireless Ethernet LAN Access Point User's Manual

G571-0324,

AS/400 Wireless RS/485 LAN Access Point User's Manual

G571-0326,

AS/400 Wireless RS/485 LAN Access Point User's Manual

G571-0319,

2482 AS/400 Wireless PTC User's Manual

G571-0320,

2482 AS/400 Wireless PTC User's Manual

G571-0321,

2484 AS/400 Wireless PTC User's Manual

The installation of an outdoor antenna requires a lightning arrester on the coaxial cable. Lightning arresters must be purchased that, in the United States, supplies UL listed lightning arresters. Follow the installation instructions provided with your device. In the United States, the discharge terminal should be either attached directly to service entrance grounding electrode, or to a separate grounding electrode that is bonded to the service entrance grounding electrode as required by the National Electrical Code (articles 250-81, 250-83, and 250-86).

To purchase the IBM lightning arrester, order part number is 92G5129. Lightning arresters are available from other companies.

Cables

Topics

- | |
|---|
| <ul style="list-style-type: none">• General Cabling Considerations• Ordering Cables• Twinaxial Cables• ASCII Cables• iSeries Access Console Cables• Operations Console Cables• Labels for Cabling• All Cables• Workstation Cabling Configurations |
|---|

Chapter 4. Installation Planning Checklist for models 150, 250, 170 and server 270

Review this checklist to ensure that the Installation Planning work has been done.

The checklist below should be completed before the arrival of your new server.

Note: IBM recommends that a qualified electrician or authorized IBM service representative perform steps involving electrical specifications or the powersupply to your new server.

Chapter 5. Installation Planning Checklist Power Recommendations

Attention ! When connecting the power line cord to the Models 150, 250, 170 or server 270, you must do the following to have a secure connection:

Ensure that the power cord is properly routed through the strain relief on the back of the system. Ensure that the power cord is fully inserted in the power receptacle inlet on the back of the system unit. This may require another push with a minimum amount of force.

The 150, 250, 170 or server 270 system unit can either operate on 100-127VAC or 200-240VAC. The system unit relies on the building overcurrent protection rated at 20 Amps or less. The system units rely on the building overcurrent for protection from some hazards that are related to earth faults. We recommend one system unit per branch circuit.

If there are any expansion towers, you must have the correct quantity and type of branch circuits or uninterruptible power supply receptacles for the expansion towers. The expansion towers 5072 and 5082 can operate at either 100-127VAC or 200-240VAC, 15-20A. The expansion towers 5073 and 5083 operate at 200-240VAC, 15-20A. IBM recommends one expansion tower per branch circuit.

If a branch circuit with a server attached is supplying two or more receptacles, make sure high current carrying devices (copiers, fax machines, vacuums, floor polishers, motors, and so forth) are not plugged in along with the server.

Do you need an electrician prior to installation to make any building electrical service modifications?

Verify with your Installation Planning Representative or electrician that an independent electrically continuous equipment-grounding conductor is present with each feed to the outlets where any IBM equipment is attached. The equipment-grounding conductor for the feeds should go from the outlet to the circuit breaker box grounding bus bar. The grounding bus bar should be connected by an equipment-grounding conductor back to the building electrical service entrance. IBM requires an insulated grounding wire for this purpose. The insulated grounding wire from the receptacle (where IBM equipment is attached) to the breaker should be in the same conduit as the associated feed wires. Like-wise, the insulated grounding wire from the grounding bus bar to the service entrance should be in the same conduit as the associated feed wires. Not providing an insulated ground wire can result in intermittent and unpredictable system failures.

Checking Voltage Levels

Measure and record either the phase-to-phase or phase-to-neutral or both voltage level at the location where the server will be plugged in. The IBM General Information Manual IMPP (GC22-7072-2) recommends the steady-state voltage be maintained within plus 6% or minus 10% of the normal rated voltage, measured at the receptacle when a system is operating. To make the measurement, use the following general procedure. A multimeter, such as a Fluke, that gives a true RMS reading is preferred.

Attach one of the measurement probes, commonly referred to as the black lead, to the connector that is marked COMMON on the meter.

Attach the other measurement probe, commonly referred to as the red lead, to the connector marked V on the meter.

Select an AC voltage measurement and a range that is sensitive enough to measure the normal rated voltage tolerances. You are now ready to take the measurement.

DANGER! Dangerous voltage being measured. (RSFTD005)

At a 200-240VAC receptacle, put the red probe into the phase terminal and the black probe into the other phase terminal.

At a 100-127VAC receptacle, put the red probe into the phase terminal and the black probe into the neutral terminal. THE FOLLOWING TIPS ARE IMPORTANT FOR GOOD SAFETY PRACTICE WHEN WORKING WITH HIGH VOLTAGES. INSERT ONE LEAD INTO THE RECEPTACLE AT A TIME. USE ONE HAND TO INSERT AND HOLD (IF NEEDED FOR THE GROUND TERMINAL) BOTH LEADS.

Record the measurement _____ VAC.

Contact your Availability Center Installation Planning Representative if the reading is above or below the expected reading.

Environment

Verify that any station protector boxes used are correctly installed. Station protectors are mandatory when twinaxial cables leave a building, regardless of whether the twinaxial cables are overhead or underground. Station protectors are also mandatory when two buildings are joined together where each building has its own electrical service entrance and the grounding systems are not tied together.

Disconnect all unused twinaxial cables.

Remember that the recommended temperature for IBM products is 24 C (75 F) and the recommended relative humidity is 45%.

Remember that the front, back, right, and left service clearances are 30 inches.

For a multiple frame configuration, the service clearances between two adjacent frames can be ignored. The front and back service clearances must not be compromised.

The service clearances are important for proper air circulation, weight distribution, and safety to both the customer service representative and the users.

Chapter 6. 6299 Mid-Range System Hub

DIMENSIONS			
	Width	Depth	Height
Metric	430 mm	228 mm	220 mm
English	17 in	9 in	8.75 in
Maximum Configuration Weight			
		7.2 kg	16 lbs
ELECTRICAL			
kVA	0.11		
Rated Voltage/Frequency	90-260 @ 50/60 +/- 0.5 Hz		
Thermal Output	270 BTU/hr		
Power requirements (maximum)	80 watts		
Power factor	0.72		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	0 to 55 C	32 to 131 F	
Non-Operating	-20 to +85 C	-4 to +185 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	10% to 90%	10% to 90%	
Wet Bulb Temperature	26.7 C (80 F)		
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)			
LpAm			
<LpA>m (dB)			
Impulsive or prominent discreet tones			

7299-2EX, 2FX Express Hub

DIMENSIONS			
	Width	Depth	Height
Metric	229 mm	222 mm	42 mm
English	9 in	8.8 in	1.7 in
Maximum Configuration Weight			
		1.7 kg	3.3 lbs

ELECTRICAL		
kVA	0.023	
Rated Voltage/Frequency	100-127 @ 50/60 +/- 0.5 Hz	
Thermal Output		
Power requirements (maximum)		
Power factor		
TEMPERATURE REQUIREMENTS		
Operating	0 to 55 C	32 to 131 F
Non-Operating	-20 to +85 C	-4 to +185 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	10% to 90%	10% to 90%
Wet Bulb Temperature	26.7 C (80 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)		
Impulsive or prominent discreet tones		

7857-017 Modem (Electronic Customer Support)

DIMENSIONS			
	Width	Depth	Height
Metric	220 mm	273 mm	85 mm
English	8.66 in	10.75 in	3.35 in
Maximum Configuration Weight			
	2.6 kg	5.73 lbs	
ELECTRICAL			
kVA	0.012		
Rated Voltage/Frequency	100-127 @ 50/60 +/- 0.5 Hz		
Thermal Output	51 BTU/hr		
Power requirements (maximum)	15 watts		
Power factor	1.2		
TEMPERATURE REQUIREMENTS			
Operating	10 to 41 C	50 to 105 F	

Non-Operating	10 to 52 C	50 to 125 F
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)		
Impulsive or prominent discreet tones		

2480 Wireless Access Point

DIMENSIONS	Width	Depth	Height
Metric	203 mm	165 mm	48 mm
English	8 in	6.5 in	1.9 in
Maximum Configuration Weight	1.4 kg	3 lbs	
ELECTRICAL			
kVA		-	
Rated Voltage/Frequency		-	
Thermal Output		-	
Power requirements (maximum)		-	
Power factor		-	
Phase		-	
Plug type (Canada & USA)		-	
Power cord length		-	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	

Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)		
Impulsive or prominent discreet tones		

3174 Controller

DIMENSIONS	Width	Depth	Height
Metric	698 mm	608 mm	641 mm
English	27.5 in	24 in	25.25 in
Maximum Configuration Weight		50 kg	110 lbs
ELECTRICAL			
kVA	0.33		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	575 BTU/hr		
Power requirements (maximum)	168 watts		
Power factor	0.51		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity	8% to 80%		8% to 80%
Wet Bulb Temperature	27 C (80 F)		27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)			
LpAm			
<LpA>m (dB)			
Impulsive or prominent discreet tones			

3835 Controller

DIMENSIONS		Width	Depth	Height
Metric		510 mm	840 mm	1413 mm
English		20 in	33 in	55.5 in
Maximum Configuration Weight			148 kg	326 lbs
ELECTRICAL				
kVA			-	
Rated Voltage/Frequency			-	
Thermal Output			-	
Power requirements (maximum)			-	
Power factor			-	
Phase			-	
Plug type (Canada & USA)			-	
Power cord length			-	
TEMPERATURE REQUIREMENTS				
Operating		10 to 40 C		50 to 104 F
Non-Operating		10 to 52 C		50 to 125 F
Maximum Altitude			3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS				
			Operating	Non-Operating
Noncondensing Humidity			8% to 80%	8% to 80%
Wet Bulb Temperature			27 C (80 F)	27 C (80 F)
NOISE EMISSIONS				
			Operating	Idle
LWAd (Bels)				
LpAm				
<LpA>m (dB)				
Impulsive or prominent discreet tones				

5208 Link Protocol Converter

This device is no longer offered for sale by IBM.

DIMENSIONS		Width	Depth	Height
Metric		423 mm	353 mm	112 mm
English		16 in	17 in	4 in
Maximum Configuration Weight			6 kg	13 lbs

ELECTRICAL				
kVA	0.1			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	340 BTU/hr			
Power requirements (maximum)	100 watts			
Power factor	-			
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	1.8 m (6 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 52 C	50 to 125 F		
Maximum Altitude	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)				
LpAm				
<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	100 mm	600 mm	50 mm	13 mm
	4 in	24 in	2 in	1 in

5209 Link Protocol Converter

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	445 mm	533 mm	134 mm
English	18 in	21 in	5 in
Maximum Configuration Weight	9 kg		20 lbs
ELECTRICAL			
kVA	0.12		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	408 BTU/hr		
Power requirements (maximum)	120 watts		

Power factor	-			
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	1.8 m (6 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 52 C	50 to 125 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)				
LpAm				
<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	100 mm	100 mm	100 mm	100 mm
	4 in	4 in	4 in	4 in

5259 Migration Data Link

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	445 mm	533 mm	133.4 mm
English	18 in	21 in	5 in
Maximum Configuration Weight			
	6 kg		13 lbs
ELECTRICAL			
kVA	0.07		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	110 BTU/hr		
Power requirements (maximum)	32 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4 or 5		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			

Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)			
LpAm			
<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
600 mm	600 mm	100 mm	100 mm
24 in	24 in	4 in	4 in

5294 Controller

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	318 mm	510 mm	200 mm
English	12 in	20 in	8 in
Maximum Configuration Weight		10 kg	22 lbs
ELECTRICAL			
kVA	0.2		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	288 BTU/hr		
Power requirements (maximum)	70 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft

ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		5.4	5.4
LpAm			
<LpA>m (dB)		39	39
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
150 mm	150 mm	100 mm	100 mm
-	6 in	6 in	4 in

5299 3 Terminal Multiconnector

This device is no longer offered for sale by IBM.

DIMENSIONS		Width	Depth	Height
Metric		340 mm	194 mm	79 mm
English		13 in	8 in	3 in
Maximum Configuration Weight			1 kg	3 lbs
ELECTRICAL				
kVA		-		
Rated Voltage/Frequency		-		
Thermal Output		-		
Power requirements (maximum)		-		
Power factor		-		
Phase		-		
Plug type (Canada & USA)		-		
Power cord length		-		
TEMPERATURE REQUIREMENTS				
Operating		10 to 40 C	50 to 104 F	
Non-Operating		10 to 52 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating	
Noncondensing Humidity		8% to 80%	8% to 80%	

Wet Bulb Temperature	27 C (80 F)	27 C (80 F)
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)		
Impulsive or prominent discreet tones		

5308 ASCII Wireless Connection

DIMENSIONS	Width	Depth	Height
Metric	-	-	-
English	-	-	-
Maximum Configuration Weight		-	-
ELECTRICAL			
kVA	0.375		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	1283 BTU/hr		
Power requirements (maximum)	375 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.7 m (9 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)			
LpAm			
<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
100 mm	600 mm	50 mm	13 mm

4 in	24 in	2 in	1 in
------	-------	------	------

5394 Controller

DIMENSIONS		Width	Depth	Height
Metric		425 mm	425 mm	114 mm
English		16.8 in	16.8 in	4.5 in
Maximum Configuration Weight			8 kg	18 lbs
ELECTRICAL				
kVA		0.12		
Rated Voltage/Frequency		100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output		265 BTU/hr		
Power requirements (maximum)		78 watts		
Power factor		-		
Phase		1		
Plug type (Canada & USA)		4		
Power cord length		4.3 m (14 ft)		
TEMPERATURE REQUIREMENTS				
Operating		10 to 40 C	50 to 104 F	
Non-Operating		10 to 52 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS				
		Operating	Non-Operating	
Noncondensing Humidity		8% to 80%	8% to 80%	
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS				
		Operating	Idle	
LWAd (Bels)				
LpAm				
<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
Front	Back	Sides	Top	
750 mm	152 mm	76 mm	30 mm	
30	6 in	3 in	1 in	

5494-EXT Controller

DIMENSIONS			
	Width	Depth	Height
Metric	440 mm	430 mm	140 mm
English	17.3 in	17 in	5.5 in
Maximum Configuration Weight		11.8 kg	26 lbs
ELECTRICAL			
kVA	0.05		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	26 Kcal/hr		
Power requirements (maximum)	31.2 watts		
Power factor	0.62		
Phase	-		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 41 C	50 to 105 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)			
LpAm			
<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
750 mm	152 mm	76 mm	30 mm
30	6 in	3 in	1 in

5853 Electronic Customer Support (ECS) Modem

This device is no longer offered for sale by IBM.

DIMENSIONS				
	Width	Depth	Height	
Metric	165 mm	279 mm	64 mm	
English	6.5 in	11 in	2.5 in	
Maximum Configuration Weight				
		2.5 kg	5.5 lbs	
ELECTRICAL				
kVA	0.01			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	27 BTU/hr			
Power requirements (maximum)	8 watts			
Power factor	-			
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	1.8 m (6 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 52 C	50 to 125 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)				
LpAm				
<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	-	-	-	-
	30 in	-	-	-

6611 N-way Multiprotocol Router

DIMENSIONS			
	Width	Depth	Height
Metric	444 mm	480 mm	260 mm
English	17.5 in	19 in	10.3 in

Maximum Configuration Weight	19 kg	43 lbs
ELECTRICAL		
kVA	-	
Rated Voltage/Frequency	-	
Thermal Output	-	
Power requirements (maximum)	-	
Power factor	-	
Phase	-	
Plug type (Canada & USA)	-	
Power cord length	-	
TEMPERATURE REQUIREMENTS		
Operating	10 to 40 C	50 to 104 F
Non-Operating	10 to 51 C	50 to 125 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	27 C (80 F)	-
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)		
Impulsive or prominent discreet tones		

7855 Electronic Customer Support (ECS) Modem

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	165 mm	279 mm	64 mm
English	6.5 in	11 in	2.5 in
Maximum Configuration Weight			
	2.5 kg	5.5 lbs	
ELECTRICAL			
kVA	0.02		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	51 BTU/hr		
Power requirements (maximum)	15 watts		

Power factor	-			
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	1.8 m (6 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 52 C	50 to 125 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)				
LpAm				
<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	-	-	-	-
	30 in	-	-	-

7857 Electronic Customer Support (ECS) Modem

DIMENSIONS		Width	Depth	Height
Metric		220 mm	273 mm	85 mm
English		8.7 in	10.8 in	3.4 in
Maximum Configuration Weight			2.6 kg	5.7 lbs
ELECTRICAL				
kVA		0.012		
Rated Voltage/Frequency		100-127 @ 50/60 plus or minus 0.5Hz		
Thermal Output		51 BTU/hr		
Power requirements (maximum)		15 watts		
Power factor		-		
Phase		1		
Plug type (Canada & USA)		4		
Power cord length		1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS				

Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)			
LpAm			
<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
-	-	-	-
30 in	-	-	-

8209 LAN Bridge

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	445 mm	533 mm	133 mm
English	17.5 in	21 in	5.3 in
Maximum Configuration Weight			
	9 kg	20 lbs	
ELECTRICAL			
kVA	0.085		
Rated Voltage/Frequency	100-127 @ 50/60 plus or minus 0.5Hz		
Thermal Output	150 BTU/hr		
Power requirements (maximum)	44 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			

Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.4	5.4	
LpAm			
<LpA>m (dB)	39	39	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
600 mm	600 mm	100 mm	100 mm
24 in	24 in	4 in	4 in

8229 Bridge

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	445 mm	356 mm	133 mm
English	17.5 in	14 in	5.3 in
Maximum Configuration Weight		11.4 kg	25 lbs
ELECTRICAL			
kVA	0.173		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	-		
Power requirements (maximum)	-		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	

Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.4	5.4	
LpAm			
<LpA>m (dB)	39	39	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
600 mm	600 mm	100 mm	100 mm
24 in	24 in	4 in	4 in

9335 Device Function Controller

This device is no longer offered for sale by IBM.

DIMENSIONS		Width	Depth	Height
Metric		483 mm	597 mm	133 mm
English		19 in	23.5 in	5.3 in
Maximum Configuration Weight			- kg	- lbs
ELECTRICAL				
kVA			0.12	
Rated Voltage/Frequency			200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output			287 BTU/hr	
Power requirements (maximum)			84 watts	
Power factor			-	
Phase			1	
Plug type (Canada & USA)			-	
Power cord length			-	
TEMPERATURE REQUIREMENTS				
Operating		10 to 40 C	50 to 104 F	
Non-Operating		10 to 52 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft	

ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	6.1	6.1
LpAm		
<LpA>m (dB)	46	46
Impulsive or prominent discreet tones		

ASCII 12-port Workstation Attachment

DIMENSIONS	Width	Depth	Height
Metric	480 mm	125 mm	150 mm
English	18.9 in	5 in	6 in
Maximum Configuration Weight			
	4 kg	10 lbs	
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	-		
Thermal Output	- BTU/hr		
Power requirements (maximum)	- watts		
Power factor	-		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)			
LpAm			

<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
- mm	- mm	- mm	- mm
- in	- in	- in	- in

ASCII 6-port Workstation Attachment

DIMENSIONS	Width	Depth	Height
Metric	210 mm	125 mm	85 mm
English	8.3 in	5 in	3.3 in
Maximum Configuration Weight		2 kg	5 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	-		
Thermal Output	- BTU/hr		
Power requirements (maximum)	- watts		
Power factor	-		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)			
LpAm			
<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
- mm	- mm	- mm	- mm

- in	- in	- in	- in
------	------	------	------

Twinaxial Workstation Attachment

DIMENSIONS				
	Width	Depth	Height	
Metric	193 mm	398 mm	57 mm	
English	8 in	16 in	2 in	
Maximum Configuration Weight		2 kg	5 lbs	
ELECTRICAL				
kVA	-			
Rated Voltage/Frequency	-			
Thermal Output	- BTU/hr			
Power requirements (maximum)	- watts			
Power factor	-			
Phase	-			
Plug type (Canada & USA)	-			
Power cord length	-			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 52 C	50 to 125 F		
Maximum Altitude		3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating	
Noncondensing Humidity		8% to 80%	8% to 80%	
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS		Operating	Idle	
LWAd (Bels)				
LpAm				
<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	- mm	- mm	- mm	- mm
	- in	- in	- in	- in

2210 N-ways Multiprotocol Router

DIMENSIONS	Width	Depth	Height
-------------------	-------	-------	--------

Metric	440 mm	254 mm	43.7 mm
English	17.3 in	10 in	1.8 in
Maximum Configuration Weight			
		3.2 kg	7 lbs
ELECTRICAL			
kVA	0.39		
Rated Voltage/Frequency	100-127 @ 50/60 +/- 0.5 Hz		
Thermal Output	117 BTU/hr		
Power requirements (maximum)	35 watts		
Power factor	0.09		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	5 to 41 C	41 to 105 F	
Non-Operating	10 to 52 C	56 to 125 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity	8% to 80%		8% to 80%
Wet Bulb Temperature	26.7 C (80 F)		
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)			
LpAm			
<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
-	-	-	-
-	-	-	-

Chapter 7. Plug and Receptacle Types: 12, 18

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 16A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5065, 5066, 507x, 508x • 9251, 9079 Base I/O Tower • 9074 Base I/O Enclosure • Model 270, 820, 830, SB2 	Type 18
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 • Models 840, SB3 	Type 12
Countries or Regions		
Afghanistan, Indonesia, Paraguay, Suriname, Uruguay		

Plug and Receptacle Types: 12, 22

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 16A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5065, 5066, 507x, 508x • 9251, 9079 Base I/O Tower • 9074 Base I/O Enclosure • Model 270, 820, 830, SB2 	Type 22
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 • Models 840, SB3 	Type 12
Countries or Regions		
Bangladesh, Myanmar, Sri Lanka		

Plug and Receptacle Types: 23, 12, 46 (P+N+G) [16A]

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 13A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5035, 5065, 5066(x2), 5070, 5071, 5072, 5073, 5074, 5075, 5077, 5079 (x2), 508x • 9251 Base I/O Tower • 9079 Base I/O Tower • 9074 Base I/O Enclosure • Model 270, 820, 830, SB2 	Type 23
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 • Models 840, SB3 	Type 12
250V 16A	<ul style="list-style-type: none"> • Expansion Tower 5065, 5066, 5074, 5079(x2) • 9079 Base I/O Tower • 9074 Base I/O Enclosure • Model 830, SB2 	Type 46 (P+N+G)[16A]
Countries or Regions		
Brunei, China (Hong Kong S.A.R.), Malaysia		

Plug and Receptacle Types: 18, 46 (P+N+G) [32A]

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 16A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5065, 5066, 507x, 508x • 9251, 9079 Base I/O Tower • 9074 Base I/O Enclosure • Model 270, 820, 830, SB2 	Type 18
250V 32A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 • Models 840, SB3 	Type 46 (P+N+G) [32A]
Countries or Regions		

Voltage/ Amperage	Models	Plug and Receptacle Type
Albania, Algeria, Andorra, Angola, Armenia, Azores, Belarus, Belgium, Benin, Bosnia, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, Chad, China (Macau S.A.R), Congo, Croatia, Dahomey, Djibouti, Egypt, Equatorial Guinea, Faero Islands, France, French Guiana, French Polynesia, Gabon, Georgia, Germany, Greece, Greenland, Guadeloupe, Guinea, Guinea-Bissau, Hungary, Iceland, Iran, Ivory Coast, Kazakhstan, Kirghizia, Laos, Lebanon, Liberia, Luxembourg, Macedonia, Malagasy Republic, Mali, Martinique, Mauritania, Moldavia, Monaco, Mongolia, Morocco, Mozambique, Netherlands, New Caledonia, Niger, Norway, Poland, Principe, Reunion, Romania, Rwanda, Sao Tome Island, Saudi Arabia, Senegal, Serbia, Slovakia, Slovenia, Spain, Sudan, Swaziland, Syria, Tahiti, Togo, Tunisia, Ukraine, Uzbekistan, Vietnam, Zaire, Zimbabwe		

Plug and Receptacle Types: 18, 46 (3P+N+G), 46 (P+N+G) [32A], 46 (P+N+G) [16A]

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 16A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5065, 5066, 507x, 508x • 9251, 9079 Base I/O Tower • 9074 Base I/O Enclosure • Model 270, 820, 830, SB2 	Type 18
250V 16A	<ul style="list-style-type: none"> • 53x Processor Side • Models 840, SB3 	Type 46 (P+N+G) [32A]
250V 16A	<ul style="list-style-type: none"> • Models S30, S40, SB1, 640, 650, 730, 740 • Models 840, SB3 	Type 46 (3P+N+G)
Countries or Regions		
Austria, Czech Republic, Estonia, Finland, Lithuania, Portugal, Russia, Sweden, Turkey		

Plug and Receptacle Types: 23, 46 (P+N+G) [32A], 46 (P+N+G) [16A]

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 13A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20, 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5035, 5065, 5066(x2), 5070, 5071, 5072, 5073, 5074, 5075, 5077, 5079(x2), 508x • 9251 Base I/O Tower • 9079 Base I/O Tower • 9074 Base I/O Enclosure • Model 270, 820, 830, SB2 	Type 23
250V 32A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 • Models 840, SB3 	Type 46 (P+N+G) [32A]
250V 16A	<ul style="list-style-type: none"> • Expansion Tower 5065, 5066, 5074, 5079 (x2) • 9079 Base I/O Tower • 9074 Base I/O Enclosure • Model 830, SB2 	Type 46 (P+N+G)[16A]
Countries or Regions		
Abu Dhabi, Bahrain, Botswana, Cyprus, Dominica, Gambia, Ghana, Grenada, Grenadines, India, Iraq, Ireland, Jordan, Kenya, Kuwait, Lesotho, Malawi, Malta, Namibia, Nepal, Nigeria, Oman, Qatar, Sabah, Seychelles, Sierra Leone, Singapore, St. Lucia, St. Vincent, Tanzania, Uganda, United Arab Emirates, United Kingdom, Zambia		

Plug and Receptacle Types: 24, 46 (P+N+G) [16A], 46 (P+N+G) [32A], 46 (3P+N+G)

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 10A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Model 170 • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 508x • 9251 Base I/O Tower • Model 270, 820 	Type 24

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 16A	<ul style="list-style-type: none"> • Models S10, S20 • Models 600, 620, 720 • Expansion Tower 5033, 5034, 5035, 5065, 5066, 5074, 5079 • 9079 Base I/O Tower • 9074 Base I/O Enclosure • Model 830, SB2 	Type 46 (P+N+G) [16A]
250V 16A	<ul style="list-style-type: none"> • 53x Processor Side • Models 840, SB3 	Type 46 (P+N+G) [32A]
250V 16A	<ul style="list-style-type: none"> • Models 640, 650, 730, 740, S30, S40, SB1 • Models 840, SB3 	Type 46 (3P+N+G)
Countries or Regions		
Liechtenstein, Switzerland		

Plug and Receptacle Types: 25, 46 (P+N+G) [32A]

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 16A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20, 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5035, 5065, 5066 (x2), 507x, 508x • 9251, 9079 Base I/O Tower • 9074 Base I/O Enclosure • Models 270, 820, 830, SB2, 9074, 9079 	Type 25
250V 32A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 • Models 840, SB3 	Type 46 (P+N+G) [32A]
Countries or Regions		
Eritrea, Ethiopia, Italy, Libya, Somalia		

Plug and Receptacle Types: 4, 10, 12, 29

Voltage/ Amperage	Models	Plug/Receptacle Type
125V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, 600, 170 • Expansion Towers 5070, 5072, 5075, 5077, 5080, 5082 • Model 270, 820 	Type 4
250V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5035, 5070, 5071, 5072, 5073, 5074, 5075, 5077, 5079, 508x • 9251 Base I/O Tower • Models 270, 820, 830, SB2, 9074, 9079 	Type 10
250V 20A	<ul style="list-style-type: none"> • Models 830, SB2 • Expansion Tower 5065, 5066 • 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 29
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 • Models 840, SB3 	Type 12
Countries or Regions		
Colombia, Mexico		

Plug and Receptacle Types: 4, 5, 12, 29

Voltage/ Amperage	Models	Plug/Receptacle Type
125V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, 600, 170 • Expansion Towers 5070, 5072, 5075, 5077, 5080, 5082 • Model 270, 820 	Type 4

Voltage/ Amperage	Models	Plug/Receptacle Type
250V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models 600, 620, 720, 170, S10, S20 • Expansion Towers 5033, 5034, 5035, 5070, 5071, 5072, 5073, 5074, 5075, 5077, 5079, 508x • 9251 Base I/O Tower • Model 270, 820, 830, SB2, 9074, 9079 	Type 5
250V 20A	<ul style="list-style-type: none"> • Expansion Tower 5065, 5066 • 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 29
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 • Models 840, SB3 	Type 12
Countries or Regions		
<p>Anguilla, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Bonaire, Caicos Islands, Cayman Islands, Costa Rica, Curacao, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Jamaica, Montserrat, Netherlands Antilles, Nevis, Nicaragua, Panama, Philippines, Puerto Rico, St. Kitts, St. Martin, Taiwan, Tobago, Tortola (BVI), Trinidad, Turks Islands, Venezuela, Virgin Islands, Yemen</p>		

Plug and Receptacle Types: 2, 6, 11, 12

Voltage/ Amperage	Models	Plug/Receptacle Type
200V 10A	<ul style="list-style-type: none"> • Models 270, 810 and 820 • Expansion Units 5075, 5095, 7104 and 7116 	Type 2
250V 12A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Model 170 • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 508x • 9251 Base I/O Tower • Model 270, 820 	Type 6
250V 20A	<ul style="list-style-type: none"> • Models S10, S20 • Models 600, 620, 720 • Expansion Tower 5033, 5034, 5035, 5065, 5066, 5074 • 9079 Base I/O Tower • 9074 Base I/O Enclosure • Models 830, SB2 	Type 11

Voltage/ Amperage	Models	Plug/Receptacle Type
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 • Models 840, SB3 	Type 12
Countries or Regions		
Argentina, Cape Verde Islands		

Plug and Receptacle Types: 6, 54, PDL

Voltage/ Amperage	Models	Plug/Receptacle Type
250V 10A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Model 170 • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 508x • 9251 Base I/O Tower • Model 270, 820 	Type 6
250V 15A	<ul style="list-style-type: none"> • Models S10, S20 • Models 600, 620, 720 • Expansion Tower 5033, 5034, 5035, 5065, 5066, 5079(x2) • 9079 Base I/O Tower • 9074 Base I/O Enclosure • Model 830, SB2, 5074 	Type 54
250V 32A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 • Models 840, SB3 	Type PDL
Countries or Regions		
Australia, Fiji, New Zealand, Papua New Guinea		

Countries or Regions: A

Click on your country or region (the country or region in which your system will be installed).

Abu Dhabi
Afghanistan
Albania
Algeria
Andorra

Angola
Anguilla
Antigua
Argentina
Armenia

Aruba
Australia
Austria
Azores

Plug and Receptacle Types: 4, 23, 5, 12, 29

Voltage/ Amperage	Models	Plug/Receptacle Type
125V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx, 270 • 3xx, 5xx, 53x I/O Side • Model S10, 600, 170, 250, 820 • Expansion Towers 5070, 5072, 5075, 5080, 5082 	Type 4
250V 13A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx, 270 • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 170, 250, 720, 820 • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 5033, 5034, 5035, 508x • 9251 Base I/O Tower 	Type 23
250V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx, 270 • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 170, 250, 720, 820 • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 5033, 5034, 5035, 508x • 9251 Base I/O Tower 	Type 5
250V 20A	<ul style="list-style-type: none"> • models 830, SB2 • expansion features 5065, 5066, 5074, 5079 • 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 29
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1, SB3 • Models 640, 650, 730, 740, 840 	Type 12
Countries or Regions		
Antigua		

Countries or Regions: B

Click on your Country or Region (the Country or Region in which your system will be installed).

Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium

Belize
Benin
Bermuda
Bolivia
Bonaire
Bosnia

Botswana
Brazil
Brunei
Bulgaria
Burkina Faso
Burundi

Plug and Receptacle Types: 4, 6, 46 (P+N+G) [16A], 46 (P+N+G) [32A], 64, 70

Voltage/ Amperage	Models	Plug/Receptacle Type
100V 10A	<ul style="list-style-type: none"> • Models 270, 810, and 820 • Expansion Units 5075, 5095, 7104, 7116 	Type 70
125V 15A	<ul style="list-style-type: none"> • 15x, P0x, 2xx, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, 600 • Expansion Towers 5070, 5072, 5080, 5082 	Type 4
200V 16A	<ul style="list-style-type: none"> • Models 830, SB2 • Expansion Units 5074, 5094 	Type 64
250V 10A	<ul style="list-style-type: none"> • 15x, P0x, 2xx, 4xx • 3xx, 5xx, 53x I/O Side • Expansion Towers 507x, 508x • 9251 Base I/O Tower 	Type 6
250V 15A	<ul style="list-style-type: none"> • Models S10, S20 • Models 600, 620 • Expansion Tower 5065 	Type 46 (P+N+G) [16A]
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650 	Type 46 (P+N+G) [32A]
Countries or Regions		
Brazil		

Plug and Receptacle Types: 4, 7, 51, 5, 10, 34, 40, 12, 11, 29, 35

Voltage/ Amperage	Models	Plug and Receptacle Type
125V 15A	<ul style="list-style-type: none"> • 15x, P0x, 2xx, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, 600 • Expansion Towers 5070, 5072, 5080, 5082 	Type 4
125V 15A Locking	<ul style="list-style-type: none"> • 3xx, 5xx, 53x I/O Side • Model S10, 600 • Expansion Towers 5070, 5072, 5080, 5082 	Type 7

Voltage/ Amperage	Models	Plug and Receptacle Type
125V 13A/15A Water Resistant	<ul style="list-style-type: none"> • 3xx, 5xx, 53x I/O Side • Model S10, 600 • Expansion Towers 5070, 5072, 5080, 5082 	Type 51
250V 15A	<ul style="list-style-type: none"> • 15x, P0x, 2xx, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620 • Expansion Towers 507x, 508x • 9251 Base I/O Tower 	Type 5
250V 15A Locking	<ul style="list-style-type: none"> • 15x, P0x, 2xx, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620 • Expansion Towers 507x, 508x • 9251 Base I/O Tower 	Type 10
250V 10A/15A Water Resistant	<ul style="list-style-type: none"> • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620 • Expansion Towers 507x, 508x • 9251 Base I/O Tower 	Type 34
250V 20A Locking	<ul style="list-style-type: none"> • 5065 Storage Expansion Tower 	Type 11
250V 20A	<ul style="list-style-type: none"> • 5065 Storage Expansion Tower 	Type 29
250V 20A Water Resistant	<ul style="list-style-type: none"> • 5065 Storage Expansion Tower 	Type 35
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650 	Type 40
250V 30A Locking	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650 	Type 12
Countries or Regions		
Canada		

Countries or Regions: C, D

Click on your Country or Region (the Country or Region in which your system will be installed).

Caicos Islands	Chad	Cyprus
Cambodia	Chile	Czech Republic
Cameroon	China	Dahomey
Canada	China (Hong Kong S.A.R.)	Denmark
Canary Islands	China (Macau S.A.R.)	Djibouti
Cape Verde Islands	Colombia	Dominica
Cayman Islands	Congo	Dominican Republic
Central African Republic	Costa Rica	
	Croatia	
	Curacao	

Plug and Receptacle Types: 25

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 16A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5035, 5065, 5066, 507x, 508x • 9251, 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 25
Countries or Regions		
Chile		

Plug and Receptacle Types: 6, 54, 12

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 10A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 508x • Model 170 • 9251 Base I/O Tower 	Type 6
250V 15A	<ul style="list-style-type: none"> • Models S10, S20 • Models 600, 620, 720 • Expansion Tower 5065, 5074, 5033, 5034, 5035, 5066 • 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 54
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 	Type 12

Voltage/ Amperage	Models	Plug and Receptacle Type
Countries or Regions		
People's Republic of China		

Plug and Receptacle Types: 19, 46 (P+N+G) [32A], 46 (3P+N+G), 46 (P+N+G) [16A]

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 10A	<ul style="list-style-type: none"> 15x, P0x, 200, 20S, 4xx, 170 3xx, 5xx, 53x I/O Side Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 508x 9251 Base I/O Tower 	Type 19
250V 16A	<ul style="list-style-type: none"> Models 600, S10, 620, 720, and S20 expansion I/O Towers 5033, 5034, 5035, 5065, 5066 9079 Base I/O Tower 9074 Base I/O Enclosure 	Type 46 (P+N+G) [16A]
250V 16A	<ul style="list-style-type: none"> 53x Processor Side 	Type 46 (P+N+G) [32A]
250V 16A	<ul style="list-style-type: none"> Models 640, 650, 730, 740, S30, S40, SB1 	Type 46 (3P+N+G)
Countries or Regions		
Denmark		

Countries or Regions: E, F, G

Click on your Country or Region (the Country or Region in which your system will be installed).

Ecuador	France	Grenada
Egypt	French Guiana	Grenadines
El Salvador	French Polynesia	Guadeloupe
Equatorial Guinea	Gabon	Guam
Eritrea	Gambia	Guatemala
Estonia	Georgia	Guinea
Ethiopia	Germany	Guinea-Bissau
Faero Islands	Ghana	Guyana
Fiji	Greece	
Finland	Greenland	

Plug and Receptacle Types: 4, 23, 5, 46 (P+N+G) [16A], 46 (P+N+G) [32A]

Voltage/ Amperage	Models	Plug/Receptacle Type
125V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, 600, 170 • Expansion Towers 5070, 5072, 5075, 5080, 5082 	Type 4
250V 13A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 5033, 5034, 5035, 508x • 9251 Base I/O Tower 	Type 23
250V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 5033, 5034, 5035, 508x • 9251 Base I/O Tower 	Type 5
250V 16A	<ul style="list-style-type: none"> • expansion I/O Towers 5065, 5066 • 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 46 (P+N+G) [16A]
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 	Type 46 (P+N+G) [32A]
Countries or Regions		
Guyana		

Countries or Regions: H, I, J, K

Click on your Country or Region (the Country or Region in which your system will be installed).

Haiti
Honduras
Hungary
Iceland
India
Indonesia

Iran
Iraq
Ireland
Israel
Italy
Ivory Coast
Jamaica

Japan
Jordan
Kazakhstan
Kenya
Kirghizia
Kuwait

Plug and Receptacle Types: 32, 46 (P+N+G) [32A], 46 (3P+N+G)

Voltage/ Amperage	Models	Plug/Receptacle Type
250V 16A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5035, 5065, 5066, 507x, 508x • 9251, 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 32
250V 16A	<ul style="list-style-type: none"> • 53x Processor Side 	Type 46 (P+N+G) [32A]
250V 16A	<ul style="list-style-type: none"> • Models S30, S40, SB1 • Models 640, 650, 730, 740 	Type 46 (3P+N+G)
Countries or Regions		
Israel		

Plug and Receptacle Types: 4, 29, 59, 34, 5, 12, 11, 35

Voltage/ Amperage	Models	Plug and Receptacle Type
125V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, 600, 170 • Expansion Towers 5070, 5072, 5075, 5080, 5082 	Type 4
125V 20A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Expansion Towers 5070, 5072, 5080, 5082 	Type 59
250V 20A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • I/O Expansion Towers 5065, 5066 • 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 29
250V 10A/15A Water Resistant	<ul style="list-style-type: none"> • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 5033, 5034, 5035, 508x • 9251 Base I/O Tower 	Type 34

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 5033, 5034, 5035, 508x • 9251 Base I/O Tower 	Type 5
250V 20A Locking	<ul style="list-style-type: none"> • 5065, 5066 Storage Expansion Tower • 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 11
250V 20A Water Resistant	<ul style="list-style-type: none"> • 5065, 5066 Storage Expansion Tower • 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 35
250V 30A Locking	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 	Type 12
Countries or Regions		
Japan		

Plug and Receptacle Types: 18, KP

Voltage/ Amperage	Models	Plug/Receptacle Type
250V 16A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5035, 5065, 5066, 507x, 508x • 9251, 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 18
250V 32A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 	Type KP
Countries or Regions		
North Korea, South Korea		

Countries or Regions: L, M

Click on your Country or Region (the Country or Region in which your server will be installed).

Laos	Luxembourg	Mauritania
Latvia	Macedonia	Mexico
Lebanon	Malagasy Republic	Moldavia
Lesotho	Malawi	Mongolia
Liberia	Malaysia	Monaco
Libya	Mali	Montserrat
Liechtenstein	Malta	Morocco
Lithuania	Martinique	Mozambique
		Myanmar

Countries or Regions: N, O, P, Q, R

Click on your Country or Region (the Country or Region in which your server will be installed).

Namibia	Nigeria	Philippines
Nepal	North Korea	Poland
Netherlands	Norway	Portugal
Netherlands Antilles	Oman	Principe
Nevis	Pakistan	Puerto Rico
New Caledonia	Panama	Qatar
New Zealand	Papua New Guinea	Reunion
Nicaragua	Paraguay	Romania
Niger	People's Republic of China	Russia
	Peru	Rwanda

Plug and Receptacle Types: 22, 46 (P+N+G) [32A]

Voltage/ Amperage	Models	Plug/Receptacle Type
250V 16A	<ul style="list-style-type: none"> 15x, P0x, 200, 20S, 4xx 3xx, 5xx, 53x I/O Side Models S10, S20 Models 600, 620, 720, 170 Expansion Towers 5033, 5034, 5035, 5065, 5066, 507x, 508x 9251, 9079 Base I/O Tower 9074 Base I/O Enclosure 	Type 22
250V 32A	<ul style="list-style-type: none"> 53x Processor Side Models S30, S40, SB1 Models 640, 650, 730, 740 	Type 46 (P+N+G) [32A]
Countries or Regions		
Pakistan		

Plug and Receptacle Types: 22, 46 (P+N+G) [32A], 46 (3P+N+G)

Voltage/ Amperage	Models	Plug/Receptacle Type
250V 16A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10, S20 • Models 600, 620, 720, 170 • Expansion Towers 5033, 5034, 5035, 5065, 5066, 507x, 508x • 9251, 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 22
250V 16A	<ul style="list-style-type: none"> • 53x Processor Side 	Type 46 (P+N+G) [32A]
250V 16A	<ul style="list-style-type: none"> • Models S30, S40, SB1 • Models 640, 650, 730, 740 	Type 46 (3P+N+G)
Countries or Regions		
South Africa		

Countries or Regions: S

Click on your Country or Region (the Country or Region in which your server will be installed).

Sabah	Slovakia	St. Martin
Samoa, Western	Slovenia	St. Vincent
Sao Tome Island	Somalia	Sudan
Saudi Arabia	South Africa	Suriname
Senegal	South Korea	Swaziland
Serbia	Spain	Sweden
Seychelles	Sri Lanka	Switzerland
Sierra Leone	St. Kitts	Syria
Singapore	St. Lucia	

Plug and Receptacle Types: 5, 12, 29

Voltage/ Amperage	Models	Plug/Receptacle Type
250V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Models S10 and S20 • Models 600 and 620, 720, 170 • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 5033, 5034, 5035, 508x • 9251 Base I/O Tower 	Type 5
250V 20A	<ul style="list-style-type: none"> • I/O Expansion Towers 5065, 5066 • 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 29

Voltage/ Amperage	Models	Plug/Receptacle Type
250V 30A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 	Type 12
Countries or Regions		
Thailand		

Countries or Regions: T, U, V, W, X, Y, Z

Click on your Country or Region (the Country or Region in which your server will be installed).

Tahiti	Turkey	Uzbekistan
Taiwan	Turks Islands	Venezuela
Tanzania	Uganda	Vietnam
Thailand	Ukraine	Virgin Islands
Togo	United Arab Emirates	Western Samoa
Tobago	United Kingdom	Yemen
Tortola (BVI)	United States	Zaire
Trinidad	Uruguay	Zambia
Tunisia		Zimbabwe

Plug and Receptacle Types: 4, 7, 51, 5, 10, 34, 40, 12, 11, 29, 35

Voltage/ Amperage	Models	Plug and Receptacle Type
125V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 400, 40S • 3xx, 5xx, 53x I/O Side • Models S10, 600, 170, 250, 270, 820 • Expansion Towers 5070, 5072, 5075, 5077, 5080, 5082 • IBM UPS 9910-080 and 9910-140 	Type 4
125V 15A Locking	<ul style="list-style-type: none"> • 3xx, 5xx, 53x I/O Side • Models S10, 600 • Expansion Towers 5070, 5072, 5080, 5082 	Type 7
125V 13A/15A Water Resistant	<ul style="list-style-type: none"> • 3xx, 5xx, 53x I/O Side • Models S10, 600 • Expansion Towers 5070, 5072, 5080, 5082 	Type 51

Voltage/ Amperage	Models	Plug and Receptacle Type
250V 15A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 400, 40S, 170, 250 • 3xx, 5xx, 53x I/O Side • Models 600, 620, 720, S10, S20, SB2, 270, 820, 830 • Expansion Towers 507x, 508x, 907x • Migration Towers 5033, 5034, and 5035 • 9251 Base I/O Tower • IBM UPS 9910-080, 9910-140, and 9910-180 	Type 5
250V 15A Locking	<ul style="list-style-type: none"> • 3xx, 5xx, 53x I/O Side • Models 600, 620, 720, S10, S20, SB2, 270, 820, 830 • Expansion Towers 507x, 508x, 907x • Migrated Towers 5033, 5034, 5035 • 9251 Base I/O Tower 	Type 10
250V 10A/15A Water Resistant	<ul style="list-style-type: none"> • 3xx, 5xx, 53x I/O Side • Models 600, 620, 720, S10, S20, SB2, 270, 820, 830 • Expansion Towers 507x, 508x, 907x • Migrated Towers 5033, 5034, 5035 • 9251 Base I/O Tower 	Type 34
250V 20A Locking	<ul style="list-style-type: none"> • 5065, 5066 Storage Expansion Tower 	Type 11
250V 20A	<ul style="list-style-type: none"> • 5065, 5066 Storage Expansion Tower 	Type 29
250V 20A Water Resistant	<ul style="list-style-type: none"> • 5065, 5066 Storage Expansion Tower 	Type 35
250V 30A Water Resistant	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1, SB3, 840 • Models 640, 650, 730, 740 	Type 40
250V 30A Locking	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1, SB3, 840 • Models 640, 650, 730, 740 	Type 12
Countries or Regions		
United States		

Plug and Receptacle Types: 6, 54, 46 (P+N+G) [32A]

Voltage/ Amperage	Models	Plug/Receptacle Type
250V 10A	<ul style="list-style-type: none"> • 15x, P0x, 200, 20S, 4xx • 3xx, 5xx, 53x I/O Side • Expansion Towers 5070, 5071, 5072, 5073, 5075, 5077, 508x • Models 170 • 9251 Base I/O Tower 	Type 6
250V 15A	<ul style="list-style-type: none"> • Models S10, S20, SB2 • Models 600, 620, 720 • Expansion Tower 5033, 5034, 5035, 5065, 5066 • 9251, 9079 Base I/O Tower • 9074 Base I/O Enclosure 	Type 54
250V 32A	<ul style="list-style-type: none"> • 53x Processor Side • Models S30, S40, SB1 • Models 640, 650, 730, 740 	Type 46 (P+N+G) [32A]
Countries or Regions		
Western Samoa		

Chapter 8. 3101 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS				
	Width	Depth	Height	
Metric	483 mm	355 mm	386 mm	
English	19 in	14 in	15 in	
Maximum Configuration Weight				
		17 kg	38 lbs	
ELECTRICAL				
kVA	0.09			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	170 BTU/hr			
Power requirements (maximum)	50 watts			
Power factor	-			
Phase	1			
Plug type (Canada and USA)	4			
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)		
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 degrees C (80 degrees F)	27 degrees C (80 degrees F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)				
LpAm				
<<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	760 mm	100 mm	100 mm	100 mm
	30 in	4 in	4 in	4 in

3153-Bx3, Cx3 InfoWindow^(R) II ASCII Displays

DIMENSIONS			
	Width	Depth	Height
Metric	769 mm	488 mm	378 mm

English	30.3 in	20.5 in	15 in
Maximum Configuration Weight			
		8.6 kg	19 lbs
ELECTRICAL			
kVA	0.105		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	222 BTU/hr		
Power requirements (maximum)	65 watts		
Power factor	0.62		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 105 F	
Non-Operating	0 to 50 C	32 to 104 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non- Operating	
Noncondensing Humidity	30% to 80%	30% to 80%	
Wet Bulb Temperature	25 C (76 F)		
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	4.5		
LpAm			
<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	100 mm	100 mm	100 mm
30 in	4 in	4 in	4 in

3161 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	483 mm	307 mm	330 mm

English	19 in	12 in	13 in
Maximum Configuration Weight			
		16 kg	35 lbs
ELECTRICAL			
kVA	0.15		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	170 BTU/hr		
Power requirements (maximum)	50 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	100 mm	280 mm	100 mm
30 in	4 in	4 in	4 in

3162 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	483 mm	314 mm	324 mm
English	19 in	12 in	13 in
Maximum Configuration Weight			
		16 kg	35 lbs
ELECTRICAL			

kVA	0.15			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	170 BTU/hr			
Power requirements (maximum)	50 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)		
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)				
LpAm				
<<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	760 mm	100 mm	100 mm	100 mm
	30 in	4 in	4 in	4 in

3163 Display Station (with stand)

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	483 mm	307 mm	330 mm
English	19 in	12 in	13 in
Maximum Configuration Weight		16 kg	35 lbs
ELECTRICAL			
kVA	0.15		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	170 BTU/hr		
Power requirements (maximum)	50 watts		
Power factor			

Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	100 mm	280 mm	100 mm
30 in	4 in	4 in	4 in

3164 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	483 mm	405 mm	390 mm
English	19 in	16 in	15 in
Maximum Configuration Weight		19 kg	41 lbs
ELECTRICAL			
kVA	0.23		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	340 BTU/hr		
Power requirements (maximum)	100 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	

Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	100 mm	280 mm	100 mm
30 in	4 in	4 in	4 in

3179 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	561 mm	412 mm	462 mm
English	22 in	16 in	18 in
Maximum Configuration Weight			
	21 kg	47 lbs	
ELECTRICAL			
kVA	0.11		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	391 BTU/hr		
Power requirements (maximum)	115 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	

Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	300 mm	300 mm	100 mm
30 in	12 in	12 in	4 in

3180 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	560 mm	360 mm	370 mm
English	22 in	14 in	15 in
Maximum Configuration Weight		22 kg	49 lbs
ELECTRICAL			
kVA	0.2		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	429 BTU/hr		
Power requirements (maximum)	126 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)			
LpAm			

<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
Keyboard may be moved	300 mm	300 mm	100 mm
-	12 in	12 in	4 in

3196 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	561 mm	307 mm	359 mm
English	22 in	12 in	14 in
Maximum Configuration Weight		13 kg	30 lbs
ELECTRICAL			
kVA	0.15		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	374 BTU/hr		
Power requirements (maximum)	110 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.8 m (9.2 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 degrees C (80 degrees F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
Keyboard may be moved	100 mm	280 mm	100 mm

-	4 in	11 in	4 in
---	------	-------	------

3197 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	383 mm	405 mm	415 mm
English	15 in	16 in	16 in
Maximum Configuration Weight		14.5 kg	32 lbs
ELECTRICAL			
kVA	0.1		
Rated Voltage/Frequency	100-127VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	292 BTU/hr		
Power requirements (maximum)	80 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	100 mm	280 mm	100 mm
30 in	4 in	11 in	4 in

3476-EA, EG Display Stations

DIMENSIONS	Width	Depth	Height
------------	-------	-------	--------

Metric	333 mm	324 mm	360 mm
English	13 in	12.8 in	14.2 in
EA Maximum Configuration Weight			
		9.5 kg	18.3 lbs
EG Maximum Configuration Weight			
		12.5 kg	33 lbs
ELECTRICAL			
kVA	0.064		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	120 BTU/hr		
Power requirements (maximum)	35 watts		
Power factor	0.55		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating			
Non-Operating			
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non- Operating
Noncondensing Humidity			
Wet Bulb Temperature			
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
	Front	Back	Sides
	760 mm	100 mm	280 mm
	30 in	4 in	11 in
			Top
			100 mm
			4 in

3477 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	333 mm	327 mm	343 mm

English	13 in	13 in	13.5 in
Maximum Configuration Weight			
		12 kg	27 lbs
ELECTRICAL			
kVA	0.064		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	120 BTU/hr		
Power requirements (maximum)	35 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	100 mm	280 mm	100 mm
30 in	4 in	11 in	4 in

3482 InfoWindow^(R) II Display Station (with stand)

DIMENSIONS	Width	Depth	Height
Metric	359 mm	345 mm	525 mm
English	14 in	13.6 in	20.7 in
Maximum Configuration Weight			
		13.6 kg	30 lbs
ELECTRICAL			
kVA	0.022		

Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	239 BTU/hr	
Power requirements (maximum)	70 watts	
Power factor	0.55	
Phase	1	
Plug type (Canada & USA)	4	
Power cord length	1.8 m (6 ft) USA only	
TEMPERATURE REQUIREMENTS		
Operating	10 to 40 C	50 to 104 F
Non-Operating		
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	27 C (80.6 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<<LpA>m (dB)		
Impulsive or prominent discreet tones		

3483 Modular Display Station

DIMENSIONS	Width	Depth	Height
Metric	488 mm	425 mm	360 mm
English	19.2 in	16.8 in	14.2 in
Maximum Configuration Weight	5.7 kg	12.6 lbs	
ELECTRICAL			
kVA	0.02		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	37 BTU/hr		
Power requirements (maximum)	11 watts		
Power factor	0.55		
Phase	1		
Plug type (Canada & USA)	4 or 5		

Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)
TEMPERATURE REQUIREMENTS		
Operating	10 to 40 C	50 to 104 F
Non-Operating		
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	27 C (80.6 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<<LpA>m (dB)		
Impulsive or prominent discreet tones		

3486 Display Station (with stand)

DIMENSIONS	Width	Depth	Height
Metric	334 mm	328 mm	505 mm
English	13.1 in	12.9 in	19.9 in
Maximum Configuration Weight		12 kg	26 lbs
Note: Dimensions above are shown without the lift stand. With the lift stand the Height is 378-505 mm (14.9-19.9 in) and the Weight is 12 kg (26 lb)			
ELECTRICAL			
kVA	0.06		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	102 BTU/hr		
Power requirements (maximum)	30 watts		
Power factor	0.5		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating			

Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80.6 F)		
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	100 mm	280 mm	100 mm
30 in	4 in	11 in	4 in

3487 HA and HG Display Station (with stand)

DIMENSIONS	Width	Depth	Height
Metric	360 mm	388 mm	527 mm
English	14 in	15.3 in	20.7 in
Maximum Configuration Weight	16 kg	35 lbs	
ELECTRICAL			
kVA	0.22		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	219 BTU/hr		
Power requirements (maximum)	64 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	-	-	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80.6 F)	-	
NOISE EMISSIONS	Operating	Idle	

LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	100 mm	280 mm	100 mm
30 in	4 in	11 in	4 in

3488 Display Station Logic Unit

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	322 mm	322 mm	60 mm
English	12.7 in	12.7 in	2.4 in
Maximum Configuration Weight		2.5 kg	5.5 lbs
ELECTRICAL			
kVA	0.04		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	41 BTU/hr		
Power requirements (maximum)	12 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			

Front	Back	Sides	Top
760 mm	100 mm	280 mm	100 mm
30 in	11 in	4 in	4 in

3489 InfoWindow^(R) II Modular Display Station

DIMENSIONS		Width	Depth	Height
Metric		322 mm	60 mm	360 mm
English		12.7 in	2.4 in	14.2 in
Maximum Configuration Weight		3.2 kg		7.1 lbs
ELECTRICAL				
kVA		0.02		
Rated Voltage/Frequency		100-250 @ 50/60 +/- 0.5 Hz		
Thermal Output		37 BTU/hr		
Power requirements (maximum)		11 watts		
Power factor		0.55		
Phase		1		
Plug type (Canada & USA)		4 or 5		
Power cord length		1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS				
Operating		10 to 40 C	50 to 104 F	
Non-Operating				
Maximum Altitude		3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS				
		Operating	Non-Operating	
Noncondensing Humidity		8% to 80%	8% to 80%	
Wet Bulb Temperature		27 C (80.6 F)		
NOISE EMISSIONS		Operating	Idle	
LWAd (Bels)				
LpAm				
<<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
Front	Back	Sides	Top	
322 mm	60 mm	322 mm	100 mm	
12.7 in	2.4 in	12.7 in	4 in	

5251 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	530 mm	400 mm	400 mm
English	21 in	16 in	16 in
Maximum Configuration Weight			
		34 kg	75 lbs
ELECTRICAL			
kVA	0.2		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	425 BTU/hr		
Power requirements (maximum)	125 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4 or 7		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	4.9	4.9	
LpAm	41	41	
<<LpA>m (dB)	37	37	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
Keyboard may be moved	460 mm	300 mm	100 mm
-	18 in	12 in	4 in

5251 12 Display Station Controller

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
-------------------	-------	-------	--------

Metric	530 mm	470 mm	400 mm	
English	31 in	19 in	16 in	
Maximum Configuration Weight				
		51 kg	112 lbs	
ELECTRICAL				
kVA	0.2			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	463 BTU/hr			
Power requirements (maximum)	136 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4 or 7			
Power cord length	2.4 m (8 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	5.3	5.3		
LpAm	43	43		
<<LpA>m (dB)	41	41		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
Keyboard may be moved		460 mm	300 mm	100 mm
	-	18 in	12 in	4 in

5291 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	540 mm	350 mm	460 mm
English	21 in	14 in	18 in
Maximum Configuration Weight			
		23 kg	51 lbs

ELECTRICAL				
kVA	0.2			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	289 BTU/hr			
Power requirements (maximum)	85 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	2.4 m (8 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)				
LpAm				
<<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	50 mm	460 mm	300 mm	100 mm
	-	18 in	12 in	4 in

5292 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	520 mm	520 mm	430 mm
English	21 in	21 in	17 in
Maximum Configuration Weight	29.7 kg		65 lbs
ELECTRICAL			
kVA	0.25		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	612 BTU/hr		
Power requirements (maximum)	180 watts		

Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	2.4 m (8 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)				
LpAm				
<<LpA>m (dB)				
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
Keyboard may be moved		300 mm	300 mm	100 mm
	-	12 in	12 in	4 in

5295-001 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	480 mm	330 mm	90 mm
English	19 in	13 in	4 in
Maximum Configuration Weight			
		5 kg	11 lbs
ELECTRICAL			
kVA	0.3		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	272 BTU/hr		
Power requirements (maximum)	80 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			

Operating	10 to 40 C	50 to 104 F
Non-Operating	10 to 51 C	50 to 125 F
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<<LpA>m (dB)		
Impulsive or prominent discreet tones		

5295-002, 0C2 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	360 mm	335 mm	81 mm
English	14 in	13 in	3 in
Maximum Configuration Weight			
	7 kg	14 lbs	
ELECTRICAL			
kVA	0.12		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	510 BTU/hr		
Power requirements (maximum)	150 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	

LWAd (Bels)		
LpAm		
<<LpA>m (dB)		
Impulsive or prominent discreet tones		

5295-LK1 Display Station

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	430 mm	405 mm	122 mm
English	18 in	17 in	5 in
Maximum Configuration Weight			
		9.5 kg	21 lbs
ELECTRICAL			
kVA	0.22		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	320 BTU/hr		
Power requirements (maximum)	94 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)			
LpAm			
<<LpA>m (dB)			
Impulsive or prominent discreet tones			

Chapter 9. 5030, 5031 I/O Card Unit

DIMENSIONS				
	Width	Depth	Height	
Metric	483 mm	655 mm	351 mm	
English	19 in	25.8 in	14 in	
Maximum Configuration Weight				
		67 kg	148 lbs	
ELECTRICAL				
kVA	0.33			
Rated Voltage/Frequency	200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	1093 BTU/hr			
Power requirements (maximum)	320 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	Powered from Rack			
Power cord length	-			
TEMPERATURE REQUIREMENTS				
Operating	16 to 32 C	60 to 90 F		
Non-Operating	10 to 43 C	50 to 110 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	20% to 80%	20% to 80%		
Wet Bulb Temperature	23 C (73 F)	27 degrees C (80 degrees F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	5.7	5.5		
LpAm				
<LpA>m (dB)	45	40		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	762 mm	762 mm	762 mm	-
	30 in	30 in	30 in	-

2440-A12 Magnetic Tape Drive

DIMENSIONS			
	Width	Depth	Height
Metric	650 mm	921 mm	1578 mm
English	25.6 in	36 in	62 in

Maximum Configuration Weight	300 kg	661 lbs
ELECTRICAL		
kVA	0.84	
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	2422 BTU/hr	
Power requirements (maximum)	710 watts	
Power factor		
Phase	1	
Plug type (Canada & USA)	12 or 40	
Power cord length	1.8 m (6 ft) USA Only	4.3 m (14 ft)
TEMPERATURE REQUIREMENTS		
Operating	to 32 C	to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.7	5.5
LpAm		
<LpA>m (dB)	45	40
Impulsive or prominent discreet tones		

3422-A01 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	560 mm	815 mm	1525 mm
English	22 in	32 in	60 in
Maximum Configuration Weight			
	295 kg	650 lbs	
ELECTRICAL			
kVA	2.2		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	6246 BTU/hr		
Power requirements (maximum)	1830 watts		
Power factor			
Phase	3		

Plug type (Canada & USA)	47			
Power cord length	4.3 m (14 ft)			
TEMPERATURE REQUIREMENTS				
Operating	16 to 32 C	60 to 90 F		
Non-Operating	10 to 43 C	50 to 110 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	20% to 80%	20% to 80%		
Wet Bulb Temperature	26 C (78 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	7.1	7.2		
LpAm				
<LpA>m (dB)	58	59		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	1015 mm	1015 mm	710 mm	-
	40 in	40 in	28 in	-

3422-B01 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	560 mm	815 mm	1525 mm
English	22 in	32 in	60 in
Maximum Configuration Weight			
	270 kg	600 lbs	
ELECTRICAL			
kVA	1.4		
Rated Voltage/Frequency	200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	4676 BTU/hr		
Power requirements (maximum)	1370 watts		
Power factor			
Phase	Powered from "A" Unit		
Plug type (Canada & USA)	Powered from "A" Unit		
Power cord length	Powered from "A" Unit		
TEMPERATURE REQUIREMENTS			
Operating	16 degrees to 32 degrees C	60 degrees to 90 degrees F	
Non-Operating	10 degrees to 43 degrees C	50 degrees to 110 degrees F	

Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity		20% to 80%	20% to 80%
Wet Bulb Temperature		26 degrees C (78 degrees F)	27 degrees C (80 degrees F)
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)		7.1	7.2
LpAm			
<LpA>m (dB)		58	59
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1015 mm	1015 mm	710 mm	-
40 in	40 in	28 in	-

3430-A01 Magnetic Tape Drive

DIMENSIONS		Width	Depth	Height
Metric		831 mm	750 mm	1000 mm
English		33 in	29.5in	39 in
Maximum Configuration Weight				
		215 kg	470 lbs	
ELECTRICAL				
kVA		1.2		
Rated Voltage/Frequency		200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output		3700 BTU/hr		
Power requirements (maximum)		1100 watts		
Power factor				
Phase		1		
Plug type (Canada & USA)		35		
Power cord length		4.3 m (14 ft)		
TEMPERATURE REQUIREMENTS				
Operating		16 to 32 C	60 to 90 F	
Non-Operating		10 to 43 C	50 to 110 F	
Maximum Altitude				
		3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS				
		Operating	Non-Operating	
Noncondensing Humidity		20% to 80%	20% to 80%	

Wet Bulb Temperature	26 C (78 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	7.3	6.4	
LpAm			
<LpA>m (dB)	56	48	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
914 mm	914 mm	-	-
36 in	36 in	-	-

3430-B01 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	831 mm	750 mm	1000 mm
English	33 in	29.5 in	39 in
Maximum Configuration Weight		155 kg	340 lbs
ELECTRICAL			
kVA	0.4		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	1250 BTU/hr		
Power requirements (maximum)	360 watts		
Power factor			
Phase	Powered from "A" Unit		
Plug type (Canada & USA)	Powered from "A" Unit		
Power cord length	Powered from "A" Unit		
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity	20% to 80%		20% to 80%
Wet Bulb Temperature	26 C (78 F)		27 C (80 F)
NOISE EMISSIONS	Operating		Idle
LWAd (Bels)	7.3		6.4
LpAm			
<LpA>m (dB)	56		48
Impulsive or prominent discreet tones			

SERVICE CLEARANCES			
Front	Back	Sides	Top
914 mm	914 mm	-	-
36 in	36 in	-	-

3480-A11, A22 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	660 mm	750 mm	1000 mm
English	26 in	29.5 in	40 in
Maximum Configuration Weight		195 kg	430 lbs
ELECTRICAL			
kVA	1.0		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	3400 BTU/hr		
Power requirements (maximum)	1000 watts		
Power factor			
Phase	3		
Plug type (Canada & USA)	36		
Power cord length	4.5 m (15 ft)		
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		20% to 80%	20% to 80%
Wet Bulb Temperature		26 C (78 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		7.4	7.3
LpAm			
<LpA>m (dB)		56	55
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
915 mm	915 mm	610 mm	-
36 in	36 in	24 in	-

3480-B11, B22 Magnetic Tape Drive

DIMENSIONS			
	Width	Depth	Height
Metric	510 mm	750 mm	1000 mm
English	21 in	29.5 in	40 in
Maximum Configuration Weight		155 kg	340 lbs
ELECTRICAL			
kVA	0.9		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	2700 BTU/hr		
Power requirements (maximum)	800 watts		
Power factor			
Phase	Powered from "A" Unit		
Plug type (Canada & USA)	Powered from "A" Unit		
Power cord length	Powered from "A" Unit		
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	26 C (78 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.4	7.3	
LpAm			
<LpA>m (dB)	56	55	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
915 mm	915 mm	610 mm	-
36 in	36 in	24 in	-

3490-A01 Magnetic Tape Drive

DIMENSIONS			
	Width	Depth	Height
Metric	750 mm	863 mm	1770 mm
English	29.5 in	34 in	70 in

Maximum Configuration Weight	290 kg	635 lbs	
ELECTRICAL			
kVA	0.6		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	2048 BTU/hr		
Power requirements (maximum)	600 watts		
Power factor			
Phase	3		
Plug type (Canada & USA)	36		
Power cord length	1.8 m (6 ft) USA Only		
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	26 C (78 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
815 mm	1000 mm	-	-
32 in	40 in	-	-

3490-A02 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	750 mm	863 mm	1770 mm
English	29.5 in	34 in	70 in
Maximum Configuration Weight			
	345 kg	760 lbs	
ELECTRICAL			
kVA	1.2		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	4096 BTU/hr		

Power requirements (maximum)	1200 watts		
Power factor			
Phase	3		
Plug type (Canada & USA)	36		
Power cord length	1.8 m (6 ft) USA Only		
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	26 C (78 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

3490-A10, B20 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	770 mm	863 mm	1770 mm
English	29.5 in	34 in	70 in
Maximum Configuration Weight			
	318 kg	700 lbs	
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	BTU/hr		
Power requirements (maximum)	watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			

Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	26 C (78 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
815 mm	1000 mm	610 mm	-
32 in	40 in	24 in	-

3490-A20 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	750 mm	863 mm	1770 mm
English	29.5 in	34 in	70 in
Maximum Configuration Weight			
	359 kg	790 lbs	
ELECTRICAL			
kVA	1.2		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	4096 BTU/hr		
Power requirements (maximum)	1200 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	

Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	26 C (78 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
815 mm	1000 mm	-	-
32 in	40 in	-	-

3490-B02 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	725 mm	863 mm	1770 mm
English	28.5 in	34 in	70 in
Maximum Configuration Weight		350 kg	780 lbs
ELECTRICAL			
kVA	0.7		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	2220 BTU/hr		
Power requirements (maximum)	650 watts		
Power factor			
Phase	Powered from "A" Unit		
Plug type (Canada & USA)	Powered from "A" Unit		
Power cord length	Powered from "A" Unit		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	-	-	

Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
815 mm	1000 mm	610 mm	-
32 in	40 in	24 in	-

3490-B04 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	725 mm	863 mm	1770 mm
English	28.5 in	34 in	70 in
Maximum Configuration Weight		405 kg	890 lbs
ELECTRICAL			
kVA	1.4		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	4500 BTU/hr		
Power requirements (maximum)	1300 watts		
Power factor			
Phase	Powered from "A" Unit		
Plug type (Canada & USA)	Powered from "A" Unit		
Power cord length	Powered from "A" Unit		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		-	-
LpAm			
<LpA>m (dB)		-	-
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

3490-B40 Magnetic Tape Drive

DIMENSIONS			
	Width	Depth	Height
Metric	724 mm	863 mm	1770 mm
English	28.5 in	34 in	70 in
Maximum Configuration Weight		449 kg	990 lbs
ELECTRICAL			
kVA	1.2		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	4096 BTU/hr		
Power requirements (maximum)	1200 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

3490-C22 Magnetic Tape Drive

DIMENSIONS			
	Width	Depth	Height
Metric	479 mm	885 mm	622 mm
English	18.6 in	34.9 in	24.5 in

Maximum Configuration Weight	118 kg	260 lbs	
ELECTRICAL			
kVA	0.9		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	2990 BTU/hr		
Power requirements (maximum)	850 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1000 mm	1220 mm	710 mm	-
40 in	48 in	28 in	-

3490-D31 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	741 mm	944 mm	1578 mm
English	29.2 in	37.2 in	62 in
Maximum Configuration Weight			
	377 kg	830 lbs	
ELECTRICAL			
kVA	1.0		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	3311 BTU/hr		

Power requirements (maximum)	970 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	12 or 40		
Power cord length	4.5 m (15 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.4	7.3	
LpAm			
<LpA>m (dB)	57	56	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1000 mm	815 mm	-	-
40 in	32 in	-	-

3490-D32 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	741 mm	944 mm	1578 mm
English	29.2 in	37.2 in	62 in
Maximum Configuration Weight			
	386 kg	850 lbs	
ELECTRICAL			
kVA	1.15		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	3823 BTU/hr		
Power requirements (maximum)	1120 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	12 or 40		
Power cord length	4.5 m (15 ft)		
TEMPERATURE REQUIREMENTS			

Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.4	7.3	
LpAm			
<LpA>m (dB)	57	56	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1000 mm	815 mm	-	-
40 in	32 in	-	-

3490-D41, D42 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	745 mm	950 mm	1580 mm
English	29.3 in	37.4 in	62.2 in
Maximum Configuration Weight			
	404 kg	890 lbs	
ELECTRICAL			
kVA	1.0		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	3311 BTU/hr		
Power requirements (maximum)	970 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	12 or 40		
Power cord length	4.5 m (15 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	

Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	7.4	7.3	
LpAm			
<LpA>m (dB)	57	56	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1000 mm	815 mm	-	-
40 in	32 in	-	-

3490-E01 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	220 mm	801 mm	268 mm
English	8.8 in	32 in	10.8 in
Maximum Configuration Weight		25.9 kg	57 lbs
ELECTRICAL			
kVA	0.39		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	525 BTU/hr		
Power requirements (maximum)	155 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4, 5, or 51		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	58	53	

Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1000 mm	1220 mm	710 mm	-
40 in	48 in	28 in	-

3490-E11 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	220 mm	758 mm	336 mm
English	8.8 in	30.3 in	13.5 in
Maximum Configuration Weight		36 kg	79 lbs
ELECTRICAL			
kVA	0.39		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	525 BTU/hr		
Power requirements (maximum)	155 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4, 5, or 51		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		-	-
LpAm			
<LpA>m (dB)		58	53
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1000 mm	1220 mm	710 mm	-
40 in	48 in	28 in	-

3494 [FC.5300] C1A, C2A Magnetic Tape Drive

DIMENSIONS			
	Width	Depth	Height
Metric	750 mm	1524 mm	1800 mm
English	29.5 in	60 in	70.9 in
Maximum Configuration Weight		420 kg	923 lbs
ELECTRICAL			
kVA	1.9		
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	2900 BTU/hr		
Power requirements (maximum)	850 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	3750		
Power cord length	Depends on country		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

3494 [FC.5400] Magnetic Tape Drive

DIMENSIONS			
	Width	Depth	Height
Metric	750 mm	750 mm	1800 mm
English	29.5 in	29.5 in	70.9 in

Maximum Configuration Weight	281 kg	625 lbs	
ELECTRICAL			
kVA			
Rated Voltage/Frequency	200-240VAC @ 50/60 +/- 0.5Hz		
Thermal Output	BTU/hr		
Power requirements (maximum)	watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	3750		
Power cord length	Depends on country		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)			
LpAm			
<LpA>m (dB)			
Impulsive or prominent disreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	
30 in	30 in	30 in	

3580 Tape Drive

ELECTRICAL	
kVA	0.12 (1.0 amp at 100 VAC, 0.5 amp at 240 VAC)
Rated Voltage/Frequency	100 to 240 VAC 50/60 Hz autoranging
Heat Output	94 watts (81 calories/hr)
TEMPERATURE REQUIREMENTS	
Operating	10 to 38 degrees C (50 to 100 degrees F)
ENVIRONMENT REQUIREMENTS	
Relative Humidity	20% to 80%
Wet Bulb Temperature	26 degrees C (78.8 degrees F)

NOISE EMISSIONS	
Maximum noise level	55 dBa

3995-C40, C42, C62 Optical Disk Drives

DIMENSIONS			
	Width	Depth	Height
Metric	464 mm	737 mm	991 mm
English	18.3 in	29 in	39 in
Maximum Configuration Weight		69 kg	122 lbs
ELECTRICAL			
kVA	0.19		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	384 BTU/hr		
Power requirements (maximum)	117 watts		
Power factor	0.62		
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	5 to 40 C	41 to 104 F	
Non-Operating			
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 C (73.6 F)	
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		6.0	5.5
LpAm			
<LpA>m (dB)		43	36
Impulsive or prominent discreet tones			

3995-C44 Optical Disk Drive

DIMENSIONS			
	Width	Depth	Height
Metric	813 mm	762 mm	1029 mm
English	32 in	30 in	40.5 in
Maximum Configuration Weight		69 kg	152 lbs
ELECTRICAL			
kVA			
Rated Voltage/Frequency		100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output		460 BTU/hr	
Power requirements (maximum)		140 watts	
Power factor			
Phase		1	
Plug type (Canada & USA)		Powered from Rack	
Power cord length		-	-
TEMPERATURE REQUIREMENTS			
Operating		10 to 38 C	50 to 100 F
Non-Operating		10 to 52 C	50 to 125 F
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 C (73 F)	27 C (80 F)
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)		6.0	5.5
LpAm			
<LpA>m (dB)		43	36
Impulsive or prominent discreet tones			

3995-C48 Optical Disk Drive

DIMENSIONS			
	Width	Depth	Height
Metric	813 mm	762 mm	1480 mm
English	32 in	30 in	58.3 in

Maximum Configuration Weight	193 kg	425 lbs
ELECTRICAL		
kVA		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	592 BTU/hr	
Power requirements (maximum)	180 watts	
Power factor		
Phase	1	
Plug types (Canada & USA)	4, 5, 34	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	10 to 38 C	50 to 100 F
Non-Operating	10 to 52 C	50 to 125 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	6.0	5.5
LpAm		
<LpA>m (dB)	43	36
Impulsive or prominent discreet tones		

5032 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	483 mm	655 mm	210 mm
English	19 in	25.8 in	8.2 in
Maximum Configuration Weight			
	41.5 kg	92 lbs	
ELECTRICAL			
kVA	0.18		
Rated Voltage/Frequency	200-240VAC @ 50/60 plus or minus 0.5Hz		

Thermal Output	491 BTU/hr		
Power requirements (maximum)	144 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.7	5.5	
LpAm			
<LpA>m (dB)	45	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

9331-001, 002 Diskette Unit

DIMENSIONS		Width	Height
Metric		483 mm	129 mm
English		19 in	5 in
Maximum Configuration Weight			58 lbs
ELECTRICAL			
kVA			0.07
Rated Voltage/Frequency			200-240VAC @ 50/60 plus or minus 0.5Hz
Thermal Output			100 BTU/hr

Power requirements (maximum)	30 watts	
Power factor		
Phase	1	
Plug type (Canada & USA)	Powered from Rack	
Power cord length	-	
TEMPERATURE REQUIREMENTS		
Operating	50 degrees to 104 degrees F	
Non-Operating	50 degrees to 125 degrees F	
Maximum Altitude		
	10,000 ft	
ENVIRONMENT REQUIREMENTS		
	Non-Operating	
Noncondensing Humidity	8% to 80%	
Wet Bulb Temperature	27 degrees C (80 degrees F)	
NOISE EMISSIONS		
	Idle	
LWAd (Bels)	5.8	
LpAm		
<LpA>m (dB)	42	
Impulsive or prominent discreet tones		
SERVICE CLEARANCES		
Front	Back	Top
762 mm	762 mm	
30 in	30 in	

9331-011 Diskette Unit

DIMENSIONS	Width	Depth	Height
Metric	250 mm	500 mm	100 mm
English	10 in	19.7 in	4 in
Maximum Configuration Weight		7.37 kg	17 lbs

ELECTRICAL				
kVA	0.045			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	82 BTU/hr			
Power requirements (maximum)	24 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	Powered from Rack			
Power cord length	1.8 m (6 ft) USA Only	2.7 m (9 ft)		
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating	
Noncondensing Humidity		8% to 80%	8% to 80%	
Wet Bulb Temperature		27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS		Operating	Idle	
LWAd (Bels)		4.4	3.9	
LpAm				
<LpA>m (dB)		33	28	
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	762 mm	762 mm	762 mm	-
	30 in	30 in	30 in	-

9331-012 Diskette Unit

DIMENSIONS	Width	Depth	Height
Metric	250 mm	500 mm	100 mm
English	10 in	19.7 in	4 in
Maximum Configuration Weight	5.67 kg		13 lbs
ELECTRICAL			
kVA	0.020		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	33 BTU/hr		

Power requirements (maximum)	9.7 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	Powered from Rack			
Power cord length	1.8 m (6 ft) USA Only	2.7 m (9 ft)		
TEMPERATURE REQUIREMENTS				
Operating	10 degrees to 40 degrees C	50 degrees to 104 degrees F		
Non-Operating	10 degrees to 51 degrees C	50 degrees to 125 degrees F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 degrees C (80 degrees F)	27 degrees C (80 degrees F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	4.4	3.9		
LpAm				
<LpA>m (dB)	33	28		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	762 mm	762 mm	762 mm	-
	30 in	30 in	30 in	-

9332-200, 400, 600 Disk Unit

DIMENSIONS	Width	Depth	Height
Metric	483 mm	592 mm	133.4 mm
English	19 in	23.3 in	5.25 in
Maximum Configuration Weight			
	34 kg		75 lbs
ELECTRICAL			
kVA	0.24		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	390 BTU/hr		
Power requirements (maximum)	115 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		

Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 40 degrees C	50 degrees to 104 degrees F	
Non-Operating	10 degrees to 51 degrees C	50 degrees to 125 degrees F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 degrees C (80 degrees F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.9	5.9	
LpAm			
<LpA>m (dB)	43	43	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

9335 Device Function Controller

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	483 mm	597 mm	133 mm
English	19 in	23.5 in	5.3 in
Maximum Configuration Weight		- kg	- lbs
ELECTRICAL			
kVA	0.12		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	287 BTU/hr		
Power requirements (maximum)	84 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			

Operating	10 to 40 C	50 to 104 F
Non-Operating	10 to 52 C	50 to 125 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	6.1	6.1
LpAm		
<LpA>m (dB)	46	46
Impulsive or prominent discreet tones		

9335-B01 Disk Unit

DIMENSIONS	Width	Depth	Height
Metric	483 mm	724 mm	267 mm
English	19 in	28.5 in	10.5 in
Maximum Configuration Weight			
	71 kg	156 lbs	
ELECTRICAL			
kVA	0.47		
Rated Voltage/Frequency	200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	1245 BTU/hr		
Power requirements (maximum)	365 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 40 degrees C	50 degrees to 104 degrees F	
Non-Operating	10 degrees to 51 degrees C	50 degrees to 125 degrees F	
Maximum Altitude			
	3048 m	10,000 ft	

ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 degrees C (80 degrees F)	27 degrees C (80 degrees F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		6.3	6.3
LpAm			
<LpA>m (dB)		48	48
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

9336-25 Disk Unit

DIMENSIONS		Width	Depth	Height
Metric		483 mm	692 mm	222 mm
English		19 in	27.3 in	8.8 in
Maximum Configuration Weight			38 kg	83.7 lbs
ELECTRICAL				
kVA		0.152		
Rated Voltage/Frequency		200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output		422 BTU/hr		
Power requirements (maximum)		124 watts		
Power factor		0.82		
Phase		1		
Plug type (Canada & USA)		Powered from Rack		
Power cord length		-	-	-
TEMPERATURE REQUIREMENTS				
Operating		10 to 38 C	50 to 100 F	
Non-Operating		10 to 52 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating	
Noncondensing Humidity		8% to 80%	8% to 80%	

Wet Bulb Temperature	23 C (73 F)	27 C (80 F)
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	5.8	5.7
LpAm		
<LpA>m (dB)	43	42
Impulsive or prominent discreet tones		

9336-10, 20 Disk Unit

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	483 mm	692 mm	222 mm
English	19 in	27.3 in	8.8 in
Maximum Configuration Weight			
	50 kg	110 lbs	
ELECTRICAL			
kVA	0.30		
Rated Voltage/Frequency	200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	887 BTU/hr		
Power requirements (maximum)	260 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 40 degrees C	50 degrees to 104 degrees F	
Non-Operating	10 degrees to 51 degrees C	50 degrees to 125 degrees F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
Noncondensing Humidity	Operating	Non-Operating	
	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 degrees C (80 degrees F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	5.8	5.7	
LpAm			
<LpA>m (dB)	43	42	
Impulsive or prominent discreet tones			

SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

9337 Disk Unit

DIMENSIONS		Width	Depth	Height
Metric		483 mm	715 mm	222 mm
English		19 in	28 in	8.8 in
Maximum Configuration Weight			48 kg	105 lbs
ELECTRICAL				
kVA		0.66		
Rated Voltage/Frequency		200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output		1024 BTU/hr		
Power requirements (maximum)		300 watts		
Power factor		0.45		
TEMPERATURE REQUIREMENTS				
Operating		10 to 38 C	50 to 100 F	
Non-Operating		10 to 52 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating	
Noncondensing Humidity		8% to 80%	8% to 80%	
Wet Bulb Temperature		23 C (73 F)	27 C (80 F)	
NOISE EMISSIONS		Operating	Idle	
LWAd (Bels)		5.9	5.7	
LpAm				
<LpA>m (dB)		43	42	
Impulsive or prominent discreet tones				

9337 Disk Unit Stand-Alone FC.2400, FC.2410

DIMENSIONS		Width	Depth	Height
Metric		345 mm	800 mm	610 mm

English	13.5 in	31.5 in	24 in
Maximum Configuration Weight			
		n/a kg	n/a lbs
ELECTRICAL			
kVA	0.33		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1110 BTU/hr		
Power requirements (maximum)	325 watts		
Power factor	0.98		
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non- Operating
Noncondensing Humidity	8% to 80%		8% to 80%
Wet Bulb Temperature	23 C (73 F)		73 C (80 F)
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)	5.9		5.7
LpAm			
<LpA>m (dB)	43		42
Impulsive or prominent discreet tones			

FC.6135 Disk Unit

DIMENSIONS	Width	Depth	Height
Metric	250 mm	500 mm	100 mm
English	10 in	19.7 in	4 in
Maximum Configuration Weight			
		5.67 kg	13 lbs

ELECTRICAL		
kVA	0.069	
Rated Voltage/Frequency	100-127, 200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	58 BTU/hr	
Power requirements (maximum)	17 watts	
Power factor	0.45	
TEMPERATURE REQUIREMENTS		
Operating	10 to 38 C	50 to 100 F
Non-Operating	10 to 52 C	50 to 125 F
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.9	5.7
LpAm		
<LpA>m (dB)	43	42
Impulsive or prominent discreet tones		

3450-001 Magnetic Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	280 mm	287 mm	79 mm
English	11 in	11.3 in	3.1 in
Maximum Configuration Weight	4.4 kg	9.6 lbs	
ELECTRICAL			
kVA	0.12		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output			
Power requirements (maximum)			
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		

Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	10 to 40 C	50 to 104 F
Non-Operating	10 to 51 C	50 to 125 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	27 C (80 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.7	5.5
LpAm		
<LpA>m (dB)	45	40
Impulsive or prominent discreet tones		

3490-C10 Tape Unit

DIMENSIONS		Width	Depth	Height
Metric		479 mm	867 mm	622 mm
English		18.6 in	34.1 in	24.5 in
Maximum Configuration Weight				
		84 kg	185 lbs	
ELECTRICAL				
kVA		0.57		
Rated Voltage/Frequency		200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output		1770 BTU/hr		
Power requirements (maximum)		520 watts		
Power factor		0.91		
Phase		1		
Plug type (Canada & USA)		Powered from Rack		
Power cord length		-	-	
TEMPERATURE REQUIREMENTS				
Operating		16 to 32 C	60 to 90 F	
Non-Operating		10 to 43 C	50 to 110 F	
Maximum Altitude				
		3048 m	10,000 ft	

ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	26 C (78 F)	27 C (80 F)
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	6.3	6.3
LpAm		
<LpA>m (dB)	46	46
Impulsive or prominent discreet tones		

3490-C11 Tape Unit

DIMENSIONS	Width	Depth	Height
Metric	479 mm	867 mm	622 mm
English	18.6 in	34.1 in	24.5 in
Maximum Configuration Weight			
		90 kg	198 lbs
ELECTRICAL			
kVA	0.57		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1770 BTU/hr		
Power requirements (maximum)	520 watts		
Power factor	0.91		
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	26 C (78 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	

LWAd (Bels)	6.3	6.3
LpAm		
<LpA>m (dB)	46	46
Impulsive or prominent discreet tones		

3490-C1A Tape Unit

DIMENSIONS	Width	Depth	Height
Metric	480 mm	870 mm	622 mm
English	19 in	34.3 in	24.5 in
Maximum Configuration Weight			
		84 kg	185 lbs
ELECTRICAL			
kVA	0.57		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1770 BTU/hr		
Power requirements (maximum)	520 watts		
Power factor	0.91		
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	26 C (78 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	6.3	6.3	
LpAm			
<LpA>m (dB)	46	46	
Impulsive or prominent discreet tones			

3490-C2A Tape Unit

DIMENSIONS			
	Width	Depth	Height
Metric	480 mm	870 mm	622 mm
English	19 in	34.3 in	24.5 in
Maximum Configuration Weight		84 kg	185 lbs
ELECTRICAL			
kVA	0.90		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	2990 BTU/hr		
Power requirements (maximum)	850 watts		
Power factor	0.94		
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	26 C (78 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	6.3	6.3	
LpAm			
<LpA>m (dB)	46	46	
Impulsive or prominent discreet tones			

3490E - F00 Tabletop Tape Unit

DIMENSIONS			
	Width	Depth	Height
Metric	222 mm	432 mm	259 mm
English	8.8 in	17 in	10.2 in
Maximum Configuration Weight		15.8 kg	34.8 lbs

ELECTRICAL		
kVA	0.30	
Rated Voltage/Frequency	100-127 @ 50/60 +/- 0.5 Hz	
Thermal Output		
Power requirements (maximum)		
Power factor		
Phase	1	
Plug type (Canada & USA)	Powered from Rack	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 to 30 C	60 to 85 F
Non-Operating		
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	15% to 80%	15% to 80%
Wet Bulb Temperature	27 C (80 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)	68	
Impulsive or prominent discreet tones		

3490E-F11 Tabletop Tape Unit

DIMENSIONS	Width	Depth	Height
Metric	432 mm	611 mm	177 mm
English	17 in	24 in	27.2 in
Maximum Configuration Weight		27.2 kg	60 lbs
ELECTRICAL			
kVA	0.30		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	-		
Power requirements (maximum)	155 watts		
Power factor			
Phase	1		

Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	58	53	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1000 mm	1220 mm	710 mm	
40 in	48 in	28 in	

3490E - F01 Tabletop Tape Unit

DIMENSIONS		Width	Depth	Height
Metric		177 mm	612 mm	486 mm
English		7.0 in	24.1 in	19.1 in
Maximum Configuration Weight			29.5 kg	16.5 lbs
ELECTRICAL				
kVA			0.30	
Rated Voltage/Frequency			200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output				
Power requirements (maximum)				
Power factor				
Phase			1	
Plug type (Canada & USA)			Powered from Rack	
Power cord length			-	-
TEMPERATURE REQUIREMENTS				
Operating			16 to 30 C	60 to 85 F
Non-Operating				

Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	15% to 80%	15% to 80%
Wet Bulb Temperature	27 C (80 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)	68	
Impulsive or prominent discreet tones		

3494-L10 Tape Library

DIMENSIONS	Width	Depth	Height
Metric	750 mm	1524 mm	1800 mm
English	29.5 in	60 in	70.9 in
Maximum Configuration Weight			
		560 kg	1233 lbs
ELECTRICAL			
kVA	1.9		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	3400 BTU/hr		
Power requirements (maximum)	1000 watts		
Power factor	0.53		
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	10 to 37.8 C	50 to 100 F	
Non-Operating	10 to 51.7 C	50 to 125 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	

Wet Bulb Temperature	23 C (73.4 F)	27 C (80 F)
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	6.8	6.5
LpAm		
<LpA>m (dB)	48	47
Impulsive or prominent discreet tones		

3494-L12 Tape Library

DIMENSIONS	Width	Depth	Height
Metric	750 mm	1524 mm	1800 mm
English	29.5 in	60 in	70.9 in
Maximum Configuration Weight			
		605.6 kg	1344 lbs
ELECTRICAL			
kVA	1.0		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	3400 BTU/hr		
Power requirements (maximum)	1000 watts		
Power factor	0.53		
Phase	-		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	10 to 37.8 C	50 to 100 F	
Non-Operating	10 to 51.7 C	50 to 125 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity	8% to 80%		>8% to 80%
Wet Bulb Temperature	23 C (73.4 F)		27 C (80 F)
NOISE EMISSIONS	Operating		Idle
LWAd (Bels)	6.8		6.5
LpAm			
<LpA>m (dB)	48		47

Impulsive or prominent discreet tones		
---------------------------------------	--	--

3494-L14 Tape Library

DIMENSIONS	Width	Depth	Height
Metric	750 mm	1524 mm	1800 mm
English	29.5 in	60 in	70.9 in
Maximum Configuration Weight			
		605.6 kg	1344 lbs
ELECTRICAL			
kVA		1.0	
Rated Voltage/Frequency		200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output		3400 BTU/hr	
Power requirements (maximum)		1000 watts	
Power factor		0.53	
Phase		-	
Plug type (Canada & USA)		Powered from Rack	
Power cord length		-	-
TEMPERATURE REQUIREMENTS			
Operating		10 to 37.8 C	50 to 100 F
Non-Operating		10 to 51.7 C	50 to 125 F
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 C (73.4 F)	27 C (80 F)
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)		6.8	6.5
LpAm			
<LpA>m (dB)		48	47
Impulsive or prominent discreet tones			

3570-B00 Tape Subsystem

DIMENSIONS	Width	Depth	Height
-------------------	-------	-------	--------

Metric	320 mm	338mm	112 mm
English	12.6 in	13.3 in	4.4 in
Maximum Configuration Weight			
		8.4 kg	18.5 lbs
ELECTRICAL			
kVA		0.06	
Rated Voltage/Frequency		100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output		205 BTU/hr	
Power requirements (maximum)		60 watts	
Power factor		-	
Phase		-	
Plug type (Canada & USA)		-	
Power cord length		-	-
TEMPERATURE REQUIREMENTS			
Operating		16 to 32 C	60 to 90 F
Non-Operating		10 to 43 C	50 to 110 F
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		26 C (79 F)	
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)		5.8	5.5
LpAm			
<LpA>m (dB)		-	-
Impulsive or prominent discreet tones			

3570-B01 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	483 mm	771 mm	217 mm
English	19 in	30.4 in	8.5 in

Maximum Configuration Weight	39 kg	88 lbs
ELECTRICAL		
kVA	0.07	
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	239 BTU/hr	
Power requirements (maximum)	70 watts	
Power factor	-	
Phase	-	
Plug type (Canada & USA)	-	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	26 C (79 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.8	5.5
LpAm		
<LpA>m (dB)	-	-
Impulsive or prominent discreet tones		

3570-B02 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	483 mm	771 mm	217 mm
English	19 in	30.4 in	8.5 in
Maximum Configuration Weight			
	45 kg	99 lbs	
ELECTRICAL			
kVA	0.13		

Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	444 BTU/hr	
Power requirements (maximum)	130 watts	
Power factor	-	
Phase	-	
Plug type (Canada & USA)	-	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	26 C (79 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.8	5.5
LpAm		
<LpA>m (dB)	-	-
Impulsive or prominent discreet tones		

3570-B11 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	444 mm	714 mm	217 mm
English	17.5 in	28.1 in	8.5 in
Maximum Configuration Weight			
	24 kg	52.9 lbs	
ELECTRICAL			
kVA	0.07		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	239 BTU/hr		
Power requirements (maximum)	70 watts		

Power factor	-	
Phase	-	
Plug type (Canada & USA)	-	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	26 C (79 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.8	5.5
LpAm		
<LpA>m (dB)	-	-
Impulsive or prominent discreet tones		

3570-B12 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	483 mm	771 mm	217 mm
English	19 in	30.4 in	8.5 in
Maximum Configuration Weight			
	29 kg	63.9 lbs	
ELECTRICAL			
kVA	0.13		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	444 BTU/hr		
Power requirements (maximum)	130 watts		
Power factor	-		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-	-	

>TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	26 C (79 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.8	5.5
LpAm		
<LpA>m (dB)	-	-
Impulsive or prominent discreet tones		

3570-C00 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	320 mm	338mm	112 mm
English	12.6 in	13.3 in	4.4 in
Maximum Configuration Weight			
	8.5 kg	19 lbs	
ELECTRICAL			
kVA	0.06		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	205 BTU/hr		
Power requirements (maximum)	60 watts		
Power factor	-		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	

Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	26 C (79 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	6.5	6.2
LpAm		
<LpA>m (dB)	-	-
Impulsive or prominent discreet tones		

3570-C01 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	483 mm	771 mm	217 mm
English	19 in	30.4 in	8.5 in
Maximum Configuration Weight			
	40 kg	88 lbs	
ELECTRICAL			
kVA	0.07		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	239 BTU/hr		
Power requirements (maximum)	70 watts		
Power factor	-		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude			
	3048 m	10,000 ft	

ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	26 C (79 F)	
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	6.5	6.2
LpAm		
<LpA>m (dB)	-	-
Impulsive or prominent discreet tones		

3570-C02 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	483 mm	771 mm	217 mm
English	19 in	30.4 in	8.5 in
Maximum Configuration Weight			
		45 kg	99 lbs
ELECTRICAL			
kVA		0.13	
Rated Voltage/Frequency		100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output		444 BTU/hr	
Power requirements (maximum)		130 watts	
Power factor		-	
Phase		-	
Plug type (Canada & USA)		-	
Power cord length		-	-
TEMPERATURE REQUIREMENTS			
Operating		16 to 32 C	60 to 90 F
Non-Operating		10 to 43 C	50 to 110 F
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		26 C (79 F)	

NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	6.5	6.2
LpAm		
<LpA>m (dB)	-	-
Impulsive or prominent discreet tones		

3570-C11 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	444 mm	714 mm	267 mm
English	17.5 in	28.1 in	10.5 in
Maximum Configuration Weight			
		24 kg	53 lbs
ELECTRICAL			
kVA	0.07		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	239 BTU/hr		
Power requirements (maximum)	70 watts		
Power factor	-		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	26 C (79 F)		
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	6.5	6.2	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			

3570-C12 Tape Subsystem

DIMENSIONS			
	Width	Depth	Height
Metric	444 mm	714 mm	267 mm
English	17.5 in	28.1 in	10.5 in
Maximum Configuration Weight		29 kg	64 lbs
ELECTRICAL			
kVA	0.13		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	444 BTU/hr		
Power requirements (maximum)	130 watts		
Power factor	-		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		26 C (79 F)	
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		6.5	6.2
LpAm			
<LpA>m (dB)		-	-
Impulsive or prominent discreet tones			

3575-L06 Tape Subsystem

DIMENSIONS			
	Width	Depth	Height
Metric	355 mm	836 mm	991 mm
English	14 in	32.9 in	39 in

Maximum Configuration Weight	71 kg	157 lbs
ELECTRICAL		
kVA	0.185	
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	630 BTU/hr	
Power requirements (maximum)	185 watts	
Power factor	-	
Phase	-	
Plug type (Canada & USA)	-	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	26 C (79 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	6.6	5.6
LpAm		
<LpA>m (dB)	52	38
Impulsive or prominent discreet tones		

3575-L12 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	1009 mm	861 mm	1029 mm
English	39.7 in	33.9 in	40.5 in
Maximum Configuration Weight			
	127 kg	280 lbs	
ELECTRICAL			
kVA	0.3		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		

Thermal Output	920 BTU/hr	
Power requirements (maximum)	270 watts	
Power factor	-	
Phase	-	
Plug type (Canada & USA)	-	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	26 C (79 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	6.7	5.9
LpAm		
<LpA>m (dB)	53	41
Impulsive or prominent discreet tones		

3575-L18 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	1009 mm	861 mm	1029 mm
English	39.7 in	33.9 in	40.5 in
Maximum Configuration Weight			
	132 kg	290 lbs	
ELECTRICAL			
kVA	0.5		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1300 BTU/hr		
Power requirements (maximum)	380 watts		
Power factor	-		
Phase	-		
Plug type (Canada & USA)	-		

Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	26 C (79 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	6.8	6.2
LpAm		
<LpA>m (dB)	54	44
Impulsive or prominent discreet tones		

3575-L24 Tape Subsystem

DIMENSIONS			
	Width	Depth	Height
Metric	1009 mm	861 mm	1518 mm
English	39.7 in	33.9 in	59.75 in
Maximum Configuration Weight			
	195 kg	428 lbs	
ELECTRICAL			
kVA	0.5		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1300 BTU/hr		
Power requirements (maximum)	380 watts		
Power factor	-		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-	-	
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	

Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	26 C (79 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	6.8	6.2
LpAm		
<LpA>m (dB)	54	44
Impulsive or prominent discreet tones		

3575-L32 Tape Subsystem

DIMENSIONS	Width	Depth	Height
Metric	1009 mm	861 mm	1518 mm
English	39.7 in	33.9 in	59.75 in
Maximum Configuration Weight			
		203 kg	446 lbs
ELECTRICAL			
kVA	0.5		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1300 BTU/hr		
Power requirements (maximum)	380 watts		
Power factor	-		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	26 C (79 F)		

NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	6.8	6.2
LpAm		
<LpA>m (dB)	54	44
Impulsive or prominent discreet tones		

3590-A50 Tape Controller

DIMENSIONS	Width	Depth	Height
Metric	420 mm	460 mm	165 mm
English	16.5 in	18.1 in	6.5 in
Maximum Configuration Weight			
		18 kg	40 lbs
ELECTRICAL			
kVA	0.4		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	796 BTU/hr		
Power requirements (maximum)	234 watts		
Power factor	1		
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
>			
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)		
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			

3590-B11 Tape Unit

DIMENSIONS	Width	Depth	Height
Metric	230 mm	988 mm	522 mm
English	9.1 in	39.0 in	20.6 in
Maximum Configuration Weight		49.5 kg	109 lbs
ELECTRICAL			
kVA	0.30		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1024 BTU/hr		
Power requirements (maximum)	300 watts		
Power factor	1		
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	-
TEMPERATURE REQUIREMENTS			
Operating	16 degrees to 32 degrees C	60 degrees to 90 degrees F	
Non-Operating	10 degrees to 43 degrees C	50 degrees to 110 degrees F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 degrees C (80 degrees F)		
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			

3590-B1A Tape Unit

DIMENSIONS	Width	Depth	Height
Metric	221 mm	750 mm	262 mm
English	8.8 in	29.8 in	10.5 in
Maximum Configuration Weight		28.6 kg	63 lbs

ELECTRICAL		
kVA	0.30	
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	1024 BTU/hr	
Power requirements (maximum)	300 watts	
Power factor	1	
Phase	1	
Plug type (Canada & USA)	Powered from Rack	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	23 C (73.4 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.8	5.8
LpAm		
<LpA>m (dB)	40	40
Impulsive or prominent discreet tones		

5032 Tape Unit

DIMENSIONS	Width	Depth	Height
Metric	483 mm	655 mm	210 mm
English	19.0 in	25.8 in	8.2 in
Maximum Configuration Weight	41.5 kg		92 lbs
ELECTRICAL			
kVA	0.18		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	491 BTU/hr		
Power requirements (maximum)	144 watts		
Power factor			
Phase	1		

Plug type (Canada & USA)	-	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 degrees to 32 degrees C	60 degrees to 90 degrees F
Non-Operating	10 degrees to 43 degrees C	50 degrees to 110 degrees F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	23 degrees C (73 degrees F)	27 degrees C (80 degrees F)
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.7	5.5
LpAm		
<LpA>m (dB)	45	40
Impulsive or prominent discreet tones		

7208-012 Tape Drive (Stand-Alone & Rack Mount)

DIMENSIONS	Width	Depth	Height
Metric	280 mm	290 mm	123 mm
English	5.0 in	11.5 in	11.0 in
Maximum Configuration Weight			
	6 kg	13 lbs	
ELECTRICAL			
	Stand Alone	Rack Mount	
kVA	0.07	0.10	
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz	200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	155 BTU/hr	155 BTU/hr	
Power requirements (maximum)	45 watts	45 watts	
Power factor	0.64	0.45	
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	
TEMPERATURE REQUIREMENTS			
Operating	16 degrees to 32 degrees C	60 degrees to 90 degrees F	
Non-Operating	10 degrees to 43 degrees C	50 degrees to 110 degrees F	

Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	23 degrees C (73 degrees F)	27 degrees C (80 degrees F)
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.8	5.5
LpAm (dB)		
<LpA>m (dB)	46	40
Impulsive or prominent discreet tones		

7208-222 Tape Drive

DIMENSIONS		Width	Depth	Height
Metric		280 mm	295 mm	145 mm
English		5.0 in	11.5 in	5.7 in
Maximum Configuration Weight			7.3 kg	16 lbs
ELECTRICAL				
kVA			0.059	
Rated Voltage/Frequency				
Thermal Output			85 BTU/hr	
Power requirements (maximum)			25 watts	
Power factor			0.48	
Phase			1	
Plug type (Canada & USA)			4	
Power cord length			-	-
TEMPERATURE REQUIREMENTS				
Operating			16 to 32 C	60 to 90 F
Non-Operating			10 to 43 C	50 to 110 F
Maximum Altitude			3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS				
			Operating	Non-Operating
Noncondensing Humidity			20% to 80%	20% to 80%
Wet Bulb Temperature			23 C (73 F)	27 C (80 F)

NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	5.8	5.5
LpAm		
<LpA>m (dB)	54	
Impulsive or prominent discreet tones		

7208-232, 234 Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	280 mm	295 mm	145 mm
English	5.0 in	11.5 in	5.7 in
Maximum Configuration Weight			
	7.3 kg	16 lbs	
ELECTRICAL			
kVA	0.156		
Rated Voltage/Frequency			
Thermal Output	256 BTU/hr		
Power requirements (maximum)	75 watts		
Power factor	0.48		
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	
TEMPERATURE REQUIREMENTS			
Operating	16 degrees to 32 degrees C	60 degrees to 90 degrees F	
Non-Operating	10 degrees to 43 degrees C	50 degrees to 110 degrees F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	23 degrees C (73 degrees F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.8	5.5	
LpAm			
<LpA>m (dB)	54		
Impulsive or prominent discreet tones			

9346-001 Tape Unit

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	483 mm	560 mm	129 mm
English	19.0 in	22.0 in	5.0 in
Maximum Configuration Weight			
		25 kg	55 lbs
ELECTRICAL			
kVA	0.07		
Rated Voltage/Frequency	200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	100 BTU/hr		
Power requirements (maximum)	30 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 40 degrees C	50 degrees to 104 degrees F	
Non-Operating	10 degrees to 51 degrees C	50 degrees to 125 degrees F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 degrees C (80 degrees F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	6.1	5.7	
LpAm			
<LpA>m (dB)	45	42	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

9347 Tape Unit

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	483 mm	559 mm	222 mm

English	19.0 in	22.0 in	8.8 in
Maximum Configuration Weight			
	42 kg	92 lbs	
ELECTRICAL			
kVA	0.24		
Rated Voltage/Frequency	200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	715 BTU/hr		
Power requirements (maximum)	210 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	16 degrees to 32 degrees C	60 degrees to 90 degrees F	
Non-Operating	10 degrees to 43 degrees C	50 degrees to 110 degrees F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	23 degrees C (73 degrees F)	27 degrees C (80 degrees F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.3	5.0	
LpAm			
<LpA>m (dB)	37	33	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30.0 in	30.0 in	30.0 in	-

9348-001 Tape Drive

DIMENSIONS	Width	Depth	Height
Metric	483 mm	679 mm	250 mm
English	19.0 in	26.7 in	9.9 in
Maximum Configuration Weight			
	55 kg	121 lbs	

ELECTRICAL		
kVA	0.27	
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	444 BTU/hr	
Power requirements (maximum)	130 watts	
Power factor	0.47	
Phase	1	
Plug type (Canada & USA)	Powered from Rack	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.7	5.6
LpAm		
<LpA>m (dB)	41	40
Impulsive or prominent discreet tones		

9348-002 Tape Drive

DIMENSIONS			
	Width	Depth	Height
Metric	483 mm	673 mm	222 mm
English	19.0 in	26.5 in	8.8 in
Maximum Configuration Weight	55 kg	121 lbs	
ELECTRICAL			
kVA	0.27		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	444 BTU/hr		
Power requirements (maximum)	130 watts		
Power factor	0.47		

Phase	1	
Plug type (Canada & USA)	Powered from Rack	
Power cord length	-	-
TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 110 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	5.7	5.6
LpAm		
<LpA>m (dB)	41	40
Impulsive or prominent discreet tones		

9427-210 Tape System

DIMENSIONS	Width	Depth	Height
Metric	323 mm	723 mm	637 mm
English	12.7 in	29.0 in	25.1 in
Maximum Configuration Weight			
	42 kg	92.5 lbs	
ELECTRICAL			
kVA	0.078		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	250 BTU/hr		
Power requirements (maximum)	76 watts		
Power factor	0.97		
Phase	1		
Plug type (Canada & USA)	Powered from Rack		
Power cord length	-	-	
TEMPERATURE REQUIREMENTS			
Operating	5 to 40 C	41 to 104 F	

Non-Operating		
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	27 C (80.6 F)	
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	6.0	5.5
LpAm		
<LpA>m (dB)		
Impulsive or prominent discreet tones		

9427-211 Tape System

DIMENSIONS	Width	Depth	Height
Metric	223 mm	640 mm	615 mm
English	8.8 in	25.2 in	24.2 in
Maximum Configuration Weight	29.5 kg	65 lbs	
ELECTRICAL			
kVA		0.078	
Rated Voltage/Frequency		100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output		250 BTU/hr	
Power requirements (maximum)		76 watts	
Power factor		0.97	
Phase		1	
Plug type (Canada & USA)		Powered from Rack	
Power cord length		-	-
TEMPERATURE REQUIREMENTS			
Operating	5 to 40 C	41 to 104 F	
Non-Operating			
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	

Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	27 C (80.6 F)	
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	6.3	6.1
LpAm		
<LpA>m (dB)		
Impulsive or prominent discreet tones		

Chapter 10. Air quality

If you are installing your server in a typical business office or clean industrial location, you probably do not have to worry about the quality and cleanliness of the air.

Poor-quality air, especially air containing dust and chemicals, can corrode electrical parts in the server and cause system problems. If you are in doubt about the air quality where you plan to put your server, ask your service or marketing representative about environmental testing or call your local air conditioning service.

If poor-quality air is a factor in your server location, check for the maximum limits of common gaseous chemicals.

Gaseous Environment Limits	
Gas	Limits (microgram/m ³)
Sulfur (Sx)	3.2
Acidic Chlorine Gases (Clx)	1.5
Sulfur Dioxide (SO ₂)	100
Nitrogen Dioxide (NO ₂)	140
Total Oxidant (O ₃)	98
Ammonia (NH ₃)	115

Altitude

Your server will operate at altitudes between **0 - 3,048 meters (0 - 10,000 feet)** above sea level. If your altitude is outside this operating range, contact a service representative for further information.

At altitudes of 1,295 - 2,133 meters (4,250 - 7000 feet), you must adjust operating temperature limit specifications by subtracting 0.6 degrees C (1.0 degrees F) per 76 meters (250 feet) above 1295 meters (4250 feet) of elevation.

At altitudes above 2,133 meters (7000 feet), the upper limit of operating air temperature is 24 degrees C (76 degrees F). This change is required for optimum performance and reliability in lower atmospheric pressure. On larger systems, you should consider Redundant Array of Independent Disks (RAID) or mirrored disk units, for better performance at high altitudes.

Altitude information for Models 870 and 890

The upper limit of the dry bulb temperature must be derated 1 degree C per 189 m (619 ft.) above 1295 m (4250 ft.). Maximum altitude for the 24-way or 32-way processor configurations is 2134 m (7000 ft.).

Bonding to a signal reference grid (SRG)

Bonding to a signal reference grid (SRG) may be helpful in reducing power distribution system high-frequency noise in grounding conductors. The purpose of high-frequency noise suppression is to reduce the background noise level. You want to reduce the background noise level so that when an unusual event occurs, it has a small or no effect on system performance.

Use ground straps to suppress high-frequency noise. Some general ground strap guidelines:

1. Ensure that the SRG and ground straps comply with your national and local codes. In the United States, Article 250 of the National Electrical Code, as well as other articles, specifies the minimum requirements.
2. Each system unit or expansion tower should have its own connection to the SRG.

Contact your IBM Service Representative or Installation Planning Representative for ground strap installation specifications. The specifications are found in *ES/3090^(TM) Processor Complex IM-PP Installation Planning - Appendix C*, (GC22-7080-02). IBM trained service personnel must attach ground straps to many server and system models. (Part number for braided jumper strap is 5530798. The part number for the clamp to secure the strap is 5457808.)

Earthquake prone environments

If you are installing your server in an area that is prone to earthquakes, plan for special installation methods to minimize earthquake damage to your system.

Obviously, an unsecured system unit may be thrown around during an earthquake, putting it and your personnel in danger. Your server needs to be restrained from causing damage, using one of two methods:

- **Hard mounting** (for instance, bolting) physically attaches your server to the floor. This provides the most safety to personnel during an earthquake. However, it also causes the most server damage because the unit absorbs most of the shock.
- **Restraint methods** allow some server movement and provide for both personnel safety and server protection. Some examples of restraint are the use of caster pads, caster wheel locks, sliding pads, elastomer bumpers, and tethers. You may want to implement two or more of these methods to better protect your personnel and your system.

For detailed information on earthquake precautions, contact a service representative.

Raised-floor environment

Models 3xx, 5xx, 6xx, Sxx, 7x0, SBx, 15x, 17x, and 8xx, 52x can be installed on a raised floor.

Check the weight of the components of your system in the system specifications and compatible hardware specifications and install a floor that will support it.

Electromagnetic interference

Avoid putting your server in areas of high electromagnetic interference. Such areas may exist within 500 meters (1650 feet) of a radio frequency source, such as radio-transmitting antennas (AM, FM, TV, and two-way radio), radar (commercial and military), and within 50 meters (165 feet) of certain industrial machines (RF induction heaters, RF arc welders, and insulation testers), certain electrical heating systems, and high-energy power lines. Under these conditions, consider if any special installation or product considerations are needed to ensure normal system operation and maintenance. Contact your Service Representative if you need assistance in determining if you have a potential problem.

Possible screen interference can be caused by power supplies in printers and other data processing equipment. To avoid this, maintain a minimum of 1 meter (3.3 feet) between display stations and printers or other data processing equipment.

Environmental factors

Your server is built to operate in a wide range of environmental conditions. However, severe environmental conditions can degrade your server's performance, or even damage the unit.

Review these topics to see how the place you choose affects your server. If you have an environmental problem, fix it early in the planning process. Selecting a more environmentally appropriate site for your server would be easier than later risking system damage, time, and money.

To optimize your server's performance and lifetime, review these environmental factors and recommendations:

- Air quality
- Temperature
- Humidity
- Altitude
- Light
- Noise emissions
- Raised-floor
- Earthquake-prone environment
- Avoid stacking units.

Humidity

Make sure your server is not exposed to extremes of humidity. Too much humidity can cause system failure. Too little humidity generates static electricity, which can damage your system. Most servers and devices are rated for a range of 8% to 80% relative humidity. Printers function best between 20% and 62% relative humidity. Maintain a relative humidity somewhere near **45%**.

Tip: The best way to prevent humidity problems is to install an air system that regulates humidity (or purchase a humidifier or dehumidifier). If your environment is excessively dry and regulating humidity mechanically is not possible, install antistatic floor covering and furniture. Antistatic sprays are also helpful for reducing static shocks.

If humidity is a problem, check the system specifications and compatible hardware specifications for relative humidity requirements and discuss them with a heating, ventilation, and air conditioning (HVAC) professional or a service representative.

Lighting

Make sure your server environment has adequate lighting. Follow these tips.

- **Increase the efficiency of the light you have.** Paint offices in light colors with white ceilings for better reflection (rather than absorption) of light.
- **Lessen glare.** Do not place workstations next to light sources (windows, ceiling lights, and so forth). Light sources in the operator's field of vision or directly behind or above the operator cause glare. Provide shades for windows, and position display stations between fluorescent ceiling lights.
- **Vary degrees of lighting.** Optimally, provide a low level of general lighting (300 to 500 lux) with adjustable local lighting at each display station.

- **Make sure all sources of light are compatible.** Incompatible light sources cause eye fatigue. White and warm white fluorescent lamps are compatible with both incandescent lamps and daylight.

Neutral-to-ground voltage

As part of your installation planning checklist or in troubleshooting an intermittent problem where the environment is suspect, a neutral-to-ground voltage measurement is taken. In many cases, a measurement over 1VAC requires further investigation.

The amount of neutral-to-ground voltage that causes a problem is dependent on the environment. There are many factors that influence the neutral-to-ground voltage: distance between monitoring point and neutral-to-ground bond; impedance of the neutral conductor; neutral current from the computer at the monitoring point; and, if present, downstream devices on the same branch circuit and shared neutrals. The United States NEC article 210-19a, FPN No. 4 (maximum total voltage drop must not exceed 5%) is important also.

Based on these factors, the first item that needs to be determined is does the neutral-to-ground voltage measurement make sense? For example, 2 volts may be OK if the outlet is a long distance from the transformer, but 0.5 volts may indicate a problem if the outlet is only a few feet from the transformer. A neutral-to-ground voltage that is larger than expected may indicate a problem with the neutral-to-ground bond at the service entrance or separately derived source, an undersized neutral, or a high impedance connection. A neutral-to-ground voltage that is smaller than expected may indicate a wiring mistake (e.g., neutral and ground swap).

The second item is to monitor the neutral-to-ground voltage and look for fluctuations over a given time period. A possible cause of fluctuations may be a laser printer or copier with a heating element that is turning on and off.

Noise emissions

Excessive noise permanently damages hearing, but a continuous low-level sound can be dangerous too. Check the noise levels emitted by the components of your system in the system specifications and compatible hardware specifications.

If noise emissions are a problem, follow these acoustics tips:

-
- **Install a new ceiling.** A dropped, porous ceiling can reduce acoustical noise.
- **Apply acoustical material to the floor and walls.** This material will absorb rather than reflect sound.
- **Make sure air ducts are not transmitting sound.** Noise pollution from one area can migrate to another through the air ducts.
- **Space equipment properly.** Follow service clearance guidelines in the system specifications and compatible hardware specifications. Equipment that is too close to walls can cause them to vibrate and, thus, transmit sound.

The definition of the noise emission values are:

- **LwAd.** The declared sound power emission level.
- **LpAm.** The mean value of the sound pressure for emission levels at the operator position (if any).
- **<LpA>m.** The mean value of the spaced-average sound pressure for emission levels at the 1-meter positions.

Environment reference

- Acoustics
- Air quality
- Altitude
- Bonding to a signal reference grid (SRG)
- Earthquake environments
- Electromagnetic interference
- Environmental requirements
- FCC emissions statement
- Floors
- Humidity
- Lighting
- Neutral-to-ground voltage
- Physical security
- Raised-floors
- Stacking units
- Temperature

Do not stack units

Placing a unit on top of another is called **stacking**. Some examples of stacking are:

- Stacking one server unit or expansion unit directly on top of another server unit or expansion unit.
- Stacking an external I/O unit directly on top of a server unit or expansion unit.
- Stacking external battery backup units directly on top of a server unit or expansion unit.
- Stacking one external battery backup unit on top of another external battery backup unit.

Stacking units without the use of an arrangement approved by IBM will violate your warranty, and IBM will not cover any damage caused from stacking. Stacking constitutes a safety hazard in several ways:

- Units on the top may be unstable and can fall, injuring service personnel and others.
- The weight of the combined units may compromise floor strength.
- Units on the bottom are not designed to support units on the top, which can result in system damage.
- Units on the top can amplify vibrations from the bottom unit, contributing to disk unit or tape errors.

Note: It is technically possible to retain your warranty and still stack your units. However, to do so you must inform IBM of your intentions, and a third-party expert must analyze the suitability and safety of your arrangement. Certain requirements must also be met in your maintenance agreement with IBM.

For more detailed information about IBM's stacking policy, contact your IBM service representative.

Temperature

Keep in mind your system's temperature requirements and the comfort level of personnel. Both machines and humans will add heat to your environment. Plan for this extra heat, and make sure that your heating, ventilation, and air conditioning (HVAC) system can handle it.

Most server units and devices operate best between 18 degrees C (65 degrees F) and 29 degrees C (85 degrees F). The optimal temperature is 24 degrees C (76 degrees F). Check the requirements for thermal output and temperature ranges for the components of your system in the system specifications and compatible hardware specifications.

Humidity affects temperature and comfort levels. Refer to the humidity topic, and consider it jointly with your temperature planning.

Note: High elevation affects temperature recommendations. Refer to the altitude topic for high altitude adjustments.

Chapter 11. Electronic Support Access

Created: July 17, 2001

Covers: V4R5, V5R1

All information being released represents IBM's current goals and objectives and is subject to change or withdrawal without notice.

Information is provided "AS IS" without warranty of any kind. Mention or reference to non-IBM products is for informational purposes only and does not constitute an endorsement by IBM

Version 5 Release 1

The Universal Connection in Version 5 Release 1 is more versatile than ever. It has many features that allow customers to connect their iSeries systems no matter what their own network configuration looks like and does it with the ease of a wizard within iSeries Navigator. The wizard will allow 56Kbps modems and 10/100Mbps network cards to send and receive information. Once the connection is made a customer can send Management Central, PM/400 and Service Agent Data to IBM Services. You can also download PTFs over this connection.

The important thing to understand is that the Universal Connection wizard is simply a wizard that will allow the customer to set up an AT&T or Virtual Private Network (VPN) connection to the IBM service systems. In many situations no additional customer configuration is required. Once the wizard completes, you will be able to perform maintenance on your system such as sending in service agent information into the IBM service systems or downloading PTFs over the new, established connection.

Because of the many different kinds of network set-ups, there are many ways to configure the Universal Connection. You can configure a Point to Point Protocol (PPP) connection using the AT&T Global network or you can use your existing dial-up Internet Service Provider (ISP) to connect into IBM Services. These two connections depend on the modem used. The support was added for the new 2771 Internal Modem as well as other asynchronous modems such as the 7852-400 to perform both of these connections. Thus this support can now take advantage of the 9771 Adapter Card shipped with every Model 250, 270, 820, 830, and 840. This modem will enable every system to easily connect to IBM electronic support services.

When configuring the AT&T Global Network connection with the Universal Connection Wizard, choose your area access phone number from the available list. Once your connection is initiated, authentication occurs and AT&T will assign an IP address to your PPP client. This connection is supported in both V4R5 (with PTFs describes below) and V5R1.

The dial-up connection using an ISP can only be implemented at V5R1. The iSeries system is first connected to the ISP and a VPN tunnel is created over the Internet that then connects to the IBM service systems. You can use both the internal 56Kbps and the external modems for this connection. In the Universal Connection Wizard, you will be asked to specify the existing PPP connection profile name.

You can also take advantage of the Universal Connection from a network card perspective. If your iSeries system has a globally routable IP address to the Internet, or has a router in place to route packets directly to and from the Internet from the iSeries system, to use your 10/100Mb network cards. This connection can use either an Ethernet or a Token ring card. This will allow the transfer of information to the IBM Service machines at a very high speed. The way the Universal Connection Wizard is run depends on your network. We call this type of network access 'direct connections to the Internet'. All of these possible connections are available starting in V5R1.

Examples of usable direct connections are:

- Direct Frame Relay,
 - Cable modem/DSL modem,
 - and Router Isolated Access.
1. **Direct Frame Relay configuration** Requirements to create the IBM Electronic Support connection with the Universal Connection Wizard:
 - a configured Direct Frame Relay TCP/IP interface
 - the Direct Frame Relay interface must be connected to Internet through your ISP
 - the TCP interface for the Direct Frame Relay must be active.

In the Universal Connection Wizard, you will be asked to specify the existing TCP Interface for the Direct Frame Relay connection.

2. **Cable Modem or DSL Modem** Direct Cable Modem and Direct DSL Modem both have a fixed IP address supplied by your ISP. The TCP/IP Interface for the Direct Cable Modem or Direct DSL Modem must be active prior to using the Universal Connection. You will be asked to specify the TCP/IP Interface for the Direct Cable Modem or the Direct DSL Modem in the Universal Connection Wizard. The Universal Connection Wizard will create all required definitions for the IBM Electronic Support or Electronic Service Agent^(TM) connection. **DHCP is not currently supported with the iSeries server.**
3. **Router Isolated Access configuration** If there is a router connected between your perimeter network and the Internet you will require a Router Isolated Access configuration. The Router has IP filter rules for both inbound and outbound IP traffic. You need to configure your router to allow the inbound and outbound IKE and ESP traffic for the IBM Electronic Support connection. Specify the TCP/IP interface that you want to use for the IBM Electronic support and the Universal Connection Wizard will create all required definitions for the IBM Electronic Support or Electronic Service Agent connection. The TCP/IP Interface that is connected to the Router must be active prior to using the Universal Connection.

If you have a Cisco router on your external DMZ routing packets to and from the Internet and your iSeries system inside the DMZ, you will be able to configure your network to connect to the IBM Service systems. For more information and example configurations, please see:

- This redbook: *iSeries Universal Connection for Electronic Support & Electronic Services*
- *iSeries and AS/400^(R) Technical Support*
Click on Technical Database. Then click on Software Knowledge Base and register. Perform a search using "VPN Cisco Multi-Hop Connection Configuration" or "23300444". This will show you an example of the configuration that needs to be added to your Cisco router.

It is always important to have the latest application software fixes before running the Universal Connection. The following V5R1 PTFs (or their supercedes) are required updates that allow you to configure and use the Universal Connection:

- SI01037 (iSeries Access for Windows^(R) Service Pack 1)
- SI01397
- MF26515
- MF26660

When uploading Management Central, PM/400 or Service Agent information to the IBM Service machines it is also important to have SI01296.(Mgt. Cent)

Once the Universal Connection is configured, you can do the following;

- Send Service Agent Information
- Send Management Central Inventory
- Send WRKORDINF Information
- Send PM/400 Information
- Automatic Problem Reporting can be enabled over this connection.

ECS commands will be enabled through this connection. If the connection is not up it will default

back to the SNA connection.

- SNDPTFORD (Send PTF Order)
- SNDSRVRQS (Send Service Request)
- QRYPRBSTS (Query Problem Status)
- ORDSPTPTF (Order Supported PTFs)

Version 4 Release 5

Version 4 Release 5 of Operating System/400™ and our new 2xx and 8xx hardware models change the ways in which you access IBM supplied electronic support services. Starting with V4R5, every Model 250, 270, and 8xx will ship with a 9771 Adapter Card that includes an integrated 56Kbps modem at no additional charge. The purpose of this modem is to enable every system to easily connect to IBM to obtain electronic support services. Future electronic support services will make use of this connection.

The capabilities of this adapter card and integrated modem are being staged. Initially, the integrated modem on the 9771 adapter card, using the existing IBM Electronic Service Agent, is capable of performing system inventory collection. This provides the electronic collection of hardware and software inventory from your system, and then sends it to IBM support systems.

Two PTFs are currently available, which will more fully enable the support capabilities. The cover letters for these two PTFs provide detailed instructions for configuration and use of these functions. The new 9771 adapter card provides a second port for installing an ECS cable and modem (for example, IBM 7852-400). By doing this you can take advantage of AS/400's current ECS and PM/400e functions without installing either PTF.

- The first is PTF SF64124 (5769-SS1). PTF SF64124 (5769-SS1) and its requisite PTFs provide the OS/400^(R) function. PTF SF64217 (5769-XE1) is the Client Access Service Pack which provides the Wizard used to configure this support. This PTF enables capabilities such as electronic PTF download, electronic problem reporting and other existing ECS (Electronic Customer Support) commands, an ECS connection over TCP/IP via the integrated modem, remote support and an initial set of setup wizards to make contacting IBM electronically very easy.
- The second is PTF SF64660 (5798-RZG). PTF SF64660 (5798-RZG) and its requisite PTFs provide the iSeries function. This PTF enables consolidated inventory collection, consolidation of PM/400e and Management Central (to allow single or multiple systems to be supported over a single Universal Connection to IBM).

What electronic support capabilities you have is dependent on the hardware you install and when you begin taking advantage of the support. The following sections describe the three environments for electronic support.

A. A new hardware installation

A new hardware order must include specification of a console, which requires an adapter. IBM recommends the use of the Operations Console, a PC console that runs on a Windows system. This console requires the 4745 adapter card. If a twinax console is specified, then the 4746 adapter is required.

Regardless of the console feature you select, you will want to consider using the 9771 adapter or the 4745 adapter card for electronic support functions. The integrated modem on the 9771 adapter supports the following functions:

Functions Available Using the 9771 Adapter with the Integrated Modem

Function	When Planned		
	V4R5 GA	4Q2000 PTF	With PTF SF64660 (5798-RZG)

Existing IBM Electronic Service Agent inventory collection	IP		
Consolidated IBM Electronic Service Agent inventory collection			IP
IBM Electronic Service Agent problem reporting (previously Service Director ^(TM))		IP	
PM/400e			IP
Management Central Inventory			IP
Electronic Customer Support (ECS) <ul style="list-style-type: none"> • Send PTF Order • Send Service Request • Query Problem Status • Order Supported PTFs 		IP	
Remote Support <ul style="list-style-type: none"> • Start Remote Support 		IP	

Note: In the table, 'IP' means the support is available using a TCP/IP connection; SNA means the support is over an SNA/SDLC connection.

Functions Available Using the 9771 or 4745 Adapter with the 7852-400 Modem

If you cannot wait for the installation of the PTFs, use the IBM 7852-400 Modem for electronic support. You can either connect it to the second port on 9771 adapter card or to the ECS port on the 4745 adapter. When the 7852-400 modem is connected to the 9771 Adapter card, the manual configuration instructions at the end of this document must be used to configure the connection. The following table shows what functions are available for this configuration.

Function	When Planned		
	V4R5 GA	4Q2000 PTF	With PTF SF64660 (5798-RZG)
Existing IBM Electronic Service Agent for AS/400 inventory collection	IP		
Consolidated IBM Electronic Service Agent inventory collection			IP
IBM Electronic Service Agent problem reporting (previously Service Director)	SNA	IP	
PM/400e	SNA		IP
Management Central Inventory			IP

Electronic Customer Support (ECS) • Send PTF Order • Send Service Request • Query Problem Status • Order Supported PTFs	SNA	IP	
Remote Support • Start Remote Support	SNA	IP	

Note: In the table, 'IP' means the support is available using a TCP/IP connection; SNA means the support is over an SNA/SDLC connection.

Additional Functions Available with the 4745 Adapter

If you choose, you may decide to use the 4745 Adapter to connect the IBM 7852-400 Modem for electronic support. The following additional functions are available for this configuration at V4R5 GA. These will be available at a future date for the 9771 Adapter Card.

Function	Adapter	
	9771	4745
EZ-Setup (4745 only)	Future	V4R5
Operations Console (4745 only)	Future	V4R5
Remote Microcode Diagnostics	Future	V4R5 (see note)
Remote Dedicated Service Tools	Future	V4R5 (see note)
Remote Power On	N/A	V4R5 (see note)

Note: The IBM 7852-400 modem and cable are required for these functions.

B. Migrating to new hardware from a V4R4 or earlier system

If you are ordering new hardware, the same considerations as for a New Hardware Installation apply. However, if you will be using the console adapter card from your existing system in the new system, you may need to move the 9771 adapter card from the slot in which it is installed; the 9771 card must then be placed in the next available adapter card slot. You will want to consider using the 9771 adapter or the 4745 adapter card for electronic support functions.

C. Existing system upgrade to V4R5

If you are upgrading an existing AS/400 to V4R5 but are not moving to new hardware, you cannot use the 9771 adapter with integrated modem. Electronic support functions are available today using the 4745 adapter, cable and ECS Modem. These functions continue to be supported.

Using the 7852-400 Modem with the 9771 Adapter

The IBM 7852-400 can be attached to the second port on the 9771 adapter on the Model 250, 270, and 8xx systems and provides an option for earlier participation for both new system installations (if you choose to order the modem and cable) or migrations to new hardware (if you have an existing cable and modem). The cable for PCI must be one from the following table. Once the cable and modem are attached to the 9771 RVX port you must manually configure for specific functions.

Description	Length	Part Number	CIN
-------------	--------	-------------	-----

V.24 Cable	6.1 m (20 ft)	44H7480	0348
V.24 Cable	6.1 m (20 ft) Germany	44H7482	0348
V.24 Cable	6.1 m (20 ft) Japan	44H7484	0348
V.24 Cable	15.2 m (50 ft)	44H7481	0349
V.24 Cable	15.2 m (50 ft) Germany	44H7483	0349
V.24 Cable	15.2 m (50 ft) Japan	44H7485	0349
V.24 Cable	24.2 m (80 ft)	44H7486	0365
V.24 Cable	24.2 m (80 ft) Germany	44H7487	0365
V.24 Cable	24.2 m (80 ft) Japan	44H7488	0365

The ECS functions will work with the RVX port (the second port) on the 9771 adapter card; however, automatic configuration does not detect this connection. Therefore, the ECS configuration must be manually modified.

1. Use the WRKHDWRSC (Work with Hardware Resource) command to determine the correct resource name for the V.24 Port on the Communications Adapter: WRKHDWRSC *CMN
Locate the V.24 Port for the resource of Type 2771 (Port 1 of the Communication Adapter)
2. Use the CHGLNSDLC (Change SDLC Line Description) command to update the QESLINE line description with the communication resource determined in step 1 (CMN02 is used in this example):
CHGLNSDLC LIND(QESLINE) RSRNAME(CMN02)

Note: If the QESLINE does not exist, recreate it by issuing the following command from an AS/400 command line: CALL QTIINSTL

Then follow the procedure in step 2 above to update the line description. If necessary, this same procedure can be used to update the QTILINE line description.

If you are using the Performance Management/400 (5769-PM1) product to transmit data, the function will work with the RVX port of the 9771 Card. However, automatic configuration does not detect this connection. Therefore, the PM/400e configuration must be manually modified.

1. Use the DSPLIND (Display Line Description) command to determine the resource name that is being used for the ECS line: DSPLIND QESLINE
2. Change the PM/400e Line Description to match the ECS resource name (CMN02): CHGLNSDLC LIND(Q1PLIN) RSRNAME(CMN02)

Note: If Q1PLIN line description is not found, the PM/400e product is not activated. To activate PM/400e, use the CFGPM400 (Configure PM/400e) command to configure PM/400e; this automatically creates the Q1PLIN line description. The Q1PLIN line description will be correctly created with the same resource name as QESLINE, because ECS was previously setup manually.

Chapter 12. Physical Planning Forms

Print out these forms. You will be filling them in during the planning process. The information you record will be used later in the installation process (for ordering cables, to let your electrician know what sort of outlets to install, etc.). Keep them handy for future reference.

1. Server Information Form 3A. Record information about your equipment, including power requirements and licensed programs.
2. Workstation Information Form 3B. Record information about your workstation devices, and power and cable requirements.
3. Electronic Customer Support (ECS) Form 3C. Record information that will be used to set up and install ECS (IBM technical support over a modem).
4. Wide Area Network (WAN) Form 3D (Optional). If you have a WAN (or plan one), record information about it, including IOA type, port designation, interface, and protocol.
5. Local Area Network (LAN) Form 3E (Optional). If you have a LAN (or plan one), record information about it, including type, line descriptions, link speed, and cabling.

Server Information Form 3A

Frame	Device Type	Device Description	Feature Code	Plug Type/ Input Voltage	Notes
Licensed Programs					

Frame	Device Type	Device Description Feature Code	Plug Type/ Input Voltage	Notes

Workstation Information Form 3B

Part Number	Device Type	Device Description	Device Location	Cable Length	Plug Type/ Input Voltage	Telephone Contact

Electronic Customer Support (ECS) Form 3C

If you ordered a modem from IBM, fill out the first part of this form. You need this information to order your communications line for ESC from the telephone company. If you ordered a Total System Package, you will be getting a modem with your server.

If you didn't order a modem from IBM, fill out the second part of this form. You need this information when purchasing a modem from another supplier.

Common Carrier Ordering Information
Line Type:
Line Interface:
Line Speed:
Line Termination Requirements:
Telephone Set Options:
Modem Supplier Ordering Information
Modem Type and Model Number:
Modem Characteristics:

Wide Area Network (WAN) Form 3D

IOA Type	Slot ____		Slot ____		Slot ____	
Single Line [check]	[]		[]		[]	
Two Line [check]	[]		[]		[]	
ISDN [check]	[]		[]		[]	
Feature Code	_____		_____		_____	
Port Information	Port 1	Port 2	Port 1	Port 2	Port 1	Port 2
Line Number	_____	_____	_____	_____	_____	_____
Line Name	_____	_____	_____	_____	_____	_____
Interface:						
V.24 Enhanced [check]	[]	[]	[]	[]	[]	[]
V.24 [check]	[]	[]	[]	[]	[]	[]
X.21 [check]	[]	[]	[]	[]	[]	[]
V.35 [check]	[]	[]	[]	[]	[]	[]
ISDN [check]	[]	[]	[]	[]	[]	[]
Cable Length	_____	_____	_____	_____	_____	_____
Protocol:						

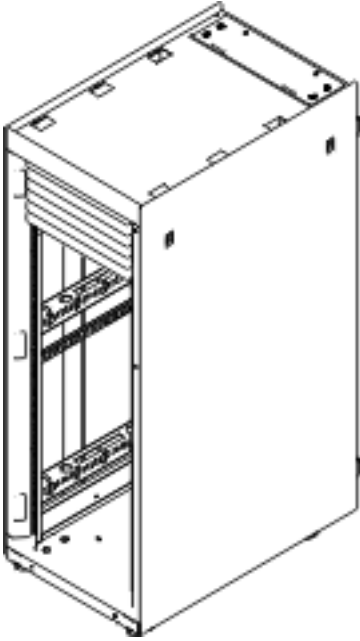
IOA Type	Slot ____		Slot ____		Slot ____	
SDLC [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BSC [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ASYNC [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
X.25 [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IDLC [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data Rate (bps)	_____	_____	_____	_____	_____	_____
Connection Type:						
Leased						
Point to Point [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multipoint [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Switched						
Manual Dial [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Autodial V.25 [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Autodial V.25bis [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Autodial AT ^(R) [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manual Answer [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Auto Answer [check]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Remote Controller Type	_____	_____	_____	_____	_____	_____
Modem Manufacturer	_____	_____	_____	_____	_____	_____
Modem Model	_____	_____	_____	_____	_____	_____
Modem Type	_____	_____	_____	_____	_____	_____
RECSP Number	_____	_____	_____	_____	_____	_____

Local Area Network (LAN) Form 3E

	Token Ring	Ethernet	SDDI/FDDI	Wireless
Feature Code # Check appropriate item(s)	<input type="checkbox"/> 2619/9619	<input type="checkbox"/> 2617/9617	<input type="checkbox"/> 2618/8664	<input type="checkbox"/> 2668
	<input type="checkbox"/> 2626	<input type="checkbox"/> 2723/9723	<input type="checkbox"/> 2665/8665	
	<input type="checkbox"/> 2724/9724	<input type="checkbox"/> 6181	<input type="checkbox"/> 2695	
	<input type="checkbox"/> 6149	<input type="checkbox"/> 2838/9738		
Line Description Name				
Online at IPL? Check Yes or No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
	<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No

	Token Ring	Ethernet	SDDI/FDDI	Wireless
Standard Check appropriate item(s)	<input type="checkbox"/> IEEE 802.5	<input type="checkbox"/> STD (Both)	<input type="checkbox"/> AHNSX3T9.5	<input type="checkbox"/> ALL (Both)
	(Only 1 Option)	<input type="checkbox"/> ETH (ETHV2)	(Only 1 Option)	<input type="checkbox"/> ETH (ETHV2)
		<input type="checkbox"/> IEEE 802.3		<input type="checkbox"/> IEEE 802.3
Link Speed Check appropriate item(s)	<input type="checkbox"/> 4 Mbps	<input type="checkbox"/> 10 Mbps	<input type="checkbox"/> 100 Mbps	<input type="checkbox"/> 1 Mbps
	<input type="checkbox"/> 16 Mbps	<input type="checkbox"/> 100 Mbps	(Only 1 Speed)	<input type="checkbox"/> 2 Mbps
Local Adapter Address				
Cabling Type Check appropriate item(s)	<input type="checkbox"/> UTP	<input type="checkbox"/> UTP	<input type="checkbox"/> Copper	<input type="checkbox"/> Hard wire to access point (with balun)
	<input type="checkbox"/> STP	<input type="checkbox"/> STP	<input type="checkbox"/> SMF/MF	<input type="checkbox"/> No hard wiring
		<input type="checkbox"/> Thick		
		<input type="checkbox"/> Thin		
		<input type="checkbox"/> MMF		
Cable Designation				
Cable Length				
MAU or Hub Port #				Not applicable
TR LAN Mgr Mode		Not applicable	Not applicable	Not applicable
Maximum Frame Size		Not applicable	Not applicable	Not applicable
Dual Homing? Check Yes or No	Not applicable	Not applicable	<input type="checkbox"/> Yes	Not applicable
	Not applicable	Not applicable	<input type="checkbox"/> No	Not applicable
Dual/Single Attach Station Check appropriate item(s)	Not applicable	Not applicable	<input type="checkbox"/> Dual	Not applicable
	Not applicable	Not applicable	<input type="checkbox"/> Single	Not applicable
Optical Bypass Available Check Yes or No	Not applicable	Not applicable	<input type="checkbox"/> Yes	Not applicable
	Not applicable	Not applicable	<input type="checkbox"/> No	Not applicable
Antenna Type Check appropriate item(s)	Not applicable	Not applicable	Not applicable	<input type="checkbox"/> Omnidirectional
	Not applicable	Not applicable	Not applicable	<input type="checkbox"/> Hemispherical
	Not applicable	Not applicable	Not applicable	<input type="checkbox"/> Directional

Chapter 13. FC 0550 Model 830 Rack

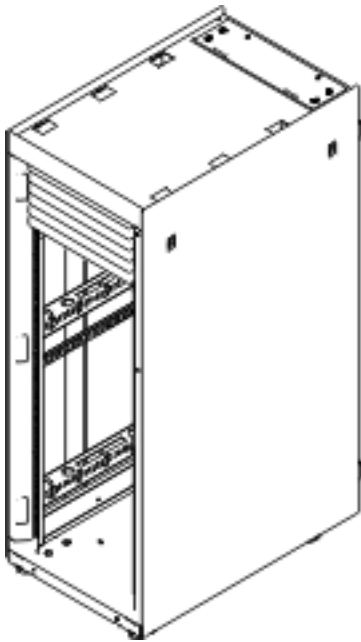
Dimensions for the FC 0550 Model 830 Rack			
<p>Pictured is the Feature Code 0550 iSeries rack.</p> <p>When ordered by itself, the 0550 rack provides an empty 1.8 meter tall rack (36 EIA units of total vertical space).</p>			
DIMENSIONS	Width	Depth	Height
Metric	650 mm	1020 mm	1800 mm
English	25.5 in	40.0 in	71.0 in
Maximum Configuration Weight¹		The weight of the rack with the model 830 is 644 kg (1417 lbs).	
ELECTRICAL			
kVA (maximum)	1.684		
Rated Voltage/Frequency	200-240VAC @ 50-60 plus or minus 0.5Hz		
Thermal Output (maximum)	5461 BTU/hr		
Power requirements (maximum)	1600 Watts		
Power factor	0.95		
Inrush Current	80 Amps		
Leakage Current (maximum)	3.5 mAmps		
Phase	1		
Plug type (Canada & USA)	12 (1426 for 14 ft line cord) 40 (1427 for 14 ft line cord) 10 (1453 for 6 ft line cord p/n 14F1549) and (1454 for 14 ft cord p/n 14F1550), 34 (1455 for 6 ft line cord p/n 14F1551) and (1456 for 14 ft cord p/n 14F1552), or 5 (1451 for 6 ft line cord p/n 14F1547) and (1452 for 14 ft cord p/n 14F1548)		
Power cord length	1.8 m (6 ft)(USA only) or 4.3m (14 ft)		
High Speed Link (HSL) cable requirements			

Dimensions for the FC 0550 Model 830 Rack			
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees)	
Non-Operating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8 to 80%	8 to 80%
Wet Bulb Temperature		22.8 degrees C (73 degrees F)	27 degrees C (80.6 degrees F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.9 Bels	6.8 Bels
<LpA>m (dB)		51	51
SERVICE CLEARANCES			
Front	Back	Sides ²	Top ²
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Notes:

1. The 1.8 meter rack has 10 EIA units of space remaining. This space will be filled with a 5 EIA filler panel, a 3 EIA filler panel, and two of the 1 EIA filler panels. Because the rack does not have power distribution, the Model 830 requires a line cord of sufficient length to reach the receptacle. The line cord feature code for the model 830 must be used to determine the appropriate receptacle.
2. Side and top clearances are optional when operating.

FC 0551 iSeries rack

Dimensions for the FC 0551 iSeries rack			
<p>Pictured is the Feature Code 0551 iSeries rackThe following, when ordered with an FC 0551, are used to populate the rack:</p> <p>0121-270 lower unit (please specify) 0122-270 upper unit (please specify) 0123-5074 lower unit in rack 0125-9079 lower unit in rack 0127-270 field-install in rack 0126 for 810, 825, 870 or 890, one 5094 installed in rack 0128 for 870 or 890, one base I/O unit in 0551 rack 0133 for 810, lower unit in rack 0134 for 810, upper unit in rack 0135 field-install of existing 825 into 0551 rack 0578 expansion unit in rack 0595-PCI-X tower (5095) in 0551 rack 0588-PCI-X expansion unit (5088) in 0551 rack</p> <p>When ordered by itself, the 0551 provides an empty 1.8 meter rack (36 EIA units of total space). See the above (0121 or 0122) for line cord specifications. See the plug types for specific information on the power distribution units.</p>			
DIMENSIONS	Width	Depth	Height
Metric	650 mm	1020 mm	1800 mm
English	25.5 in	40.0 in	71.0 in
Maximum Configuration Weight		<p>The weight of the empty rack is 244 kg (535 lbs). Click on the appropriate link to see the weight for what is installed. 0121, 0122, 0123, 0125, 0127, 0133(810), 0134(810), 0135, or 0578</p>	
ELECTRICAL			
<p>Click on the appropriate link to see the electrical characteristics for what is installed. 0121, 0122, 0123, 0125, 0127, 0133(810), 0134(810), 0135, or 0578</p>			
Plug type (Canada and USA) Power distribution unit (rack only) Select the feature code installed		Power distribution unit option. 0121, 0122, 0123, 0125, 0127, 0133(810), 0134(810), 0135, or 0578	
Power cord length Power distribution unit (rack only) Select the feature code installed		1426 14 ft line cord, 1427 14 ft line cord 0121, 0122, 0123, 0125, 0127, 0133(810), 0134(810), 0135, or 0578	
High Speed Link (HSL) cable requirements			
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees)	
Non operating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
ENVIRONMENT REQUIREMENTS		Operating	Non operating
Noncondensing Humidity		8 to 80%	8 to 80%

Dimensions for the FC 0551 iSeries rack			
Wet Bulb Temperature		22.8 degrees C (73 degrees F)	27 degrees C (80.6 degrees F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.9 bel	6.8 bel
<LpA>m (dB)		51	51
SERVICE CLEARANCES			
Front	Back	Sides ²	Top ²
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Notes:

1. The 1.8 meter rack has 10 EIA units of space remaining. This space will be filled with a 5 EIA filler panel, a 3 EIA filler panel, and two of the 1 EIA filler panels. Because the rack does not have power distribution, the Model 830 requires a line cord of sufficient length to reach the receptacle. The line cord feature code for Model 830 must be used to determine the appropriate receptacle.
2. Side and top clearances are optional during operation.

Plan for server specifications

This page gives you a thorough understanding of the Model 170 and Model 250 server specifications, including dimensions, electrical, power, temperature, environment, and service clearances. You will also find links to more detailed information, such as compatible hardware and plug types.

Before you begin looking at this information, be sure you have completed the items in the following checklist:

Before you begin	
<input type="checkbox"/>	Know what server or servers you currently have or have ordered.
<input type="checkbox"/>	Have your order information available as a reference.

Model 170 and Model 250

Use the following specifications to plan for your server. Refer to the checklist at the conclusion of this page for the required elements of your server plan.

Dimensions for the Model 170 or Model 250 server

Pictured is the Model 170 or Model 250 server. The Model 170 allows the 7101 or 7102 expansion unit to be attached to one side. The Model 250 allows the 7102 expansion unit to be attached to one side.



Dimensions	170 or 250 Width	170 or 250 with 7101 or 7102 Width	170 or 250 Depth	170 or 250 Height
Metric	340 mm	550 mm	662 mm	610 mm
English	13.4 in.	21.7 in.	26.1 in.	24.0 in.
			Without 7101 or 7102	With 7101 or 7102
Maximum configuration weight			38.6 Kgs (85 lbs.)	70.5 Kgs (155 lbs.)
Electrical				
kVA (maximum)			0.469	0.815
Rated voltage and frequency			100-127/200-240VAC @ 50/60 plus or minus 0.5Hz	
Thermal output (maximum)			1536 BTU/hr	2669 BTU/hr
Power requirements (IP measurement) maximum			450	782
Power factor			0.95	
Inrush current			45 Amps	
Leakage current (maximum)			3.5 mAmps	
Phase			1	
Compatible plug types			4,5,6,10,18,19,22,23,24,25,32	
Power cord length			2.7 m (9 ft)	
Temperature requirements				
Operating	10 degrees to 37.8 degrees C (50 degrees to 100 degrees F)			
Nonoperating	1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)			
Environment requirements	Operating	Nonoperating		
Noncondensing humidity	8 to 80%	8 to 80%		
Wet bulb temperature	23 degrees C (73.4 degrees F)	27 degrees C (80 degrees F)		
Maximum altitude	3048 m (10,000 ft.)			

Dimensions for the Model 170 or Model 250 server			
Noise emissions (maximum)	Operating	Idle	
LWAd (2E, Gen bus.)	6.0 Bels	5.5 Bels	
LpAm			
<LpA>m (dB)	43	40	
Impulsive or prominent discreet tones			
Service clearances			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

When you are finished
<input type="checkbox"/> Record your server size, weight, and service clearances.
<input type="checkbox"/> Record your server power requirements.
<input type="checkbox"/> Record the necessary plug and receptacle types.

Plan for server specifications


This page gives you a thorough understanding of the Model 270 server specifications, including dimensions, electrical, power, temperature, environment, and service clearances. You will also find links to more detailed information, such as compatible hardware and plug types.

Before you begin looking at this information, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Know what server or servers you currently have or have ordered.
<input type="checkbox"/> Have your order information available as a reference.

Model 270

Use the following specifications to plan for your server. Refer to the checklist at the conclusion of this page for the required elements of your server plan.

Dimensions for Model 270 server				
<p>Pictured is Model 270.</p> <p>The 7104 expansion unit is available with Model 270. The 7104 expansion unit requires a line cord.</p> <p>Dimensions are shown for Model 270 only.</p>	270 server			
				
Dimensions	270 Width	270 with 7104 Width	270 Depth	270 Height
Metric	366 mm	552 mm	728 mm	610 mm
English	14.5 in.	21.9 in.	28.7 in.	24.0 in.
	Model 270		Model 270 with 7104	
Maximum configuration weight	52.7 Kgs (116 lbs)		79.5 Kgs (175 lbs.)	
Electrical	Model 270		7104 Expansion unit	
Maximum kVA (each has its own line cord)	0.421		0.368	
Rated voltage and frequency	100-127/200-240VAC @ 50-60 plus or minus 0.5Hz			
Thermal output (maximum)	1365 BTU/hr		1194 BTU/hr	
Power requirements (IP measurement) maximum (watts)	400		350	
Power factor	0.95			
Inrush current	41 Amps			
Leakage current (maximum)	3.5 mAmps			
Phase	1			
Compatible plug types	4,5,6,10,18,19,22,23,24,25,32,34			
Power cord length	2.7 m (9 ft) 1.8 m (6 ft) (USA and Canada only)			
Temperature requirements				
Operating	10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)			
Nonoperating	1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)			
Environment requirements	Operating		Nonoperating	


Dimensions for Model 270 server		
Noncondensing humidity	8 to 80%	8 to 80%
Wet bulb temperature	23 degrees C (73.4 degrees F)	27 degrees C (80 degrees F)
Maximum altitude	3048 m (10,000 ft.)	
Noise emissions (maximum)	Operating	Idle
LWAd (2E, Gen Bus.) 270 only	5.9 Bels	5.8 Bels
LWAd (2E, Gen Bus.) 270 with 7104	6.3 Bels	6.1 Bels
<LpA>m (dB) 270 only	41	40
<LpA>m (dB) 270 with 7104	45	43

Service clearances			
Front	Back	Sides *	Top *
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional when operating.

When you are finished
<input type="checkbox"/> Record your server size, weight, and service clearances.
<input type="checkbox"/> Record your server power requirements.
<input type="checkbox"/> Record the necessary plug and receptacle types.

FC 0551 Model 270 Rack System Units


Dimensions for the FC 0551 Model 270 Rack			
<p>Pictured is the FC 0551 Model 270 Rack System Units</p> <p>The FC 0551 consists of two model 270s with FC 7104 System Unit Expansions installed in a 1.8M rack. Specify code #0121 represents the first model 270 in the rack (on the bottom). Specify code #0122 represents the second model 270 in the rack (on the top).</p>			
DIMENSIONS	Height	Width	Depth
Metric	1800 mm	650 mm	1020 mm
English	71.0 in	25.5 in	40.0 in
Maximum Configuration Weight¹		The weight of the rack with the #0121 and #0122 is 403 kg (885 lbs).	
ELECTRICAL - for EACH Model 270 System Unit			
kVA (maximum)	0.789		
Rated Voltage/Frequency	100-127/200-240VAC @ 50-60 plus or minus 0.5Hz		
Thermal Output (maximum)	2560 BTU/hr		
Power requirements (maximum)	750 Watts		
Power factor	0.95		
Inrush Current	41 Amps		
Leakage Current (maximum)	3.5 mAmps		
Phase	1		
Plug type (Canada & USA) ²	4, 5, 10, or 34		
Power cord length	4.3 m (14 ft)		
High Speed Link (HSL) cable requirements			
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)		
Non-Operating	1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)		
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	

Dimensions for the FC 0551 Model 270 Rack			
Noncondensing Humidity		8 to 80%	8 to 80%
Wet Bulb Temperature		23 degrees C (73.4 degrees F)	27 degrees C (80 degrees F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd (2E, Gen Bus.)		6.3 Bels	6.1 Bels
<LpA>m (dB)		45	43
SERVICE CLEARANCES			
Front	Back	Sides ³	Top ³
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Notes:

1. The 1.8 meter rack has 6 EIA units of space remaining. This space will be filled with a 3 EIA filler panel and three of the 1 EIA filler panels.
2. Only the 4.3 m (14ft) line cord features are offered for racked 270 systems. There are a total of four line cords that are routed through "cable management arms." Also, there is a cable management device that may be used to restrict the length of the line cord exiting the bottom of the rack (for cities like Chicago). See the Model 270 Cable Poster Addendum shipped with the #0551 Model 270 rack.
3. Side and top clearances are optional when operating.
4. The rack does not have power distribution. Each Model 270 and #7104 requires a line cord of sufficient length to reach the receptacle. The line cord feature codes for the model 270s must be used to determine the appropriate receptacles.

FC 5033 Migration Tower (for server 820/830)

Dimensions for #5033 Migration Tower			
<p>Pictured is the #5033 Migration Tower.</p> <p>The #5033 Migration Tower is available with Models 820 and 830 as an upgrade from Models S10 and 600.</p> <p>Dimensions are shown for the #5033 Migration Tower only.</p>			
DIMENSIONS	Width	Depth	Height
Metric	330 mm	934 mm	610 mm
English	13.0 in	36.8 in	24.0 in

Dimensions for #5033 Migration Tower			
Maximum Configuration Weight		69 Kgs (152 lbs)	
ELECTRICAL			
kVA (maximum)		0.326	
Rated Voltage/Frequency		100-127/200-240 @ 50-60 plus or minus 0.5 Hz	
Thermal Output (maximum)		1058 BTU/hr	
Power requirements (maximum)		310 Watts	
Power factor		0.95	
Inrush Current		41 Amps	
Leakage Current (maximum)		3.5 mAmps	
Phase		1	
Plug type (Canada & USA)		4, 5, 7, 10, 34, or 51	
Power cord length		1.8 m (6 ft) (USA only) or 4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Non-Operating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity Range		8 to 80%	8 to 80%
Wet Bulb Temperature (maximum)		22.8 degrees C (73 degrees F)	27 degrees C (80.6 degrees F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.0 Bels	5.6 Bels
<LpA>m (dB)		41	38
SERVICE CLEARANCES			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional when operating.

FC 5034 & FC 5035 Migration Towers (for server 820/830)

Dimensions for FC 5034 & FC 5035 Migration Towers			
<p>Pictured is the #5034 or #5035 Migration Tower with the 9364 Expansion Unit.</p> <p>The #5034 and #5035 Migration Towers are available with Models 820 and 830 as an upgrade from Model S20, 620, and 720.</p> <p>Dimensions are shown for the #5034 and #5035 Migration Towers only.</p>			
DIMENSIONS	Width	Depth	Height
Metric	625 mm	1059 mm	1040 mm
English	24.6 in	41.7 in	41.0 in
Maximum Configuration Weight		306 Kgs (675 lbs)	
ELECTRICAL			
kVA (maximum)	1.083		
Rated Voltage/Frequency	200-240VAC @ 50-60 plus or minus 0.5Hz		
Thermal Output (maximum)	3512 BTU/hr		
Power requirements (IP measurement) maximum	1029 Watts		
Power factor	0.95		
Inrush Current	38 Amps		
Leakage Current (maximum)	3.5 mAmps		
Phase	1		
Plug type (Canada & USA)	5, 10, or 34		
Power cord length	1.8 m (6 ft) (USA only) or 4.3 m (14 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)		
Non-Operating	1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)		
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8 to 80%	8 to 80%
Wet Bulb Temperature		22.8 degrees C (73 degrees F)	27 degrees C (80.6 degrees F)
Maximum Altitude		3048m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.0 Bels	5.5 Bels

Dimensions for FC 5034 & FC 5035 Migration Towers			
<LpA>m (dB)		41	36
SERVICE CLEARANCES			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional when operating.

FC 5052 Disk Expansion Unit

The 5052 Disk Expansion Unit is an optional feature that is mounted on top of the 5070 and 5072 System Unit Expansion Towers and the 5080 and 5082 Storage Expansion Towers. As many as 16 disk units may be used in the 5052 Expansion Unit.

Adding the 5052 Expansion Unit increases the overall height of the Tower by 200 mm (8 in.).

FC 5055 Disk Expansion Unit

The 5055 Disk Expansion Unit is an optional feature that is mounted on top of Models 640 and S30 System Towers. As many as 8 disk units may be used in the 5055 Expansion Unit.

Adding the 5055 Expansion Unit increases the overall height of the Tower by 143 mm (5 in.).

FC 5057 Disk Expansion Unit

The 5057 Disk Expansion Unit is an optional feature that is mounted on top of the 9251 Base I/O Tower as part of Models 650 and S40. As many as 16 disk units may be used in the 5057 Expansion Unit.

Adding the 5057 Expansion Unit increases the overall height of the Base I/O Tower by 200 mm (8 in.).

FC 5058 Disk Expansion Unit

The 5058 Disk Expansion Unit is an optional feature that is mounted on top of the 5071 and 5073 System Unit Expansion Towers and the 5081 and 5083 Storage Expansion Towers. As many as 16 disk units may be used in the 5058 Expansion Unit.


Adding the 5058 Expansion Unit increases the overall height of the Tower by 200 mm (8 in.).

FC 5064 Expansion for Model S20

Expansion Unit 5064 is an optional feature you can order for your Model S20. The 5064 is physically attached to the right side of the S20 system unit and resides in the same housing as the system unit.

Model S20 comes with a standard internal UPS (Uninterruptible Power Supply) that acts like a BBU (Backup Battery Unit). The power cord from the 5064 expansion plugs directly into this UPS. Only one power cord exits the entire unit to plug into a customer-supplied outlet.

FC 5065 Storage/PCI Expansion Tower



Dimensions for the 5065 Storage/PCI Expansion Tower			
<p>Pictured is the 5065 Storage/PCI Expansion Tower.</p> <p>The 5065 Storage/PCI Expansion Tower can be supported on Models 720, 730, and 740.</p> <p>Dimensions are shown for the 5065 Storage/PCI Expansion Tower only.</p>			
DIMENSIONS	Width	Depth	Height
Metric	485 mm	1075 mm w/cover	910 mm
English	19.1 in	42.3 in w/cover	35.8
Maximum Configuration Weight		282 Kgs (622 lbs)	
ELECTRICAL			
kVA (maximum)	1.1		
Rated Voltage/Frequency	200-240 @ 50-60 plus or minus 0.5 Hz		
Thermal Output (maximum)	3379 BTU/hr		
Power requirements (maximum)	990 Watts		
>Power factor	0.9		
Inrush Current	42 Amps		
Leakage Current (maximum)	3.5 mAmps max		
Phase	1		
Plug type (Canada & USA)**	11, 29, or 35		
Power cord length	1.8 m (6 ft) (USA only) 4.3 m (14 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)		
Non-Operating	1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)		
>ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8 to 80%		8 to 80%
Wet Bulb Temperature	23 degrees C (73.4 degrees F)	27 degrees C (80.6 degrees F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS		Operating	Idle
LWAd Preliminary Info	7.0 Bels		6.9 Bels

Dimensions for the 5065 Storage/PCI Expansion Tower			
<LpA>m (dB) Preliminary Info		54	53
SERVICE CLEARANCES			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional when operating.

** Because the 5065 is rated at 12A, you may use the power cords available for the 5074 with plug types 5, 10, or 34. You must order these line cords separately.

FC 5066 1.8M Storage/PCI Expansion Tower

Dimensions for the 5066 1.8M Storage/PCI Expansion Tower			
<p>Pictured is the 5066 1.8M Storage/PCI Expansion Tower.</p> <p>The 5066 1.8M Storage/PCI Expansion Tower consists of two 5065 Storage/PCI Expansions (represented as a specify code #0565) installed in a 36 EIA 19" enclosure. It can be supported on Models 720, 730, and 740.</p> <p>Dimensions are shown for the 5066 1.8M Storage/PCI Expansion Tower only.</p> <p>This is a customer installable unit. See Setting Up Your 5065 or 5066 Expansion Unit .</p>			
DIMENSIONS	Width	Depth	Height
Metric	650 mm	1020 mm	1800 mm
English	25.5 in	40.0 in	71.0 in
Maximum Configuration Weight		726 Kgs (1600 lbs)	
ELECTRICAL*		0565 (1)	0565 (2)
kVA (maximum)		1.1	1.1
Rated Voltage/Frequency		200-240 @ 50-60 +/- 0.5 Hz	200-240 @ 50-60 +/- 0.5 Hz
Thermal Output (maximum)		3379 BTU/hr	3379 BTU/hr
Power requirements (maximum)		990 Watts	990 Watts
Power factor		0.9	0.9

Dimensions for the 5066 1.8M Storage/PCI Expansion Tower			
Inrush Current	42 Amps		42 Amps
Leakage Current (maximum)	3.5 mAmps		3.5 mAmps
Phase	1		1
Plug type (Canada & USA)**	11, 29, or 35		11, 29, or 35
Power cord length (USA only)	1.8 m (6 ft) 2.7 m (9 ft)		1.8 m (6 ft) 2.7 m (9 ft)
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C (50 to 100.4 F)		
Non-Operating	1 to 60 C (33.8 to 140 F)		
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	
Noncondensing Humidity	8 to 80%	8 to 80%	
Wet Bulb Temperature	23 C (73.4 F)	27 C (80.6 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS	Operating	Idle	
LWAd	7.0 Bels	6.9 Bels	
<LpA>m (dB)	54	53	
SERVICE CLEARANCES**			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

*ELECTRICAL/POWER CORD LENGTH

** Because the 5065 is rated at 12A, the cords 5, 10, or 34 available with the 5074 may be used. These line cords need to be ordered separately.

- **Note:** Because the 5066 1.8M Storage/PCI Expansion Tower consists of two 5065 Storage/PCI Expansion units, electrical requirements for each 5065 need to be planned for individually. Hence, the (1) and (2) represent the specs for each #0565. The 5065 requires the appropriate receptacle for the power cord shipped with each 5065.
- **Note:** The usable length of the power cord for the top/upper 5065 is reduced by 4 ft (1.2 m) because of the routing inside the 1.8M enclosure. Therefore, a 14 ft (4.3 m) cord results in a usable length of 10 ft (3 m).

For information about floor loading, please contact your IBM service or Installation Planning representative. Because the thickness of the covers are negligible, the height, width, and depth of the overall dimensions may be used in floor loading calculations.


See Setting Up Your 5065 or 5066 Expansion Unit  for more information.

FC 5070 Expansion Tower

Dimensions for the 5070 Expansion Tower				
Height includes 5052 Disk Expansion Tower				
DIMENSIONS	Width	Depth	Height	Height w/o Disk Expansion
Metric	485 mm	925 mm	950 mm	750 mm
English	19.1 in	36.4 in	37.4 in	29.5 in
			w/o Disk Expansion	w/ Disk Expansion
Maximum Configuration Weight			114 kg (251 lbs)	136 kg (300 lbs)
ELECTRICAL				
kVA			0.688	1.070
Rated Voltage/Frequency	100-127/200-240 @ 50/60 plus or minus 0.5 Hz			
Thermal Output			2341 BTU/hr	3635 BTU/hr
Power requirements (maximum)			686 watts	1065 watts
Power factor	0.99			
Phase	-			
Plug type (Canada & USA)	-			
Power cord length	-			
TEMPERATURE REQUIREMENTS				
Operating			10 degrees to 32 degrees C	50 degrees to 100 degrees F
Non-Operating			10 degrees to 52 degrees C	50 degrees to 125 degrees F
ENVIRONMENT REQUIREMENTS				
Noncondensing Humidity			Operating 8% to 80%	Non-Operating 8% to 80%
Wet Bulb Temperature			23 degrees C (73 degrees F)	27 degrees C (80 degrees F)
Maximum Altitude	3048 m (10,000 ft)			
NOISE EMISSIONS				
LWAd (Bels)			Operating 5.9 (6.3)	Idle 5.9 (6.3)


Dimensions for the 5070 Expansion Tower			
LpAm			
<LpA>m (dB)		41 (44)	41 (43)
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

FC 5071 Expansion Tower (Ultra SCSI)

Dimensions for the 5071 Expansion Tower			
Height includes 5058 Disk Expansion Unit			
DIMENSIONS	Width	Depth	Height
Metric	485 mm	925 mm	950 mm
English	19.1 in.	36.4 in.	37.4 in.
Maximum Configuration Weight		156 Kgs (342 lbs.)	
ELECTRICAL			
kVA	1.170		
Rated Voltage/Frequency	200-240 @ 50/60 plus or minus 0.5 Hz		
Thermal Output	3635 BTU/hr		
Power requirements (maximum)	1065 Watts		
Power factor	0.99		
Phase	-		
Plug type (Canada and USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 32 degrees C (50 degrees to 90 degrees F)		

Dimensions for the 5071 Expansion Tower			
Non-Operating		10 degrees to 52 degrees C (50 degrees to 125 degrees F)	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8 to 80%	8 to 80%
Wet Bulb Temperature		23 degrees C (73.4 degrees F)	27 degrees C (80 degrees F)
Maximum Altitude		3048 m (10,000 ft.)	
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		6.3	6.3
LpAm			
<LpA>m (dB)		44	43
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

FC 5072 Expansion Tower

Dimensions for the 5072 Expansion Tower				
Height includes 5052 Disk Expansion Unit				
DIMENSIONS	Width	Depth	Height	Height w/o Disk Expansion
Metric	485 mm	925 mm	950 mm	750 mm
English	19.1 in	36.4 in	37.4 in	29.5 in
Maximum Configuration Weight			156 kg (342 lbs)	
ELECTRICAL				
kVA (maximum)			1.070	
Rated Voltage/Frequency			100-127/200-240 @ 50/60 plus or minus 0.5 Hz	

Dimensions for the 5072 Expansion Tower			
Thermal Output (maximum)	3635 BTU/hr		
Power requirements (maximum)	1065 watts		
Power factor	0.99		
Inrush Current	50 Amps		
Leakage Current (maximum)	3.5 mAmps		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 32 degrees C (50 degrees to 100 degrees F)		
Non-Operating	10 degrees to 52 degrees C (50 degrees to 125 degrees F)		
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 degrees C (73 degrees F)	27 degrees C (80 degrees F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	6.3	6.3	
LpAm			
<LpA>m (dB)	44	43	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

FC 5073 Expansion Tower (Ultra SCSI)

Dimensions for the 5073 Expansion Tower			
Height includes 5058 Disk Expansion Unit			
DIMENSIONS	Width	Depth	Height
Metric	485 mm	925 mm	950 mm
English	19.1 in.	36.4 in.	37.4 in.
Maximum Configuration Weight		156 Kgs (342 lbs.)	
ELECTRICAL			
kVA (maximum)		1.170	
Rated Voltage/Frequency		200-240 @ 50/60 plus or minus 0.5 Hz	
Thermal Output (maximum)		3635 BTU/hr	
Power requirements (maximum)		1065 Watts	
Power factor		0.99	
Inrush Current		50 Amps	
Leakage Current (maximum)		3.5 mAmps	
Phase		-	
Plug type (Canada & USA)		-	
Power cord length		-	
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 32 degrees C (50 degrees to 90 degrees F)	
Non-Operating		10 degrees to 52 degrees C (50 degrees to 125 degrees F)	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8 to 80%	8 to 80%
Wet Bulb Temperature		23 degrees C (73.4 degrees F)	27 degrees C (80 degrees F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		6.3	6.3

Dimensions for the 5073 Expansion Tower			
LpAm			
<LpA>m (dB)		44	43
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in


Feature Code 5074 Expansion Unit (for servers 820, 830, 840) or 9079 Expansion Unit with 5078 Expansion Unit (for Model 840)

Dimensions for the FC 5074 System Unit Expansion Tower, or the 9079 Base I/O tower with 5078 PCI Expansion Unit			
<p>Pictured is the FC 5074 Expansion Unit or 9079 Expansion Unit with 5078 Expansion Unit.</p> <p>The FC 5074 Expansion Unit is available with Models 820, 830, and 840.</p>			
DIMENSIONS	Width	Depth	Height
Metric	485 mm	1075 mm	1110 mm
English	19.1 in.	42.3 in.	43.8 in.
Maximum Configuration Weight		418 kg (922 lb)	
ELECTRICAL			
kVA (maximum)	1.470		
Rated Voltage/Frequency	200-240 Vac @ 50-60 plus or minus 0.5 Hz		
Thermal Output (maximum)	4573 Btu/hr		
Power requirements (maximum)	1340 W		
Power factor	0.91		
Inrush Current	90 amp		
Leakage Current (maximum)	3.5 mamps		
Phase	1		
Plug type (Canada and USA)	10, 34, or 5		

Dimensions for the FC 5074 System Unit Expansion Tower, or the 9079 Base I/O tower with 5078 PCI Expansion Unit			
Power cord length		1.8m (6 ft) (USA only) or 4.3m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Non operating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8 to 80%	8 to 80%
Wet Bulb Temperature		23 degrees C (73.4 degrees F)	27 degrees C (80.6 degrees F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd Preliminary Information		6.7 bel	6.6 bel
<LpA>m (dB) Preliminary Information		49	49
SERVICE CLEARANCES			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional during operation.


FC 5075 PCI Expansion Entry Tower (for server 270/820)

Dimensions for the #5075 PCI Expansion Entry Tower			
<p>Pictured is the #5075 PCI Expansion Entry Tower.</p> <p>The #5075 PCI Expansion Entry Tower is available with Models 270 and 820.</p> <p>Dimensions are shown for the #5075 PCI Expansion Entry Tower only.</p>			
DIMENSIONS	Width	Depth	Height
Metric	366 mm	728 mm	610 mm
English	14.5 in	28.7 in	24.0 in
Maximum Configuration Weight		52.7 Kgs (116 lbs)	
ELECTRICAL			

Dimensions for the #5075 PCI Expansion Entry Tower			
kVA (maximum)	0.316		
Rated Voltage/Frequency	100-127/200-240 @ 50-60 plus or minus 0.5 Hz		
Thermal Output (maximum)	1024 BTU/hr		
Power requirements (maximum)	300 Watts		
Power factor	0.95		
Inrush Current	74 Amps		
Leakage Current (maximum)	3.5 mAmps		
Phase	1		
Plug type (Canada & USA)	4, 5, 10, or 34		
Power cord length	1.8 m (6 ft) (USA only) 4.3 m (14 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)		
Non-Operating	1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)		
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	
Noncondensing Humidity	8 to 80%	8 to 80%	
Wet Bulb Temperature	23 degrees C (73.4 degrees F)	27 degrees C (80.6 degrees F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	6.0	5.7	
<LpA>m (dB)	42	39	
SERVICE CLEARANCES			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional when operating.


FC 5077 Migration Tower (for server 830/840)

Dimensions for the #5077 Migration Tower				
<p>Pictured is the #5077 Migration Tower.</p> <p>The #5077 Migration Tower is available with Models 830 and 840 as an upgrade from Models S30/640/730 and S40/650/740.</p> <p>Dimensions are shown for the #5077 Migration Tower only.</p>				
DIMENSIONS		Width	Depth	Height
Metric		485 mm	925 mm	950 mm
English		19.1 in	36.4 in	37.4 in
Maximum Configuration Weight		156 Kgs (344 lbs)		
ELECTRICAL				
kVA (maximum)		1.170		
Rated Voltage/Frequency		200-240 @ 50-60 plus or minus 0.5 Hz		
Thermal Output (maximum)		3635 BTU/hr		
Power requirements (maximum)		1065 Watts		
Power factor		0.99		
Inrush Current		50 Amps		
Leakage Current (maximum)		3.5 mAmps		
Phase		1		
Plug type (Canada & USA)		5, 10, or 34		
Power cord length		4.3m (14 ft)		
TEMPERATURE REQUIREMENTS				
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)		
Non-Operating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)		
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating	
Noncondensing Humidity		8 to 80%	8 to 80%	
Wet Bulb Temperature		23 degrees C (73.4 degrees F)	27 degrees C (80.6 degrees F)	
Maximum Altitude		3048 m (10,000 ft)		
NOISE EMISSIONS		Operating	Idle	
LWAd		6.3 Bels	6.3 Bels	

Dimensions for the #5077 Migration Tower			
<LpA>m (dB)		44	43
SERVICE CLEARANCES			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional when operating.


Feature Code 5078 Expansion Unit for 5074 Expansion Unit, 9079 Base I/O Tower (840 only), or 0551 iSeries rack

Dimensions for Feature Code 5078 Expansion Unit			
<p>Pictured is the Feature Code 5078 Expansion Unit.</p> <p>The FC 5078 Expansion Unit is attached to the top of a 5074, 9079. Or it can be mounted in an 0551 iSeries rack.</p>			
DIMENSIONS	Width	Depth	Height
Metric	485 mm	1075 mm	200 mm
English	19.1 in	42.3 in	8.0 in
Maximum Configuration Weight		68 kg (150 lb)	
ELECTRICAL			
kVA (maximum)		0.370	
Rated Voltage/Frequency		200-240 Vac @ 50-60 plus or minus 0.5 Hz	
Thermal Output (maximum)		1195 Btu/hr	
Power requirements (maximum)		350 W	
Power factor		0.95	
Inrush Current		48 amps	
Leakage Current (maximum)		3.5 mamps	
Phase		1	
Plug type (Canada and USA)		Includes two IEC 320 C13 to C14 line cords.	
Power cord length		3 m (10 ft)	
TEMPERATURE REQUIREMENTS			

Dimensions for Feature Code 5078 Expansion Unit			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Non operating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
ENVIRONMENT REQUIREMENTS		Operating	Non operating
Noncondensing Humidity		8 to 80%	8 to 80%
Wet Bulb Temperature		23 degrees C (73.4 degrees F)	27 degrees C (80.6 degrees F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd Preliminary Info		6.7 bel	6.6 bel
<LpA>m (dB) Preliminary Info		49	49
SERVICE CLEARANCES			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in


* Side and top clearances are optional during operation.

FC 5080 Storage Expansion Tower

Dimensions for the 5080 Expansion Tower				
Height includes 5052 Disk Expansion Unit				
DIMENSIONS	Width	Depth	Height	Height w/o Disk Expansion
Metric	485 mm	925 mm	950 mm	750 mm
English	19.1 in	36.4 in	37.4 in	29.5 in
Maximum Configuration Weight (without Expansion)			114 kg	251 lbs
Maximum Configuration Weight (with Disk Expansion)			136 kg	300 lbs


Dimensions for the 5080 Expansion Tower			
ELECTRICAL			
		w/o Expansion	with Disk Expansion
kVA		0.688	1.070
Rated Voltage/Frequency		100-127/200-240 @ 50/60 plus or minus 0.5 Hz	
Thermal Output		2341 BTU/hr	3635 BTU/hr
Power requirements (maximum)		686 watts	1065 watts
Power factor		0.99	0.99
Phase		-	
Plug type (Canada & USA)		-	
Power cord length		-	
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 32 degrees C	50 degrees to 100 degrees F
Non-Operating		10 degrees to 52 degrees C	50 degrees to 125 degrees F
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 degrees C (73 degrees F)	27 degrees C (80 degrees F)
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)		6.3 (6.6)	6.3 (6.4)
LpAm			
<LpA>m (dB)		45 (48)	44 (46)
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

FC 5081 Storage Expansion Tower (Ultra SCSI)

Dimensions for the 5081 Expansion Tower			
Height includes 5058 Disk Expansion Unit			
DIMENSIONS	Width	Depth	Height
Metric	485 mm	925 mm	950 mm
English	19.1 in.	36.4 in.	37.4 in.
Maximum Configuration Weight		114 Kgs	251 lbs.
ELECTRICAL			
kVA	1.070		
Rated Voltage/Frequency	200-240 @ 50/60 plus or minus 0.5 Hz		
Thermal Output	3635 BTU/hr		
Power requirements (maximum)	1065 Watts		
Power factor	0.99		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 41 degrees C	50 degrees to 105 degrees F	
Non-Operating	10 degrees to 52 degrees C	50 degrees to 125 degrees F	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8 to 80%	8 to 80%	
Wet Bulb Temperature	23 degrees C (73.4 degrees F)	27 degrees C (80 degrees F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	6.6	6.4	


Dimensions for the 5081 Expansion Tower		
LpAm		
<LpA>m (dB)	48	46
Impulsive or prominent discreet tones		
SERVICE CLEARANCES		
Front	Back	Sides
762 mm	762 mm	762 mm
30 in	30 in	30 in

FC 5082 Storage Expansion Tower

Dimensions for the 5082 Expansion Tower				
Height includes 5052 Disk Expansion Unit				
DIMENSIONS	Width	Depth	Height	Height w/o Disk Expansion
Metric	485 mm	925 mm	950 mm	750 mm
English	19.1 in	36.4 in	37.4 in	29.5 in
Maximum Configuration Weight			114 kg (251 lbs)	
ELECTRICAL				
kVA (maximum)	1.070			
Rated Voltage/Frequency	100-127/200-240 @ 50/60 plus or minus 0.5 Hz			
Thermal Output (maximum)	3635 BTU/hr			
Power requirements (maximum)	1065 watts			
Power factor	0.99			
Inrush Current	50 Amps			
Leakage Current (maximum)	3.5 mAmps			
Phase	-			
Plug type (Canada & USA)	-			
Power cord length	-			


Dimensions for the 5082 Expansion Tower			
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 32 degrees C (50 degrees to 100 degrees F)	
Non-Operating		10 degrees to 52 degrees C (50 degrees to 125 degrees F)	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 degrees C (73 degrees F)	27 degrees C (80 degrees F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		6.6	6.4
LpAm			
<LpA>m (dB)		48	46
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

FC 5083 Storage Expansion Tower (Ultra SCSI)

Dimensions for the 5083 Expansion Tower			
Height includes 5058 Disk Expansion Unit			
DIMENSIONS	Width	Depth	Height
Metric	485 mm	925 mm	950 mm
English	19.1 in.	36.4 in.	37.4 in.
Maximum Configuration Weight		114 Kgs (251 lbs.)	
ELECTRICAL			
kVA (maximum)		1.070	

Dimensions for the 5083 Expansion Tower			
Rated Voltage/Frequency	200-240 @ 50/60 plus or minus 0.5 Hz		
Thermal Output (maximum)	3635 BTU/hr		
Power requirements (maximum)	1065 Watts		
Power factor	0.99		
Inrush Current	50 Amps		
Leakage Current (maximum)	3.5 mAmps		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 degrees to 32 degrees C (50 degrees to 90 degrees F)		
Non-Operating	10 degrees to 52 degrees C (50 degrees to 125 degrees F)		
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	
Noncondensing Humidity	8 to 80%	8 to 80%	
Wet Bulb Temperature	23 degrees C (73.4 degrees F)	27 degrees C (80 degrees F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	6.6	6.4	
LpAm			
<LpA>m (dB)	48	46	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in


Feature code 0588 and 5088 PCI-X expansion unit for 5094 expansion unit, 9094 I/O expansion unit, 5074 expansion unit, 9079 I/O expansion unit, or 0551 iSeries rack

Dimensions for FC 5088 PCI-X expansion unit			
<p>Pictured is the FC 0588 or 5088 PCI-X expansion unit.</p> <p>The FC 5088 PCI-X expansion unit is attached to the top of a 5094, 9094, 5074, 9094.</p> <p>0588 is mounted in an 0551 iSeries rack.</p>			
Dimensions	Width	Depth	Height
Metric	485 mm	1075 mm	200 mm
English	19.1 in	42.3 in	8.0 in
Maximum configuration weight		68 kg (150 lb)	
Electrical			
kVA (maximum)		0.370	
Rated voltage and frequency		200-240 Vac @ 50-60 plus or minus 0.5 Hz	
Thermal output (maximum)		1195 Btu/hr	
Power requirements (maximum)		350 W	
Power factor		0.95	
Inrush current		48 amps	
Leakage current (maximum)		3.5 mamps	
Phase		1	
Plug type (Canada and USA)		Includes two IEC 320 C13 to C14 line cords.	
Power cord length		3 m (10 ft)	
Temperature requirements			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Nonoperating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
Environment requirements		Operating	Nonoperating
Noncondensing humidity		8 to 80%	8 to 80%
Wet bulb temperature		23 degrees C (73.4 degrees F)	27 degrees C (80.6 degrees F)
Maximum altitude		3048 m (10,000 ft)	

Dimensions for FC 5088 PCI-X expansion unit			
Noise emissions		Operating	Idle
LWAd Preliminary Info		6.7 bel	6.6 bel
<LpA>m (dB) Preliminary Info		49	49
Service clearances			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional during operation.


Feature Code 5094 expansion unit (for Models 800, 810, 820, 825, 830, 840, 870, and 890) or 9094 I/O expansion unit with 5088 PCI-X expansion unit (for Models 870 and 890)

Dimensions for the FC 5094 expansion unit or 9094 I/O expansion unit with 5088 PCI-X expansion unit			
<p>Pictured is the FC 5094 expansion unit or 9094 expansion unit with 5088 PCI-X expansion unit.</p> <p>The FC 5094 expansion unit is available with Models 800, 810, 825, 870, and 890.</p>			
Dimensions	Width	Depth	Height
Metric	485 mm	1075 mm	1110 mm
English	19.1 in.	42.3 in.	43.8 in.
Maximum configuration weight		418 kg (922 lb)	
Electrical			
kVA (maximum)		1.470	
Rated voltage and frequency		200-240 Vac @ 50-60 plus or minus 0.5 Hz	
Thermal output (maximum)		4573 Btu/hr	
Power requirements (maximum)		1340 W	
Power factor		0.91	
Inrush current		90 amp	
Leakage current (maximum)		3.5 mamps	
Phase		1	

Dimensions for the FC 5094 expansion unit or 9094 I/O expansion unit with 5088 PCI-X expansion unit			
Plug type (Canada and USA)		10, 34, or 5	
Power cord length		1.8m (6 ft) (USA only) or 4.3m (14 ft)	
Temperature requirements			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Nonoperating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
Environmental requirements		Operating	Nonoperating
Noncondensing humidity		8 to 80%	8 to 80%
Wet bulb temperature		23 degrees C (73.4 degrees F)	27 degrees C (80.6 degrees F)
Maximum altitude		3048 m (10,000 ft)	
Noise emissions		Operating	Idle
LWAd preliminary information		6.7 bel	6.6 bel
<LpA>m (dB) preliminary information		49	49
Service clearances			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional during operation.


FC 0595 or 5095 PCI-X expansion unit (for Models 270, 800, 810, 820, 825, 830, 840, 870, and 890)

Dimensions for the FC 5095 PCI-X expansion unit			
<p>Pictured is the FC 5095 PCI-X expansion unit.</p> <p>The FC 5095 PCI-X expansion unit is available with Models 270, 800, 810, 820, 825, 830, 840, 870, and 890</p> <p>Dimensions are shown for the FC 5095 PCI-X expansion unit only.</p>			
Dimensions	Width	Depth	Height
Metric	366 mm	728 mm	610 mm
English	14.5 in	28.7 in	24.0 in

Dimensions for the FC 5095 PCI-X expansion unit			
Maximum configuration weight		52.7 Kgs (116 lbs)	
Electrical			
kVA (maximum)		0.358	
Rated voltage and frequency		100-127/200-240 @ 50-60 plus or minus 0.5 Hz	
Thermal output (maximum)		1161 BTU/hr	
Power requirements (maximum)		340 Watts	
Power factor		0.95	
Inrush current		60 Amps	
Leakage current (maximum)		3.5 mAmps	
Phase		1	
Plug type (Canada & USA)		4, 5, 10, or 34	
Power cord length		1.8 m (6 ft) (USA only) 4.3 m (14 ft)	
Redundant power and cooling		Feature 5138	
Temperature requirements			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Nonoperating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
Environment requirements		Operating	Nonoperating
Noncondensing humidity		8 to 80%	8 to 80%
Wet bulb temperature		23 degrees C (73.4 degrees F)	27 degrees C (80.6 degrees F)
Maximum altitude		3048 m (10,000 ft)	
Noise emissions		Operating	Idle
LWAd (Bels)		6.0	5.7
<LpA>m (dB)		42	39
Service clearances			
Front	Back	Sides *	Top *
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in


* Side and top clearances are optional when operating.

Server Towers 510 and 50S with Disk Expansion 5051 and 5052

System Towers 510 and 50S with Disk Expansion 5051, 5052			
<p>Pictured are the server towers 510 and 50S with disk expansion 5051 and 5052.</p>			
DIMENSIONS	Width	Depth	Height
Metric	485 mm	925 mm	950 mm
English	19.1 in	36.4 in	37.4 in
Note: Height excluding disk expansion is 750 mm (29.5 in).			
Maximum Configuration Weight		114 kg	251 lbs
ELECTRICAL			
kVA	1.101		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	3744 BTU/hr		
Power requirements (maximum)	1097 watts		
Power factor	0.99		
Phase	1		
Plug type (Canada & USA)	4, 5, 7, 10, 34, or 51		
Power cord length	1.8 m (6 ft)	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS			
	Operating	Idle	
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	6.3 Bels (6.5)	6.3 Bels (6.5)	
LpAm			

System Towers 510 and 50S with Disk Expansion 5051, 5052			
<LpA>m (dB)		44 (46)	43 (45)
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

FC 5294 1.8M I/O rack (for Models 820, 830, 840, 825, 870, and 890)

Dimensions for FC 5294 1.8M I/O rack			
<p>Pictured is the FC 5294 1.8M I/O rack.</p> <p>The FC 5294 1.8M I/O rack is available with Models 825, 870, and 890. There are two FC 5094 expansions (with side covers and casters removed) in a FC 5294 1.8M I/O rack.</p> <p>Dimensions are shown for the FC 5294 1.8M I/O rack only.</p>			
Dimensions	Height	Width	Depth
Metric	1800 mm	650 mm	1020 mm
English	71.0 in	25.5 in	40.1 in
Maximum configuration weight		726 kg (1600 lbs)	
Electrical (See 259)*		FC 5094 (1)	FC 5094 (2)
kVA		1.100	1.100
Rated voltage and frequency		200-240 @ 50-60 plus or minus 0.5 Hz	200-240 @ 50-60 plus or minus 0.5 Hz
Thermal output (maximum)		3379 BTU/hr	3379 BTU/hr
Power requirements (maximum)		990 Watts	990 Watts
Power factor		0.91	0.91
Inrush current		50 Amps	50 Amps
Leakage current (maximum)		3.5 mAmps	3.5 mAmps
Phase		1	1

Dimensions for FC 5294 1.8M I/O rack			
Plug type (Canada & USA)		10 lower unit cord feature #1453 (6 ft 14F1549) and upper unit cord feature #1458 (9 ft 12J5119, with only 6 ft usable length), 34 lower unit cord feature #1455 (6 ft 14F1551) and upper unit cord feature #1459 (9 ft 55H6644, with only 6 ft usable length), or 5 lower unit cord feature #1451 (6 ft 14F1547) and upper unit cord feature #1457 (9 ft 12J5120, with only 6 ft usable length)	
Power cord length (See 259) (USA only)		1.8 m (6 ft) 2.7 m (9 ft)	1.8 m (6 ft) 2.7 m (9 ft)
Temperature requirements			
Operating		10 degrees to 38 degrees C	50 degrees to 100.4 degrees F
Nonoperating		1 degrees to 60 degrees C	33.8 degrees to 140 degrees F
Environment requirements		Operating	Nonoperating
Noncondensing humidity		8% to 80%	8% to 80%
Wet bulb temperature		23 degrees C (73 degrees F)	27 degrees C (80.6 degrees F)
Maximum altitude		3048 m (10,000 ft)	
Noise emissions		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.) Preliminary Info		7.0 Bels	6.9 Bels
<LpA>m (dB) Preliminary Info		52	52
Service clearances			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

*Electrical and power cord length

- **Note:** Because the 5294 1.8M I/O rack consists of two 5094 PCI-X expansion units, electrical requirements for each FC 5094 need to be planned for individually. Hence, the (1) and (2) represent the specs for each FC 5094. The FC 5094 requires the appropriate receptacle for the power cord shipped with each FC 5094.
- **Note:** The usable length of the power cord for the top/upper FC 5094 is reduced by 4 ft (1.2 m) because of the routing inside the 1.8 m enclosure. Therefore, a 14 ft (4.3 m) cord results in a usable length of 10 ft (3 m), and a 9 ft (2.7 m) cord results in a usable length of 5 ft (1.5 m).

For information about floor loading, please contact your IBM service or Installation Planning representative. Because the thickness of the covers are negligible, the height, width, and depth of the overall dimensions (See 258) may be used in floor loading calculations.

Plan for server specifications

This page gives you a thorough understanding of the Model 800 or 810 server specifications, including dimensions, electrical, power, temperature, environment, and service clearances. You will also find links to more detailed information, such as compatible hardware and plug types.

Before you begin looking at this information, be sure you have completed the items in the following checklist:

Before you begin

- Know what server or servers you currently have or have ordered.
- Have your order information available as a reference.

Model 800 and 810

Use the following specifications to plan for your server. Refer to the checklist at the conclusion of this page for the required elements of your server plan.

Dimensions for the Model 800 and 810 server

Pictured is the **Model 800 or 810** server.

The 7116 expansion unit is available with Model 800 or 810. The 7116 expansion unit requires a line cord.

Dimensions are shown for Model 800 or 810 only.



Dimensions	800 or 810 Width	800 or 810 with 7116 Width	800 or 810 Depth	800 or 810 Height
Metric (mm)	366	552	610	610
English (in.)	14.5	21.9	24	24
	Model 800 or 810		Model 800 or 810 with 7116	
Maximum configuration weight	52.7 kgs (116 lbs)		79.6 kgs (175 lbs)	
Electrical				
	Model 800 or 810		7116 expansion unit	
Maximum kVA (each has its own line cord)	0.421		0.368	
Rated voltage and frequency	100-127/200-240VAC @ 50-60 plus or minus 0.5 Hz			
Thermal output (maximum)	1365 BTU/hr		1194 BTU/hr	
Power requirements maximum (watts)	400		350	
Power factor	0.95			
Inrush current	41 Amps			

Dimensions for the Model 800 and 810 server		
Leakage current (maximum)	3.5 mAmps	
Phase	1	
Compatible plug types	4,5,6,10,18,19,22,23,24,25,32,34	
Power cord length	2.7 m (9 ft) 1.8 m (6 ft) (USA and Canada only)	
Temperature requirements		
Operating	10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Nonoperating	1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
Environment requirements	Operating	Nonoperating
Noncondensing humidity	8 to 80%	8 to 80%
Wet bulb temperature	23 degrees C (73.4 degrees F)	27 degrees C (80 degrees F)
Maximum altitude	3048 m (10,000 ft.)	
Noise emissions (maximum)	Operating	Idle
LWAd (2E, Gen Bus.) 800 or 810 only	5.9 Bels	5.8 Bels
LWAd (2E, Gen Bus.) 800 or 810 with 7116	6.3 Bels	6.1 Bels
<LpA>m (dB) 800 or 810 only	41	40
<LpA>m (dB) 800 or 810 with 7116	45	43

Service clearances			
Front	Back	Sides *	Top *
762 mm	1219 mm	762 mm	762 mm
30 in.	48 in.	30 in.	30 in.

* Side and top clearances are optional when operating.

When you are finished
<input type="checkbox"/> Record your server size, weight, and service clearances.
<input type="checkbox"/> Record your server power requirements.
<input type="checkbox"/> Record the necessary plug and receptacle types.

Plan for server specifications

This page gives you a thorough understanding of the Model 825 server specifications, including dimensions, electrical, power, temperature, environment, and service clearances. You will also find links to more detailed information, such as compatible hardware, and plug types.

Before you begin looking at this information, be sure you have completed the items in the following checklist:

Before you begin

- Know what server or servers you currently have or have ordered.
- Have your order information available as a reference.

Model 825

Use the following specifications to plan for your server. Refer to the checklist at the conclusion of this page for the required elements of your server plan.

Dimensions for the Model 825 server

Pictured is the **Model 825** server.

The 5094 and 5095 expansion units are available with Model 825.

Dimensions are shown for Model 825 only.



Dimensions	825 Width	825 Depth	825 Height
Metric (mm)	445	830	610
English (in.)	17.5	32.7	24
Maximum configuration weight			
	110 kgs (242 lbs)		
Electrical			
	1-way	3-way, 4-way	5-way, 6-way
kVA	0.881	1.311	1.540
Thermal output (BTU/hr)	2857	4250	4993
Power requirements (watts)	837	1245	1463
Rated voltage and frequency			
1-way	100-127VAC or 200-240VAC @ 50-60 plus or minus 0.5Hz		
3-way, 4-way, 5-way, and 6-way	200-240VAC @ 50-60 plus or minus 0.5Hz		

Dimensions for the Model 825 server		
Power factor	0.95	
Inrush current	125 Amps	
Leakage current (maximum)	3.5 mAmps	
Phase	1	
Compatible plug types	5,6,10,18,19,22,23,24,25,32,34	
Power cord length	2.7 m (9 ft) 1.8 m (6 ft) (USA and Canada only)	
Temperature requirements		
Operating	10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Nonoperating	1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
Environment requirements	Operating	Nonoperating
Noncondensing humidity	8 to 80%	8 to 80%
Wet bulb temperature	23 degrees C (73.4 degrees F)	27 degrees C (80 degrees F)
Maximum altitude	3048 m (10,000 ft.)	
Noise emissions (maximum)	Operating	Idle
LWAd (2E, Gen Bus.) non-redundant power and cooling	6.6 Bels	6.6 Bels
LWAd (2E, Gen Bus.) redundant power and cooling	6.3 Bels	6.2 Bels
LpAm (dB) non-redundant power and cooling	48	48
LpAm (dB) redundant power and cooling	45	44

Service clearances			
Front	Back	Sides *	Top *
762 mm	762 mm	762 mm	762 mm
30 in.	30 in.	30 in.	30 in.

* Side and top clearances are optional when operating.

When you are finished
<input type="checkbox"/> Record your server size, weight, and service clearances.
<input type="checkbox"/> Record your server power requirements.
<input type="checkbox"/> Record the necessary plug and receptacle types.

Plan for server specifications

This page gives you a thorough understanding of the Model 870 and 890 servers specifications, including dimensions, electrical, power, temperature, environment, and service clearances. You will also find links to more detailed information, such as compatible hardware and plug types.

Before you begin looking at this information, be sure you have completed the items in the following checklist:

Before you begin	
<input type="checkbox"/>	Know what server or servers you currently have or have ordered.
<input type="checkbox"/>	Have your order information available as a reference.

Model 870 and 890

Use the following specifications to plan for your server. Refer to the checklist at the conclusion of this page for the required elements of your server plan.

Models 870 and 890 have some additional information that is important during planning.

- For power, see iSeries 870 and 890 power considerations.
- For a multiple server installation, see Multiple server installation considerations.
- For service clearances, see Service clearances for multiple server installations.
- For cooling requirements, see Cooling requirements for multiple server installations.

Dimensions for the Model 870 and 890 servers	
Pictured is the Model 870 or 890 server with the FC 9094 expansion unit	

Dimensions for the Model 870 and 890 servers			
Dimensions	Width	Depth	Height
Metric (mm)	785	1494	2025
English (in.)	30.91	58.83	79.72
Maximum configuration weight (See note 1) (See 266)	800 Kgs (1758 lbs)		
Electrical and thermal			
kVA (maximum) 8-way (870) 16-way (870) 24-way (890) 32-way (890)	6.315 6.315 8.201 10.099		
Rated voltage @ 50-60 plus or minus 0.5Hz (3-phase) (See note 4) (See 266)	200-240VAC 380-415VAC 480VAC		
Rated current (amps per phase) 200-240 Vac 380-415 Vac 480 Vac	45 amps 25 amps 20 amps		
Thermal output (maximum) 8-way (870) 16-way (870) 24-way (890) 32-way (890)	20.478 kBTU/hr 20.478 kBTU/hr 26.591 kBTU/hr 32.744 kBTU/hr		
Power requirements maximum 8-way (870) 16-way (870) 24-way (890) 32-way (890)	6000 Watts 6000 Watts 7791 Watts 9594 Watts		
Power factor	0.95		
Frequency (Hertz)	50 to 60		
Inrush current (See note 3) (See 266)	163 amps		
Leakage current	42 mAmps		
Phase	3		
Power cord feature 200-240 Vac 380-415 Vac 480 Vac	1300, 1301 1304 1302, 1303		
Power cord length	4.3 m (14 ft) or 1.8 m (6 ft) (USA only)		

Dimensions for the Model 870 and 890 servers				
Compatible receptacle 200-240 Vac 380-415 Vac 480 Vac	IEC 309, 60A 460R9W Not specified, electrician installed IEC 309, 30A 430R7W			
Plug type (No IBM plug type available) 200-240 Vac 380-415 Vac 480 Vac	IEC 309, 60A 460P9W Not specified IEC 309, 30A 430P7W			
Temperature requirements				
Operating	10 degrees to 32 degrees C (50 degrees to 90 degrees F)			
Nonoperating	10 degrees to 43 degrees C (50 degrees to 109 degrees F)			
Storage	1 degrees to 60 degrees C (34 degrees to 140 degrees F)			
Shipping	-40 degrees to 60 degrees C (-40 degrees to 140 degrees F)			
Environment requirements	Operating	Non operating	Storage	Shipping
Noncondensing humidity	8 to 80%	8 to 100%	5 to 80%	5 to 100%
Wet bulb temperature	23 degrees C (73.4 degrees F)	27 degrees C (80 degrees F)	29 degrees C (84 degrees F)	29 degrees C (84 degrees F)
Maximum altitude	2134 m (7000 ft.)			
Noise emissions (maximum) (See note 2) (See 266)	Operating		Idle	
LWAd (bels)	7.2		7.2	
LpAm (dB)	54		54	

Service clearances			
Front	Back	Sides *	Top *
1143 mm	914 mm	762 mm	762 mm
45 in.	36 in.	30 in.	30 in.

Note 1: When moving or relocating the system unit, the bulk power regulators (BPRs) must be removed from the top of the rack (front and rear) to ensure product stability.

Note 2: LWAd is the upper limit A-weighted sound power level. LpAm is the mean A-weighted sound pressure level at the 1 meter bystander positions (1B = 10dB). All measurements made in conformance with ISO 7779 and declared in conformance with ISO 9296.

Note 3: Inrush currents occur only at initial application of power (very short duration for charging capacitors). No inrush currents occur during the normal power on or off cycle.

Note 4: The system will function normally with a nominal input voltage in the range of 200-480 V, AC, three phase.

* Side and top clearances are optional when operating if the building floor loading specifications are met.

When you are finished

- Record your server size, weight, and service clearances.
- Record your server power requirements.
- Record the necessary plug and receptacle types.

FC 7101 or 7102 Expansion Unit for Models 170 and 250

Expansion Units 7101 and 7102 are optional features that you can order for your Model 170 or 250. The 7101 or 7102 are physically attached to the right side of the base system tower.

Models 170 and 250 can use the optional external IBM UPS (Uninterruptible Power Supply) that acts like a BBU (Backup Battery Unit). The UPS has power cords that connect the UPS to the base system, the 7101 or 7102 expansion units, and a power cord that connects the UPS to the power outlet.

FC 7104 Expansion Unit for the Model 270

Expansion Units 7104 is an optional feature that you can order for your Model 270. The 7104 is physically attached to the right side of the base system tower.

Model 270 can use the optional external IBM UPS (Uninterruptible Power Supply) that acts like a BBU (Backup Battery Unit). The UPS has power cords that connect the UPS to the base system, the 7104 expansion unit, and a power cord that connects the UPS to the power outlet.

FC 7116 expansion unit for Model 800 or 810

System unit expansion 7116 is an optional feature that you can order for your Model 800 or 810. The 7116 is physically attached to the right side of the base system tower.

Feature code 8079 optional base 1.8m model 840 I/O rack

Dimensions for the feature code 8079 Optional Base 1.8m Model 840 I/O Rack

Pictured is the **feature code 8079 optional base 1.8m model 840 I/O rack**

The feature code 8079 consists of a 1.8M rack with a bottom enclosure (feature code 9079 Base I/O Tower with side covers and casters removed) and a top enclosure (feature code 5074 PCI expansion tower with side covers and casters removed).




Dimensions for the feature code 8079 Optional Base 1.8m Model 840 I/O Rack			
DIMENSIONS	Width	Depth	Height
Metric	650 mm	1020 mm	1800 mm
English	25.5 in.	40.1 in.	71.0 in.
Maximum Configuration Weight			
		726 kg (1600 lbs)	
ELECTRICAL¹		FC 8079 (1)	FC 8079 (2)
kVA		1.100	1.100
Rated Voltage/Frequency		200-240 @ 50-60 plus or minus 0.5 Hz	200-240 @ 50-60 plus or minus 0.5 Hz
Thermal Output (maximum)		3379 BTU/hr	3379 BTU/hr
Power requirements (maximum)		990 Watts	990 Watts
Power factor		0.91	0.91
Inrush Current		50 Amps	50 Amps
Leakage Current (maximum)		3.5 mAmps	3.5 mAmps
Phase		1	1
Plug type (Canada & USA) ²	10 lower unit cord feature 1453 (6 ft 14F1549) and upper unit cord feature 1458 (9 ft 12J5119, with only 6 ft usable length), 34 lower unit cord feature 1455 (6 ft 14F1551) and upper unit cord feature 1459 (9 ft 55H6644, with only 6 ft usable length), or 5 lower unit cord feature 1451 (6 ft 14F1547) and upper unit cord feature 1457 (9 ft 12J5120, with only 6 ft usable length)		
Power cord length		1.8 m (6 ft) (USA only) 4.3m (14ft)	2.7 m (9 ft) (USA only) 4.3m (14ft.)
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 38 degrees C	50 degrees to 100.4 degrees F
Non-Operating		1 degrees to 60 degrees C	33.8 degrees to 140 degrees F
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 degrees C (73 degrees F)	27 degrees C (80.6 degrees F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.) Preliminary Info		7.0 Bels	6.9 Bels
<LpA>m (dB) Preliminary Info		52	52
SERVICE CLEARANCES³			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Notes:

1. The electrical requirements for the 5074 and 9079 in the 8079 rack need to be planned for individually. The line cord feature codes for the 5074 and 9079 must be used to determine the appropriate receptacles.
2. The usable length of the power cord for the 5074 is reduced by 4 ft (1.2 m) because of the routing inside the 1.8M enclosure. Therefore, a 14 ft (4.3 m) cord results in a usable length of 10 ft (3 m), and a 9 ft (2.7 m) cord results in a usable length of 5 ft (1.5 m).
3. For information about floor loading, please contact your IBM service or Installation Planning representative. Because the thickness of the covers are negligible, the height, width, and depth of the overall dimensions may be used in floor loading calculations.

FC 8094 base I/O expansion unit (for servers 870 and 890) optional 1.8M rack

Dimensions for the FC 8094 base I/O expansion unit (for servers 870 and 890) optional 1.8M rack			
<p>Pictured is the FC 8094 base I/O expansion unit (for servers 870 and 890) optional 1.8M rack</p> <p>The FC 8094 base I/O expansion unit consists of a 1.8M rack with a bottom enclosure (FC 9094 expansion unit with side covers and casters removed) and a top enclosure (FC 5074 PCI-X expansion unit with side covers and casters removed).</p>			
Dimensions	Width	Depth	Height
Metric	650 mm	1020 mm	1800 mm
English	25.5 in.	40.1 in.	71.0 in.
Maximum configuration weight		726 kg (1600 lbs)	
Electrical¹		FC 8094 base I/O expansion unit (1)	FC 8094 base I/O expansion unit (2)
kVA		1.100 (est.)	1.100 (est.)
Rated voltage and frequency		200-240 @ 50-60 plus or minus 0.5 Hz	200-240 @ 50-60 plus or minus 0.5 Hz
Thermal output (maximum)		3379 BTU/hr (est.)	3379 BTU/hr (est.)
Power requirements (maximum)		990 Watts (est.)	990 Watts (est.)
Power factor		0.91	0.91
Inrush current		50 Amps (est.)	50 Amps (est.)
Leakage current (maximum)		3.5 mAmps	3.5 mAmps

Dimensions for the FC 8094 base I/O expansion unit (for servers 870 and 890) optional 1.8M rack			
Phase	1		1
Plug type (Canada & USA) ²	10 lower unit cord feature #1453 (6 ft 14F1549) and upper unit cord feature #1458 (9 ft 12J5119, with only 6 ft usable length), 34 lower unit cord feature #1455 (6 ft 14F1551) and upper unit cord feature #1459 (9 ft 55H6644, with only 6 ft usable length), or 5 lower unit cord feature #1451 (6 ft 14F1547) and upper unit cord feature #1457 (9 ft 12J5120, with only 6 ft usable length)		
Power cord length	1.8 m (6 ft) (USA only) 4.3m (14ft)		2.7 m (9 ft) (USA only) 4.3m (14ft.)
Temperature requirements			
Operating	10 degrees to 38 degrees C		50 degrees to 100.4 degrees F
Nonoperating	1 degrees to 60 degrees C		33.8 degrees to 140 degrees F
Environment requirements	Operating		Nonoperating
Noncondensing humidity	8% to 80%		8% to 80%
Wet bulb temperature	23 degrees C (73 degrees F)		27 degrees C (80.6 degrees F)
Maximum altitude	3048 m (10,000 ft)		
Noise emissions	Operating		Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.) preliminary info	7.0 Bels		6.9 Bels
<LpA>m (dB) Preliminary Info	52		52
Service clearances³			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Notes:

1. The electrical requirements for the FC 5094 and FC 9094 in the FC 8094 base I/O expansion unit need to be planned for individually. The line cord feature codes for the FC 5094 and FC 9094 must be used to determine the appropriate receptacles.
2. The usable length of the power cord for the 5094 is reduced by 4 ft (1.2 m) because of the routing inside the 1.8 m enclosure. Therefore, a 14 ft (4.3 m) cord results in a usable length of 10 ft (3 m), and a 9 ft (2.7 m) cord results in a usable length of 5 ft (1.5 m).
3. For information about floor loading, please contact your IBM service or Installation Planning representative. Because the thickness of the covers are negligible, the height, width, and depth of the overall dimensions may be used in floor loading calculations.

Plan for server specifications

This page gives you a thorough understanding of the Model 820 server specifications, including dimensions, electrical, power, temperature, environment, and service clearances. You will also find links to more detailed information, such as compatible hardware and plug types, and high-speed link (HSL) cabling.

Before you begin looking at this information, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Know what server or servers you currently have or have ordered.
<input type="checkbox"/> Have your order information available as a reference.

Model 820

Use the following specifications to plan for your server. Refer to the checklist at the conclusion of this page for the required elements of your server plan.

Dimensions for the Model 820 server			
Pictured is Model 820 .			
The 5074, 5079, 5075, or 5078 expansion unit is available with Model 820.		<input type="checkbox"/>	
Dimensions are shown for Model 820 only.			
Dimensions	Width	Depth	Height
Metric	483 mm	728 mm	610 mm
English	19.0 in.	28.7 in.	24.0 in.
Maximum configuration weight		96 kg (210 lb)	
Electrical			
kVA (maximum)		0.862	
Rated voltage and frequency		100-127/200-240 Vac @ 50-60 plus or minus 0.5 Hz	
Thermal output (maximum)		2867 BTU/hr	
Power requirements (maximum)		840 Watts	
Power factor		0.95	
Inrush current		90 amp	
Leakage current (maximum)		3.5 mAmp	
Phase		1	
Compatible plug types		4,5,6,7,10,18,19,22,23,24,25,32,34	
Power cord length		1.8 m (6 ft) (USA only)	
High-speed link (HSL) cable requirements			
Temperature requirements			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Nonoperating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
Environment requirements		Operating	Nonoperating
Noncondensing humidity		8 to 80%	8 to 80%
Wet bulb temperature		22.8 degrees C (73 degrees F)	27 degrees C (80.6 degrees F)
Maximum altitude		3048m (10,000 ft)	
Noise emissions		Operating	Idle
LWAd cat 2E, General Business		6.1 bel	5.9 bel
<LpA>m (dB)		43	41

Dimensions for the Model 820 server			
Service clearances			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional during operation.

When you are finished
<input type="checkbox"/> Record your server size, weight, and service clearances.
<input type="checkbox"/> Record your server power requirements.
<input type="checkbox"/> Record the necessary plug and receptacle types.

Plan for server specifications

This page gives you a thorough understanding of the Model 830 and Model SB2 server specifications, including dimensions, electrical, power, temperature, environment, and service clearances. You will also find links to more detailed information, such as compatible hardware and plug types, and high-speed link (HSL) cabling.

Before you begin looking at this information, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Know what server or servers you currently have or have ordered.
<input type="checkbox"/> Have your order information available as a reference.

Models 830 and SB2

Use the following specifications to plan for your server. Refer to the checklist at the conclusion of this page for the required elements of your server plan.

Dimensions for Model 830 and SB2 servers

Pictured is **Model 830** or **Model SB2** including the 9074 I/O enclosure.

Both models include the 9074 I/O enclosure.

The 5074, 5078, or 5079 PCI expansion unit is available with Model 830 or Model SB2.

Dimensions for both models are identical and include the 9074 I/O enclosure.



Dimensions	Width	Depth	Height
Metric	483 mm	1080 mm	1270 mm
English	19.0 in.	42.5 in.	50.0 in.
Maximum configuration weight		400 Kgs (881.5 lbs)	
Electrical			
kVA (maximum)	1.684		
Rated voltage and frequency	200-240 VAC @ 50-60 plus or minus 0.5 Hz		
Thermal output (maximum)	5461 BTU/hr		
Power requirements (maximum)	1600 Watts		
Power factor	0.95		
Inrush current	80 Amps		
Leakage current (maximum)	3.5 mAmps		
Phase	1		
Compatible plug types	5,10,11,18,22,23,25,29,32,34,35,46(P+N+G)[16A],54		
Power cord length	1.8 m (6 ft)(USA only) or 4.3 m (14 ft)		

Dimensions for Model 830 and SB2 servers			
High-speed link (HSL) cable requirements			
Temperature requirements			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Nonoperating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
Environment requirements		Operating	Nonoperating
Noncondensing humidity		8 to 80%	8 to 80%
Wet bulb temperature		22.8 degrees C (73 degrees F)	27 degrees C (80.6 degrees F)
Maximum altitude		3048 m (10,000 ft)	
Noise emissions		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.9 Bels	6.8 Bels
<LpA>m (dB)		51	51
Service clearances			
Front	Back	Sides *	Top *
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional when operating.

When you are finished
<input type="checkbox"/> Record your server size, weight, and service clearances.
<input type="checkbox"/> Record your server power requirements.
<input type="checkbox"/> Record the necessary plug and receptacle types.

Plan for server specifications

This page gives you a thorough understanding of the Model 840 and Model SB3 server specifications, including dimensions, electrical, power, temperature, environment, and service clearances. You will also find links to more detailed information, such as compatible hardware and plug types, and high-speed link (HSL) cabling.

Before you begin looking at this information, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Know what server or servers you currently have or have ordered.
<input type="checkbox"/> Have your order information available as a reference.

Models 840 and SB3

Use the following specifications to plan for your server. Refer to the checklist at the conclusion of this page for the required elements of your server plan.

Dimensions for Model 840 and SB3 servers

Pictured is **Model 840** or **Model SB3** with the **FC 9079 I/O expansion unit**.

Both models include the FC 9079 I/O expansion unit.

The 5074 expansion unit, 5078 expansion unit, FC 8079 optional 1.8 m Model 840 I/O rack or FC 5079 1.8 m expansion unit are available with the Model 840 or Model SB3 servers.

Dimensions and the following data are for Models 840 and SB3 only.



Dimensions	Width	Depth	Height
Metric	565 mm	1320 mm	1577 mm
English	22.3 in.	52.0 in.	62.0 in.
Maximum configuration weight		397 Kgs (875 lbs)	
Electrical			
kVA (maximum)	2.526		
Rated voltage and frequency	200-240VAC @ 50-60 plus or minus 0.5Hz		
Thermal output (maximum)	8191 BTU/hr		
Power requirements (maximum)	2400 Watts		
Power factor	0.95		
Inrush current	100 Amps		
Leakage current (maximum)	3.5 mAmps		
Phase	1		
Compatible plug types	12,40,46(3P+N+G),46(P+N+G)[32A],KP,PDL		

Dimensions for Model 840 and SB3 servers			
Power cord length		1.8 m (6 ft) (USA only) or 4.3 m (14 ft)	
High-speed link (HSL) cable requirements			
Temperature requirements			
Operating		10 degrees to 38 degrees C (50 degrees to 100.4 degrees F)	
Nonoperating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
Environment requirements		Operating	Nonoperating
Noncondensing humidity		8 to 80%	8 to 80%
Wet bulb temperature		22.8 degrees C (73 degrees F)	27 degrees C (80.6 degrees F)
Maximum altitude		3048 m (10,000 ft)	
Noise emissions		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		7.0 Bels	6.9 Bels
<LpA>m (dB)		51	51
Service clearances			
Front	Back	Sides *	Top *
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional when operating.

When you are finished
<input type="checkbox"/> Record your server size, weight, and service clearances.
<input type="checkbox"/> Record your server power requirements.
<input type="checkbox"/> Record the necessary plug and receptacle types.

FC 9074 Base I/O Enclosure (for server 830/SB2)

The FC 9074 Base I/O Enclosure comes with Models 830 and SB2. The FC 9074 is the lower part of the system.


FC 9079 base I/O expansion unit (for server 840 or SB3) or 5074 expansion unit

Dimensions for the FC 9079 base I/O expansion unit			
<p>Pictured is the FC 9079 base I/O expansion unit.</p> <p>The FC 9079 base I/O expansion unit is shipped with Models 840 and SB3.</p> <p>Dimensions are shown for the FC 9079 base I/O expansion unit only. Measurements DO NOT include Models 840 or SB3.</p>			
Dimensions	Width	Depth	Height
Metric	485 mm	1075 mm	910 mm
English	19.1 in	42.3 in	35.8 in
Maximum configuration weight		280 Kgs (617 lbs)	
Electrical			
kVA	1.100		
Rated voltage and frequency	200-240 VAC @ 50-60 plus or minus 0.5 Hz		
Thermal output	3379 BTU/hr		
Power requirements (maximum)	990 Watts		
Power factor	0.9		
Inrush current	42 Amps		
Leakage current (maximum)	3.5 mAmps		
Phase	1		
Plug type (Canada & USA)	10 (1453 for 6 ft line cord p/n 14F1549) and (1454 for 14 ft cord p/n 14F1550), 34 (1455 for 6 ft line cord p/n 14F1551) and (1456 for 14 ft cord p/n 14F1552), or 5 (1451 for 6 ft line cord p/n 14F1547) and (1452 for 14 ft cord p/n 14F1548)		
Power cord length	1.8 m (6 ft) (USA only) 4.3 m (14 ft)		
Temperature requirements			
Operating	10 to 38 degrees C (50 to 100.4 degrees F)		
Nonoperating	1 to 60 degrees C (33.8 to 140 degrees F)		
Environment requirements		Operating	Nonoperating
Noncondensing humidity	8 to 80%		8 to 80%
Wet bulb temperature	23 degrees C (73.4 degrees F)		27 degrees C (80.6 degrees F)

Dimensions for the FC 9079 base I/O expansion unit			
Maximum altitude		3048 m (10,000 ft)	
Noise emissions		Operating	Idle
LWAd		6.7 Bels	6.6 Bels
<LpA>m (dB)		49	49
Service clearances			
Front	Back	Sides *	Top *
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional when operating.


FC 9094 base I/O expansion unit or 5094 expansion unit

Dimensions for the FC 9094 or FC 5094 expansion unit			
<p>Pictured is the FC 9094 base I/O expansion unit or the FC 5094 expansion unit.</p> <p>The FC 9094 base I/O expansion unit is shipped with Models 870 and 890. The FC 5094 is available with Models 870 and 890.</p> <p>Dimensions are shown for the FC 9094 base I/O expansion unit only. Measurements do not include Models 870 and 890.</p>			
DIMENSIONS	Width	Depth	Height
Metric	485 mm	1075 mm	910 mm
English	19.1 in	42.3 in	35.8 in
Maximum Configuration Weight		280 Kgs (617 lbs)	
ELECTRICAL			
kVA	1.100		
Rated Voltage/Frequency	200-240 VAC @ 50-60 plus or minus 0.5 Hz		
Thermal Output	3379 BTU/hr		
Power requirements (maximum)	990 Watts		
Power factor	0.9		
Inrush Current	42 Amps		
Leakage Current (maximum)	3.5 mAmps		
Phase	1		

Dimensions for the FC 9094 or FC 5094 expansion unit			
Plug type (Canada & USA)		10 (1453 for 6 ft line cord p/n 14F1549) and (1454 for 14 ft cord p/n 14F1550), 34 (1455 for 6 ft line cord p/n 14F1551) and (1456 for 14 ft cord p/n 14F1552), or 5 (1451 for 6 ft line cord p/n 14F1547) and (1452 for 14 ft cord p/n 14F1548)	
Power cord length		1.8 m (6 ft) (USA only) 4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating		10 to 38 degrees C (50 to 100.4 degrees F)	
Non-Operating		1 to 60 degrees C (33.8 to 140 degrees F)	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8 to 80%	8 to 80%
Wet Bulb Temperature		23 degrees C (73.4 degrees F)	27 degrees C (80.6 degrees F)
Maximum altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd		6.7 Bels	6.6 Bels
<LpA>m (dB)		49	49
SERVICE CLEARANCES			
Front	Back	Sides*	Top*
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

* Side and top clearances are optional when operating.

FC 9251 I/O unit

Dimensions for the 9251 I/O unit				
<p>Pictured is the FC 9251 I/O unit for Models S40 and 650 with optional 5057 disk expansion unit attached to the top. Width and depth dimensions of FC 9251 for Model SB1 are identical except for the height.</p>				
Dimensions	Width	Depth	Height with 650/S40	Height with SB1

Dimensions for the 9251 I/O unit				
Metric	485 mm	925 mm	950 mm	750 mm
English	19.1 in.	36.4 in.	37.4 in.	29.5 in.
Note: 5057 storage expansion unit is not available for model SB1.				
	with 650/S40		with SB1	
Maximum configuration weight	156 Kgs (342 lbs.)		114 Kgs (251 lbs.)	
Electrical				
kVA	1.111		0.457	
Rated voltage and frequency	200-240 VAC @ 50/60 plus or minus 0.5 Hz			
Thermal output	3412 BTU/hr		1403 BTU/hr	
Power requirements (maximum)	1000 Watts		411 Watts	
Power factor	0.9			
Inrush current	50 Amps			
Leakage current (maximum)	3.5 mAmps			
Phase	1			
Plug type (Canada & USA)	10			
Power cord length	1.8 m (6 ft) 4.3 m (14 ft)			
Temperature requirements				
Operating	10 to 37.8 degrees C (50 to 100 degrees F)			
Nonoperating	1 to 60 degrees C (33.8 to 140 degrees F)			
Environment requirements	Operating		Nonoperating	
Noncondensing humidity	8 to 80%		8 to 80%	
Wet bulb temperature	23 degrees C (73.4 degrees F)		27 degrees C (80 degrees F)	
Maximum altitude	3048 m (10,000 ft.)			
Noise emissions	Operating		Idle	
LWAd	6.3		6.3	
LpAm				
<LpA>m (dB)	44		43	
Impulsive or prominent discreet tones				
Service clearances				
Front	Back		Sides	Top
762 mm	762 mm		762 mm	762 mm
30 in	30 in		30 in	30 in

FC 9364 Expansion Unit for Model 620 and 720

The 9364 expansion unit is part of Models 620 and 720. Like the 5064 expansion unit for Model S20, the 9364 expansion unit is attached to the right side of the system unit and resides in the same housing as the system unit. However, unlike Model S20, the 9364 expansion unit is a standard feature of Model 620 and 720, so it is **not** an option.

Because the 9364 expansion unit is built into Model 620, the dimensions for Model 620 are the same as the dimensions of Model S20 *with* the 5064 expansion unit.

Models 620 and 720 comes with a standard internal UPS (Uninterruptible Power Supply) that acts like a BBU (Backup Battery Unit). The power cord from the 9364 expansion plugs directly into this UPS. Only one power cord exits the entire unit to plug into a customer-supplied outlet.

FC 9364 expansion unit for the migration tower FC 5034 and FC 5035


The 9364 expansion unit is part of the migration tower FC 5034 and FC 5035. Like the 5064 expansion unit for Model S20, the 9364 expansion unit is attached to the right side of the migration tower and resides in the same housing. However, unlike Model S20, the 9364 expansion unit is a standard feature of the migration tower FC 5034 and FC 5035, so it is **not** an option.

Because the 9364 expansion unit is built into the migration tower FC 5034 and FC 5035, the dimensions for the migration tower FC 5034 and FC 5035 are the same as the dimensions of Model S20 *with* the 5064 expansion unit.

The migration tower FC 5034 and FC 5035 comes with a standard internal UPS (Uninterruptible Power Supply) that acts like a BBU (Backup Battery Unit). The power cord from the 9364 expansion plugs directly into this UPS. Only one power cord exits the entire unit to plug into a customer-supplied outlet.

9406 FC 5040 Bus Extension Rack

This device is no longer offered for sale by IBM.

9406 FC 5040 Bus Extension Rack			
Pictured is the 9406 FC 5040 Bus Extension Rack.			
DIMENSIONS	Width	Depth	Height
Metric	483 mm	800 mm	805 mm
English	19.0 in	31.5 in	31.7 in

9406 FC 5040 Bus Extension Rack			
Maximum Configuration Weight		299 kg	660 lbs
ELECTRICAL			
kVA		0.49	
Rated Voltage/Frequency		200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output		1590 BTU/hr	
Power requirements (maximum)		466 watts	
Power factor		-	
Phase		1	
Plug type (Canada & USA)		12 or 40	
Power cord length		1.8 m (6 ft) USA only	4.3 m (14 ft)
TEMPERATURE REQUIREMENTS			
Operating		10 to 38 C	50 to 100 F
Non-Operating		10 to 52 C	50 to 125 F
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 C (73 F)	27 C (80 F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.3 Bels	6.3 Bels
LpAm			
<LpA>m (dB)		47	47
Impulsive or prominent disquiet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1650 mm	762 mm	914 mm	762 mm
65 in	30 in	36 in	30 in

9406 FC 5042 System Expansion Rack

This device is no longer offered for sale by IBM.

9406 FC 5042 System Expansion Rack

Pictured is the 9406 FC 5042 System Expansion Rack.




DIMENSIONS	Width	Depth	Height
Metric	483 mm	800 mm	805 mm
English	19.0 in	31.5 in	31.7 in
Maximum Configuration Weight		299 kg	660 lbs
ELECTRICAL			
kVA	0.49		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1590 BTU/hr		
Power requirements (maximum)	466 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	12 or 40		
Power cord length	1.8 m (6 ft) USA only	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS			
	Operating	Idle	
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	6.3 Bels	6.3 Bels	
LpAm			
<LpA>m (dB)	47	47	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top

9406 FC 5042 System Expansion Rack			
1650 mm	762 mm	914 mm	762 mm
65 in	30 in	36 in	30 in

9406 FC 5044 System Expansion Rack

This device is no longer offered for sale by IBM.

9406 FC 5044 System Expansion Rack			
Pictured is the 9406 FC 5044 System Expansion Rack.			
DIMENSIONS	Width	Depth	Height
Metric	483 mm	800 mm	805 mm
English	19.0 in	31.5 in	31.7 in
Maximum Configuration Weight		299 kg	660 lbs
ELECTRICAL			
kVA	0.49		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1590 BTU/hr		
Power requirements (maximum)	466 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	12 or 40		
Power cord length	1.8 m (6 ft) USA only	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS			
Noncondensing Humidity	8% to 80%	Operating	Non-Operating
Wet Bulb Temperature	23 C (73 F)	8% to 80%	
Maximum Altitude	3048 m (10,000 ft)		

9406 FC 5044 System Expansion Rack			
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.3 Bels	6.3 Bels
LpAm			
<LpA>m (dB)		47	47
Impulsive or prominent discrete tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1650 mm	762 mm	914 mm	762 mm
65 in	30 in	36 in	30 in

FC 5079 1.8M Storage/PCI Expansion Unit (for server 820/830/840)

Dimensions for FC 5079 1.8M Storage/PCI Expansion Unit			
<p>Pictured is the FC 5079 1.8M Storage/PCI Expansion Unit.</p> <p>FC 5079 1.8M Storage/PCI Expansion Unit is available with Models 820, 830, and 840. There are two FC 5074 Expansions (with side covers and casters removed) in a FC 5079 1.8M Storage/PCI Expansion Unit.</p> <p>Dimensions are shown for the FC 5079 1.8M Storage/PCI Expansion Unit only.</p>			
DIMENSIONS	Height	Width	Depth
Metric	1800 mm	650 mm	1020 mm
English	71.0 in	25.5 in	40.1 in
Maximum Configuration Weight		726 kg (1600 lbs)	
ELECTRICAL* (See 286)	FC 5074 (1)		FC 5074 (2)
kVA	1.100		1.100
Rated Voltage/Frequency	200-240 @ 50-60 plus or minus 0.5 Hz		200-240 @ 50-60 plus or minus 0.5 Hz
Thermal Output (maximum)	3379 BTU/hr		3379 BTU/hr
Power requirements (maximum)	990 Watts		990 Watts
Power factor	0.91		0.91
Inrush Current	50 Amps		50 Amps

Dimensions for FC 5079 1.8M Storage/PCI Expansion Unit			
Leakage Current (maximum)		3.5 mAmps	3.5 mAmps
Phase		1	1
Plug type (Canada & USA)		10 lower unit cord feature #1453 (6 ft 14F1549) and upper unit cord feature #1458 (9 ft 12J5119, with only 6 ft usable length), 34 lower unit cord feature #1455 (6 ft 14F1551) and upper unit cord feature #1459 (9 ft 55H6644, with only 6 ft usable length), or 5 lower unit cord feature #1451 (6 ft 14F1547) and upper unit cord feature #1457 (9 ft 12J5120, with only 6 ft usable length)	
Power cord length (See 286) (USA only)		1.8 m (6 ft) 2.7 m (9 ft)	1.8 m (6 ft) 2.7 m (9 ft)
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 38 degrees C	50 degrees to 100.4 degrees F
Non-Operating		1 degrees to 60 degrees C	33.8 degrees to 140 degrees F
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 degrees C (73 degrees F)	27 degrees C (80.6 degrees F)
Maximum Altitude		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.) Preliminary Info		7.0 Bels	6.9 Bels
<LpA>m (dB) Preliminary Info		52	52
SERVICE CLEARANCES**			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

*ELECTRICAL/POWER CORD LENGTH

- **Note:** Because the 5079 1.8M Storage/PCI Expansion Tower consists of two 5074 Storage/PCI Expansions, electrical requirements for each 5074 need to be planned for individually. Hence, the (1) and (2) represent the specs for each #5074. The 5074 requires the appropriate receptacle for the power cord shipped with each 5074.
- **Note:** The usable length of the power cord for the top/upper 5074 is reduced by 4 ft (1.2 m) because of the routing inside the 1.8M enclosure. Therefore, a 14 ft (4.3 m) cord results in a usable length of 10 ft (3 m), and a 9 ft (2.7 m) cord results in a usable length of 5 ft (1.5 m).

For information about floor loading, please contact your IBM service or Installation Planning representative. Because the thickness of the covers are negligible, the height, width, and depth of the overall dimensions (See 285) may be used in floor loading calculations.

FC9309 Rack Enclosure

This device is no longer offered for sale by IBM.

FC 9309 Rack Enclosure

Pictured is the FC 9309 Rack Enclosure.



DIMENSIONS	Width	Depth	Height
Metric	650 mm	921 mm	1578 mm
English	25.6 in	36.0 in	62.0 in
Maximum Configuration Weight		161 kg	356 lbs
ELECTRICAL			
kVA	0.043		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	85 BTU/hr		
Power requirements (maximum)	25 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	12 or 40		
Power cord length	1.8 m (6 ft) USA only	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS	Operating	Idle	
LWAd cat 3C, Quiet Office (2E, Gen Bus.)			

FC 9309 Rack Enclosure			
LpAm			
<LpA>m (dB)			
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1650 mm	762 mm	914 mm	762 mm
65 in	30 in	36 in	30 in

9406 B30, B35, B40, B45 System Processor Rack

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	483 mm	655 mm	351 mm
English	19.0 in	25.8 in	31.7 in
Maximum Configuration Weight		67 kg	148 lbs
ELECTRICAL			
kVA	0.50		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1689 BTU/hr		
Power requirements (maximum)	490 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	6.8 Bels	6.8 Bels	
LpAm			
<LpA>m (dB)	53	52	
Impulsive or prominent discreet tones			

SERVICE CLEARANCES			
Front	Back	Sides	Top
1650 mm	762 mm	914 mm	762 mm
65 in	30 in	36 in	30 in

9406 B50, B60, B70 Rack

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	483 mm	655 mm	702 mm
English	19 in	25.8 in	28 in
Maximum Configuration Weight		134 kg	296 lbs
ELECTRICAL			
kVA	0.94		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	3133 BTU/hr		
Power requirements (maximum)	920 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	6.8 Bels	6.8 Bels	
LpAm			
<LpA>m (dB)	53	52	
Impulsive or prominent discrete tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1650 mm	762 mm	914 mm	762 mm

65 in	30 in	36 in	30 in
-------	-------	-------	-------

9406 D35, D45, D50, D60, D70,D80 System Processor Rack

This device is no longer offered for sale by IBM.

DIMENSIONS		Width	Depth	Height
Metric		483 mm	800 mm	805 mm
English		19.0 in	31.5 in	31.7 in
Maximum Configuration Weight			299 kg	660 lbs
ELECTRICAL				
kVA		0.63		
Rated Voltage/Frequency		200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output		1810 BTU/hr		
Power requirements (maximum)		530 watts		
Power factor		-		
Phase		1		
Plug type (Canada & USA)		12 or 40		
Power cord length		1.8 m (6 ft) USA only	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS				
Operating		10 to 38 C	50 to 100 F	
Non-Operating		10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS			Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%	
Wet Bulb Temperature		23 C (73 F)	27 C (80 F)	
Maximum Altitude		3048 m (10,000 ft)		
NOISE EMISSIONS			Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.7	6.6	
LpAm				
<LpA>m (dB)		51	49	
Impulsive or prominent discrete tones				
SERVICE CLEARANCES				
Front		Back	Sides	Top
1650 mm		762 mm	914 mm	762 mm
65 in		30 in	36 in	30 in

9406 E35, E45, E50, E60, E70, E80, E90, E95 Processor Rack

This device is no longer offered for sale by IBM.

DIMENSIONS		Width	Depth	Height
Metric		483 mm	800 mm	805 mm
English		19.0 in	31.5 in	31.7 in
Maximum Configuration Weight			299 kg	660 lbs
ELECTRICAL				
kVA			0.63	
Rated Voltage/Frequency			200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output			1810 BTU/hr	
Power requirements (maximum)			530 watts	
Power factor			-	
Phase			1	
Plug type (Canada & USA)			12 or 40	
Power cord length			1.8 m (6 ft) USA only	4.3 m (14 ft)
TEMPERATURE REQUIREMENTS				
Operating			10 to 38 C	50 to 100 F
Non-Operating			10 to 52 C	50 to 125 F
ENVIRONMENT REQUIREMENTS			Operating	Non-Operating
Noncondensing Humidity			8% to 80%	8% to 80%
Wet Bulb Temperature			23 C (73 F)	27 C (80 F)
Maximum Altitude			3048 m (10,000 ft)	
NOISE EMISSIONS			Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)			6.8	6.6
LpAm				
<LpA>m (dB)			53	51
Impulsive or prominent discrete tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	1650 mm	762 mm	914 mm	762 mm
	65 in	30 in	36 in	30 in

9406 F35, F45, F50, F60, F70, F80, F90, F95 Processor Rack

This device is no longer offered for sale by IBM.

DIMENSIONS		Width	Depth	Height
Metric		483 mm	800 mm	805 mm
English		19.0 in	31.5 in	31.7 in
Maximum Configuration Weight			299 kg	660 lbs
ELECTRICAL				
kVA		0.79		
Rated Voltage/Frequency		200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output		2627 BTU/hr		
Power requirements (maximum)		770 watts		
Power factor		-		
Phase		1		
Plug type (Canada & USA)		12 or 40		
Power cord length		1.8 m (6 ft) USA only	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS				
Operating		10 to 38 C	50 to 100 F	
Non-Operating		10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating	
Noncondensing Humidity		8% to 80%	8% to 80%	
Wet Bulb Temperature		23 C (73 F)	27 C (80 F)	
Maximum Altitude		3048 m (10,000 ft)		
NOISE EMISSIONS		Operating	Idle	
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.8	6.6	
LpAm				
<LpA>m (dB)		53	51	
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	1650 mm	762 mm	914 mm	762 mm
	65 in	30 in	36 in	30 in

9406 F97 Processor Rack

This device is no longer offered for sale by IBM.

DIMENSIONS		Width	Depth	Height
Metric		483 mm	800 mm	805 mm
English		19 in	31.5 in	31.7 in

Maximum Configuration Weight		299 kg	660 lbs
ELECTRICAL			
kVA	0.98		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	3328 BTU/hr		
Power requirements (maximum)	975 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	12 or 40		
Power cord length	1.8 m (6 ft) USA only	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	6.8		6.6
LpAm			
<LpA>m (dB)	53		51
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1650 mm	762 mm	914 mm	762 mm
65 in	30 in	36 in	30 in

9402 Model Cxx -Fxx System Units

DIMENSIONS	Width	Depth	Height
Metric	345 mm	750 mm	610 mm
English	13.6 in	29.5 in	24.0 in
Maximum Configuration Weight			
		62 kg	137 lbs

ELECTRICAL				
kVA	0.297			
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz			
Thermal Output	928 BTU/hr			
Power requirements (maximum)	272 watts			
Power factor	-			
Phase	1			
Plug type (Canada & USA)	4 or 5			
Power cord length	1.8 m (6 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 38 C	50 to 100 F		
Non-Operating	10 to 52 C	50 to 125 F		
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating	
Noncondensing Humidity		8% to 80%	8% to 80%	
Wet Bulb Temperature		23 C (73 F)	27 C (80 F)	
Maximum Altitude		3048 m (10,000 ft)		
NOISE EMISSIONS		Operating	Idle	
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.0 Bels	5.5 Bels	
LpAm		44	41	
<LpA>m (dB)		46	39	
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	762 mm	762 mm	762 mm	762 mm
	30 in	30 in	30 in	30 in

9404 Model Bxx-Fxx System Units

DIMENSIONS		Width	Depth	Height
Metric		350 mm	750 mm	650 mm
English		13.8 in	29.5 in	25.6 in
Maximum Configuration Weight		91 kg	200 lbs	
ELECTRICAL				
kVA		0.63		
Rated Voltage/Frequency		100-127/200-240 @ 50/60 +/- 0.5 Hz		

Thermal Output	1194 BTU/hr		
Power requirements (maximum)	350 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4 or 5		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	6.3 Bels	6.0 Bels	
LpAm	-	-	
<LpA>m (dB)	45	44	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Model 150

DIMENSIONS	Width	Depth	Height
Metric	193 mm	465 mm	520 mm
English	7.6 in	18.3 in	20.5 in
Maximum Configuration Weight		21 kg	46 lbs
ELECTRICAL			
kVA	0.314		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	662 BTU/hr		
Power requirements (maximum)	182 watts		
Power factor	-		

Phase	1			
Plug type (Canada & USA)	4 or 5			
Power cord length	1.8 m (6 ft) USA only	2.4 m (9 ft)		
TEMPERATURE REQUIREMENTS				
Operating	10 to 38 C	50 to 100 F		
Non-Operating	10 to 52 C	50 to 125 F		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)		
Maximum Altitude	3048 m (10,000 ft)			
NOISE EMISSIONS				
	Operating	Idle		
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	5.5 Bels	5.2 Bels		
LpAm	43	35		
<LpA>m (dB)	38	34		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	762 mm	75 mm	762 mm	762 mm
	30 in	3 in	30 in	30 in

Planning for a Model 250

To prepare a site for a Model 250 server, complete these tasks:

Physical planning

- ___ 1.
- ___ 2.
- ___ 3.
- ___ 4.
- ___ 5.

Choose a site

Choose a site that offers optimal operating conditions for the server.

“Choosing a system console” on page 3

To interact with the server, you will need either an Operations Console (recommended) or a twinaxial console.

Determine power requirements

Make sure the site has the appropriate power and outlets.

Map out the chosen site

A site plan helps to arrange the server and its devices. Determine where power outlets and phone jacks are needed, and calculate the amount of cable required.

Determine cable requirements

Determine the type and lengths of cables required.

Site preparation

- ___ 1. **Install power outlets**
Have your electrician install the required wiring for the server's receptacle type.
- ___ 2. **Prepare for delivery**
Plan for the delivery of the server*.
- ___ 3. **Label the cables for the server**
Once the server arrives, use the labels provided to label the cables.
- ___ 4. **Connect the cables for the system**
Once the server arrives, make all of the cable connections for the server and the system.
- ___ 5. **Check cables and power**
Once the server arrives, make sure the cables and power are properly installed, and have them tested for continuity and polarity.

*When the server arrives, have it delivered (still in its crate) to the room where it will be installed. Use the instructions included with the server to unpack and install the server.

Important: Leave the server inside the shipping bag for 6 to 12 hours to let it acclimate to the final physical environment. If a server is shipped in a cold environment, there is a possibility that water condensation will form on the cooler surfaces inside the machine. To avoid this, allow sufficient time for the server to reach equilibrium with warmer indoor temperatures before removing the shipping bag.

9402/9404-2xx, 4xx System Unit with Expansion Unit 7117, 9117

DIMENSIONS	Width	Depth	Height
Metric	422 mm	806 mm	500 mm
English	16.9 in	31.7 in	19.7 in
Note: Width includes pedestal. Width excluding pedestal is 380 mm (14.9 in).			
Maximum Configuration Weight	54.4 kg		120 lbs
ELECTRICAL (320 watt power supply)			
kVA	0.571		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1895 BTU/hr		
Power requirements (maximum)	555 watts		
Power factor	0.97		
Phase	-		
Plug type (Canada & USA)	-		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 37.8 C	50 to 100 F	
Non-Operating	10 to 43 C	50 to 109.4 F	
ENVIRONMENT REQUIREMENTS			
Noncondensing Humidity	Operating	Non-Operating	
	8% to 80%	8% to 80%	

Wet Bulb Temperature	23 C (73.4 F)	27 C (80.6 F)	
Maximum Altitude	3048 m (10,000 ft.)		
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	6.0	5.7	
LpAm			
<LpA>m (dB)	42	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

9402/9404 - 2xx, 4xx System Unit

DIMENSIONS	Width	Depth	Height
Metric	305 mm	723 mm	500 mm
English	12.2 in	28.5 in	19.7 in
Note: Width includes pedestal. Width excluding pedestal is 205 mm (8.2 in).			
Maximum Configuration Weight		33 kg	74 lbs
ELECTRICAL		175 watt power supply	320 watt power supply
kVA		0.273	0.267
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output		584 BTU/hr	785 BTU/hr
Power requirements (maximum)		171 watts	230 watts
Power factor		0.63	0.86
Phase	1		
Plug type (Canada & USA)	4 or 5		
Power cord length		1.8 m (6 ft) USA only	2.7 m (9 ft)
TEMPERATURE REQUIREMENTS			
Operating		10 to 37.8 C	50 to 100 F
Non-Operating		10 to 43 C	50 to 109.4 F
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 C (73.4 F)	27 C (80.6 F)
Maximum Altitude	3048 m (10,000 ft.)		
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		6.0	5.7

LpAm (dB)		39	35
<LpA>m (dB)		42	40
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

9404/9406 3xx Expansion Tower (5061, 5062, and 5063) with Disk Expansion 5052


DIMENSIONS	Width	Depth	Height
Metric	485 mm	925 mm	950 mm
English	19.1 in	36.4 in	37.4 in
Note: Height excluding disk expansion is 750 mm (29.5 in).			
Maximum Configuration Weight		136 kg	300 lbs
ELECTRICAL			
kVA	0.297		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	928 BTU/hr		
Power requirements (maximum)	272 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4 or 5		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS			
	Operating	Idle	
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	6.0 Bels	5.5 Bels	
LpAm	44	41	
<LpA>m (dB)	46	39	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top

762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

9404/9406 3xx System Tower with Disk Expansion 5051, 5052, or 9250


DIMENSIONS			
	Width	Depth	Height
Metric	485 mm	925 mm	950 mm
English	19.1 in	36.4 in	37.4 in
Note: Height excluding disk expansion is 750 mm (29.5 in) .			
Maximum Configuration Weight		136 kg	300 lbs
ELECTRICAL			
kVA	0.859		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	2894 BTU/hr		
Power requirements (maximum)	848 watts		
Power factor	-		
Phase	1		
Plug type (Canada & USA)	4, 5, 7, 10, 34, or 51		
Power cord length	1.8 m (6 ft)	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS			
	Operating	Idle	
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	6.0 Bels	5.5 Bels	
LpAm	44	41	
<LpA>m (dB)	46	39	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Server Tower 500 with Disk Expansion 5051 and 5052

Server Tower 500 with Disk Expansion 5051, 5052			
Pictured is the server tower 500 with disk expansion 5051, 5052.			
DIMENSIONS	Width	Depth	Height
Metric	485 mm	925 mm	950 mm
English	19.1 in	36.4 in	37.4 in
Note: Height excluding disk expansion is 750 mm (29.5 in).			
Maximum Configuration Weight		114 kg	251 lbs
ELECTRICAL			
kVA	1.058		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	3597 BTU/hr		
Power requirements (maximum)	1054 watts		
Power factor	0.99		
Phase	1		
Plug type (Canada & USA)	4, 5, 7, 10, 34, or 51		
Power cord length	1.8 m (6 ft)	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 38 C	50 to 100 F	
Non-Operating	10 to 52 C	50 to 125 F	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
Maximum Altitude	3048 m (10,000 ft)		
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	5.8 Bels (6.6)	5.7 Bels (6.4)	
LpAm			


Server Tower 500 with Disk Expansion 5051, 5052			
<LpA>m (dB)		40 (45)	39 (44)
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Servers (Processor and I/O Sides) 530 and 53S

Dimensions for Servers (Processor and I/O Sides) 530 and 53S				
Pictured is the 530/53S (processor and I/O sides) server.				
DIMENSIONS	Width	Depth	Height	
Metric	1092 mm	925 mm	950 mm	
English	43.0 in	36.4 in	37.4 in	
Maximum Configuration Weight		397 kg	876 lbs	
ELECTRICAL	Processor Side			I/O Side with Disk Expansion 9051, 8052
	1-Way	2-Way	4-Way	
kVA	1.222	1.839	2.552	1.114
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz			100-127/200-240 @ 50/60 +/- 0.5 Hz
Thermal Output	4003 BTU/hr	6024 BTU/hr	8362 BTU/hr	3788 BTU/hr
Power requirements (maximum)	1173 watts	1765 watts	2450 watts	1110 watts
Power factor	0.96	0.96	0.96	0.99
Phase	1			
Plug type (Canada & USA)	12 or 40			4, 5, 7, 10, 34, or 51


Dimensions for Servers (Processor and I/O Sides) 530 and 53S			
Power cord length		1.8 m (6 ft) 4.3 m (14 ft)	1.8 m (6 ft) 4.3 m (14 ft)
Note: Model 530/53S requires two line-cords. The two power cords do not provide redundancy. There is a 25/30 Amp line-cord for the processor side, and a 10/15 Amp line-cord for the I/O side.			
TEMPERATURE REQUIREMENTS			
Operating		10 to 32 C	50 to 90 F
Non-Operating		10 to 52 C	50 to 125 F
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 C (73 F)	27 C (80 F)
NOISE EMISSIONS			
		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.9 Bels	6.9 Bels
LpAm			
<LpA>m (dB)		52	52
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Model 600 and Model S10

Dimensions for the Model 600 and Model S10 System Units			
<p>Pictured is the Model S10 server. Dimensions for Model 600 are identical.</p> 	Width	Depth	Height
	DIMENSIONS		


Dimensions for the Model 600 and Model S10 System Units			
Metric	330 mm	934 mm	610 mm
English	13.0 in.	36.8 in.	24.0 in.
Maximum Configuration Weight		69 Kgs (152 lbs.)	
ELECTRICAL			
kVA (maximum)	0.457		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 plus or minus 0.5 Hz		
Thermal Output (maximum)	1481 BTU/hr		
Power requirements (maximum)	434 Watts		
Power factor	0.95		
Inrush Current	41 Amps		
Leakage Current (maximum)	3.5 mAmps		
Phase	1		
Plug type (Canada & USA)	4, 5, 7, 10, 34, or 51		
Power cord length	1.8 m (6 ft)	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS (Class B extended)			
Operating	10 degrees to 37.8 degrees C (50 degrees to 100 degrees F)		
Non-Operating	1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)		
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	
Noncondensing Humidity Range	8 to 80%	8 to 80%	
Wet Bulb Temperature (maximum)	22.8 degrees C (73 degrees F)	-	
Maximum Altitude	3048 m (10,000 ft.)		
NOISE EMISSIONS	Operating	Idle	
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	6.0 Bels	5.5 Bels	
LpAm			
<LpA>m (dB)	41	36	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Models 620, S20, and 720

Dimensions for the Model 620, S20, and 720 Servers					
Pictured are the Model S20 server and the Model S20 server with 5064 expansion unit. Dimensions for Model 620 & Model 720 are identical to the S20 with 5064 dimensions. (Models 620 & 720 come standard with 9364 expansion unit.)	S20 System Unit			S20 With 5064 Expansion Unit	
				620 & 720 System Unit	
					
DIMENSIONS	S20 Width	S20 with 5064 Width	S20 Depth	S20 with 5064 Depth	S20/620 & 720 System Unit Height
		620 & 720 Width		620 & 720 Depth	
Metric	703.5 mm	625 mm	934 mm	1060 mm	1040 mm
English	27.7 in.	24.6 in.	36.8 in.	41.7 in.	41 in.
		S20		620, 720 S20 with 5064	
Maximum Configuration Weight		183 Kgs (402 lbs.)		306 Kgs (673 lbs.)	
ELECTRICAL					
kVA (maximum)		0.934		1.809	
Rated Voltage/Frequency		200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output (maximum)		2870 BTU/hr		5433 BTU/hr	
Power requirements (IP measurement) maximum		841 Watts		1592 Watts	
Power factor		0.88			
Inrush Current		38 Amps			
Leakage Current (maximum)		3.5 mAmps			
Phase		1			
Plug type (Canada & USA)		5, 10, or 34			
Power cord length		1.8 m (6 ft) 4.3 m (14 ft)			
TEMPERATURE REQUIREMENTS					
Operating		10 degrees to 37.8 degrees C (50 degrees to 100 degrees F)			
Non-Operating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)			


Dimensions for the Model 620, S20, and 720 Servers			
ENVIRONMENT REQUIREMENTS	Operating		Non-Operating
Noncondensing Humidity	8 to 80%		8 to 80%
Wet Bulb Temperature	22.8 degrees C (73 degrees F)		-
Maximum Altitude	3048 m (10,000 ft.)		
NOISE EMISSIONS	Operating		Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)	6.0 Bels		5.5 Bels
LpAm			
<LpA>m (dB)	41		36
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Models 640, S30, and 730

Dimensions for Models 640, S30, and 730 Servers				
<p>Pictured is the Model S30 server with 5055 Disk Expansion Unit attached to the top. Dimensions for Model 640 and Model 730, with 5055 storage expansion unit are identical.</p>				
	DIMENSIONS	Width	Depth	Height
Metric	565 mm	1320 mm	1434 mm	1577 mm
English	22.3 in.	52 in.	57 in.	62 in.
Maximum Configuration Weight			400 Kgs (880 lbs.)	
ELECTRICAL				
kVA (maximum)			2.051	

Dimensions for Models 640, S30, and 730 Servers			
Rated Voltage/Frequency		200-240 VAC @ 50/60 plus or minus 0.5 Hz	
Thermal Output (maximum)		6860 BTU/hr	
Power requirements (maximum)		2010 Watts	
Power factor		0.98	
Inrush Current		105 Amps	
Leakage Current (maximum)		3.5 mAmps	
Phase		1	
Plug type (Canada & USA)		12, or 40	
Power cord length		1.8 m (6 ft)	4.3 m (14 ft)
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 37.8 degrees C (50 degrees to 100 degrees)	
Non-Operating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8 to 80%	8 to 80%
Wet Bulb Temperature		22.8 degrees C (73 degrees F)	-
Maximum Altitude		3048 m (10,000 ft.)	
NOISE EMISSIONS		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.7 Bels	6.7 Bels
LpAm			
<LpA>m (dB)		49	49
Impulsive or prominent discrete tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Models 650, S40, 740, and SB1

Dimensions for Models 650, S40, 740, and SB1 servers with 9251 I/O unit			
<p>Pictured is the Model S40 server with the 9251 I/O unit. Dimensions for Models 650, 740, and SB1 are identical. All four servers (650, S40, 740 and SB1) use the 9251 I/O unit.</p>			
Dimensions	Width	Depth	Height
Metric	567 mm	1295.7 mm	1577 mm
English	22.3 in.	51 in.	62.1 in.
Maximum configuration weight		371 Kgs (815 lbs.)	
Electrical			
kVA (maximum)		1.939	
Rated voltage and frequency		200-240VAC @ 50/60 plus or minus 0.5 Hz	
Thermal output (maximum)		6485 BTU/hr	
Power requirements (maximum)		1900 Watts	
Power factor		0.98	
Inrush current		105 Amps	
Leakage current (maximum)		3.5 mAmps	
Phase		1	
Plug type (Canada & USA)		12, or 40	
Power cord length		1.8 m (6 ft)	4.3 m (14 ft)
Temperature requirements			
Operating		10 degrees to 37.8 degrees C (50 degrees to 100 degrees F)	
Nonoperating		1 degrees to 60 degrees C (33.8 degrees to 140 degrees F)	
Environment requirements		Operating	Nonoperating
Noncondensing humidity		8 to 80%	8 to 80%

Dimensions for Models 650, S40, 740, and SB1 servers with 9251 I/O unit			
Wet bulb temperature		22.8 degrees C (73 degrees F)	
Maximum altitude		3048 m (10,000 ft.)	
Noise emissions		Operating	Idle
LWAd cat 3C, Quiet Office (2E, Gen Bus.)		6.7	6.7
LpAm			
<LpA>m (dB)		49	49
Impulsive or prominent discreet tones			
Service clearances			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

9406 6xx and 7xx System Units

DIMENSIONS	Width	Depth	Height
Metric	305 mm	723 mm	500 mm
English	12.2 in	28.5 in	19.7 in
Note: Width includes pedestal. Width excluding pedestal is 205 mm (8.2 in).			
Maximum Configuration Weight		33 kg	74 lbs
ELECTRICAL		175 watt power supply	320 watt power supply
kVA		0.273	0.267
Rated Voltage/Frequency		100-127/200-240 @ 50/60 plus or minus 0.5 Hz	
Thermal Output		584 BTU/hr	785 BTU/hr
Power requirements (maximum)		171 watts	230 watts
Power factor		0.63	0.86
Phase		1	
Plug type (Canada & USA)		"Plug and receptacle type 4" on page 359 or "Plug and Receptacle Type 5" on page 363	
Power cord length		1.8 m (6 ft) USA only	2.7 m (9 ft)
TEMPERATURE REQUIREMENTS			
Operating		10 degrees to 38 degrees C	50 degrees to 100.4 degrees F
Non-Operating		10 degrees to 43 degrees C	50 degrees to 109.4 degrees F

ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		23 degrees C (73.4 degrees F)	27 degrees C (80.6 degrees F)
"Altitude" on page 203		3048 m (10,000 ft)	
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		6.0	5.7
LpAm (dB)		39	35
<LpA>m (dB)		42	40
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	762 mm
30 in	30 in	30 in	30 in

Chapter 14. Line cord options for an 0551 iSeries Rack:

- 0121 - 270 lower unit (customer-specify)
- 0122 - 270 upper unit (customer-specify)
- 0123 - 5074 lower unit in rack
- 0125 - 9079 lower unit in rack
- 0127 - 270 field-installed in rack
- 0578 - Expansion Unit in rack

5160 power distribution unit; single phase

The following line cords are supported on the 5160:

- 1426 - 200 V; 14 ft locking line cord (L6-30P)
- 1427 - 200 V; 14 ft watertight line cord (3750)
- 1446 - 4.3 m; 200 V; 30 amp Korean (250V, 30A Korean plug)
- 1447 - 4.3 m; 200 V; 30 amp AU (PDL 250 V; 30 amp plug)
- 1448 - 4.3 m; 200 V; 30 amp NZ (PDL 250 V; 30 amp plug)

5161 power distribution unit; single phase IEC

The following line cord is supported on the 5161:

- 1449 - 4.3 m 200 V; 32 amp EU 1-phase (IEC 309, 3-pin, 32 amp; IBM plug type 46)

162 power distribution unit; 2 of 3 phase

The following line cord is supported on the 5162:

- 1450 - 4.3 m 200 V; 16 amp EU 2-phase (IEC 309, 5-pin, 16 amp; IBM plug type 46)

Each power distribution unit has six IEC 320-C13 outlets. A 3 m 1422 line cord (IEC 320 C13/C14 power distribution unit cord) supplies power from the PDU outlet (C13) to the rack-mounted device. The 1422 has a detachable line cord and an IEC 320-C14 connector.

Systems that will not attach to the power distribution unit:

- 0550 - 830 rack - requires one country specific 14xx line cord
- 0123 - 5074 lower unit in rack - requires one country-specific 14xx line cord
- 0125 - 9079 lower unit in rack - requires one country-specific 14xx line cord
- 5079 - two 5074s in the rack - requires two country-specific 14xx line cords
- 8079 - 9079 and 5074 in the rack - requires two country-specific 14xx line cords

Systems that can attach to the power distribution unit:

- 0121 - 270 in lower rack - requires two country specific 14xx line cords if order without a power distribution unit
- 0122 - 270 in upper rack - requires two country specific 14xx line cords if order without a power distribution unit
- 0127 - field-installed 270 unit inside a 0551 iSeries rack that already has one 270 installed.
- 0578 - Expansion Unit in rack - requires two country-specific 14xx line cords if ordered without a power distribution unit

Line cord feature 1300 for Models 870 and 890

This option is the **3-phase, 200-240 VAC, 60 amp, 6 ft (1.8 m)** line cord with IBM part number 04N1868 machine input connector, and a 460R9W plug on the wall side.

Line cord feature 1301 for Models 870 and 890

This option is the **3-phase, 200-240 VAC, 60 amp, 14 ft (4.3 m)** line cord with IBM part number 04N1868 machine input connector, and a 460R9W plug on the wall side.

Line cord feature 1302 for Models 870 and 890

This option is the **3-phase, 480 VAC, 30 amp, 6 ft (1.8 m)** line cord with IBM part number 04N1868 machine input connector, and a 430R7W plug on the wall side.

Line cord feature 1303 for Models 870 and 890

This option is the **3-phase, 480 VAC, 30 amp, 14 ft (4.3 m)** line cord with IBM part number 04N1868 machine input connector, and a 430R7W plug on the wall side.

Line cord feature 1304 description

This option is the **3-phase, 380-415 VAC, 60 amp, 14 ft (4.3 m)** line cord with IBM part number 04N1868 machine input connector, and no plug on the wall side, for W.T.

Line cord feature 1397 description

This option is the **200 VAC 14 ft (4.3 m)** line cord with an IEC320-C13 wall plug for:

- Models 270, 800, 810, and 820
- FC 5075, 5095, 7104, and 7116 expansion units

Line cord feature 1398 description

This option is the **100 VAC, 14 ft (4.3 m)** line cord with an IEC320-C13 wall plug for:

- Models 270, 800, 810, and 820
- FC 5075, 5095, 7104, and 7116 expansion units

Line cord feature 1399 description

This option is the **200 VAC, 14 ft (4.3 m)** line cord with an IEC320-C19 wall plug for:

- Models 830 and SB2
- FC 5074 and 5094 expansion units

Line cord feature 1401 description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord with an **IEC320-C19** machine input connector and a NEMA 6-20P plug on the wall side for the FC 5065 and FC 5066 (two cords needed).

Line cord feature 1406 description

This option is the **200-240, VAC 14 ft (4.3 m) twist lock/locking** line cord with an **IEC320-C19** machine input connector and L6-20P wall plug for:

- Models 830 and SB2
- the #5065, #5066 (two cords needed), 5074 PCI expansion unit, and 5079 (two cords needed) the 1.8M I/O rack
- the 9079 Base I/O Tower in Argentina and Cape Verde Islands only, but worldwide for just the #5065, #5066 (two cords needed).
- FC 5094 PCI-X expansion unit

- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1407 description

This option is the **200-240 VAC, 14 ft (4.3 m) water-resistant** line cord with an **IEC320-C19** machine input connector and water-resistant wall plug for just the #5065 and #5066 (two cords needed).

Line cord feature 1408 description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord with an IEC 320-C19 machine input connector and a CEI 23-16 plug for:

- Models 830 and SB2
- FC 9079 I/O unit and FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 5065 storage/PCI expansion unit
- FC 5066 storage/PCI expansion unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1409 description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord with an IEC 320-C19 machine input connector and an Australian 15A plug for:

- Models 830 and SB2
- FC 9079 I/O unit and FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1410 description

This option is the **200-240 VAC, 6 ft (1.8 m)** line cord with an IEC 320-C13 machine input connector and NEMA 6-15P wall plug for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar
- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line cord feature 1412 description

This option is the **100-127 VAC, 6 ft (1.8 m)** line cord with an IEC 320-C13 machine input connector and NEMA 5-15P wall plug for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar
- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line cord feature 1414 description

This option is the **200-240 VAC, 6 ft (1.8 m)** line cord with a twist-lock and an IEC 320-C13 machine input connector for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar
- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line cord feature 1415 description

This option is the **200-240 VAC, 6 ft (1.8 m)** water-resistant line cord with an IEC320-C13 machine input connector for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar
- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line cord feature 1418 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and SABS164 wall plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1419 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and SII-32 plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1420 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and Schuko plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1421 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and IEC309 plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1422 description

This option is the **100-240 VAC, 10 ft (3 m)** line cord with an **IEC320-C13** that connects to IEC320-C14, and requires #5160, #5161, or #5162.

Line cord feature 1426 description

This option is the **200-240 VAC, 14 ft (4.3 m) locking** line cord with a **L6-30R** machine input connector for the Models 840 and SB3.

Line Cord Feature 1427 Description

This option is the **200-240 VAC, 14 ft (4.3 m) water-resistant** line cord with a **L6-30R** machine input connector for the Models 840 and SB3.

Line cord feature 1438 description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord with an IEC 320-C13 machine input connector and an AS3112 plug for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar
- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line cord feature 1439 description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord with an IEC 320-C13 machine input connector and Schuko plug for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar
- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line cord feature 1440 description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord with an IEC 320-C13 machine input connector and 10 amp Danish plug for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar
- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line cord feature 1441 description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord with an IEC 320-C13 machine input connector and an SABS164 plug for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar

- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line Cord Feature 1442 Description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord for server Models 270 and 820, the 7104 expansion unit, and the 5077 migrated rack.

Line cord feature 1443 description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord with an IEC 320-C13 machine input connector and a BS 1363 A plug for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar
- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line cord feature 1444 description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord with an IEC 320-C13 machine input connector and a CEI23-16 plug for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar
- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line cord feature 1445 description

This option is the **200-240 VAC, 14 ft (4.3 m)** line cord with an IEC 320-C13 machine input connector and an SII-32 plug for:

- Models 270 and 820
- FC 5075 PCI expansion unit and FC 5077 migration tower
- FC 7104 system unit expansion sidecar
- Model 800 or 810
- Model 825
- FC 5095 PCI-X expansion unit

Line cord feature 1446 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC-309 machine input connector and 32 amp Korean plug for Model 840 and Model SB3.

Line cord feature 1447 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC-309 machine input connector and 32 amp Australian plug for Model 840 and Model SB3.

Line cord feature 1448 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC-309 machine input connector and 32 amp New Zealand plug for Model 840 and Model SB3.

Line cord feature 1449 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC-309 machine input connector and 32 amp 3-pin IEC-309 plug for Model 840 and Model SB3.

Line cord feature 1450 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC-309 machine input connector and 16 amp 5-pin IEC-309 plug for Model 840 and Model SB3.

Line cord feature 1451 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and NEMA 6-15P plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1452 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and NEMA 6-15P plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack

Line cord feature 1453 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and a twist-lock plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1454 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and twist-lock plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1455 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and water-resistant plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1456 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and water-resistant plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit

- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1457 description

This option is the **200-240, VAC 14 ft (4.3 m)** upper line cord with an IEC320-C19 machine input connector and NEMA 6-15P plug for:

- FC 5079 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line Cord Feature 1458 Description

This option is the **200-240, VAC 14 ft (4.3 m)** upper line cord with an IEC320-C19 machine input connector and twist-lock plug for:

- FC 5079 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1459 description

This option is the **200-240, VAC 14 ft (4.3 m)** upper line cord with an IEC320-C19 machine input connector and a water-resistant plug for:

- FC 5079 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line cord feature 1476 description

This option is the **200-240, VAC 14 ft (4.3 m)** line cord with an IEC320-C19 machine input connector and BS 1363 A plug for:

- Models 830 and SB2
- FC 5065 storage/PCI expansion unit
- FC 5066 1.8M I/O rack
- FC 5074 PCI expansion unit
- FC 5079 1.8M I/O rack
- FC 9079 I/O unit
- FC 5094 PCI-X expansion unit
- FC 5294 1.8M I/O rack
- FC 8094 1.8M I/O rack

Line Cord Feature 2960 Description

This option specifies all line cords for the ordered system unit to be **low voltage (100-127 VAC)**.

- The 2960 option affects the line cord for the Models 200, 20S, and 4xx System Units; the 3xx, 5xx, 600, and S10 System Towers; and the 5060, 5061, 5062, 5063, 5070, 5072, 5080, and 5082 Expansion Towers.

- This voltage feature is **not used by** the Models 620, 640, 650, 7xx, and 8xx; the Models S20, S30, S40, SB1, SB2, and SB3; the 5071, 5073, 5074, 5079, 5065, 5066, 5075, 5081, 5083, and Expansion Units; and the 5033, 5034, 5035, and 5077 Migration Units.
- **You can add the specification codes** 9080, 9082, and 9083 in addition to 2960 to specify other attributes of the line-cord such as length and plug type.
- **You must specify** the I/O side of 530 and 53S system towers separately, using either 2960 or 2961.
- 2961 is **not allowed** on the same line cord as 2960.

Line Cord Feature 2961 Description

This option specifies all line cords for the ordered system unit to be **high voltage (200-240 VAC)**.

- The 2961 option affects the line cord for the Models 200, 20S, and 4xx System Units; the Models 3xx, 5xx, 600, and S10 System Towers; and the 5060, 5061, 5062, 5063, 5070, 5072, 5080, and 5082 Expansion Towers.
- This voltage feature is **not used by** the Models 620, 640, 650, 7xx, and 8xx; the Models S20, S30, S40, SB1, SB2, and SB3; the 5071, 5073, 5074, 5079, 5065, 5066, 5075, 5081, 5083, and Expansion Units; and the 5033, 5034, 5035, and 5077 Migration Units.
- **You can add the specification codes** 9080, 9082, and 9083 in addition to 2961 to specify other attributes of the line-cord such as length and plug type.
- **You must specify** the I/O side of 530 and 53S system towers separately, using 2960 or 2961.
- 2960 is **not allowed** on the same line cord as 2961.

Line Cord Feature 4961 Description

This option specifies that the line cord for the processor side of the Model 53x System Tower is **30 Amp** and **200-240 VAC**.

- Models 640, 650, 730, 740, and 840 and Models S30, S40, SB1, and SB3 **do not use this feature code**.
- 4961 does not affect other line cords of the system.
- There is **no 120 Volt option** on the processor side of the 53x System Tower; the Models 640, 650, 730, 740, and 840; or the Models S30, S40, SB1, and SB3.
- **You can add the specification codes** 9180, 9182, and 9183 in addition to 4961 to specify other attributes of the line cord such as length and plug type for the processor side.

Line cord feature 9002 description

This option is specified when a **dual** line cord is required.

- This specify code is used to determine that the 820 power subsystem is enabled to support dual power cords.
- The 9002 specify code is added to all Model 820 servers regardless of the operating system level ordered.

Line Cord Feature 9080 Description

This option is specified when a **water resistant** line cord is required.

- **You can add the specification code** 9082, which specifies the length of the line cord.
- 9083 is **not allowed** on the same line cord as 9080.
- Option 9080 is **only available** in Canada, Japan, and the United States.

Line Cord Feature 9082 Description

This option is specified when a **14 ft (4.3 m)** line cord is required.

- The **prerequisite** is either 2960 or 2961.
- Option 9082 is **only available** in Canada, Japan, and the United States.

Line Cord Feature 9083 Description

This option is specified when a **locking** line cord is required.

- The **prerequisite** is either 2960 or 2961.
- **You can add specification code** 9082 in addition to 9083 to specify length of the line cord.
- 9080 is **not allowed** on the same line cord as 9083.
- Option 9083 is **only available** in Canada, Japan, and the United States.

Line Cord Feature 9180 Description

This option is specified when a **water-resistant** line cord is required on the processor side of Models 53x, 640, 650, S30, S40, and SB1.

- The **prerequisite** for the processor side of the 53x System is 4961.
- **You can add specification code** 9182 in addition to 9180 to specify length of the line cord.
- 9183 is **not allowed** on the same line cord as 9180.
- Option 9180 is **only available** in Canada, Japan, and the United States.

Line Cord Feature 9182 Description

This option is specified when a **14 ft (4.3 m)** line cord is required on the processor side of Models 53x, 640, 650, S30, S40, and SB1.

- The **prerequisite** for the processor side of the 53x System is 4961.
- **You can add specification codes** 9180 or 9183 in addition to 9182 to specify other attributes of the line cord such as length and plug type.

Line Cord Feature 9183 Description

This option is specified when a **locking** line cord is required on the processor side of Models 53x, 640, 650, S30, S40, and SB1.

- The **prerequisite** for the processor side of the **53x System** is 4961.
- **You can add the specification code** 9182 in addition to **9183** to specify length of the line cord.
- 9180 is **not allowed** on the same line cord as 9183.

IBM Rochester's position on modifying of IBM-provided power cords

IBM recommends an IBM-released power cord because of the specifications which must be met for both the design and manufacture of our IBM power cords. The specifications, the components used in the design, and the manufacturing process is an external safety agency approved process which is audited by safety agencies on a periodic and ongoing basis to ensure quality and compliance with design requirements.

When a server leaves the manufacturing site, it is safety agency listed. **IBM does not recommend modifying IBM-provided power cords.** In the rare circumstance where modification of an IBM-provided power cord is deemed essential, the customer should:

1. discuss the modification with their insurance provider to assess the effect, if any, on insurance coverage
2. consult with a professional electrician regarding compliance with local codes

The following excerpts from the Services Reference Manual (SRM) explain IBM Rochester's policy on power cord alteration and the liabilities involved.

SRM EXCERPTS

A cable group associated with a purchased IBM machine, and bearing an IBM label, is the property of the IBM machine owner. All other IBM furnished cable groups (except those for which specific purchase invoices have been paid) are the property of IBM.

Customers assume all risks associated with turning a machine over to others for the performance of technical work such as, but not limited to, the installation or removal of features, alterations or attachments.

IBM will advise the customer of any limitation, resulting from the alteration, affecting IBM's ability to provide Warranty Service or Maintenance after review by the appropriate Service Delivery and Field Marketing Practices personnel.

What is an alteration?

An alteration is any change to an IBM machine that deviates from IBM's physical, mechanical, electrical, or electronic design (including microcode) whether or not additional devices or parts are used. An alteration is also an interconnection at some place other than an IBM-defined interface. See the Multiple Supplier Systems Bulletin for more detail.

For an altered machine, service will be confined to the unaltered portions of the IBM machine.

After inspection, IBM will continue to make Warranty Service or Maintenance available, as appropriate, for the unaltered portion of an IBM machine.

IBM will not maintain the altered portion of an IBM machine under either an IBM Agreement or on an Hourly Service basis.

If you have more questions about power cord modification, contact an IBM service representative.

Plug Type 12 Countries or Regions

Afghanistan, Anguilla, Antigua, Argentina, Aruba, Bahamas, Bangladesh, Barbados, Belize, Bermuda, Bolivia, Bonaire, Brunei, Caicos Islands, Canada, Cape Verde Islands, Cayman Islands, Chile, China (Hong Kong S.A.R.) Colombia, Costa Rica, Curacao, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Indonesia, Jamaica, Japan, Malaysia, Mexico, Montserrat, Myanmar, Netherlands Antilles, Nicaragua, Panama, Paraguay, People's Republic of China, Peru, Philippines, Puerto Rico, Sri Lanka, St. Kitts, St. Martin, Suriname, Taiwan, Thailand, Tobago, Tortola (BVI), Trinidad, Turks Island, United States, Uruguay, Venezuela, Virgin Islands

Plug Type 18 Countries or Regions

Afghanistan, Albania, Algeria, Andorra, Armenia, Austria, Azores, Belarus, Belgium, Benin, Bosnia, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canary Islands, Central African Republic, Chad, China (Macau S.A.R.), Congo, Croatia, Czech Republic, Dahomey, Djibouti, Egypt, Equatorial Guinea, Estonia, Faero Islands, Finland, France, French Polynesia, French Guyana, Gabon, Georgia, Germany, Greece, Greenland, Guadeloupe, Guinea, Guinea-Bissau, Hungary, Iceland, Indonesia, Iran, Ivory Coast, Kazakhstan, Kirghizia, Laos, Latvia, Lebanon, Liberia, Lithuania, Luxembourg, Macedonia, Malagasy Republic, Mali, Martinique, Mauritania, Moldavia, Monaco, Mongolia, Morocco, Mozambique, Netherlands,

New Caledonia, Niger, North Korea, Norway, Paraguay, Peru, Poland, Portugal, Principe, Reunion, Romania, Russia, Rwanda, Sao Tome Island, Saudi Arabia, Senegal, Serbia, Slovenia, Slovakia, South Korea, Spain, Sudan, Suriname, Swaziland, Sweden, Syria, Tahiti, Togo, Tunisia, Turkey, Ukraine, Uruguay, Uzbekistan, Vietnam, Zaire, Zimbabwe

Plug Type 46 (P+N+G) [32A] Countries or Regions

Abu Dhabi, Albania, Algeria, Andorra, Angola, Armenia, Azores, Bahrain, Belarus, Belgium, Benin, Bosnia, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canary Islands, Central African Republic, Chad, China (Macau S.A.R.), Congo, Croatia, Cyprus, Dahomey, Djibouti, Dominica, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Faero Islands, France, French Guyana, French Polynesia, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Greenland, Grenada, Grenadines, Guadeloupe, Guinea, Guinea-Bissau, Guyana, Hungary, Iceland, India, Iran, Iraq, Ireland, Italy, Ivory Coast, Jordan, Kazakhstan, Kenya, Kirghizia, Kuwait, Laos, Lesotho, Lebanon, Liberia, Libya, Luxembourg, Macedonia, Malagasy Republic, Malawi, Mali, Malta, Martinique, Mauritania, Moldavia, Mongolia, Monaco, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Caledonia, Niger, Nigeria, Norway, Oman, Pakistan, Poland, Principe, Qatar, Reunion, Romania, Rwanda, Sabah, Sao Tome Island, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Somalia, Spain, St. Lucia, St. Vincent, Sudan, Swaziland, Syria, Tahiti, Tanzania, Togo, Tunisia, Uganda, Ukraine, United Arab Emirates, United Kingdom, Uzbekistan, Vietnam, Western Samoa, Zaire, Zambia, Zimbabwe

Plug Type 46 (P+N+G) [16A] Countries or Regions

Denmark, Liechtenstein, Switzerland

(J) Only:

Abu Dhabi, Bahrain, Botswana, Brazil, Brunei, China (Hong Kong S.A.R.), Cyprus, Dominica, Gambia, Ghana, Grenada, Grenadines, Guyana, India, Iraq, Ireland, Jordan, Kenya, Kuwait, Lesotho, Malawi, Malaysia, Malta, Namibia, Nepal, Nigeria, Oman, Qatar, Sabah, Seychelles, Sierra Leone, Singapore, St. Lucia, St. Vincent, Tanzania, Uganda, United Arab Emirates, United Kingdom, Zambia

Line cord features

When ordering line cords, use line cord options to specify features like length and general plug type. For example, you could specify #9083 to order a locking line cord for your Model 620.

You can use some of the option numbers in conjunction with each other. For example, #9182 specifies a 14 ft (4.3 m) cord, and #9183 specifies a locking line cord. For a system like the Model S30, you could specify line cord options #9182 **and** #9183 for a 14 ft (4.3 m) locking line cord.

Listed below are the line cord feature option numbers and a *general* description of the feature. Select the option number for a full description, including requirements.

Note: Some features are not available in all Countries or Regions, for all systems, or with all other options. Select the option number and check the full descriptions of the feature for these prohibitions.

- #1300 - 200-240 VAC/3 phase/60 Amp, 6 ft (1.8 m), 04N1868, 460P9W wall plug **(870 and 890 only)**
- #1301 - 200-240 VAC/3 phase/60 Amp, 14 ft (4.3 m), 04N1868, 460P9W wall plug **(870 and 890 only)**
- #1302 - 480 VAC/3 phase/30 Amp, 6 ft (1.8 m), 04N1868, 430P7W wall plug **(870 and 890 only)**
- #1303 - 480 VAC/3 phase/30 Amp, 14 ft (4.3 m), 04N1868, 430P7W wall plug **(870 and 890 only)**
- #1304 - 380-415 VAC/3 phase/60 Amp, 14 ft (4.3 m), 04N1868, no wall plug **(870 and 890 only)**
- #1397 - 200 VAC 10 Amp, 14 ft (4.3 m), IEC320-C13, wall plug
- #1398 - 100 VAC 10 Amp, 14 ft (4.3 m), IEC320-C13, wall plug
- #1399 - 200 VAC 16 Amp, 14 ft (4.3 m), IEC320-C19, wall plug

- #1401 - 200-240 VAC, 14 ft (4.3 m), IEC320-C19, 6-20P wall plug
- #1406 - 200-240 VAC twist lock/locking line cord, 14 ft (4.3 m), IEC320-C19
- #1407 - 200-240 VAC water-resistant line cord, 14 ft (4.3 m), IEC320-C19
- #1408 - 200-240 VAC, 14 ft (4.3 m), IEC320-C19, CEI-16 wall plug
- #1409 - 200-240 VAC, 14 ft (4.3 m), IEC320-C19, Australian 15A plug
- #1410 - 200-240 VAC, 6 ft (1.8 m), IEC320-C13, 6-15P wall plug
- #1412 - 100-127 VAC, 6 ft (1.8 m), IEC320-C13, 5-15P wall plug
- #1414 - 200-240 VAC, 6 ft (1.8 m), IEC320-C13, L6-15P wall plug
- #1415 - 200-240 VAC water-resistant line cord, 6 ft (1.8 m), IEC320-C13
- #1418 - 200-240 VAC, 14 ft (4.3 m), IEC320-C19, SABS 164 wall plug
- #1419 - 200-240 VAC, 14 ft (4.3 m), IEC320-C19, SII-32 wall plug
- #1420 - 100-240 VAC, 10 ft (3 m), IEC320-C19, Schuko wall plug
- #1421 - 200-240 VAC, 14 ft (4.3 m), IEC320-C19, IEC309 wall plug
- #1422 - 100-240 VAC, 14 ft (4.3 m) IEC320-C13 connects to IEC320-C14, requires #5160, #5162, or #5166
- #1426 - 200-240 VAC locking line cord, 14 ft (4.3 m), L6-30R
- #1427 - 200-240 VAC water-resistant line cord, 14 ft (4.3 m), L6-30R
- #1438 - 200-240 VAC, 14 ft (4.3 m), IEC320-C13, AS3112 wall plug
- #1439 - 200-240 VAC, 14 ft (4.3 m), IEC320-C13, Schuko wall plug
- #1440 - 200-240 VAC, 14 ft (4.3 m), IEC320-C13, Danish 10 amp wall plug
- #1441 - 200-240 VAC, 14 ft (4.3 m), IEC320-C13, SABS 164 wall plug
- #1442 - 200-240 VAC, 14 ft (4.3 m), IEC320-C13, Swiss 10 amp wall plug
- #1443 - 200-240 VAC, 14 ft (4.3 m), IEC320-C13, BS1363A wall plug
- #1444 - 200-240 VAC, 14 ft (4.3 m), IEC320-C13, CEI 23-16 wall plug
- #1445 - 200-240 VAC, 14 ft (4.3 m), IEC320-C13, SII-32 wall plug
- #1446 - 200-240 VAC, 14 ft (4.3 m), IEC309, Korean 32 amp wall plug
- #1447 - 200-240 VAC, 14 ft (4.3 m), IEC309, Australian 32 amp wall plug
- #1448 - 200-240 VAC, 14 ft (4.3 m), IEC309, New Zealand 32 amp wall plug
- #1449 - 200-240 VAC, 14 ft (4.3 m), IEC309, IEC 309 3-pin wall plug
- #1450 - 200-240 VAC, 14 ft (4.3 m), IEC309, IEC 309 5-pin wall plug
- #1451 - 200-240 VAC, 6 ft (1.8 m), IEC320-C19, 6-15P wall plug
- #1452 - 200-240 VAC, 14 ft (4.3 m), IEC320-C19, 6-15P wall plug
- #1453 - 200-240 VAC, 6 ft (1.8 m), IEC320-C19, L6-15P wall plug
- #1454 - 200-240 VAC, 14 ft (4.3 m), IEC320-C19, L6-15P wall plug
- #1455 - 200-240 VAC, 6 ft (1.8 m), IEC320-C19, water-resistant wall plug
- #1456 - 200-240 VAC, 14 ft (4.3 m), IEC320-C19, water-resistant wall plug
- #1457 - 200-240 VAC, 9 ft (2.7 m), IEC320-C19, 6-15P wall plug
- #1458 - 200-240 VAC, 9 ft (2.7 m), IEC320-C19, L6-15P wall plug
- #1459 - 200-240 VAC, 9 ft (2.7 m), IEC320-C19, water-resistant wall plug
- #1476 - 200-240 VAC, 14 ft (4.3 m), IEC320-C19, BS 1363A wall plug
- #2960 - 100-127 VAC (low voltage)
- #2961 - 200-240 VAC/10 A (high voltage)
- #4961 - 200-240 VAC/30 A
- #9080 - Water-resistant line cord
- #9081 - Locking line cord

- #9180 - Water-resistant line cord
- #9182 - 14 ft (4.3 m) line cord
- #9183 - Locking line cord

Note

When connecting the power line cord to Models 600, 620, S10, S20, 720, 830, SB2, and Expansion Towers #5065 and #5074 **make sure you have a secure connection:**

- Make sure that the power cord is properly routed through the strain relief on the back of the system unit.
- Make sure that the power cord is fully inserted into the power receptacle inlet on the back of the system unit. This may require another push with a minimum amount of force.

Plug and Receptacle Type 12 Part Numbers

Part Number	Accommodating Countries or Regions
11F0114 (6 ft) (C) (F) (G) 11F0113 (14 ft) (C) (F) (G) (H)	Anguilla, Antigua, Canada, Cape Verde Islands, Cayman Islands, Honduras, Montserrat, St. Kitts & Nevis, Tortola (BVI), United States
11F0115 (14 ft) (C) (F) (H) 11F0113 (14 ft) (G) (H)	Afghanistan, Argentina, Aruba, Bahamas, Bangladesh, Barbados, Belize, Bermuda, Bolivia, Bonaire, Brunei, Caicos Islands, Chile, China (Hong Kong S.A.R.), Colombia, Costa Rica, Curacao, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Indonesia, Japan, Jamaica, Malaysia, Mexico, Myanmar, Netherland Antilles, Nicaragua, Panama, Paraguay, People's Republic of China, Peru, Philippines, Sri Lanka, St. Martin, Suriname, Taiwan, Thailand, Trinidad/Tobago, Turks Island, Uruguay, Venezuela
Systems and Towers	
(C) - Model 53x Processor Side	
(F) - Models 640, 650, S30, S40, 730, 740, SB1	
(G) - Models 840, SB3	
(H) - 9309 rack	

Determine line cord, plug, and receptacle type

To determine what line cord/plug/receptacle type your server or system requires, you need three pieces of information:

- The **Country or Region** in which your server or system will reside
- Your server or system **Model**
- The **Voltage/Amperage** of your power supply

With this information, you can determine your type through these handy tables:

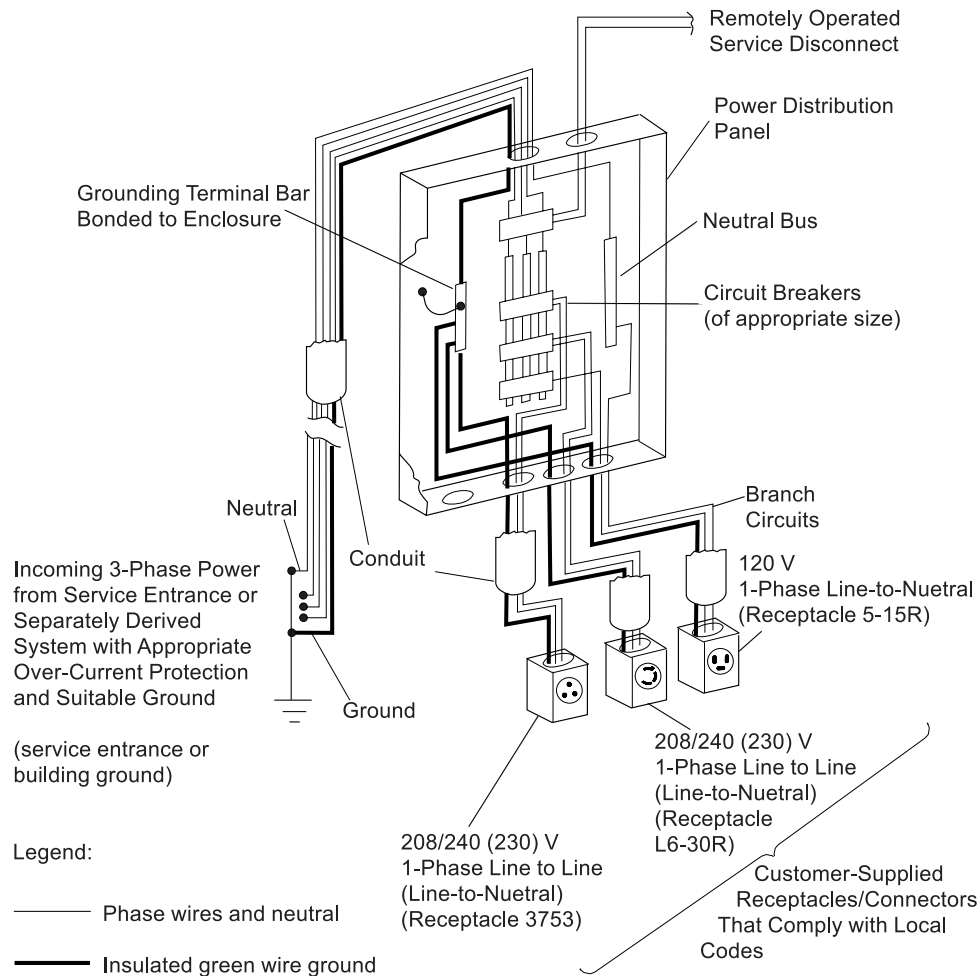
- Line Cords, Plugs, and Receptacles: By Country or Region
- Line Cords, Plugs, and Receptacles: By Model

- Line Cords, Plugs, and Receptacles: By Voltage/Amperage
- Line Cord Features

See Modification of IBM Cords for IBM's recommendations regarding the alteration of power cords.

Tip: Print out the **Plug and Receptacle Type** table for your server or system and give it to your electrician. The table contains information needed to install the proper receptacle for your system unit.

The server or system and all of the towers and attached equipment will require an isolated power supply. This means, it must have its own circuit. It is highly recommended that an UPS be used to help protect both the server and its data.



Note: 1. The receptacles must match the plug types ordered on your data processing equipment.
 2. For loads requiring a neutral, attach computer/data processing equipment only.

RV2C031-2

iSeries Plug and Receptacle Types: By Model

Select your model to find its plug/receptacle type and line cord features.

iSeries servers

- Models 170 and 250
- Model 270

- Model 800 and 810
FC 7116 expansion unit
- Model 820
- Model 825
FC 7316 expansion unit
FC 9316 base expansion unit
- Models 830, SB2
FC 9074 Base I/O Enclosure
- Models 840, SB3
FC 9079 Base I/O Enclosure (for 840, SB3)
- Models 870 and 890
FC 9094 base PCI-X I/O enclosure
FC 8093 optional base 1.8 m rack

Previously released servers

- Model 15x
- Model 3xx
- Model P0x
- Models 200 & 20S
- Model 4xx
- Model 53x I/O Side
- Model 53x Processor Side
- Other 5xx Models
- Models 600 and S10
- Models 620, S20, and 720
- Models 640, S30, and 730

Models 650, S40, 740, and SB1

FC 9251 Base I/O Tower (for 650, S40, 740, SB1)

Expansion units

- FC 5065
- FC 5070
- FC 5071
- FC 5072
- FC 5073
- FC 5074
- FC 5075
- FC 5080
- FC 5081
- FC 5082
- FC 5083
- FC 5094
- FC 5095
- FC 7116
- FC 7316
- FC 8079
- FC 9316

Base I/O Enclosures

- FC 9074
- FC 9094
- FC 9079

Migration Towers

- FC 5033
- FC 5034
- FC 5035
- FC 5077

1.8M Racks

- FC 0550
- FC 0551
- FC 5066
- FC 5079
- FC 5294
- FC 8094

Plug and receptacle types for FC#s: 8079, 8093 and 9094

Voltage/ Amperage	Plug and receptacle type
250V 15A	Type 54
250V 16A	Type 25, Type 32, Type 18, Type 22, Type 46 (P+N+G)[16A]
250V 20A	Type 11, Type 29, Type 35
250V 13A	Type 23
250V 15A	Type 5, Type 10, Type 34

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and receptacle type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for the 0550 and 0551 (1.8 m) racks

Voltage/ Amperage	Plug and receptacle type		
250V 16A/phase	Type 46 3P+N+G		
250V 30A	Type 12	Type KP	Type PDL
250V 32A	Type 40	Type 46 P+N+G [32A]	

To determine the plug/receptacle type your model will need, follow these steps:

- In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and receptacle type** listed in the same row as your voltage/amperage supports your model.
- Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

- Click one of the plug/receptacle types.
- In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
- Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for server models 170 and 250

Voltage/ Amperage	Plug and Receptacle Type	
125V 15A	Type 4	
250V 10A	Type 6, Type 19, Type 24	
250V 10A/16A	Type 25, Type 32	
250V 13A	Type 23	
250V 15A	Type 5, Type 10 (Colombia and Mexico only)	
250V 16A	Type 18, Type 22	

To determine the plug/receptacle type your model will need, follow these steps:

- In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
- Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

- Click one of the plug/receptacle types.
- In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).

- Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for server models: 15x, P0x, 2xx, 4xx, 620, S20, 720

Voltage/ Amperage	Plug and Receptacle Type
125V 15A	Type 4
125V 20A	Type 59
250V 10A	Type 6, Type 19, Type 24
250V 10A/16A	Type 25, Type 32
250V 13A	Type 23
250V 15A	Type 5, Type 10
250V 16A	Type 18, Type 22

To determine the plug/receptacle type your model will need, follow these steps:

- In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
- Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

- Click one of the plug/receptacle types.
- In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
- Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for server model 270

Voltage/ Amperage	Plug and Receptacle Type
100V 10A	Type 70
125V 15A	Type 4
200V 10A	Type 2
250V 10A	Type 6, Type 19, Type 24
250V 10A/16A	Type 25, Type 32
250V 13A	Type 23
250V 15A	Type 5, Type 34, Type 10
250V 16A	Type 18, Type 22

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for: server models 3xx/5xx, 53x I/O Side, expansion units 5070, 5072, 5080, 5082

Voltage/ Amperage	Plug and Receptacle Type
125V 13A/15A	Type 51
125V 15A	Type 4, Type 7
125V 20A	Type 59
250V 10A	Type 6, Type 19, Type 24
250V 10A/15A	Type 34
250V 10A/16A	Type 25, Type 32
250V 13A	Type 23
250V 15A	Type 5, Type 10
250V 16A	Type 18, Type 22

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for the 5065 expansion unit

Voltage/ Amperage	Plug and Receptacle Type
250V 10A/16A	Type 25, Type 32
250V 15A	Type 54
250V 16A	Type 18, Type 22, Type 46 (P+N+G)[16A]
250V 20A	Type 11, Type 29, Type 35

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for Models 870 and 890

Voltage/ Amperage	Plug and receptacle type
250V 60A 3 phase	part number 42F7960
480V 30A 3 phase	part number 11P0344

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and receptacle type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for: Models 800, 810, 825, and FC#s 5075, 5095, 7116, 7316, and 9316

Voltage/ Amperage	Plug and receptacle type		
125V 15A (Model 800 and 810 only)	Type 4		
250V 10A	Type 6	Type 19	Type 24
250V 10A/16A	Type 25	Type 32	
250V 13A	Type 23		
250V 15A	Type 5	Type 10	Type 34
250V 16A	Type 18	Type 22	

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and receptacle type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for FC 5094 and 5294

Voltage/ Amperage	Plug and receptacle type
250V 15A	Type 54
250V 16A	Type 25, Type 32, Type 18, Type 22, Type 46 (P+N+G)[16A]
250V 20A	Type 11, Type 29
250V 13A	Type 23
250V 15A	Type 5, Type 10, Type 34

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and receptacle type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.

2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for the 53x Processor

Voltage/ Amperage	Plug and Receptacle Type
250V 30A	Type 12, Type KP, Type PDL
250V 32A	Type 40, Type 46 (P+N+G) [32A]

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for server models 600 and S10

Voltage/ Amperage	Plug and Receptacle Type
125V 13A/15A	Type 51
125V 15A	Type 4, Type 7
250V 10A/15A	Type 34
250V 10A/16A	Type 25, Type 32
250V 13A	Type 23
250V 15A	Type 5, Type 54, Type 10
250V 16A	Type 18, Type 22, Type 46 (P+N+G) [16A]
250V 20A	Type 11

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.

The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.

- Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

- Click one of the plug/receptacle types.
- In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
- Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for server model 620, S20, 720

Voltage/ Amperage	Plug and Receptacle Type
250V 10A/15A	Type 34
250V 10A/16A	Type 25, Type 32
250V 13A	Type 23
250V 15A	Type 5, Type 54, Type 10
250V 16A	Type 18, Type 22
250V 20A	Type 11, Type 46 (P+N+G) [16A]

To determine the plug/receptacle type your model will need, follow these steps:

- In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
- Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

- Click one of the plug/receptacle types.
- In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
- Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for server models 640, 650, S30, S40, 730, 740, & SB1

Voltage/ Amperage	Plug and Receptacle Type
250V 16A/phase	Type 46 3P+N+G

Voltage/ Amperage	Plug and Receptacle Type
250V 30A	Type 12, Type KP, Type PDL
250V 32A	Type 40, Type 46 P+N+G [32A]

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types: Model 820 and Expansion Units 5074, 5075, 5077, 5078, and 5079

Voltage and amperage	Plug and receptacle type
100V 10A	Type 70
125V 15A	Type 4 and Type 7 (Types 4 and 7 are valid only for: Model 820, 5075 & 5077)
200V 10A	Type 2
250V 10A/15A	Type 5, Type 10, Type 34
250V 10A/16A	Type 25
250V 13A	Type 23
250V 16A	Type 18, Type 22, Type 32
250V 10A	Type 6, Type 19, Type 24

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.

- In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
- Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and Receptacle Types: Models 830 and SB2; Base I/O Enclosure 9074; and Expansion units 5065, 5066, 5074, & 5079

Voltage/ Amperage	Plug and Receptacle Type
200V 16A	Type 64
250V 15A	Type 54
250V 16A	Type 25, Type 18, Type 32, Type 22, Type 46 (P+N+G)[16A]
250V 20A	Type 11, Type 29, Type 35 (valid for 5065 & 5066 only)
250V 13A	Type 23
250V 15A	Type 5, Type 10, Type 34 (not valid for 5065 & 5066)

To determine the plug/receptacle type your model will need, follow these steps:

- In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
- Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

- Click one of the plug/receptacle types.
- In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
- Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types for server models 840 and SB3

Voltage/ Amperage	Plug and Receptacle Type
250V 16A/phase	Type 46 3P+N+G
250V 30A	Type 12, Type KP, Type PDL
250V 32A	Type 40, Type 46 P+N+G [32A]

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types: 9079 Base I/O Tower (for Models 840 and SB3)

Voltage/ Amperage	Plug and Receptacle Type
250V 15A	Type 54
250V 16A	Type 25, Type 32, Type 18, Type 22, Type 46 (P+N+G)[16A]
250V 20A	Type 11, Type 29, Type 35

To determine the plug/receptacle type your model will need, follow these steps:

1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.

If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and receptacle types: 9251 Base I/O Tower and Expansion units 5071, 5073, 5081, 5083

Voltage/ Amperage	Plug and Receptacle Type
250V 10A	Type 6, Type 19, Type 24
250V 10A/15A	Type 34

Voltage/ Amperage	Plug and Receptacle Type
250V 10A/16A	Type 25, Type 32
250V 13A	Type 23
250V 15A	Type 5, Type 10
250V 16A	Type 18, Type 22

To determine the plug/receptacle type your model will need, follow these steps:




1. In the table above, find the **Voltage/Amperage** of your power supply.
The **Plug and Receptacle Type** listed in the same row as your voltage/amperage supports your model.
2. Click on the plug/receptacle **Type** to view information about that type.




If more than one plug appears in your row:

1. Click one of the plug/receptacle types.
2. In the **Plug and Receptacles** table, look for your Country or Region (the Country or Region where your model will reside) in the **Countries or Regions** column (on the right side of the table).
3. Repeat steps 1 and 2 until you find your Country or Region in the **Plug and Receptacle** table.
The plug/receptacle type that lists your Country or Region is the type for which you need to plan.

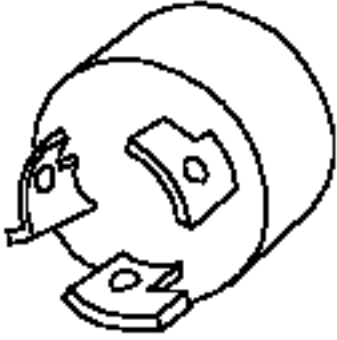

Note: If your Country or Region is not listed or, for some reason, you still cannot determine your plug/receptacle type, contact your seller.

Plug and Receptacle Configurations

Plug Type	Connector
IEC320-C14/C13	
IEC320-C20/C19	
IEC309 (3 PIN)	

Plug Type	Connector
IEC309 (5 PIN)	
NEMA 5-15	
NEMA 6-15	
L6-30	

Plug and Receptacle Type 10



Plug	Receptacle	Countries/Regions
 <p>Type 10 250V 15A Locking</p>	 <p>NEMA L6-15R</p>	<p>Countries/Regions</p> <p><i>National Electrical Manufacturers Association</i> <i>NEMA WD-5: L6-15P</i></p> <p>Canada, Colombia, Mexico, United States, Uruguay</p> <p>Note: Plug Type 10 supports models 15x, 170, P0x, 2xx, 4xx, 9910-080 in Colombia and Mexico. Plug Type 10 is not available in Canada and the United States for these models.</p>

Cord Feature	Part Number
2961 + 9083 (B) (E)	86G7878 (6 ft) (B) (H) (J)
2961 + 9083 + 9082 (B) (E) [<i>outside Canada and United States - (A)</i>]	14F1549 (6 ft) (C) (D) (E) (F) (K) (L) 12J5119 (9 ft) (L)
9083 (D) (H)	86G7879 (14 ft) (B) (G) (H) (J) [<i>outside Canada and United States - (A) (G) (K)</i>]
9083 + 9082 (D) (H) [<i>outside Canada and United States - (A)</i>]	14F1550 (14 ft) (C) (D) (E) (F) (I) (K) (L)
1412 (G)	
Migration (C)	
1414 (I) (J)	
1453 (F) (K) (L)	
1454 (F) (K) (L)	
1458 (L)	
5102 dual power cord (model 820 only)	
5103 dual power cord (F)	
5105 dual power cord (5074 and top unit in 8079)	
5106 dual power cord (single unit in 5079)	
Cord Rating 2.4 kVA cord (B) (H) (J) [<i>outside United States - (A) (G)</i>]	
3.8 kVA cord (C) (D) (E) (F) (I) (K) (L)	

Systems and Towers

- (A) - Models 15x, P0x, 200, 20S, 400, 40S
- (B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082
- (C) - Expansion Towers 5033, 5034, 5035
- (D) - Models 620, S20, 720, 830, SB2
- (E) - Models 600, S10
- (F) - Model 830 in a 0550 rack
- (G) - Models 170, 250, 9910-080
- (H) - 9251 Base I/O, and Expansion Towers 5071, 5073, 5081, 5083
- (I) - Models 9910-140, 9910-180, 270
- (J) - Models 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316
- (K) - Models 830, SB2, 5074, 5094, 9074, 9079
- (L) - Model Feature 5079, 5294, 8079, 8094

Plug and Receptacle Type 11

<p>Plug</p> 	<p>Receptacle</p> 	<p>Countries/Regions</p> <p><i>National Electrical Manufacturers Association</i></p> <p>NEMA WD-1: L6-20P</p> <p>Argentina, Cape Verde Islands</p> <p>(K) (L) Only: US, Canada, Japan</p>
<p>Type 11 250V 20A</p> <p>Cord Feature 9082 (D) (E)</p> <p>1414 (I)</p> <p>1406 (C) (K) (L) (M) (N)</p> <p>5103 dual power cord (C)</p> <p>5105 dual power cord (5074 and top unit in 8079)</p> <p>5106 dual power cord (single unit in 5079)</p> <p>Migration (J)</p>	<p>Part Number 14F1553 (14 ft) (C) (D) (E) (I) (J) (M) (K) (L) (N)</p> <p>07H0095 (6 ft) (C) (K) (L) (M) (N)</p> <p>12J5118 (9ft) (N)</p>	
<p>Cord Rating 4.5 kVA cord (C) (D) (E) (I) (J) (K) (L) (N)</p>		

Systems and Towers

(C) - Model 830 in a 0550 rack

(D) - Models 620, S20, 720

(E) - Models 600, S10

(I) - Models 9910-140, 9910-180

(J) - Features 5033, 5034, 5035



(K) - Feature 5065

(L) - Feature 5066

(M) - Models 830, SB2, Features 5074, 5094, 9074, 9079

(N) - Feature 5079, 5294, 8079, 8094

Plug and Receptacle Type 12

	<p>Receptacle</p> 	<p>Countries/Regions <i>National Electrical Manufacturers Association</i></p> <p>NEMA WD-5: L6-30P</p>
<p>Plug</p> <p>Type 12 250V 30A Locking</p>		
<p>Cord Feature</p> <p>4961 + 9183 (C)</p> <p>1426 (G) (J)</p> <p>9183 (F)</p> <p>4961 + 9183 + 9182 (C)</p> <p>5104 dual power cord (G)</p> <p>8622 dual power cord (P)</p> <p>9183 + 9182 (F)</p> <p>9081 (H)</p> <p>9800 (P)</p> <p>9986 (P)</p>	<p>Part Numbers</p> <p>11F0113 (14 ft) (P) (J)</p> <p>11F0114 (6 ft) (P) (J)</p>	
<p>Cord Rating 7.2 kVA cord (C) (F) (G) (P) (J)</p>		

Systems and Towers

(C) - Model 53x Processor Side

(F) - Models 640, 650, S30, S40, 730, 740, SB1

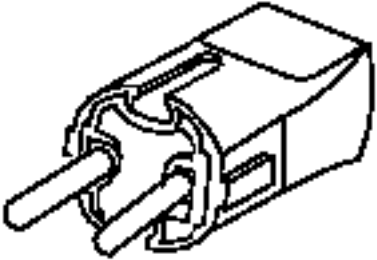

(G) - Models 840, SB3

(H) - 9309 rack

(J) - 0550, 0551 racks

(P) - 7017 - S85

Plug and Receptacle Type 18

<p>Plug</p>  <p>Type 18 250V 16A</p>	<p>Receptacle</p> 	<p>Countries/Regions <i>International Rule for the Approval of Electrical Equipment</i></p> <p>CEE 7 VII</p>
<p>Cord Feature</p> <p>2961 (A) (B) (E)</p> <p>(Default) (D) (H)</p> <p>1412 (G)</p> <p>1414 (I)</p> <p>1420 (C) (L)</p> <p>1439 (K)</p> <p>5102 dual power cord (model 820 only)</p> <p>5103 dual power cord (C)</p> <p>5105 dual power cord (5074 and top unit in 8079)</p> <p>5106 dual power cord (single unit in 5079)</p> <p>9820 (N) (P) (Q) (R) (S)</p> <p>9901 (Q)</p> <p>Migration (J)</p>	<p>Part Number</p> <p>13F9978 (6 ft)</p> <p>13F9979 (9 ft) (A) (G)</p> <p>13F9980 (14 ft) (B) (H) (K) (N) (P) (Q) (R) (S)</p> <p>14F1554 (14 ft) (C) (D) (E) (I) (J) (L)</p>	

Cord Rating 2.4 kVA cord **(A) (B) (G) (H) (K)**

3.8 kVA **(C) (D) (E) (I) (J) (L)**

Systems and Towers

(A) - Models 15x, P0x, 200, 20S, 400, 40S

(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Units 5070, 5072, 5080, 5082

(C) - Model 830 in a 0550 rack

(D) - Models 620, S20, 720

(E) - Models 600, S10

(G) - Models 170, 250, 9910-080

(H) - 9251 Base I/O, and Expansion Units 5071, 5073, 5081, 5083

(I) - Models 9910-140, 9910-180

(J) - Features 5033, 5034, 5035

(K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316

(L) - Model 830, SB2, 5065, 5066(x2), 5074, 5079(x2), 5094, 5294, 8079, 8094, 9074, 9079

(N) - pSeries^(TM) 640 - B80

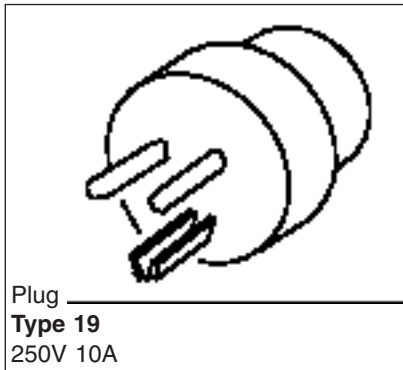
(P) - 7025 - F80, pSeries 620 - 6F0, 6F1

(Q) - pSeries 620 (7028) - 6C1

(R) - 7026 - M80, pSeries 660 (7026) - 6H0, 6H1, 6M1

(S) - pSeries 620 (7028) - 6E1

Plug and Receptacle Type 19 (P+N+G) [10A]



Receptacle





Countries/Regions *International Rule for the Approval of Electrical Equipment*

CEE

Denmark

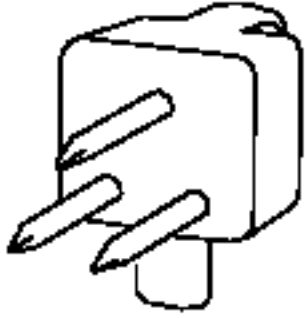
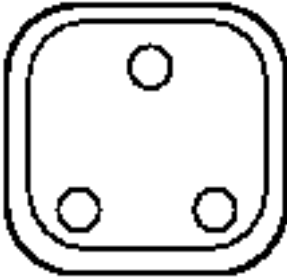
Cord Feature	Part Number
2961 (A) (B)	13F9996 (6 ft)
(Default) (H)	13F9997 (9 ft) (A) (G)
1412 (G)	13F9998 (14 ft) (B) (H) (K) (N) (P) (Q) (R) (S)
1440 (K)	
5102 dual power cord (model 820 only)	
9821 (N) (P) (Q) (R) (S)	
9902 (Q)	
Cord Rating 2.4 kVA cord (A) (B) (G) (H) (K)	
Systems and Towers	
(A) - Models 15x, P0x, 200, 20S, 400, 40S	
(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082	
(G) - Models 170, 250, 9910-080	
(H) - 9251 Base I/O, and Expansion Towers 5071, 5073, 5081, 5083	
(I) - Models 9910-140, 9910-180	
(K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316	
(N) - pSeries ^(TM) 640 - B80	
(P) - 7025 - F80, pSeries 620 - 6F0, 6F1	
(Q) - pSeries 620 (7028) - 6C1	
(R) - 7026 - M80, pSeries 660 (7026) - 6H0, 6H1, 6M1	
(S) - pSeries 620 (7028) - 6E1	

Plug and Receptacle Type 2

 <p>Plug _____ Type 2 250V 10A</p>	 <p>Plug _____</p>	<p>Countries/Regions <i>International Electrotechnical Commission</i></p> <p>IEC 83-A5</p> <p>Argentina, Australia, Brazil, Cape Verde Islands, Fiji, New Zealand, Papua New Guinea, People's Republic of China, Western Samoa</p>
--	---	---

Cord Feature	Part Number
2961 (A) (B)	13F9939 (6 ft)
(Default) (H)	13F9940 (9 ft) (A) (G)
1438 (K)	13F9941 (14 ft) (B) (H) (K) (N) (P) (Q) (R) (S)
1412 (G)	
5102dual power cord (Model 820 only)	
9831 (N) (P) (Q) (R) (S)	
9908 (Q)	
Cord Rating 2.4 kVA cord (A) (B) (G) (H) (K)	
Systems and Towers	
(A) - Models 15x, P0x, 200, 20S, 400, 40S	
(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082	
(G) - Models 170, 250, 9910-080	
(H) - 9251 Base I/O, and Expansion Towers 5071, 5073, 5081, 5083	
(K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316	
(N) - pSeries ^(TM) 640 - B80	
(P) - 7025 - F80, pSeries 620 - 6F0, 6F1	
(Q) - pSeries 620 (7028) - 6C1	
(R) - 7026 - M80, pSeries 660 (7026) - 6H0, 6H1, 6M1	
(S) - pSeries 620 (7028) - 6E1	

Plug and Receptacle Type 22

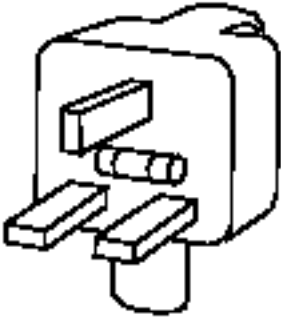

Plug	Receptacle	Countries/Regions <i>South African Bureau of Standards</i> SABS 164 BS 546 Bangladesh, Myanmar, Pakistan, South Africa, Sri Lanka
		
Type 22 250V 16A		

Cord Feature	Part Number
2961 (A) (B) (E)	14F0015 (9 ft) (A) (G)
(Default) (D) (H)	14F0014 (6 ft)
1412 (G)	14F0016 (14 ft) (B) (H) (K) (N) (P) (Q) (R) (S)
1414 (I)	14F1557 (14 ft) (C) (D) (E) (I) (J) (L)
1418 (C) (L)	
1441 (K)	
5102 dual power cord (model 820 only)	
5103 dual power cord (C)	
5105 dual power cord (5074 and top unit in 8079)	
5106 dual power cord (single unit in 5079)	
9829 (N) (P) (Q) (R) (S)	
9906 (Q)	
Migration (J) (K)	
Cord Rating 2.4 kVA cord (A) (B) (G) (H) (K)	
3.8 kVA cord (C) (D) (E) (I) (J) (L)	

Systems and Towers

- (A) - Models 15x, P0x, 200, 20S, 400, 40S
- (B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082
- (C) - Model 830 in a 0550 rack
- (D) - Models 620, S20, 720
- (E) - Models 600, S10
- (G) - Models 170, 250, 9910-080
- (H) - 9251 Base I/O, and Expansion Towers 5071, 5073, 5081, 5083
- (I) - Models 9910-140, 9910-180
- (J) - Features 5033, 5034, 5035
- (K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316
- (L) - Model 830, SB2, 5065, 5066(x2), 5074, 5079(x2), 5094, 5294, 8079, 8094, 9074, 9079
- (N) - pSeries^(TM) 640 - B80
- (P) - 7025 - F80, pSeries 620 - 6F0, 6F1
- (Q) - pSeries 620 (7028) - 6C1
- (R) - 7026 - M80, pSeries 660 (7026) - 6H0, 6H1, 6M1
- (S) - pSeries 620 (7028) - 6E1

Plug and Receptacle Type 23



<p>Plug</p>  <p style="text-align: right;">Type</p> <p>23 250V 13A</p>	<p>Receptacle</p> 	<p>Countries/Regions <i>British Standards Institution</i></p> <p>BS 1363A</p> <p>Abu Dhabi, Antigua, Bahrain, Botswana, Brunei, China (Hong Kong S.A.R.), Cyprus, Dominica, Gambia, Ghana, Grenada, Grenadines, Guyana, India, Iraq, Ireland, Jordan, Kenya, Kuwait, Lesotho, Malawi, Malaysia, Malta, Namibia, Nepal, Nigeria, Oman, Qatar, Sabah, Seychelles, Sierra Leone, Singapore, St. Lucia, St. Vincent, Tanzania, Uganda, United Arab Emirates, United Kingdom, Yemen, Zambia</p>
--	---	---

Cord Feature	Part Number
2961 (A) (B) (E)	14F0032 (6 ft)
9082 (D) (H)	14F0033 (9 ft) (A) (G)
1412 (G)	14F0034 (14 ft) (B) (H) (K) (N) (P) (Q) (R) (S)
1414 (I)	12J5988 (14 ft) (C) (D) (E) (I) (J) (L)
1476 (C) (L)	
1443 (K)	
5102 dual power cord (model 820 only)	
5103 dual power cord (C)	
5105 dual power cord (5074 and top unit in 8079)	
5106 dual power cord (single unit in 5079)	
9825 (N) (P) (Q) (R) (S)	
9903 (Q)	
Migration (J)	
Cord Rating 2.5 kVA cord (A) (B) (G) (H) (K)	
3.2 kVA cord (C) (D) (E) (I) (J) (L)	

Systems and Towers



- (A) - Models 15x, P0x, 200, 20S, 400, 40S
- (B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082
- (C) - Model 830 in a 0550 rack
- (D) - Models 620, S20, 720
- (E) - Models 600, S10
- (G) - Models 170, 250, 9910-080
- (H) - 9251 Base I/O, and Expansion Towers 5071, 5073, 5081, 5083
- (I) - Models 9910-140, 9910-180
- (J) - Expansion Towers 5033, 5034, and 5035
- (K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316
- (L) - Model 830, SB2, 5065, 5066(x2), 5074, 5079(x2), 5094, 5294, 8079, 8094, 9074, 9079
- (N) - pSeries^(TM) 640 - B80
- (P) - 7025 - F80, pSeries 620 - 6F0, 6F1
- (Q) - pSeries 620 (7028) - 6C1
- (R) - 7026 - M80, pSeries 660 (7026) - 6H0, 6H1, 6M1
- (S) - pSeries 620 (7028) - 6E1

Plug and Receptacle Type 24

<p>Plug</p> 	<p>Receptacle</p> 	<p>Countries/Regions</p> <p><i>*Schweizerischer Elektrotechnischer Verein</i></p> <p>SEV 24507</p> <p>Liechtenstein, Switzerland</p>
<p>Type 24 250V 10A</p>		

Cord Feature	Part Number	Cord Rating
2961 (A) (B) (Default) (H)	14F0050 (6 ft) 14F0051 (9 ft) (A) (G)	2.4 kVA cord (A) (B) (G) (H) (K)
1412 (G)	14F0052 (14 ft) (B) (H) (K) (N) (P) (Q) (R) (S)	
1442 (K)		
5102 dual power cord (model 820 only)		
9828 (N) (P) (Q) (R) (S) 9905 (Q)		
Systems and Towers (A) - Models 15x, P0x, 200, 20S, 400, 40S (B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082 (G) - Models 170, 250, 9910-080 (H) - 9251 Base I/O, and Expansion Towers 5071, 5073, 5081, 5083 (K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316 (N) - pSeries ^(TM) 640 - B80 (P) - 7025 - F80, pSeries 620 - 6F0, 6F1 (Q) - pSeries 620 (7028) - 6C1 (R) - 7026 - M80, pSeries 660 (7026) - 6H0, 6H1, 6M1 (S) - pSeries 620 (7028) - 6E1		

Plug and Receptacle Type 25

Plug	Receptacle	Countries/Regions
 <p>Type 25 250V 10A/16A</p>		Countries/Regions <i>Comitato Elettrotecnico Italiano</i> CEI 23-16 Chile, Ethiopia, Italy, Libya, Somalia

Cord Feature	Part Number	Cord Rating
2961 (A) (B) (E)	14F0068 (6 ft)	2.4 kVA cord (A) (B) (G) (H) (K)
(Default) (D) (H)	14F0069 (9 ft) (A) (G)	3.8 kVA cord (C) (D) (E) (I) (J) (L)
1412 (G)	14F0070 (14 ft) (B) (H) (K) (N) (P)	
1414 (I)	(Q) (R) (S)	
1408 (C) (L)	14F1560 (14 ft) (C) (D) (E) (I) (J) (L)	
1444 (K)		
5102 dual power cord (model 820 only)		
5103 dual power cord (C)		
5105 dual power cord (5074 and top unit in 8079)		
5106 dual power cord (single unit in 5079)		
9830 (N) (P) (Q) (R) (S)		
9907 (Q)		
Migration (J)		

Systems and Towers

(A) - Models 15x, P0x, 200, 20S, 400, 40S

(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082

(C) - Model 830 in a 0550 rack

(D) - Models 620, S20, 720

(E) - Models 600, S10

(G) - Models 170, 250, 9910-080

(H) - 9251 Base I/O, and Expansion Towers 5071, 5073, 5081, 5083

(I) - Models 9910-140, 9910-180

(J) - Features 5033, 5034, 5035

(K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316

(L) - Model 830, SB2, 5065, 5066(x2), 5074, 5079(x2), 5094, 5294, 8079, 8094, 9074, 9079

(N) - pSeries^(TM) 640 - B80

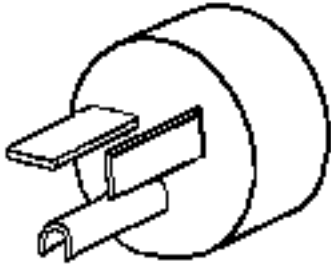
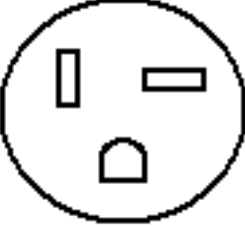
(P) - 7025 - F80, pSeries 620 - 6F0, 6F1

(Q) - pSeries 620 (7028) - 6C1



(R) - 7026 - M80, pSeries 660 (7026) - 6H0, 6H1, 6M1

(S) - pSeries 620 (7028) - 6E1

Plug and Receptacle Type 29

<p>Plug</p>  <p>Type 29 250V 20A</p>	<p>Receptacle</p> 	<p>Countries/Regions</p> <p><i>National Electrical Manufacturers Association</i> <i>NEMA WD-1: 6-20P</i></p> <p>Anguilla, Antigua, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Bonaire, Caicos slands, Canada, Cayman Islands, Colombia, Costa Rica, Curacao, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Jamaica, Japan, Mexico, Netherlands Antilles, Nevis, Nicaragua, Panama, Peru, Philippines, Puerto Rico, St. kitts, St. Martin, Taiwan, Tortola (BVI), Trinidad, Tobago, Turk Islands, United States, Venezuela, Virgin Islands, Yemen</p>
<p>Cord Feature</p> <p>1401 (J)</p>	<p>Part Number</p> <p>36L8851 (6 ft) (J) 36L8853 (14 ft) (J)</p>	<p>Cord Rating</p> <p>3.8 kVA cord (J)</p>
<p>Systems and Towers</p> <p>(J) - Features 5065, 5066</p>		

Plug and Receptacle Type 32

<p>Plug</p>  <p>Type 32 250V 10A/16A</p>	<p>Receptacle</p> 	<p>Countries/Regions</p> <p><i>Standards Institution of Israel</i> <i>SII 32-1971</i></p> <p>Israel</p>
--	---	---

Cord Feature	Part Number	Cord Rating
2961 (A) (B) (E)	14F0086 (6 ft)	2.4 kVA cord (A) (B) (G) (H) (K)
(Default) (D) (H)	14F0087 (9 ft) (A) (G)	3.8 kVA cord (C) (D) (E) (I) (J) (L)
1412 (G)	14F0088 (14 ft) (B) (H) (K) (N) (P)	
1414 (I)	(Q) (R) (S)	
1419 (C) (L)	14F1561 (14 ft) (C) (D) (E) (I) (J) (L)	
1445 (K)		
5102 dual power cord (model 820 only)		
5103 dual power cord (C)		
5105 dual power cord (5074 and top unit in 8079)		
5106 dual power cord (single unit in 5079)		
9827 (N) (P) (Q) (R) (S)		
9904 (Q)		
Migration (J)		

Systems and Towers

(A) - Models 15x, P0x, 200, 20S, 400, 40S

(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082

(C) - Model 830 in a 0550 rack

(D) - Models 620, S20, 720

(E) - Models 600, S10

(G) - Models 170, 250, 9910-080

(H) - 9251 Base I/O, and Expansion Towers 5071, 5073, 5081, 5083

(I) - Models 9910-140, 9910-180

(J) - Features 5033, 5034, 5035

(K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316

(L) - Model 830, SB2, 5065, 5066(x2), 5074, 5079(x2), 5094, 5294, 8079, 8094, 9074, 9079

(N) - pSeries^(TM) 640 - B80

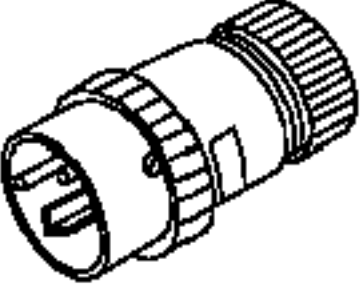

(P) - 7025 - F80, pSeries 620 - 6F0, 6F1

(Q) - pSeries 620 (7028) - 6C1

(R) - 7026 - M80, pSeries 660 (7026) - 6H0, 6H1, 6M1

(S) - pSeries 620 (7028) - 6E1

Plug and Receptacle Type 34

<p>Plug</p> 	<p>Receptacle</p> 	<p>Countries/Regions</p> <p><i>Manufacturer's Number Russel/Stoll</i></p> <p>Plug 3720U-2</p> <p>Connector 3913U-2 (DuraGard 9C23U2)</p> <p>Receptacle 3743U-2 (DuraGard 9R23U2W)</p>
<p>Type 34 250V 10A/15A Water Resistant</p>		<p>Canada, Japan, United States</p>
<p>Cord Feature</p> <p>1415 (J)</p> <p>1455 (F) (K) (L)</p> <p>1456 (F) (K) (L)</p> <p>1459 (L)</p> <p>2961 + 9080 (B) (E)</p> <p>2961 + 9080 + 9082 (B) (E)</p> <p>5102 dual power cord (model 820 only)</p> <p>5103 dual power cord (F)</p> <p>5105 dual power cord (5074 and top unit in 8079)</p> <p>5106 dual power cord (single unit in 5079)</p> <p>9080 (D) (H)</p> <p>9080 + 9082 (D) (H)</p> <p>Migration (C)</p>	<p>Part Number</p> <p>73F4931 (6 ft) (B) (H) (J)</p> <p>14F1551 (6 ft) (D) (E) (F) (K)</p> <p>55H6644 (9 ft) (L)</p> <p>73F4932 (14 ft) (B) (H) (J)</p> <p>14F1552 (14 ft) (C) (D) (E) (F) (K)</p>	<p>Cord Rating</p> <p>2.4 kVA cord (B) (H) (J)</p> <p>3.8 kVA cord (C) (D) (E) (F) (K) (L)</p>

Systems and Towers

(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082

(C) - Expansion Towers 5033, 5034, 5035

(D) - Models 620, S20, 720, 830, SB2

(E) - Models 600, S10

(F) - Model 830 in a 0550 rack

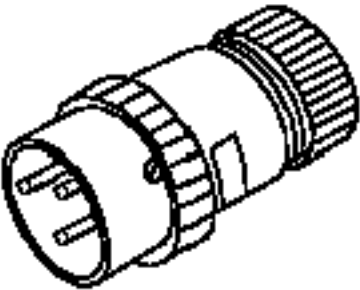
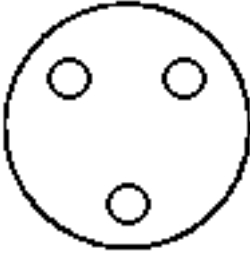
(H) - 9251 Base I/O and Expansion Towers 5071, 5073, 5081, 5083

(J) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316

(K) - Models 830, 5074, 5094, 9074, 9079

(L) - Model Feature 5079, 5294, 8079, 8094

Plug and Receptacle Type 35



<p>Plug</p>  <p>Type 35 250V 20A Water Resistant</p>	<p>Receptacle</p> 	<p>Countries/Regions <i>Manufacturer's Number Russel/Stoll</i></p> <p>Plug 3720DP</p> <p>Connector 3913 (DuraGard 9C23U0)</p> <p>Receptacle 3743 (DuraGard 9R23U0W)</p> <p>US, Canada, Japan</p>
<p>Cord Feature</p> <p>1407 (J)</p>	<p>Part Number</p> <p>36L8855 (6 ft) (J)</p> <p>36L8857 (14 ft) (J)</p>	<p>Cord Rating</p> <p>3.8 kVA cord (J)</p>

Systems and Towers

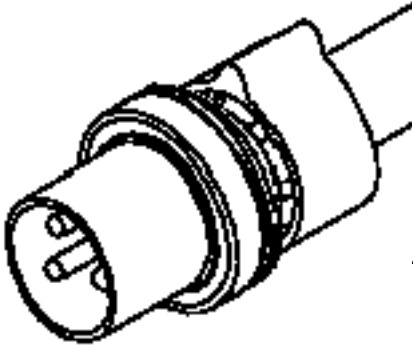

(J) - Features 5065, 5066

Plug and receptacle type 4

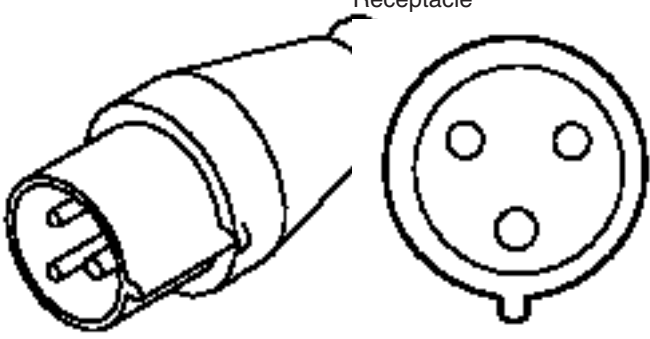
Table 1.

 <p>Plug Type 4 100-127V 15A</p>	 <p>Receptacle</p>	<p>Countries/Regions <i>National Electrical Manufacturers Association</i></p> <p>NEMA WD-1: 5-15P</p> <p>Anguilla, Antigua, Aruba, Bahamas, Barbados, Belize, Bermuda, Bonaire, Bolivia, Brazil, Caicos Islands, Canada, Canary Islands, Cayman Islands, Colombia, Costa Rica, Curacao, Dominican Republic, El Salvador, Ecuador, Guam, Guatemala, Guyana, Haiti, Honduras, Jamaica, Japan, Mexico, Montserrat, Netherland Antilles, Nevis, Nicaragua, Panama, Philippines, Puerto Rico, St. Kitts, St. Martin, Taiwan, Tobago, Tortola BVI, Trinidad, Turk Islands, United States, Venezuela, Virgin Islands, Yemen</p>
<p>Cord Feature 2960 (A) (B) (E)</p> <p>2960 + 9082 (A) (B) (E)</p> <p>1412 (I) (K) (G)</p> <p>9800 (P) (Q) (S)</p> <p>9900 (Q)</p> <p>5102 dual power cord (model 820 only)</p>	<p>Part Number 75G2695 (9 ft) (G)</p> <p>86G7648 (6 ft) (A) (B) (K) (P) (Q) (S)</p> <p>76H4865 (6 ft) (E)</p> <p>87G3880 (14 ft) (B) (K) (P) (Q)</p> <p>76H4866 (14 ft) (E)</p> <p>12J5112 (9 ft) (I)</p>	
<p>Cord Rating 1.6 kVA Cord (A) (B) (G) (K)</p> <p>2.0 kVA cord (E) (I)</p>		
<p>Systems and Towers</p> <p>(A) - Models 15x, P0x, 200, 20S, 400, 40S</p> <p>(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082</p> <p>(E) - Models 600, S10</p> <p>(G) - Models 170, 250, 9910-080</p> <p>(I) - Models 9910-140</p> <p>(K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316</p> <p>(P) - 7025 - F80, pSeries^(TM) 620 - 6F0, 6F1, pSeries 640 - B80</p> <p>(Q) - pSeries 620 (7028) - 6C1</p> <p>(S) - pSeries 620 (7028) - 6E1</p>		

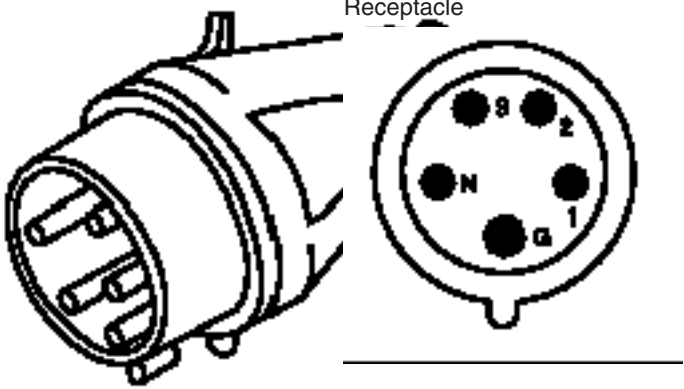
Plug and Receptacle Type 40

<p>Plug</p>  <p>Type 40 250V 32A</p>	<p>Receptacle</p> 	<p>Countries/Regions <i>Manufacturer's Number</i> <i>Russel / Stoll</i></p> <p>Plug 3750</p> <p>Connector 3933 (DuraGard 9C33U0)</p> <p>Receptacle 3753 (DuraGard 9R33U0W)</p> <p>Canada, United States</p>
<p>Cord Feature</p> <p>4961 + 9180 (C)</p> <p>4961 + 9180 + 9182 (C)</p> <p>1427(G)</p> <p>5104 dual power cord (G)</p> <p>8622 dual power cord (P)</p> <p>9180 (F)</p> <p>9180 + 9182 (F)</p> <p>9080 (H)</p> <p>9801 (P)</p> <p>9987 (P)</p>	<p>Part Number</p> <p>46F4593 (6 ft) (C) (F) (G) (J) (P)</p> <p>46F4594 (14 ft) (C) (F) (G) (H) (J) (P)</p>	
<p>Cord Rating</p> <p>7.2 kVA cord (C) (F) (G) (J) (P)</p>		
<p>Systems and Towers</p> <p>(C) - Model 53x Processor Side</p> <p>(F) - Models 640, 650, S30, S40, 730, 740, SB1</p> <p>(G) - Models 840, SB3</p> <p>(H) - 9309 rack</p> <p>(J) - 0550, 0551 racks</p> <p>(P) - 7017 - S85</p>		

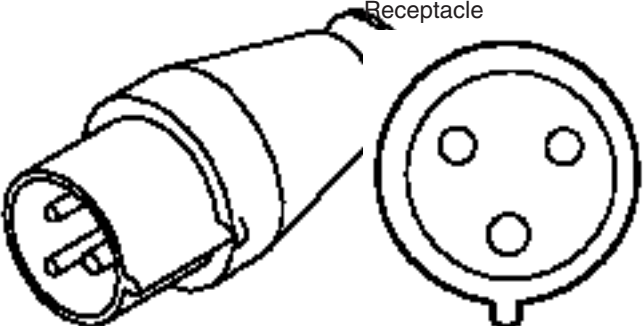
Plug and Receptacle Type 46 (P+N+G) [32A]

	<p>Receptacle</p>	<p>Countries/Regions <i>International Electrotechnical Commission</i></p> <p>IEC 309 (32A)</p> <p>(C) and (F) - Portugal</p> <p>(C) only - Austria, Czech Republic, Denmark, Estonia, Finland, Israel, Latvia, Liechtenstein, Lithuania, Russia, South Africa, Sweden, Switzerland, Turkey</p>
<p>Plug</p> <p>Type 46 (P+N+G) 250V 32A</p>		
<p>Cord Feature</p> <p>Country Code (F)</p> <p>1449 (J) (G)</p> <p>4961 (C)</p> <p>5104 dual power cord (G)</p> <p>8622 dual power cord (P)</p> <p>9823 (P)</p>	<p>Part Number</p> <p>76X3559 (14 ft) (C)</p> <p>21H7693 (14 ft) (F) (G) (J) (P)</p>	
<p>Cord Rating 7.4 kVA cord (C) (F) (G) (J) (P)</p>		
<p>Systems and Towers</p> <p>(C) - Model 53x Processor Side</p> <p>(F) - Models 640, 650, S30, S40, 730, 740, SB1</p> <p>(G) - Models 840, SB3</p> <p>(J) - 0550, 0551 racks</p> <p>(P) - 7017 - S85</p>		

Plug and Receptacle Type 46 (3P+N+G)


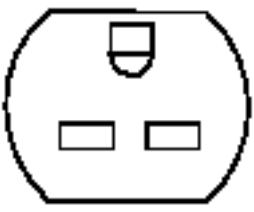
	<p>Receptacle</p>	<p>Countries/Regions <i>International Electrotechnical Commission</i></p> <p>IEC 309</p> <p>Austria, Czech Republic, Denmark, Estonia, Finland, Israel, Latvia, Liechtenstein, Lithuania, Russia, South Africa, Sweden, Switzerland, Turkey</p>
<p>Plug</p> <p>Type 46 (3P+N+G) 250V 16A, dual phase</p>		
<p>Cord Feature</p> <p>Country Code (F)</p> <p>1450 (G) (J)</p>	<p>Part Number</p> <p>21H7691 (14 ft) (F) (G) (J)</p>	
<p>Cord Rating 3.8 kVA cord (F) (G) (J)</p>		
<p>Systems and Towers</p> <p>(F) - Models 640, 650, S30, S40, 730, 740, SB1</p> <p>(G) - Models 840, SB3</p> <p>(J) - 0550, 0551 racks</p>		

Plug and Receptacle Type 46 (P+N+G) [16A]

	<p>Receptacle</p>	<p>Countries/Regions <i>International Electrotechnical Commission</i></p> <p>IEC 309 (16A)</p>
<p>Plug</p> <p>Type 46 (P+N+G) 250V 16A</p>		

<p>Cord Feature</p> <p>2961 + 9180 + 9182 (E)</p> <p>9180 + 9182 (D)</p> <p>1414 (I)</p> <p>1421 (C) (K)</p> <p>5103 dual power cord (C)</p> <p>5105 dual power cord (5074 and top unit in 8079)</p> <p>5106 dual power cord (single unit in 5079)</p> <p>Migration (J)</p>	<p>Part Number</p> <p>14F1555 (14 ft) (C) (D) (E) (I) (J) (K)</p>
<p>Cord Rating 3.8 kVA cord (C) (D) (E) (I) (J) (K)</p>	
<p>Systems and Towers</p> <p>(C) - Model 830 in a 0550 rack</p> <p>(D) - Models 620, S20, 720</p> <p>(E) - Models 600, S10</p> <p>(I) - Models 9910-140, 9910-180</p> <p>(J) - Features 5033, 5034, 5035</p> <p>(K) - Model 830, SB2, 5065, 5066(x2), 5074, 5079(x2), 5079, 8079, 8094, 9074, 9079</p>	

Plug and Receptacle Type 5

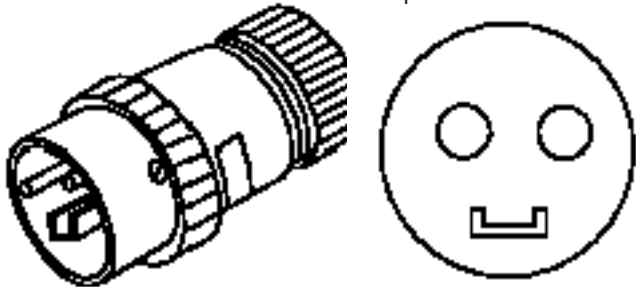
 <p>Plug</p>	<p>Receptacle</p> 	<p>Countries/Regions <i>National Electrical Manufacturers Association</i></p> <p>NEMA WD-1: 6-15P</p> <p>Anguilla, Antigua, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Bonaire, Canada, Caicos Islands, Cayman Islands, Costa Rica, Curacao, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Guyana, Haiti, Honduras, Jamaica, Japan, Montserrat, Netherland Antilles, Nevis, Nicaragua, Panama, Philippines, Puerto Rico, St. Kitts, St. Martin, Taiwan, Thailand, Tobago, Tortola, Trinidad, Turks Island, United States, Venezuela, Virgin Islands, Yemen</p>
<p>Type 5 250V 15A</p>		

Cord Feature	Part Number
Migration (J)	1838576 (6 ft) (A) (B) (H) (K) (P) (Q) (R) (S) (N)
2961 (A) (B) (E)	14F1547 (6 ft) (C) (D) (E) (J) (L) (M)
2961 + 9082 (A) (B) (E)	1838573 (14 ft) (B) (H) (K) (N) (P) (Q) (R)
(Default) (D) (H)	14F1548 (14 ft) (C) (D) (E) (J) (L) (M)
9082 (D) (H)	1838574 (9 ft) (G)
1412 (G) (I)	12J5120 (9 ft) (I) (M)
1410 (K)	
1451 (L) (M)	
1452 (L) (M)	
1457 (M)	
5102 dual power cord (model 820 only)	
5103 dual power cord (C)	
5105 dual power cord (5074 and top unit in 8079)	
5106 dual power cord (single unit in 5079)	
9800 (P) (R) (N)	
9833 (Q) (S)	
9909 (Q)	
Cord Rating 2.4 kVA cord (A) (B) (G) (H) (K)	
3.6 kVA cord (C) (D) (E) (I) (J) (L) (M)	

Systems and Towers



- (A) - Models 15x, P0x, 200, 20S, 400, 40S
- (B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082
- (C) - Model 830 in a 0550 rack
- (D) - Models 620, S20, 720, 830, SB2, and Expansion Towers 5065, 5074
- (E) - Models 600, S10
- (G) - Models 170, 250, 9910-080
- (H) - 9251 Base I/O, and Expansion Towers 5071, 5073, 5081, 5083
- (I) - Models 9910-140, 9910-180
- (J) - Migration Towers 5033, 5034, 5035
- (K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316
- (L) - Model 830, SB2, 5074, 5094, 9074, 9079
- (M) - Model Feature 5079, 5294, 8079, 8094
- (N) - pSeries^(TM) 640 - B80
- (P) - 7025 - F80, pSeries 620 - 6F0, 6F1
- (Q) - pSeries 620 (7028) - 6C1
- (R) - 7026 - M80, pSeries 660 (7026) - 6H0, 6H1, 6M1
- (S) - pSeries 620 (7028) - 6E1

Plug and Receptacle Type 51



 <p>Plug</p>	<p>Receptacle</p> <p>Type 51 125V 13A/15A Water Resistant</p>	<p>Countries/Regions</p> <p><i>Manufacturer's Number Russel/Stoll</i></p> <p>Plug 3720U-1</p> <p>Connector (DuraGard 9C23UI)</p> <p>Receptacle 3743U-1 (DuraGard 9R23U1W)</p> <p>Canada, United States</p>
<p>Cord Feature</p> <p>2960 + 9080 (B) (E)</p> <p>____ (A)</p> <p>2960 + 9080 + 9082 (B) (E)</p>	<p>Part Number</p> <p>46F5893 (6 ft) (B)</p> <p>12J6005 (6 ft) (E)</p> <p>46F5894 (14 ft) (B)</p> <p>12J6007 (14 ft) (E)</p>	

Cord Rating 1.6 kVA cord (B) (A)
2.0 kVA cord (E)
Systems and Towers
(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082
(E) - Models 600, S10



Plug and Receptacle Type 54

 <p>Plug</p>	 <p>Receptacle</p> <p>Type 54 250V 15A</p>	<p>Countries/Regions <i>International Electrotechnical Commission</i></p> <p>SAA-AS 3112</p> <p>Australia, Fiji, New Zealand, Papua New Guinea, People's Republic of China, Western Samoa</p>
<p>Cord Feature</p> <p>2961 + 9082 (E)</p> <p>9082 (D)</p> <p>1414 (I)</p> <p>1409 (C) (K)</p> <p>5103 dual power cord (C)</p> <p>5105 dual power cord (5074 and top unit in 8079)</p> <p>5106 dual power cord (single unit in 5079)</p> <p>Migration (J)</p>	<p>Part Number</p> <p>14F1559 (14 ft) (C) (D) (E) (I) (J) (K)</p>	
<p>Cord Rating 3.8 kVA cord (C) (D) (E) (I) (J) (K)</p>		
<p>Systems and Towers</p> <p>(C) - Model 830 in a 0550 rack</p> <p>(D) - Models 620, S20, 720</p> <p>(E) - Models 600, S10</p> <p>(I) - Models 9910-140, 9910-180</p> <p>(J) - Features 5033, 5034, 5035</p> <p>(K) - Model 830, SB2, 5065, 5066(x2), 5074, 5079(x2), 5094, 5294(x2), 8094(x2), 9074, 9079</p>		

Plug and Receptacle Type 59



 <p>Plug Type 59 125V 20A</p>	 <p>Receptacle</p>	<p>Countries/Regions <i>JIS C-8303-1983</i> Japan</p>
<p>Cord Feature</p> <p>2960 (A) (B)</p> <p>2960 + 9082 (B)</p>	<p>Part Number 34G0222 (6 ft) (B)</p> <p>34G0223 (9 ft) (A)</p> <p>34G0224 (14 ft) (B)</p>	
<p>Cord Rating 1.2 kVA cord (A) (B)</p>		
<p>Systems and Towers</p> <p>(A) - Models 15x, P0x, 200, 20S, 400, 40S, 270 [<i>plug not available for these models in United States</i>]</p> <p>(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082</p>		

Plug and Receptacle Type 6

 <p>Plug _____ Type 6 250V 10A</p>	 <p>Plug _____</p>	<p>Countries/Regions <i>International Electrotechnical Commission</i></p> <p>IEC 83-A5</p> <p>Argentina, Australia, Brazil, Cape Verde Islands, Fiji, New Zealand, Papua New Guinea, People's Republic of China, Western Samoa</p>
---	---	---

Cord Feature	Part Number
2961 (A) (B)	13F9939 (6 ft)
(Default) (H)	13F9940 (9 ft) (A) (G)
1438 (K)	13F9941 (14 ft) (B) (H) (K) (N) (P) (Q) (R) (S)
1412 (G)	
5102dual power cord (Model 820 only)	
9831 (N) (P) (Q) (R) (S)	
9908 (Q)	
Cord Rating 2.4 kVA cord (A) (B) (G) (H) (K)	
Systems and Towers	
(A) - Models 15x, P0x, 200, 20S, 400, 40S	
(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082	
(G) - Models 170, 250, 9910-080	
(H) - 9251 Base I/O, and Expansion Towers 5071, 5073, 5081, 5083	
(K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316	
(N) - pSeries ^(TM) 640 - B80	
(P) - 7025 - F80, pSeries 620 - 6F0, 6F1	
(Q) - pSeries 620 (7028) - 6C1	
(R) - 7026 - M80, pSeries 660 (7026) - 6H0, 6H1, 6M1	
(S) - pSeries 620 (7028) - 6E1	

Plug and Receptacle Type 64

 <p>Plug</p>	 <p>Receptacle</p> <p>Type 64 250V 15A</p>	<p>Countries/Regions <i>International Electrotechnical Commission</i></p> <p>SAA-AS 3112</p> <p>Australia, Fiji, New Zealand, Papua New Guinea, People's Republic of China, Western Samoa</p>
---	--	--

<p>Cord Feature</p> <p>2961 + 9082 (E)</p> <p>9082 (D)</p> <p>1414 (I)</p> <p>1409 (C) (K)</p> <p>5103 dual power cord (C)</p> <p>5105 dual power cord (5074 and top unit in 8079)</p> <p>5106 dual power cord (single unit in 5079)</p> <p>Migration (J)</p>	<p>Part Number</p> <p>14F1559 (14 ft) (C) (D) (E) (I) (J) (K)</p>
<p>Cord Rating 3.8 kVA cord (C) (D) (E) (I) (J) (K)</p>	
<p>Systems and Towers</p> <p>(C) - Model 830 in a 0550 rack</p> <p>(D) - Models 620, S20, 720</p> <p>(E) - Models 600, S10</p> <p>(I) - Models 9910-140, 9910-180</p> <p>(J) - Features 5033, 5034, 5035</p> <p>(K) - Model 830, SB2, 5065, 5066(x2), 5074, 5079(x2), 5094, 5294(x2), 8094(x2), 9074, 9079</p>	

Plug and receptacle type 70

Table 2.


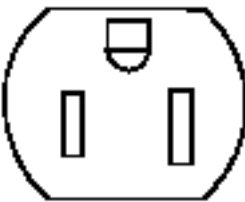


 <p>Plug Type 70 100-127V 15A</p>	 <p>Receptacle</p>	<p>Countries/Regions <i>National Electrical Manufacturers Association</i></p> <p>NEMA WD-1: 5-15P</p> <p>Anguilla, Antigua, Aruba, Bahamas, Barbados, Belize, Bermuda, Bonaire, Bolivia, Brazil, Caicos Islands, Canada, Canary Islands, Cayman Islands, Colombia, Costa Rica, Curacao, Dominican Republic, El Salvador, Ecuador, Guam, Guatemala, Guyana, Haiti, Honduras, Jamaica, Japan, Mexico, Montserrat, Netherland Antilles, Nevis, Nicaragua, Panama, Philippines, Puerto Rico, St. Kitts, St. Martin, Taiwan, Tobago, Tortola BVI, Trinidad, Turk Islands, United States, Venezuela, Virgin Islands, Yemen</p>
---	---	---

Table 2. (continued)

Cord Feature 2960 (A) (B) (E)	Part Number 75G2695 (9 ft) (G)
2960 + 9082 (A) (B) (E)	86G7648 (6 ft) (A) (B) (K) (P) (Q) (S)
1412 (I) (K) (G)	76H4865 (6 ft) (E)
9800 (P) (Q) (S)	87G3880 (14 ft) (B) (K) (P) (Q)
9900 (Q)	76H4866 (14 ft) (E)
5102 dual power cord (model 820 only)	12J5112 (9 ft) (I)
Cord Rating 1.6 kVA Cord (A) (B) (G) (K)	
2.0 kVA cord (E) (I)	
Systems and Towers	
(A) - Models 15x, P0x, 200, 20S, 400, 40S	
(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082	
(E) - Models 600, S10	
(G) - Models 170, 250, 9910-080	
(I) - Models 9910-140	
(K) - Model 270, 800, 810, 820, 825, 5075, 5077, 5095, 9316, 7116, 7316	
(P) - 7025 - F80, pSeries ^(TM) 620 - 6F0, 6F1, pSeries 640 - B80	
(Q) - pSeries 620 (7028) - 6C1	
(S) - pSeries 620 (7028) - 6E1	

Plug and receptacle type 7

	 <p>Plug _____</p>	<p>Countries/Regions <i>National Electrical Manufacturers Association</i></p> <p>NEMA WD-1: L5-15P</p> <p>Canada, United States</p>
<p>Plug <u>Type 7</u></p> <p>100-127V 15A</p> <p>Locking</p>		



Cord Feature	Part Number
2960 + 9083 (B) (E)	86G7874 (6 ft) (B) (A)
_____ (A)	76H4868 (6 ft) (E)
2960 + 9083 + 9082 (B) (E)	87G3881 (14 ft) (B) (A)
	76H4869 (14 ft) (E)
Cord Rating 1.6 kVA cord (B) (A)	
2.0 kVA cord (E)	
Systems and Towers	
(A) - Model 820, and Expansion Tower 5075	
(B) - Models 3xx, 5xx, 53x I/O Side, and Expansion Towers 5070, 5072, 5080, 5082	
(E) - Models 600, S10	

Power line cords; plugs and receptacles

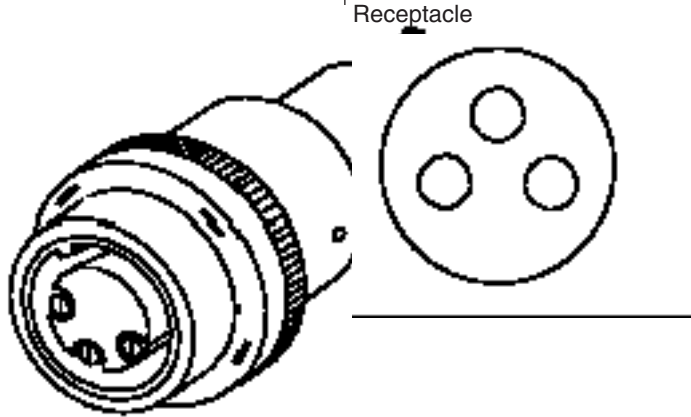
Note: When you select a plug and receptacle type, you will see a **Plug/Receptacle Type** table. Look for your Country or Region (where your system or server will reside) in the **Countries or Regions** section (right side of table) and your model type in the **Systems and Towers** section (bottom of table). You will find the plug type that supports your system or server in the table that lists both your model and your Country or Region.

Voltage/ Amperage	Plug and Receptacle Type			
100V 10A	Type 70			
125V 13A/15A	Type 51			
100-127V 15A	Type 4	Type 7		
125V 20A	Type 59			
200V 10A	Type 2			
200V 16A	Type 64			
250V 10A	Type 6	Type 19	Type 24	
250V 10A/15A	Type 34			
250V 10A/16A	Type 25	Type 32		
250V 13A	Type 23			
250V 15A	Type 5	Type 54	Type 10	
250V 16A	Type 18	Type 22	Type 46 P+N+G	Type 46 3P+N+G
250V 20A	Type 11	Type 29	Type 35	
250V 30A	Type 12	Type KP	Type PDL	
250V 32A	Type 40	Type 46 P+N+G		



Plug and Receptacle Type KP

<p>Plug</p>  <p>Type KP 250V 30A</p>	<p>Receptacle</p> 	<p>Countries/Regions</p> <p>North Korea, South Korea</p>
<p>Cord Feature</p> <p>4961 + 9180 + 9182 (C)</p> <p>1446 (G) (J)</p> <p>5104 dual power cord (G)</p> <p>8622 dual power cord (P)</p> <p>9835 (P)</p> <p>Country Code (F)</p>	<p>Part Number</p> <p>87G6067 (14 ft) (C) (F) (G) (J) (P)</p>	<p>Cord Rating</p> <p>7.5 kVA cord (C) (F) (G) (J) (P)</p>
<p>Systems and Towers</p> <p>(C) - Model 53x Processor Side</p> <p>(F) - Models 640, 650, S30, S40, 730, 740, SB1</p> <p>(G) - Models 840, SB3</p> <p>(J) - 0550, 0551 racks</p> <p>(P) - 7017 - S85</p>		



Plug and Receptacle Type PDL

 <p>Plug Type PDL 250V 30A</p>	<p>Receptacle</p>	<p>Countries/Regions Australia, Fiji, New Zealand, Papua New Guinea</p>
<p>Cord Feature</p> <p>4961 + 9180 + 9182 (C)</p> <p>1447 (G) (J)</p> <p>1448 (G) (J)</p> <p>5104 dual power cord (G)</p> <p>8622 dual power cord (P)</p> <p>9822 (P)</p> <p>9826 (P)</p> <p>Country Code (F)</p>	<p>Part Number</p> <p>11F0106 (14 ft) (C) (F) (G) (J)</p> <ul style="list-style-type: none"> • <i>(Australia)</i> <p>11F0107 (14 ft) (C) (F) (G) (J)</p> <ul style="list-style-type: none"> • <i>(New Zealand)</i> 	
<p>Cord Rating 6.0 kVA cord (C) (F) (G) (J) (P)</p>		
<p>Systems and Towers</p> <p>(C) - Model 53x Processor Side</p> <p>(F) - Models 640, 650, S30, S40, 730, 740, SB1</p> <p>(G) - Models 840, SB3</p> <p>(J) - 0550, 0551 racks</p> <p>(P) - 7017 - S85</p>		


Plug and Receptacle Type 26

<p>Plug</p>  <p>Type 26 250V 10A</p>	<p>Receptacle</p> 	<p>Countries/Regions</p> <p><i>Worldwide</i></p> <p>IEC 320 - C14</p>
<p>Cord Feature</p> <p>1422 (A)</p>	<p>Part Number</p> <p>36L8860 or 36L8913 (6 ft)</p> <p>36L8861 (14 ft)</p>	<p>Cord Rating</p>
<p>Systems and Towers</p> <p>(A) - 0551 (0121, 0122, 0127 only), 9316, 7116, 7316</p>		

Plug and Receptacle Type 430 R7W

<p>Plug</p> 	<p>Receptacle</p> 	<p>Countries or Regions</p> <p>Canada, Japan, United States of America</p>
<p>Type 430 R7W 480V, 30A, 3ph</p>		
<p>Cord Feature</p>	<p>Part Number</p>	
<p>1302 (H)</p>	<p>11P0914 (6 ft) (H)</p>	
<p>1303 (H)</p>	<p>11P0916 (14 ft) (H)</p>	
<p>Cord Rating</p>		
<p>Systems and Towers</p>		
<p>(H) - Models 870 and 890</p>		

Plug and Receptacle Type 460 R9W

Plug	Receptacle	Countries or Regions
		Canada, Japan, United States of America
<p style="text-align: center;">Type 460 R9W 200-240V, 60A, 3ph</p>		
Cord Feature	Part Number	
1300 (H)	11P0365 (6 ft) (H)	
1301 (H)	11P0367 (14 ft) (H)	
Cord Rating		
Systems and Towers		
(H) - Model 890		

Line Cord Feature 5102 Description

This option is the dual line cord for a Model 820. Two 14xx line cords must be ordered for each Feature 5102 on a Model 820 initial order.

Line Cord Feature 5103 Description

This option is the dual line cord for a Model 830 or SB2. Two 14xx line cords must be ordered for each Feature 5103 on a Model 830 or SB2 initial order.

Line Cord Feature 5104 Description

This option is the dual line cord for a Model 840 or SB3. Two 14xx line cords must be ordered for each Feature 5104 on a Model 840 or SB3 initial order.

Line Cord Feature 5105 Description

This option is the dual line cord for a 5074 expansion unit and for the top unit in a 8079 expansion unit.

- Two 14xx line cords must be ordered for each 0574 expansion unit with a 5101 when a 5101 is ordered on a 5074 initial order. Batteries are not shipped and two 840 watt power supplies are shipped.
- When ordering a feature 5105 for an existing 5074 expansion unit, one additional 14xx line cord must be ordered. The batteries are removed and the 765 watt power supplies are replaced with two 840 watt power supplies. A 5074 expansion unit installed in a 0551 rack is supported with this feature.

Note: If the 5074 expansion unit has feature 5101 installed, feature 5105 must be converted to feature 5111 (no parts shipped).

Line Cord Feature 5106 Description

This feature provides dual line cord capability for a single unit in a 5079 expansion unit.

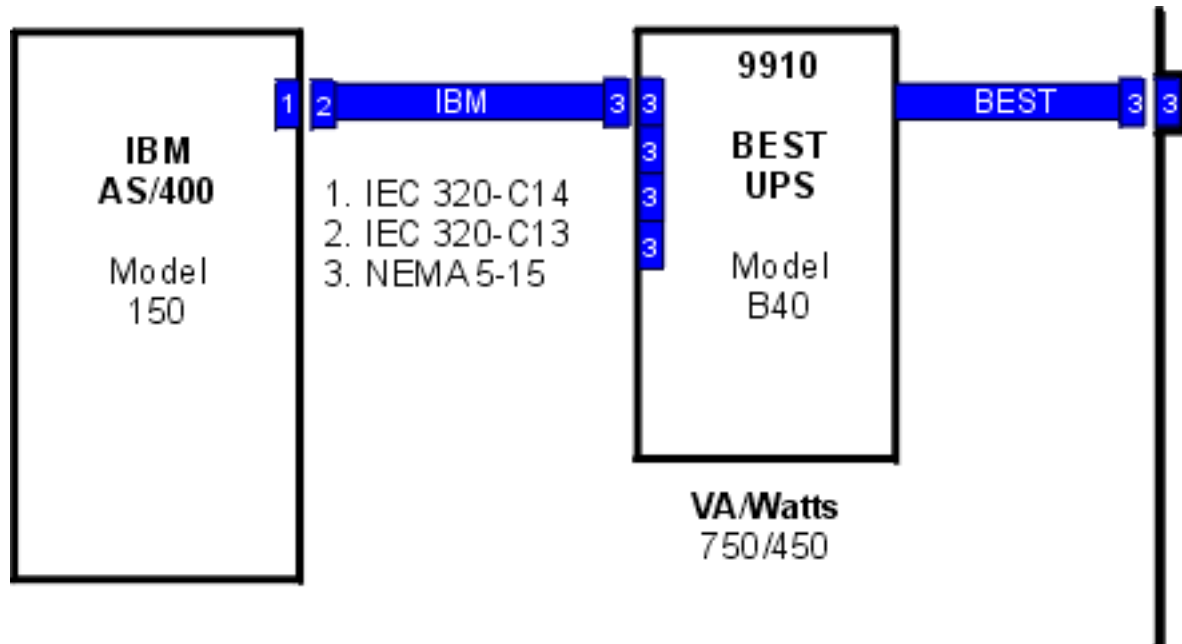
- Two 14xx line cords must be ordered for each feature 5106 when a feature 5106 is ordered on a 5079 initial order. Batteries are not shipped and two 840 watt power supplies are shipped.
- When ordering a feature 5106 for an existing 5079 expansion unit, one additional 14xx line cord must be ordered. The batteries are removed and the 765 watt power supplies are replaced with two 840 watt power supplies.

The marketing configurator will default a quantity of two feature 5106s for each 5079 expansion unit on a server that has dual line cords.

Chapter 15. B40 UPS (Model 150)

The diagram below shows the power cabling for your server and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

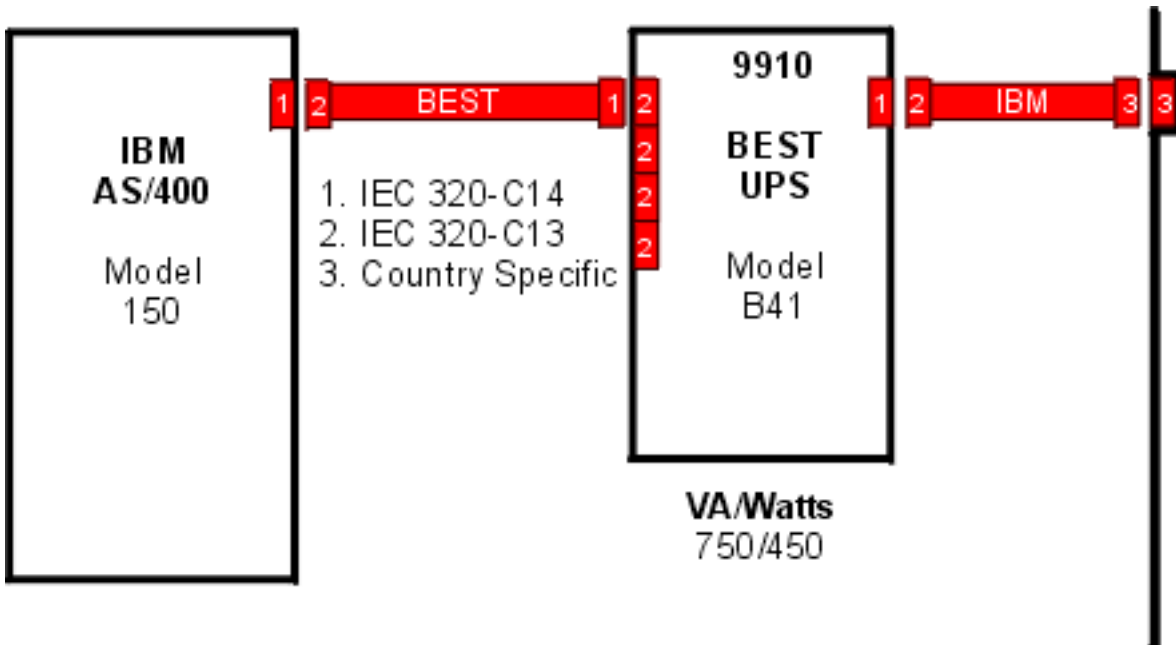
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B41 UPS (Model 150)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

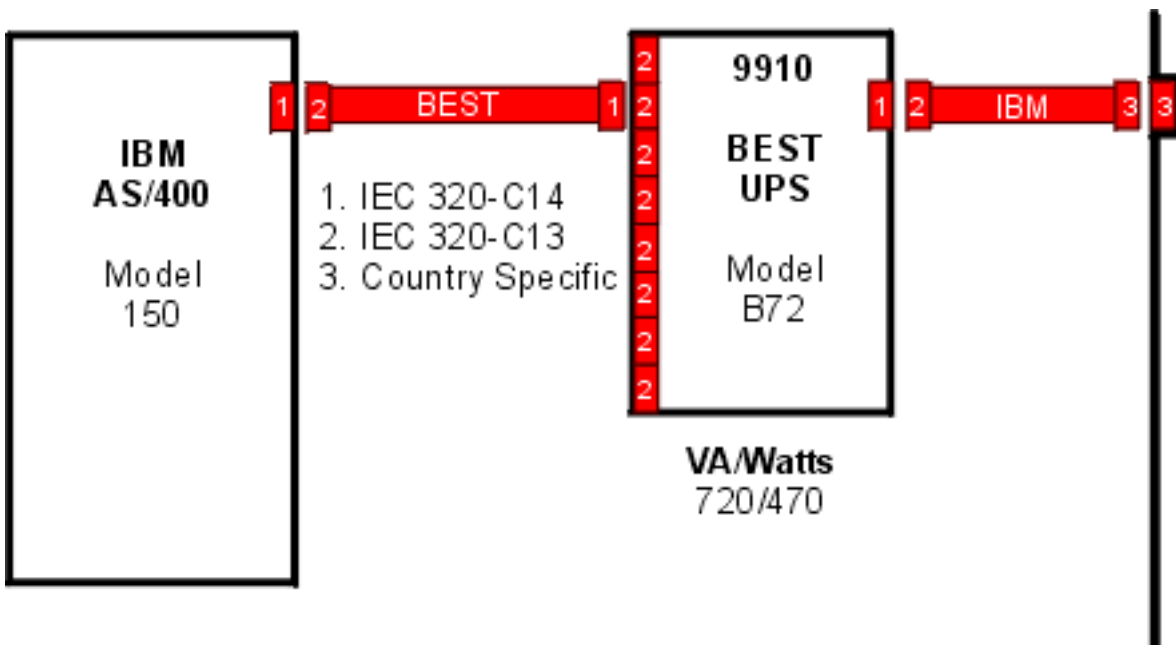
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B72 UPS (Model 150)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include one IEC320-C13/IEC320-C14 cord with the B72 UPS model. Power cords labeled **IBM** are those included with your system.

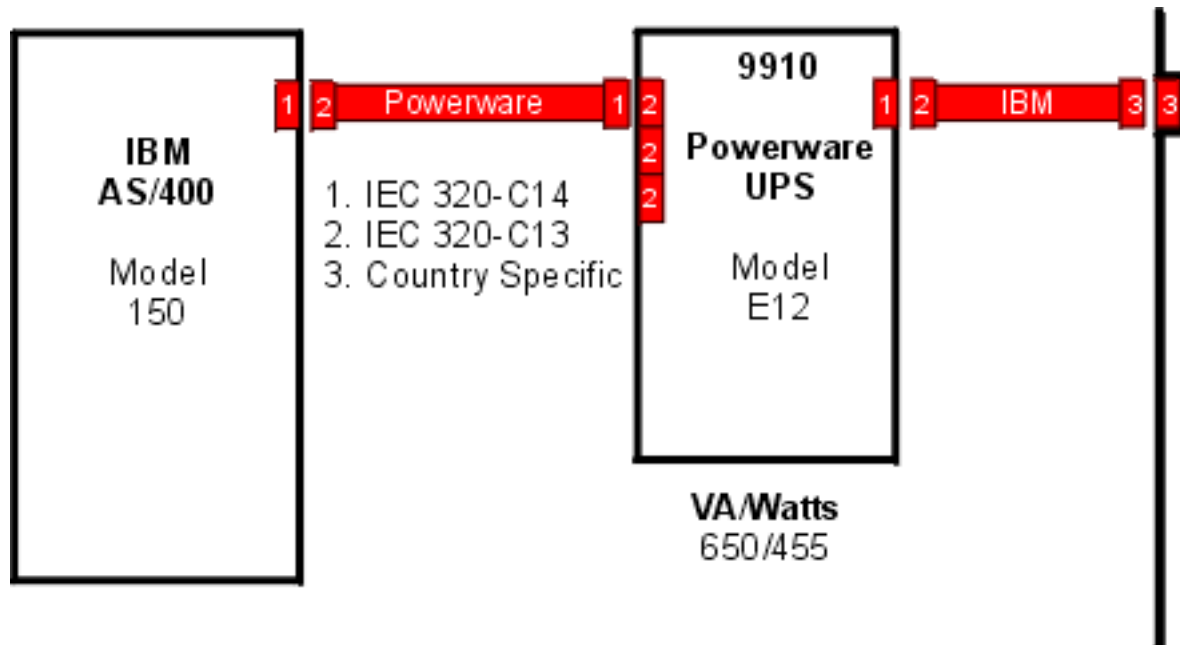
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



E12 UPS (Model 150)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

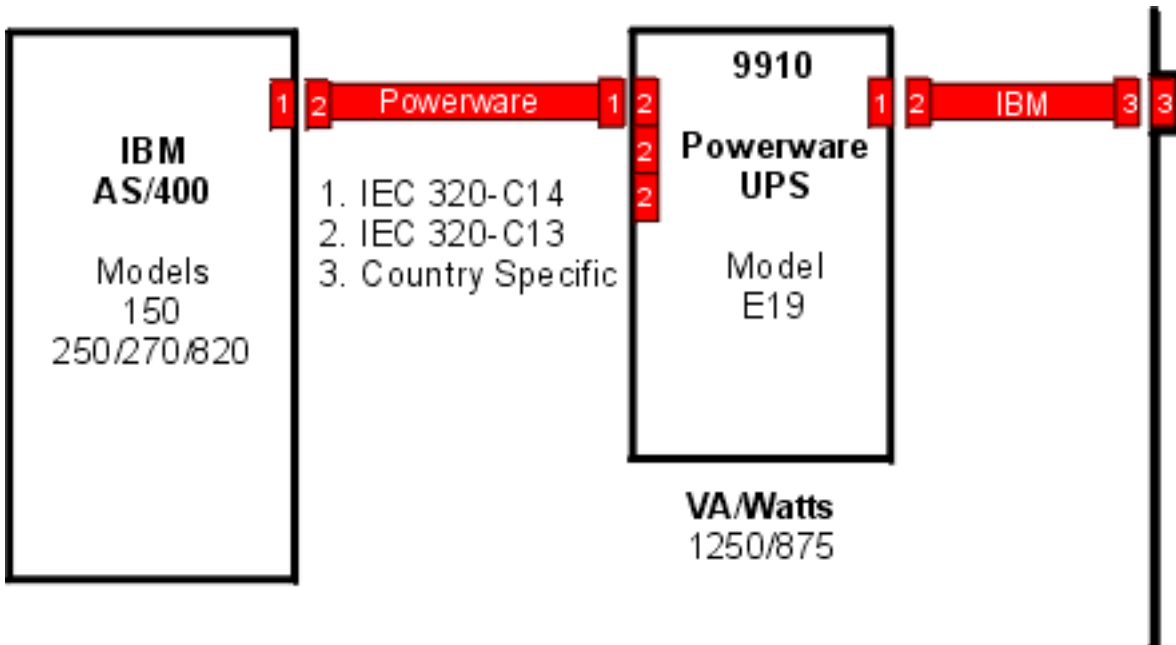
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



E19 UPS (Model 150)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

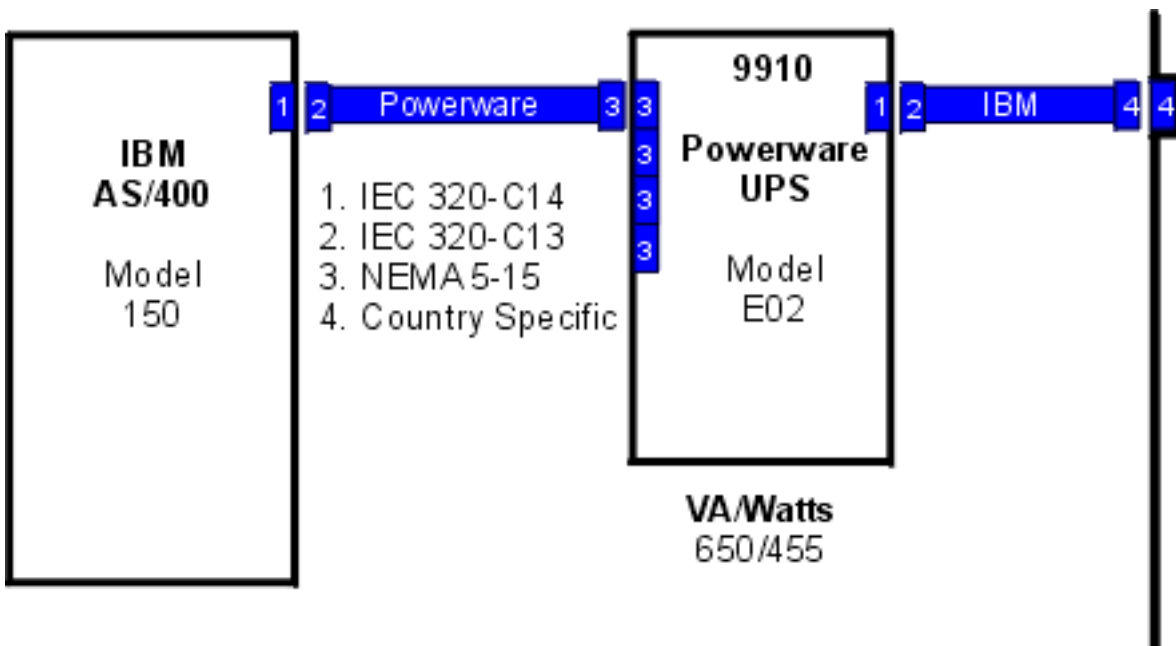
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



E02 UPS (Model 150)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

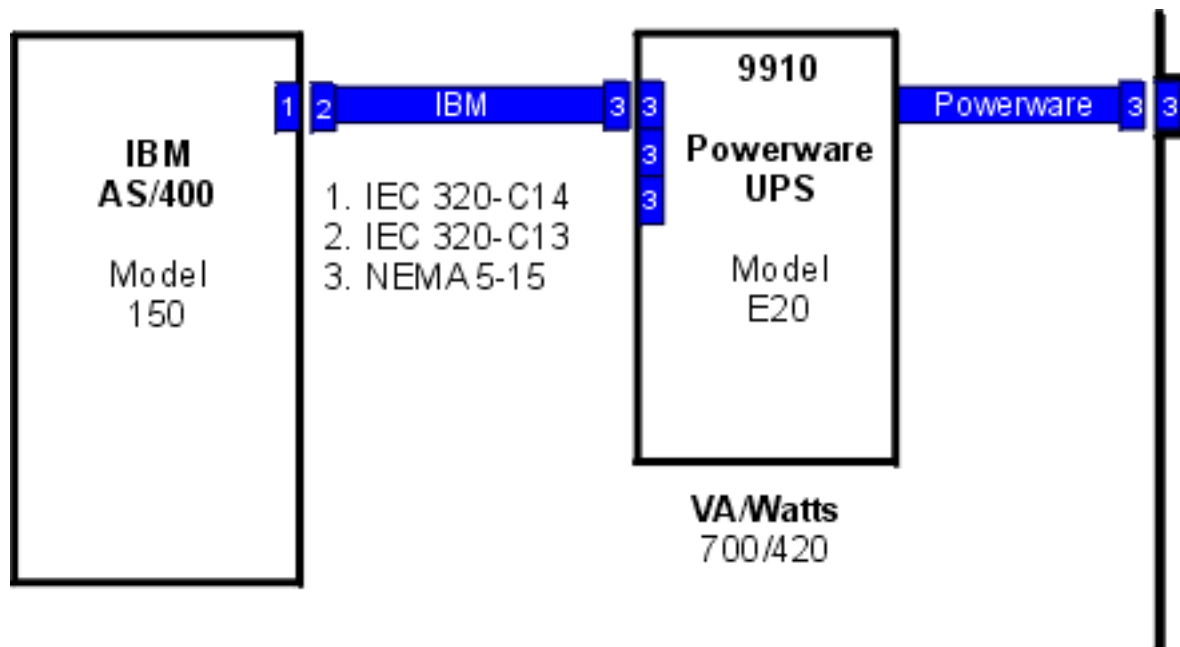
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



E20 UPS (Model 150)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

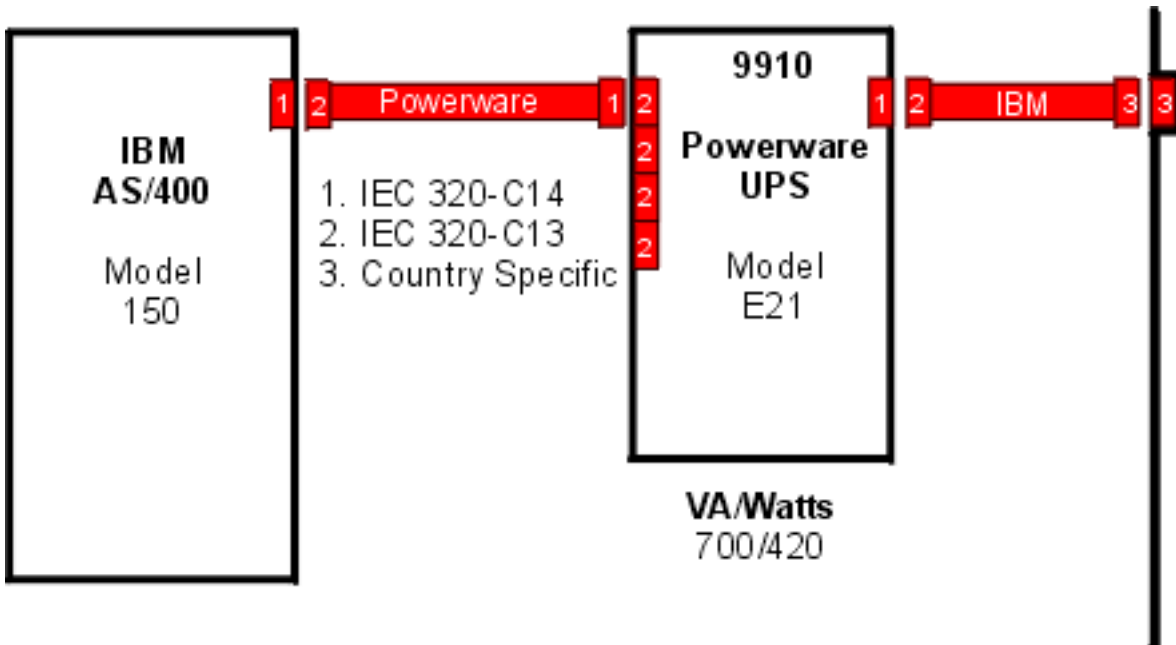
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



E21 UPS (Model 150)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

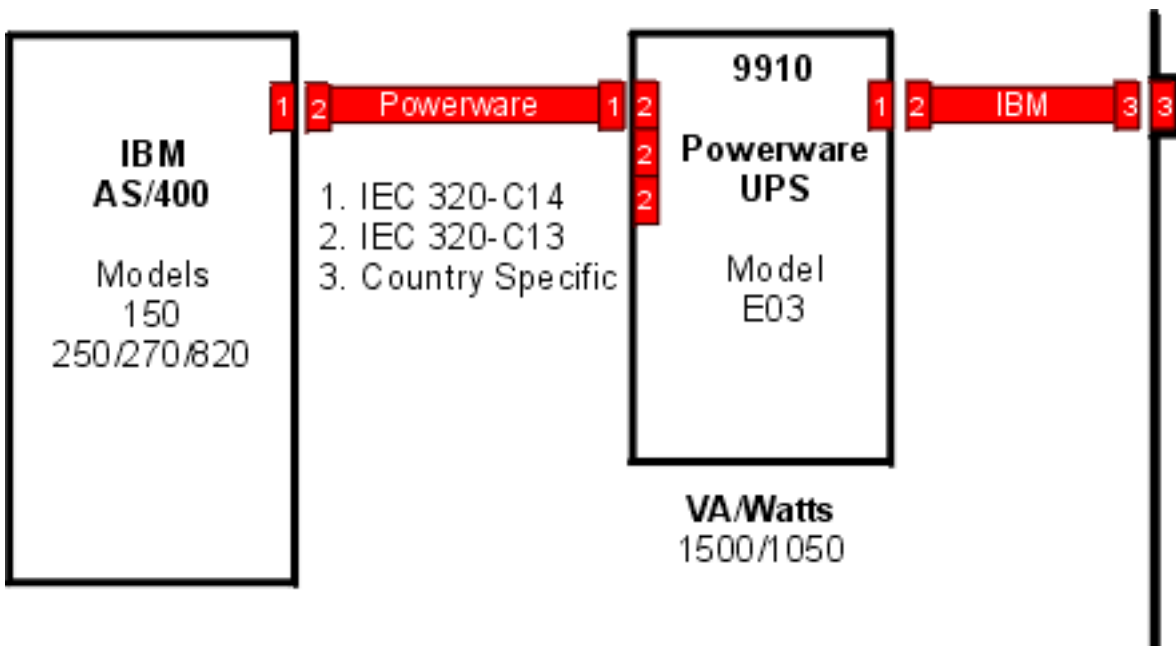
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



E03 UPS (Model 150)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

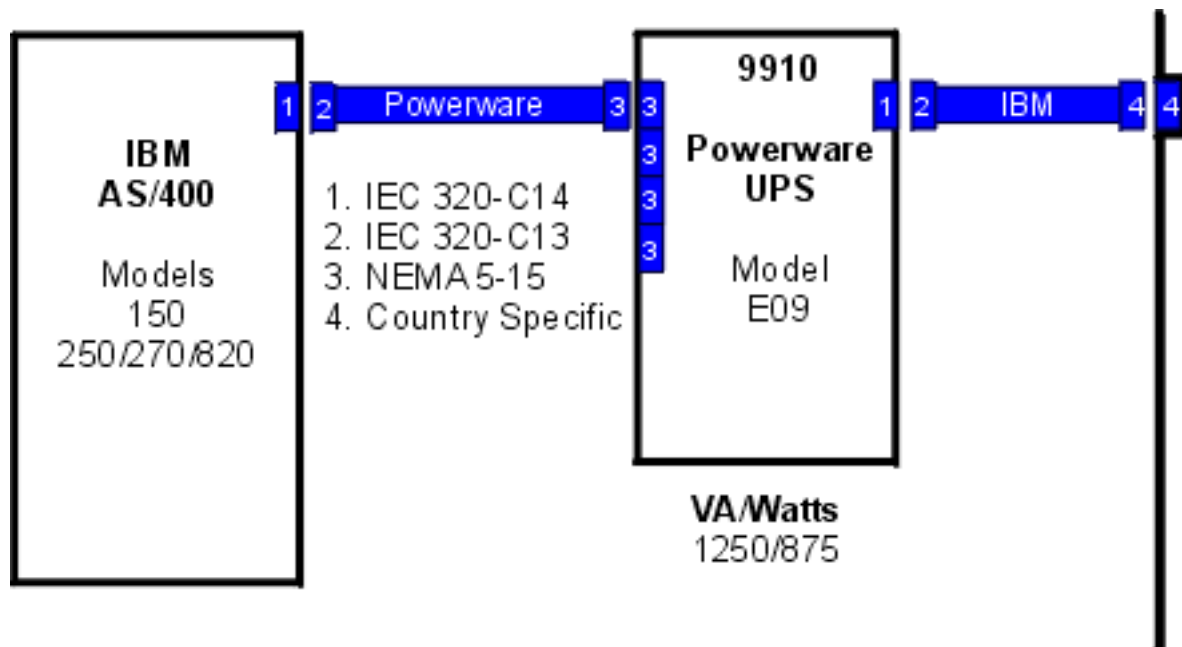
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



E09 UPS (Model 150)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

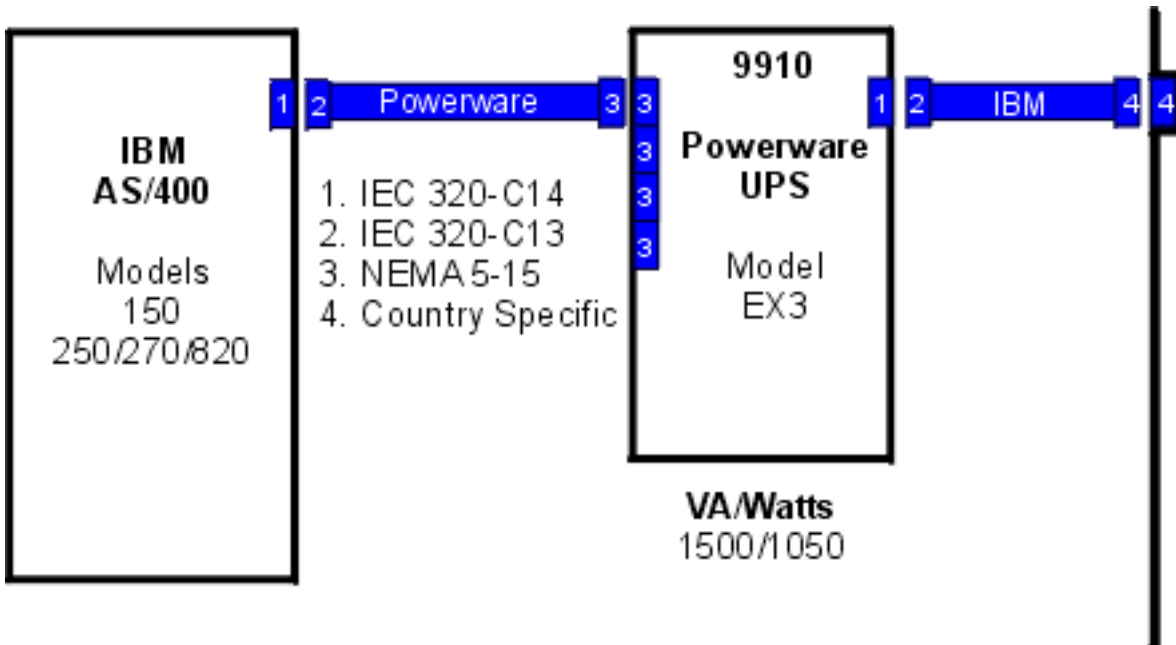
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EX3 UPS (Model 150)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

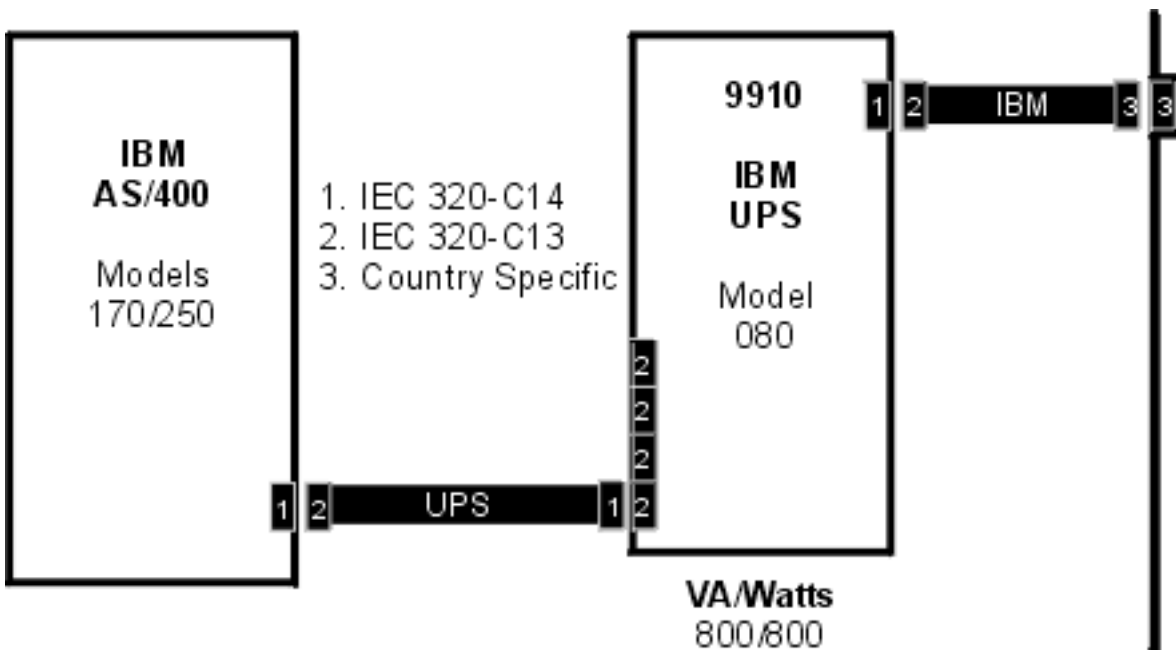
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



IBM 800W CPM UPS for Model 170

The diagram below shows the power cabling for your Model 170 system unit and the IBM Uninterruptible Power Supply (UPS). The voltage at the UPS outlets is the same voltage provided to the input (either low voltage, 100-127, or high voltage, 200-240). The power cords shipped with the UPS are used to connect the UPS to your system. Three IEC320-C13/IEC320-C14 (2.8m length) power cords will be included with the UPS. The power cord shipped with your system is used to connect the UPS to the facility power distribution receptacle.

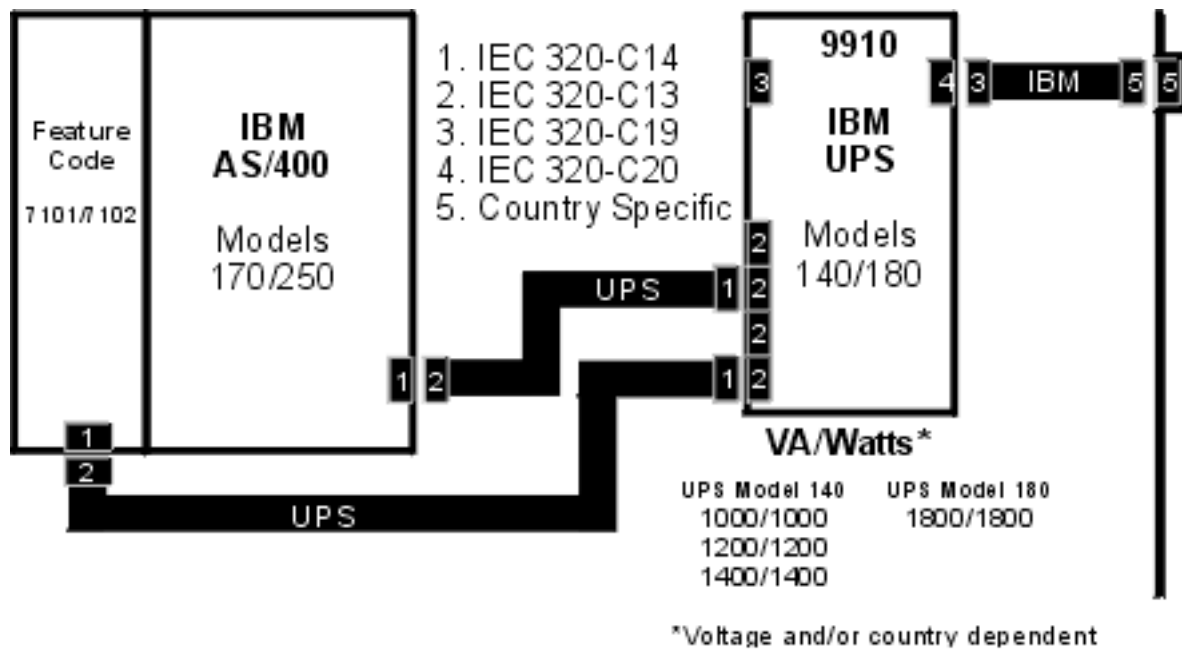
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



IBM 1400W CPM UPS for Model 170 with Feature Code 7101 or 7102

The diagram below shows the power cabling for your Model 170 system unit with Feature Code 7101 or 7102 and the IBM Uninterruptible Power Supply (UPS). The voltage at the UPS outlets is the same voltage provided to the input (either low voltage, 100-127, or high voltage, 200-240). The power cords shipped with the UPS are used to connect the UPS to your system. Three IEC320-C13/IEC320-C14 (2.8m length) power cords will be included with the UPS. An IEC320-C19 country or region specific power cord will be included with the model 170 system unit when a 1400W UPS is ordered. This power cord is used to connect the UPS to the facility power distribution.

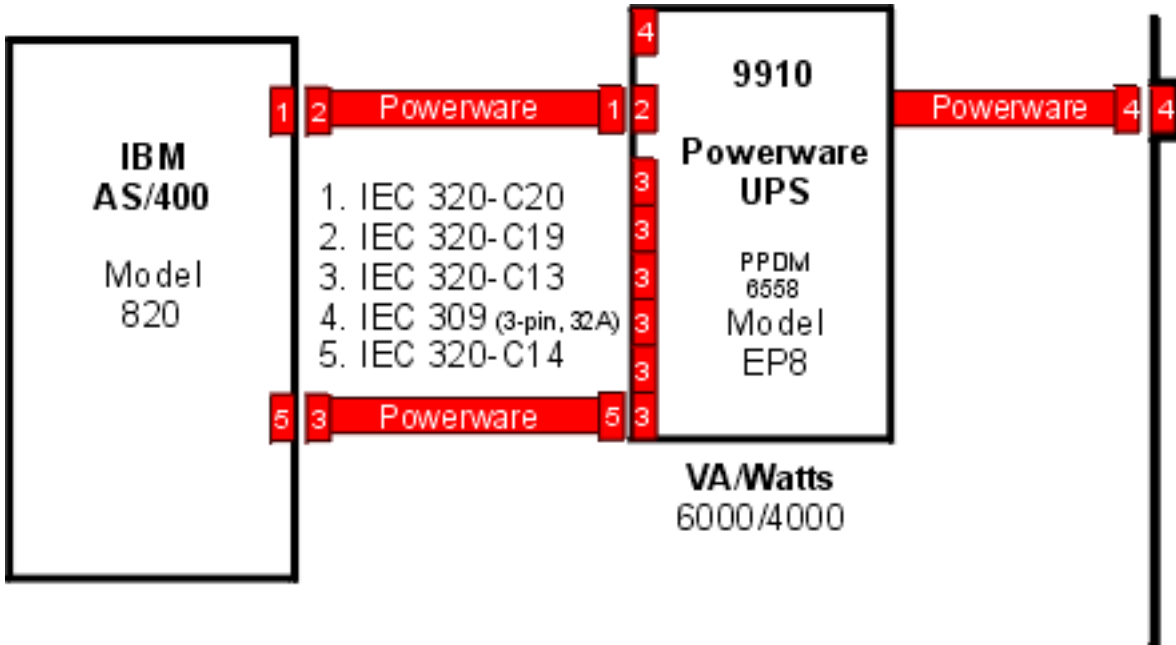
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP8 Powerware UPS with PPDM 6567 (server 820)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will provide three IEC320-C19/IEC320-C20 cord and three IEC320-C13/IEC320-C14 cords. Power cords labeled **IBM** are those included with your system.

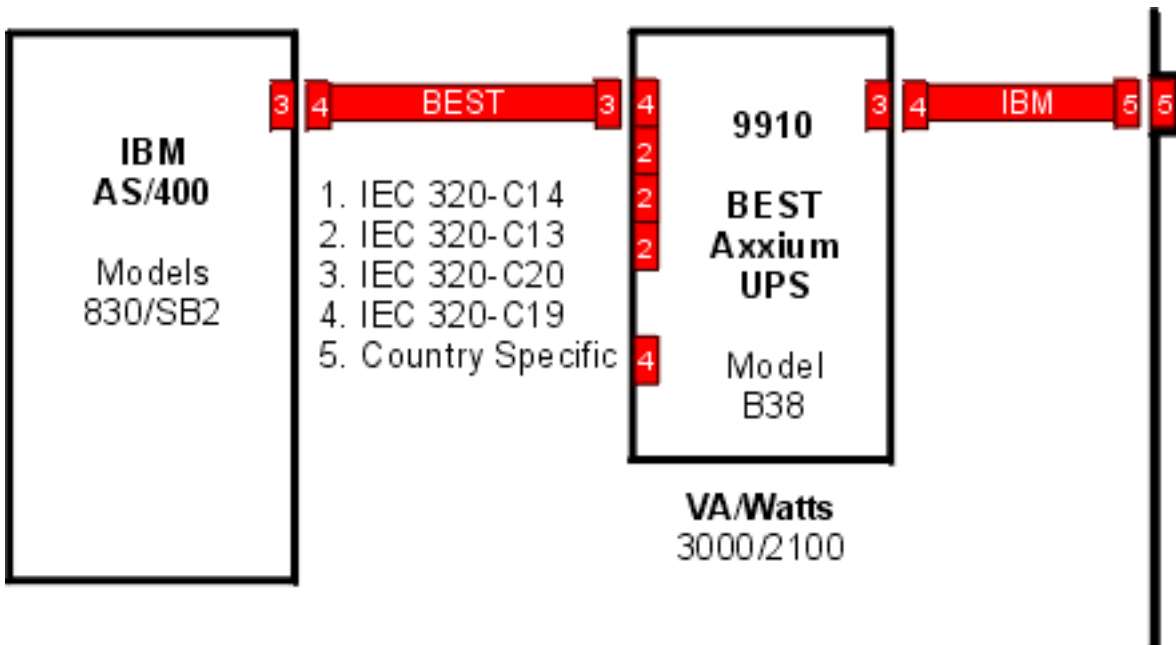
Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B38 BEST UPS (server 830/SB2)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will supply four IEC320-C13/IEC320-C14 cords and one IEC320-C19/IEC320-C20 cord. Power cords labeled **IBM** are those included with your system.

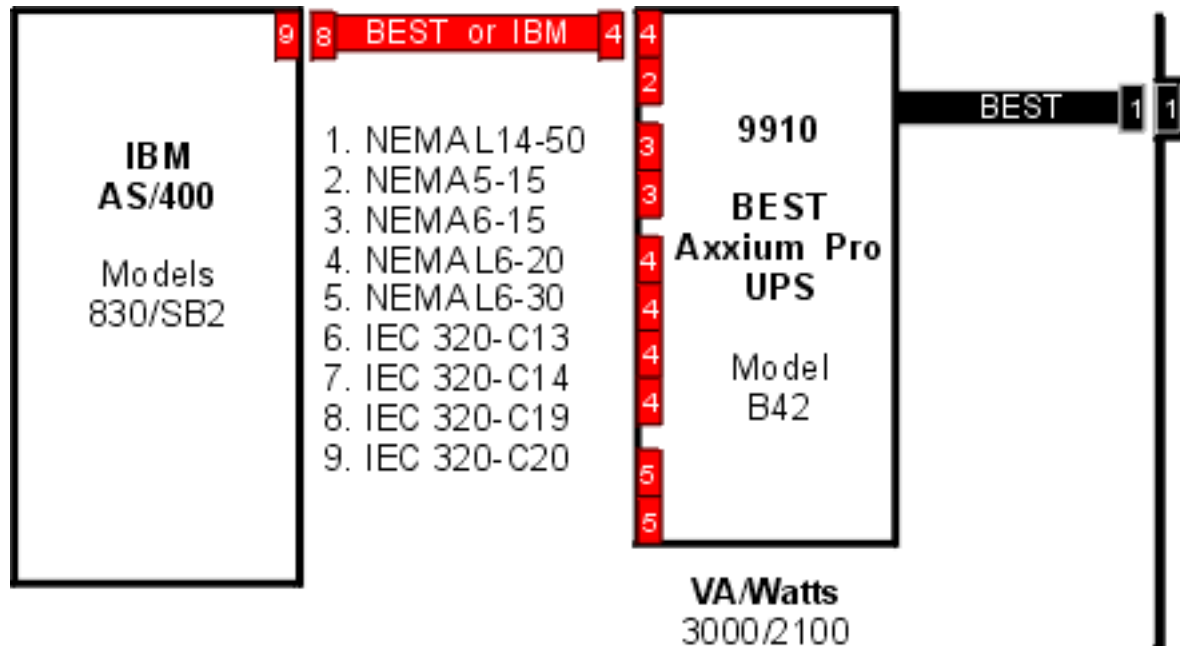
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B42 BEST UPS (server 830/SB2)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will supply two IEC320-C13/NEMA 5-15P cords, one IEC320-C13/NEMA 6-15P cord, and four IEC320-C19/NEMA 6-15P cords. Power cords labeled **IBM** are those included with your system.

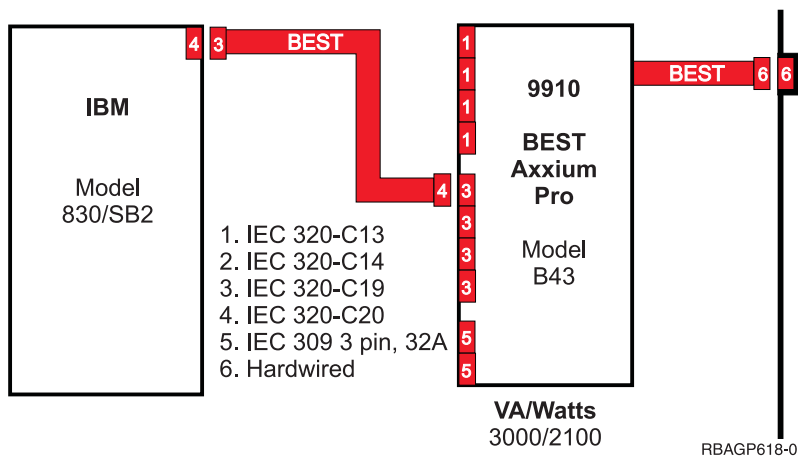
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B43 BEST UPS (server 830)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will supply four IEC320-C13/IEC320-C14 cords and four IEC320-C19/IEC320-C20 cords. Power cords labeled **IBM** are those included with your system.

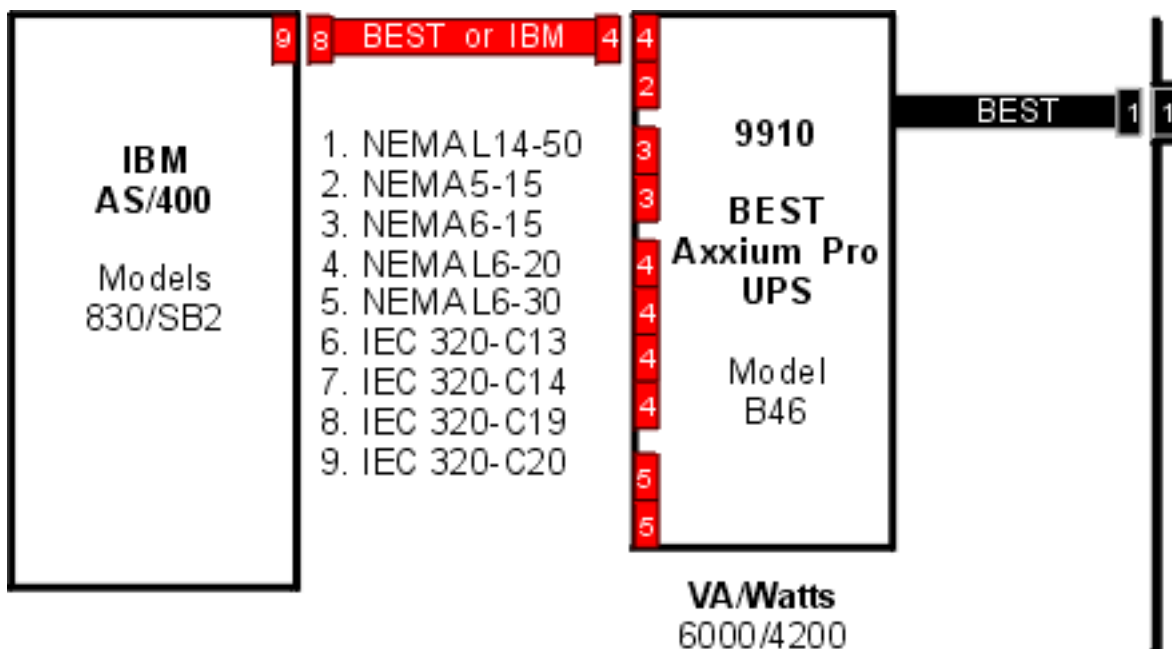
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B46 BEST UPS (server 830/SB2)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will supply two IEC320-C13/NEMA 5-15P cords, one IEC320-C13/NEMA 6-15P cord, and four IEC320-C19/NEMA 6-15P cords. Power cords labeled **IBM** are those included with your system.

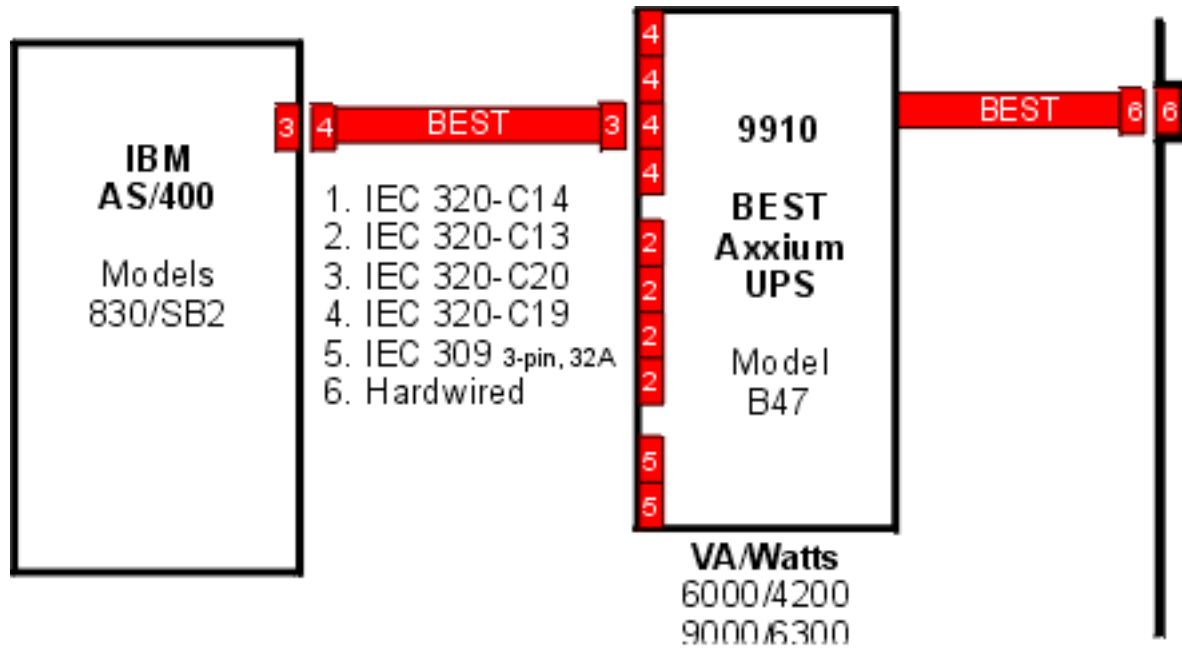
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B47 BEST UPS (server 830/SB2)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will supply four IEC320-C13/IEC320-C14 cords, and four IEC320-C19/IEC320-C20 cords. Power cords labeled **IBM** are those included with your system.

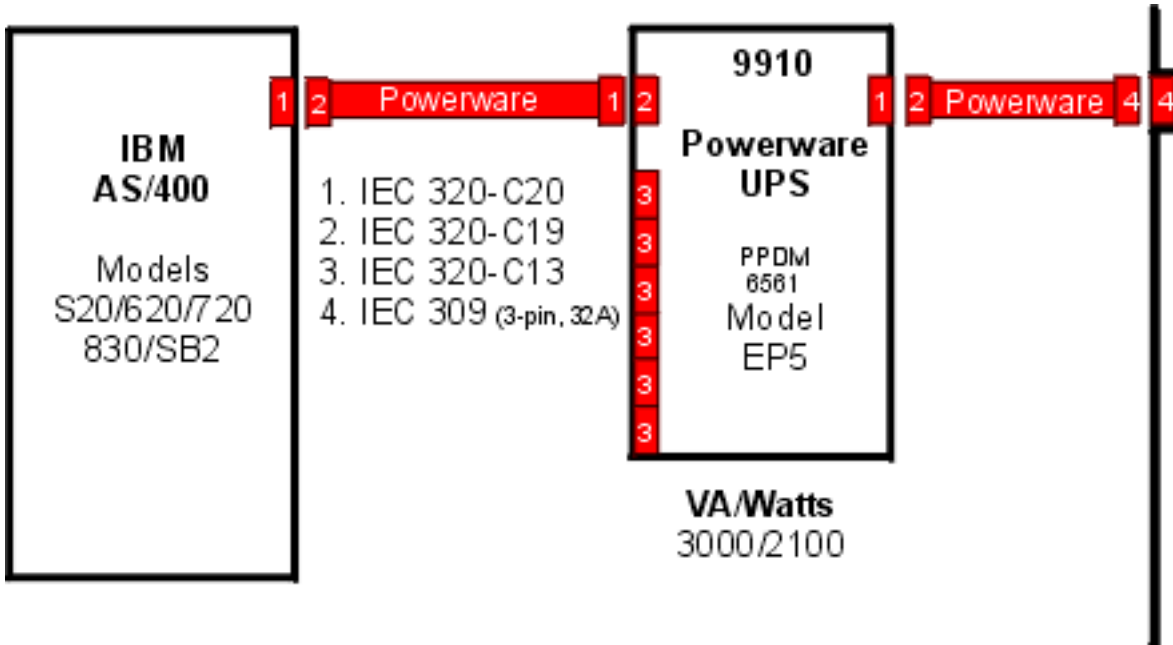
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP5 Powerware UPS with PPDM 6561 (server 830)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will include one IEC320-C19/IEC320-C20 and four IEC320-C13/IEC320-C14 cords. Power cords labeled **IBM** are those included with your system.

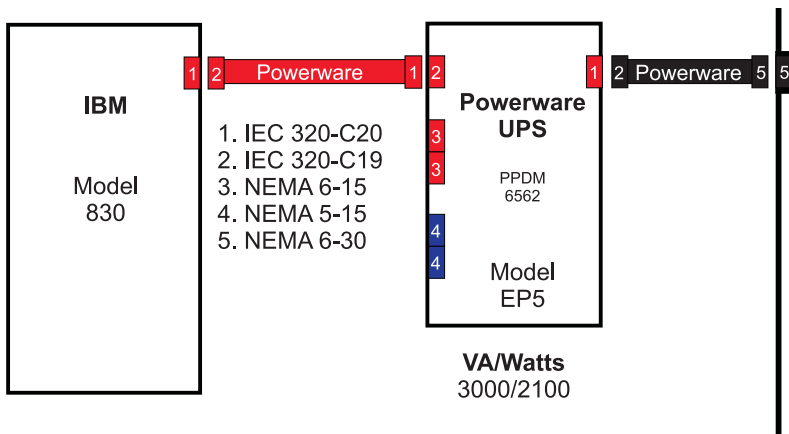
Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP5 Powerware UPS with PPDM 6562 (server 830)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will include one IEC320-C19/IEC320-C20, one IEC320-C13/NEMA 5-15 cord, and two IEC320-C13/NEMA 6-15 cords. Power cords labeled **IBM** are those included with your system.

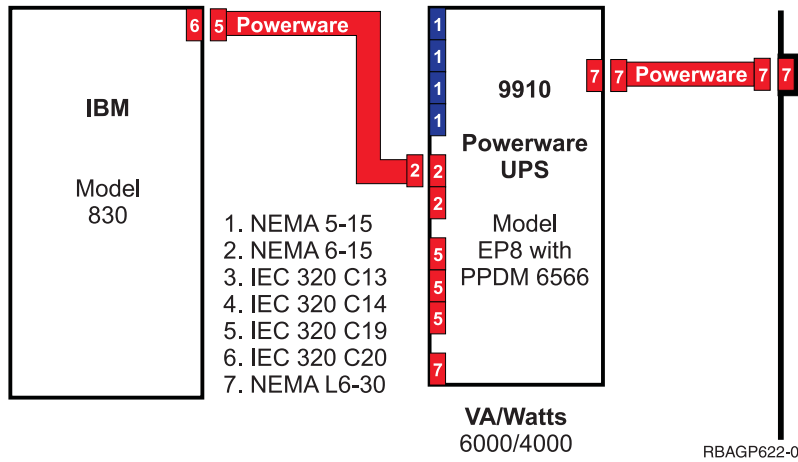
Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP8 Powerware UPS with PPDM 6566 (server 830)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will include three IEC320-C19/IEC320-C20, one IEC320-C13/NEMA 5-15 cord, and two IEC320-C13/NEMA 6-15 cords. Power cords labeled **IBM** are those included with your system.

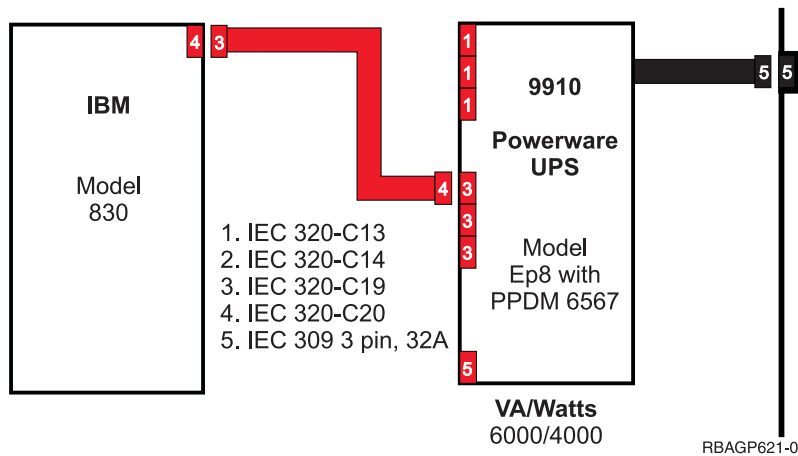
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP8 Powerware UPS with PPDM 6567 (server 830)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will provide three IEC320-C19/IEC320-C20 cord and three IEC320-C13/IEC320-C14 cords. Power cords labeled **IBM** are those included with your system.

Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



AC Module Power Connector J11 for 3xx, 5xx, 6x0, 7x0, Sx0 Systems

View connector diagram.

Table 1-5. Connector J11

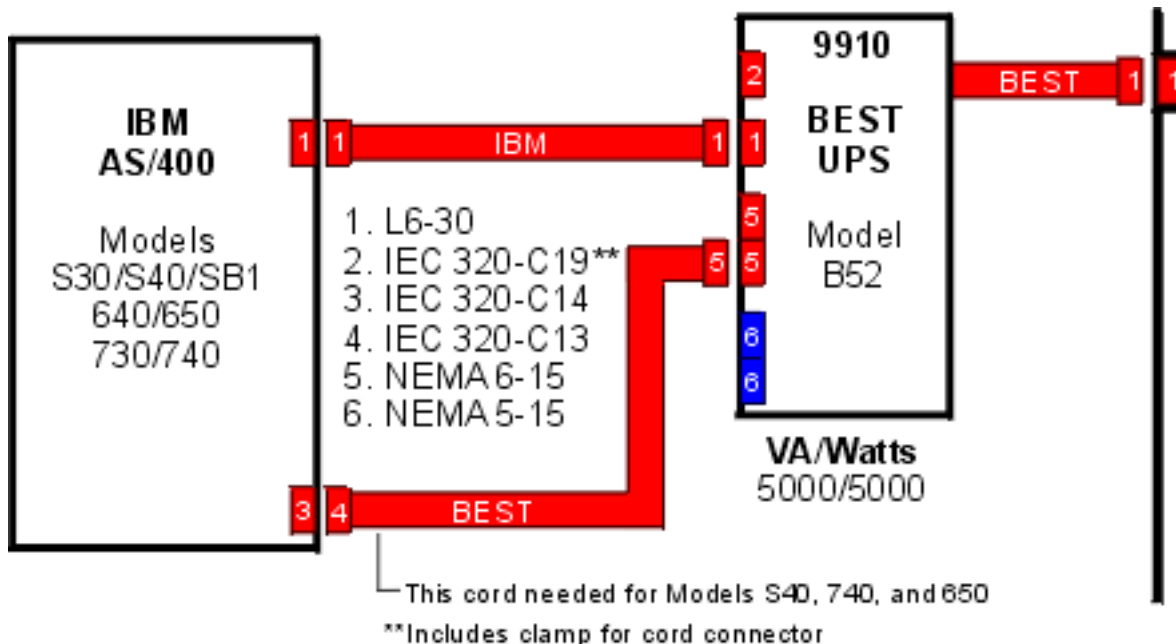
Connector Pin	Line Name
J11-1	-Remote Power On (TTL)
J11-2	Not Used
J11-3	Ground
J11-4	-Remote EPO
J11-5	Keyed
J11-6	Ground
J11-7	+External System Attention
J11-8	Not Used
J11-9	-Remote Power On (RS 232)

- Remote Power On (RPO)
- Emergency Power Off (EPF) on 3xx, 5xx, and 6x0, Sx0, and SB1 Towers
- External System Attention
- continuously powered main storage (CPM)
- Extended continuously powered main storage (CPM)

B52 UPS (Models S30, S40, SB1, 730, 740, 640, 650)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include one IEC320-C13/NEMA 5-15 cord, one IEC320-C19/IEC320-C20 cord, and two IEC320-C13/NEMA 6-15 cords with the B52 UPS model. Power cords labeled **IBM** are those included with your system.

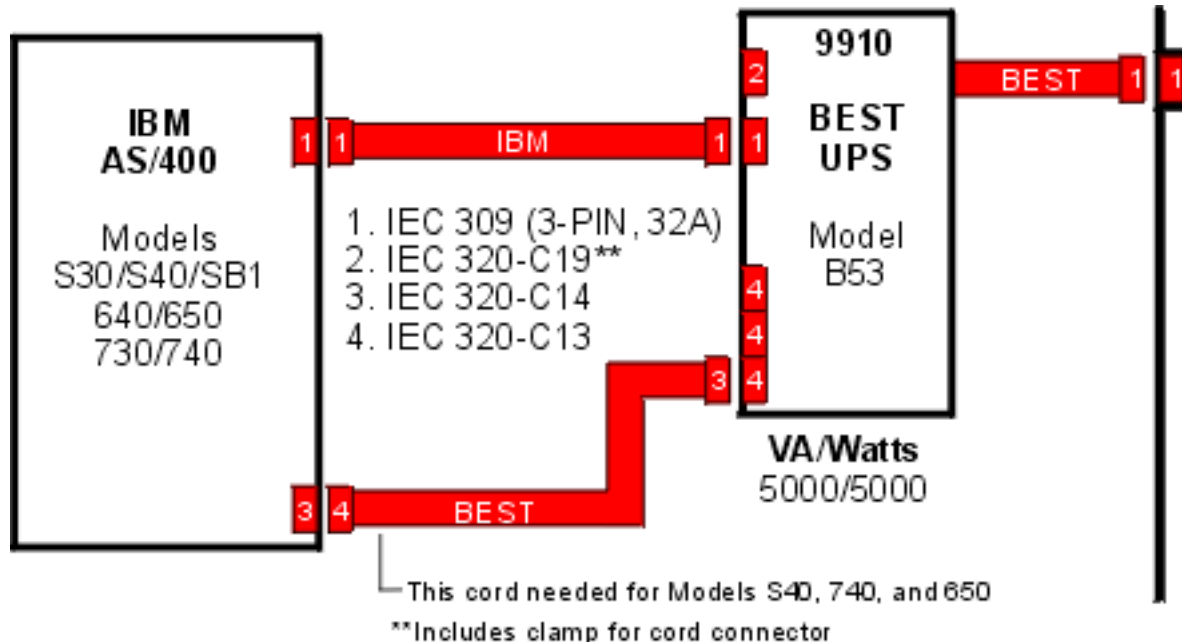
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B53 UPS (Models S30, S40, SB1, 730, 740, 640, 650)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include three IEC320-C13/IEC320-C14 cords and one IEC320-C19/IEC320-C20 cord with the B53 UPS model. Power cords labeled **IBM** are those included with your system.

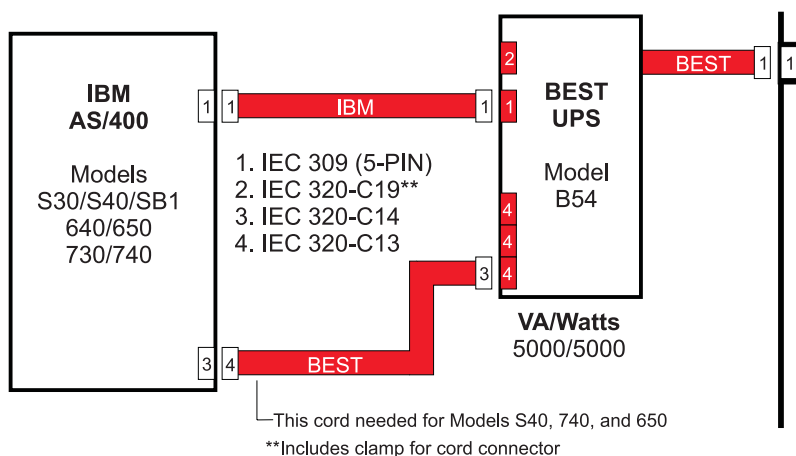
Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B54 UPS (Models S30, S40, SB1, 640, 650)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include three IEC320-C13/IEC320-C14 cords and one IEC320-C19/IEC320-C20 cord with the B54 UPS model. Power cords labeled **IBM** are those included with your system.

Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



continuously powered main storage (CPM)

The 5xx, 6x0, Sx0, and SB1 (except 600 and S10) models support CPM. CPM is activated when there is a utility failure, and when the UPS is not attached; CPM is also activated when there is a bulk power supply failure. When one of the above failures occurs, the operating system will run for 30 seconds while it is waiting for acceptable utility power. After this initial 30 seconds, if the utility power is not restored, or if the bulk power supply continues to fail, the operating system starts the transition to CPM mode.

The transition time to CPM mode is 90 seconds after the initial 30 second waiting period. The transition time to CPM mode is irreversible. The internal battery backup unit (BBU) provides sufficient power to run the system for the 120 second waiting and transition to CPM time periods, and enough power to maintain CPM mode. For models 50S, 500, and 510, one BBU will maintain CPM for 24 hours until battery end-of-life. Two BBUs will maintain CPM for 48 hours until battery end-of-life. For model 53S and 530, three BBUs: one 26 Ampere Hour (AH) battery in the processor side; and two 7AH batteries are in the I/O side. These batteries will maintain CPM for 48 hours until battery end-of-life. If the 5XX system has an uninterruptible power supply attached, CPM is activated only if the UPS fails during the UPS shutdown sequence.

The model 17x also supports CPM. See the *IBM 9910 Uninterruptible Power System User's Manual* for more information.

Emergency Power Off (EPF) on 3xx, 5xx, and 6x0, Sx0, and SB1 Towers

The 3xx and 5xx models accept a TTL (6x0, Sx0, and SB1 models accept a HCMOS signal) or contact closure signal input from an external controller to initiate an emergency power off. Both J11-3 and J11-4 must be attached to the external controller. When an active signal (low) is detected on the 3xx, the system turns off without warning to the operating system.

The operating system puts the system into CPM when emergency power starts on models 5xx or 6x0, Sx0, and SB1. The system 9406 Bxx-Fxx model EPO switch is different from the EPF. The EPF removes high-energy DC power from the system. Therefore, low-energy DC components, such as the system operator panel will remain active until CPM is engaged.

The EPF requirements are compliant with Underwriters Laboratories (UL) 1950 section 2.6.14 and the United States National Electrical Code (NEC) Article 645.

External System Attention

External System Attention will be activated whenever a system attention SRC is present. This signal originates from the control panel and is driven at HCMOS levels. From the control panel this signal is routed over to the System Power Control Network (SPCN). On the SPCN card it is connected to the following elements: a 1K pF capacitor to ground and two 74HC14 inverter chips. Thus, this signal exits the SPCN card and can be read at J11 pin 7. The voltage levels that are present are as follows:

active signal level

Voh min = 3.98v

inactive signal level

Vol max = 0.26v

An active signal can be used to activate an external alarm/light to notify the system administrator when your system is down. Unless the alarm is CMOS compatible, the signal may need to be redriven to activate the alarm.

Extended continuously powered main storage (CPM)

Your system's internal batteries are designed to provide 48 hours of Continuous Powered Mainstore (CPM) unless the system unit has reported a battery capacity test failure system reference code (SRC). The 48 hour time is derived from the system unit maximum memory and the maximum internal battery configuration.

In some situations, it may be desirable to extend CPM. For example, a natural disaster could result in the unavailability of utility power for longer than 48 hours.

Once the system is in CPM mode (the system has powered-off and the Operator's Panel LCD is not lit), two options are available:

1. Use an uninterruptible power supply (UPS) of adequate kVA size to restore system operation, then power down the system via white power button or QUPSDLYTIM numeric system value. A controlled shutdown will occur where memory changed pages are stored on disk. This would preclude the need to be concerned with CPM capacity.

Note: Consult the Local Area Network (LAN) form to determine the total kVA of your server. In addition, you must determine the battery capacity needed to IPL and shutdown your system. The IPL and shutdown times will vary with system size, application, and configuration. Consult the *Backup and Recovery*: SC41-5304-02 for more information about QUPSDLYTIM.

2. Extend CPM by connecting the models 5xx, 6x0, Sx0, or SB1 system tower power cord to a functional UPS. For the model 53X, connect either the I/O side power cord or the processor side power cord to the UPS. It is not necessary to connect both 53X power cords to the UPS.

The operator panel illuminates when the UPS supplies energy. To verify that the system tower is in CPM, switch the mode of the system to 'manual,' scroll to function 6, and press enter. An 'E' displays in the LCD window.

An UPS connected in this fashion will keep CPM operating. CPM operation requires a fraction of the energy you need to power the whole server.

For 100-127VAC support, the minimum required UPS output VA/Watts is 100VA/75W. Maximum voltage must not exceed 254VAC. Minimum voltage must not fall below 90VAC.

For 200-240VAC support, the minimum required UPS output VA/Watts is 135VA/60W. Maximum voltage must not exceed 254VAC. Minimum voltage must not fall below 90VAC.

The standby UPSs tested in the IBM laboratory had a voltage total harmonic distortion (THD) of 51%. We do not recommend using an UPS exceeding this limit.

The minimum size UPS keeps CPM functional and does not provide enough power to operate the system at a functional level. The system requires between 1000VA and 3000VA to power up and run applications.

If you are using a minimum size UPS, IBM recommends the following to avoid damage to your UPS:

-
- Models 500, 510, and 50S: Set the system value QUPSRSTIPL to 0. This disallows the AS/400^(R) to automatically perform an IPL when utility power is restored.
Note: You must remove the UPS and manually start the system when utility returns. For more information, see the *Backup and Recovery*.
- Models 530, 53S: Attach the I/O side power cord to the UPS. Unplug the processor side from its outlet.
Note: You must remove the UPS from the I/O side and plug the processor side into its outlet. If QUPSRSTIPL is set to 1, the server will IPL automatically.

It is important to note that the UPS will not charge the system tower internal batteries while in CPM. If the UPS is removed, CPM will continue to function until the internal batteries are fully discharged.

General Power Considerations

- **Contact an electrician.** Have a qualified electrician take care of your server power requirements and install new outlets. The recommended power distribution wiring diagram can be printed as a reference for your electrician.

Inform your UPS vendor. If your company owns an uninterruptable power supply (UPS), involve your UPS vendor with any type of UPS modification.

Plan an emergency power-off switch. As a safety precaution, you should provide some method for disconnecting power to all equipment in your server area. Put emergency power-off switches in locations readily accessible to your systems operator and at designated exits from the room.

Ground your server. Electrical grounding is important both for safety and correct operation. Your electrician should follow your national and local electrical codes when installing the electrical wiring, outlets, and power panels. These codes take precedence over any other recommendations.

Uninterruptable Power Supply connector J14 pinouts

Connector Pin	Line Name	Signal Definition
J14-8	On	The UPS is powered on and is capable of providing power to the system (whether utility power is available or not).
J14-6	Bypass Active	The UPS has a failure (or is being serviced) and power is being provided to the system from the utility power line. If utility power fails, the system will lose power.
J14-9	Utility Failure	A failure in utility power to the UPS has occurred. The UPS is providing power to the system.
J14-7	Battery Low (weak)	The battery source for the UPS is below the predetermined energy level. If the energy level continues to decrease, the UPS may not be able to supply energy to the system.
J14-5	System Ground	0 volts return for all lines.

Communications Power Specifications

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(5208 Link Protocol Converter)	100 watts (340 BTU/hr)	Convection cooled	100-127 200-240	0.1	1	4	1.8 m (6 ft)
(5209 Link Protocol Converter)	120 watts (408 BTU/hr)	Convection cooled	100-127 200-240	0.12	1	4	1.8 m (6 ft)
(5259 Migration Data Link)	32 watts (110 BTU/hr)	Convection cooled	100-127 200-240	0.07	1	4 or 5	1.8 m (6 ft)
5308 ASCII to Wireless Connection Models 002, 0M2, 007	375 watts (1283 BTU/hr)	1.13 m ³ /min (40 cfm)	100-127 200-240	0.375	1	4	1.8 m (6 ft) <i>USA only</i>
							2.7 m (9 ft)
(5853 ECS Modem)	8 watts (27 BTU/hr)	Convection Cooled	100-127 200-240	0.01	1	4	1.8 m (6 ft)
6299-100, 200, 8TC, 900 Mid-Range System Hub	80 watts (270 BTU/hr)	—	90-260	0.11	1	4	—
(7855-10 ECS Modem)	15 watts (51 BTU/hr)	Convection cooled	100-127 200-240	0.02	1	4	1.8 m (6 ft)
7857-017 ECS Modem	15 watts (51 BTU/hr)	Convection cooled	100-127	0.012	1	4	1.8 m (6 ft)
(8209 LAN Bridge)	44 watts (150 BTU/hr)	Convection cooled	100-127	0.085	1	4	1.8 m (6 ft)
8229-001, 002, 003 Bridge	—	—	100-127 200-240	0.173	1	4	—
2210, N-ways Multiprotocol Router	35 watts	—	100-127	0.39	1	—	—

Magnetic Storage Media Devices Power Specifications

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
3995-C40, C42, C46 Optical Disk Drive	117 watts (384 BTU/hr)	Own fan	100-127 200-240	0.19	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> all others 2.8 m (9.2 ft)
3995-C44 Optical Disk Drive	140 watts (460 BTU/hr)	—	100-127 200-240	—	1	4 or 5	4.3 m (14 ft)
3995-C48 Optical Disk Drive	180 watts (592 BTU/hr)	—	100-127 200-240	—	1	4 or 5	4.3 m (14 ft)
(5030, 5031 I/O Card Unit)	300 watts (1030 BTU/hr) for 50hz; 320 watts (1093 BTU/hr) for 60hz	Own fan	200-240	0.33	1	Powered from Rack	—
(5032 Tape Unit)	144 watts (491 BTU/hr)	Own fan	200-240	0.18	1	Powered from Rack	—
(9331-001, 002 Diskette Unit)	30 watts (100 BTU/hr)	2 m ³ /min (70 cfm)	200-240	0.07	1	Powered from Rack	—
9331-011 Diskette Unit	24 watts (82 BTU/hr)	—	100-127 200-240	0.045	1	Powered from Rack	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
9331-012 Diskette Unit	9.7 watts (33 BTU/hr)	—	100-127 200-240	0.020	1	Powered from Rack	1.8 m (6 ft) <i>USA Only</i> , 2.7 m (9 ft)
(FC 6135 Diskette Unit)	17 watts (58 BTU/hr)	—	100-127 200-240	0.069	1	Powered from Rack	—
(9332-200, 400, 600 Disk Unit)	115 watts (390 BTU/hr)	Own fan	100-127 200-240	0.24	1	Powered from Rack	—
(9335-B01 Direct Access Storage Device)	365 watts (1245 BTU/hr)	Own fan	200-240	0.47	1	Powered from Rack	—
(9336-10, 20 Disk Unit with four drives)	260 watts (887 BTU/hr)	Own fan	200-240	0.30	1	Powered from Rack	—
(9336-25 Disk Unit)	124 watts (422 BTU/hr)	Own fan	200-240	0.152	1	Powered from Rack	—
9337 Disk Unit with 6 drives	300 watts (1024 BTU/hr)	Own fan	200-240	0.66	1	Powered from Rack	—

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
9337-420, 440, 480 Disk Unit	325 watts (1110 BTU/hr)	—	100-127 200-240	0.33	1	Powered from Rack	—
FC 2400 or FC 2410 9337-420, 440, 480 Standalone	325 watts (1110 BTU/hr)	—	100-127 200-240	0.33	1	4 or 5	—
9337-540, 580 Disk Unit	270 watts (922 BTU/hr)	—	100-127	0.349	1	Powered from Rack	—
9337-545, 585 Disk Unit	270 watts (922 BTU/hr)	—	100-127 200-240	0.349	1	4 or 5	—
(9346-001 Tape Unit)	30 watts (100 BTU/hr)	2 m ³ /min (78 cfm)	200-240	0.07	1	Powered from Rack	—
(9347 Tape Unit)	210 watts (715 BTU/hr)	Own fan	200-240	0.24	1	Powered from Rack	—
9348-001 Tape Drive	130 watts (444 BTU/hr)	Own fan	200-240	0.27	1	Powered from Rack	—
9348-002 Tape Drive	130 watts (444 BTU/hr)	Own fan	100-127 200-240	0.27	1	4 (#9081) or 5 (#9833)	2.8 m (9 ft)
(2440-A12 Tape Unit)	710 watts (2422 BTU/hr)	8.5 m ³ /min (300 cfm)	200-240	0.84	1	12 or 40	1.8 m (6 ft) <i>USA Only</i> , all others 4.3 m (14 ft)
(3422-A01 Magnetic Tape Unit)	1830 watts (6246 BTU/hr)	Own fan	200-240	2.2	3	47	4.3 m (14 ft)
(3422-B01 Magnetic Tape Unit)	1370 watts (4676 BTU/hr)	Own fan	200-240	1.4	Powered from "A" Unit	Powered from "A" Unit	Powered from "A" Unit
(3430-A01 Magnetic Tape Unit)	1100 watts (3700 BTU/hr)	Own fan	200-240	1.2	1	35	4.3 m (14 ft)
(3430-B01 Magnetic Tape Unit)	360 watts (1250 BTU/hr)	Own fan	200-240	0.4	Powered from "A" Unit	Powered from "A" Unit	Powered from "A" Unit
3450-001 Magnetic Tape Unit	—	—	200-240	0.12	—	—	Depends on country or region
(3480-A11, A22 Tape Unit)	1000 watts (3400 BTU/hr)	12 m ³ /min (400 cfm)	200-240	1.0	3	36	4.5 m (15 ft)
(3480-B11, B22 Tape Unit)	800 watts (2700 BTU/hr)	12 m ³ /min (400 cfm)	200-240	0.9	Powered from "A" Unit	Powered from "A" Unit	Powered from "A" Unit
(3490-A01 Tape Unit)	600 watts (2048 BTU/hr)	5.7m ³ /min (200 cfm)	200-240	0.6	3	36	1.8 m (6 ft) <i>USA Only</i>

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(3490-A02 Tape Unit)	1200 watts (4096 BTU/hr)	11.3m ³ /min (400 cfm)	200-240	1.2	3	36	1.8 m (6 ft) <i>USA Only</i>
(3490-B02 Tape Unit)	650 watts (2220 BTU/hr)	10.2 ³ /min (360 cfm)	200-240	0.7	Powered from "A" Unit	Powered from "A" Unit	Powered from "A" Unit
3490-B04 Tape Unit	1300 watts (4500 BTU/hr)	10.2m ³ /min (360 cfm)	200-240	1.4	Powered from "A" Unit	Powered from "A" Unit	Powered from "A" Unit
3490-C10, C11, C1A Tape Unit	520 watts (1770 BTU/hr)	Own fan	200-240	0.57	1	Powered from Rack	—
3490-C22, C2A Tape Unit	850 watts (2990 BTU/hr)	Own fan	200-240	0.90	1	Powered from Rack	—
(3490-D31 Tape Unit)	970 watts (3311 BTU/hr)	13 m ³ /min (450 cfm)	200-240	1.0	1	12 or 40	4.5 m (15 ft)
(3490-D32 Tape Unit)	1120 watts (3823 BTU/hr)	13 m ³ /min (450 cfm)	200-240	1.15	1	12 or 40	4.5 m (15 ft)
3490-E01, E11 Tape Unit	155 watts (525 BTU/hr)	48m ³ /min	100-127 200-240	0.39	1	4, 5, or 51	—
3490E-F00, F01 Tabletop Tape Unit	—	—	100-127 200-240	0.30	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
3490E-F11 Tabletop Tape Unit	—	—	100-127 2000-240	0.30	1	—	Powered from Rack
3494 (FC 5300)	850 watts (2900 BTU/hr)	9.6 m ³ /min	200-240	1.9	1	3750	Depends on country or region
3494-L10 Tape Library	1000 watts (3400 BTU/hr)	9.91 m ³ /min	200-240	1.9	1	3750	Depends on country or region
3570-B00 Tape Subsystem	60 watts (205 BTU/hr)	—	100-127 200-240	0.06	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
3570-B01 Tape Subsystem	70 watts (239 BTU/hr)	—	100-127 200-240	0.07	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
3570-B11 Tape Subsystem	70 watts (239 BTU/hr)	—	100-127 200-240	0.07	1	Powered from Rack	—

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
3570-B02 Tape Subsystem	130 watts (444 BTU/hr)	—	100-127 200-240	0.13	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
3570-B12 Tape Subsystem	70 watts (239 BTU/hr)	—	100-127 200-240	0.07	1	Powered from Rack	—
3590-B11, B1A Tape Unit	300 watts (1024 BTU/hr)	2.8 m ³ /min (100 cfm)	200-240	0.30	1	—	—
7208-012 Tape Drive (standalone)	45 watts (155 BTU/hr)	—	100-127 200-240	0.07	1	4	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
7208-012 Tape Drive (rack mount)	45 watts (155 BTU/hr)	—	200-240	0.10	1	Powered from Rack	—
7208-222 Tape Unit	25 watts (85 BTU/hr)	—	—	0.059	1	4	Depends on country or region
7208-232, 234 Tape Unit	75 watts (256 BTU/hr)	—	—	0.156	1	4	Depends on country or region
7208-342 Tape Unit	12.2 watts (41.6 BTU/hr)	—	100-125 200-240	0.023	1	4 or 5	Depends on country or region
9427-210 Tape System	76 watts (250 BTU/hr)	—	100-127 200-240	0.078	1	4	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
9427-211 Tape System	76 watts (250 BTU/hr)	—	100-127 200-240	0.078	1	Powered from Rack	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)

Display Stations Power Specifications

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(3101-23 Display Station)	50 watts (170 BTU/hr)	Convection cooled	100-127 200-240	0.09	1	4	1.8 m (6 ft) <i>USA Only</i> , 2.8 m (9.2 ft)
3153 Infowindow II ASCII Display	65 watts (222 BTU/hr)	Convection cooled	100-127 200-240	0.105	1	4	1.8 m (6 ft) <i>USA Only</i> , 2.8 m (9.2 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(3161 Display Station)	50 watts (170 BTU/hr)	Convection cooled	100-127 200-240	0.15	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
(3162 Display Station)	50 watts (170 BTU/hr)	Convection cooled	100-127 200-240	0.15	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
(3163 Display Station)	50 watts (170 BTU/hr)	Convection cooled	100-127 200-240	0.15	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
(3164 Display Station)	100 watts (340 BTU/hr)	Convection cooled	100-127 200-240	0.23	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
(3179-2, 20K, 21K Display Station)	115 watts (391 BTU/hr)	Convection cooled	100-127 200-240	0.11	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
(3180-2, 20K, 21K Display Station)	126 watts (429 BTU/hr)	Convection cooled	100-127 200-240	0.2	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
(3196-A10, A20, B10, B20 Display Station)	110 watts (374 BTU/hr)	Convection cooled	100-127 200-240	0.15	1	4	2.7 m (9 ft)
(3197-C Display Station)	80 watts (292 BTU/hr)	Convection cooled	100-127	0.1	1	4	2.4 m (8 ft)
3482 Display Station	70 watts (239 BTU/hr)	Convection cooled	100-127 200-250	0.22	1	4	1.8 m (6 ft)
3476-EA, EG Display Station	35 watts (120 BTU/hr)	Convection cooled	100-127 200-240	0.064	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
(3477-FA, FG, HA, HD Display Station)	35 watts (120 BTU/hr)	Convection cooled	100-127 200-240	0.064	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
3483 Modular Display Station	11 watts (37 BTU/hr)	Convection cooled	100-127 200-240	0.020	1	4 or 5	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
3486 Display Station	30 watts (102 BTU/hr)	Convection cooled	100-127 200-240	0.06	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
3487 HA, HG, Infowindow Display Station	64 watts (219 BTU/hr)	Convection cooled	100-127 200-240	0.22	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(3487 HC Display Station)	70 watts (239 BTU/hr)	Convection cooled	100-127 200-240	0.16	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
(3488 Display Station)	12 watts (41 BTU/hr)	Convection cooled	100-127 200-240	0.04	1	4	1.8 m (6 ft) <i>USA Only,</i> 2.8 m (9.2 ft)
3489-V11, V13, V41, V43, V51, V53 Infowindow II Modular Display Station	11 watts (37 BTU/hr)	Convection cooled	100-250	0.02	1	4 or 5	1.8 m (6 ft) <i>Chicago Only,</i> 2.8 m (9.2 ft)
(5251-11 Display Station)	125 watts (425 BTU/hr)	3 m ³ /min (100 cfm)	100-127 200-240	0.2	1	4 or 7	2.4 m (8 ft)
(5251-12 Display Station/Controller)	136 watts (463 BTU/hr)	3 m ³ /min (100 cfm)	100-127 200-240	0.2	1	4 or 7	2.4 m (8 ft)
(5291-1 Display Station)	85 watts (289 BTU/hr)	Convection cooled	100-127 200-240	0.2	1	4	2.4 m (8 ft)
(5291-2 Display Station)	50 watts (170 BTU/hr)	Convection cooled	100-127 200-240	0.1	1	4	1.8 m (6 ft)
(5292-1, 2 Display Station)	180 watts (612 BTU/hr)	1.5 m ³ /min (50 ft ³ /min)	100-127 200-240	0.25	1	4	2.4 m (8 ft)
(5295-1 Display Station)	80 watts (272 BTU/hr)	Convection cooled	100-127 200-240	0.3	1	4	2.4 m (8 ft)
(5295-2, 0C2 Display Station)	150 watts (510 BTU/hr)	Convection cooled	100-127 200-240	0.12	1	4	2.4 m (8 ft)
(5295-LK1 Display Station)	94 watts (86 Kcal/hr)	Convection cooled	90-110	0.22	1	4	2.4 m (8 ft)

General Power Considerations

- **Contact an electrician.** Have a qualified electrician take care of your server's power requirements and install new outlets.
- **Inform your UPS vendor.** If your company owns an uninterruptible power supply (UPS), involve your UPS vendor with any type of UPS modification.
- **Plan an emergency power-off switch.** As a safety precaution, you should provide some method for disconnecting power to all equipment in your server area. Put emergency power-off switches in locations readily accessible to your systems operator and at designated exits from the room.

- **Ground your server.** Electrical grounding is important both for safety and correct operation. Your electrician should follow your national and local electrical codes when installing the electrical wiring, outlets, and power panels. These codes take precedence over any other recommendations.

Determining your power requirements

Your server can have power requirements different from a PC (i.e. different voltage and different plugs). IBM supplies power cords with an attached plug that corresponds to the power outlet most commonly used in the country or region to which the product is being shipped. You, the customer, must supply the proper power outlets.

1. Plan for system electrical service.
For information on power requirements for a specific **model**, refer to the electrical section in the system specifications for that particular system. For information on power requirements for **expansion units or peripherals**, select the appropriate device from the list of compatible hardware specifications. For equipment not listed, check your equipment documentation (owner's manuals) for specifications.
2. Determine your server's plug and receptacle type so you can have the proper outlets installed.
Tip: Print a copy of your plug and receptacle table and give it to your electrician. The table contains information needed for installing outlets.
3. Write down power information in your System Information Form 3A. Include:
 - Plug type
 - Input voltage
 - Line cord length (optional)
4. Plan for power outages.
Consider purchasing an uninterruptable power supply to protect your system against power fluctuations and outages. If your company owns an uninterruptable power supply (UPS), involve your UPS vendor with any type of UPS modification.
5. Plan an emergency power-off switch.
As a safety precaution, you should provide some method for disconnecting power to all equipment in your server area. Put emergency power-off switches in locations readily accessible to your systems operator and at designated exits from the room.
6. Ground your system.
Electrical grounding is important both for safety and correct operation. Your electrician should follow your national and local electrical codes when installing the electrical wiring, outlets, and power panels. These codes take precedence over any other recommendations.
7. Contact an electrician.
Contact a qualified electrician to take care of your server power requirements and install needed power outlets. Give the electrician a copy of your power information. You can print the recommended power distribution wiring diagram as a reference for your electrician.

Personal Computers Power Specifications

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(Personal Computers and Personal System/2-30, 50)	145 watts (493 BTU/hr)	Own fan	100-127 200-240	Check Manual	1	4	1.8 m (6 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(PS/2 ^(R) -60, 80)	363 watts (1235 BTU/hr)	Own fan	100-127 200-240	Check Manual	1	4	1.8 m (6 ft)
(Personal System/55-5530 G12, G18)	57 watts (49 Kcal/hr)	Own fan	100-127	0.10	1	4	2.4 m (8 ft)
(Personal System/55-5530 S, T)	Check Manual	Own fan	100-127	Check Manual	1	4	Check Manual
(Personal System/55-5535 M)	50 watts (43 Kcal/hr)	Own fan	100-127	0.1	1	4	2.4 m (8 ft)
(Personal System/55-5541 M1x, P1x)	90 watts (80 Kcal/hr)	Own fan	100-127	0.14	1	4	2.4 m (8 ft)
(Personal System/55-5551-M1x, P1x)	80 watts (69 Kcal/hr)	Own fan	100-127	0.15	1	4	2.4 m (8 ft)
(Personal System/55-5551-S, T, V, J61)	230 watts (198 Kcal/hr)	Own fan	100-127	0.32	1	4	2.4 m (8 ft)
(Personal System/55-5561 M0x, P0x)	Check Manual	Own fan	100-127	Check Manual	1	4	Check Manual
(Personal System/55-5571 T, V)	430 watts (367 Kcal/hr)	Own fan	100-127	0.5	1	4	Check Manual
(PS/2-8535, 8556) Models 5X, LS	118 watts (403 BTU/hr)	Own fan	100-125	Check Manual	1	4 or 5	Check Manual
(PS/2-8550) Models 50, 50Z	Check Manual	Own fan	90-137 180-265	Check Manual	1	4 or 5	Check Manual
(PS/2-8551) Models 25, 33	107 watts (91 Kcal/hr)	Own fan	100-240	Check Manual	1	4 or 5	Check Manual
(PS/2-8554) Model 45	Check Manual	Own fan	Check Manual	Check Manual	1	Check Man.	Check Manual
(PS/2-8555) Model 55SX (041, 081)	99 watts (438 BTU/hr)	Own fan	90-137 180-265	0.286	1	4 or 5	Check Manual

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(PS/2-8557) Model SX, SLC Ultimedia	197 watts (673 BTU/hr)	Own fan	100-125	Check Manual	1	4 or 5	Check Manual
(PS/2-8560)	—	Own fan	90-137 180-265	Check Manual	1	4 or 5	Check Manual
(PS/2-8565) Model 65, 5X	357 watts (1218 BTU/hr)	Own fan	90-137 180-265	0.594	1	4 or 5	Check Manual
(PS/2-8570)	132 watts (451 BTU/hr)	Own fan	100-125 180-265	Check Manual	1	4 or 5	Check Manual
(PS/2-8573)	141 watts (480 BTU/hr)	Own fan	90-137 180-265	Check Manual	1	4 or 5	Check Manual
(PS/2-8580) Model 80	250 watts (854 BTU/hr)	Own fan	90-137 180-265	0.600	1	4 or 5	Check Manual
(PS/2-8590) Model 90	194 watts (662 BTU/hr)	Own fan	100-125 200-240	Check Manual	1	4 or 5	Check Manual
(PS/2-8595) Model 95	558 watts (1903 BTU/hr)	Own fan	100-125 200-240	Check Manual	1	4 or 5	Check Manual
(PS/2-8600) Models 1, 2, 3	940 watts (3208 BTU/hr)	Own fan	Check Manual	Check Manual	Check Man.	Check Man.	Check Manual
PS/2-9533	25 watts (85 BTU/hr)	Own fan	80-265	0.048	1	4 or 5	Check Manual
PS/2-9545 IBM Thinkpad (486SL- 33Mhz 750 Series)	50 watts (170 BTU/hr)	Own fan	100-240	0.048	1	4 or 5	Check Manual
PS/2-2620 (Thinkpad 360 Series)	139 watts (528 BTU/hr)	Own fan	100-240	0.480	1	4 or 5	Check Manual
PS/2-9577- ANG	250 watts (857 BTU/hr)	Own fan	90-137 180-265	0.50	1	4 or 5	1.8 m (6 ft)
PS/2-6576- 47F, 6586-47F	310 watts 1060 BTU/hr)	20 cfm	90-137 180-265	0.52	1	4 or 5	1.8 m (6 ft)
PS/2-6875- 75H	Check Manual	20 cfm	100-125 200-240	0.30	1	4 or 5	Check Manual
(PS/2-9590)	194 watts (662 BTU/hr)	Own fan	100-125 200-240	Check Manual	1	4 or 5	Check Manual

Printers Power Specifications

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(2380-001, 002 Printer)	120 watts (410 BTU/hr)	120	---	---	1	4	---
(2381-001, 002 Printer)	120 watts (410 BTU/hr)	---	120-127	---	1	4	---
(2390-001, 002 Printer)	120 watts (410 BTU/hr)	---	120	---	1	4	---
(2391-001, 002 Printer)	120 watts (410 BTU/hr)	---	120-127	---	1	4	---
4312-001, 002, 003 Laserprinter	262 watts (891 BTU/hr)	---	120-127 200-240	---	1	4 or 5	1.8 m (6 ft) <i>Chicago Only</i> , all others 2.8 m (9.2 ft)
4317-001, 002 Laserprinter	312 watts (1061 BTU/hr)	---	120-127 200-240	---	1	4 or 5	1.8 m (6 ft) <i>Chicago Only</i> , all others 2.8 m (9.2 ft)
3160 Printer	---	Convection cooled	100-127 200-240	2.1	1	4 or 5	Check Manual
(3812-1, 2) Pageprinter	900 watts (3070 BTU/hr)	3 m ³ /min (100 cfm)	100-127 200-240	1.3	1	4	3 m (10 ft)
(3816-01S, 01D) Pageprinter	Operating 570 watts (1939 BTU/hr); Standby 242 watts (823 BTU/hr)	3 m ³ /min (100 cfm)	100-127 200-240	1.3	1	4	3 m (10 ft)
(3820 Printer)	1340 watts (4,608 BTU/hr)	Convection cooled	100-127 200-240	1.8	1	8	3.6 m (12 ft)
(3825 Printer)	3,200 watts (11,000 BTU/hr)	Convection cooled	200-240	3.5	3	42	4.3 m (14 ft)
3130 Adv. Function Printer	920 watts	---	100/115 220/230/240	1.1	1	4 or 5	---
3170 Printer	11,894 watts (40,900 BTU/hr)	---	208-240	---	---	---	4.3 m (14 ft)
3828 Printer	4,250 watts (14,500 BTU/hr)	Convection cooled	120/208	5.0	3	48	4.3 m (14 ft)
3829-002 Printer	4,250 watts (14,500 BTU/hr)	2.83 m ³ /min	208/220/ 230/240	9.0	3	Depends on country or region	4.3 m (14 ft) or 1.8 m (6 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
3835 Printer	6,000 watts (20,500 BTU/hr)	Convection cooled	200-240; 380-415	6.2	3	36	4.3 m (14 ft)
3900 Printer	10,940 watts (37,330 BTU/hr)	Convection cooled	200-240; 380-415	11.9	3	Check Manual	4.3 m (14 ft)
(3912-AS0, AS1)	308 watts (1048 BTU/hr)	—	100-127 200-240	—	1	4	—
(3916-AS0, AS1)	336 watts (1143 BTU/hr)	—	100-127 200-240	—	1	4	—
(3930-02S, 02D Printer)	1437 watts (4916 BTU/hr)	100	100-127 200-240	1.44	—	Depends on country or region	3 m (10 ft)
3935-001 Printer	1300 watts (4438 BTU/hr)	Convection cooled	100-127 200-240	—	1	4	2.7 m (9 ft)
4312 Laser Printer	265 watts (904 BTU/hr)	Own fan	100-127 200-240	0.30	1	4	1.8 m (6 ft)
4317 Laser Printer	330 watts (1126 BTU/hr)	Own fan	100-127 200-240	0.4	1	4	1.8 m (6 ft)
4324 Laser Printer	600 watts (2055 BTU/hr)	—	100-127 200-240	0.7	—	4	1.8 m (6 ft) or 2.8 m (9 ft)
(4037-5E Printer)	200 watts (680 BTU/hr)	—	100-127	—	1	4	—
(4039-10R, 10D, 12R, 12L, 16L Printer)	130 watts (444 BTU/hr)	—	100-127	—	—	4	—
(4070-001, 002 Ink Jet Printer)	—	—	120	—	1	4	—
(4072-001 Printer)	—	—	100-127	—	1	4	—
(4076-001 Printer)	25 watts (85 BTU/hr)	—	90-259	—	1	Check Manual	—
(4079-1 Printer)	—	—	100-120	—	—	4	—
(4201-2, 3 Proprinter I, II, III)	53 watts (180 BTU/hr)	Convection cooled	100-127 200-240	0.067	1	4	2.7 m (9 ft) <i>Canada and USA</i>
(4202-1, 2, 3 Proprinter I, II, III, XL)	72 watts (245 BTU/hr)	Convection cooled	100-127 200-240	0.12	1	4	1.8 m (6 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(4207-1, 2 Proprinter X24, X24E)	44 watts (150 BTU/hr)	Convection cooled	100-127 200-240	0.12	1	4	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
(4208-1, 2 Proprinter XL24, XL24E, K Models 5K2, 5C2)	44 watts (150 BTU/hr)	Convection cooled	100-127 200-240	0.12	1	4	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
(4210-1 Printer)	44 watts (150 BTU/hr)	Convection cooled	100-127 200-240	0.08	1	4	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
(4214-2 Printer)	440 watts (1497 BTU/hr)	2 m ³ /min (66 cfm)	100-127 200-240	0.5	1	4 or 7	1.8 m (6 ft)
(4216-20, 30, 31, P25 Printer)	500 watts (1627 BTU/hr)	Own fan	100-127 200-240	0.51	1	4	1.8 m (6 ft)
(4224-101, 102, 1E2, 1C2, 301, 302, 1E3, 3E3, 1A3, 3A3, 1X1, 1X2 Printer)	145 watts (495 BTU/hr)	—	100-127 200-240	0.24	1	4	1.8 m (6 ft) <i>USA Only</i> , all others 2.7 m (9 ft)
(4230-101, 102, 111, 1S2, 4I3, 4S3 Laser Printer)	130 watts (444 BTU/hr)	Own fan	100-127 200-240	0.25	1	4	1.8 m (6 ft) <i>USA Only</i> , all others 2.4 m (8 ft)
4232 Printer	130 watts (444 BTU/hr)	—	100-127 200-240	0.25	1	Depends on country or region	1.8 m (6 ft) 2.7 m (9 ft)
(4234-2, 12, 13 Printer)	600 watts (2041 BTU/hr)	Front 2 m ³ /min Rear 3 m ³ /min (100 cfm)	100-127 200-240	0.9	1	4	4.3 m (14 ft)
(4245-T12 Printer)	2000 watts (6863 BTU/hr)	17 m ³ /min (600 cfm)	200, 220, 380, or 415 for 50hz; 200, 208, 220, 240, or 380 for 60hz	2.6	3	36	4.3 m (14 ft)
(4245-T20 Printer)	2500 watts (8503 BTU/hr)	17 m ³ /min (600 cfm)	200, 220, 380, or 415 for 50hz; 200, 208, 220, 240, or 380 for 60hz	3.1	3	36	4.3 m (14 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(5201-2 Quietwriter ^(R))	45 watts (154 BTU/hr)	Convection cooled	100-127 200-240	0.075	1	4	1.8 m (6 ft)
(5202-1 Quietwriter III Printer)	80 watts (272 BTU/hr)	Convection cooled	100-127 200-240	0.100	1	4	1.8 m (6 ft)
(5204-1, E Quickwriter Printer)	190 watts (650 BTU/hr)	Convection cooled	90-137 180-259	0.315	1	4	1.8 m (6 ft)
4247 Serial Matrix Printer	150 watts (512 BTU/hr)	—	100-127 200-240	—	1	4 or 5	1.8 (6 ft) <i>USA Only,</i> all others 2.7 m (9 ft)
(5216-2 Wheelprinter)	88 watts (300 BTU/hr)	Convection cooled	100-127 200-240	0.146	1	4	1.8 m (6 ft)
(5219-D1, D2 Printer)	265 watts (901 BTU/hr)	1.5 m ³ /min (50 cfm)	100-127 200-240	0.6	1	4	3 m (9.8 ft)
(5223-1 Wheelprinter E)	53 watts (181 BTU/hr)	Convection cooled	100-127 200-240	0.088	1	4	1.8 m (6 ft)
(5224-1, 2 Printer)	470 watts (1599 BTU/hr)	4.5 m ³ /min (150 cfm)	100-127 200-240	0.6	1	4	2.4 m (8 ft)
(5225-1 Printer)	550 watts (1871 BTU/hr)	4.5 m ³ /min (150 cfm)	100-127 200-240	0.6	1	4, 5, 7, or 10	2.4 m (8 ft)
(5225-2 Printer)	700 watts (2381 BTU/hr)	4.5 m ³ /min (150 cfm)	100-127 200-240	0.72	1	4, 5, 7, or 10	2.4 m (8 ft)
(5225-3 Printer)	700 watts (2381 BTU/hr)	4.5 m ³ /min (150 cfm)	100-127 200-240	0.75	1	4, 5, 7, or 10	2.4 m (8 ft)
(5225-4 Printer)	850 watts (2900 BTU/hr)	4.5 m ³ /min (150 cfm)	100-127 200-240	0.90	1	4, 5, 7, or 10	2.4 m (8 ft)
(5227-001, 002, 003, 005 Printer)	835 watts (2840 BTU/hr)	3 m ³ /min (100 cfm)	100-127 200-240	1.3	1	4	2.4 m (8 ft)
(5256 Printer)	125 watts (425 BTU/hr)	Convection cooled	100-127 200-240	0.2	1	4 or 7	2.7 m (9 ft) 1.8 m (6 ft)
(5262-1 Printer)	1100 watts (3741 BTU/hr)	10 m ³ /min (350 cfm)	100-127 200-240	1.4 (50 hz) 1.2 (60 hz)	1	4 or 7	4.3 m (14 ft) 2.4 m (8 ft)
(5317-001 Printer)	180 watts (615 BTU/hr)	1 m ³ /min (33 cfm)	100-127 200-240	0.21	1	4	2.4 m (8 ft)
(5327-001 Printer)	Check Manual	Own fan	90-100	1.5	1	4	2.4 m (8 ft)
(5417-001, 002, 003, 005 Printer)	Check Manual	Check Manual	101-121 200-240	1.50	1	—	Depends on country or region

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
(5427-001, 002, 003, 005 Printer)	1290 watts (4400 BTU/hr)	Own fan	100-127 200-240	2.3	1	—	2.4 m (8 ft)
(5553-B01, B02 Printer)	120 watts (100 Kcal/hr)	Own fan	90-110	0.15	1	4	2.4 m (8 ft)
(5557-B01 Printer)	240 watts (220 Kcal/hr)	Own fan	90-110	0.30	1	4	2.4 m (8 ft)
(5563-B02, H02 Printer)	65 watts (45 Kcal/hr)	Own fan	90-110	0.04	1	4	1.8 m (6 ft)
(5572-B01 Printer)	45 watts (40 Kcal/hr)	Own fan	90-110	0.07	1	4	1.8 m (6 ft)
(5572-B02 Printer)	Check Manual	Own fan	90-110	1.35	1	4	Check Manual
(5575-B01, B02, F01, F02 Printer)	140 watts (120 Kcal/hr)	Own fan	90-127	0.12	1	4	2.4 m (8 ft)
(5577-B01, B01, F01, F02, G01, H02 Printer)	150 watts (140 Kcal/hr)	Own fan	90-127	0.17	1	4	2.4 m (8 ft)
(5582-P01)	150 watts (860 Kcal/hr)	Own fan	90-110	0.17	1	4	2.4 m (8 ft)
(5583-200 Printer)	360 watts (1224 BTU/hr)	5 m ³ /min (165 cfm)	100-127 200-240	0.7	1	4	2.4 (8 ft)
(5587-G01 Printer)	990 watts (3500 BTU/hr)	Own fan	90-110	1.0	1	4	2.4 m (8 ft)
6252-T12, AS2, AS9, T08 Printer	850 watts (2900 BTU/hr)	1.4 m ³ /min (50 cfm)	100-127 200-240	0.95	1	4, 7, or 51	1.8 m (6 ft) <i>USA Only,</i> all others 3.7 m (12 ft)
(6262-T12, T14 Printer)	1100 watts (3750 BTU/hr)	5.66 m ³ /min (200 cfm)	100-127 200-240	1.5	1	4, 7, or 51	1.8 m (6 ft) <i>USA Only,</i> all others 4.3 m (14 ft)
6262-T22 Printer	1496 watts (5100 BTU/hr)	4.9 m ³ /min (170 cfm)	200-240	1.7	1	5, 10, or 34	1.8 m (6 ft) <i>USA Only,</i> all others 4.3 m (14 ft)
6400-004, 04P, 008, 012 Printer	215 watts (735 BTU/ht)	—	120-127 220-240	0.41	1	4 or 5	1.8 m (6 ft)
(6412 Printer)	750 watts (2564 BTU/hr)	—	120-127 220-240	1.2	1	Depends on country or region	3 m (10 ft)

Racks Power Specifications

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
9406-(B30, B35, B40, B45) Processor	460 watts (1567 BTU/hr) for 50 hz; 490 watts (1689 BTU/hr) for 60 hz	Own fan	200-240	0.50; Europe, Middle East, Africa 0.64	1	Powered from Rack	—
9406-(B50, B60, B70) Processor	860 watts (2930 BTU/hr) for 50 hz; 920 watts (3133 BTU/hr) for 60 hz	Own fan	200-240	0.94; EMEA 1.20	1	Powered from Rack	—
9406-(D35, D45, D50, D60, D70, D80) Processor	530 watts (1810 BTU/hr)	—	200-240	0.63	1	12 or 40	1.8 m (6ft) <i>USA Only</i> , all others 4.3 m (14 ft)
9406-(E35, E45, E50, E60, E70, E80, E90, E95) Processor	530 watts (1810 BTU/hr)	—	200-240	0.63	1	12 or 40	1.8 m (6 ft) <i>USA Only</i> , all others 4.3 m (14 ft)
9406-(F35, F45, F50, F60, F70, F80, F90, F95) Processor	770 watts (2627 BTU/hr)	—	200-240	0.79	1	12 or 40	1.8 m (6 ft) <i>USA Only</i> , all others 4.3 m (14 ft)
9406-(F97) Processor	975 watts (3328 BTU/hr)	—	200-240	0.980	1	12 or 40	1.8 m (6 ft) <i>USA Only</i> , all others 4.3 m (14 ft)
9406-5040 Bus Extension Rack (D, E, F Model)	466 watts (1590 BTU/hr)	—	200-240	0.49	1	12 or 40	1.8 m (6 ft) <i>USA Only</i> , all others 4.3 m (14 ft)
9406-5042 System Rack Expansion (D, E, F, Model)	466 watts (1590 BTU/hr)	—	200-240	0.49	1	12 or 40	1.8 m (6 ft) <i>USA Only</i> , all others 4.3 m (14 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
9309-2 Rack Enclosure	25 watts (85 BTU/hr)	Own fan	200-240	0.043	1	12 or 40	1.8 m (6 ft) <i>USA Only</i> , all others 4.3 m (14 ft)
(9335-A01 Device Function Controller)	84 watts (287 BTU/hr)	Own fan	200-240	0.12	1	Powered from Rack	—
3174 Controller	168 watts (575 BTU/hr)	2.4 m ³ /min (85 cfm)	100-127 200-240	0.33	1	4	1.8 m (6 ft) <i>USA Only</i> , all others 4.3 m (14 ft)
(5294-1, K01, S01 Controller)	70 watts (288 BTU/hr)	—	100-127 200-240	0.2	1	4	2.4 m (8 ft)
5394-01A, 01B, 02A, 02B Controller	78 watts (265 BTU/hr)	0.14 m ³ /min (5 cfm)	100-127 200-240	0.12	1	4	4.3 m (14 ft)
5494-EXT Controller	31.2 watts (26 Kcal/hr)	—	100-127 200-240	0.05	1	4	—

Units and Towers Power Specifications

Equipment appearing in parentheses are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (owner's manuals).

Note: Information contained in the **Plug Type** column is common plug types for Canada and the United States *only*. This information may not include other countries or special plug features (such as locking and water resistant).

To determine plug/receptacle types for other countries and for special features, consult our Plug tables.

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
940x-(P0x, 10S) System Unit	77 watts (239 BTU/hr)	Own fan	100-127 200-240	0.14	1	4 or 5	1.8 m (6 ft) <i>USA only</i> , 2.7 m (9 ft)
9402-(Cxx-Fxx, 100) System Unit	272 watts (928 BTU/hr)	Own fan	100-127 200-240	0.297	1	4 or 5	1.8 m (6 ft)
9402-(E06, F06, 100) Expansion Unit	272 watts (928 BTU/hr)	Own fan	100-127 200-240	0.297	1	4 or 5	1.8 m (6 ft)
9402/9404-(20S) System Unit	219 watts (747 BTU/hr)	Own fan	100-127 200-240	0.225	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , 2.7 m (9 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
9402/ 9404(20x) System Unit (320 watt power supply) and Expansion Unit (7117, 9117)	555 watts (1895 BTU/HTM)	Own fan	100-127 200-240	0.571	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , 2.7 m (9 ft)
9402/9404- (200) 4xx System Unit (175 watt power supply 9242)	171 watts (584 BTU/hr)	Own fan	100-127 200-240	0.273	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , 2.7 m (9 ft)
9402/9404- (200), 4xx System Unit (320 watt power supply 5135, 9135)	230 watts (785 BTU/hr)	Own fan	100-127 200-240	0.267	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , 2.7 m (9 ft)
9402-(236) System Unit	220 watts (750 BTU/hr)	—	100-127 200-240	0.245	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , 2.7 m (9 ft)
9402-(236) System Unit and Expansion Unit	276 watts (940 BTU/hr)	—	100-127 200-240	0.305	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , 2.7 m (9 ft)
9404 (Bxx-Cxx) System Unit	350 watts (1194 BTU/hr)	—	100-127 200-240	0.584	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , 2.7 m (9 ft)
9404 (Bxx-Cxx) Expansion Unit	350 watts (1194 BTU/hr)	—	100-127 200-240	0.547	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , 2.7 m (9 ft)
9404 (Dxx-Fxx) System Unit	317 watts 1082 BTU/hr)	3.9 m ³ /min (140 cfm)	100-127 200-240	0.57	1	4 or 5	1.8 m (6 ft)
9404 (Dxx-Fxx) Expansion Unit	350 watts (1194 BTU/hr)	3.9 m ³ /min (140 cfm)	100-127 200-240	0.63	1	4 or 5	1.8 m (6 ft)
9404-(135, 140) System Unit	409 watts (1396 BTU/hr)	3.9 m ³ /min (140 cfm)	100-127 200-240	0.413	1	4 or 5	1.8 m (6 ft)
9404-(135, 140) Expansion Unit	300 watts (1024 BTU/hr)	3.9 m ³ /min (140 cfm)	100-127 200-240	0.303	1	4 or 5	1.8 m (6 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
9406/9404-(300, 310, 30S) System Tower	495 watts (1689 BTU/hr)	5.7 m ³ /min (200 cfm)	100-127 200-240	0.502	1	4, 5, 7, 10, 34, or 51	1.8 m (6 ft) 4.3 m (14 ft)
9406/9404-(3xx) Expansion Tower (5060, 5061, 5062, 5063)	470 watts (1602 BTU/hr)	5.7 m ³ /min (200 cfm)	100-127 200-240	0.473	1	4, 5, 7, 10, 34, or 51	1.8 m (6 ft) 4.3 m (14 ft)
9406/9404-(300, 310 30S) System Tower with Disk Expansion (5051)	698 watts (2380 BTU/hr)	8.5 m ³ /min (300 cfm)	100-127 200-240	0.707	1	4, 5, 7, 10, 34, or 51	1.8 m (6 ft) 4.3 m (14 ft)
9406/9404-(300, 310 30S) System Tower with Disk Expansion 5052	848 watts (2894 BTU/hr)	8.5 m ³ /min (300 cfm)	100-127 200-240	0.859	1	4, 5, 7, 10, 34, or 51	1.8 m (6 ft) 4.3 m (14 ft)
9406/9404-(3xx) Expansion Tower (5060, 5061, 5062, 5063) with Disk Expansion 5052	770 watts (2628 BTU/hr)	9.1 m ³ /min (320 cfm)	100-127 200-240	0.775	1	4, 5, 7, 10, 34, or 51	1.8 m (6 ft) 4.3 m (14 ft)
9406/9404-(320) System Tower with Disk Expansion (9250)	823 watts (2809 BTU/hr)	10.2 m ³ /min (360 cfm)	100-127 200-240	0.827	1	4, 5, 7, 10, 34, or 51	4.3 m (14 ft) 1.8 m (6 ft)
9406/9404-500 System Tower	656 watts (2239 BTU/hr)	4.8 m ³ /min (170 cfm)	100-127 200-240	0.660	1	4, 5, 7, 10, 34, or 51	4.3 m (14 ft) 1.8 m (6 ft)
9406/9404-500 System Tower with Disk Expansion (5051), 5052	1054 watts (3597 BTU/hr)	7.6 m ³ /min (270 cfm)	100-127 (200-240)	1.058	1	4, 5, 7, 10, 34, or 51	4.3 m (14 ft) 1.8 m (6 ft)
9406/9404-510, 50S System Tower	700 watts (2389 BTU/hr)	6.2 m ³ /min (220 cfm)	100-127 200-240	0.703	1	4, 5, 7, 10, 34, or 51	4.3 m (14 ft) 1.8 m (6 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
9406/9404-510, 50S System Tower with Disk Expansion (5051), 5052	1097watts (3744 BTU/hr)	8.2 m ³ /min (290 cfm)	100-127 200-240	1.101	1	4, 5, 7, 10, 34, or 51	4.3 m (14 ft) 1.8 m (6 ft)
9406/9404-5xx/6xx System Unit Expansion Tower 5070 or 5072	686 watts (2341 BTU/hr)	5.7 m ³ /min (200 cfm)	100-127 200-240	0.688	1	4, 5, 7, 10, 34, or 51	4.3 m (14 ft) 1.8 m (6 ft)
9406/9404-5xx System Unit Expansion Tower 5070 or 5072 with Disk Expansion 5052	1065 watts (3635 BTU/hr)	9.1 m ³ /min (320 cfm)	100-127 200-240	1.070	1	5, 10, or 34	4.3 m (14ft) 1.8 m (6 ft)
9406/9404-5xx/6xx System Unit Expansion Tower 5071 or 5073	686 watts (2341 BTU/hr)	5.7 m ³ /min (200 cfm)	200-240	0.688	1	4, 5, 7, 10, 34, or 51	4.3 m (14 ft) 1.8 m (6 ft)
9406/9404-5xx System Unit Expansion Tower 5071 or 5073 with Disk Expansion 5058	1065 watts (3635 BTU/hr)	9.1 m ³ /min (320 cfm)	200-240	1.070	1	5, 10, or 34	4.3 m (14ft) 1.8 m (6 ft)
9406/9404-5xx Storage Expansion Tower 5080 or 5082	686 watts (2341 BTU/hr)	5.9 m ³ /min (210 cfm)	100-127 200-240	0.688	1	4, 5, 7, 10, 34, or 51	4.3 m (14 ft) 1.8 m (6 ft)
9406/9404-5xx Storage Expansion Tower 5080 or 5082 with Disk Expansion 5052	1065 watts (3635 BTU/hr)	9.3 m ³ /min (330 cfm)	100-127 200-240	1.070	1	5, 10, or 34	4.3 m (14ft) 1.8 m (6 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
9406/9404-5xx/6xx Storage Expansion Tower 5081 or 5083	686 watts (2341 BTU/hr)	5.9 m ³ /min (210 cfm)	200-240	0.688	1	4, 5, 7, 10, 34, or 51	4.3 m (14 ft) 1.8 m (6 ft)
9406/9404-5xx Storage Expansion Tower 5081 or 5083 with Disk Expansion 5058	1065 watts (3635 BTU/hr)	9.3 m ³ /min (330 cfm)	200-240	1.07	1	5, 10, or 34	4.3 m (14 ft) 1.8 m (6 ft)
9406/9404-530, 53S System Tower Processor Side with 1-Way Processor (2150, 2151, 2154)	1173 watts (4003 BTU/hr)	14.4 m ³ /min (510 cfm)	200-240	1.222	1	12 or 40	1.8 m (6 ft) <i>USA Only,</i> 4.3 m (14 ft)
9406/9404-530, 53S System Tower Processor Side with 2-Way Processor (2152, 2155)	1765 watts (6024 BTU/hr)	15.9 m ³ /min (560 cfm)	200-240	1.839	1	12 or 40	1.8 m (6 ft) <i>USA Only,</i> 4.3 m (14 ft)
9406/9404-530, 53S System Tower Processor Side with 4-Way Processor (2153, 2156)	2450 watts (8362 BTU/hr)	17.6 m ³ /min (620 cfm)	200-240	2.552	1	12 or 40	1.8 m (6 ft) <i>USA Only,</i> 4.3 m (14 ft)
9406/9404-530, 53S System Tower I/O Side (9051)	731 watts (2495 BTU/hr)	8.5 m ³ /min (300 cfm)	100-127 200-240	0.735	1	4, 5, 7, 10, 34, or 51	1.8 m (6 ft) <i>USA Only,</i> 4.3 m (14 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
9406/9404-530, 53S System Tower I/O Side with Disk Expansion (9051, 8052)	1110 watts (3788 BTU/hr)	9.1 m ³ /min (320 cfm)	100-127 200-240	1.114	1	4, 5, 7, 10, 34, or 51	1.8 m (6 ft) <i>USA Only</i> , 4.3 m (14 ft)
940x-15x System Unit	182 watts (622 BTU/hr)	Own fan	100-127 200-240	0.314	1	4 or 5	1.8 m (6 ft) <i>USA Only</i> , 2.7 m (9 ft)
940x-17x System Unit	329 watts (1123 BTU/hr)	Own fan	100-127 200-240	0.335	1	4 or 5	2.7 m (9 ft)
940x-17x System Unit with 7101 Expansion Unit	661 watts (2256 BTU/hr)	Own fan	100-127 200-240	0.674	1	4 or 5	2.7 m (9 ft)
Model 600, Model S10 System System Unit	434 watts (1481 BTU/hr)	—	100-127 200-240	0.457	1	4, 5, 7, 10, 34, or 51	1.8 m (6 ft) 4.3 m (14 ft)
Model S20 System Unit without 5064 Expansion Unit	841 watts (2870 BTU/hr)	—	200-240	0.934	1	5, 10, or 34	1.8 m (6 ft) 4.3 m (14 ft)
Model 620 System Unit with standard 9364 Expansion Unit, Model S20 System Unit with optional 5064 Expansion Unit	1592 watts (5433 BTU/hr)	—	200-240	1.809	1	5, 10, or 34	1.8 m (6 ft) 4.3 m (14 ft)
Model 640, Model S30 System Unit	1820 watts (6212 BTU/hr)	—	200-240	1.86	1	12 or 40	4.3 m (14 ft)
Model 640, Model S30 System Unit with 5055 Storage Expansion Unit	2010 watts (6860 BTU/hr)	—	200-240	2.051	1	12 or 40	4.3 m (14 ft)

Model	Max. Heat Output	Airflow	Voltage Range	Max. kVA	Phase	Plug Type (Canada & USA)	Power Cord Length
Model 650, Models S40 and SB1 System Unit	1900 watts (6485 BTU/hr)	—	200-240	1.939	1	12 or 40	4.3 m (14 ft)
9251 Base I/O Tower (with Model 650 and Model S40)	1000 watts (3412 BTU/hr)	—	200-240	1.111	1	12	1.8 m (6 ft) <i>USA Only</i> , 4.3 m (14 ft)
9251 Base I/O Tower (with Model SB1)	411 watts (1403 BTU/hr)	—	200-240	0.457	1	12	1.8 m (6 ft) <i>USA Only</i> , 4.3 m (14 ft)

Remote Power On (RPO)

In the 3xx and 5xx models only, either pin J11-1 (TTL contact closure interface) or pin J11-9 (RS 232 signal level interface) provide an alternate means to initiate system power on.

These signals do not directly control system power. Instead, the signals are passed to the system operator panel using the SPCN network upon a power on request. Logic in the system operator panel qualifies the remote power on requests based on the keylock position and system parameters specified. If the request is valid, the system operator panel initiates a normal system power on.

Signal levels for TTL are as follows

Active signal level

0.0v to 0.4v

Inactive signal level

3.7v to 5.0v

Signal levels for RS 232 are as follows

Active signal level

-3.0v to -15.0v

Inactive signal level

+3.0v to +15.0v

Plan for power

This page introduces the tasks that are recommended for power planning with links to more detailed information.

Before you begin your planning tasks, be sure you have completed the items in the following checklist:

Before you begin	
<input type="checkbox"/>	Know your server power requirements.
<input type="checkbox"/>	Know your compatible hardware requirements.
<input type="checkbox"/>	Know your uninterruptible power supply (UPS) needs.

Review power considerations

Use the following resources to build a complete power plan. Refer to the checklist at the bottom of this page for the required elements of your power plan.

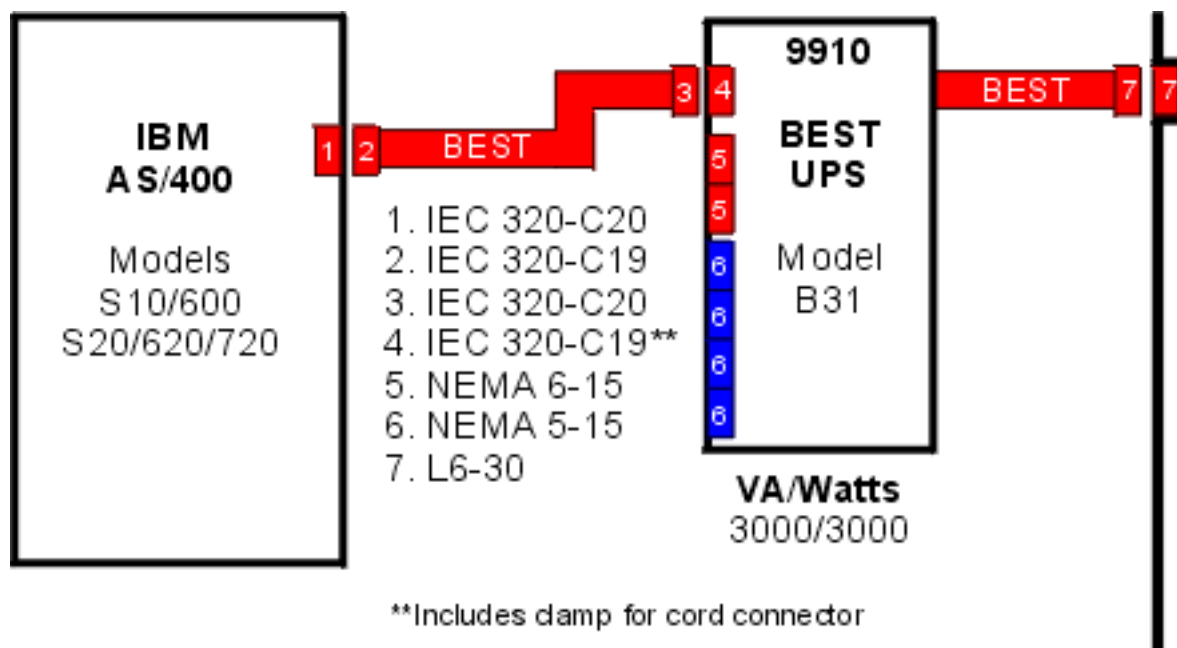
- **General power considerations**
This is an overview of the basic power qualifications.
- **Power planning**
This page includes a plan for continuous server power and a form to record system information.
- **Power specifications**
Go here for a list of compatible hardware for your server.
- **UPS table**
Go here to find the UPS unit and cabling diagram for your server.
- **UPS connector J14 pinouts**
This information defines the line name and signal definition for each connector pin.
- **Line cord features, line cords, plugs, and receptacles**
Use this information to determine your plug and receptacle information by country or region, model, or volts and amps.
- **AC module power connector J11 for 3xx, 5xx, 6x0, 7x0, and Sx0 servers**
Go here to find information on remote power on (RPO), emergency power off (EPO), continuously powered main storage (CPM), and extended CPM.

When you are finished	
<input type="checkbox"/>	Consult a qualified electrician regarding power needs.
<input type="checkbox"/>	Determine a UPS vendor.
<input type="checkbox"/>	Complete your server information form or forms.

B31 UPS (Models S10, S20, 720, 600, 610)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include one IEC320-C13/NEMA 5-15 cord, one IEC320-C19/IEC320-C20 cord, and two IEC320-C13/NEMA 6-15 cords with the B31 UPS model. Power cords labeled **IBM** are those included with your system.

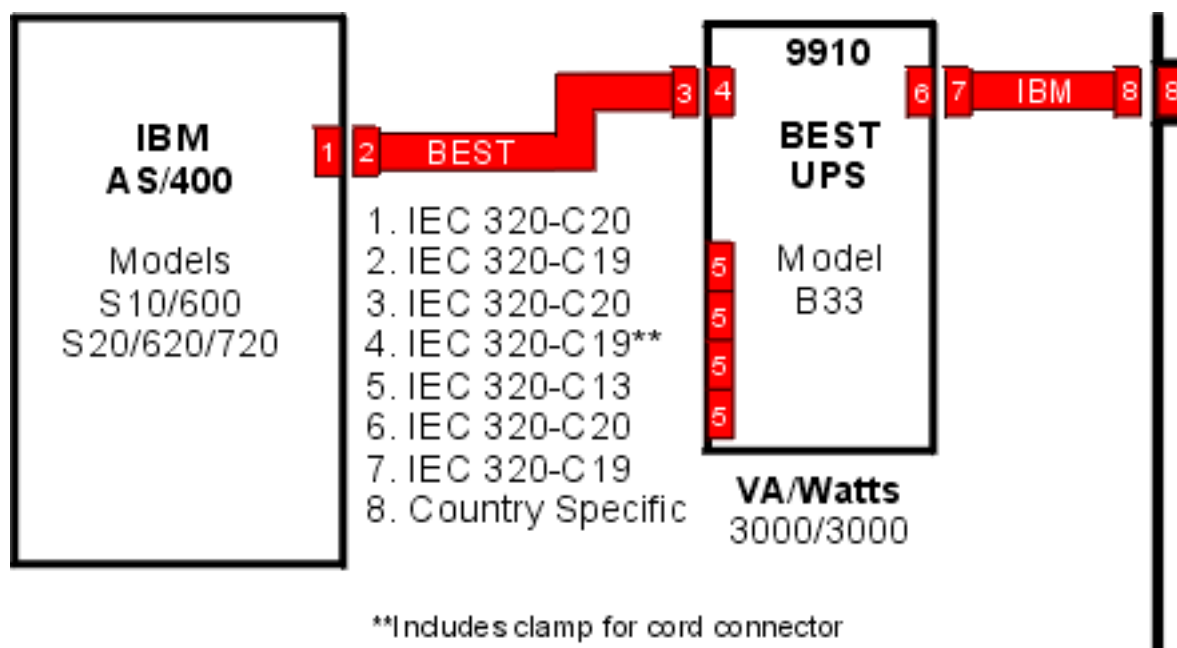
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B33 UPS (Models S10, S20, 720, 600, 610)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include four IEC320-C13/IEC320-C14 cords and one IEC320-C19/IEC320-C20 cord with the B33 UPS model. Power cords labeled **IBM** are those included with your system.

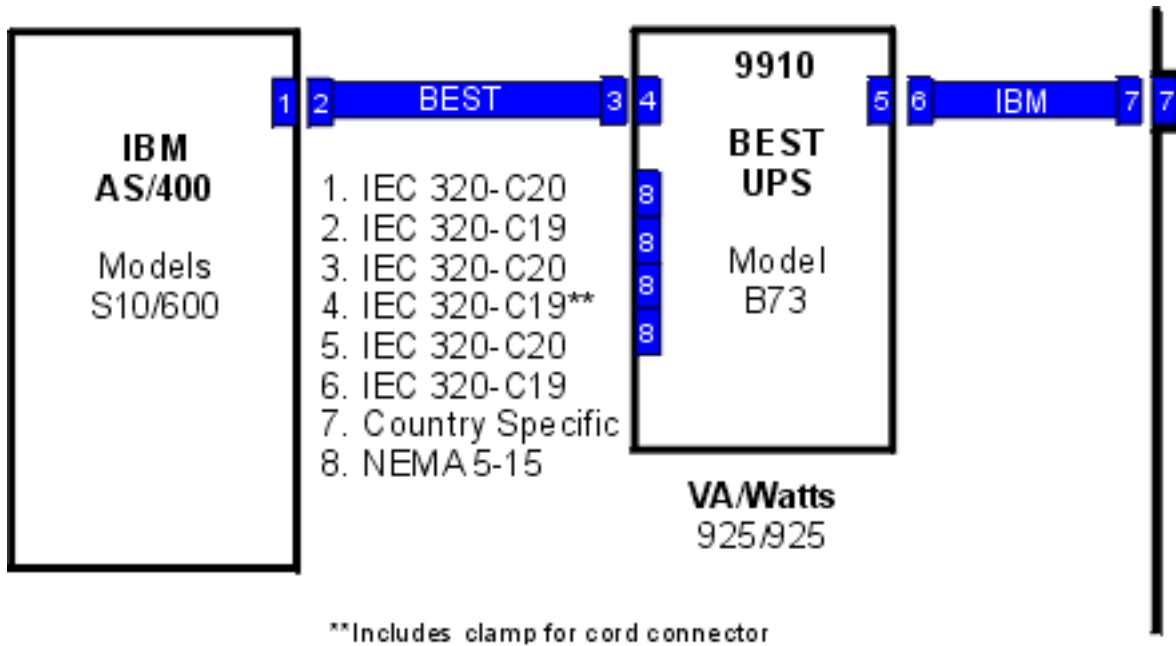
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B73 UPS (Models S10, 600)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include one IEC320-C19/C20 cord with the B73 UPS model. Power cords labeled **IBM** are those included with your system.

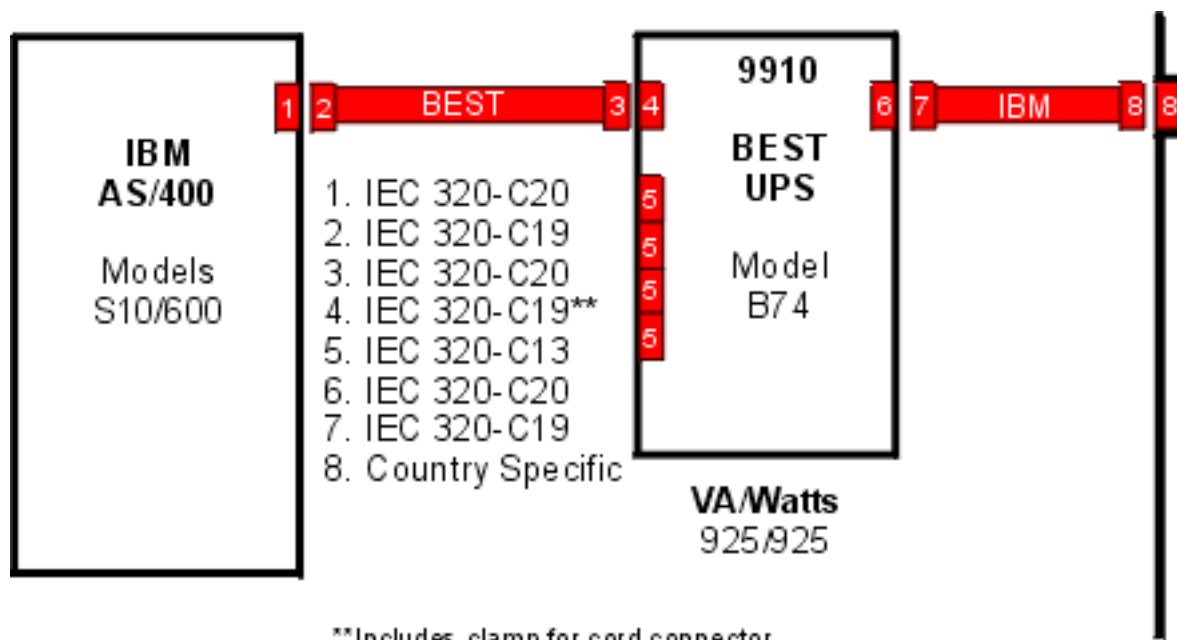
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B74 UPS (Models S10, 600)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include one IEC320-C19/IEC320-C20 cord and two IEC320-C13/IEC320-C14 cords with the B74 UPS model. Power cords labeled **IBM** are those included with your system.

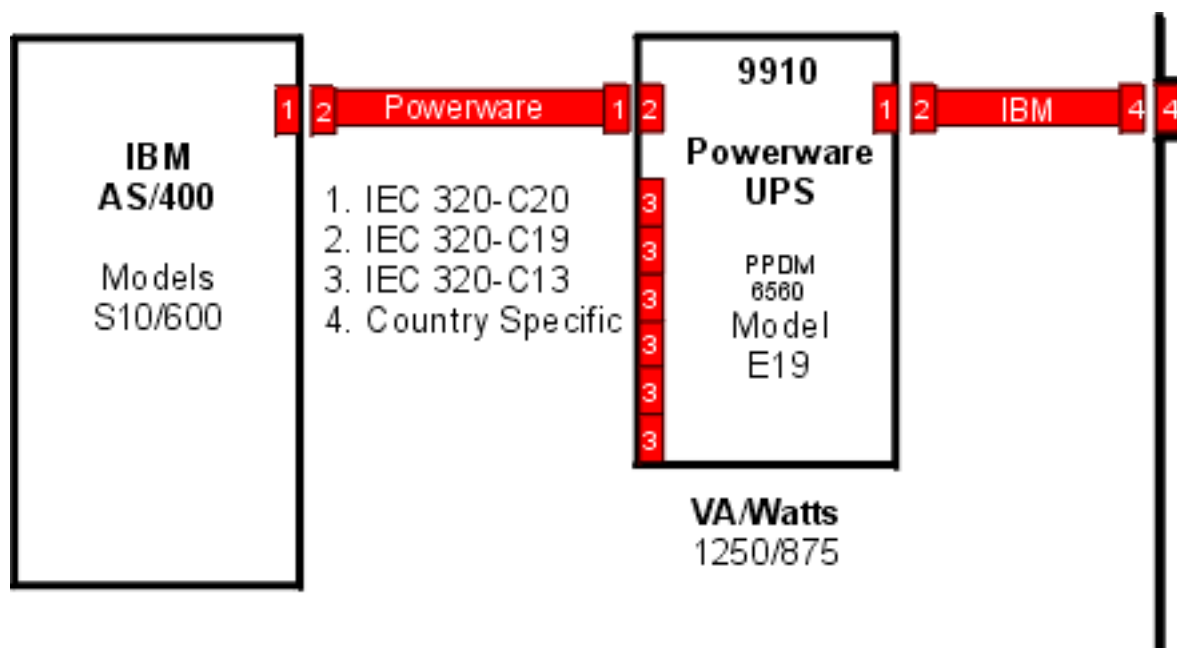
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



E19 UPS (Models 600 and S10) with PPDM 6560

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will include one IEC320-C19/IEC320-C20 and two IEC320-C13/IEC320-C14 cords. Power cords labeled **IBM** are those included with your system.

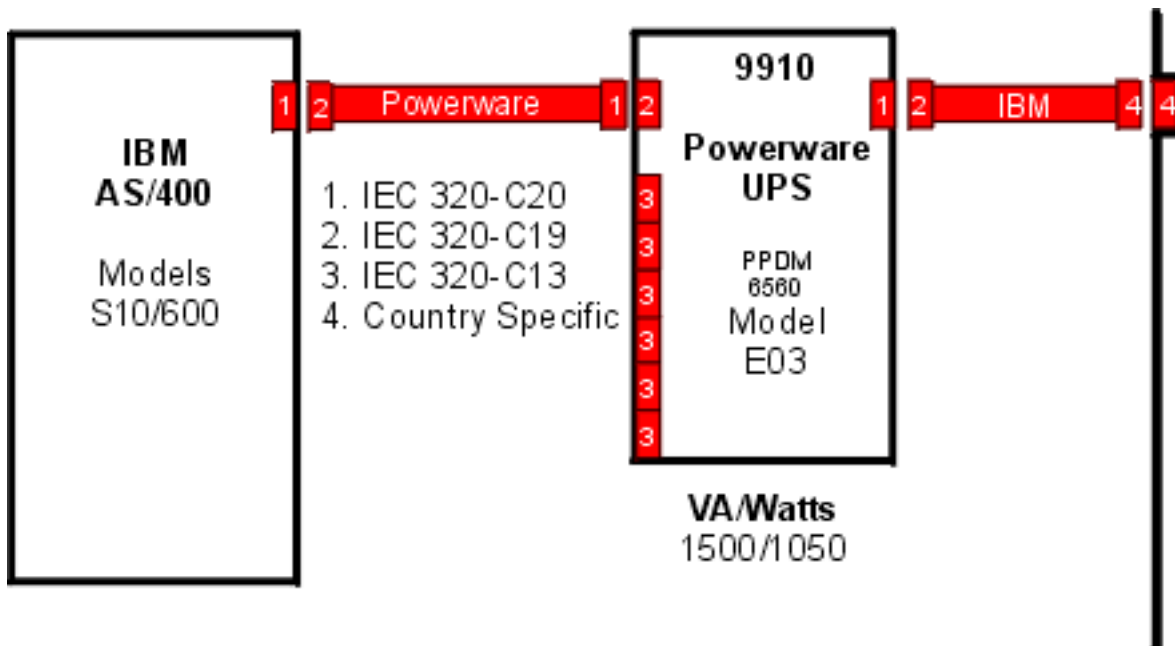
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



E03 UPS (Models 600 and S10) with PPDM 6560

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will include one IEC320-C19/IEC320-C20 and two IEC320-C13/IEC320-C14 cords. Power cords labeled **IBM** are those included with your system.

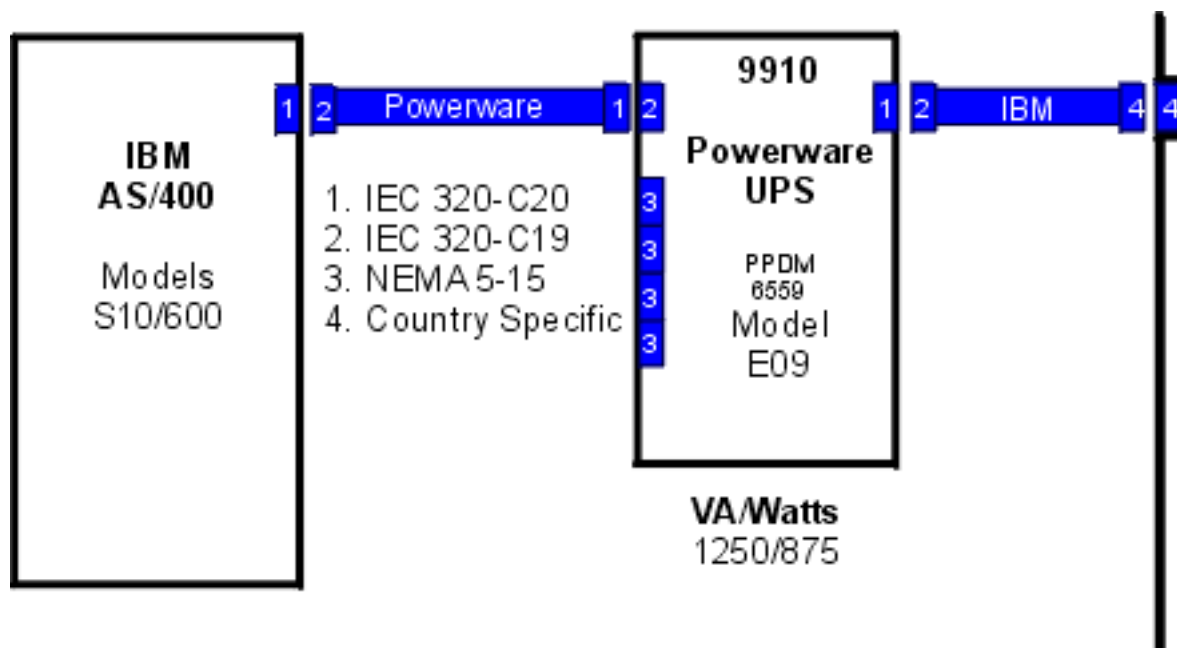
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



E09 UPS (Models 600 and S10) with PPDM 6559

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

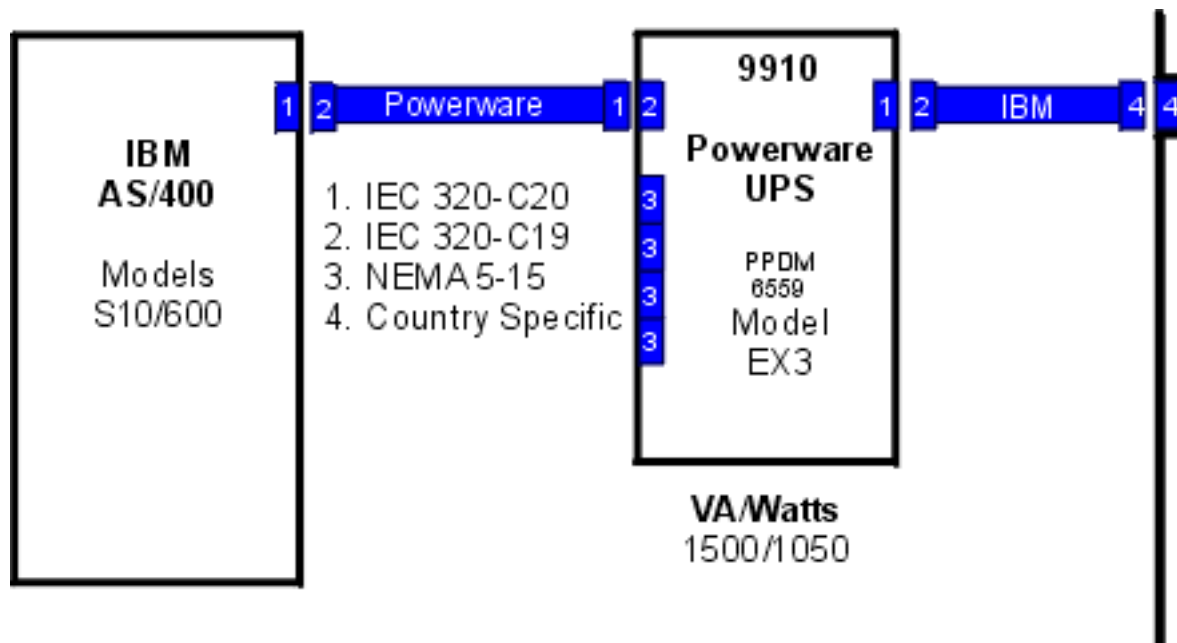
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EX3 UPS (Models 600 and S10) with PPDM 6559

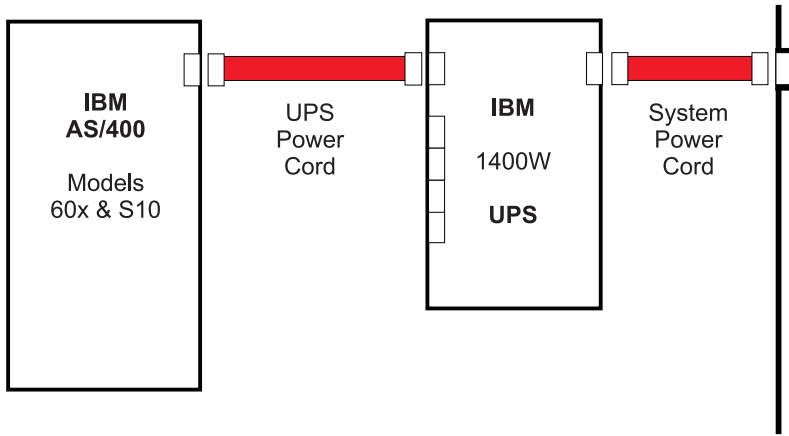
The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Power cords labeled **IBM** are those included with your system.

For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



IBM 1400W UPS for Models 60x and S10

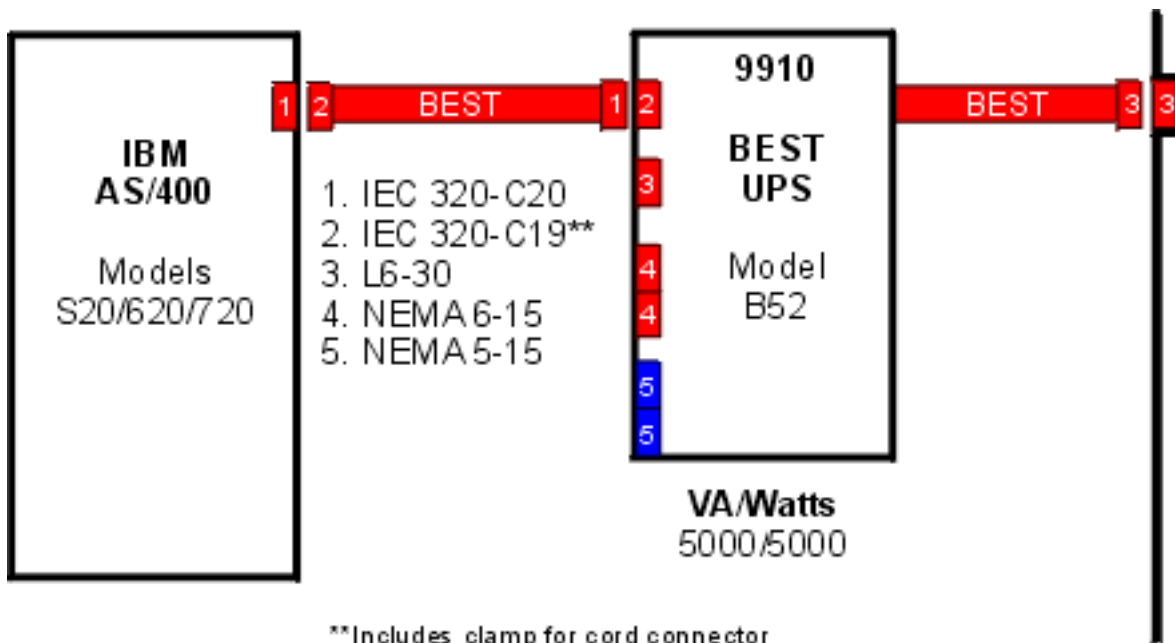
The diagram below shows the power cabling for your Model 60x or S10 system unit and the IBM uninterruptible Power Supply (UPS). The power cords are high-voltage (200-240 nominal voltage) power cords. The power cord shipped with the UPS is used to connect the UPS to your system. The power cord shipped with your system is used to connect the UPS to the power receptacle.



B52 UPS (Models S20, 620, & 720)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include one IEC320-C13/NEMA 5-15 cord, one IEC320-C19/IEC320-C20 cord, and two IEC320-C13/NEMA 6-15 cords with the B52 UPS model. Power cords labeled **IBM** are those included with your system.

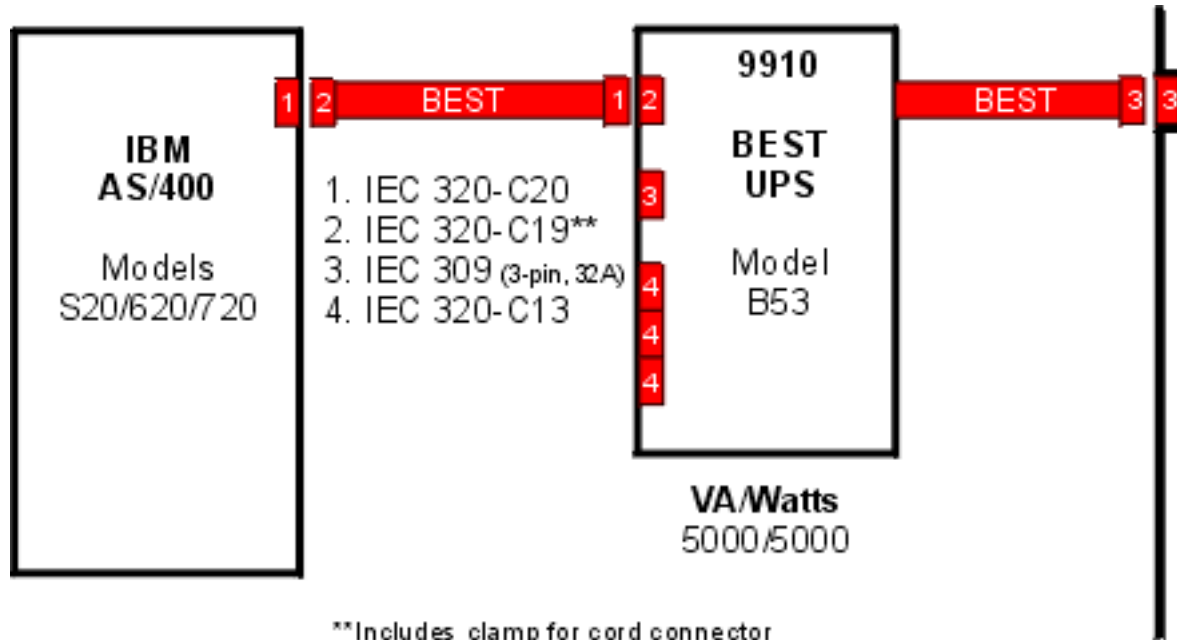
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B53 UPS (Models S20, 620, & 720)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include three IEC320-C13/IEC320-C14 cords and one IEC320-C19/IEC320-C20 cord with the B53 UPS model. Power cords labeled **IBM** are those included with your system.

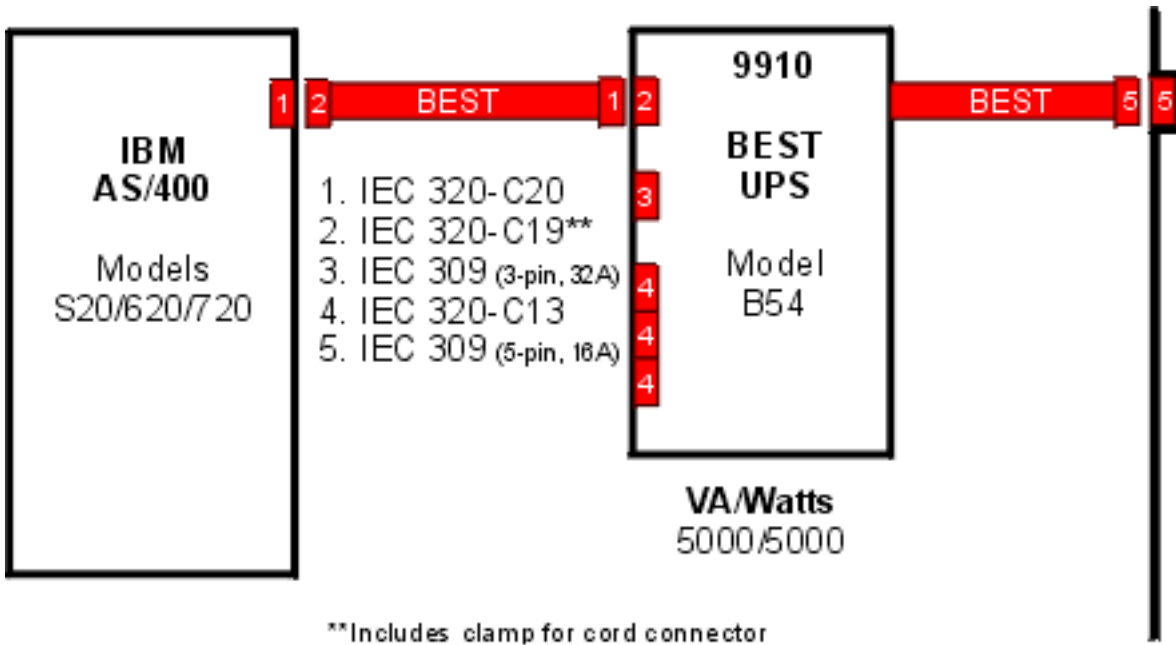
Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



B54 UPS (Models S20, 620, & 720)

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **BEST** are those provided by BEST™, the UPS supplier. BEST™ will include three IEC320-C13/IEC320-C14 cords and one IEC320-C19/IEC320-C20 cord with the B54 UPS model. Power cords labeled **IBM** are those included with your system.

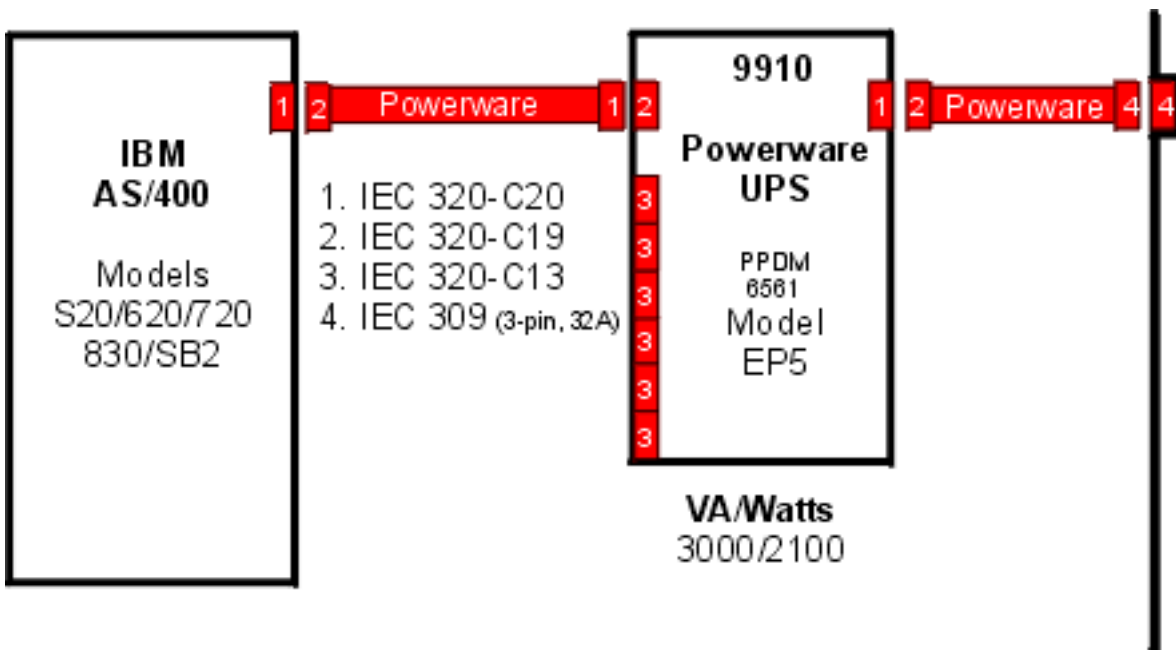
Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP5 UPS (Models S20, 620, and 720) with PPDM 6561

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will include one IEC320-C19/IEC320-C20 and four IEC320-C13/IEC320-C14 cords. Power cords labeled **IBM** are those included with your system.

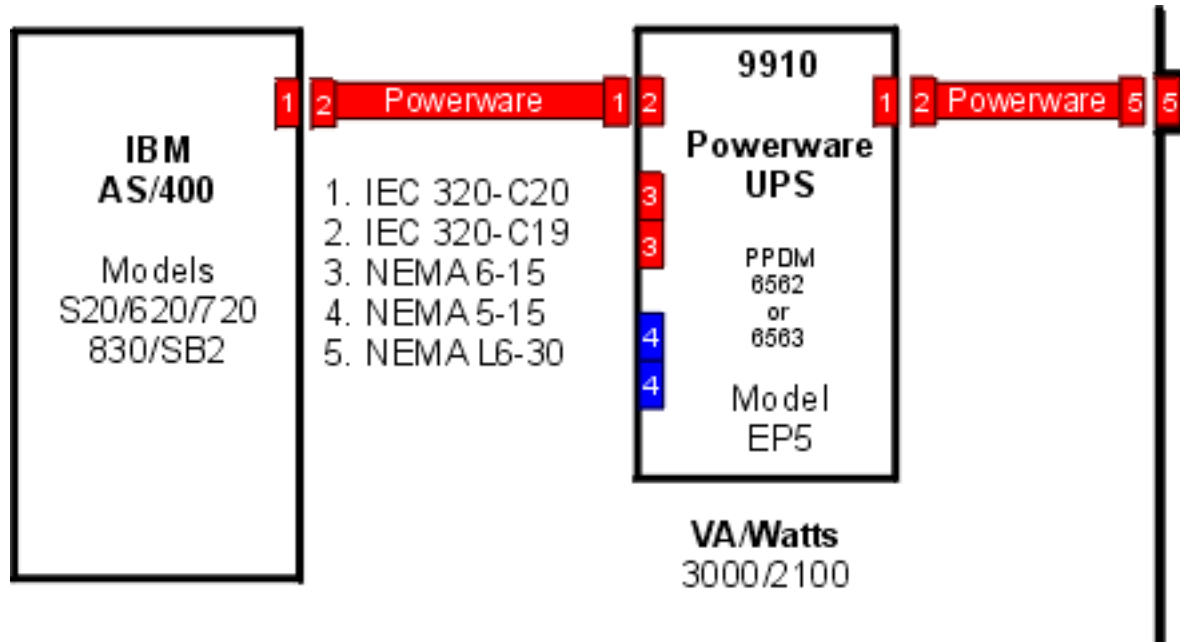
Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP5 UPS (Models S20, 620, and 720) with PPDM 6562 or PPDM 6563

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will include one IEC320-C19/IEC320-C20, one IEC320-C13/NEMA 5-15 cord, and two IEC320-C13/NEMA 6-15 cords. Power cords labeled **IBM** are those included with your system.

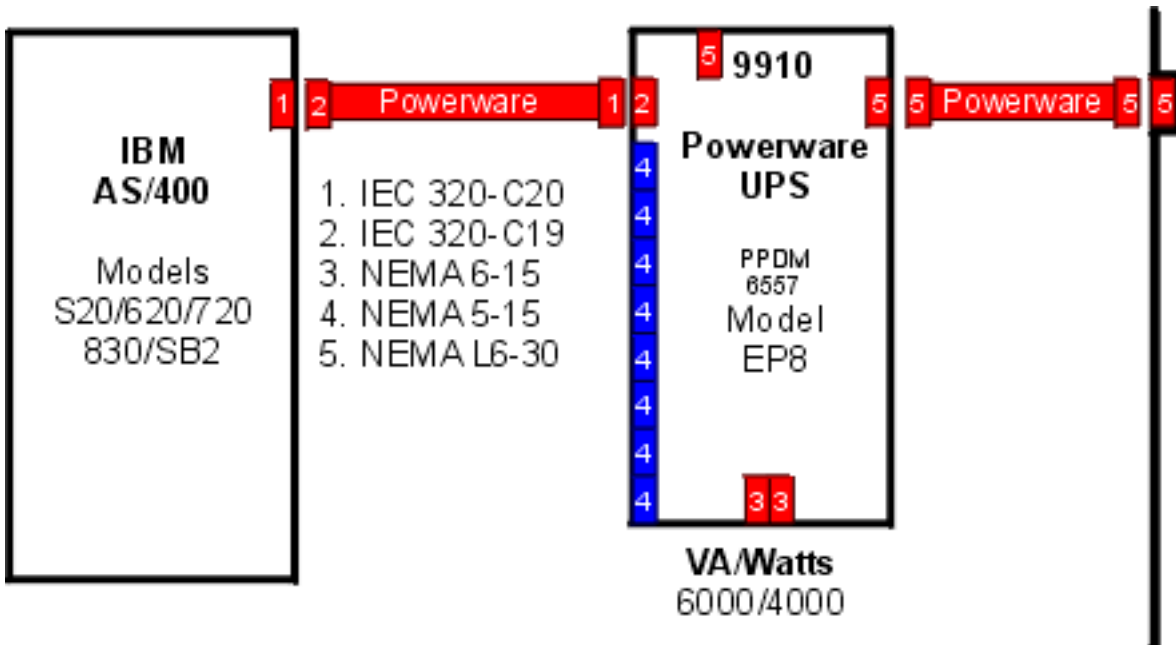
Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP8 UPS (Model S20, 620, and 720) with PPDM 6557

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will provide one IEC320-C19/IEC320-C20 cord, one IEC320-C13/NEMA 5-15 cord, and two IEC320-C13/NEMA 6-15 cords. Power cords labeled **IBM** are those included with your system.

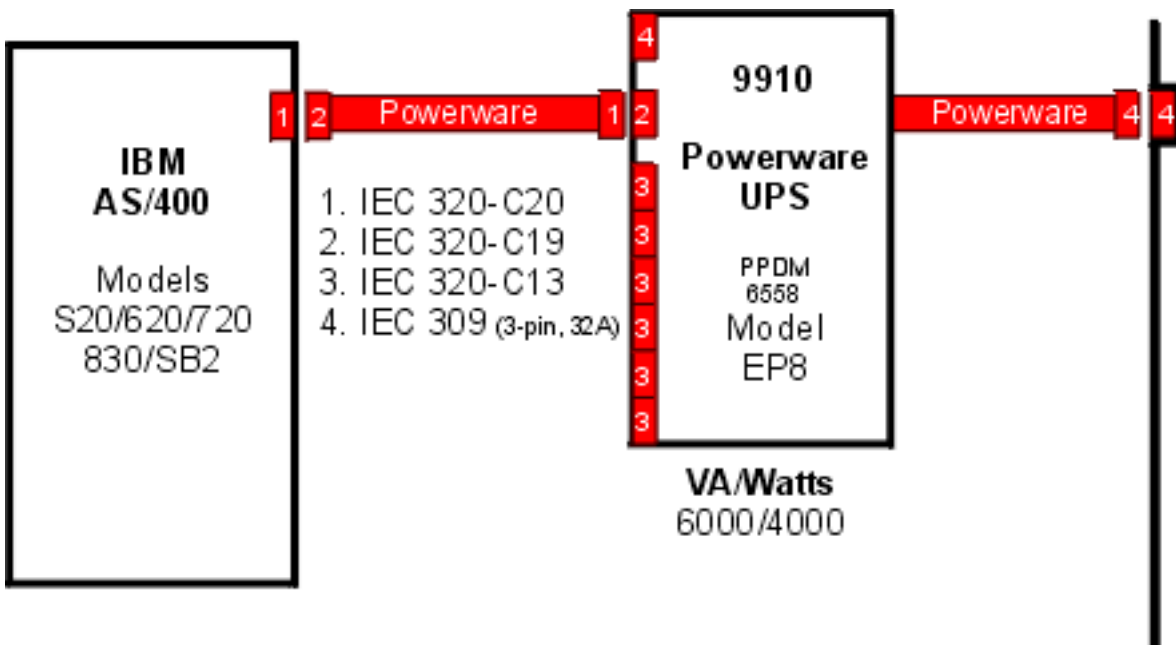
For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP8 UPS (Model S20, 620, and 720) with PPDM 6558

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will provide one IEC320-C19/IEC320-C20 cord and three IEC320-C13/IEC320-C14 cords. Power cords labeled **IBM** are those included with your system.

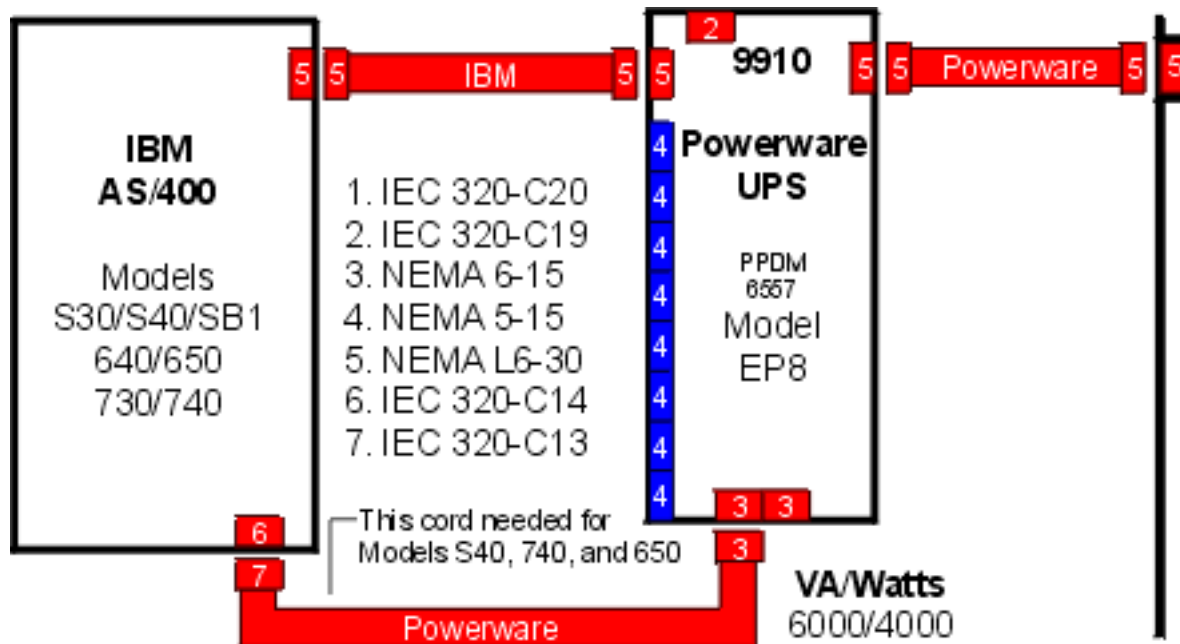
Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP8 UPS (Model S30, S40, 730 and 740, 640, 650) with PPDM 6557

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will provide one IEC320-C19/IEC320-C20 cord, one IEC320-C13/NEMA 5-15 cord, and two IEC320-C13/NEMA 6-15 cords. Power cords labeled **IBM** are those included with your system.

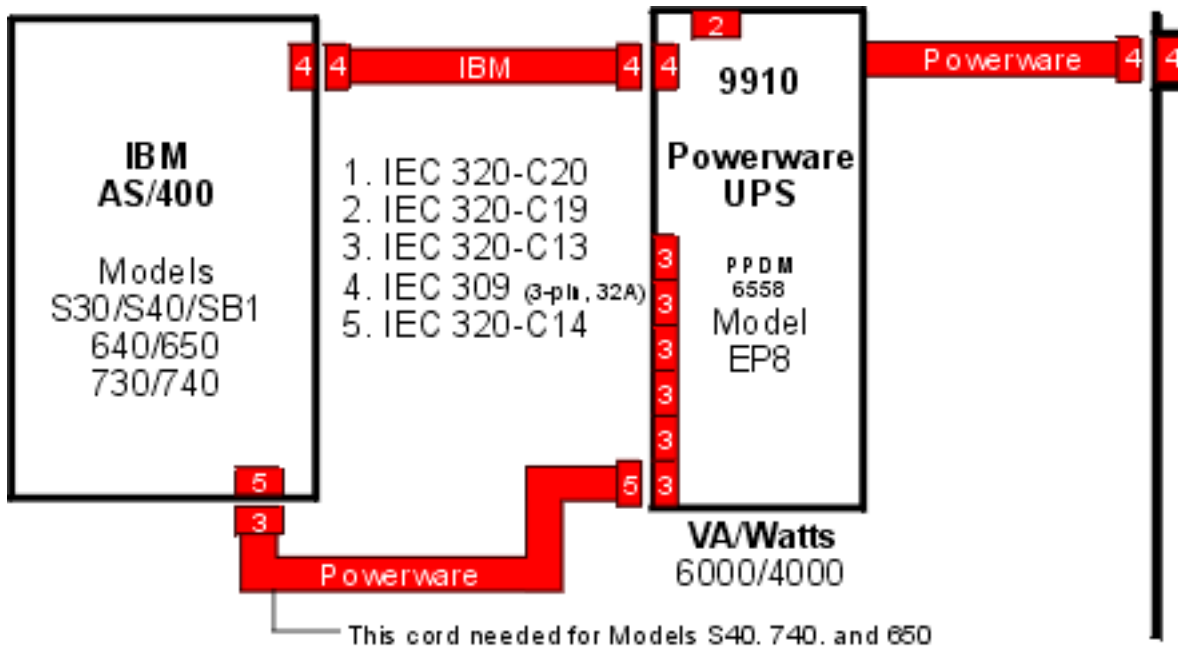
Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



EP8 UPS (Model S30, S40, SB1, 730 and 740, 640, 650) with PPDM 6558

The diagram below shows the power cabling for your system unit and UPS. The power cords are color-coded for low-voltage (100-127 nominal voltage) and high-voltage (200-240 nominal voltage) power cords. Power cords labeled **Powerware** are those provided by Powerware™, the UPS supplier. Powerware™ will provide one IEC320-C19/IEC320-C20 cord and three IEC320-C13/IEC320-C14 cords. Power cords labeled **IBM** are those included with your system.

Please note that there is both a 5-pin IEC309 plug and a 3-pin IEC309 plug. For pictures of the plug and receptacles below, see the connector table. For additional information regarding voltage and other ratings, see Power cords, plugs and receptacles.



System and Devices Power Specifications

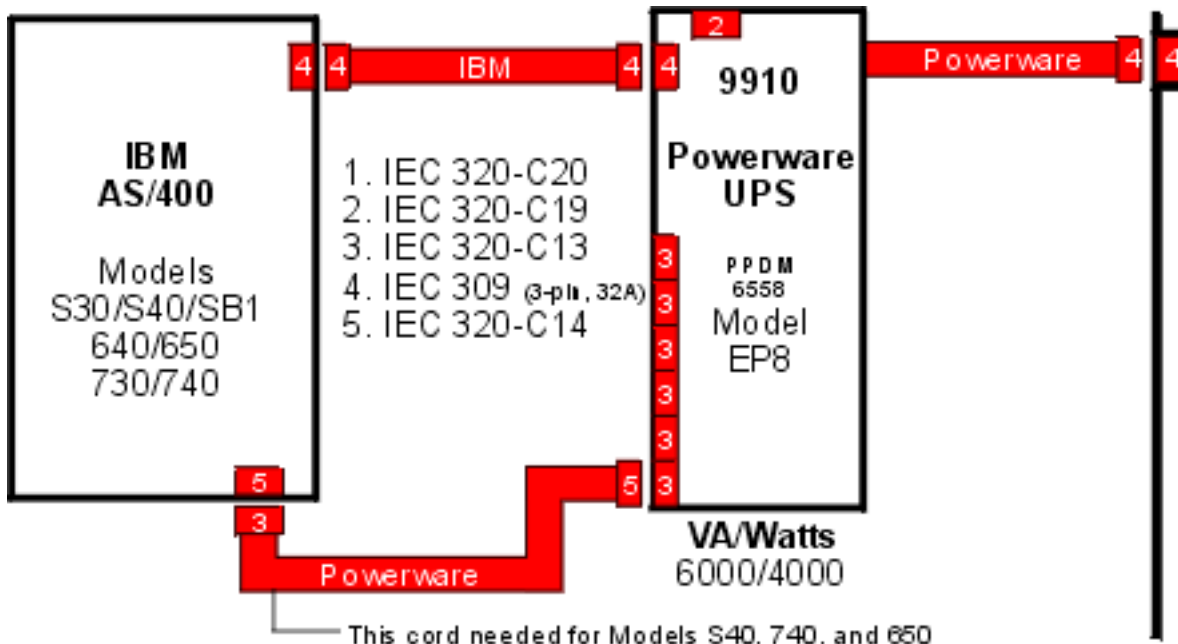
Refer to the Electrical section in the system specifications for the specific device or system.

Note: For equipment not listed, check your equipment documentation (owner's manuals) for specifications.

Uninterruptible power supply systems

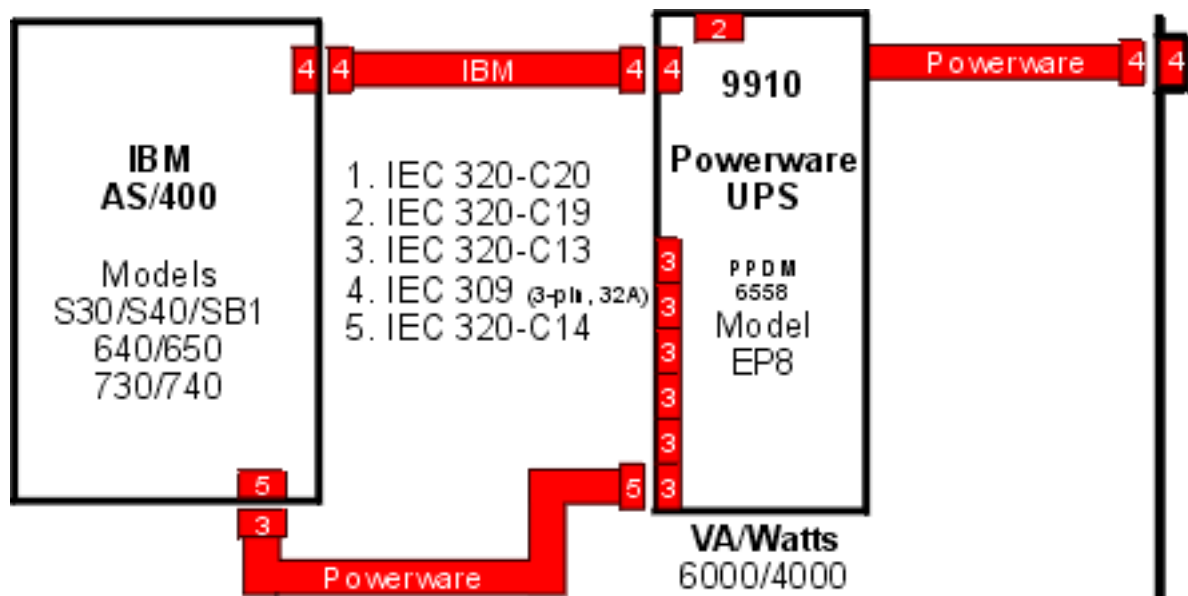
Need a power insurance policy for your server? Think about getting an uninterruptible power supply to protect your server from power outages. Uninterruptible power supplies are available at the same time you purchase your iSeries product as type 9910 in the iSeries product configurator.

Contact your IBM Representative, Powerware™

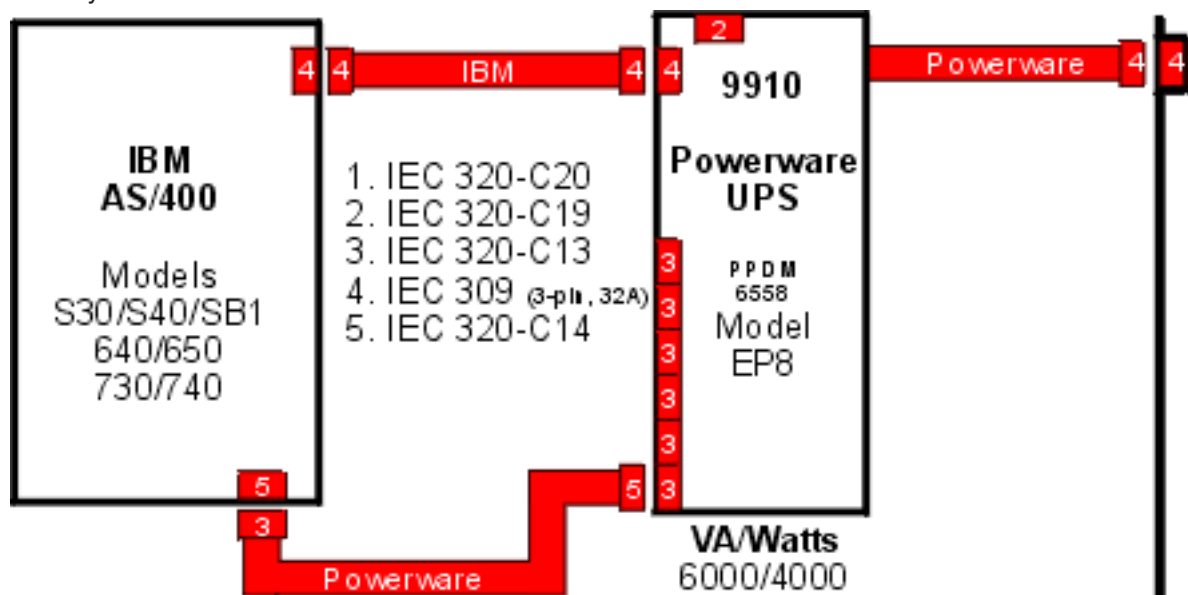


Power™

, BEST



invensys™



customized uninterruptible power supplies. These representatives will help you decide which uninterruptible power supply to purchase for your server's power needs.

If you'd like to coordinate your uninterruptible power supply power planning with your server power planning, see the uninterruptible power supply table for power line cord and plug and receptacle type information.

BEST Power™

To see more information about BEST UPSs:

1. Go to BEST's website.
2. Click on **About Best Power**.
3. In the upper right corner, click on **Business Partners**.

Uninterruptible Power Supply (UPS)

An uninterruptible power supply is a *buffer* between your server and your power supply. It performs the following major functions:

- It regulates the quality of utility power that is delivered to the data processing server.
- It provides power to the data processing system if utility power fails.
- It allows time for starting standby power generator equipment.
- It allows time for an orderly power down of the system.
- It reduces the time for recovery that follows a system power down.

IBM Cord

For your UPS model, BEST™ will provide the power line cord that runs between your server and the UPS.

The IBM power line cord that comes with your system will run between the UPS unit and the wall receptacle.

The bottom line: Install a power outlet that supports your server unit plug type.

IBM cord for UPS

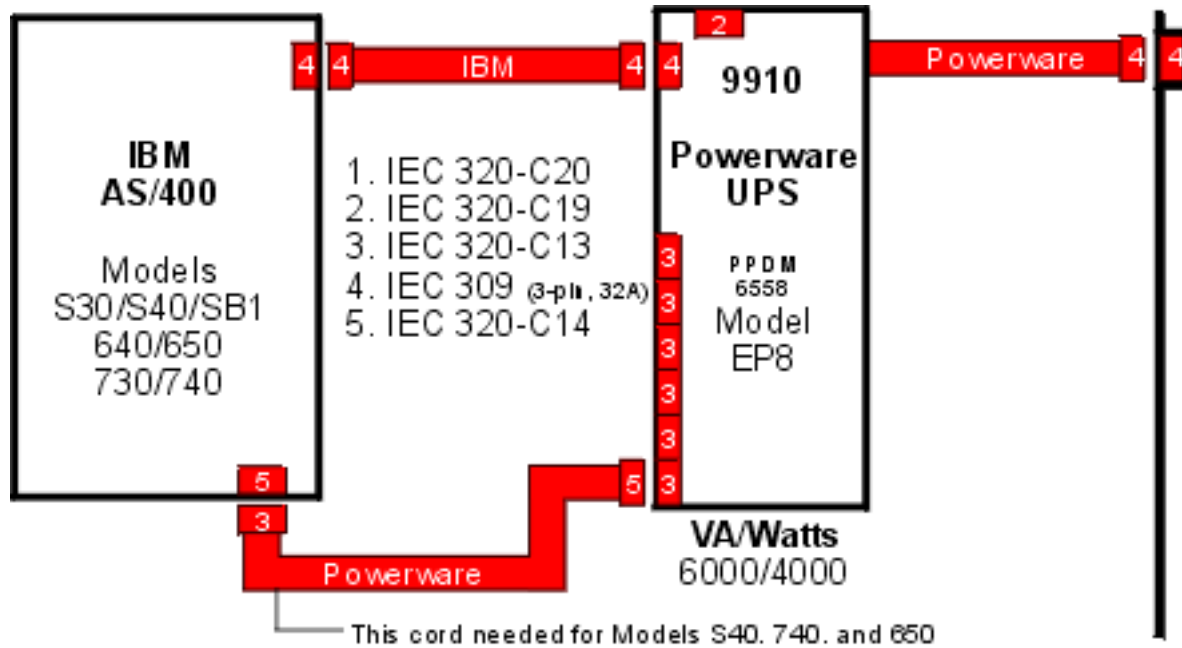
For your UPS model, IBM will provide the power line cord that runs between your server and the UPS.

The IBM power line cord that comes with your system will run between the UPS unit and the wall receptacle.

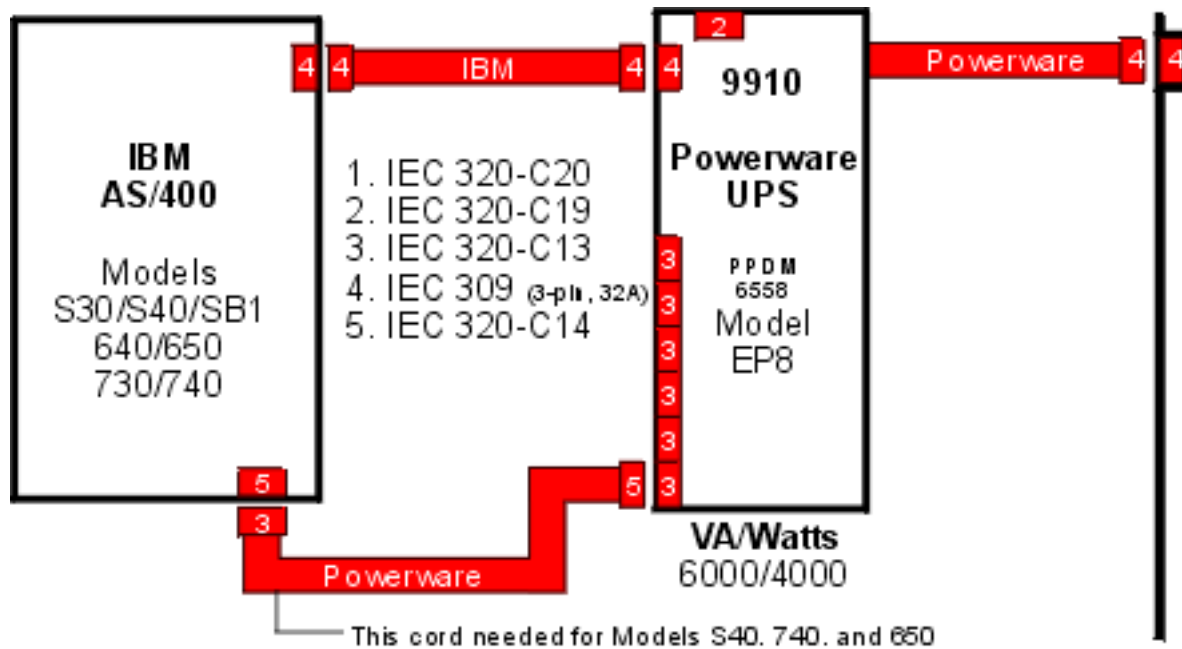
The bottom line: Install a power outlet that supports your server unit plug type.

UPS power line cords, plugs, and receptacles

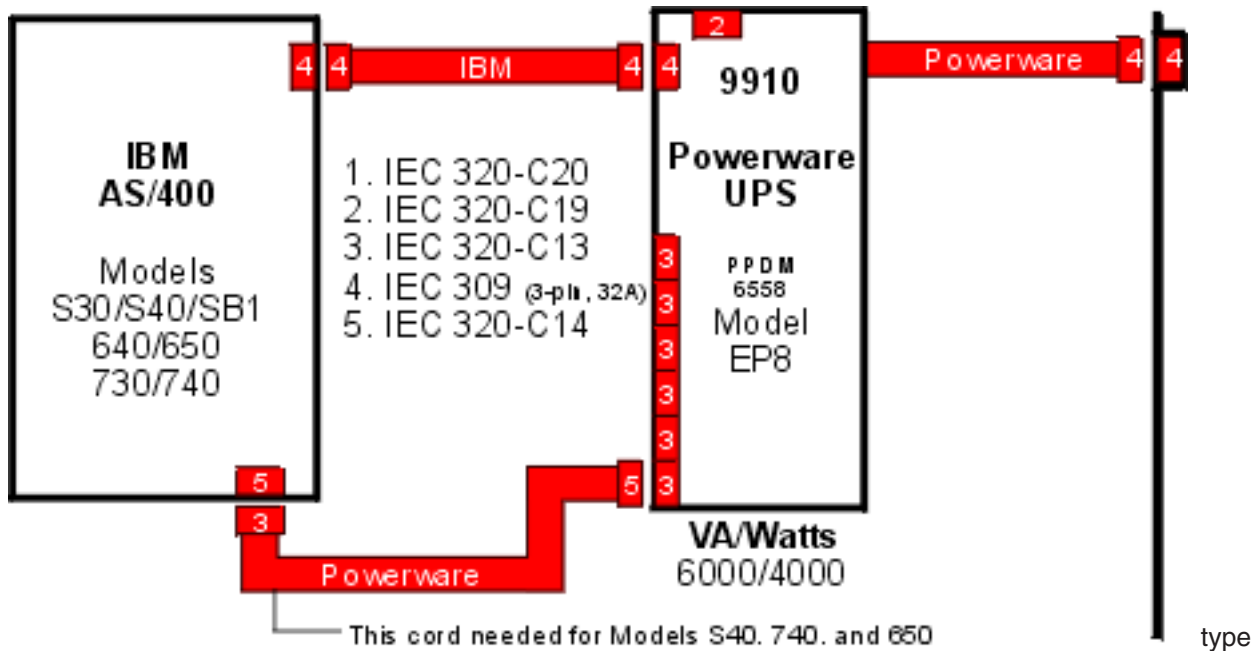
This chart lists systems and servers and their respective IBM, BEST™



Powerware™



APC™



9910 UPS units.

Select the UPS model number to see the power cabling diagram for that model.

Select the receptacle type to see a diagram of the plug or receptacle for which you need to plan.

- 150
- 170
- 250
- 270
- S10, 600
- S20, 620, 720
- 640, S30, 650, S40, SB1, 730, 740
- 800 and 810
- 820
- 825
- 830, SB2
- 840, SB3
- 870 and 890

iSeries Model	UPS Model	Wall Receptacle Type
150	BEST™ B40	IBM cord
	BEST™ B41	IBM cord
	BEST™ B72	IBM cord
	Powerware™ E02	IBM cord
	Powerware™ E03	IBM cord
	Powerware™ E09	IBM cord
	Powerware™ E12	IBM cord
	Powerware™ E19	IBM cord
	Powerware™ E20	IBM cord
	Powerware™ E21	IBM cord
Powerware™ EX3	IBM cord	
170	IBM™ 9910-080	IBM cord
	IBM™ 9910-140	IBM cord
	IBM™ 9910-180	IBM cord
250	BEST™ 9910-B34	Type 4
	BEST™ 9910-B35	IBM cord
	BEST™ 9910-B36	Type 4
	BEST™ 9910-B37	IBM cord
	Powerware™ 9910-P10	Type 4
	Powerware™ 9910-P11	IBM cord
	Powerware™ 9910-P15	Type 4
	Powerware™ 9910-P16	IBM cord
270	BEST™ 9910-B34	Type 4
	BEST™ 9910-B35	IBM cord
	BEST™ 9910-B36	Type 4
	BEST™ 9910-B37	IBM cord
	Powerware™ 9910-P10	Type 4
	Powerware™ 9910-P11	IBM cord
	Powerware™ 9910-P15	Type 4
	Powerware™ 9910-P16	IBM cord

iSeries Model	UPS Model	Wall Receptacle Type
S10 600	BEST™ B31	Type 12
	BEST™ B33	IBM cord
	BEST™ B73	IBM cord
	BEST™ B74	IBM cord
	Powerware™ E03 PPDM 6560	IBM cord
	Powerware™ E09 PPDM 6559	IBM cord
	Powerware™ E19 PPDM 6560	IBM cord
	Powerware™ EX3 PPDM 6559	IBM cord
S20 620 720	BEST™ B31	Type 12
	BEST™ B33	IBM cord
	BEST™ B52	Type 12
	BEST™ B53	Type 46 (P+N+G) [32A]
	BEST™ B54	Type 46 (3P+N+G)
	Powerware™ EP5 PPDM 6561	Type 46 (P+N+G) [32A]
	Powerware™ EP5 PPDM 6562	Type 12
	Powerware™ EP5 PPDM 6563	Type 12
	Powerware™ EP8 PPDM 6557	Type 12
	Powerware™ EP8 PPDM 6558	Type 46 (P+N+G) [32A]
820	BEST™ 9910-B36	Type 4
	BEST™ 9910-B37	IBM cord
	BEST™ 9910-B38	IBM cord
	BEST™ 9910-B42	NEMA 14-50P
	BEST™ 9910-B43	Hardwired
	BEST™ 9910-B46	NEMA 14-50P
	BEST™ 9910-B47	Hardwired
	Powerware™ 9910-P15	Type 4
	Powerware™ 9910-P16	IBM cord
	Powerware™ 9910-EP5 PPDM 6561	Type 46 (P+N+G) [32A]
	Powerware™ 9910-EP5 PPDM 6562	Type 12
	Powerware™ 9910-EP8 PPDM 6566	Type 12
	Powerware™ 9910-EP8 PPDM 6567	Type 46 (P+N+G) [32A]

iSeries Model	UPS Model	Wall Receptacle Type
640	BEST™ B52	Type 12
S30	BEST™ B53	Type 46 (P+N+G) [32A]
650		
S40	Powerware™ EP8	Type 12
SB1	PPDM 6557	
730	Powerware™ EP8	Type 46 (P+N+G) [32A]
740	PPDM 6558	
830	BEST™ 9910-B38	IBM cord
SB2	BEST™ 9910-B42	NEMA 14-50P
	BEST™ 9910-B43	Hardwired
	BEST™ 9910-B46	NEMA 14-50P
	BEST™ 9910-B47	Hardwired
	Powerware™ 9910-EP5 PPDM 6561	Type 46 (P+N+G) [32A]
	Powerware™ 9910-EP5 PPDM 6562	Type 12
	Powerware™ 9910-EP8 PPDM 6566	Type 12
	Powerware™ 9910-EP8 PPDM 6567	Type 46 (P+N+G) [32A]
840	info not available	info not available
SB3		
800 or 810	9910-B34	Type 4
	9910-B35	IBM cord
	9910-B36	Type 4
	9910-B37	IBM cord
	9910-P10	Type 4
	9910-P11	IBM cord
	9910-P15	Type 4
825	9910-B36	Type 4
	9910-B37	IBM cord
	9910-P15	Type 4
	9910-P16	IBM cord
	9910-B38	IBM cord
	9910-B42	NEMA 14-50P
	9910-B43	Hardwired
	9910-B46	NEMA 14-50P
	9910-B47	Hardwired
	9910-EP5 PPDM 6561	Type 46 (P+N+G) [32A]
	9910-EP5 PPDM 6562	Type 12
	9910-EP8 PPDM 6566	Type 12
	9910-EP8 PPDM 6567	Type 46 (P+N+G) [32A]

iSeries Model	UPS Model	Wall Receptacle Type
870 and 890		
APC models		
Powerware models		

Chapter 16. 2380-001, 002 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS				
	Width	Depth	Height	
Metric	496 mm	287 mm	200 mm	
English	19.5 in	11.3 in	7.9 in	
Maximum Configuration Weight				
		7 kg	15.4 lbs	
ELECTRICAL				
kVA	-			
Rated Voltage/Frequency	-			
Thermal Output	410 BTU/hr			
Power requirements (maximum)	120 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	-			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	-	-		
LpAm				
<LpA>m (dB)	55	-		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	-	-	77 mm	-
	-	-	3 in	-

2381-001, 002 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height

Metric	638 mm	287 mm	200 mm
English	25.1 in	11.3 in	7.9 in
Maximum Configuration Weight			
		8.8 kg	19.4 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	410 BTU/hr		
Power requirements (maximum)	120 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	55	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
-	-	77 mm	-
-	-	3 in	-

2390-001, 002 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	496 mm	287 mm	200 mm
English	19.5 in	11.3 in	7.9 in
Maximum Configuration Weight			
		7 kg	15.4 lbs

ELECTRICAL				
kVA	-			
Rated Voltage/Frequency	120 VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	410 BTU/hr			
Power requirements (maximum)	120 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	-			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS	Operating	Idle		
LWAd (Bels)	-	-		
LpAm				
<LpA>m (dB)	55	-		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	-	-	77 mm	-
	-	-	3 in	-

2391-001, 002 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	638 mm	287 mm	200 mm
English	25.1 in	11.3 in	7.9 in
Maximum Configuration Weight	8.8 kg		19.4 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	410 BTU/hr		
Power requirements (maximum)	120 watts		

Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	-			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	-	-		
LpAm				
<LpA>m (dB)	55	-		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	-	-	77 mm	-
	-	-	3 in	-

3816-01S, 01D Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	121 mm	525 mm	380 mm
English	47.6 in	20.5 in	14.9 in
Maximum Configuration Weight			
	63 kg	138 lbs	
ELECTRICAL			
kVA	1.3		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	1939 BTU/hr		
Power requirements (maximum)	570 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	"Plug and receptacle type 4" on page 359		
Power cord length	3 m (10 ft)		
TEMPERATURE REQUIREMENTS			

Operating	18 to 29 C	65 to 85 F	
Non-Operating	10 to 52 C	50 to 125 F	
“Altitude” on page 203			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	15% to 72%	15% to 72%	
Wet Bulb Temperature	24 C (76 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.0	5.5	
LpAm			
<LpA>m (dB)	57	48	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	1473 mm	760 mm	758 mm
30 in	58 in	30 in	29.8 in

3820 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	1520 mm	670 mm	1190 mm
English	60 in	26.5 in	47 in
Maximum Configuration Weight		259 kg	590 lbs
ELECTRICAL			
kVA	1.8		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	4608 BTU/hr		
Power requirements (maximum)	1340 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	8		
Power cord length	3.6 m (12 ft)		
TEMPERATURE REQUIREMENTS			
Operating	16 to 29 C	60 to 85 F	
Non-Operating	4 to 38 C	40 to 100 F	
Maximum Altitude		3048 m	10,000 ft

ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		20% to 80%	20% to 80%
Wet Bulb Temperature		23 C (73 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		8.6	7.3
LpAm			
<LpA>m (dB)		68	57
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
914.4 mm	760 mm	760 mm	670 mm
36 in	30 in	30 in	26.5 in

3912-AS0, AS1 Page Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	378 mm	872 mm	425 mm
English	14.9 in	34.3 in	16.7 in
Maximum Configuration Weight			
		23.7 kg	52.7 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	1048 BTU/hr		
Power requirements (maximum)	308 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	3.6 m (12 ft)		
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating	10 to 40 C	50 to 104 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		22.8 C (73 F)	-
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		-	-

LpAm			
<LpA>m (dB)		50	33
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
152 mm	152 mm	152 mm	305 mm
6 in	6 in	6 in	12 in

3916-AS0, AS1 Page Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	378 mm	872 mm	533 mm
English	14.9 in	34.3 in	21 in
Maximum Configuration Weight		26.5 kg	58 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	1143 BTU/hr		
Power requirements (maximum)	336 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 40 C	50 to 104 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	-
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		-	-
LpAm			
<LpA>m (dB)		50	33
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top

152 mm	152 mm	152 mm	305 mm
6 in	6 in	6 in	12 in

3930 Printer D Models

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	1200 mm	550 mm	380 mm
English	48 in	21.7 in	15 in
Maximum Configuration Weight		60 kg	132 lbs
ELECTRICAL			
kVA	1.44		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	4916 BTU/hr		
Power requirements (maximum)	1437 watts		
Power factor			
Phase	-		
Plug type (Canada & USA)	Depends on country		
Power cord length	3 m (10 ft)		
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating	-	-	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	7.2 to 24.4 C (45 to 76 F)	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.0	5.5	
LpAm			
<LpA>m (dB)	55	38	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	600 mm
30 in	30 in	30 in	23.6 in

3930 Printer S Models

This device is no longer offered for sale by IBM.

DIMENSIONS				
	Width	Depth	Height	
Metric	1835 mm	550 mm	450 mm	
English	72.3 in	21.7 in	17.7 in	
Maximum Configuration Weight				
		73 kg	161 lbs	
ELECTRICAL				
kVA	1.44			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	4916 BTU/hr			
Power requirements (maximum)	1437 watts			
Power factor				
Phase	-			
Plug type (Canada & USA)	Depends on country			
Power cord length	3 m (10 ft)			
TEMPERATURE REQUIREMENTS				
Operating	15.6 to 32.2 C	60 to 90 F		
Non-Operating	-	-		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	7.2 to 24.4 C (45 to 76 F)	-		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	7.0	5.5		
LpAm				
<LpA>m (dB)	55	38		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	760 mm	760 mm	760 mm	600 mm
	30 in	30 in	30 in	23.6 in

3935-001 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height

Metric	1553 mm	626 mm	1006 mm
English	61.2 in	24.6 in	39.6 in
Maximum Configuration Weight			
	263 kg	580 lbs	
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	4438 BTU/hr		
Power requirements (maximum)	1300 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.7 m (9 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 29.4 C	50 to 85 F	
Non-Operating	-	-	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	15% to 90%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.1	6.2	
LpAm			
<LpA>m (dB)	-	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

4019 Laser Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	360 mm	521 mm	260 mm
English	14.2 in	20.5 in	10.2 in
Maximum Configuration Weight			
	15 kg	33 lbs	

ELECTRICAL		
kVA	-	
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz	
Thermal Output	BTU/hr	
Power requirements (maximum)	watts	
Power factor		
Phase	1	
Plug type (Canada & USA)	4 or 5	
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)
TEMPERATURE REQUIREMENTS		
Operating	16 to 32 C	60 to 90 F
Non-Operating	10 to 43 C	50 to 109 F
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	6.2	5.0
LpAm		
<LpA>m (dB)	50	38
Impulsive or prominent discreet tones		

4028 Laser Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	360 mm	521 mm	260 mm
English	14.2 in	20.5 in	10.2 in
Maximum Configuration Weight	15 kg	33 lbs	
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	BTU/hr		
Power requirements (maximum)	watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	"Plug and receptacle type 4" on page 359 or "Plug and Receptacle Type 5" on page 363		

Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
“Altitude” on page 203			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	6.2	5.0	
LpAm			
<LpA>m (dB)	50	38	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

4029 Laser Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	360 mm	860 mm	445 mm
English	14.2 in	33.9 in	17.8 in
Maximum Configuration Weight		21 kg	46 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	BTU/hr		
Power requirements (maximum)	watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4 or 5		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating	-	50 to 125 F	

Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23.8 C (73 F)	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.7	5.5	
LpAm			
<LpA>m (dB)	45	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

4037-5E Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	495 mm	597 mm	419 mm
English	19.5 in	23.5 in	16.5 in
Maximum Configuration Weight			
		17.3 kg	38 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	680 BTU/hr		
Power requirements (maximum)	200 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	1 to 43 C	33 to 110 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	23 C (73 F)	26.7 C (80 F)	

NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		5.7	5.5
LpAm			
<LpA>m (dB)		45	40
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
-	51 mm	104 mm	305 mm
-	2 in	4 in	12 in

4039-10D Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	378 mm	872 mm	425 mm
English	14.9 in	34.3 in	16.7 in
Maximum Configuration Weight			
		23.7 kg	52 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	444 BTU/hr		
Power requirements (maximum)	130 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating	-	-	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		22.8 C (73 F)	-
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		-	-
LpAm			
<LpA>m (dB)		50	33
Impulsive or prominent discreet tones			

SERVICE CLEARANCES			
Front	Back	Sides	Top
-	51 mm	104 mm	305 mm
-	2 in	4 in	12 in

4039-10R Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	378 mm	872 mm	425 mm
English	14.9 in	34.3 in	16.7 in
Maximum Configuration Weight		23.7 kg	52 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	444 BTU/hr		
Power requirements (maximum)	130 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating	-	-	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		22.8 C (73 F)	-
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		-	-
LpAm			
<LpA>m (dB)		50	33
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
-	51 mm	104 mm	305 mm
-	2 in	4 in	12 in

4039-12L Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	378 mm	872 mm	425 mm
English	14.9 in	34.3 in	16.7 in
Maximum Configuration Weight			
		26.5 kg	58 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	444 BTU/hr		
Power requirements (maximum)	130 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating	-	-	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	22.8 C (73 F)	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	50	33	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
-	51 mm	104 mm	305 mm
-	2 in	4 in	12 in

4039-12R Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	378 mm	872 mm	425 mm

English	14.9 in	34.3 in	16.7 in
Maximum Configuration Weight			
		23.7 kg	52 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	444 BTU/hr		
Power requirements (maximum)	130 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating	-	-	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	22.8 C (73 F)	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	50	33	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
-	51 mm	104 mm	305 mm
-	2 in	4 in	12 in

4039-16L Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	378 mm	872 mm	425 mm
English	14.9 in	34.3 in	16.7 in
Maximum Configuration Weight			
		26.5 kg	58 lbs
ELECTRICAL			

kVA	-		
Rated Voltage/Frequency	100-127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	444 BTU/hr		
Power requirements (maximum)	130 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating	-	-	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	22.8 C (73 F)	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	50	33	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
-	51 mm	104 mm	305 mm
-	2 in	4 in	12 in

4070-001 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	310 mm	110 mm	218 mm
English	12.2 in	4.3 in	8.5 in
Maximum Configuration Weight		3.4 kg	7.5 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	120 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	-		
Power requirements (maximum)	-		
Power factor			

Phase	1			
Plug type (Canada & USA)	4			
Power cord length	-			
TEMPERATURE REQUIREMENTS				
Operating	15 to 30 C	59 to 86 F		
Non-Operating	0 to 35 C	32 to 95 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	10% to 90%	10% to 90%		
Wet Bulb Temperature	-	-		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	-	-		
LpAm				
<LpA>m (dB)	45	-		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	762 mm	762 mm	762 mm	-
	30 in	30 in	30 in	-

4070-002 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	310 mm	217 mm	51 mm
English	12.2 in	8.6 in	2 in
Maximum Configuration Weight			
	2 kg		4.4 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	120 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	-		
Power requirements (maximum)	-		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	15 to 30 C	59 to 86 F	

Non-Operating	0 to 35 C	32 to 95 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	10% to 90%	10% to 90%	
Wet Bulb Temperature	-	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	45	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

4072-001 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	618 mm	452 mm	369 mm
English	24.3 in	17.8 in	14.5 in
Maximum Configuration Weight			
		11.6 kg	25.6 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	BTU/hr		
Power requirements (maximum)	watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 105 F	
Non-Operating	-	-	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	

Noncondensing Humidity	10% to 90%	10% to 90%	
Wet Bulb Temperature	26.7 C (80 F)	-	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	49	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
51 mm	51 mm	51 mm	-
2 in	2 in	2 in	-

4076-001 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	363 mm	282 mm	269 mm
English	14.3 in	11.1 in	10.6 in
Maximum Configuration Weight		5 kg	14.3 lbs
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	90-259 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	85 BTU/hr		
Power requirements (maximum)	25 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Check Manual		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	22.8 C (73 F)	26.7 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			

<LpA>m (dB)	45	-
Impulsive or prominent discreet tones		
SERVICE CLEARANCES		
Front	Back	Sides
-	-	63.5 mm
-	-	2.5 in
		Top
		-
		-

4079-1 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	520 mm	406 mm	170 mm
English	20.5 in	16 in	6.7 in
Maximum Configuration Weight			
		10 kg	22 lbs
ELECTRICAL			
kVA		-	
Rated Voltage/Frequency	100-120 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output		-	
Power requirements (maximum)		-	
Power factor			
Phase		-	
Plug type (Canada & USA)		4	
Power cord length		-	
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	61 to 90 F	
Non-Operating	10 to 43 C	50 to 109 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	-	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	49	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
-	200 mm	-	180 mm

-	8 in	-	7 in
---	------	---	------

4201-1, 2 Proprinter I, II, III, XL

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	421 mm	343 mm	133 mm
English	17 in	14 in	5.5 in
Maximum Configuration Weight		9 kg	20 lbs
ELECTRICAL			
kVA	0.067		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	180 BTU/hr		
Power requirements (maximum)	53 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.7 m (9 ft) Canada & USA		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 105 F	
Non-Operating	-	-	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		26.7 C (80 F)	-
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		7.4	0
LpAm		67	0
<LpA>m (dB)		60	0
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

4202-1, 2, 3 Proprinter I, II, III, XL

This device is no longer offered for sale by IBM.

DIMENSIONS				
	Width	Depth	Height	
Metric	574 mm	368 mm	140 mm	
English	23 in	15 in	6 in	
Maximum Configuration Weight				
		11 kg	24 lbs	
ELECTRICAL				
kVA	0.12			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	245 BTU/hr			
Power requirements (maximum)	72 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	1.8 m (6 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 105 F		
Non-Operating	-	-		
Maximum Altitude				
		3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	26.7 C (80 F)	-		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	7.4	0		
LpAm	67	0		
<LpA>m (dB)	60	0		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	760 mm	760 mm	760 mm	-
	30 in	30 in	30 in	-

4207-1, 2 Proprinter X24, X24E

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	420 mm	356 mm	133 mm
English	16.5 in	14 in	5.3 in
Maximum Configuration Weight			
		12 kg	27 lbs

ELECTRICAL				
kVA	0.12			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	150 BTU/hr			
Power requirements (maximum)	44 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	1.8 m (6 ft) USA only	2.7 m (9 ft)		
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 105 F		
Non-Operating	-	-		
Maximum Altitude	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	26.7 C (80 F)	-		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	7.4	0		
LpAm	66	0		
<LpA>m (dB)	60	0		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	-	51 mm	51 mm	51 mm
	-	2 in	2 in	2 in

4208-1, 2 Proprinter XL24, XL24E

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	575 mm	343 mm	133 mm
English	22.6 in	13.5 in	5.3 in
Maximum Configuration Weight	11.3 kg		25 lbs
ELECTRICAL			
kVA	0.12		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	150 BTU/hr		

Power requirements (maximum)	44 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.7 m (9 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 105 F	
Non-Operating	-	-	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	26.7 C (80 F)	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.4	0	
LpAm	66	0	
<LpA>m (dB)	60	0	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
-	51 mm	51 mm	51 mm
-	2 in	2 in	2 in

4210-1 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	574 mm	363 mm	133 mm
English	23 in	14 in	5 in
Maximum Configuration Weight			
	11 kg	25 lbs	
ELECTRICAL			
kVA	0.08		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	150 BTU/hr		
Power requirements (maximum)	44 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.7 m (9 ft)	

TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 105 F	
Non-Operating	-	-	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	26.7 C (80 F)	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.4	-	
LpAm	67	-	
<LpA>m (dB)	60	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
50 mm	150 mm	50 mm	50 mm
2 in	6 in	2 in	2 in

4214-2 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	600 mm	540 mm	240 mm
English	24 in	21 in	10 in
Maximum Configuration Weight			
	25 kg	55 lbs	
ELECTRICAL			
kVA	0.5		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	1497 BTU/hr		
Power requirements (maximum)	440 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4 or 7		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	

ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		-	-
LpAm			
<LpA>m (dB)		60	43
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
50 mm	300 mm	150 mm	1000 mm
2 in	12 in	6 in	40 in

4216-10, 30, 31 Pageprinter

This device is no longer offered for sale by IBM.

DIMENSIONS		Width	Depth	Height
Metric		418 mm	490 mm	212 mm
English		16.5 in	17.7 in	8.4 in
Maximum Configuration Weight		17 kg	37.5 lbs	
ELECTRICAL				
kVA		0.51		
Rated Voltage/Frequency		100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output		1627 BTU/hr		
Power requirements (maximum)		500 watts		
Power factor				
Phase		1		
Plug type (Canada & USA)		"Plug and receptacle type 4" on page 359		
Power cord length		1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS				
Operating		16 to 32 C	60 to 90 F	
Non-Operating		10 to 43 C	50 to 110 F	
"Altitude" on page 203		3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating	
Noncondensing Humidity		20% to 80%	20% to 80%	
Wet Bulb Temperature		23 C (73 F)	27 C (80 F)	
NOISE EMISSIONS		Operating	Idle	

LWAd (Bels)	-	-
LpAm		
<LpA>m (dB)	-	-
Impulsive or prominent discreet tones		
SERVICE CLEARANCES		
Front	Back	Sides
760 mm	760 mm	760 mm
30 in	30 in	30 in
		Top
		-
		-

4224-101, 102, 1E2, 1C2, 301, 302, 1A3, 3A3, 1X1, 1X2 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	655 mm	370 mm	292 mm
English	26 in	14.5 in	11.5 in
Maximum Configuration Weight		23 kg	50 lbs
ELECTRICAL			
kVA	0.24		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	495 BTU/hr		
Power requirements (maximum)	145 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			
Operating	16 to 29 C	60 to 85 F	
Non-Operating	10 to 52 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
Noncondensing Humidity	Operating	Non-Operating	
	20% to 80%	20% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.2	5.4	
LpAm			
<LpA>m (dB)	57	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			

Front	Back	Sides	Top
460 mm	682 mm	150 mm	-
18 in	27 in	6 in	-

4224-1E3, 3E3 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	655 mm	370 mm	330 mm
English	26 in	14.5 in	13 in
Maximum Configuration Weight			
		25 kg	55 lbs
ELECTRICAL			
kVA	0.24		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	495 BTU/hr		
Power requirements (maximum)	145 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.7 m (9 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.2	5.4	
LpAm			
<LpA>m (dB)	57	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
460 mm	682 mm	150 mm	-
18 in	27 in	6 in	-

4226-302 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	642 mm	280 mm	271 mm
English	25.3 in	11 in	10.7 in
Maximum Configuration Weight		21 kg	46 lbs
ELECTRICAL			
kVA	—		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	BTU/hr		
Power requirements (maximum)	watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4 or 5		
Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 105 F	
Non-Operating	-	-	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		26.7 C (80 F)	-
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		5.7	5.5
LpAm			
<LpA>m (dB)		45	40
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

4230-101, 102, 1E2, 1C2, 301, 302 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	650 mm	787 mm	592 mm

English	25.6 in	31 in	23 in
Maximum Configuration Weight			
		23 kg	50 lbs
ELECTRICAL			
kVA	0.25		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	444 BTU/hr		
Power requirements (maximum)	130 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft) USA only	2.4 m (8 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40.6 C	50 to 105 F	
Non-Operating	10 to 43 C	50 to 109 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	26.7 C (80 F)	26.7 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.0	4.5	
LpAm			
<LpA>m (dB)	55	30	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
	Front	Back	Sides
	460 mm	682 mm	150 mm
	18 in	27 in	6 in
			Top
			-
			-

4230-4I3, 4S3 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	658 mm	700 mm	530 mm
English	25.9 in	27.6 in	20.9 in
Maximum Configuration Weight			
		58.2 kg	45 lbs
ELECTRICAL			

kVA	0.25			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	444 BTU/hr			
Power requirements (maximum)	130 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	1.8 m (6 ft) USA only	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	7.0	4.5		
LpAm				
<LpA>m (dB)	55	30		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	460 mm	682 mm	150 mm	-
	18 in	27 in	6 in	-

4234-2, 12, 13 Printer [with stand]

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	660 mm	875 mm	1265 mm
English	26 in	35 in	50 in
Maximum Configuration Weight			
	59 kg		130 lbs
ELECTRICAL			
kVA	0.9		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	2041 BTU/hr		
Power requirements (maximum)	600 watts		
Power factor			

Phase	1		
Plug type (Canada & USA)	4		
Power cord length	4.3 m (14 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	57	44	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
500 mm	540 mm	645 mm	-
19.7 in	21 in	25 in	-

4245-T12 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	1525 mm	940 mm	1175 mm
English	60 in	37 in	46 in
Maximum Configuration Weight			
	410 kg	910 lbs	
ELECTRICAL			
kVA	2.6		
Rated Voltage/Frequency	415/380 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	6863 BTU/hr		
Power requirements (maximum)	2000 watts		
Power factor			
Phase	3		
Plug type (Canada & USA)	36		
Power cord length	4.3 m (14 ft)		
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	

Non-Operating	10 to 43 C	50 to 110 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.7	5.5	
LpAm			
<LpA>m (dB)	45	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	970 mm	610 mm	-
30 in	38 in	24 in	-

4245-T20 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS		Width	Depth	Height
Metric		1525 mm	940 mm	1175 mm
English		60 in	37 in	46 in
Maximum Configuration Weight		410 kg	910 lbs	
ELECTRICAL				
kVA		3.1		
Rated Voltage/Frequency		415/380 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output		8503 BTU/hr		
Power requirements (maximum)		2500 watts		
Power factor				
Phase		3		
Plug type (Canada & USA)		36		
Power cord length		4.3 m (14 ft)		
TEMPERATURE REQUIREMENTS				
Operating		16 to 32 C	60 to 90 F	
Non-Operating		10 to 43 C	50 to 110 F	
Maximum Altitude		3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating	

Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	5.7	5.5	
LpAm			
<LpA>m (dB)	45	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	970 mm	610 mm	-
30 in	38 in	24 in	-

5201-2 Quietwriter

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	541 mm	367 mm	165 mm
English	21 in	14 in	6.5 in
Maximum Configuration Weight		10 kg	22 lbs
ELECTRICAL			
kVA	0.075		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	154 BTU/hr		
Power requirements (maximum)	45 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	-	0	
LpAm	-	0	

<LpA>m (dB)	47	0
Impulsive or prominent discreet tones		

5202 Quietwriter

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	541 mm	367 mm	165 mm
English	21 in	14 in	6.5 in
Maximum Configuration Weight			
		10 kg	22 lbs
ELECTRICAL			
kVA	0.100		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	272 BTU/hr		
Power requirements (maximum)	80 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	0	
LpAm	-	0	
<LpA>m (dB)	45	0	
Impulsive or prominent discreet tones			

5204 Quickwriter Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	548 mm	364 mm	187 mm

English	22 in	14 in	7.4 in
Maximum Configuration Weight			
	12.5 kg	28 lbs	
ELECTRICAL			
kVA	0.315		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	650 BTU/hr		
Power requirements (maximum)	190 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.0	5.5	
LpAm			
<LpA>m (dB)	62	43	
Impulsive or prominent discreet tones			

5216-2 Wheelprinter

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	582 mm	409 mm	223 mm
English	23 in	16 in	9 in
Maximum Configuration Weight			
	16 kg	35 lbs	
ELECTRICAL			
kVA	0.146		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	300 BTU/hr		
Power requirements (maximum)	88 watts		

Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	1.8 m (6 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	7.0	5.3		
LpAm				
<LpA>m (dB)	58	40		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	762 mm	762 mm	762 mm	-
	30 in	30 in	30 in	-

5219-D01, D02 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	660 mm	580 mm	200 mm
English	26 in	23 in	8 in
Maximum Configuration Weight			
	31 kg	68 lbs	
ELECTRICAL			
kVA	0.6		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	901 BTU/hr		
Power requirements (maximum)	265 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	"Plug and receptacle type 4" on page 359		
Power cord length	3 m (9.8 ft)		
TEMPERATURE REQUIREMENTS			

Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 110 F	
“Altitude” on page 203			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	6.7	-	
LpAm			
<LpA>m (dB)	61	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	410 mm	300 mm	-
30 in	16 in	12 in	-

5223 Wheelprinter E

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	541 mm	366 mm	216 mm
English	21 in	14 in	9 in
Maximum Configuration Weight		13 kg	29 lbs
ELECTRICAL			
kVA	0.088		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	181 BTU/hr		
Power requirements (maximum)	53 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft

ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	-	-
LpAm		
<LpA>m (dB)	63	0
Impulsive or prominent discreet tones		

5224-1, 2 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	710 mm	580 mm	280 mm
English	28 in	23 in	11 in
Maximum Configuration Weight		68 kg	149 lbs
ELECTRICAL			
kVA	0.6		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	1599 BTU/hr		
Power requirements (maximum)	470 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	61	44	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			

Front	Back	Sides	Top
180 mm	760 mm	300 mm	300 mm
7 in	30 in	12 in	12 in

5225-1, 2, 3, 4 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	1110 mm	760 mm	1000 mm
English	44 in	30 in	40 in
Maximum Configuration Weight		250 kg	550 lbs
ELECTRICAL			
kVA	model 1: 0.60 model 2: 0.72 model 3: 0.75 model 4: 0.90		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	model 1: 1871 BTU/hr model 2: 2381 BTU/hr model 3: 2381 BTU/hr model 4: 2900 BTU/hr		
Power requirements (maximum)	model 1: 550 watts model 2: 700 watts model 3: 700 watts model 4: 850 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4, 5, 7, or 10		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		-	-
LpAm			
<LpA>m (dB)		60	51

Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
1000 mm	1000 mm	900 mm	-
40 in	40 in	35 in	-

5227-001, 002, 003, 005 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	760 mm	690 mm	1000 mm
English	30 in	27 in	40 in
Maximum Configuration Weight		110 kg	242 lbs
ELECTRICAL			
kVA	1.3		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	2840 BTU/hr		
Power requirements (maximum)	835 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		5.7	5.5
LpAm			
<LpA>m (dB)		45	40
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	1000 mm
30 in	30 in	30 in	39 in

5256 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS				
	Width	Depth	Height	
Metric	640 mm	570 mm	368 mm	
English	25.2 in	22.4 in	14.5 in	
Maximum Configuration Weight				
		35.4 kg	78 lbs	
ELECTRICAL				
kVA	0.2			
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	425 BTU/hr			
Power requirements (maximum)	125 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4 or 7			
Power cord length	1.8 m (6 ft) USA only	2.7 m (9 ft)		
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	7.2	-		
LpAm				
<LpA>m (dB)	59	46		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	-	760 mm	300 mm	300 mm
	-	30 in	12 in	12 in

5262-1 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	965 mm	760 mm	1715 mm
English	38 in	30 in	68 in
Maximum Configuration Weight			
		245 kg	540 lbs
ELECTRICAL			
kVA	1.4 (50 Hz) 1.2 (60 Hz)		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	3741 BTU/hr		
Power requirements (maximum)	1100 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	"Plug and receptacle type 4" on page 359 or "Plug and receptacle type 7" on page 370		
Power cord length	4.3 m (14 ft)	2.4 m (8 ft)	
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 51 C	50 to 125 F	
"Altitude" on page 203			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity	20% to 62%		20% to 62%
Wet Bulb Temperature	26.7 C (80 F)		-
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)	7.7		6.4
LpAm			
<LpA>m (dB)	58		45
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

5317-001 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	640 mm	280 mm	271 mm
English	25 in	11 in	11 in

Maximum Configuration Weight	22 kg	49 lbs	
ELECTRICAL			
kVA	0.21		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	615 BTU/hr		
Power requirements (maximum)	180 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.7	5.5	
LpAm			
<LpA>m (dB)	45	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

5327-001 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	750 mm	830 mm	1040 mm
English	30 in	33 in	41 in
Maximum Configuration Weight			
	150 kg	331 lbs	
ELECTRICAL			
kVA	1.5		
Rated Voltage/Frequency	90-100 VAC @ 50/60 plus or minus 0.5Hz		

Thermal Output	Refer to manual			
Power requirements (maximum)	Refer to manual			
Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	2.4 m (8 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	5.7	5.5		
LpAm				
<LpA>m (dB)	45	40		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	762 mm	762 mm	762 mm	-
	30 in	30 in	30 in	-

5337-001 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	1425 mm	790 mm	1215 mm
English	56 in	31 in	48 in
Maximum Configuration Weight			
	360 kg	793 lbs	
ELECTRICAL			
kVA	-		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	BTU/hr		
Power requirements (maximum)	watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4 or 5		

Power cord length	1.8 m (6 ft) USA only	2.8 m (9.2 ft)	
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	Refer to manual	Refer to manual	
LpAm	Refer to manual	Refer to manual	
<LpA>m (dB)	55	Refer to manual	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

5417-001, 002, 003, 005 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	660 mm	720 mm	1000 mm
English	26 in	28.3 in	39.4 in
Maximum Configuration Weight		97 kg	214 lbs
ELECTRICAL			
kVA	1.50		
Rated Voltage/Frequency	101-121/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	Refer to manual		
Power requirements (maximum)	Refer to manual		
Power factor			
Phase	1		
Plug type (Canada & USA)	-		
Power cord length	Depends on country		
TEMPERATURE REQUIREMENTS			
Operating	5 to 40 C	41 to 104 F	
Non-Operating	0.6 to 60 C	33 to 140 F	

Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	-	-	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm			
<LpA>m (dB)	55	Refer to manual	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

5427-001, 002, 003, 005 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	750 mm	815 mm	1120 mm
English	30 in	32 in	44 in
Maximum Configuration Weight		165 kg	364 lbs
ELECTRICAL			
kVA	2.3		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	4400 BTU/hr		
Power requirements (maximum)	1290 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	

NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		5.7	5.5
LpAm			
<LpA>m (dB)		45	40
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
830 mm	700 mm	700 mm	1000 mm
33 in	28 in	28 in	40 in

5553-B01, B02 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	590 mm	398 mm	192 mm
English	23 in	16 in	8 in
Maximum Configuration Weight			
		18 kg	40 lbs
ELECTRICAL			
kVA	0.15		
Rated Voltage/Frequency	90-110 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	100 Kcal/hr		
Power requirements (maximum)	120 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		Refer to manual	Refer to manual
LpAm		64	Refer to manual
<LpA>m (dB)		59	40
Impulsive or prominent discreet tones			

SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

5557-B01 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	675 mm	580 mm	370 mm
English	27 in	23 in	15 in
Maximum Configuration Weight		43 kg	95 lbs
ELECTRICAL			
kVA	0.30		
Rated Voltage/Frequency	90-110 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	220 Kcal/hr		
Power requirements (maximum)	240 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		27 C (80 F)	27 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		Refer to manual	Refer to manual
LpAm		64	Refer to manual
<LpA>m (dB)		59	40
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

5563-B02, H02 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS				
	Width	Depth	Height	
Metric	547 mm	298 mm	120 mm	
English	22 in	12 in	5 in	
Maximum Configuration Weight				
		9 kg	20 lbs	
ELECTRICAL				
kVA	0.04			
Rated Voltage/Frequency	90-110 VAC @ 50/60 plus or minus 0.5Hz			
Thermal Output	45 Kcal/hr			
Power requirements (maximum)	65 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4			
Power cord length	1.8 m (6 ft)			
TEMPERATURE REQUIREMENTS				
Operating	10 to 40 C	50 to 104 F		
Non-Operating	10 to 51 C	50 to 125 F		
Maximum Altitude				
	3048 m	10,000 ft		
ENVIRONMENT REQUIREMENTS				
	Operating	Non-Operating		
Noncondensing Humidity	8% to 80%	8% to 80%		
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)		
NOISE EMISSIONS				
	Operating	Idle		
LWAd (Bels)	Refer to manual	Refer to manual		
LpAm	64			
<LpA>m (dB)	50	Refer to manual		
Impulsive or prominent discreet tones				
SERVICE CLEARANCES				
	Front	Back	Sides	Top
	760 mm	760 mm	760 mm	-
	30 in	30 in	30 in	-

5572-B01 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	406 mm	343 mm	127 mm

English	16 in	14 in	5 in
Maximum Configuration Weight			
		9 kg	20 lbs
ELECTRICAL			
kVA	0.07		
Rated Voltage/Frequency	90-110 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	40 Kcal/hr		
Power requirements (maximum)	45 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	Refer to manual	Refer to manual	
LpAm	61	Refer to manual	
<LpA>m (dB)	57	35	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

5572-B02 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	410 mm	328 mm	120 mm
English	16 in	13 in	5 in
Maximum Configuration Weight			
		6.4 kg	14 lbs
ELECTRICAL			

kVA	1.35		
Rated Voltage/Frequency	90-110 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	Refer to manual		
Power requirements (maximum)	Refer to manual		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	Refer to manual		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.7	5.5	
LpAm			
<LpA>m (dB)	45	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

5575-B01, B02, F01, F02 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	548 mm	351 mm	166 mm
English	22 in	14 in	7 in
Maximum Configuration Weight		13 kg	29 lbs
ELECTRICAL			
kVA	0.12		
Rated Voltage/Frequency	90-127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	120 Kcal/hr		
Power requirements (maximum)	140 watts		
Power factor			

Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.3	5.4	
LpAm	61	44	
<LpA>m (dB)	57	36	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

5577-B01, B02, F01, F02, G01 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	640 mm	280 mm	271 mm
English	25 in	11 in	11 in
Maximum Configuration Weight			
	21 kg	46 lbs	
ELECTRICAL			
kVA	0.17		
Rated Voltage/Frequency	90127 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	140 Kcal/hr		
Power requirements (maximum)	150 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	

Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	Refer to manual	Refer to manual	
LpAm	59	44	
<LpA>m (dB)	57	44	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

5582-P01 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	700 mm	699 mm	1025 mm
English	28 in	28 in	41 in
Maximum Configuration Weight			
	138 kg	305 lbs	
ELECTRICAL			
kVA	0.17		
Rated Voltage/Frequency	90-110 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	860 Kcal/hr		
Power requirements (maximum)	150 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	

Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	5.7	5.5	
LpAm			
<LpA>m (dB)	45	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-
30 in	30 in	30 in	-

5583-200 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	650 mm	480 mm	320 mm
English	26 in	19 in	13 in
Maximum Configuration Weight		78 kg	172 lbs
ELECTRICAL			
kVA	0.7		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	1224 BTU/hr		
Power requirements (maximum)	360 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS	Operating	Idle	
LWAd (Bels)	5.7	5.5	
LpAm			

<LpA>m (dB)	45	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760mm	760 mm	760 mm	330 mm
30 in	30 in	30 in	13 in

5587-G01 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	554 mm	563 mm	350 mm
English	22 in	22 in	14 in
Maximum Configuration Weight			
		49 kg	107 lbs
ELECTRICAL			
kVA	1.0		
Rated Voltage/Frequency	90-110 VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	3500 BTU/hr		
Power requirements (maximum)	990 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4		
Power cord length	2.4 m (8 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 32 C	50 to 90 F	
Non-Operating	-29 to 43 C	-20 to 110 F	
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	10% to 90%	10% to 90%	
Wet Bulb Temperature	25 C (76 F)	26.7 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	5.7	5.5	
LpAm			
<LpA>m (dB)	45	40	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	760 mm	760 mm	-

30 in	30 in	30 in	-
-------	-------	-------	---

6412 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS			
	Width	Depth	Height
Metric	864 mm	724 mm	1059 mm
English	34 in	28.5 in	41.7 in
Maximum Configuration Weight		186 kg	410 lbs
ELECTRICAL			
kVA	1.2		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	2564 BTU/hr		
Power requirements (maximum)	750 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	Depends on country		
Power cord length	3 m (10 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	10 to 51 C	50 to 125 F	
Maximum Altitude		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	27 C (80 F)	27 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	-	-	
LpAm	-	-	
<LpA>m (dB)	55	-	
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
762 mm	762 mm	762 mm	-
30 in	30 in	30 in	-

3130 Advanced Function Printers

DIMENSIONS	Width	Depth	Height
-------------------	-------	-------	--------

Metric	1353 mm	654 mm	1385 mm
English	53 in	26 in	54 in
Maximum Configuration Weight			
		156 kg	343 lbs
ELECTRICAL			
kVA	1.1		
Rated Voltage/Frequency	100/115/220/230/240 @ 50/60 +/- 0.5 Hz		
Thermal Output			
Power requirements (maximum)	920 watts		
Power factor	0.84		
Phase	1		
Plug type (Canada & USA)	4 or 5		
Power cord length	-		
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating			
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	23 C (73.4 F)		
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)	7.2	6.4	
LpAm			
<LpA>m (dB)	55	46	
Impulsive or prominent discreet tones			

3160 Printer

DIMENSIONS	Width	Depth	Height
Metric	1152 mm	770 mm	1300 mm
English	45.4 in	30.3 in	51.2 in
Maximum Configuration Weight			
		240 kg	528 lbs

ELECTRICAL		
kVA	2.1	
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output		
Power requirements (maximum)		
Power factor		
Phase	1	
Plug type (Canada & USA)	4 or 5	
Power cord length	Check manual	
TEMPERATURE REQUIREMENTS		
Operating	10 to 32 C	50 to 90 F
Non-Operating		
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non- Operating
Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	26 C (78.7 F)	
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)	58.8 (60)	50.4 (54)
Impulsive or prominent discreet tones		

3170 Printer

DIMENSIONS	Width	Depth	Height
Metric	3010 mm	1570 mm	2280 mm
English	119 in	62 in	90 in
Maximum Configuration Weight	395 kg	868 lbs	
ELECTRICAL			
kVA			
Rated Voltage/Frequency	208-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	40,900 BTU/hr		
Power requirements (maximum)	11,894 watts		

Power factor		
Phase	-	
Plug type (Canada & USA)	-	
Power cord length	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS		
Operating	15 to 30 C	59 to 86 F
Non-Operating	10 to 35 C	50 to 95 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	27% to 62%	27% to 62%
Wet Bulb Temperature		
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)	7.0	
LpAm		
<LpA>m (dB)	55	
Impulsive or prominent discreet tones		

3828 Printer

DIMENSIONS	Width	Depth	Height
Metric	2240 mm	790 mm	1270 mm
English	88 in	31 in	50 in
Maximum Configuration Weight			
	830 kg	1830 lbs	
ELECTRICAL			
kVA	5.0		
Rated Voltage/Frequency	120/208 @ 50/60 +/- 0.5 Hz		
Thermal Output	14,500 BTU/hr		
Power requirements (maximum)	4250 watts		
Power factor	0.85		
Phase	3		
Plug type (Canada & USA)	48		
Power cord length	4.3 m (14 ft)		
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 29.4 C	60 to 85 F	

Non-Operating		
Maximum Altitude	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	22.8 C (73 F)	
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	8.6	7.5
LpAm		
<LpA>m (dB)		
Impulsive or prominent discreet tones		

3829 Printer

DIMENSIONS	Width	Depth	Height
Metric	2240 mm	790 mm	1270 mm
English	88 in	31 in	50 in
Maximum Configuration Weight	830 kg	1830 lbs	
ELECTRICAL			
kVA	9.0		
Rated Voltage/Frequency	208/220/230/240 @ 50/60 +/- 0.5 Hz		
Thermal Output	14,500 BTU/hr		
Power requirements (maximum)	4250 watts		
Power factor	0.48		
Phase	3		
Plug type (Canada & USA)	Depends on country		
Power cord length	4.3 m (14 ft)	1.8 m (6 ft)	
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 29.4 C	60 to 85 F	
Non-Operating			
Maximum Altitude	3048 m	10,000 ft	

ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	20% to 80%	20% to 80%
Wet Bulb Temperature	22.8 C (73 F)	
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	8.7	7.4
LpAm		
<LpA>m (dB)	72	
Impulsive or prominent discreet tones		

3835 Printer

DIMENSIONS	Width	Depth	Height
Metric	2034 mm	840 mm	1413 mm
English	80 in	33.1 in	55.6 in
Maximum Configuration Weight			
		848 kg	1866 lbs
ELECTRICAL			
kVA	6.2		
Rated Voltage/Frequency	200-240/380-415 @ 50/60 +/- 0.5 Hz		
Thermal Output	20,500 BTU/hr		
Power requirements (maximum)	6000 watts		
Power factor	0.97		
Phase	3		
Plug type (Canada & USA)	36		
Power cord length	4.3 m (14 ft)		
TEMPERATURE REQUIREMENTS			
Operating	16 to 29 C	60 to 85 F	
Non-Operating	4 to 38 C	40 to 100 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	20% to 80%	20% to 80%	
Wet Bulb Temperature	23 C (73 F)	27 C (80 F)	

NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	8.1	7.9
LpAm		
<LpA>m (dB)	63	59
Impulsive or prominent discreet tones		

3900 Printer

DIMENSIONS	Width	Depth	Height
Metric	2424 mm	930 mm	1500 mm
English	95 in	37 in	59 in
Maximum Configuration Weight			
		1128 kg	2486 lbs
ELECTRICAL			
kVA		11.9	
Rated Voltage/Frequency		200-240/380-415 @ 50/60 +/- 0.5 Hz	
Thermal Output		37,330 BTU/hr	
Power requirements (maximum)		10,940 watts	
Power factor		0.92	
Phase		3	
Plug type (Canada & USA)		Check manual	
Power cord length		4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating		16 to 29 C	60 to 85 F
Non-Operating		4 to 38 C	40 to 100 F
Maximum Altitude			
		3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS			
		Operating	Non-Operating
Noncondensing Humidity		20% to 80%	20% to 80%
Wet Bulb Temperature		23 C (73 F)	27 C (80 F)
NOISE EMISSIONS			
		Operating	Idle
LWAd (Bels)		8.7	8.3
LpAm			
<LpA>m (dB)		65	58

Impulsive or prominent discreet tones		
---------------------------------------	--	--

4232 Printer

DIMENSIONS			
	Width	Depth	Height
Metric	658 mm	700 mm	530 mm
English	25.9 in	27.6 in	20.9 in
Maximum Configuration Weight			
		20.4 kg	45 lbs
ELECTRICAL			
kVA	0.25		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	444 BTU/hr		
Power requirements (maximum)	130 watts		
Power factor	0.52		
Phase	1		
Plug type (Canada & USA)	Depends on country		
Power cord length	1.8 m (6 ft)	2.7 m (9 ft)	
TEMPERATURE REQUIREMENTS			
Operating	15.6 to 32.2 C	60 to 90 F	
Non-Operating	10 to 43 C	50 to 109 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	8% to 80%	8% to 80%	
Wet Bulb Temperature	22.8 C (73 F)	26.7 C (80 F)	
NOISE EMISSIONS			
	Operating	Idle	
LWAd (Bels)	7.0	4.5	
LpAm			
<LpA>m (dB)	55	30	
Impulsive or prominent discreet tones			

4247 Serial Matrix Printer

DIMENSIONS		Width	Depth	Height
Metric		680 mm	400 mm	312 mm
English		26.8 in	15.8 in	12.3 in
Maximum Configuration Weight			24.6 kg	54.1 lbs
ELECTRICAL				
kVA				
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz			
Thermal Output	512 BTU/hr			
Power requirements (maximum)	150 watts			
Power factor				
Phase	1			
Plug type (Canada & USA)	4 or 5			
Power cord length		1.8 m (6 ft)	2.7 m (9 ft)	
TEMPERATURE REQUIREMENTS				
Operating		15.6 to 32.2 C	60 to 90 F	
Non-Operating				
Maximum Altitude			3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS				
			Operating	Non-Operating
Noncondensing Humidity			8% to 80%	8% to 80%
Wet Bulb Temperature			22.8 C (73 F)	
NOISE EMISSIONS				
			Operating	Idle
LWAd (Bels)			7.3	4.0
LpAm				
<LpA>m (dB)			60	25
Impulsive or prominent discreet tones				

4312 Network Printer 12 (Laser Printer)

DIMENSIONS		Width	Depth	Height
Metric		421 mm	524 mm	403 mm
English		16.6 in	20.6 in	15.9 in

Maximum Configuration Weight	23.3 kg	51.3 lbs
ELECTRICAL		
kVA	0.30	
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	891 BTU/hr	
Power requirements (maximum)	262 watts	
Power factor	0.87	
Phase	1	
Plug type (Canada & USA)	4 or 5	
Power cord length	1.8 m (6 ft)	2.8 m (9.2 ft)
TEMPERATURE REQUIREMENTS		
Operating	5 to 35 C	41 to 95 F
Non-Operating	-20 to +40 C	-4 to +104 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non- Operating
Noncondensing Humidity	15% to 85%	15% to 85%
Wet Bulb Temperature		
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)	49.5	32
Impulsive or prominent discreet tones		

4317 Network Printer 17 (Laser Printer)

DIMENSIONS	Width	Depth	Height
Metric	442 mm	420 mm	886 mm
English	17.4 in	16.5 in	34.9 in
Maximum Configuration Weight			
	38.2 kg	84.1 lbs	
ELECTRICAL			
kVA	0.4		

Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz	
Thermal Output	1061 BTU/hr	
Power requirements (maximum)	312 watts	
Power factor	0.78	
Phase	1	
Plug type (Canada & USA)	4	
Power cord length	1.8 m (6 ft)	
TEMPERATURE REQUIREMENTS		
Operating	5 to 35 C	41 to 95 F
Non-Operating	-20 to +40 C	-4 to +104 F
Maximum Altitude		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non-Operating
Noncondensing Humidity	15% to 85%	15% to 85%
Wet Bulb Temperature		
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)	49.5	35
Impulsive or prominent discreet tones		

4324-001, 003 Network Printer 24 (Laser Printer)

DIMENSIONS	Width	Depth	Height
Metric	675 mm	526 mm	371 mm
English	27 in	21 in	15 in
Maximum Configuration Weight			
	56 kg	124 lbs	
ELECTRICAL			
kVA	0.7		
Rated Voltage/Frequency	100-127 @ 50/60 +/- 0.5 Hz		
Thermal Output	1753 BTU/hr		
Power requirements (maximum)	600 watts		
Power factor	0.86		
Phase	-		

Plug type (Canada & USA)	"Plug and receptacle type 4" on page 359	
Power cord length	1.8 m (6 ft)	2.8 m (9 ft)
TEMPERATURE REQUIREMENTS		
Operating	10 to 32.5 C	50 to 90.5 F
Non-Operating	-20 to +40 C	-4 to +104 F
"Altitude" on page 203		
	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS		
	Operating	Non- Operating
Noncondensing Humidity	10% to 95%	10% to 95%
Wet Bulb Temperature		
NOISE EMISSIONS		
	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)	52	38
Impulsive or prominent discreet tones		

4324-002, 004 Network Printer 24 (Laser Printer)

DIMENSIONS	Width	Depth	Height
Metric	675 mm	526 mm	371 mm
English	27 in	21 in	15 in
Maximum Configuration Weight			
	56 kg	124 lbs	
ELECTRICAL			
kVA			
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	1701 BTU/hr		
Power requirements (maximum)	584 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	"Plug and receptacle type 4" on page 359		
Power cord length	1.8 m (6 ft)	2.8 m (9 ft)	
TEMPERATURE REQUIREMENTS			

Operating	10 to 32.5 C	50 to 90.5 F
Non-Operating	-20 to +40 C	-4 to +104 F
“Altitude” on page 203	3048 m	10,000 ft
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	10% to 95%	10% to 95%
Wet Bulb Temperature		
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)		
LpAm		
<LpA>m (dB)	52	38
Impulsive or prominent discreet tones		

6252 Printer

This device is no longer offered for sale by IBM.

DIMENSIONS	Width	Depth	Height
Metric	1000 mm	750 mm	1000 mm
English	40 in	29.5 in	40 in
Maximum Configuration Weight	128 kg	285 lbs	
ELECTRICAL			
kVA	0.95		
Rated Voltage/Frequency	100-127/200-240VAC @ 50/60 plus or minus 0.5Hz		
Thermal Output	2900 BTU/hr		
Power requirements (maximum)	850 watts		
Power factor			
Phase	1		
Plug type (Canada & USA)	4, 7, or 51		
Power cord length	1.8 m (6 ft) USA only	3.7 m (12 ft)	
TEMPERATURE REQUIREMENTS			
Operating	12.8 to 40.6 C	55 to 105 F	
Non-Operating	10 to 51.7 C	50 to 125 F	
Maximum Altitude	3048 m	10,000 ft	

ENVIRONMENT REQUIREMENTS		Operating	Non-Operating
Noncondensing Humidity		8% to 80%	8% to 80%
Wet Bulb Temperature		26.7 C (80 F)	26.7 C (80 F)
NOISE EMISSIONS		Operating	Idle
LWAd (Bels)		7.2	5.5
LpAm			
<LpA>m (dB)		55	40
Impulsive or prominent discreet tones			
SERVICE CLEARANCES			
Front	Back	Sides	Top
760 mm	610 mm	-	-
30 in	24 in	-	-

6262-T22 Printer

DIMENSIONS	Width	Depth	Height
Metric	1000 mm	850 mm	1360 mm
English	40 in	34 in	54 in
Maximum Configuration Weight		360 kg	793 lbs
ELECTRICAL			
kVA	1.7		
Rated Voltage/Frequency	200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	5100 BTU/hr		
Power requirements (maximum)	1496 watts		
Power factor	0.88		
Phase	1		
Plug type (Canada & USA)	"Plug and Receptacle Type 5" on page 363, "Plug and Receptacle Type 10" on page 341, or "Plug and Receptacle Type 34" on page 357		
Power cord length	1.8 m (6 ft) USA Only	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 51 C	50 to 125 F	
"Altitude" on page 203		3048 m	10,000 ft

ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	20% to 62%	20% to 62%
Wet Bulb Temperature	26.7 C (80 F)	-
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	7.4	7.0
LpAm		
<LpA>m (dB)	57	52
Impulsive or prominent discreet tones		

6262-T12, T14 Printers

DIMENSIONS	Width	Depth	Height
Metric	1000 mm	850 mm	1360 mm
English	40 in	34 in	54 in
Maximum Configuration Weight			
		302 kg	665 lbs
ELECTRICAL			
kVA	1.5		
Rated Voltage/Frequency	100-127/200-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	3750 BTU/hr		
Power requirements (maximum)	1100 watts		
Power factor	0.73		
Phase	1		
Plug type (Canada & USA)	"Plug and receptacle type 4" on page 359, "Plug and receptacle type 7" on page 370, or "Plug and Receptacle Type 51" on page 365		
Power cord length	1.8 m (6 ft) USA Only	4.3 m (14 ft)	
TEMPERATURE REQUIREMENTS			
Operating	16 to 32 C	60 to 90 F	
Non-Operating	10 to 51 C	50 to 125 F	
"Altitude" on page 203			
		3048 m	10,000 ft

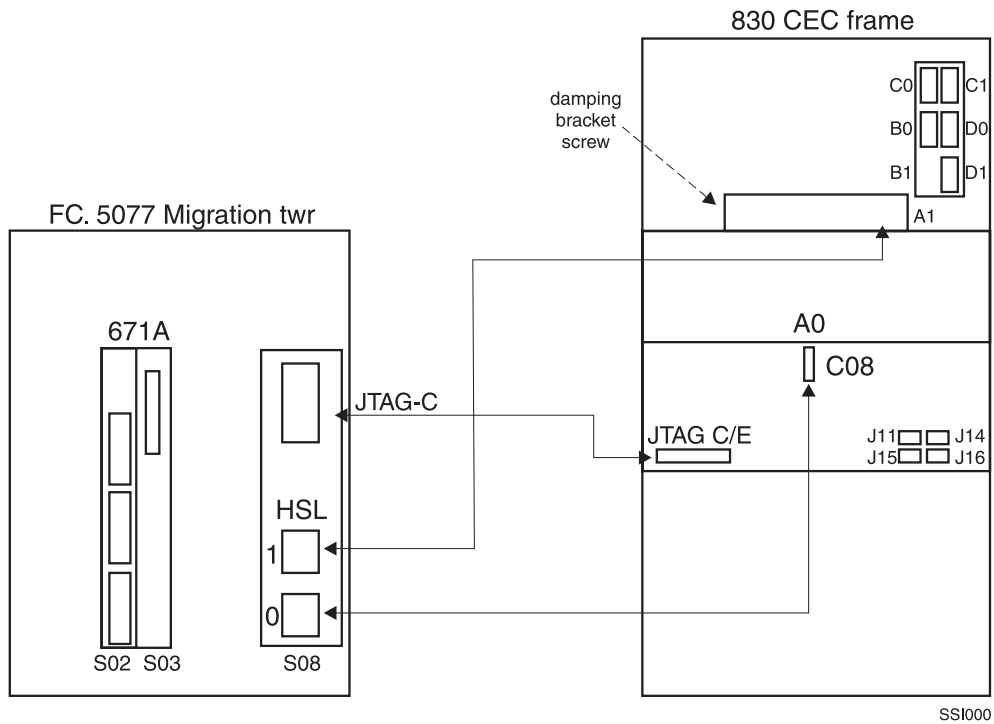
ENVIRONMENT REQUIREMENTS	Operating	Non-Operating
Noncondensing Humidity	20% to 62%	20% to 62%
Wet Bulb Temperature	26.7 C (80 F)	-
NOISE EMISSIONS	Operating	Idle
LWAd (Bels)	7.4	7.0
LpAm		
<LpA>m (dB)	57	52
Impulsive or prominent discreet tones		

6400 Printer

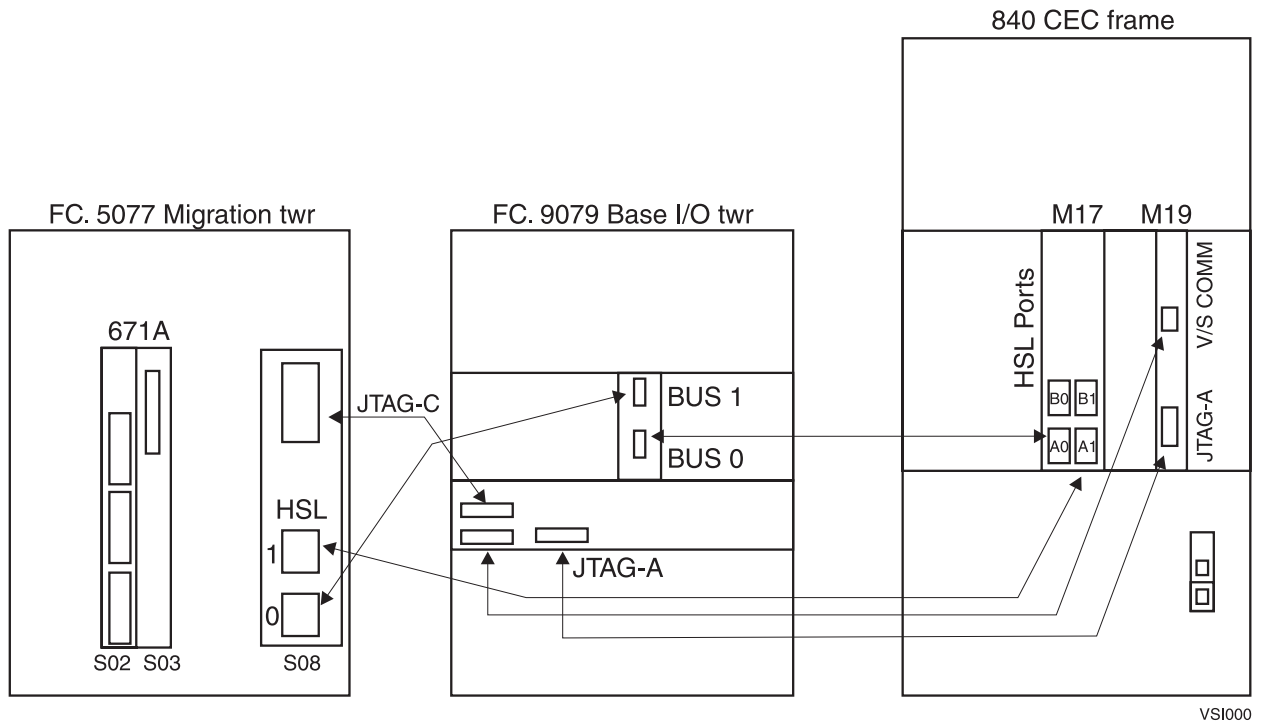
DIMENSIONS	Width	Depth	Height
Metric	686 mm	737 mm	1080 mm
English	27 in	29 in	42.5 in
Maximum Configuration Weight			
		102 kg	225 lbs
ELECTRICAL			
kVA	0.41		
Rated Voltage/Frequency	120-127/220-240 @ 50/60 +/- 0.5 Hz		
Thermal Output	735 BTU/hr		
Power requirements (maximum)	215 watts		
Power factor	0.52		
Phase	1		
Plug type (Canada & USA)	4 or 5		
Power cord length	1.8 m (6 ft)		
TEMPERATURE REQUIREMENTS			
Operating	10 to 40 C	50 to 104 F	
Non-Operating	-40 to +70 C	-40 to +158 F	
Maximum Altitude			
	3048 m	10,000 ft	
ENVIRONMENT REQUIREMENTS			
	Operating	Non-Operating	
Noncondensing Humidity	10% to 90%	10% to 90%	
Wet Bulb Temperature			

NOISE EMISSIONS	Operating	Idle
LWAd (Bels)		
LpAm	52	
<LpA>m (dB)		
Impulsive or prominent discreet tones		

Chapter 17. Cabling schematic for 5077 migration tower to 830 CEC frame



Cabling schematic for 5077 Migration Tower, 9079 Base I/O tower, and 840 CEC frame



Console and Modem Location

Make sure you put your server **console**:

- Within 6 meters (20 feet) of the server unit
- In the same room and within view of the server unit
- Within view of a telephone

Put your **modem** within 6 meters (20 feet) of the server unit.

Size and Weight: Communications

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Device	Width	Depth	Height	Weight
ASCII 6-port workstation attachment	210 mm (8.3 in)	125 mm (5 in)	85 mm (3.3 in)	2 kg (5 lb)
ASCII 12-port workstation attachment	480 mm (18.9 in)	125 mm (5 in)	150 mm (5.9 in)	4 kg (10 lb)
Twinaxial workstation attachment	193 mm (8 in)	398 mm (16 in)	57 mm (2 in)	2 kg (5 lb)
2210 N-ways Multiprotocol Router	440 mm (17.3 in)	254 mm (10 in)	43.7 mm (1.8 in)	3.2 kg (7 lb)
2480 Wireless Access Point	203 mm (8 in)	165 mm (6.5 in)	48 mm (1.9 in)	1.4 kg (3 lb)
(5208 Link Protocol Converter)	423 mm (17 in)	353 mm (14 in)	112 mm (4 in)	6 kg (13 lb)
(5209 Link Protocol Converter)	445 mm (18 in)	533 mm (21 in)	134 mm (5 in)	9 kg (20 lb)
(5259 Migration Data Link)	445 mm (17.5 in)	533 mm (21 in)	133.4 mm (5.25 in)	6 kg (13 lb)
(5299-3 Terminal Multiconnector	340 mm (13 in)	194 mm (8 in)	79 mm (3 in)	1 kg (3 lb)
(5853 Electronic Customer Support Modem	165 mm (6.5 in)	279 mm (11 in)	64 mm (2.5 in)	2.5 kg (5.5 lb)
6611 N-way Multiprotocol Router	444 mm (17.5 in)	480 mm (18.9 in)	260 mm (10.3 in)	19 kg (43 lb)
6299 Mid-Range System Hub	430 mm (17 in)	228 mm (9 in)	220 mm (8.75 in)	7.2 kg (16 lb)
7299 Express Hub 1PA	229 mm (9 in)	222 mm (8.8 in)	42 mm (2.7 in)	1.7 kg (3.3 lb)
7299 Express Hub 2EX, 2FX, 2PA	437 mm (17.2 in)	222 mm (8.8 in)	42 mm (2.7 in)	2.1 kg (4.8 lb)
(7855-10 Electronic Customer Support Modem)	165 mm (6.5 in)	279 mm (11 in)	64 mm (2.5 in)	2.5 kg (5.5 lb)

Device	Width	Depth	Height	Weight
7857-17 Electronic Customer Support Modem	220 mm (8.66 in)	273 mm (10.75 in)	85 mm (3.35 in)	2.6 kg (5.73 lb.)
(8209 LAN Bridge)	445 mm (17.5 in)	533 mm (21 in)	133.4 mm (5.25 in)	9 kg (20 lb)
(8229-001, 002, 003 Bridge)	445 mm (17.5 in)	355.6 mm (14 in)	133.4 mm (5.25 in)	11.4 kg (25.1 lb)
(8235-001, 002, 011, 012, 021, 022, 031, 052 Dial-in to Access LAN)	432 mm (17.0 in)	254 mm (10 in)	43.7 mm (1.8 in)	3.54 kg (7.8 lb)
(8235-051 Dial-in to Access LAN)	301 mm (11.9 in)	236 mm (9.3 in)	43.3 mm (1.7 in)	2.4 kg (5.3 lb)
(8235-140 Dial-in to Access LAN)	444 mm (17.5 in)	406 mm (16 in)	178 mm (7.0 in)	13.6 kg (30 lb)

Size and Weight: Display Stations

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Device	Width	Depth	Height	Weight
(3101-23 Display Station)	483 mm (19 in)	355 mm (14 in)	386 mm (15 in)	17 kg (38 lb)
3153-Bx3, Cx3 InfoWindow ^(R) II ASCII Display	769 mm (30.3 in)	488 mm (20.5 in)	378 mm (15 in)	8.6 kg (19 lb)
(3161 Display Station)	483 mm (19 in)	307 mm (12 in)	330 mm (13 in)	16 kg (35 lb)
(3162 Display Station)	408/483 mm (16.0/19 in)	314 mm (12 in)	324 mm (13 in)	16 kg (35 lb)
(3163 Display Station [with stand])	483 mm (19 in)	307 mm (21 in)	330 mm (13 in)	16 kg (35 lb)
(3164 Display Station)	483 mm (19 in)	405 mm (16 in)	390 mm (15 in)	19 kg (41 lb)
(3179-2, 20K, 21K Display Station)	429/561 mm (17.0/22 in)	412 mm (16 in)	462 mm (18 in)	20/21 kg (43/47 lb)
(3180-2, 20K, 21K Display Station)	560 mm (22 in)	360 mm (14 in)	370 mm (15 in)	22 kg (49 lb)
(3180-2, 20K, 21K Display Station [elevated])	560 mm (22 in)	360 mm (14 in)	520 mm (21 in)	22 kg (49 lb)
(3196-A1, B1 Display Stations)	429/561 mm (17.0/22 in)	307 mm (12 in)	359 mm (14 in)	13 kg (30 lb)
(3196-A2, B2 Display Stations)	429/561 mm (17.0/22 in)	307 mm (12 in)	359 mm (14 in)	12 kg (27 lb)
(3197-C Display Station)	383 mm (15 in)	405 mm (16 in)	415 mm (16 in)	14.5 kg (32 lb)
3476-EA, EG Display Station	333 mm (13 in)	324 mm (12.8 in)	360 mm (14.2 in)	12.5 kg (33 lb)

Device	Width	Depth	Height	Weight
(3477 Display Station)	333 mm (13 in)	327 mm (12.9 in)	343 mm (13.5 in)	12 kg (27 lb)
3482 InfoWindow II Display Station [with stand]	359 mm (14 in)	345 mm (13.6 in)	398 to 525 mm (15.7 to 20.7 in)	13.6 kg (30 lb)
3483 Modular Display Station	488 mm (19.2 in)	425 mm (16.8 in)	360 mm (14.2 in)	5.7 kg (12.6 lb)
3486 Display Station	334 mm (13.1 in)	328 mm (12.9 in)	344 mm (13.5 in)	9 kg (20 lb)
3486 Display Station [with lift stand]	334 mm (13.1 in)	328 mm (12.9 in)	378-505 mm (14.9-19.9 in)	12 kg (26 lb)
(3487 Monochrome Display Station)	360 mm (14.2 in)	327 mm (12.9 in)	364 mm (14.3 in)	11 kg (24.4 lb)
(3487 Monochrome Display Station [with lift stand])	360 mm (14.2 in)	345 mm (13.6 in)	400-527 mm (15.7-20.7 in)	14 kg (30 lb)
3487 Display Station HA and HG	360 mm (14.2 in)	388 mm (15.3 in)	366 mm (14.4 in)	13.4 kg (29.5 lb)
3487 Display Station HA and HG [with lift stand]	360 mm (14.2 in)	388 mm (15.3 in)	400-527 mm (15.7-20.7 in)	16 kg (35 lb)
(3488 Logic Unit)	322 mm (12.7 in)	322 mm (12.7 in)	60 mm (2.4 in)	2.5 kg (5.5 lb)
3489 Logic Unit	322 mm (12.7 in)	60 mm (2.4 in)	360 mm (14.2 in)	3.2 kg (7.1 lb)
(5251-11 Display Station)	530 mm (31 in)	400 mm (16 in)	400 mm (16 in)	34 kg (75 lb)
(5251-12 Display Station/Controller)	530 mm (21 in)	470 mm (19 in)	400 mm (16 in)	51 kg (112 lb)
(5291-1 Display Station)	540 mm (21 in)	350 mm (14 in)	460 mm (18 in)	23 kg (51 lb)
(5291-2 Display Station)	520 mm (21 in)	400 mm (16 in)	432 mm (17 in)	15.2 kg (34 lb)
(5292-1, 2 Display Station)	520 mm (21 in)	520 mm (21 in)	430 mm (17 in)	29.7 kg (65 lb)
(5295-001 Display Station)	480 mm (19 in)	330 mm (13 in)	90 mm (4 in)	5 kg (11 lb)
(5295-002, 0C2 Display Station)	360 mm (14 in)	335 mm (13 in)	81 mm (3 in)	7 kg (14 lb)
(5295-LK1 Display Station)	430 mm (18 in)	405 mm (17 in)	121.5 mm (5 in)	9.5 kg (21 lb)

Preparing for system delivery

Plan for the delivery of your system:

1. Make sure your packaged system will fit into your chosen space:
 -
 - Check the packaging dimensions of your system and devices.
 - Walk the route your system will take from the delivery entrance, measuring across halls, doorways, and elevators.

- Make sure that your system will have room to turn corners and go around objects in its delivery path.
2. Obtain any special moving equipment that might be needed to get your system to its site.

Important: Leave the system inside the shipping bag for 6 to 12 hours to let it acclimate to the final physical environment. When a system has been shipped in a cold environment, there is a possibility that water condensation will form on the cooler surfaces inside the machine. To avoid this, allow sufficient time to reach equilibrium with warmer indoor temperatures before removing the shipping bag.

Size and Weight: Personal Computers

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Device	Width	Depth	Height	Weight
(Personal Computers and Personal System/2-30, 50)	440 mm (17.3 in) max.	429 mm (17 in) max.	635 mm (18 in) max.	39 kg (85 lb) max.
(Personal Computers Series 330-6571, 6573, 6575)	360 mm (14.2 in)	450 mm (17.7 in)	130 mm (5.1 in)	10.4 kg (23.0 lb)
Personal Computers Series 730-6875, 6876	360 mm (14.2 in)	450 mm (17.7 in)	130 mm (5.1 in)	10.4 kg (23.0 lb)
(Personal Computers Series 350-6581, 6583, 6585)	420 mm (16.5 in)	448 mm (17.6 in)	160 mm (6.3 in)	14.1 kg (31.1 lb)
(Personal Computers Series 750-6885)	420 mm (16.5 in)	448 mm (17.6 in)	160 mm (6.3 in)	14.1 kg (31.1 lb)
Personal Computers Series 300-8640	315 mm (12.4 in)	473 mm (18.6 in)	651 mm (25.6 in)	26.3 kg (47.9 lb)
Personal Computers Series 500-8641	353 mm (13.9 in)	755 mm (29.7 in)	622 mm (24.5 in)	31.3 kg (69.0 lb) min.
Personal Computers Series 720-8642	353 mm (13.9 in)	755 mm (29.7 in)	622 mm (24.5 in)	31.3 kg (69.0 lb) min.
(Personal System/55-5530 G12, G18)	370 mm (15 in)	359 mm (15 in)	86 mm (4 in)	8.5 kg (19 lb) max.
(Personal System/55-5530 S, T)	320 mm (13 in)	408 mm (16 in)	402 mm (16 in)	18 kg (40 lb) max.
(Personal System/55-5535 M)	310 mm (10 in)	350 mm (14 in)	100 mm (41 in)	8 kg (18 lb) max.
(Personal System/55-5541 MLX, P1x)	430 mm (18 in)	405 mm (17 in)	122 mm (5 in)	8 kg (18 lb) max.
(Personal System/55-5551 M1x, P1x)	430 mm (17 in)	405 mm (16 in)	122 mm (5 in)	11.5 kg (25 lb) max.
(Personal System/55-S, T, V, J61)	390 mm (16 in)	425 mm (17 in)	128 mm (5 in)	11 kg (25 lb) max.

Device	Width	Depth	Height	Weight
(Personal System/55-5561 M09, M0A, P09, P0A)	261 mm (10 in)	410 mm (16 in)	305 mm (12 in)	15 kg (34 lb) max.
(Personal System/55-5571 S0A)	165 mm (7 in)	483 mm (19 in)	597 mm (24 in)	24 kg (52 lb)
(PS/2 ^(R) -8535 Models 5X, LS)	360 mm (14.2 in)	395 mm (15.6 in)	115 mm (4.5 in)	10.8 kg (23.8 lb)
(PS/2-8543 Models L40, SX)	325 mm (12.8 in)	272 mm (10.7 in)	53.2 mm (2.1 in)	3.5 kg (7.7 lb)
(PS/2-8550 Models 50, 50Z)	360 mm (14.2 in)	420 mm (16.5 in)	140 mm (9.5 in)	9.5 kg (21 lb)
(PS/2-8551 Models 25, 33)	297 mm (11.7 in)	210 mm (8.3 in)	53.5 mm (2.1 in)	2.8 kg (6.2 lb)
(PS/2-8554 Model 45)	325 mm (12.8 in)	278 mm (10.9 in)	71 mm (2.8 in)	5.0 kg (11 lb)
(PS/2-8555 Models SX, LS)	406 mm (16 in)	397 mm (15.6 in)	102 mm (4 in)	8.6 kg (19 lb)
(PS/2-8556 Models SX, LS)	360 mm (14.2 in)	395 mm (15.6 in)	115 mm (4.5 in)	11.1 kg (24.6 lb)
(PS/2-8557 Models SX, SLC Untimedia)	440 mm (17.3 in)	394 mm (15.5 in)	169 mm (6.7 in)	15.3 kg (34 lb)
(PS/2-8560 [with feet extended])	166 mm (6.5 in) 318 mm (12.5 in)	482 mm (19.0 in)	597 mm (23.5 in)	21.3 kg (47 lb)
(PS/2-8565 Models 65, SX)	166 mm (6.5 in)	483 mm (19.0 in)	597 mm (23.5 in)	20.6 kg (45.3 lb)
(PS/2-8570 Model 70)	360 mm (14.2 in)	420 mm (16.5 in)	140 mm (5.5 in)	9.5 kg (21 lb)
(PS/2-8573)	465 mm (18.3 in)	156 mm (6.2 in)	306 mm (12.1 in)	10 kg (2.2 lb)
(PS/2-8580 Model 80)	166 mm (6.5 in)	483 mm (19 in)	597 mm (23.5 in)	23.6 kg (52 lb)
(PS/2-8580 Model 80)	166 mm (6.5 in)	483 mm (19 in)	597 mm (23.5 in)	23.6 kg (52 lb)
(PS/2-8590 Model 90)	440 mm (17.3 in)	430 mm (16.9 in)	140 mm (5.5 in)	11.4 kg (25 lb)
(PS/2-8595 Model 95)	203 mm (8.0 in)	508 mm (20 in)	501 mm (20 in)	30 kg (67 lb)
(PS/2-8600 Model 1, 2, 3)	584 mm (23 in)	337 mm (13.3 in)	683 mm (26.9 in)	68 kg (150 lb)
PS/2-9533	305 mm (12.0 in)	305 mm (12.0 in)	70 mm (2.8 in)	4.7 kg (10.3 lb)
PS/2-9545 IBM Thinkpad 750 Series, 486 SL, 33 Mhz	297 mm (11.7 in)	210 mm (8.3 in)	53 mm (2.1 in)	3.0 kg (6.6 lb)
PS/2-2620 IBM Thinkpad 360 Series, 486 SX, 33 Mhz	297 mm (11.7 in)	210 mm (8.3 in)	53 mm (2.1 in)	3.5 kg (7.7 lb)
PS/2-9577	440 mm (17.3 in)	394 mm (15.5 in)	168 mm (6.6 in)	15.9 kg (35.0 lb)

Device	Width	Depth	Height	Weight
PS/2-6576	360 mm (14.2 in)	450 mm (17.7 in)	130 mm (5.1 in)	10.4 kg (23 lb)
(PS/2-9590)	440 mm (17.3 in)	430 mm (16.9 in)	140 mm (11.4 in)	11.4 kg (25.0 lb)

Size and Weight: Printers

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Device	Width	Depth	Height	Weight
(2380-001, 002 Printer)	496 mm (19.5 in)	287 mm (11.3 in)	200 mm (7.9 in)	7 kg (15.4 lb)
(2381-001, 002 Printer)	638 mm (25.1 in)	287 mm (11.3 in)	200 mm (7.9 in)	8.8 kg (19.4 lb)
(2390-001, 002 Printer)	496 mm (19.5 in)	287 mm (11.3 in)	200 mm (7.9 in)	7 kg (15.4 lb)
(2391-001, 002 Printer)	638 mm (25.1 in)	287 mm (11.3 in)	200 mm (7.9 in)	8.8 kg (19.4 lb)
3130 Advanced Function Printer	1353 mm (53 in)	654 mm (26 in)	1385 mm (54 in)	156 kg (343 lb)
3160 Printer	1152 mm (45.4 in)	770 mm (30.3 in)	1300 mm (51.2 in)	240 kg (528 lb)
3170 Printer	3010 mm (119 in)	1570 mm (62 in)	2280 mm (90 in)	395 kg (868 lb)
(3816-01S, 01D Printer)	121 mm (47.6 in)	525 mm (20.5 in)	380 mm (14.9 in)	63 kg (138 lb)
(3820 Printer)	1520 mm (60 in)	670 mm (26.5 in)	1190 mm (47 in)	259 kg (590 lb)
3828 Printer	2240 mm (88 in)	790 mm (31 in)	1270 mm (50 in)	830 kg (1830 lb)
3829 Printer	2240 mm (88 in)	790 mm (31 in)	1270 mm (50 in)	830 kg (1830 lb)
3835 Printer [including controller]	2034 mm (80 in)	840 mm (33.1 in)	1413 mm (55.6 in)	848 kg (1866 lb)
3900 Printer	2424 mm (95 in)	930 mm (37 in)	1500 mm (59 in)	1128 kg (2486 lb)
(3912-AS0, AS1 Page Printer)	378 mm (14.9 in)	872 mm (34.3 in)	425 mm (16.7 in)	23.7 kg (52.7 lb)
(3916-AS0, AS1 Page Printer)	378 mm (14.9 in)	872 mm (34.3 in)	533 mm (21 in)	26.5 kg (58 lb)
(3930 Printer D Models)	1835 mm (72.3 in)	550 mm (21.7 in)	450 mm (17.7 in)	73 kg (161 lb)
(3930 Printer S Models)	1200 mm (48 in)	550 mm (21.7 in)	380 mm (15 in)	60 kg (132 lb)
(3935-001 Printer)	1553 mm (61.2 in)	626 mm (24.6 in)	1006 mm (39.6 in)	263 kg (580 lb)

Device	Width	Depth	Height	Weight
4000 Laser Printer	2402 mm (94 in)	955 mm (38.0 in)	1500 mm (59.0 in)	1141 kg (2510 lb)
(4019 Laser Printer)	360 mm (14.2 in)	521 mm (20.5 in)	260 mm (10.2 in)	15 kg (33 lb)
(4028 Laser Printer)	360 mm (14.2 in)	521 mm (20.5 in)	260 mm (10.2 in)	15 kg (33 lb)
(4029 Laser Printer)	360 mm (14.2 in)	860 mm (33.9 in)	445 mm (17.8 in)	21 kg (46 lb)
(4037-5E Printer)	495 mm (19.5 in)	597 mm (23.5 in)	419 mm (16.5 in)	17.3 kg (38 lb)
(4039-10D Printer)	378 mm (14.9 in)	753/872 mm (30.0/34.3 in)	299/425 mm (11.8/16.7 in)	20.9/23.7 kg (46.0/52 lb)
(4039-10R Printer)	378 mm (14.9 in)	533/872 mm (21.0/34.3 in)	299/425 mm (11.8/16.7 in)	18.2/23.7 kg (40.0/52 lb)
(4039-12L Printer)	378 mm (14.9 in)	533/872 mm (21.0/34.3 in)	407/425 mm (16.0/21 in)	21.0/26.5 kg (46.0/58 in)
(4039-12R Printer)	378 mm (14.9 in)	533/872 mm (21.0/34.3 in)	299/425 mm (11.8/16.7 in)	18.2/23.7 kg (40.0/52 lb)
(4039-16L Printer)	378 mm (14.9 in)	533/872 mm (21.0/34.3 in)	407/425 mm (16.0/21 in)	21.0/26.5 kg (46.0/58 lb)
(4070-001 Printer)	310 mm (12.2 in)	110 mm (4.3 in)	218 mm (8.5 in)	3.4 kg (7.5 lb)
(4070-002 Printer)	310 mm (12.2 in)	217 mm (8.6 in)	51 mm (2 in)	2 kg (4.4 lb)
(4072-001 Printer)	618 mm (24.3 in)	452 mm (17.8 in)	369 mm (14.5 in)	11.6 kg (25.6 lb)
(4076-001) Printer	363 mm (14.3 in)	282 mm (11.1 in)	269 mm (10.6 in)	5 kg (14.3 lb)
(4079-1 Printer)	520 mm (20.5 in)	406 mm (16 in)	170 mm (6.7 in)	10 kg (22 lb)
(4201-2, 3 Proprinter I, II, III)	421 mm (17 in)	343 mm (14 in)	133 mm (5.5 in)	8-9 kg (17-20 lb)
(4202-1, 2, 3 Proprinter I, II, III, XL)	574 mm (23 in)	368 mm (15 in)	140 mm (6 in)	11 kg (24 lb)
(4207-1, 2 Proprinter X24, X24E)	420 mm (16.5 in)	356 mm (14 in)	133 mm (5.3 in)	12 kg (27 lb)
(4208-1, 2 Proprinter XL24, XL24E)	575 mm (22.6 in)	343 mm (13.5 in)	133 mm (5.3 in)	11.3 kg (25 lb)
(4210-1 Printer)	574 mm (23 in)	363 mm (14 in)	133 mm (5 in)	11 kg (25 lb)
(4214-2 Printer)	600 mm (24 in)	540 mm (21 in)	240 mm (10 in)	25 kg (55 lb)
(4216-10, 30, 31 Pageprinter)	418 mm (16.5 in)	490 mm (17.7 in)	212 mm (8.4 in)	17 kg (37.5 lb)
(4224-101, 102, 1E2, 1C2, 301, 302, 1A3, 3A3, 1X1, 1X2 Printer)	655 mm (26 in)	370 mm (14.5 in)	292 mm (11.5 in)	23 kg (50 lb)

Device	Width	Depth	Height	Weight
(4224-1E3, 3E3 Printer)	655 mm (26 in)	370 mm (14.5 in)	330 mm (13 in)	25 kg (55 lb)
(4226-302 Printer)	642 mm (25.3 in)	280 mm (11 in)	271 mm (10.7 in)	21 kg (46 lb)
(4230-101, 102, 1E2, 1C2, 301, 302 Printer)	650 mm (25.6 in)	787 mm (31 in)	592 mm (23 in)	23 kg (50 lb)
(4230-4I3, 4S3 Printer)	658 mm (25.9 in)	396 mm (15.6 in)	315 mm (12.4 in)	20.4 kg (45 lb)
(4230-4I3, 4S3 Printer with ASF)	658 mm (25.9 in)	700 mm (27.6 in)	530 mm (20.9 in)	26.4 kg (58.2 lb)
4232 Printer	658 mm (25.9 in)	700 mm (27.6 in)	530 mm (20.9 in)	20.4 kg (45 lb)
(4234-2, 12, 13 Printer [with stand])	660 mm (26 in)	875 mm (35 in)	1265 mm (50 in)	59 kg (130 lb)
(4245-T12, T20 Printer [with power stackers])	1525 mm (60 in)	940 mm (37 in)	1175 mm (46 in)	410 kg (910 lb)
4247 Serial Matrix Printer	680 mm (26.8 in)	400 mm (15.8 in)	312 mm (12.3 in)	24.6 kg (54.1 lb)
4303(-001), 002 Network Printer	540 mm (21.6 in)	580 mm (23.2 in)	565 mm (22.3 in)	23.3 kg (51.3 lb)
4312-001, 002, 003 Laser Printer	421 mm (16.6 in)	524 mm (20.6 in)	403 mm (15.9 in)	23.3 kg (51.3 lb)
4317-001, 002 Laser printer	442 mm (17.4 in)	420 mm (16.5 in)	886 mm (34.9 in)	38.2 kg (84.1 lb)
4324-1, 2 Pageprinter	675 mm (27 in)	526 mm (21 in)	371 mm (15 in)	56 kg (124 lb)
4370 Printer	1285 mm (50.6 in)	923 mm (36.4 in)	1207 mm (47.6 in)	220 kg (485.0 lb) without power stacker; 280 kg (612.0 lb) with power stacker;
(5201-2 Quietwriter ^(R))	541 mm (21 in)	367 mm (14 in)	165 mm (6.5 in)	10 kg (22 lb)
(5202 Quietwriter III Printer)	551 mm (22 in)	380 mm (15 in)	180 mm (7 in)	11 kg (24 lb)
(5204 Quickwriter Printer)	548 mm (22 in)	364 mm (14 in)	187 mm (7.4 in)	12.5 kg (28 lb)
(5216-2 Wheelprinter)	582 mm (23 in)	409 mm (16 in)	223 mm (9 in)	16 kg (35 lb)
(5219-D01, D02 Printer)	660 mm (26 in)	580 mm (23 in)	200 mm (8 in)	31 kg (68 lb)
(5219-D01, D02 Printer [with sheet feed])	660 mm (26 in)	730 mm (29 in)	480 mm (19 in)	43 kg (95 lb)
(5219-D01, D02 Printer [with sheet feed])	660 mm (26 in)	730 mm (29 in)	320 mm (13 in)	35 kg (77 lb)

Device	Width	Depth	Height	Weight
(5223 Wheelprinter E)	541 mm (21 in)	366 mm (14 in)	216 mm (9 in)	13 kg (29 lb)
(5224-1, 2 Printer)	710 mm (28 in)	580 mm (23 in)	280 mm (11 in)	68 kg (149 lb)
(5225-1, 2, 3, 4 Printer)	1110 mm (44 in)	760 mm (30 in)	1000 mm (40 in)	250 kg (550 lb)
(5227-001, 002, 003, 005 Printer)	760 mm (30 in)	690 mm (27 in)	1000 mm (40 in)	110 kg (242 lb)
(5256 Printer)	640 mm (25.2 in)	570 mm (22.4 in)	368 mm (14.5 in)	35.4 kg (78 lb)
(5262-1 Printer)	965 mm (38 in)	760 mm (30 in)	1715 mm (68 in)	245 kg (540 lb)
(5317-001 Printer)	640 mm (25 in)	280 mm (11 in)	271 mm (11 in)	22 kg (49 lb)
(5327-001 Printer)	750 mm (30 in)	830 mm (33 in)	1040 mm (41 in)	150 kg (331 lb)
(5337-001 Printer)	1425 mm (56 in)	790 mm (31 in)	1215 mm (48 in)	360 kg (793 lb)
(5417-001, 002, 003, 005 Printer)	660 mm (26 in)	720 mm (28.3 in)	1000 mm (39.4 in)	97 kg (214 lb)
(5427-001, 002, 003, 005 Printer)	750 mm (30 in)	815 mm (32 in)	1120 mm (44 in)	165 kg (364 lb)
(5553-B01, B02 Printer)	590 mm (23 in)	398 mm (16 in)	192 mm (8 in)	18 kg (40 lb)
(5557-B01 Printer)	675 mm (27 in)	580 mm (23 in)	370 mm (15 in)	43 kg (95 lb)
(5563-B02, H02 Printer)	547 mm (22 in)	298 mm (12 in)	120 mm (5 in)	9 kg (20 lb)
(5572-B01 Printer)	406 mm (16 in)	343 mm (14 in)	127 mm (5 in)	9 kg (20 lb)
(5572-B02 Printer)	410 mm (16 in)	328 mm (13 in)	120 mm (5 in)	6.4 kg (14 lb)
(5575-B01, B02, F01, F02 Printer)	548 mm (22 in)	351 mm (14 in)	166 mm (7 in)	13 kg (29 lb)
(5577-B01, B02, F01, F02, G01 Printer)	640 mm (25 in)	280 mm (11 in)	271 mm (11 in)	21 kg (46 lb)
(5582-P01 Printer)	700 mm (28 in)	699 mm (28 in)	1025 mm (41 in)	138 kg (305 lb)
(5583-200 Printer)	650/340 mm (26.0/13 in)	480 mm (19 in)	320 mm (13 in)	78.0/23 kg (172.0/50 lb)
(5587-G01 Printer)	554 mm (22 in)	563 mm (22 in)	350 mm (14 in)	49 kg (107 lb)
6252 Printer	1000 mm (40 in)	750 mm (29.5 in)	1000 mm (40 in)	128 kg (285 lb)
(6262-T12, T14 Printer)	1000 mm (40 in)	850 mm (34 in)	1360 mm (54 in)	302 kg (665 lb)
6262-T22 Printer	1000 mm (40 in)	850 mm (34 in)	1360 mm (54 in)	360 kg (793 lb)

Device	Width	Depth	Height	Weight
6400 Printer	686 mm (27 in)	737 mm (29 in)	1080 mm (42.5 in)	102 kg (225 lb)
(6412 Printer)	864 mm (34 in)	724 mm (28.5 in)	1059 mm (41.7 in)	186 kg (410 lb)

Size and Weight: Racks, Controllers, Processors, and Battery Backup Units

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Device	Width	Depth	Height	Weight
3174 Controller	698 mm (27.5 in)	608 mm (24 in)	641 mm (25.25 in)	50 kg (110 lb)
3835 Controller	510 mm (20 in)	840 mm (33.1 in)	1413 mm (55.6 in)	148 kg (326 lb)
5144 External Battery Backup Unit [9406]	318 mm (13 in)	225 mm (9 in)	500 mm (19.7 in)	32.67 kg (72.03 lb)
5150 External Battery Unit [640, S30, 650, S40, SB1]	414 mm (16.3 in)	490 mm (19.3 in)	495 mm (19.5 in)	84 kg (184 lbs.)
(5294-1, K01, S01 Controller)	318 mm (12 in)	510 mm (20 in)	200 mm (8 in)	10 kg (22 lb)
(5394-1, 2 Controller)	425 mm (16.8 in)	425 mm (16.8 in)	114 mm (4.5 in)	8 kg (18 lb)
5494-EXT Controller	440 mm (17.3 in)	430 mm (17 in)	140 mm (5.5 in)	11.8 kg (26 lb)
(9309-2 Rack)	650 mm (25.6 in)	921 mm (36 in)	1578 mm (62 in)	161 kg (356 lb)
(9335-A01 Device Function Controller)	483 mm (19 in)	597 mm (23.5 in)	133 mm (5.3 in)	24 kg (52 lb)
9406 Rack	650 mm (25.6 in)	921 mm (36 in)	1578 mm (62 in)	161 kg (356 lb)
(9406-5040 Bus Extension Rack)	483 mm (19.0 in)	800 mm (31.5 in)	805 mm (31.7 in)	299 kg (660 lb)
(9406, 5042 System Rack Expansion)	483 mm (19 in)	800 mm (31.5 in)	805 mm (31.7 in)	299 kg (660 lb)
(9406-B30, B35, B40, B45 Processor)	483 mm (19 in)	655 mm (25.8 in)	351 mm (14 in)	67 kg (148 lb)
(9406-B50, B60, B70)	483 mm (19 in)	655 mm (25.8 in)	702 mm (28 in)	134 kg (296 lb)
(9406-D35, D45, D50, D60, D70, D80 Processor)	483 mm (19 in)	800 mm (31.5 in)	805 mm (31.7 in)	299 kg (660 lb)
(9406-E35, E45, E50, E60, E70, E80, E90, E95 Processor)	483 mm (19 in)	800 mm (31.5 in)	805 mm (31.7 in)	299 kg (660 lb)
(9406-F35, F45, F50, F60, F70, F80, F90, F95, F97 Processor)	483 mm (19 in)	800 mm (31.5 in)	805 mm (31.7 in)	299 kg (660 lb)

Size and Weight: Magnetic Media Storage Devices

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

Device	Width	Depth	Height	Weight
(2440-A12 Tape Unit)	650 mm (25.6 in)	921 mm (36 in)	1578 mm (62 in)	300 kg (661 lb)
(3422-A01 Magnetic Tape Unit)	560 mm (22 in)	815 mm (32 in)	1525 mm (60 in)	295 kg (650 lb)
(3422-B01 Magnetic Tape Unit)	560 mm (22 in)	815 mm (32 in)	1525 mm (60 in)	270 kg (600 lb)
(3430-A01 Magnetic Tape Unit)	831 mm (33 in)	750 mm (29.5 in)	1000 mm (39 in)	215 kg (470 lb)
(3430-B01 Magnetic Tape Unit)	831 mm (33 in)	750 mm (29.5 in)	1000 mm (39 in)	155 kg (340 lb)
3450-001 Magnetic Tape Unit	280 mm (11 in)	287 mm (11.3 in)	79 mm (3.1 in)	4.4 kg (9.6 lb)
(3480-A11, A22 Tape Unit)	660 mm (26 in)	750 mm (29.5 in)	1000 mm (40 in)	195 kg (430 lb)
(3480-B11, B22 Tape Unit)	510 mm (21 in)	750 mm (29.5 in)	1000 mm (40 in)	155 kg (340 lb)
(3490-A01 Tape Unit)	750 mm (29.5 in)	863 mm (34 in)	1770 mm (70 in)	290 kg (635 lb)
(3490-A02 Tape Unit)	750 mm (29.5 in)	863 mm (34 in)	1770 mm (70 in)	345 kg (760 lb)
3490-A10, B20 Tape Unit	770 mm (30.3 in)	863 mm (34 in)	1770 mm (70 in)	318 kg (700 lb)
3490-A20 Tape Unit	770 mm (30.3 in)	863 mm (34 in)	1770 mm (70 in)	359 kg (790 lb)
(3490-B02 Tape Unit)	725 mm (28.5 in)	863 mm (34 in)	1770 mm (70 in)	350 kg (780 lb)
(3490-B04 Tape Unit)	725 mm (28.5 in)	863 mm (34 in)	1770 mm (70 in)	405 kg (890 lb)
(3490-B40 Tape Unit)	724 mm (28.5 in)	863 mm (34 in)	1770 mm (70 in)	449 kg (990 lb)
3490-C10 Tape Unit	479 mm (18.6 in)	867 mm (34.1 in)	622 mm (24.5 in)	84 kg (185 lb)
3490-C11 Tape Unit	479 mm (18.6 in)	867 mm (34.1 in)	622 mm (24.5 in)	90 kg (198 lb)
3490-C1A, C2A Tape Unit	480 mm (19 in)	870 mm (34.3 in)	622 mm (24.5 in)	84 kg (185 lb)
3490-C22 Tape Unit	479 mm (18.6 in)	885 mm (34.9 in)	622 mm (24.5 in)	118 kg (260 lb)
(3490-D31 Tape Unit)	741 mm (29.2 in)	944 mm (37.2 in)	1578 mm (62 in)	377 kg (830 lb)
(3490-D32 Tape Unit)	741 mm (29.2 in)	944 mm (37.2 in)	1578 mm (62 in)	386 kg (850 lb)
(3490-D41, D42 Tape Unit)	745 mm (29.3 in)	950 mm (37.4 in)	1580 mm (62.2 in)	404 kg (890 lb)

Device	Width	Depth	Height	Weight
3490(-E01) Tape Unit	220 mm (8.8 in)	801 mm (32 in)	268 mm (10.8 in)	25.9 kg (57 lb)
3490(-E11) Tape Unit	220 mm (8.8 in)	758 mm (30.3 in)	336 mm (13.5 in)	36 kg (79 lb)
3490E-F00 Tape Unit	222 mm (8.8 in)	432 mm (17 in)	259mm (10.2 in)	15.8 kg (34.8 lb)
3490E-F01 Tape Unit	177 mm (7.0 in)	612 mm (24.1 in)	486 mm (19.1 in)	29.5 kg (64.9 lb)
3490E-F11 Tape Unit	432 mm (17 in)	611 mm (24 in)	177 mm (7.0 in)	27.2 kg (60 lb)
3494 [FC.5300] C1A	750 mm (29.5 in)	1524 mm (60 in)	1800 mm (70.9 in)	410 kg (901 lb)
3494 [FC.5300] C2A	750 mm (29.5 in)	1524 mm (60 in)	1800 mm (70.9 in)	420 kg (923 lb)
3494 [FC.5400]	750 mm (29.5 in)	750 mm (29.5 in)	1800 mm (70.9 in)	281 kg (625 lb)
3494-L10 Tape Library C1A	750 mm (29.5 in)	1524 mm (60 in)	1800 mm (70.9 in)	550 kg (1211 lb)
3494-L10 Tape Library C2A	750 mm (29.5 in)	1524 mm (60 in)	1800 mm (70.9 in)	560 kg (1233 lb)
3494-L12, L14 Tape Library	750 mm (29.5 in)	1524 mm (60 in)	1800 mm (70.9 in)	559.3 kg (1233 lb) without cartridges; 605.6 kg (1344 lb) with cartridges
3570-B00, B1A Tape Subsystem	320 mm (12.6 in)	338 mm (13.3 in)	112 mm (4.4 in)	8.5 kg (19 lb)
3570-B01 Tape Subsystem	483 mm (19 in)	771 mm (30.4 in)	217 mm (8.5 in)	40 kg (88 lb)
3570-B02 Tape Subsystem	483 mm (19 in)	771 mm (30.4 in)	217 mm (8.5 in)	45 kg (99 lb)
3570-B11 Tape Subsystem	444 mm (17.5 in)	714 mm (28.1 in)	217 mm (8.5 in)	24 kg (53 lb)
3570-B12 Tape Subsystem	444 mm (17.5 in)	714 mm (28.1 in)	217 mm (8.5 in)	29 kg (64 lb)
3590-B11 Tape Unit	230 mm (9.1 in)	988 mm (39 in)	522 mm (20.6 in)	49.5 kg (109 lb)
3590-B1A Tape Unit	221 mm (8.8 in)	750 mm (29.8 in)	262 mm (10.5 in)	28.6 kg (63 lb)
3995-C40, C42, C62 Optical Disk Drive [without cartridges]	464 mm (18.3 in)	737 mm (29 in)	991 mm (39 in)	69 kg (122 lb)
3995-C44 Optical Disk Drive	813 mm (32 in)	762 mm (30 in)	1029 mm (40.5 in)	69 kg (152 lb)
3995-C48 Optical Disk Drive	813 mm (32 in)	762 mm (30 in)	1480 mm (58.3 in)	193 kg (425 lb)
(5030, 5031 I/O Card Unit)	483 mm (19 in)	655 mm (25.8 in)	351 mm (14 in)	67 kg (148 lb)

Device	Width	Depth	Height	Weight
(5032 Tape Unit)	483 mm (19 in)	655 mm (25.8 in)	210 mm (8.2 in)	41.5 kg (92 lb)
(FC.6135 Diskette Unit)	250 mm (10 in)	500 mm (19.7 in)	100 mm (4 in)	5.67 kg (13 lb)
7208-012 Tape Drive	280 mm (5 in)	290 mm (11.5 in)	123 mm (11 in)	6 kg (13 lb)
7208-222 Tape Drive	— mm (— in)	— mm (— in)	— mm (— in)	— kg (— lb)
7208-232, 234 Tape Drive	280 mm (5 in)	295 mm (11.5 in)	145 mm (5.7 in)	7.3 kg (16 lb)
7208-342 Tape Drive	250 mm (9.8 in)	275 mm (10.8 in)	55 mm (2.2 in)	3.2 kg (7.1 lb)
(9331-001, 002 Diskette Unit)	483 mm (19 in)	560 mm (22 in)	129 mm (5 in)	26 kg (58 lb)
(9331-011 Diskette Unit)	250 mm (10 in)	500 mm (19.7 in)	100 mm (4 in)	7.37 kg (17 lb)
(9331-012 Diskette Unit)	250 mm (10 in)	500 mm (19.7 in)	100 mm (4 in)	5.67 kg (13 lb)
(9332-200, 400, 600 Disk Unit)	483 mm (19 in)	592 mm (23.3 in)	133.4 mm (5.25 in)	34 kg (75 lb)
(9335-B01 Direct Access Storage Device)	483 mm (19 in)	724 mm (28.5 in)	267 mm (10.5 in)	71 kg (156 lb)
(9336-10, 20 Disk Unit)	483 mm (19 in)	692 mm (27.3 in)	222 mm (8.8 in)	50 kg (110 lb)
(9336-25 Disk Unit)	483 mm (19 in)	692 mm (27.3 in)	222 mm (8.8 in)	38 kg (83.7 lb)
9337 Disk Unit	483 mm (19 in)	715 mm (28 in)	222 mm (8.8 in)	48 kg (105 lb)
9337 Disk Unit Stand-Alone FC.2400, FC.2410	345 mm (13.5 in)	800 mm (31.5 in)	610 mm (24.0 in)	—
(9346-001 Tape Unit)	483 mm (19 in)	560 mm (22 in)	129 mm (5 in)	25 kg (55 lb)
(9347 Tape Unit)	483 mm (19 in)	559 mm (22 in)	222 mm (8.8 in)	42 kg (92 lb)
9348-001, 011 Tape Unit	483 mm (19 in)	679 mm (26.7 in)	250 mm (9.9 in)	55 kg (121 lb)
9348-002, 012 Tape Unit	483 mm (19 in)	673 mm (26.5 in)	222 mm (8.8 in)	55 kg (121 lb)
9427-210 Tape System	323 mm (12.7 in)	723 mm (29 in)	637 mm (25.1 in)	42 kg (92.5 lb)
9427-211 Tape Unit	223 mm (8.8 in)	640 mm (25.2 in)	615 mm (24.2 in)	29.5 kg (65 lb)

Size and Weight: System Towers and Units

Equipment appearing in parenthesis are no longer offered for sale by IBM. Specifications for equipment not listed should be checked in equipment documentation (manuals).

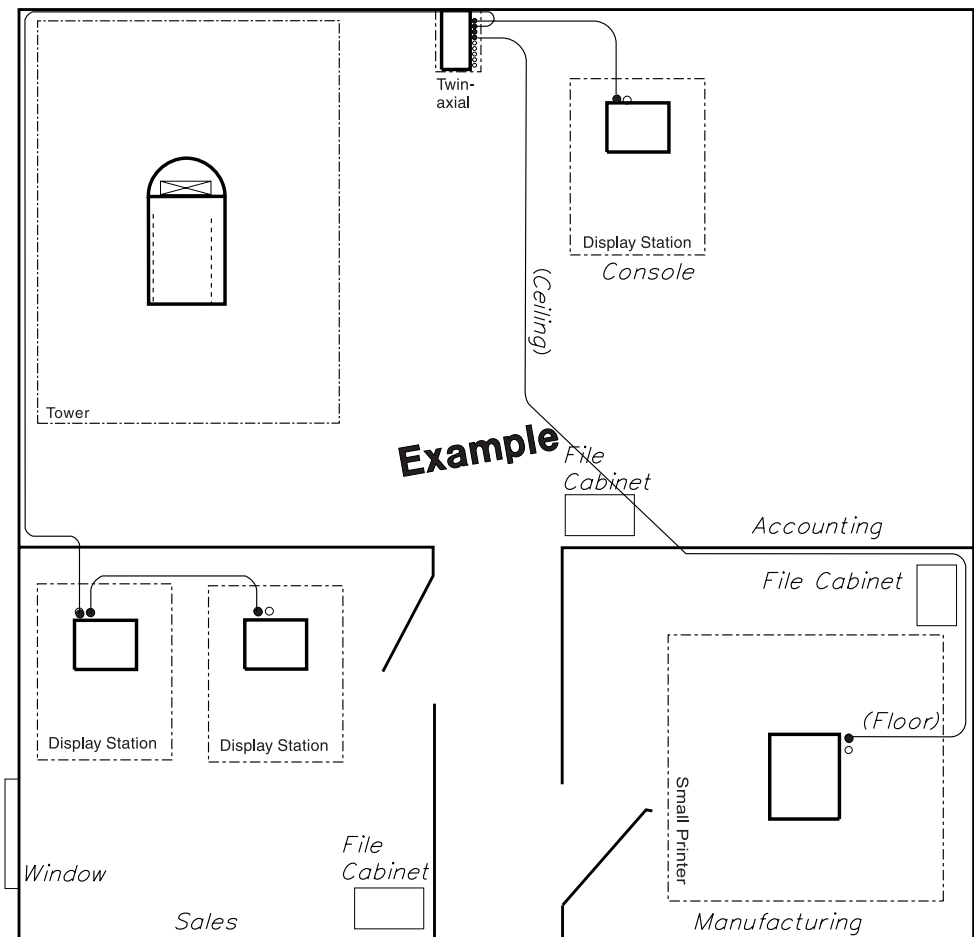
Device	Width	Depth	Height	Weight
(940X-P0x, 10S [including pedestal])	165 mm (6.5 in)	400 mm (15.7 in)	320 mm (12.6 in)	10 kg (22 lb)
940X-15X [including pedestal and back cover]	193 mm (7.6 in)	465 mm (18.3 in)	520 mm 20.5 in)	21 kg (46 lb)
940X-17X without 7101	340 mm (13.4 in)	662 mm (26.1 in)	610 mm 24.0 in)	38.6 kg (85 lb)
940X-17X with 7101	550 mm (21.7 in)	662 mm (26.1 in)	610 mm 24.0 in)	70.5 kg (155 lb)
(9402- Cxx-Fxx System Unit)	345 mm (13.6 in)	750 mm (29.5 in)	610 mm (24 in)	62 kg (137 lb)
(9402-E06, F06 System Unit and Expansion Unit)	790 mm (31.2 in)	750 mm (29.5 in)	610 mm (24 in)	124 kg (274 lb)
(9404 Bxx-Fxx System Unit)	350 mm (13.8 in)	750 mm (29.5 in)	650 mm (25.6 in)	91 kg (200 lb)
(9404 Bxx-Cxx System Unit and Expansion Unit)	800 mm (31.5 in)	750 mm (29.5 in)	650 mm (25.6 in)	182 kg (400 lb)
(9404 Dxx-Fxx Expansion Unit and Disk Attachment 7203)	800 mm (31.5 in)	750 mm (29.5 in)	820 mm (32.3 in)	111 kg (244 lb)
(9404-135, 140 System Unit)	350 mm (13.8 in)	750 mm (29.5 in)	650 mm (25.6 in)	91 kg (200 lb)
9402/9404-2xx, 4xx System Unit 9242, 5135, 9135 [including pedestal]	305 mm (12.2 in)	723 mm (28.5 in)	500 mm (19.7 in)	33 kg (74 lb)
9402/9404-2xx, 4xx System Unit Expansion Unit 7117, 9117 [including pedestal]	422 mm (16.9 in)	806 mm (31.7 in)	500 mm (19.7 in)	54.4 kg (120 lb)
9406/9404-30S, 300, 310 System Tower	485 mm (19.1 in)	925 mm (36.4 in)	750 mm (29.5 in)	114 kg (251 lb)
9406/9404-3xx Expansion Tower 5060, 5061, 5062, 5063	485 mm (19.1 in)	925 mm (36.4 in)	750 mm (29.5 in)	114 kg (251 lb)
9406/9404-30S, 300, 310, 320 System Tower with Disk Expansion #9250, #5051, #5052	485 mm (19.1 in)	925 mm (36.4 in)	950 mm (37.4 in)	136 kg (300 lb)
9406/9404-30S, 300, 310, 320 Expansion Tower 5061, 5062, 5063 with Disk Expansion #5052	485 mm (19.1 in)	925 mm (36.4 in)	950 mm (37.4 in)	136 kg (300 lb)
9406/9404-500, 510, 50S System Tower	485 mm (19.1 in)	925 mm (36.4 in)	750 mm (29.5 in)	114 kg (251 lb)

Device	Width	Depth	Height	Weight
9406-530, 53S System Tower Processor and I/O Sides	1092 mm (43.0 in)	925 mm (36.4 in)	950 mm (37.4 in)	397 kg (876 lb)
9406/9404-500, 510, 50S Expansion Tower 5070, 5080	485 mm (19.1 in)	925 mm (36.4 in)	750 mm (29.5 in)	114 kg (251 lb)
9406/9404-53S, 530 Expansion Tower, Storage Expansion 5070, 5072, 5080, 5082	485 mm (19.1 in)	925 mm (36.4 in)	750 mm (29.5 in)	114 kg (251 lb)
9406/9404-5xx System Expansion Tower 5070, 5072, 5080, 5082 with Storage Expansion #5052	485 mm (19.1 in)	925 mm (36.4 in)	950 mm (37.4 in)	136 kg (300 lb)
Models 600, S10 System Unit	330 mm (13.0 in)	934 mm (36.8 in)	610 mm (24.0 in)	69 kg (152 lb)
Model S20 System Unit w/o #5064	703.5 mm (27.7 in)	934 mm (36.8 in)	1040 mm (41 in)	198 kg (434 lb)
Models 620, S20 System Unit w/#5064	625 mm (24.6 in)	1059 mm (41.7 in)	1040 mm (41 in)	306 kg (673 lb)
Models 640, S30 System Unit with 8-Disk Expansion #5055	565 mm (22.3 in)	1320 mm (52 in)	1577 mm (62 in)	1936 kg (880 lb)
Models 650, S40, SB1 System Unit	565 mm (22.3 in)	1320 mm (52 in)	1577 mm (62 in)	1793 kg (815 lb)
Models 6xx, Sx0, SB1 System Expansion Tower with Disk Expansion #5070, #5072	485 mm (19.1 in)	925 mm (36.4 in)	950 mm (37.4 in)	156 kg (342 lb)
Models 6xx, Sx0, SB1 System Expansion Tower 5071, 5073 with Disk Expansion #5058	485 mm (19.1 in)	925 mm (36.4 in)	950 mm (37.4 in)	156 kg (342 lb)
Model 650 System Tower with 16-Disk Expansion #5056, #5057	565 mm (22.3 in)	1320 mm (52 in)	1577 mm (62 in)	371 kg (815 lb)
Models 6xx, Sx0, SB1 Storage Expansion Tower 5080, 5082 with Disk Expansion #5052	485 mm (19.1 in)	925 mm (36.4 in)	750 mm (29.5 in)	114 kg (251 lb)

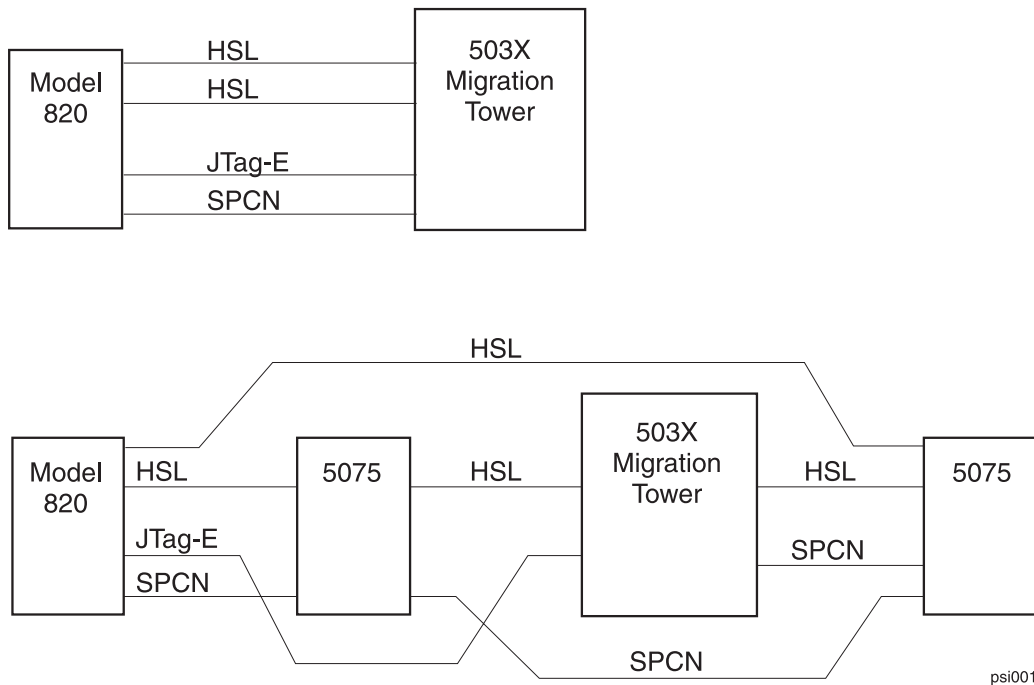
Device	Width	Depth	Height	Weight
Models 6xx, Sx0, SB1 Storage Expansion Tower 5081, 5083 with Disk Expansion #5058	485 mm (19.1 in)	925 mm (36.4 in)	950 mm (37.4 in)	114 kg (251 lb)
Models 640, S30 System Tower with 8-Disk Expansion #5055	565 mm (22.3 in)	1320 mm (52 in)	1577 mm (62 in)	400 kg (880 lb)

Sample site plan

Click on diagram to see a larger image.



HSL loop configuration



Plan for computer room floor plan

This page describes the steps necessary to create a detailed site plan for your server with links to detailed information and valuable forms that organize the plan.

Before you begin your planning tasks, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Know the physical size of your server and of all the compatible hardware and peripherals that will make up your system.
<input type="checkbox"/> Visually determine the placement of your server and devices.
<input type="checkbox"/> Have your server order information and any existing equipment specifications nearby for reference.
<input type="checkbox"/> Have available any information forms that you have completed from previous planning tasks.

Mapping out your site

A detailed site plan is the most valuable physical planning tool. Refer to the checklist at the bottom of this page for the required elements of your room layout planning.

Tip: You do not have to be a master architect or artist to draw a good site plan. Use graph paper or engineering paper for correct proportions and straight lines. Use a scale of 1 mm = 5 cm (1/4 inch = 1 foot).

1. Draw the area where your equipment will be installed.

Be accurate and draw to scale so you can determine cable lengths and paths. Draw the floor plan as if you were looking down from above. Make sure your drawing includes:

- All entrances, exits, windows, and columns or pillars
- Heating and air conditioning equipment and controls
- File cabinets, furniture, and other office equipment

- Power outlets and the type of outlet
 - Telephone connections
 - System cable layout (especially the high-speed link cables)
2. **Draw your equipment.**
Write *console* on the device that will be the system's console. When you arrange your equipment, consider the following:
 - Flow of work and personnel
 - Service clearances for each unit listed in the system specifications and compatible hardware specifications for all your equipment
 - Console and modem location
 - Additional equipment
 - Unit-to-unit cable lengths (high-speed link cables are 3, 6, or 15 meters with working lengths of 1, 4, or 13 meters)
 3. **Draw the location of power outlets.**
Mark down the plug type. Include all new power outlets that are required.
 4. **Draw all workstation cables with the following in mind:**
 - Make sure your cables avoid obstructions.
 - Calculate and record the additional lengths of cables (if they run vertically or need extra slack).
 - Plan to attach workstation cables to the end of a 6-meter (20-foot) attachment cable (IBM-supplied).
 - Do not create a safety hazard. Do not route cables where they can harm personnel and equipment. For instance, make sure people cannot trip over cables.
 - Do not expose a cable to damage. Do not route cables near a heat source or where they can be pinched (such as under a door).
 - Avoid sources of electrical interference. Do not route cables near electric motors or transformers.
 - Be careful not to exceed the bend radius of the cable. This is especially true for the high-speed link cables.
 - Do not lay cables over sharp edges. The weight of the cable along with vibrations will eventually wear through the cable.
 5. **Write down workstation cable lengths on the Workstation Information Form 3B.**
 6. **Draw all other device cables.**
 7. **Draw the location of your network connections, such as wide-area network (WAN) or local-area network (LAN) connections, and label their type.**
 8. **Draw all WAN or LAN cables on the drawing.**
 9. **Write down the needed network cables.** Use WAN Information Form 3D, LAN Information Form 3E, or both.

When you are finished	
<input type="checkbox"/>	Determine a completed site plan for your server and devices.
<input type="checkbox"/>	Discover spatial problems and opportunities within your site.
<input type="checkbox"/>	Experiment with various equipment arrangements.
<input type="checkbox"/>	Determine where new power outlets and telephone jacks are needed.

Packaging dimensions

This table lists the dimensions of the shipping container for your model.

Model	Width	Depth	Height
150	635 mm (25 in)	932 mm (36.69 in)	786 mm (30.94 in)
170 or 250 without 7101 or 7102	650 mm (25.59 in)	1150 mm (45.27 in)	830 mm (32.67 in)
170 or 250 with 7101 or 7102	630 mm (24.8 in)	800 mm (31.5 in)	1047 mm (43.1 in)
170 or 250 (shipped to China with or without 7101)	665 mm (26.2 in)	899 mm (35.4 in)	1202 mm (47.3 in)
270	590 mm (23.22 in)	985 mm (38.77 in)	>885 mm (34.84 in)
2xx, 4xx	457 mm (18 in)	857 mm (33.75 in)	787 mm (31 in)
2xx, 4xx (with expansion)	572 mm (22.5 in)	857 mm (33.75 in)	775 mm (30.5 in)
3xx, 5xx	711 mm (28 in)	1105 mm (43.5 in)	991 mm (39 in)
3xx, 5xx (with disk expansion)	711 mm (28 in)	1105 mm (43.5 in)	1181 mm (46.5 in)
53x	1257 mm (49.5 in)	1300 mm (51.2 in)	1473 mm (58 in)
600, S10	540 mm (21.3 in)	1107 mm (43.6 in)	919 mm (36.2 in)
S20 without 5064	727 mm (28.6 in)	992 mm (39.1 in)	1193 mm (47 in)
620, 720, and S20 with 5064	727 mm (28.6 in)	992 mm (39.1 in)	1485 mm (58.5 in)
640, 730, and S30	788 mm (31 in)	1500 mm (59 in)	1778 mm (70 in)
650, 740, and S40, SB1	788 mm (31 in)	1500 mm (59 in)	1778 mm (70 in)
9251 for 650, 740, and S40	711 mm (28 in)	1105 mm (43.5 in)	1181 mm (46.5 in)
9251 for SB1	711 mm (28 in)	1105 mm (43.5 in)	991 mm (39 in)
820	850 mm (33.46 in)	1050 mm (41.33 in)	780 mm (30.70 in)
830	692 mm (27.25 in)	1099 mm (43.25 in)	1276 mm (50.25 in)
SB2	787 mm (31 in)	1499 mm (59 in)	1784 mm (70.25 in)
840 and SB3	565 mm (22.3 in)	1320 mm (52.0 in)	1577 mm (62.0 in)
FC 9079 for 840 and SB3	485 mm (19.1 in)	1075 mm (42.3 in)	910 mm (35.8 in)
800 or 810	650 mm (25.59 in)	830 mm (32.67 in)	1150 mm (45.27 in)
825	610 mm (24.0 in)	1016 mm (40.0 in)	1016 mm (40.0 in)
870 and 890	937 mm (36.87 in)	1334 mm (52.51 in)	2304 mm (90.70 in)
FC 9094 for 870, 890 and SB3	485 mm (19.1 in)	1075 mm (42.3 in)	910 mm (35.8 in)

Location considerations

As you prepare your site for your new server, think about where the system will be located. The location can profoundly impact system operation and performance. Start looking for a good site early. If the site needs improvements, you will be able to finish them before your server arrives.

Topics	
<ul style="list-style-type: none"> • Computer room floor plan • Physical security • Raised floors • Stacking units 	<ul style="list-style-type: none"> • Size and weight considerations • Service clearances • Sample site plan • Packaging dimensions

Display Station Service Clearances

Devices shown in parentheses are no longer offered for sale by IBM. For models not listed, observe the standard service clearance of 762 mm (30 in) on all sides.

Device	Service Clearances				
	Front	Back	Right	Left	Top
(3101-23 Display Station)	760 mm (30 in)	100 mm (4 in)	100 mm (4 in)	100 mm (4 in)	100 mm (4 in)
(3151 Display Station)	760 mm (30 in)	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
(3161 Display Station)	760 mm (30 in)	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
(3162 Display Station)	760 mm (30 in)	100 mm (4 in)	100 mm (4 in)	100 mm (4 in)	100 mm (4 in)
(3163 Display Station)	760 mm (30 in)	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
(3164 Display Station)	760 mm (30 in)	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
(3179-2 Display Station)	760 mm (30 in)	300 mm (12 in)	150 mm (6 in)	300 mm (12 in)	100 mm (4 in)
(3180-2 Display Station)	Keyboard may be moved	300 mm (12 in)	150 mm (6 in)	300 mm (12 in)	—
(3196-A10, A20, B10, B20 Display Station)	Keyboard may be moved	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
(3197-C, D, W Display Station)	760 mm (30 in)	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
3476 Display Station	760 mm (30 in)	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
(3477 Display Station)	760 mm (30 in)	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
3486 Display Station	760 mm (30 in)	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
3487 Display Station	760 mm (30 in)	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
(3488 Display Station)	760 mm (30 in)	100 mm (4 in)	280 mm (11 in)	280 mm (11 in)	100 mm (4 in)
3489 Display Station	322 mm (12.7 in)	60 mm (2.4 in)	322 mm (12.7 in)	322 mm (12.7 in)	100 mm (4 in)
(5251-11 Display Station)	Keyboard may be moved	460 mm (18 in)	300 mm (12 in)	300 mm (12 in)	100 mm (4 in)
(5251-12 Display Station/Controller)	Keyboard may be moved	460 mm (18 in)	300 mm (12 in)	100 mm (12 in)	300 mm (12 in)
(5291-1 Display Station)	50 mm (2 in)	300 mm (12 in)	150 mm (6 in)	300 mm (12 in)	—
(5291-2 Display Station)	50 mm (2 in)	150 mm (6 in)	300 mm (12 in)	300 mm (12 in)	100 mm (4 in)
(5292-1, 2 Display Station)	Keyboard may be moved	300 mm (12 in)	300 mm (12 in)	300 mm (12 in)	—

Personal Computer Service Clearances

Devices shown in parentheses are no longer offered for sale by IBM. For models not listed, observe the standard service clearance of 762 mm (30 in) on all sides.

Device	Service Clearances				
	Front	Back	Right	Left	Top
(Personal Computers and PS/2 ^(R) -30, 50, 60, 80)	760 mm (30 in)	460 mm (18 in)	300 mm (12 in)	300 mm (12 in)	---
(Personal System/55-5530, G12, G18, S, T)	760 mm (30 in)	460 mm (18 in)	300 mm (12 in)	300 mm (12 in)	---
(Personal System/55-5535 M)	760 mm (30 in)	460 mm (18 in)	300 mm (12 in)	300 mm (12 in)	---
(Personal System/55-5541 M1x, P1x)	760 mm (30 in)	460 mm (18 in)	300 mm (12 in)	300 mm (12 in)	---
(Personal System/55-5551 M1x, P1x, S, T, V)	760 mm (30 in)	460 mm (18 in)	300 mm (12 in)	300 mm (12 in)	---
(Personal System/55-5561 M0x, P0x)	760 mm (30 in)	460 mm (18 in)	300 mm (12 in)	300 mm (12 in)	---
(Personal System/55-5571 T, V)	760 mm (30 in)	460 mm (18 in)	300 mm (12 in)	300 mm (12 in)	---

Printer Service Clearances

Devices shown in parentheses are no longer offered for sale by IBM. For models not listed, observe the standard service clearance of 762 mm (30 in) on all sides.

Device	Service Clearances				
	Front	Back	Right	Left	Top
(2380, 2381, 2390, 2391 Printers)	---	---	77 mm (3 in)	77 mm (3 in)	---
(3116-001, 002, 003 Pageprinter)	152 mm (6 in)	152 mm (6 in)	152 mm (6 in)	152 mm (6 in)	305 mm (12 in)
(3812-1, 2 Pageprinter)	760 mm (30 in)	914 mm (36 in)	760 mm (30 in)	760 mm (30 in)	---
(3816-01S, 01D Printer)	760 mm (30 in)	1473 mm (58 in)	760 mm (30 in)	760 mm (30 in)	758 mm (29.8 in)
(3820 Printer)	914.4 mm (36 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	670 mm (26.5 in)
(3825 Printer)	1140 mm (45 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	570 mm (22.5 in)
(3827 Printer)	1040 mm (41 in)	910 mm (36 in)	910 mm (36 in)	910 mm (36 in)	630 mm (25 in)

Device	Service Clearances				
	Front	Back	Right	Left	Top
3829 Printer	1040 mm (41 in)	910 mm (36 in)	910 mm (36 in)	910 mm (36 in)	630 mm (25 in)
3835 Printer (including controller)	1100 mm (44 in)	1100 mm (44 in)	1450 mm (57 in)	1450 mm (57 in)	687 mm (27.4 in)
3900 Printer	1150 mm (46 in)	1050 mm (42 in)	860 mm (34 in)	860 mm (34 in)	—
(3912, 3916 Printer)	152 mm (6 in)	152 mm (6 in)	152 mm (6 in)	152 mm (6 in)	305 mm (12 in)
(3930 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	600 mm (23.6 in)
(4019 Laser Printer)	—	—	—	—	—
(4028, 4029, 4039 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—
(4037 Printer)	—	51 mm (2 in)	104 mm (4 in)	51 mm (2 in)	305 mm (12 in)
(4072-001 Printer)	51 mm (2 in)	51 mm (2 in)	51 mm (2 in)	51 mm (2 in)	—
(4076-001 Printer)	—	—	63.5 mm (2.5 in)	63.5 mm (2.5 in)	—
(4079 Printer)	—	200 mm (8 in)	—	—	180 mm (7 in)
(4201-2, 3 Proprinter I, II, III)	760mm (30 in)	760mm (30 in)	760mm (30 in)	760mm (30 in)	—
(4202-1, 2 Proprinter I, II, III, XL)	760mm (30 in)	760mm (30 in)	760mm (30 in)	760mm (30 in)	—
(4207-1, 2 Printer X24, X24E)	—	51 mm (2 in)	51 mm (2 in)	51 mm (2 in)	51 mm (2 in)
(4208-1, 2 Printer XL24, XL24E)	—	51 mm (2 in)	51 mm (2 in)	51 mm (2 in)	51 mm (2 in)
(4210-1 Printer)	50 mm (2 in)	150 mm (6 in)	50 mm (2 in)	50 mm (2 in)	50 mm (2 in)
(4214-2 Printer)	50 mm (2 in)	300 mm (12 in)	150 mm (6 in)	300 mm (12 in)	1000 mm (40 in)
(4216-10, 30, 31 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—

Device	Service Clearances				
	Front	Back	Right	Left	Top
(4224-101, 102 1E2, 1E3, 1C2, 301, 302, 3E3 Printer)	460 mm (18 in)	150 mm (6 in) or 682 mm (27 in) with Forms Stand Feature	150 mm (6 in)	150 mm (6 in)	---
(4230-101, 102, 111, 1S2 Printer)	460 mm (18 in)	150 mm (6 in) or 682 mm (27 in) with Forms Stand Feature	150 mm (6 in)	150 mm (6 in)	---
4232 Printer	450 mm (18 in)	450 mm (18 in)	250 mm (10 in)	150 mm (6 in)	400 mm (16 in)
(4234-2, 12, 13 Printer)	500 mm (19.7 in)	540 mm (21 in)	645 mm (25 in)	635 mm (25 in)	---
(4245-T12 T20 Printer)	760 mm (30 in)	970 mm (38 in)	610 mm (24 in)	610 mm (24 in)	---
(5201-2 Quietwriter ^(R))	---	---	---	---	---
(5202 Quietwriter)	---	---	---	---	---
(5204 Quickwriter)	---	---	---	---	---
(5219-D1, D2 Printer)	760 mm (30 in)	150 mm (6 in); 300 mm (12 in) w/ sheet form; 410 mm (16 in) w/ form tractor	300 mm (12 in)	300 mm (12 in)	---
(5223 Wheelprinter E)	---	---	---	---	---
(5224-1, 2 Printer)	180 mm (7 in)	760 mm (30 in)	300 mm (12 in)	300 mm (12 in)	300 mm (12 in)
(5225-1, 2, 3, 4, Printer)	1000 mm (40 in)	1000 mm (40 in)	---	900 mm (35 in)	---
(5227-001 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	1000 mm (39 in)
(5256-1, 2, 3 Printer)	---	760 mm (30 in)	300 mm (12 in)	300 mm (12 in)	300 mm (12 in)
(5317-001 Printer)	500 mm (19.7 in)	500 mm (19.7 in)	200 mm (8 in)	200 mm (8 in)	500 mm (19.7 in)
(5337-001 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	---

Device	Service Clearances				
	Front	Back	Right	Left	Top
(5427-001 Printer)	830 mm (33 in)	700 mm (28 in)	700 mm (28 in)	700 mm (28 in)	1000 mm (40 in)
(5553-B01, B02 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—
(5557-B01 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—
(5563-B02, H02 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—
(5572-B01, B02 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—
(5575-B01, B02, F01, F02 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—
(5577-B01, B02, F01, F02, G01 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—
(5582-P01 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—
(5583-200 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	330 mm (13 in)
(5587-G01 Printer)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—
6252 Printer	760 mm (30 in)	610 mm (24 in)	—	—	—
6262-T22 Printer	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	—

Rack, Controller, and Communication Service Clearances

Devices shown in parentheses are no longer offered for sale by IBM. For models not listed, observe the standard service clearance of 762 mm (30 in) on all sides.

Device	Service Clearances				
	Front	Back	Right	Left	Top
(9309-2 Rack Enclosure w/ all devices)	1650 mm (65 in)	760 mm (30 in)	914 mm (36 in)	914 mm (36 in)	—
(9406 Rack w/ all devices)	1650 mm (65 in)	760 mm (30 in)	914 mm (36 in)	914 mm (36 in)	—
3174 Controller	953 mm (37.5 in)	953 mm (37.5 in)	152 mm (6 in)	152 mm (6 in)	254 mm (10 in)

Device	Service Clearances				
	Front	Back	Right	Left	Top
(5208 Link Protocol Converter)	100 mm (4 in)	600 mm (24 in)	50 mm (2 in)	50 mm (2 in)	13 mm (1 in)
(5209 Link Protocol Converter)	100 mm (4 in)	100 mm (4 in)	100 mm (4 in)	100 mm (4 in)	100 mm (4 in)
(5259 Migration Data Link)	600 mm (24 in)	600 mm (24 in)	100 mm (4 in)	100 mm (4 in)	---
(5294-1, K01, S01 Controller)	150 mm (6 in)	150 mm (6 in)	100 mm (4 in)	100 mm (4 in)	---
(5299-3 Terminal Multiconnector)	---	---	---	---	---
5394-01A, 01B, 02A, 02B Controller	750 mm (30 in)	152 mm (6 in)	76 mm (3 in)	76 mm (3 in)	30 mm (1 in)
5494-EXT Controller	750 mm (30 in)	152 mm (6 in)	76 mm (3 in)	76 mm (3 in)	30 mm (1 in)
(5853 ECS Modem)	---	---	---	---	---
(7855 ECS Modem)	---	---	---	---	---
(8209 LAN Bridge)	600 mm (24 in)	600 mm (24 in)	100 mm (4 in)	100 mm (4 in)	---

Magnetic Media Storage Device Service Clearances

Devices shown in parentheses are no longer offered for sale by IBM. For models not listed, observe the standard service clearance of 762 mm (30 in) on all sides.

Device	Service Clearances				
	Front	Back	Right	Left	Top
(2440 Tape Unit)	1650 mm (65 in)	760 mm (30 in)	914 mm (36 in)	914 mm (36 in)	---
(3422-A01, B01 Magnetic Tape Unit)	1015 mm (40 in)	1015 mm (40 in)	710 mm (28 in)	710 mm (28 in)	---
(3430-A01, B01 Magnetic Tape Unit)	914 mm (36 in)	914 mm (36 in)	---	---	---
(3480-A11, A22 Tape Unit)	915 mm (36 in)	915 mm (36 in)	---	610 mm (24 in)	---
(3480-B11, B22 Tape Unit)	915 mm (36 in)	915 mm (36 in)	610 mm (24 in)	---	---
3490 A10, A20 Tape Unit	815 mm (32 in)	1000 mm (40 in)	---	---	---
3490 B02, B20 Tape Unit	815 mm (32 in)	1000 mm (40 in)	610 mm (24 in)	---	---
3490 C10, C11, C22, E01, E11 Tape Unit	1000 mm (40 in)	1220 mm (48 in)	710 mm (28 in)	710 mm (28 in)	---
3490 D31, D32 Tape Unit	1000 mm (40 in)	815 mm (32 in)	---	---	---
3494 L10 Tape Library	1016 mm (40 in)	1016 mm (40 in)	762 mm (30 in)	762 mm (30 in)	---

Device	Service Clearances				
	Front	Back	Right	Left	Top
3570 Tape Subsystem	1016 mm (40 in)	1016 mm (40 in)	762 mm (30 in)	762 mm (30 in)	---
3575 Tape Library	1016 mm (40 in)	1016 mm (40 in)	762 mm (30 in)	762 mm (30 in)	---
7208-342 Tape Drive	250 mm (9.8 in)	250 mm (9.8 in)	275 mm (10.8 in)	275 mm (10.8 in)	---
3995-C40, C42 Optical Disk	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	---
7208-012, 232, 234 Tape Drive	600 mm (24 in)	600 mm (24 in)	100 mm (4 in)	100 mm (4 in)	---
9348-002 Tape Drive	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)	760 mm (30 in)

System Unit and Tower Service Clearances

Device	Service Clearances				
	Front	Back	Right	Left	Top
940X-14X System Unit	762 mm (30 in)	75 mm (3 in)	762 mm (30 in)	762 mm (30 in)	---
All other system units and towers	762 mm (30 in)	762 mm (30 in)	762 mm (30 in)	762 mm (30 in)	---

Choose a site

This page introduces the considerations for you to keep in mind when choosing a site for your server and devices, and it links to complementary information.

Before you begin your planning tasks, be sure you have completed the items in the following checklist:

Before you begin
<input type="checkbox"/> Know the physical size of your server and all the compatible hardware and peripherals that will make up your system.
<input type="checkbox"/> Determine where your computer site will be.
<input type="checkbox"/> Determine if our site needs improvements and have them completed before your server arrives.

Site considerations

Use the following resources to build a complete site plan. Refer to the checklist at the bottom of this page for the required elements of your site plan.

Where you place your server can affect its operation and performance. Start looking for a good site early.

- **The size of your server**
This page includes points to consider regarding your server's size, weight, and service clearances.
- **Physical security for your server**
This page includes information on how to make sure your site is secure and tips for additional security options.

- **The environmental factors of your site**

Go here for complete information for how your environment can affect your server and how to optimize its performance.

When you are finished	
<input type="checkbox"/>	Record all required information to plan the site for your server's arrival.
<input type="checkbox"/>	Know how to adjust your environment for optimum server performance.
<input type="checkbox"/>	Develop a plan to keep your server physically secure.

Size and Weight tables

The size and weight specifications for equipment can be found in the system requirements.

Consider your strategy for physical security

Security for multi-user systems is an important concern. Because it is complicated to apply security to an existing system, it is recommended that you plan security at the same time that you set up your new server.

Keep physical security in mind when you choose the location for your server. Many overall security problems can be avoided by well-planned physical security. Follow these general security tips for your own site planning.

Tips for choosing a secure site:

- **Provide a locked room or a room with controlled access for your system.** Keep the general (and curious) public away from temptation. If a locked room is not an option, place your server in an area where it can easily be observed (and guarded) by responsible people.
- **Consider anti-theft precautions.** Keep in mind that the system's small size and ease of maintenance can be a security risk. Many models can be lifted by one person, and small, valuable components of the system can be easily removed.
- **Consider the placement of workstations, printers, and other devices.** For instance, send confidential materials to a printer with limited or monitored access. Shield workstations from public access.
- **Avoid placing your system and devices in highly *private* places.** Unobserved, an unauthorized user can spend hours trying to breach your security. Keep your system and devices (especially workstations) where they can be monitored.



Other physical security tips:

- **Store magnetic media in a safe place.** Consider purchasing a locked, fireproof cabinet to protect tapes and diskettes.
- **Keep a backup copy of your server at another location.**
Store a backup server copy offsite to help your company recover from disaster. Once a week, take a copy of your backup media to this location. However, remember that anyone who obtains access to your backup copy can access your sensitive materials. Keep your backup media locked.
- **Lock the control panel of your server unit with a key.** Prevent unauthorized users and well-meaning but ill-informed users from tampering with your system.
Note: You must specially order keylock switches for some servers.
- **Limit the number of keys.** Optimally, make as few copies of keys as possible. Instead of issuing keys to everyone who needs access, implement a key check-out policy (whereby users must sign for a key at one monitored source).

- **Divide system responsibilities.** Set up a human system of checks and balances, ensuring that no one person exclusively controls your system.
- **Periodically review physical security.** Check physical security often, especially when adding to your system (new printers, workstations, and so forth). New technologies (such as Internet access) can breach security if their implementation does not include security enhancements. Educate yourself on security options for your system, especially as it evolves.

Related information

The following sources provide additional information about planning for security. (You can also find these references on the Information Center CD-ROM.)

- *Basic system security and planning*
- *Tips and Tools for Securing Your iSeries* 
- *iSeries Security Reference* 

Considering the size of your server

Consider these items as you choose a room for your server:

1. **Plan for the size and weight of your server.** Check the physical dimensions of your server and its peripheral equipment. Make sure your location is large enough and that the floor will support the weight of the system. Physical dimensions for servers, systems, towers, and racks are also available.
2. **Plan for the delivery of your server.** Servers and associated equipment are shipped in oversized packages. Check the packaging dimensions for your server. Make sure that your packaged server will fit into your chosen space. Walk the route your server will take from the delivery entrance. Measure across halls, doorways, and elevators. Make sure that your server will have room to turn corners and go around objects in its delivery path.
3. **Plan for the open space your connected server will need.** IBM service guidelines require you to leave a service clearance (usually 762 mm or 30 inches) around units. Make sure that your server and devices are the required distance away from walls and other objects. Service clearances allow IBM service representatives to access your equipment for maintenance. The open space you leave around your equipment for service provides for proper air flow and cooling. Check the specification sheets to get the service clearance for all of your equipment. Keep these requirements in mind when you plan for the location of your equipment.

Chapter 18. Communication Controller, Hub, Router, and Modem Specifications

Click on the appropriate device to view its specifications.

- 2210 N-ways Multiprotocol Router
- 2480 Wireless Access Point
- 3174 Controller
- 3835 Controller
- 5208 Link Protocol Converter
- 5209 Link Protocol Converter
- 5259 Migration Data Link
- 5294 Controller
- 5299 3 Terminal Multiconnector
- 5308 ASCII Wireless Connection
- 5394 Controller
- 5494-EXT Controller
- 5853 ECS Modem
- 6299 Mid-Range System Hub
- 6611 N-way Multiprotocol Router
- 7299-2EX, 2FX Express Hub
- 7855 ECS Modem
- 7857 ECS Modem
- 7857-017 Modem (Electronic Customer Support)
- 8209 LAN Bridge
- 8229 Bridge
- 9335 Device Function Controller

Display Station Specifications

Click on the appropriate series to view model specifications.

- 3101 Display Station
- 3153-Bx3, Cx3 InfoWindow^(R) II ASCII Displays
- 3161 Display Station
- 3162 Display Station
- 3163 Display Station
- 3164 Display Station
- 3179 Display Station
- 3180 Display Station
- 3196 Display Station
- 3197 Display Station
- 3476-EA, EG Display Stations
- 3477 Display Station
- 3482 Display Station
- 3483 Modular Display Station
- 3486 Display Station

- 3487 Display Station
- 3488 Display Station Logic Unit
- 3489 InfoWindow II Modular Display Station
- 5251 Display Station
- 5251 Display Station Controller
- 5291 Display Station
- 5292 Display Station
- 5295-001 Display Station
- 5295-002 Display Station
- 5295-LK1 Display Station

Expansion Tower and Unit Specifications

Click on the appropriate model to view its specifications.

- 5070 System Unit Expansion Tower
- 5071 System Unit Expansion Tower
- 5072 System Unit Expansion Tower
- 5073 System Unit Expansion Tower
- 5080 Storage Expansion Tower
- 5081 Storage Expansion Tower
- 5082 Storage Expansion Tower
- 5083 Storage Expansion Tower
- 7117/9117 Expansion Unit (with 2xx/4xx System Unit)

Printer Specifications

Click on the appropriate printer to view its specifications.

- 2380-001, 002 Printer
- 2381-001, 002 Printer
- 2390-001, 002 Printer
- 2391-001, 002 Printer
- 3130 Printer
- 3160 Printer
- 3170 Printer
- 3816-01S, 01D Printer
- 3820 Printer
- 3828 Printer
- 3829 Printer
- 3835 Printer
- 3900 Printer
- 3912-AS0, AS1 Printer
- 3916-AS0, AS1 Printer
- 3930-D Printer
- 3930-S Printer
- 3935-001 Printer
- 4019 Printer

- 4028 Printer
- 4029 Printer
- 4037-5E Printer
- 4039-10D Printer
- 4039-10R Printer
- 4039-12L Printer
- 4039-12R Printer
- 4039-16L Printer
- 4070-001 Printer
- 4070-002 Printer
- 4072-001 Printer
- 4076-001 Printer
- 4079-1 Printer
- 4201-2, 3 Printer
- 4202-1, 2, 3 Printer
- 4207-1, 2 Printer
- 4208-1, 2 Printer
- 4210-1 Printer
- 4214-2 Printer
- 4216-10, 30, 31 Printer
- 4220-101, 102, 1E2, 1C2, 301, 302, 1A3, 3A3, 1X1, 1X2 Printer
- 4224-1E3, 3E3 Printer
- 4226-302 Printer
- 4230-101, 102, 1E2, 1C2, 301, 302 Printer
- 4230-4I3, 4S3 Printer
- 4232 Printer
- 4234-2, 12, 13 Printer
- 4245-T12, T20 Printer
- 4247 Serial Matrix Printer
- 4312 Network Printer 12
- 4317 Network Printer 17
- 4324-001, 003 Network Printer 24
- 4324-002, 004 Network Printer 24
- 5201-2 Printer
- 5202 Printer
- 5204 Printer
- 5216-2 Printer
- 5219-D01, D02 Printer
- 5223 Printer
- 5224-1, 2 Printer
- 5225-1, 2, 3, 4 Printer
- 5227-001, 002, 003, 005 Printer
- 5256 Printer
- 5262-1 Printer
- 5317-001 Printer

- 5327-001 Printer
- 5337-001 Printer
- 5417-001, 002, 003, 005 Printer
- 5427-001, 002, 003, 005 Printer
- 5553-B01, B02 Printer
- 5557-B01 Printer
- 5563-B02, H02 Printer
- 5572-B01 Printer
- 5572-B02 Printer
- 5575-B01, B02, F01, F02 Printer
- 5577-B01, B02, F01, F02, G01 Printer
- 5582-P01 Printer
- 5583-200 Printer
- 5587-G01 Printer
- 6252 Printer
- 6262-T22 Printer
- 6262-T12, T14 Printers
- 6400 Printer
- 6412 Printer

Hardware requirements

In order to make sure your site is the best environment for your equipment, familiarize yourself with the requirements of your hardware.

Tip: Print the specification tables for all your equipment. You will need this information several times during the planning process.

- Server Units, System Units and Towers
- Expansion Towers and Units
- Magnetic Media Storage Devices
- Display Stations
- Communications
- Printers

Note: To view specifications for older systems and devices, check **Quick Reference**. (In particular, see Power and Site specs.)

Hardware specification sheets

Select the appropriate category for a list of available hardware specification sheets.

Tip: Print the specification tables for all of your equipment. You will need this information several times during the planning process.

- Expansion units, migration towers, advanced servers, and racks
- Removable media storage devices
- Display stations
- Printers
- Communication controllers, hubs, routers, and modems

Server specifications

Click the appropriate models to view their specifications.

- Models 170 and 250
- Model 270
- Models 600 and S10
- Models 620, S20, and 720
- Models 640, S30, and 730
- Models 650, S40, 740 and SB1
 - 9251 I/O expansion unit (for 650, S40, 740 and SB1)

- **Model 800 and 810**

- **Model 820**

- **Model 825**

- **Models 830 and SB2**

- Feature code 0550, (Model 830 rack)

- **Models 840 and SB3**

- 9079 I/O expansion unit (for 840 and SB3)

- 9079 I/O expansion unit with 5078

- **Models 870 and 890**

- 9094 I/O expansion unit (for 870 and 890)
 - 9094 I/O expansion unit with 5088

- **Feature code 0551, iSeries rack only**

- **Feature code 8079, optional 1.8m I/O rack (feature code 9079 I/O unit and feature code 5074 Storage/PCI expansion unit)**

- **Feature code 8093, optional 1.8m I/O rack (feature code 9094 I/O unit and feature code 5074 Storage/PCI expansion unit)**

Removable media storage device specifications

Click on the appropriate unit to view its specifications.

Tape units and drives

- 2440-A12 Tape Drive
- 3422-A01 Tape Unit
- 3422-B01 Tape Unit
- 3430-A01 Tape Unit
- 3430-B01 Tape Unit
- 3450-001 Magnetic Tape Drive
- 3480-A11, A22 Tape Unit

- 3480-B11, B22 Tape Unit
- 3490-A01 Tape Unit
- 3490-A02 Tape Unit
- 3490-A10, B20 Tape Unit
- 3490-A20 Tape Unit
- 3490-B02 Tape Unit
- 3490-B04 Tape Unit
- 3490-B40 Tape Unit
- 3490-C10 Tape Unit
- 3490-C11 Tape Unit
- 3490-C1A Tape Unit
- 3490-C22 Tape Unit
- 3490-C2A Tape Unit
- 3490-D31 Tape Unit
- 3490-D32 Tape Unit
- 3490-D41, D42 Tape Unit
- 3490-E01 Tape Unit
- 3490-E11 Tape Unit
- 3490E-F00 Tabletop Tape Unit
- 3490E-F01 Tabletop Tape Unit
- 3490E-F11 Tabletop Tape Unit
- 3494-L10 Tape Library
- 3494-L12 Tape Library
- 3494-L14 Tape Library
- 3494 (FC 5300) Tape Library
- 3494 (FC 5400) Tape Library
- 3570-B00, B1A Tape Subsystem
- 3570-B01 Tape Subsystem
- 3570-B02 Tape Subsystem
- 3570-B11 Tape Subsystem
- 3570-B12 Tape Subsystem
- 3570-C00 Tape Subsystem
- 3570-C01 Tape Subsystem
- 3570-C02 Tape Subsystem
- 3570-C11 Tape Subsystem
- 3570-C12 Tape Subsystem
- 3575-L06 Tape Subsystem
- 3575-L12 Tape Subsystem
- 3575-L18 Tape Subsystem
- 3575-L24 Tape Subsystem
- 3575-L32 Tape Subsystem
- 3580 Tape Unit
- 3584-D32 Ultrascalable Tape Library
- 3590-A50 Tape Controller
- 3590-B1A Tape Unit

- 3590-B11 Tape Unit
- 5032 Tape Unit
- 7208-012 Tape Drive
- 7208-222 Tape Drive
- 7208-232, 234 Tape Drive
- 9346-001 Tape Drive
- 9347 Tape Drive
- 9348-001 Tape Drive
- 9348-002 Tape Drive
- 9427-210 Tape System
- 9427-211 Tape System

Disk Units

- 9332 Disk Unit
- 9335 Device Function Controller
- 9335-B01 Disk Unit
- 9336-10, 20 Disk Unit
- 9336-25 Disk Unit
- 9337 Disk Unit
- 9337 Disk Unit Stand-Alone FC.2400, FC.2410

Optical Drives

- 3995-C40, C42, C46 Optical Disk Drive
- 3995-C44 Optical Disk Drive
- 3995-C48 Optical Disk Drive

Diskettes Drives

- 9331-001 Diskette Drive
- 9331-011 Diskette Drive
- 9331-012 Diskette Drive

Specifications for expansion units, migration towers, advanced servers, and racks

Select a model to view its specifications.

Expansion units

- 5052 expansion unit
- 5055 expansion unit
- 5057 expansion unit
- 5058 expansion unit
- 5064 expansion unit
- 5065 expansion unit (for 820, 830, and 840)
- 5070 expansion unit
- 5071 expansion unit (Ultra SCSI)
- 5072 expansion unit
- 5073 expansion unit (Ultra SCSI)

- 5074 expansion unit
- 5074 expansion unit with 5078 (for 820, 830, 840, 870, 890, SB2, and SB3)
- 5075 expansion unit (for 270 and 820)
- 5078 expansion unit
- 5080 expansion unit
- 5081 expansion unit (Ultra SCSI)
- 5082 expansion unit
- 5083 expansion unit (Ultra SCSI)
- 5088 PCI-X expansion unit
- 5094 PCI-X expansion unit
- 5094 PCI-X expansion unit with 5088
- 5095 PCI-X expansion unit
- 7101 and 7102 expansion units (for 170 and 250)
- 7104 expansion unit (for 270)
- 7116 expansion unit (Model 800 or 810 only)
- 7316 expansion unit (Model 825 only)
- 8079 optional 1.8 m I/O rack (9079 I/O unit and 5074 expansion unit)
- 8093 optional 1.8 m I/O rack (9094 I/O unit and 5074 expansion unit)
- 9316 expansion unit (Model 825 only)
- 9364 expansion unit

Migration towers

- 5033 migration tower I (for 820 and 830)
- 5034 and 5035 migration towers I (for 820 and 830)
- 5077 migration tower II (for 830, 840, SB2, and SB3)

Advanced servers

- Model 500
- Models 510 and 50S
- Models (processor and I/O sides) 530 and 53S

Racks

- 0550 iSeries rack
- 0551 iSeries rack
- 5066 1.8 m expansion rack (for 820, 830, and 840 via 503x/5077 migration towers)
- 5079 1.8 m expansion rack (for 820, 830, 840, SB2, and SB3)
- 5294 1.8 m expansion rack (for 825, 820, 830, 840, 870, 890, SB2, or SB3)
- 9309 rack enclosure
- 9406 5040 bus extension rack
- 9406 5042 system expansion rack
- 9406 5044 system expansion rack
- 9406 B30, B35, B40, B45 processor rack
- 9406 B50, B60, B70 processor rack
- 9406 D35, D45, D50, D60, D70, D80 processor rack
- 9406 E35, E45, E50, E60, E70, E80, E90, E95 processor rack
- 9406 F35, F45, F50, F60, F70, F80, F90, F95 processor rack

- 9406 F97 processor rack



Printed in U.S.A.