InfoPrint 62

# Introduction and Planning Guide

G544-5384-00

InfoPrint 62

# Introduction and Planning Guide

G544-5384-00

**Note!**

Before using this information and the product it supports, be sure to read the general information under “Notices” on page xiii .

**First Edition (August 1997)**

The following paragraph does not apply to any other country where such provisions are inconsistent with local law.

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

Changes are made periodically to this publication.

Requests for IBM publications should be made to your IBM representative or to the IBM branch office serving your locality. If you request publications from the address given below, your order will be delayed, because publications are not stocked there.

A Reader’s Comment Form is provided at the back of this publication. If the form has been removed, comments can be sent by fax to 1-800-524-1519, by E-mail to print_pubs@vnet.ibm.com, or by mail to:

Department H7FE Building 003G

IBM Printing Systems Company

Information Development

PO Box 1900

Boulder CO USA 80301-9191

IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

Visit our home page at: http://www.printers.ibm.com

**© Copyright International Business Machines Corporation 1997. All rights reserved.**
Note to U.S. Government Users — Documentation related to restricted rights — Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract with IBM Corp.

# Contents


**Figures** . . . . . v

**Tables** . . . . . vii

**Statement of Limited Warranty** . . . . ix
Production Status . . . . . ix
The IBM Warranty . . . . . ix
Warranty Service . . . . . x
Extent of Warranty . . . . . x
Limitation of Liability . . . . . xi

**Notices** . . . . . xiii
Trademarks . . . . . xiii
Communication Statements . . . . . xiv
Safety Notices . . . . . xv
Electrical Safety . . . . . xv
Fire Safety . . . . . xv
Lightning Safety . . . . . xvi
Environmental Information . . . . . xvi

**Preface** . . . . . xvii
About This Book . . . . . xvii
Terminology . . . . . xvii
Related Publications . . . . . xvii

**Chapter 1. About the InfoPrint 62** . . . 1
Printer Description . . . . . 1
System Components . . . . . 2
Features . . . . . 2
Attachment Features . . . . . 2
Stacker . . . . . 3
Memory . . . . . 5
Printer Characteristics . . . . . 5
Physical Specifications . . . . . 5
Print Speed . . . . . 5
Forms Specifications . . . . . 5
Printable Area . . . . . 6
Reliability, Availability, and Serviceability . . . 6
Data Security . . . . . 7
Operator Responsibilities . . . . . 7

**Chapter 2. Preparing the Processing Environment** . . . . . 9
Application Environment . . . . . 9
Advanced Function Image and Graphics . . . . 9
Software Support . . . . . 10
Fonts . . . . . 11
Advanced Function Presentation Licensed Programs . . . . . 11

**Chapter 3. Preparing the Physical Environment** . . . . . 13
Operating Environment . . . . . 13
Environment Specifications . . . . . 13
Operating Environment . . . . . 14
Power . . . . . 14
Power Source Requirements . . . . . 14
Power Consumption . . . . . 15
Power Dissipation . . . . . 15
Power Cable and Receptacle . . . . . 15
U.S. and Canada . . . . . 15
Japan . . . . . 15
All Other Countries . . . . . 16
Power Conversion Unit . . . . . 16
Physical Layout . . . . . 17
Minimum Space Requirements . . . . . 17
Acoustic Levels . . . . . 18
Attachment Requirements . . . . . 19
Ethernet TCP/IP Local Area Network . . . . 19
Token Ring TCP/IP Local Area Network . . . 19
Installation Requirements . . . . . 20

**Chapter 4. Configuring The System** 21
Configuring Attachments . . . . . 23
TCP/IP System . . . . . 24
Token Ring Attachment Configuration . . . . 24
Ethernet Attachment Configuration . . . . . 25
IPDS Attachment Setup . . . . . 26
Printer Configuration . . . . . 26
IPDS Configuration . . . . . 27
Using the Default Font . . . . . 28
Code Pages . . . . . 29
Defining Forms . . . . . 30

**Chapter 5. Supplies** . . . . . 33
Obtaining Supplies . . . . . 33
Supplies Warranty . . . . . 34
Storing Supplies . . . . . 34

**Chapter 6. Checklists and Worksheets** 35
Installation Planning Worksheet . . . . . 35
Pre-Installation Checklist . . . . . 36
Configuration Worksheet . . . . . 38
Forms Identification Worksheet . . . . . 40

**Chapter 7. The Host System** . . . . . 43
Host Attachment – Overview . . . . . 43
AS/400 Attachment . . . . . 44
Creating the Line Description . . . . . 45
Creating the Interface Description . . . . . 46
Creating the Device Description . . . . . 47
Creating a PSF Configuration Object . . . . 48
PSF/MVS Attachment . . . . . 50
JES Printer Initialization Statement . . . . . 52
PSF/MVS Startup Procedure . . . . . 52
Modifying the TCP/IP Profile in MVS . . . . 53
Testing the Configuration Setup . . . . . 54
PSF/2 Attachment . . . . . 55


© Copyright IBM Corp. 1997

Creating a TCP/IP Attached PSF/2 Printing Device . . . . . 56
Creating a PSF/2 Queue for the Printer . . . 57
PSF for AIX Attachment. . . . . 58
Configuring PSF for AIX . . . . . 58
Testing the Configuration Setup . . . . . 59

**Glossary. . . . . 61**

**Index . . . . . 67**

# Figures


1. InfoPrint 62 with the Power Stacker 1
2. Optimum Operating Environment . . . . 14
3. NEMA 6–50 Receptacle and Plug . . . . . 16
4. Minimum Space Requirements. . . . . 18
5. Attachments Menu . . . . . 22
6. Applications and Utilities Menu . . . . . 23
7. AS/400 Token Ring Line Description 46
8. AS/400 Ethernet Line Description . . . . 46
9. AS/400 Token Ring Line Description 47
10. AS/400 Ethernet Interface Description 47
11. Printer Device Description . . . . . 48
12. PSF TCP/IP Configuration – WRKAFP2 49
13. PSF TCP/IP Configuration – CRTPSFCFG 50
14. Sample JES2 Initialization Statement 52
15. Sample JES3 Initialization Statement 52
16. Sample Startup Procedure . . . . . 53
17. Successful Ping in MVS . . . . . 55
18. Unsuccessful Ping in MVS . . . . . 55


© Copyright IBM Corp. 1997

# Tables


1. Gravity Stacker Specifications . . . . . 4
2. InfoPrint 62 – Dimensions . . . . . 5
3. Print Speed . . . . . 5
4. InfoPrint 62 — Forms Specifications 6
5. Operator Responsibilities . . . . . 7
6. InfoPrint 62 - PSF Support . . . . . 10
7. InfoPrint 62 –Operating Environment Power ON . . . . . 13
8. InfoPrint 62 –Non–Operating Environment Power OFF . . . . . 14
9. Power Source Requirements . . . . . 14
10. Power Consumption . . . . . 15
11. Power Dissipation . . . . . 15
12. Acoustic Output . . . . . 18
13. TCP/IP System Parameters . . . . . 24
14. Token Ring Configuration Parameters 24
15. Ethernet Configuration Parameters . . . . 25
16. IPDS Attachment Setup Configuration Parameters . . . . . 26
17. Printer Configuration Parameters . . . . . 27
18. IPDS Configuration Parameters . . . . . 27
19. Font Parameters . . . . . 28
20. Code Pages . . . . . 29
21. Forms Parameters . . . . . 30
22. Predefined Forms Parameters . . . . . 31
23. Supplies . . . . . 33
24. Installation Planning Worksheet . . . . . 35
25. Pre-Installation Checklist . . . . . 36
26. Configuration Worksheet . . . . . 38
27. Forms Identification Worksheet . . . . . 40
28. Configuration Worksheet Values Used with AS/400 . . . . . 44
29. PSF/MVS Configuration Values . . . . . 44
30. Configuration Worksheet Values Used with PSF/MVS. . . . . 51
31. PSF/MVS Configuration Values . . . . . 51
32. MVS TCP/IP Profile Statements . . . . . 54
33. Configuration Worksheet Values Used with PSF/2 . . . . . 56
34. PSF/2 Configuration Values . . . . . 56
35. PSF/2 TCP/IP Attachment Settings – Parameters . . . . . 57
36. Printer Configuration Worksheet Values Used with PSF for AIX . . . . . 58
37. PSF for AIX Configuration Values . . . . 58


© Copyright IBM Corp. 1997

# Statement of Limited Warranty

*The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you originally purchase for your use, and not for resale, from IBM or an IBM authorized reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. Machines are subject to these terms only if purchased in the United States or Puerto Rico, or Canada, and located in the country of purchase. If you have any questions, contact IBM or your reseller.*

**Machine:** InfoPrint 62

**Warranty Period*:** 90 days

**Elements and accessories are warranted for three months. Contact your place of purchase for warranty service information.*

## Production Status

Each Machine is manufactured from new parts, or new and serviceable used parts (which perform like new parts). In some cases, the Machine may not be new and may have been previously installed. Regardless of the Machine's production status, IBM's warranty terms apply.

## The IBM Warranty

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications. IBM calculates the expiration of the warranty period from the Machine's Date of Installation. The date on your receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period, IBM or your reseller will provide warranty service under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine. IBM or your reseller will specify the type of service.

For a feature, conversion, or upgrade, IBM or your reseller may require that the Machine on which it is installed be 1) the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. Some of these transactions (called "Net-Priced" transactions) may include additional parts and associated replacement parts that are provided on an exchange basis. All removed parts become the property of IBM and must be returned to IBM. Replacement parts assume the remaining warranty of the parts they replace.

If a Machine does not function as warranted during the warranty period, IBM or your reseller will repair or replace it without charge. If IBM or your reseller is unable to do so, you may return it to your place of purchase and your money will be refunded.

© Copyright IBM Corp. 1997

If you transfer a Machine to another user, warranty service is available to that user for the remainder of the warranty period. You should give your proof of purchase and this Statement to that user.

## Warranty Service

To obtain warranty service for the Machine, you should contact your reseller or call IBM. In the United States, call IBM at **1-800-IBM-SERV (426-7378)**. In Canada, call IBM at **1-800-465-6666**. You may be required to present proof of purchase.

Depending on the Machine, the service may be 1) a "Repair" service at your location (called "On-site") or at one of IBM's or a reseller's service locations (called "Carry-in") or 2) an "Exchange" service, either On-site or Carry-in.

When a type of service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. The replacement may not be new, but will be in good working order.

It is your responsibility to:

1. Obtain authorization from the owner (for example, your lessor) to have IBM or your reseller service a Machine that you do not own;
2. Where applicable, before service is provided —
   a. Follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provide,
   b. Secure all programs, data, and funds contained in a Machine,
   c. Inform IBM or your reseller of changes in a Machine's location, and
   d. For a Machine with exchange service, remove all features, parts, options, alterations, and attachments not under warranty service. Also, the Machine must be free of any legal obligations or restrictions that prevent its exchange; and
3. Be responsible for loss of, or damage to, a Machine in transit when you are responsible for the transportation charges.

## Extent of Warranty

IBM does not warrant uninterrupted or error-free operation of a Machine.

Misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible may void the warranties.

THESE WARRANTIES REPLACE ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. HOWEVER, SOME LAWS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES. IF THESE LAWS APPLY, THEN ALL EXPRESS AND IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD.

In Canada, warranties include both warranties and conditions.

Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

## Limitation of Liability

Circumstances may arise where, because of a default on IBM's part (including fundamental breach) or other liability (including negligence and misrepresentation), you are entitled to recover damages from IBM. In each such instance, regardless of the basis on which you are entitled to claim damages, IBM is liable only for:

1. Bodily injury (including death), and damage to real property and tangible personal property; and
2. The amount of any other actual loss or damage, up to the greater of $100,000 or the charge for the Machine that is the subject of the claim.

Under no circumstances is IBM liable for any of the following:

1. Third-party claims against you for losses or damages (other than those under the first item listed above);
2. Loss of, or damage to, your records or data; or
3. Economic consequential damages (including lost profits or savings) or incidental damages, even if IBM is informed of their possibility.

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from jurisdiction to jurisdiction.

# Notices

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any of the intellectual property rights of IBM may be used instead of the IBM product, program, or service. The evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, are the responsibility of the user.

IBM may have patents or pending patent applications covering subject matter in this publication. The furnishing of this publication does not give you any license to these patents. You can send license inquiries, in writing, to the IBM Director of Commercial Relations, IBM Corporation, Purchase, NY 10577, U.S.A.

## Trademarks

The following terms used in this publication are trademarks of the IBM Corporation in the United States or other countries or both:

AFCCU and Advanced Function Common Control Unit
AFP and Advanced Function Presentation
AIX®
AIX/6000
AS400
BCOCA and Bar Code Object Content Architecture
ESCON®
ES/3090
ES/4381
ES/9000
ES/9370
IBM®
InfoPrint
IPDS and Intelligent Printer Data Stream
MVS
System/370
OS/2®
OS/400®
OV or OfficeVision
PSF and Print Services Facility
PS/2®
RISC System/6000®

© Copyright IBM Corp. 1997

## Communication Statements

***Federal Communications Commission (FCC) Statement***

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Canadian Department of Communications compliance statement:** This Class A digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

**Avis de conformité aux normes du ministère des Communications du Canada:** Cet appareil numérique de la classe A respecte toutes les exigences du Réglement sur le matériel brouilleur du Canada.

**The United Kingdom Telecommunications Statement of Compliance:** This apparatus is approved under the approval No. NS/G/1234/J/100003 for the indirect connections to the public telecommunications systems in the United Kingdom.

**Statement for CISPR 22 Edition 2 Compliance:** Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**German Conformity Statement:** Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse A. Für diese Klasse von Geräten gilt folgende Bestimmung nach dem EMVG:

Geräte dürfen an Orten, für die sie nicht ausreichend entstört sind, nur mit besonderer Genehmigung des Bundesminesters für Post und Telekommunikation oder des Bundesamtes für Post und Telekommunikation betrieben werden. Die Genehmigung wird erteilt, wenn keine elektromagnetischen Störungen zu erwarten sind.

(Auszug aus dem EMVG vom 9.Nov.92, Para.3, Abs.4)

**European Community (EC) Conformity Statement:** This product is in conformity with the protection requirements of EC Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

**Shielded Cables (European Statement):** Properly shielded and grounded cables and connectors must be used in order to reduce the potential for causing interference to radio and TV communication and to other electrical or electronic equipment. Such cables and connectors are available from IBM authorized dealers. IBM cannot be responsible for any interference caused by using other than recommended cables and connectors.

**Japanese VCCI:**

この装置は，第一種情報装置（商工業地域において使用されるべき情報装置）で商工業地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）基準に適合しております。
従って，住宅地域またはその隣接した地域で使用すると，ラジオ，テレビジョン受信機等に受信障害を与えることがあります。
取扱説明書に従って正しい取り扱いをして下さい。
VCCI

# Safety Notices

## Electrical Safety

The printers are inspected and listed by recognized national testing laboratories: Underwriters Laboratories (UL) Inc. in the U.S.A., Canadian Standards Association (CSA) in Canada, and TUV Rheinland. Listing of a product by a national testing laboratory indicates that the product is designed and manufactured in accordance with national requirements intended to minimize safety hazards. Remember, however, that this product operates under conditions of high electrical potentials and heat generation, both of which are functionally necessary.

**Note:** In the U.S.A. and Canada, this product is equipped with a required, country-approved plug for the user's safety. Use it in conjunction with a correctly grounded receptacle. In all other countries, the power cable is supplied without a plug. Provide the appropriate plug and compatible receptacle. Understand the electrical standards for your country, and use only an approved plug. Your IBM marketing representative has information on the voltage requirements in your country.

## Fire Safety

Because the forms and toner used in the printer can burn, you should take normal precautions to prevent fire. These precautions include common-sense measures, such as keeping potentially combustible materials (for example, curtains and chemicals) away from the printer, providing adequate ventilation and cooling, limiting unattended operation, and having trained personnel available and assigned to the printer.

## Lightning Safety

To avoid personal risk, do not install or reconfigure a communication port or a teleport during a lightning storm.

## Environmental Information

IBM has established a procedure by which used photoconductor drums can be returned to IBM. Specific instructions and a mailing label appear in the box in which the photoconductor drum is shipped. Third-party servicing companies and customers who are not using IBM service are encouraged to use those procedures. Postage is paid by IBM. Customers using IBM service should have their drums returned by the service representative.

The photoconductor drum may be subject to special disposal requirements in your area. Customers should consult local disposal regulations if they elect not to use the return procedure offered by IBM.

# Preface

This publication introduces and summarizes the InfoPrint 62 printers, including the following models:

- Model 002 (240 DPI)
- Model 003 (300 DPI)

## About This Book

This publication contains the following sections:

- "Chapter 1. About the InfoPrint 62" on page 1 contains an overview of the InfoPrint 62 characteristics and features. Also provided is an overview of the operator tasks associated with the InfoPrint 62.
- "Chapter 2. Preparing the Processing Environment" on page 9 describes requirements associated with your application environment and Advanced Function Presentation licensed programs.
- "Chapter 3. Preparing the Physical Environment" on page 13 covers the environmental, power and space requirements.
- "Chapter 4. Configuring The System" on page 21 describes the configuration options that can be defined.
- "Chapter 5. Supplies" on page 33 explains how to obtain and store supplies.
- "Chapter 6. Checklists and Worksheets" on page 35 provides checklists and worksheets to assist you in the planning stages of printer installation.
- "Chapter 7. The Host System" on page 43 provides information to assist system programmer and network administrator in configuring your host.
- "Glossary" on page 61 defines terms used in the InfoPrint 62 library.

## Terminology

For definitions of terms used in this publication, as well as other publications in the printer library, see the "Glossary" on page 61.

## Related Publications

- *Advanced Function Presentation: Printer Information,*, G544-3290, provides an extensive listing of available publications.
- *Guide to Advanced Function Presentation,*, G544-3876, for more information about Advanced Function Presentation.
- *AS/400 Guide to Advanced Function Presentation & Print Services Facility*, S544-5319, provides an overview of using IBM programs in a printing solution.
- *AS/400 Advanced Series Printer Device Programming Version 3,*, SC41-3713, provides the application programmer and system operator with information to understand and control printing. Provides detailed information about the configuration parameters used in the Device Description and PSF Configuration Objects.

© Copyright IBM Corp. 1997

- *AS/400 Advanced Series TCP/IP Configuration and Reference*, SC41-3420, provides information for configuring and using AS/400 TCP/IP support. Provides detailed information about the configuration parameters used in the Interface Description.
- *AS/400 Advanced Series Communication Configuration*, SC41-3401, provides information on objects, commands, and parameters used to configure OS/400 communications. Provides detailed information about the configuration parameters used in the Line Description.
- *PSF/MVS System Programming Guide*, S544–3672.
- *PSF/MVS Update Guide*, G544–3984.
- *TCP/IP for MVS : Programmer's Reference*, SC31–7135.
- *IBM TCP/IP MVS Customization and Administration Guide*, SC31–7134.
- *IBM TCP/IP Performance Tuning Guide*, SC31–7188.
- *A Guide to Using PSF/2*,G544-5225.
- *Facts about PSF/2*, G544-3890.
- For attachment to a S/370 using Communications Manager/2 see *IBM Print Services Facility for OS/2: A Network Configuration Guide for S/370 and Communications Manager/2*, S544–3911.
- For attachment to an AS/400 using Communications Manager/2 see *IBM Print Services Facility for OS/2: An Installation Cookbook for AS/400 and Token Ring Networks*, G544–3966.
- *AIX for Users of Print Services Facility*,G544-3877, provides an overview of hardware and software prerequisites, and migration considerations.
- *Print Services Facility for AIX: Print Administration*,G544-3817, is intended for use by the system administrator. It provides information on installing, configuring and diagnosing PSF for AIX.

Contact your IBM marketing representative for information concerning either the printer, its manuals, or its associated licensed programs.

# Chapter 1. About the InfoPrint 62

**Chapter Overview**

This chapter introduces you to the IBM InfoPrint 62. It includes :

- Printer Description
- Features
- Printer Characteristics
- Printer Specifications

## Printer Description

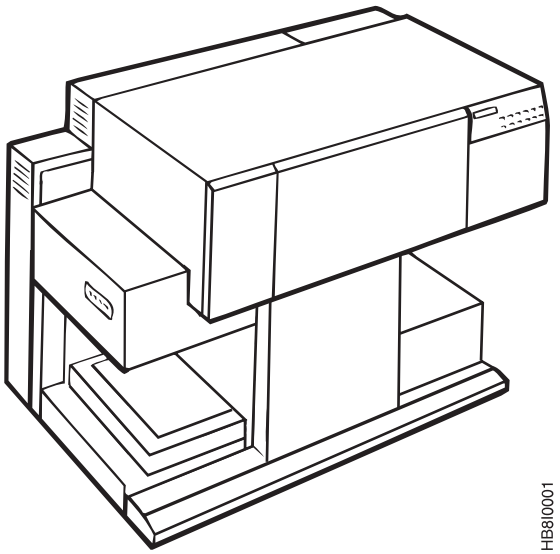


*Figure 1. InfoPrint 62 with the Power Stacker*

The IBM InfoPrint 62, is available in the following models:

- Model 002 which prints at 240 dots-per-inch (dpi).
- Model 003 which prints at 300 dots-per-inch (dpi).

The printers are intermediate speed, nonimpact, all-points-addressable printers (APA). They use a light emitting diode (LED) electrophotographic print technology, and Advanced Function Presentation (AFP) licensed programs to create high-quality text and graphic printer output. The printer uses a noncontact flash fusing system, which eliminates fuser warm up time and allows for the use of a wide range of media types.

The printers use continuous-forms in a variety of sizes, styles, and weights, including preprinted forms. In addition to traditional production printing the printers are ideal for printing label stock.

Autoload and autounload are standard. To load forms, the operator simply inserts the forms into the input tractors. To unload forms, the operator presses the unload

© Copyright IBM Corp. 1997

function key. The printer unloads by 1) moving all printed pages into the stacker 2) then cuts the paper 3) feeds it in the reverse direction until the leading edge is at the input tractors. After printing, the forms are stacked in the printer's passive gravity stacker or the power stacker.

Nonimpact printing that is combined with all-points addressability, allows graphics and many different type sizes and styles to appear on a single page. The printers can be used for text, image, graphic, optical character recognition (OCR), and bar-code printing. Text, images, and electronic overlays can be placed at any defined point on the page areas on which the printers can print.

The printer has a mechanical counter to count the number of feet of forms printed. Each count corresponds to one foot.

## System Components

***InfoPrint 62 — Models 002 and 003*** provide the following:

- Printer Engine
- Advanced Function Common Control Unit (AFCCU) which includes:
  - IBM's state-of-the-art RS/6000 Controller
  - 32 MB RAM
  - 1.44 MB Floppy disk drive
  - Hard disk drive
  - System interconnection electronics and internal cables
  - Resident fonts and operating software installed on the hard disk drive

The AFCCU supplies the following functions:

- Print server (host) attachment
- Intelligent Printer Data Stream (IPDS) processing
- Local operator interface
- Service interface through the operator panel
- Mechanism control
- Printhead interface

## Features

The following features are available for the InfoPrint 62:

### Attachment Features

There is a maximum of two attachment adapters. The maximum number allowable for each type of adapter is one. Only one attachment adapter may be active at a time. You select the active attachment through the operator panel.

The following attachment adapters are available on the InfoPrint 62:

- **Ethernet 10BaseT** attachment capability is standard on the InfoPrint 62.

  **Note:** This standard attachment is deactivated when an alternate Ethernet attachment is installed.

- **Token Ring** attachment – this attachment accepts a shielded or unshielded RJ45 plug. The customer must provide the cable for attachment to the local area network (LAN).
- **Ethernet 10Base2** attachment – this attachment accepts a coax connector. The customer must provide the cable for attachment to the LAN.

## Stacker

There are two stackers available for the InfoPrint 62:

- Gravity Stacker
- Power Stacker

### Choosing a Stacker

Care should be exercised when selecting an output stacker for the InfoPrint 62. There is a difference in functionality and price. The forms you are using and their characteristics are the deciding factors in selecting the correct stacker.

**Forms Characteristics:** Forms acquire different characteristics during their manufacture. Two of these should be considered when deciding whether to purchase a gravity stacker.

1. ***Perforation Memory*** – is the ability of the perforation to remember in what direction it was originally folded.
   - Ideally, the paper should stack in the same direction that it was originally stacked in the box.
   - The InfoPrint 62 has a non-contact fusing system and a straight paper path. These design features should minimize any compromise to perforation memory.
   - Use of the gravity stacker, requires that the forms have a very good perforation memory.
2. ***Moisture Content*** – forms contain varying degrees of moisture. The moisture content can increase during shipping and storage.

   The moisture content itself is not necessarily the problem. However, different areas of the form may shrink at different rates. (The shrinkage may be due to the following: 1) variation in grade and manufacturing process of the form 2) uneven heating of the form during the fusing process 3) heavy print patterns.) When different areas of a form shrink at different rates, the forms can wrinkle and curl. In fact, some forms may wrinkle or curl just from acclimating to the out-of-box environment.
   - Wrinkling or curling of the form across the perforations will compromise their folding capability. Form perforations are only functional when the forms are flat.
   - Forms that wrinkle or curl easily (before or after printing), are not good candidates for the gravity stacker. In this case, the power stacker is your best choice.

**Testing Out-of-Box Forms Quality**: Follow this simple procedure for checking the forms quality.IBM recommends that you perform this test twice:

- Once from a freshly opened box of forms
- A second time after the form has acclimated (24hrs out-of-box, in the environment where it will be used)

1. Define what forms will be used on the InfoPrint 62.

2. Obtain a 2 to 3 inch sample of each form that will be used.
3. Hold the 2 to 3 inch stack of forms in your hands.
4. Gradually allow the each page drop from your hands.

If the out-of-box quality and perforation memory are good, the forms will begin to stack on the floor in front of your feet.

If the form does not stack properly during this test, a power stacker should be ordered.

## Gravity Stacker

The **Gravity Stacker** relies on the folds in the forms for proper stacking.

The stacking capacity of the gravity stacker is approximately 3,000 pages. The maximum length between perforations is 22 inches.

The gravity stacker rolls away from the printer while loaded with forms. More than one gravity stacker may be desired in production environments.

Because the gravity stacker utilizes only gravity, it is very dependent on the characteristics of the forms. Thicker forms will stack more reliably than very thin forms. Light or thin forms may stack well if the form quality is high. The quality of the form is extremely important. Much of the stacker reliability will depend on the quality of the forms.

Special forms may be difficult to stack and may require the power stacker.

The following are the specifications of the gravity stacker:

Table 1. Gravity Stacker Specifications

| **Specification** | **Rate** |
|---|---|
| Jams | ≤ 1 per 2000 pages |
| Misfolds | ≤ 1 per 1000 pages |

**Notes:**

1. The specifications assume that the paper in use meets the requirements that are defined in the Continuous Forms Design Reference Guide.
2. The jam and misfold rates are an average over the specified forms range.

## Power Stacker

The **Power Stacker** uses a mechanical swing-arm to push paper at the perforations to ensure that the paper is folding correctly.

The power stacker has a stacking capacity of 2,000 pages. The maximum paper length between perforations is 12 inches.

It consists of a power stacking mechanism, a stacking table, and an elevator that raises and lowers the table. Also incorporated into the power stacker is an operation panel. The operation panel controls the stacker elevator and to set the form thickness.

Consider using the power stacker in the following situations:

- When high reliability is a requirement
- When printing lightweight forms

- When printing forms of varying thickness, which may build the stack unevenly and lead to toppling.

### Memory

One additional **32 MB RAM** can be ordered. This feature adds an additional 32 MB RAM to the printer controller. It is normally only needed for very complex printing, involving a large number of double byte fonts.

## Printer Characteristics

### Physical Specifications

#### Weight

The weight of the InfoPrint 62 is:

- 485 lbs (220kg)
- 617 lbs (280kg) with the power stacker

#### Dimensions

Table 2. InfoPrint 62 – Dimensions

| Dimension | Measurement |
|---|---|
| Height | 47.6 inches (1207 mm) |
| Width | 50.6 inches (1285 mm) |
| Depth | 36.4 inches (862 mm) |

### Print Speed

Process speed is 225.78 mm/second. The following table shows the print speeds for various form sizes and form orientations.

Table 3. Print Speed

| Form Type | Form Size | Form Orientation | Speed - Impressions per Minute (IPM) |
|---|---|---|---|
| Letter | 8.5 X 11 inches | Landscape | 62 |
| Legal | 8.5 X 14 inches | Landscape | 62 |
| Ledger | 11 X 17 inches | Portrait | 31 |
| A3 | 297 X 420 mm | Portrait | 32 |
| A4 | 210 X 297 mm | Landscape | 64 |
| B4 | 257 X 364 mm | Portrait | 37 |
| B5 | 182 X 257 mm | Landscape | 74 |

### Forms Specifications

The InfoPrint 62 supports a wide variety of media which include the following:

- Fanfold paper

- Pressure sensitive paper (polyester, polypropylene)
- Special purpose labels
- Vinyl

Table 4. InfoPrint 62 — Forms Specifications

| Specification | Minimum | Maximum |
|---|---|---|
| Length (process direction) | 3.0 inches (76.2 mm ) | 22 inches (558.8 mm) |
| Length (with power stacker) | 7.0 inches (177.8 mm) | 12 inches (304.8 mm) |
| Width | 7.0 inches (177.8 mm) | 16.0 inches (406.4 mm) |
| Weight - Bond | 17 lb/ream (64 g/m²) | 44 lb/ream (165 g/m²) |
| Weight - Letter Basis | 17 lb/ream (64 g/m²) | 54 lb/ream (204 g/m²) |
| Weight - Label | 44 lb/ream (71 g/m²) | 125 lb/ream (204 g/m²) |

# Printable Area

## Width

The maximum print width is 14.6 inches (370.84 mm), which is the width of the print head.

The maximum print width, for any given form, cannot be wider than the width of the form, minus 1.0 inches (25.4 mm). That is 0.5 inches (12.7 mm) on each side of the print line.

## Length

The printer is designed to print to the perforation at rated speed. As with other continuous forms printers, print quality degradation will occur near the perforation.

There will be no degradation at distances from the perforation of 0.33 inches (8.5 mm) for character data, and 0.5 inches (12.7 mm) for solid area fill, logos, or images.

# Reliability, Availability, and Serviceability

The printer is designed to ensure maximum reliability, availability, and serviceability. The following elements reflect this:

- **Message Display**

  The operator panel displays messages in the language of your choice (U.S. English, French, German, Italian, Japanese Katakana, Spanish, or Brazilian Portuguese). These messages give status information and request operator intervention, when necessary.
- **Error Log**

  Sensors and microcode detect faults in the printer. Information about faults are displayed to the operator and logged on the control unit hard disk for use in correcting problems.
- **Traces**

The AFCCU can perform several kinds of traces. It can record detailed information about the printer and AFCCU activities and communications with the host system.

- **Print Samples**

  The AFCCU can print several output print samples for use by service personnel. You can print these print samples whenever necessary to sample print quality, solve problems, adjust the printer or test the printer's functions.

## Data Security

The printer has the following data security features:

- The controlling computer cannot retrieve any data after sending it to the printer.
- After printing, the last page, the printer cannot print any data that remains in the print buffer.
- The printer removes images that remain on the photoconductive drum.
- The control unit accepts commands from the controlling host system to erase all residual print data and fonts from its storage.
- Characters that are stored in the page buffer are difficult to interpret because the printer translates them from 8–bit EBCIDIC (extended binary-coded decimal interchange code) characters to another form.

If many of the printing applications for your company are confidential, consider placing the printer in a controlled-access area. Then, by using special print classes, you can control when sensitive data is printed.

# Operator Responsibilities

The following table summarizes the responsibilities of the operator. The information on how the specific task noted is performed is found in the Operator's Guide under the stated topic.

Table 5. Operator Responsibilities

| **What to Do:** | **When to Do It:** | **Where to Find Information:** |
|---|---|---|
| Power on/off, shutdown and restart the printer | As necessary | • Powering the Printer On and Off<br>• Shutting Down and Restarting the Printer |
| Enable and disable the host attachment | As necessary | • Enabling and Disabling the Host Attachment |
| Select, load and unload forms. | As necessary | • Selecting Forms<br>• Loading Forms<br>• Unloading Forms |
| Replenish and check supplies | As indicated by messages on the operator panel | • Changing the Toner Cartridge<br>• Changing the Waste Toner Bottle |
| Ensure proper form alignment. | When loading new forms, after a power on or restart, and after any machine-detected errors | • Checking Print Position<br>• Adjusting Print Position |
| Unload the stacker | As necessary | • Emptying the Stacker |

Table 5. Operator Responsibilities (continued)

| **What to Do:** | **When to Do It:** | **Where to Find Information:** |
|---|---|---|
| Clear forms jams, errors | As indicated by messages on the operator panel | • Clearing Forms Jams<br>• Handling Interventions |
| Run and check print quality samples | • At the start of every day<br>• Before and during any important jobs | • Printing Test Samples |
| Clean all functional areas of the printer | As prompted by the Operator messages on the display, or as necessary. | • Cleaning Inside the Printer<br>• Cleaning the Coronas<br>• Cleaning the Fuser Glass |

# Chapter 2. Preparing the Processing Environment

**Chapter Overview**

This chapter discuss information about your application environment and software needs. Topics that are covered are software support, fonts, Advanced Function Presentation.

## Application Environment

The printer supports IBM's Advanced Function Presentation (AFP) licensed programs. These programs let application designers take advantage of many special kinds of printing, including bar code and optical character recognition (OCR) output.

The printer supports Font Object Content Architecture (FOCA), which allows printing in outline fonts. Outline fonts give you more choices of fonts with substantially less storage requirements.

The printer prints optical character recognition (OCR) characters and bar code applications. It uses most standard OCR fonts and Bar Code Object Content Architecture (BCOCA) formats.

The printer processes advanced function printing functions. These functions use the Intelligent Printer Data Stream (IPDS) to drive the printer. Refer to the *IPDS Handbook for Printers That Use the Advanced Function Common Control Unit*, G544–3985, or the *Intelligent Printer Data Stream Reference*, S544–3417 for more information. Also see "Advanced Function Presentation Licensed Programs" on page 11 for a listing of AFP software.

## Advanced Function Image and Graphics

The Advanced Function Image and Graphics facility within the AFCCU allows the printer to directly process Image Object Content Architecture (IOCA) images, and Graphics Object Content Architecture (GOCA) data, as described in the *Intelligent Printer Data Stream Reference*, S544–3417.

Improved processing occurs with the use of compressed images or vector graphics data in the GOCA format. This is accomplished by reducing demand on attachment data transfer and host storage.

When the printer decompresses images or rasterizes vectors instead of the host system, host system processing cycles are reduced. These data stream functions also allow the printer to perform arbitrary scaling operations or resolution correction of scanned images. This process allows some complex jobs to print at greater throughput by increasing the overall data processing speed of the printer.

© Copyright IBM Corp. 1997

## Software Support

You need to order Print Services Facility (PSF) licensed programs for the operating system of each host to which your printer will be attached. PSF provides device support for advanced function printing. Each software environment has specific operating system and Advanced Function Presentation program requirements. For a list of programs that are required for a particular environment, refer to the corresponding PSF publications listed in *Advanced Function Presentation: Printer Information*, G544–3290.

Table 6. InfoPrint 62 - PSF Support

| Function | OS/400 PSF/400 V 3.1 V 3.6 | OS/400 PSF/400 V 3.2 V 3.7 | AIX/6000 PSF/6000 V2.1 | OS/2 PSF/2 V 2.0 | PSF/MVS V2.2.0 | PSF/VSE V2.2.1 | PSF/VM V2.1.1 |
|---|---|---|---|---|---|---|---|
| IPDS Towers | all | all | all | all | all | all | all |
| Basic N-Up | Yes | Yes | Yes | No | Yes | Yes | Yes |
| Enhanced N-Up | No | Yes | Yes | No | Yes | Yes | Yes |
| | | | | | | | |
| Printer Attachment | | | | | | | |
| TCP/IP Ethernet | Yes | Yes | Yes | Yes | Yes | No* | No* |
| TCP/IP Token Ring | Yes | Yes | Yes | Yes | Yes | No* | No* |
| | | | | | | | |
| Font Support | | | | | | | |
| Download Raster Fonts (SBCS & DBCS) | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Download Outline Fonts (SBCS & DBCS) | No | Yes | Yes | Yes | Yes | Yes | No |
| | | | | | | | |
| Resident Raster Fonts | | | | | | | |
| Core Interchange | Yes | Yes | Yes | Yes | Yes | Yes | No |
| 4028 Compatibility | Yes | Yes | Yes | Yes | Yes | Yes | No |
| Coordinated | Yes | Yes | Yes | Yes | Yes | Yes | No |
| DBCS | Yes | Yes | Yes | Yes | Yes | Yes | No |
| | | | | | | | |
| Resident Outline Fonts | | | | | | | |
| Core Interchange | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 4028 Compatibility | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Coordinated | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| DBCS | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | | | | | | | |
| Native Barcode (BCOCA) | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

**Note:** * PSF/VSE and PSF/VM do not support the InfoPrint 62 directly with TCP/IP. However, a system with PSF/2 or PSF/6000 can attach to a PSF/VSE or PSF/VM system, and can supply the TCP/IP support for the InfoPrint 62.

## Fonts

The printer supports the following contents of the IBM Strategic Font Set:

- IBM 4028 Compatibility Resident Font Set
- IBM Core Interchange Resident Scalable Font Set
- IBM Coordinated Scalable Font Set
- 240 dpi DBCS Resident Raster Font Set
- DBCS Type 0 CID Resident Outline Typefaces for IPDS

For more information on fonts, see the *IPDS Handbook for Printers that use the Advanced Function Common Control Unit*, G544–3895.

## Advanced Function Presentation Licensed Programs

Some Advanced Function Presentation (AFP) licensed programs are required for operating the printer; others are optional.

The planning team should work with the end-users to determine which optional advanced functions are needed. Determining the printing needs of your company and selecting the software that best meets these needs are important steps in improving your printing operations. Using the *Guide To Advanced Function Presentation*, G544–3876, may be helpful during this process. That publication contains a summary of Advanced Function Presentation, its concepts, products and benefits. It contains an introduction to Advanced Function Presentation and describes how the licensed programs can meet your specific needs.

# Chapter 3. Preparing the Physical Environment

**Chapter Overview**

This chapter describes the environmental, power, space and other physical requirements that need to be considered before you install the printer.

## Operating Environment

Consider the following requirements as you select the location for your printer.

- **Temperature and humidity**

  Extremes of temperature and relative humidity can affect forms and adversely affect machine performance. These affects may include forms jams and unacceptable print quality. Operate the printer within the ranges of temperature and humidity stated in Table 7.

- **Air Conditioning and Ventilation**

  No external air conditioning is required except to maintain a normal Class A environment.

  At minimum, an outdoor air ventilation rate of 20 cubic feet per minute, per printer, must be provided. Under ASHRAE guidelines, this would correspond to a one person office.

- **Safety Precautions**

  Because the forms and toner used in the printer can burn, take normal precautions to prevent fire. These precautions include common-sense measures, such as keeping potentially combustible materials (for example, curtains and chemicals) away from the printer, and providing adequate ventilation and cooling.

  Adhere to the regular cleaning schedules as prescribed in the Operator's Guide, to avoid fire hazard.

### Environment Specifications

Table 7. InfoPrint 62 –Operating Environment Power ON

| **Operating Environment - Power On** | |
|---|---|
| **Dry Bulb Temperature** | **Relative Humidity** |
| 32°C (89.6°F) | 20% |
| 32°C (89.6°F) | 45% |
| 25°C (77°F) | 80% |
| 16°C (60°F) | 80% |
| 16°C (60°F) | 20% |
| | |
| Elevation | Sea level to 2100m (7000 ft) |

© Copyright IBM Corp. 1997

Table 8. InfoPrint 62 –Non–Operating Environment Power OFF

| **Non-Operating Environment - Power Off** | |
|---|---|
| **Characteristics** | **Specification** |
| Dry Bulb Temperature | −10 to 35°C (14 to 95° F) |
| Relative Humidity | 8 to 80% max. |
| Wet Bulb Temperature | 27° C (80.6°F) max. |
| Elevation | Sea level to 2100m (7000ft) |

## Operating Environment

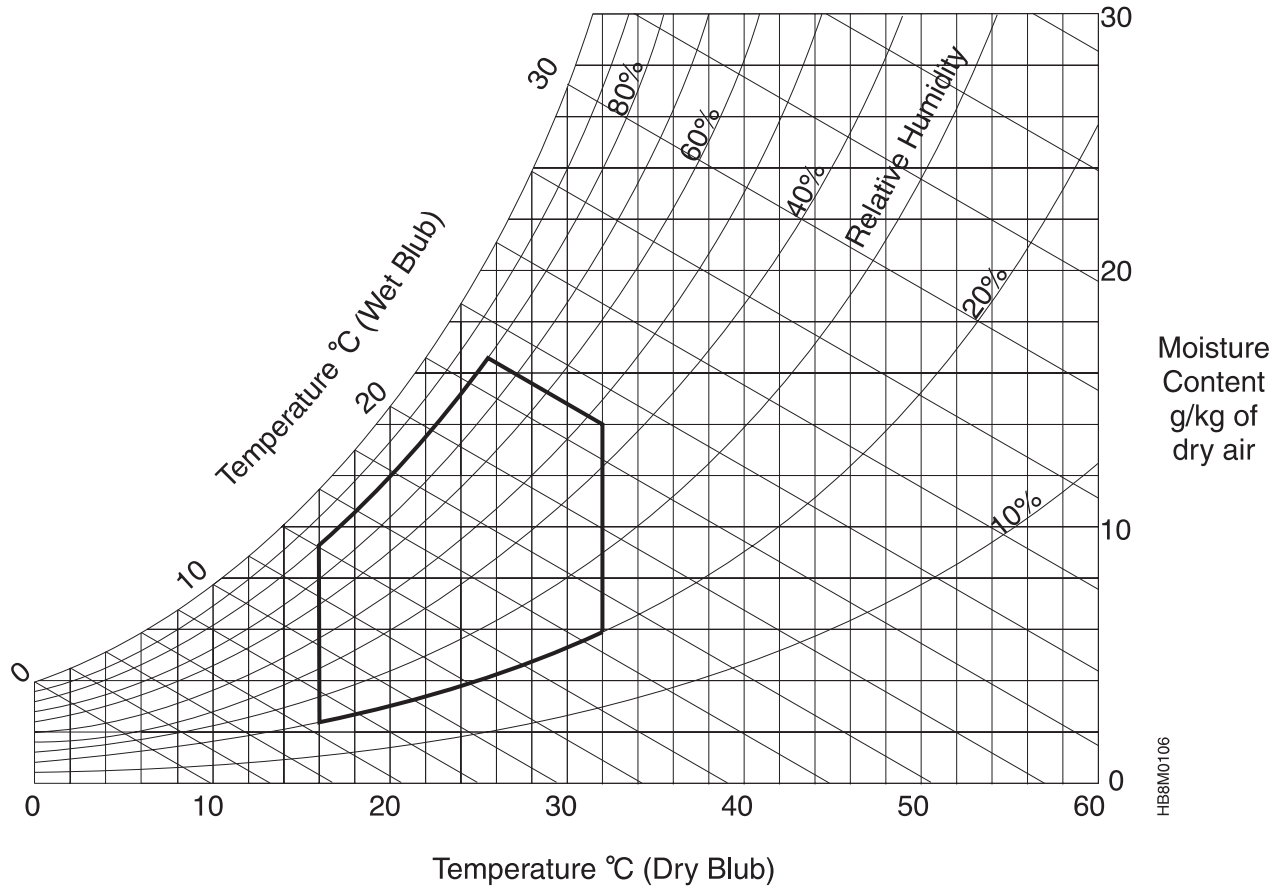


*Figure 2. Optimum Operating Environment*

# Power

## Power Source Requirements

Ensure that you have the appropriate electrical outlet installed to support the printer. It must meet the requirements listed in the following table.

Table 9. Power Source Requirements

| Item | Requirement |
|---|---|
| Volts AC | 200/208/220/230/240 ±10% |
| Frequency | 50/60Hz ±1.0% |
| Phases | Single |
| Input Current | 27A @ 200-208 VAC |
| | 25A @ 220VAC |
| | 24A @ 230-240VAC |

## Power Consumption

Power consumption is measured from the outlet to the printer.

Table 10. Power Consumption

| Mode | AC Voltage | Power (kVA) |
|---|---|---|
| Idle | 208V, 60Hz | 0.36 |
| Idle | 230V, 50Hz | 0.37 |
| Printing | 208V, 60 Hz | 5.5 |
| Printing | 230V, 50 Hz | 5.5 |

## Power Dissipation

Table 11. Power Dissipation

| Mode | Thermal Output |
|---|---|
| Idle | 300 Watts |
| Printing | 4200 Watts |

# Power Cable and Receptacle

An AC power cable is supplied with all printers. This cable measures 427 cm (14 feet), except for printers installed in Chicago, Illinois, U.S.A., where the power cable measures 183 cm (6 feet).

## U.S. and Canada

The power cable provided in these countries includes the plug. The customer is responsible for having a compatible receptacle installed. See Figure 3 on page 16.

## Japan

The power cable provided in Japan, is unique to Japan. The plug used is a Matsushita Denkoh 250V/60A, WF8360. The receptacle should be Matsushita Denkoh WA5369, or equivalent.

## All Other Countries

The power cable is supplied without a plug. The customer is responsible for providing the correct plug and compatible receptacle.

Understand the electrical standards for your country, and use only an approved plug. The plug should be one of the following (or equivalent):

- NEMA 6–50P
- IEC309 30 AMP

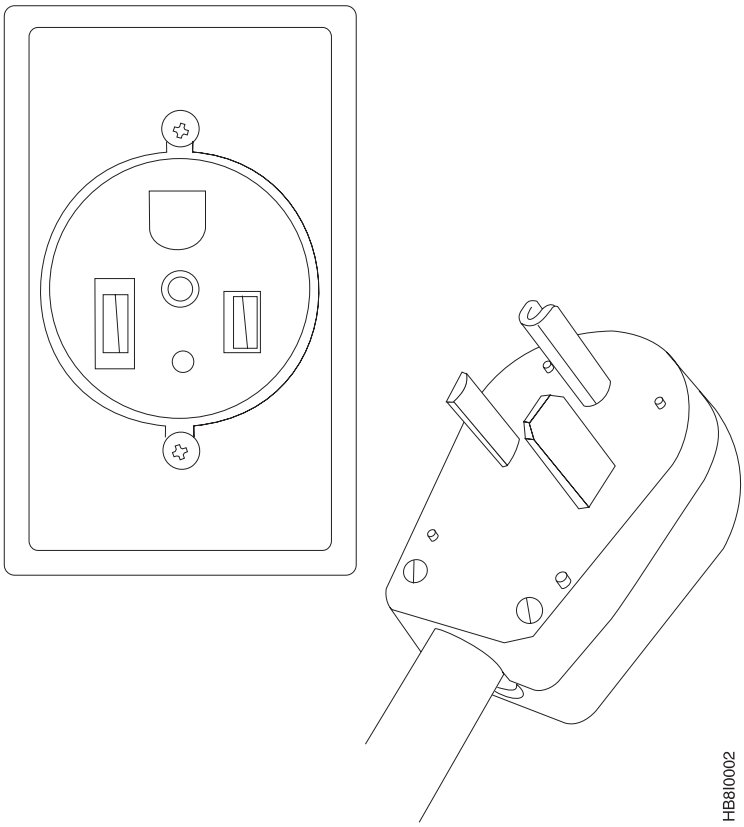


*Figure 3. NEMA 6–50 Receptacle and Plug*

## Power Conversion Unit

The Power Conversion Unit is required for installing the InfoPrint 62 in the following countries:

- Turkey
- Switzerland
- Liechtenstein
- Denmark
- Austria

The Power Conversion Unit will automatically ship with a printer who's destination is one of the above stated countries.

The Power Conversion Unit consists of a transformer, circuit breaker, and terminal boards and wiring. The purpose of the Power Conversion Unit is to step down the input voltage to meet the printer's power requirements.

***Input Requirements***: 380/400/415 VAC at 16 Amperes Maximum.

The Power Conversion Unit will be installed by your service representative at the time that the printer is installed. A professional mover will be required to place the Power Conversion Unit in the location where it will be installed. The unit must be placed outside of the space required for maintenance service (see "Minimum Space Requirements") and at least 152.4 mm (6 inches) away from a wall.

## Physical Layout

As you plan your physical layout, be sure to:

- Install the printer away from the main traffic pattern.
- Install the printer in a location that is convenient for those using it. For example, consider whether the planned location is close to printer supply storage areas.
- Allow space for operators and service representatives to perform their tasks. This space should not extend into walkways. See "Minimum Space Requirements".

### Minimum Space Requirements

The following figure shows the minimum space requirements for servicing and operating the printer. The unit of measure is millimeters (mm).

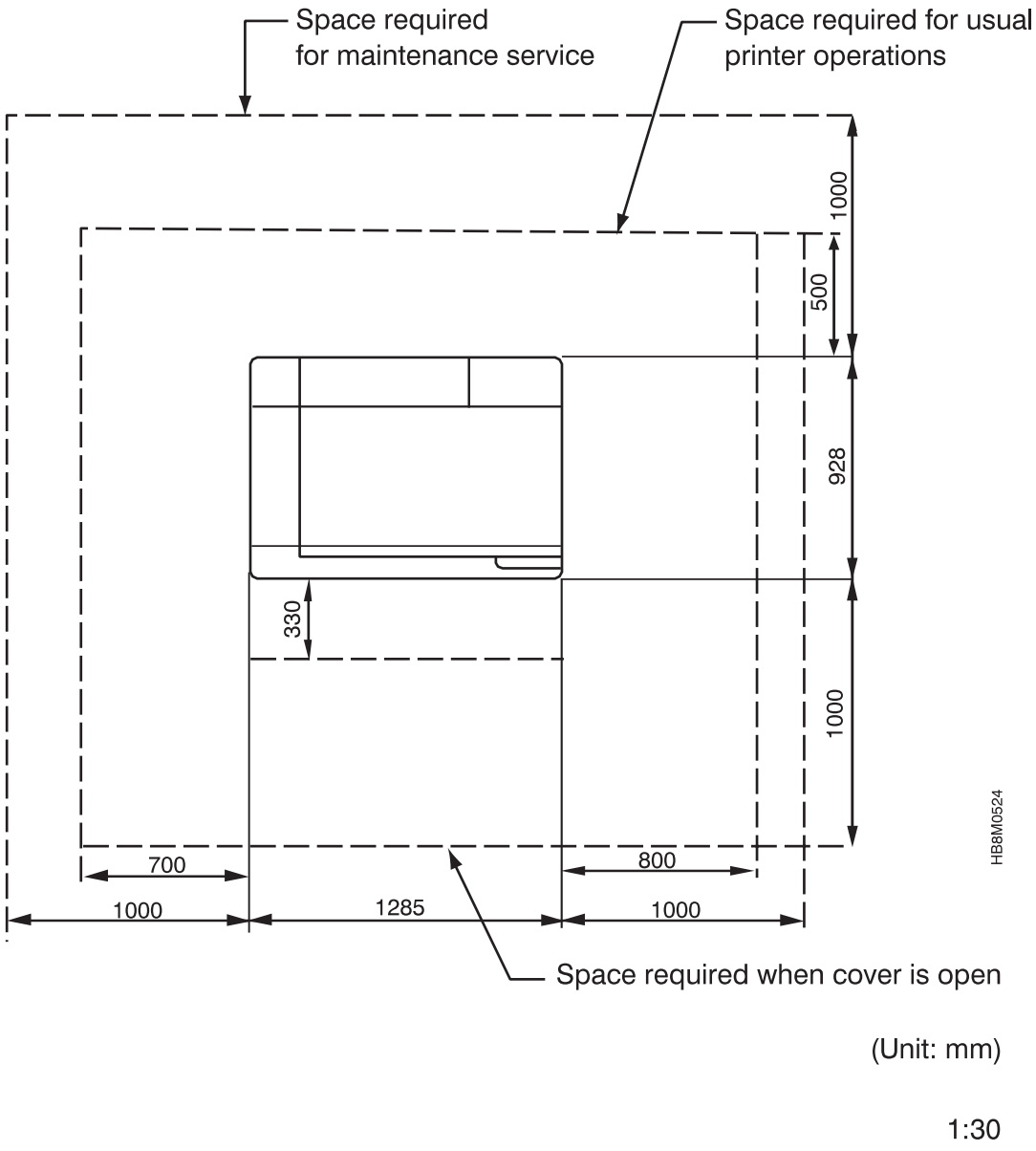


*Figure 4. Minimum Space Requirements*

## Acoustic Levels

The following table shows the maximum acoustic output for the printer. Operating levels are measured during continuous running using 20 lb forms.

Table 12. Acoustic Output

| **Mode** | **Sound Power** |
|---|---|
| Operating | 6.4 bels |
| Idle | 5.7 bels |

The method used to measure sound pressure and calculate sound power is compliant with ISO DIS 7779 and ANSI S12.10 .

The InfoPrint 62 has no dedicated operator. Therefore, noise levels at the operator position are not specified. The specified sound pressure is calculated as the average of measurements taken from the four sides of the printer, centered, one meter distant, and 1.5 meters from the floor.

## Attachment Requirements

The printer receives print information from the host system as an Intelligent Printer Data Stream (IPDS). IPDS may be transmitted over either a Token Ring Local Area Network (LAN) or an Ethernet LAN. For more information about IPDS, refer to the *Intelligent Printer Data Stream Reference*, S544–3417.

### Ethernet TCP/IP Local Area Network

You can attach the printer to a host Ethernet through an Ethernet LAN adapter. The adapter is installed in the printer's AFCCU. There are two Ethernet adapters available:

- The printer standard attachment is **Ethernet 10BaseT** (RJ45). The Ethernet 10BaseT can be attached to the following devices:
  - An IBM 8250 or 8260 Twisted Pair Hub
- **Ethernet 10Base2** (Thin Coax) will attach to the following devices:
  - An IBM RS/6000, PS/2 or AS/400.
  - And IBM 3172 or 3745 attached to a 3090, ES/9000, 308X or 4381 processor.

### Token Ring TCP/IP Local Area Network

You can attach the printer to a host token ring through IBM Token Ring Cabling with the IBM Token Ring High Performance Adapter. The adapter is installed in the printer's AFCCU. The AFCCU can attach to either a 16Mbit/sec or a 4Mbit/sec Token Ring Local Area Network (LAN). The attachment conform's to IBM's Token Ring Network Original Equipment Manufacture Interface. The following publications document this interface:

- *IBM Cabling System Technical Interface Specification,* GA27–3773.
- *IBM Local Area Network Technical Reference,* SC30–3383.
- *IBM Token Ring Area Network Architecture Reference,* SC30–3374.
- *Token Ring Access Method and Physical Layer Specification,* IEE Standard 802.5–1989.

The Token Ring attachment will attach to the following devices:

- 8228 Token Ring Multistation Access Unit attached to an AS/400, PS/2 or RS/6000 processor.
- 8230 Token Ring Controller Access Unit attached to an AS/400, PS/2 or RS/6000 processor.
- 8228 Token Ring Multistation Access Unit attached to a 3170, 3746, 3725, 3745 or 3720 attached to a 3090, ES/9000, 308X or 4381 processor.
- 8230 Token Ring Controller Access Unit attached to a 3170, 3746, 3725, 3745 or 3720 attached to a 3090, ES/9000, 308X or 4381 processor.

The printer may be located at a maximum distance of 100 meters (328 Ft) from the 8228 Multistation Access Unit or 8230 Controller Access Unit.

The distance between the 8228 Multistation Access Units can be increased with either the 8219 or 8220 Optical Fiber Repeater.

## Installation Requirements

A service representative installs the printer. However, you are responsible for the following pre-installation tasks:

- Ensure that the environmental, power, and space requirements specified in this chapter are met. Use the “Installation Planning Worksheet” on page 35 to complete this step.
- Inspect the receiving area and the areas through which the printer must be moved. Ensure that no obstacles interfere with moving the printer to its planned location.
- Ensure that the correct attachment cables and hardware are available for Ethernet LANs or Token Ring LANs.
- Ensure that approved electrical outlets with correct power are installed and that they can be reached with the power cables.
- Ensure that a vacuum cleaner has been ordered and is on hand.

# Chapter 4. Configuring The System

**Chapter Overview**

Establishing the setup that best suits a particular printing environment involves configuring the printer. This chapter describes the items that you can configure. Note all possible configuration items are listed, but not all may apply to your printer.


- "Configuring Attachments" on page 23
- "Printer Configuration" on page 26
- "Defining Forms" on page 30


An overview of the Attachments Menu and the Applications and Utilities Menu are shown to assist in finding the location of the configuration entries within the menu. The descriptions of the 4th and 5th Submenus are included within this chapter as well as in the Operator's Guide. Complete step-by-step instructions for entering the configuration, using the operator panel, can be found in the Operator's Guide.

© Copyright IBM Corp. 1997

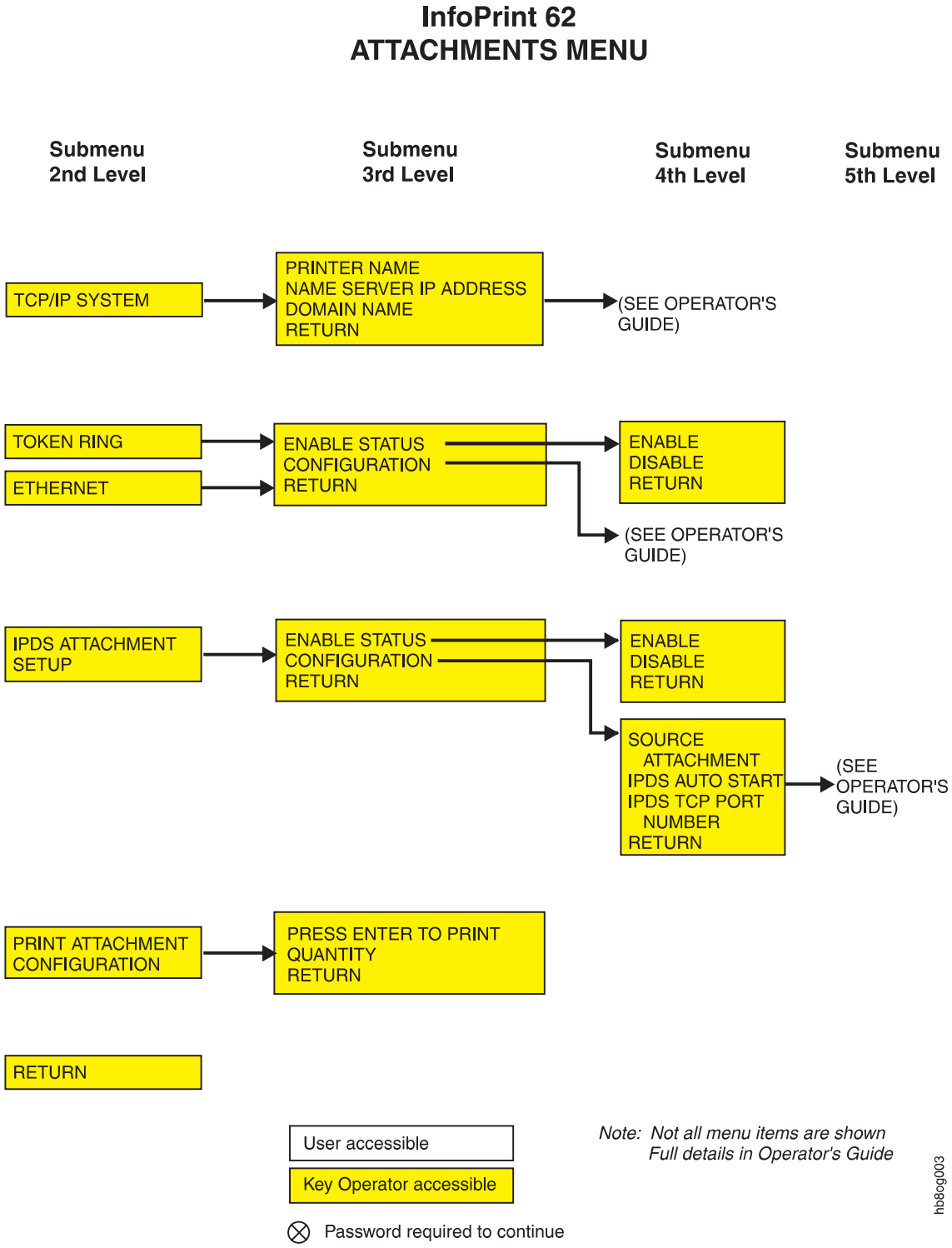


*Figure 5. Attachments Menu*

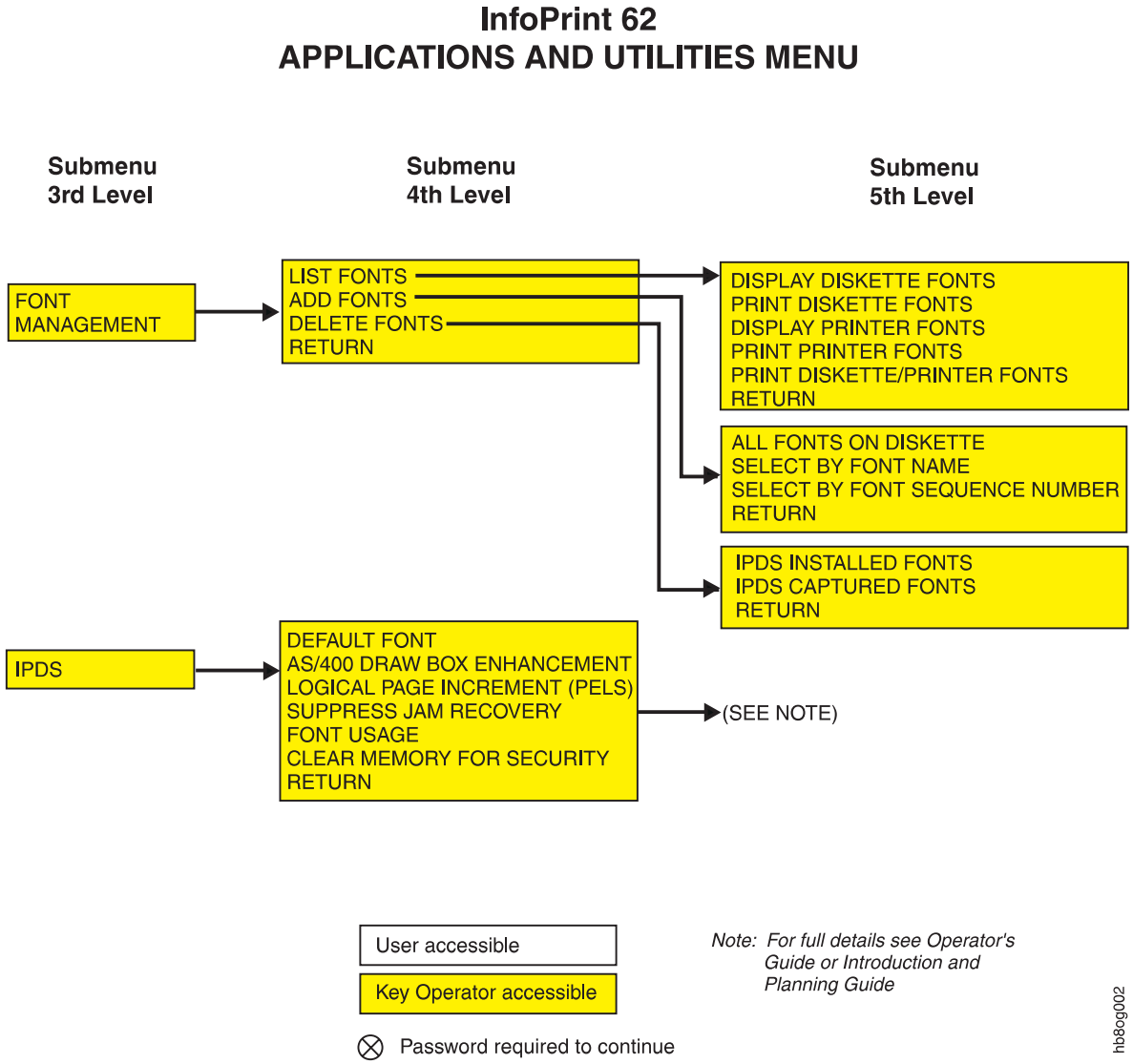


*Figure 6. Applications and Utilities Menu*

## Configuring Attachments

You must define the parameters under which the printer will be communicating. The information required for this configuration should be provided to you by your LAN or network administrator.

Only attachments that are physically installed will appear in the printer menu.

This section includes:


- "TCP/IP System" on page 24
- "Token Ring Attachment Configuration" on page 24
- "Ethernet Attachment Configuration" on page 25
- "IPDS Attachment Setup" on page 26

## TCP/IP System

The parameters that you will need to configure the TCP/IP System are as follows:

Table 13. TCP/IP System Parameters

| Configuration Parameter | Description | Value Options |
|---|---|---|
| Printer Name | This is the unique name assigned to your printer. | Up to 48 alphanumeric characters.<br><br>The alphanumeric keyboard will display to allow you to enter the name. |
| Name Server IP Address | This is the Internet Protocol address of the server that supplies name-to-address translation within the network. | This value is entered in the following format:<br>xx.xxx.xxx.xxx<br><br>The numeric keyboard will display to allow you to enter the address. |
| Domain Name | This is the TCP/IP name of the host system in the network. | This value is entered in the following format:<br><br>xx.xxx.xxx.xxx<br><br>The alphanumeric keyboard will display to allow you to enter the name. |

## Token Ring Attachment Configuration

The following table lists all configuration items, what each of the terms means, and allowable value options for each item.

The defaults are marked with an asterisk * or are written out as ″the default is...″.

Table 14. Token Ring Configuration Parameters

| Configuration Parameter | Description | Value Options |
|---|---|---|
| Enable Status | Enables or disables the attachment. | Enable or *Disable |
| Alternate Address (Local Adapter Address) | Sets the unique LAN adapter address for the network. The address must be different from other addresses on the LAN. | Exactly 12 alphanumeric characters |
| MAC Address | This is a view only field. Specifies the TCP/IP Token Ring adapter ROM address. | This field cannot be changed. |

Table 14. Token Ring Configuration Parameters (continued)

| Configuration Parameter | Description | Value Options |
|---|---|---|
| Ring Speed | Specifies the ring speed of the network to which the adapter is attached. The value must match the speed of the network or the network may stop operating. | 4MB/SEC or *16MB/SEC |
| Auto Start | Specifies whether the adapter is to be enabled automatically when the printer is started. | YES or *NO |
| IP Address | Specifies the internal protocol (IP) address of the printer in a dotted decimal format. | Numeric value is this format : xx.xxx.xxx.xxx |
| Subnet Mask | Specifies the Mask that identifies the local subnet in dotted decimal format. If you do not have a local subnet, leave this filed blank. | Numeric value is this format : xx.xxx.xxx.xxx |
| Default Gateway Address | Specifies the IP address of the default gateway in dotted decimal format. | Numeric value is this format : xx.xxx.xxx.xxx |
| MTU Size (BYTES) | Specifies the Maximum Transmission Unit (MTU) - maximum allowable length of IP packets. | 60 to 4096 |
| Confine Broadcast | Specifies if broadcast packets (that is Address Resolution Protocol packets) are enabled to cross bridges to other rings. | YES or *NO |

## Ethernet Attachment Configuration

The following table lists all configuration parameters, what each of the terms means, and allowable value options for each parameter.

The defaults are marked with an asterisk * or are written out as ″the default is...″.

Table 15. Ethernet Configuration Parameters

| Configuration Parameter | Description | Value Options |
|---|---|---|
| Enable Status | Enables or disables the attachment. | Enable or *Disable |
| Alternate Address (Local Adapter Address) | Sets the unique LAN adapter address for the network. The address must be different from other addresses on the LAN. | Exactly 12 alphanumeric characters |
| MAC Address | This is a view only field. Specifies the TCP/IP Ethernet adapter ROM address. | This field cannot be changed. |
| Auto Start | Specifies whether the adapter is to be enabled automatically when the printer is started. | YES or *NO |

Table 15. Ethernet Configuration Parameters (continued)

| Configuration Parameter | Description | Value Options |
|---|---|---|
| IP Address | Specifies the internal protocol (IP) address of the printer in a dotted decimal format. | Numeric value is this format : xx.xxx.xxx.xxx |
| Subnet Mask | Specifies the Mask that identifies the local subnet in dotted decimal format. If you do not have a local subnet, leave this filed blank. | Numeric value is this format : xx.xxx.xxx.xxx |
| Default Gateway Address | Specifies the IP address of the default gateway in dotted decimal format. | Numeric value is this format : xx.xxx.xxx.xxx |
| Ethernet Type | Specifies either the standard or IEEE802.3 Ethernet type. | *Standard or IEEE802.3 |
| MTU Size (BYTES) | Specifies the Maximum Transmission Unit (MTU) - maximum allowable length of IP packets. | 60 to 1500 |

## IPDS Attachment Setup

The following table lists all configuration parameters, what each of the terms means, and allowable value options for each parameter. The defaults are marked with an asterisk * or are written out as ″the default is...″.

Table 16. IPDS Attachment Setup Configuration Parameters

| Configuration Parameter | Description | Value Options |
|---|---|---|
| Enable Status | Enables or disables the attachment. | Enable or *Disable |
| Source Attachment | Specifies the type of attachment being used. | • *None<br>• TCP/IP ETHERNET<br>• TCP/IP TOKEN RING |
| IPDS Auto Start | Specifies whether IPDS is to be enabled automatically when the printer is started.<br>**Note:** This should be the same as the setting for the host attachment. | YES or *NO |
| IPDS TCP Port Address | Specifies the TCP socket address of the attachment . | Numeric value is this format : xxxx |

# Printer Configuration

The defaults are marked with an asterisk * or are written out as ″the default is...″.

The printer configuration defines the following printer parameters:

Table 17. Printer Configuration Parameters

| Configuration Parameter | Description | Value Options |
|---|---|---|
| Jam Recovery Pt Distance (IN) | This entry specifies the number of inches past the stacker that a jam recovered. | *0 to 500 |
| NPRO Timeout | NPRO Timer | *YES or NO |
| | NPRO Secs | 60 to 3600 default is 120 |
| Beeper | Intervention Alarm - this is the beeper that sounds when the printer detects intervention is required or input keys are pressed. | • TIMED BEEP<br>• *CONTINUOUS BEEP<br>• OFF |
| | Beep When Key Pressed - Beeps when you depress function keys | YES or NO |
| Language | Indicates the language used to display operator panel text for general users and key operators. | • *ENGLISH<br>• FRENCH<br>• GERMAN<br>• JAPANESE KATAKANA<br>• ITALIAN<br>• SPANISH<br>• BRAZILIAN PORTUGUESE |
| Print Density | Specifies the degree of print darkness of the printed output. You can choose a lighter print density to add detail to a fine line or darker print density to enhance graphics or images. The darker selection uses more toner. See the Operator's Guide for the procedure for setting the print density. | • LIGHT<br>• *MEDIUM<br>• DARK |

## IPDS Configuration

The following are the Intelligent Print Data Stream (IPDS) configuration parameters.

The defaults are marked with an asterisk * or are written out as ″the default is...″.

Table 18. IPDS Configuration Parameters

| Configuration Parameter | Description | Value Options |
|---|---|---|
| Default Font | Indicates which default font is used when no font is designated by the host. | See "Using the Default Font" on page 28 . |

Table 18. IPDS Configuration Parameters (continued)

| Configuration Parameter | Description | Value Options |
|---|---|---|
| AS/400 Box Draw Enhancement | Indicates support of the OfficeVision function that allows you to draw boxes with the cursor, and print them as drawn. When ON the printer replaces, code page 259 with code page 1091 to make the lines continuous when drawn with OfficeVision. When OFF, code page 259 is used and lines drawn with OfficeVision contain breaks. | ON or *OFF |
| Logical Page Increment | Indicates the number of pels by which to expand the logical page size, when the printable page is larger than the logical page, without errors being set. | *0 to 20 pels |
| Suppress Jam Recovery | This entry controls whether the host system will automatically retransmit pages after a forms jam has been cleared. | YES or *NO |
| Font Usage | Allows you to select the amount of memory that the printer's control unit will use for font management.<br>• Use low - normal number of fonts with normal point sizes<br>• Use medium - large number of fonts or very large point sizes<br>• Use high - double-byte fonts | • LOW<br>• MEDIUM<br>• *HIGH |
| Clear Memory for Security | This entry defines whether residual print data is to be cleared from memory. Clearing memory can result in a delay of a few minutes before a print job starts. Select YES if a high level of security is required. | YES or *NO |

## Using the Default Font

If a print job does not specify a font the printer uses a default font. The font is defined by the following:

Table 19. Font Parameters

| Configuration Parameter | Description | Value Option |
|---|---|---|
| Code Page | • Determines the identification of the character set elements.<br>• IPDS must be restarted for a change in the default font to take effect. | The default setting is Code Page 500. |

Table 19. Font Parameters (continued)

| Configuration Parameter | Description | Value Option |
|---|---|---|
| Font Typeface | • Sets the font typeface (font family).<br>• Choices vary according to the code page selected.<br>• This is a read-only field. | The default setting is Courier |
| Font Style | • Sets the style.<br>• Choices vary according to the code page selected. | • *Medium<br>• Bold<br>• Italic medium<br>• Italic bold |
| Font Size (CPI) | • Sets the number of characters per inch .<br>• Choices vary according to the code page selected. | The default setting is 12. |

## Code Pages

The operator can change the default font by selecting from the code pages in the following list.

Always choose the code page before selecting the default font. The font typeface, style and size are determined based on the selected code page.

Table 20. Code Pages

| Code Page | Description |
|---|---|
| 037 | US, Canada, Netherlands, Portuguese, Brazilian Portuguese |
| 038 | US English ASCII |
| 260 | Canadian French |
| 273 | Austrian / German |
| 274 | Belgian |
| 277 | Danish / Norwegian |
| 278 | Finnish / Swedish |
| 280 | Italian |
| 281 | Japanese |
| 284 | Spanish |
| 285 | UK English |
| 286 | Austrian / German (alternate) |
| 287 | Danish / Norwegian (alternate) |
| 288 | Finnish / Swedish (alternate) |
| 290 | Japanese / Katakana |
| 297 | French |
| 420 | Arabic |

Table 20. Code Pages (continued)

| Code Page | Description |
|---|---|
| 423 | Greek |
| 424 | Hebrew |
| 500 | Belgian Swiss / International |
| 870 | Latin 2 Multilingual |
| 871 | Icelandic |
| 875 | Greek |
| 880 | Cyrillic |
| 892 | OCR - A |
| 893 | OCR - B |
| 905 | Turkish |
| 1026 | Turkish |

## Defining Forms

Every type of printing media such as paper, preprinted forms, etc. must be defined to the printer, in the **DEFINE FORMS** menu. You can define new forms to meet your needs.

Before you load a form in the printer, first define the form. The definition of the form consists of the following parameters:

Table 21. Forms Parameters

| Configuration Parameter | Description | Value Options |
|---|---|---|
| Form Name | • Name that describes that form to you. | The name can be up to 12 alphanumeric characters. |
| Size Units | • Lets the printer know if the form size is in inches or millimeters. | The default is inches. |
| Paper Width | • Defines the width of the form. | The default is 12. |
| Paper Length | • Defines the length of the form. | The default is 8.5 . |
| Media Type | • Defines the composition of the form.<br>• And up to five additional media types, as defined by the CE. | Choices are<br>• Several predefined media types.<br>• And up to five additional media types, as defined by the CE.<br>The default is paper . |

There are three predefined forms already configured when you receive the printer. Here's how they are defined. These predefined forms can only viewed and not

changed.

Table 22. Predefined Forms Parameters

| Form Name | Size Units | Paper Width | Paper Length | Media Type |
|---|---|---|---|---|
| Letter (12 x 8.5) | Inches | 12 | 8.5 | Paper |
| Legal (15 x 8.5) | Inches | 15 | 8.5 | Paper |
| Ledger (12 x 17) | Inches | 12 | 17 | Paper |

# Chapter 5. Supplies

**Chapter Overview**
This chapter describes the printer supplies, how you can order and store them.

## Obtaining Supplies

Choosing the right supplies for your printer is very important. For optimum print quality and reliable performance, the use of IBM supplies is recommended. Supplies are purchase only items. The customer is responsible for ordering and maintaining an adequate stock of supplies. It is recommended that customers maintain a two to three month stock of supplies on hand.

Lexmark International, Inc. markets IBM InfoPrint 62 supplies. Supplies can be purchased from Lexmark Authorized Supplies Dealers or in the U.S. from Lexmark Telemarketing Operations. Lexmark Telemarketing Operations can also provide information about the nearest Lexmark Authorized Supplies Dealer.

In the U.S., call Lexmark Telemarketing at 1–800–438–2468. Mail orders within the U.S. should be sent to:

```
Lexmark International, Inc.
2800 Wells Branch Parkway
Austin, Texas 78728
```

Material Safety Data Sheets (OSHA Form 20) for InfoPrint 62 supplies with IBM logos are available in the U.S. by calling 1–800–IBM-4333. You will need to provide the seven digit part number or the machine model number and supply type, for example, IBM 4370 Model 002 or Model 003 Printer. Outside the U.S., contact your local Lexmark Supplier.

Table 23. Supplies

| Supply Item | Part Number | Yield | Minimum Order Quantity |
|---|---|---|---|
| Toner | 1402817 | 28,000 impressions/cartridge | 1 carton (6 cartridges per carton) |
| Toner Waste Bottle | 1402818 | 150,000 impressions/bottle | 1 carton (8 bottles per carton) |

The approximate average yields stated in the table above have been established using 11 X 8.5 inch forms at 4% coverage, medium contrast setting. Application yields will vary with toner coverage, machine settings, paper type and size and environmental conditions. Applications with extensive bar code or solid area fill can expect to achieve lower average yields than that achieved with average text pages.

The part numbers listed in the table are subject to change. Contact your local IBM Marketing Representative if you have any difficulty in ordering supplies.

© Copyright IBM Corp. 1997

## Supplies Warranty

Warranty for all supplies is one year from the date of purchase stated on the receipt. Supply warranties are only for defects in materials and workmanship at the time of shipment and are not for normal wear and tear, nor for any usage minimum. IBM supplies are manufactured to very high quality standards. However, if you believe you are due a warranty return, you should return the supply in its original package or a package from the replacement supply, to your point of purchase. The return should be accompanied with an explanation of the problem, print sample and approximate feet run on the supply.

## Storing Supplies

Store printer supplies in the printer operating environment for at least one day before using them. At other times, you can store supplies in an environment that does not exceed the following requirements:

**Temperature** −25° to 40°C (−13° to 104°F)

**Relative Humidity** 5% to 90%

Forms have different storage requirements. Store forms in an area where temperature and humidity are similar to the environment in which they will be used. If forms don't adapt to moisture changes, it may cause wrinkles and blank spots.

Avoid areas of extreme heat or humidity. Extended exposure to these extremes can damage the materials permanently. Relative humidity levels above 65% may reduce print quality.

# Chapter 6. Checklists and Worksheets

**Chapter Overview:**

Following are checklists and worksheets to assist you in your planning stages. The following are included:

- "Installation Planning Worksheet"
- "Pre-Installation Checklist" on page 36
- "Configuration Worksheet" on page 38
- "Forms Identification Worksheet" on page 40

## Installation Planning Worksheet

Before your printer is delivered, prepare a site installation plan. Use the following worksheet to ensure that all of the pre-installation requirements are met.

Table 24. Installation Planning Worksheet

| Requirements | Meets Requirement | Needs Attention | Assigned To | Date Due | Date Completed |
|---|---|---|---|---|---|
| **Environmental** | | | | | |
| Ventilation | | | | | |
| Temperature | | | | | |
| Relative Humidity | | | | | |
| **Space** | | | | | |
| Layout | | | | | |
| Storage Space for Supplies | | | | | |
| Clearances | | | | | |
| Delivery Route | | | | | |
| **Electrical** | | | | | |
| Voltage | | | | | |
| *Outlets:* | | | | | |
| Can be reached by cables? | | | | | |
| Correctly grounded? | | | | | |
| Meet local and national codes? | | | | | |
| *Building Branch Circuit:* | | | | | |
| Correctly grounded? | | | | | |
| Enough power to meet needs? | | | | | |
| Meets local and national codes? | | | | | |
| **Host System Attachment** | | | | | |

© Copyright IBM Corp. 1997

Table 24. Installation Planning Worksheet (continued)

| Requirements | Meets Requirements | Needs Attention | Assigned To | Date Due | Date Completed |
|---|---|---|---|---|---|
| Ethernet Cables and connectors | | | | | |
| Token Ring cables and connectors | | | | | |
| **Security** | | | | | |

## Pre-Installation Checklist

Use the following checklist to plan for the installation of the InfoPrint 62. The checklist should be started after the printer is ordered. The first column of the checklist shows the number of weeks before installation that the task should be accomplished.

The character(s) in the parenthesis before each task indicates the recommended function that should own the task: (M) – Marketing, (S) – Service, (C) – Customer, (T) – the entire Team.

Table 25. Pre-Installation Checklist

| Weeks Before Install | Task | Task Owner | Due Date | Date Done |
|---|---|---|---|---|
| 8-12 | **(M)** Review and document with the customer the following points:<br>• Physical Specifications<br>• Operating Environment<br>• Acoustic Levels<br>• Power Consumption and Requirements<br>• Hardware and Software Requirements | | | |
| 8-12 | **(T)** Verify all spaces and clearances for moving the crate between the loading dock and the printer installation site. | | | |
| 8-12 | **(T)** Check that the proposed site allows for the Minimum Space Requirements. | | | |
| 8-12 | **(S)** Is training for the service representative scheduled? | | | |
| 8-12 | **(M & C)** Is operator training scheduled? | | | |
| 4-6 | **(M)** Is a system engineer assigned for support? | | | |
| 4-6 | **(M)** Is training for the system engineer scheduled? | | | |
| 4-6 | **(M & C)** Have you reviewed supply requirements with the customer? | | | |

Table 25. Pre-Installation Checklist (continued)

| Weeks Before Install | Task | Task Owner | Due Date | Date Done |
|---|---|---|---|---|
| 4-6 | **(C)** Has the customer ordered and obtained supplies?<br>• Forms<br>• Toner<br>• Toner Waste Bottles | | | |
| 4-6 | **(C)** Have all customer supplied cables, connectors etc. required for the installation been ordered?<br>• LAN cabling (if required)<br>• Power Transformer (if required)<br>• Primary Power Connector (if required) | | | |
| 4-6 | **(T)** Does the customer have the appropriate electrical supply and power receptacle installed? | | | |
| 4-6 | **(C)** Has the customer ordered a vacuum cleaner? | | | |
| 4-6 | **(S)** Has the service representative ordered the on-site maintenance parts? | | | |
| 2-4 | **(T)** Verify that the operator training is scheduled or completed. | | | |
| 2-4 | **(S)** Have the service representatives been trained? | | | |
| 2-4 | **(C)** Is the system ready for the printer?<br>• LAN<br>• Cabling<br>• Configuration | | | |
| 2-4 | **(T)** Are all the Software requirements available? | | | |
| 2-4 | **(M & C)** Have arrangements been made for the movers to move the printer to the installation site? | | | |
| 2-4 | **(C)** Is the customer ordered vacuum cleaner on site? | | | |
| 2-4 | **(C & S)** Is there workspace and storage space for the service representative? | | | |

Table 25. Pre-Installation Checklist (continued)

| Weeks Before Install | Task | Task Owner | Due Date | Date Done |
|---|---|---|---|---|
| 1-2 | **(T) FINAL WALK THROUGH**<br>1. Walk the path from the delivery point, to the installation site. Check that the crate will clear all doors. Ensure that the crate will clear all corners.<br>2. Ensure that the Minimum Space Requirements have been met.<br>3. Check for space to unpack the crate at the installation site.<br>4. Check that all electrical outlets are in place and that the correct power is available.<br>5. Ensure that all supplies are onsite.<br>6. Check for onsite parts.<br>7. Check for a vacuum cleaner.<br>8. Verify that all software and applications are available. | | | |
| | | | | |

## Configuration Worksheet

Record your configuration choices on this worksheet. The worksheet provides a quick reference for you to use as you enter the configuration choices, after the printer is installed.

Table 26. Configuration Worksheet

| Configuration Parameter | Available Value Options | Selected Value |
|---|---|---|
| **TCP/IP System** | | |
| Printer Name | Up to 48 alphanumeric characters. | |
| Name Server IP Address | Numeric value in the following format: xx.xxx.xxx.xxx | |
| Domain Name | Alphanumeric value in the following format: xx.xxx.xxx.xxx | |
| **Token Ring Attachment** | | |
| Enable Status | Enable or *Disable | |
| Alternate Address (Local Adapter Address) | Exactly 12 alphanumeric characters | |
| MAC Address | This field cannot be changed. | |
| Ring Speed | 4MB/SEC or *16MB/SEC | |
| Auto Start | YES or *NO | |

Table 26. Configuration Worksheet (continued)

| Configuration Parameter | Available Value Options | Selected Value |
|---|---|---|
| IP Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| Subnet Mask | Numeric value is this format : xx.xxx.xxx.xxx | |
| Default Gateway Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| MTU Size (BYTES) | 60 to 4096 | |
| Confine Broadcast | YES or *NO | |
| **Ethernet Attachment** | | |
| Enable Status | Enable or *Disable | |
| Alternate Address (Local Adapter Address) | Exactly 12 alphanumeric characters | |
| MAC Address | This field cannot be changed. | |
| Auto Start | YES or *NO | |
| IP Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| Subnet Mask | Numeric value is this format : xx.xxx.xxx.xxx | |
| Default Gateway Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| Ethernet Type | *Standard or IEEE802.3 | |
| MTU Size (BYTES) | 60 to 1500 | |
| **IPDS Attachment Setup** | | |
| Enable Status | Enable or *Disable | |
| Source Attachment | • *None<br>• TCP/IP ETHERNET<br>• TCP/IP TOKEN RING | |
| IPDS Auto Start | YES or *NO | |
| IPDS TCP Port Address | Numeric value is this format : xxxx | |
| **Printer Configuration** | | |
| Jam Recovery Pt Distance (IN) | *0 to 500 | |
| NPRO Time-out | *YES or NO | |
| | 60 to 3600 default is 120 | |
| Beeper | • TIMED BEEP<br>• *CONTINUOUS BEEP<br>• OFF | |
| | YES or NO | |

Table 26. Configuration Worksheet (continued)

| Configuration Parameter | Available Value Options | Selected Value |
|---|---|---|
| Language | • *ENGLISH<br>• FRENCH<br>• GERMAN<br>• JAPANESE KATAKANA<br>• ITALIAN<br>• SPANISH<br>• BRAZILIAN PORTUGUESE | |
| Print Density | • LIGHT<br>• *MEDIUM<br>• DARK | |
| **IPDS Configuration** | | |
| Default Font | See “Using the Default Font” on page 28 . | |
| AS/400 Box Draw Enhancement | ON or *OFF | |
| Logical Page Increment | *0 to 20 pels | |
| Suppress Jam Recovery | YES or *NO | |
| Font Usage | • LOW<br>• MEDIUM<br>• *HIGH | |
| Clear Memory for Security | YES or *NO | |

## Forms Identification Worksheet

Table 27. Forms Identification Worksheet

| Form Number | Definition | Value | Notes |
|---|---|---|---|
| | Name | | |
| | Width (mm or in) | | |
| | Length (mm or in) | | |
| | Media | | |
| | Name | | |
| | Width (mm or in) | | |
| | Length (mm or in) | | |
| | Media | | |

Table 27. Forms Identification Worksheet (continued)

| Form Number | Definition | Value | Notes |
|---|---|---|---|
| | Name | | |
| | Width (mm or in) | | |
| | Length (mm or in) | | |
| | Media | | |
| | Name | | |
| | Width (mm or in) | | |
| | Length (mm or in) | | |
| | Media | | |
| | Name | | |
| | Width (mm or in) | | |
| | Length (mm or in) | | |
| | Media | | |
| | Name | | |
| | Width (mm or in) | | |
| | Length (mm or in) | | |
| | Media | | |
| | Name | | |
| | Width (mm or in) | | |
| | Length (mm or in) | | |
| | Media | | |
| | Name | | |
| | Width (mm or in) | | |
| | Length (mm or in) | | |
| | Media | | |

# Chapter 7. The Host System

**Chapter Overview**

This chapter is intended to assist you in getting the host attachment for your printer established. It provides you with the overview of what tasks you need to perform. You should ensure that you have the publications listed in the section applicable to your environment, to provide more detailed information. The topics covered are:


- "Host Attachment – Overview"
- "AS/400 Attachment" on page 44
- "PSF/MVS Attachment" on page 50
- "PSF/2 Attachment" on page 55
- "PSF for AIX Attachment" on page 58


This section of the manual is intended for use by the system programmer and networking personnel. Those individuals responsible for making sure that the host environment is ready for your printer and the printer attachment you will use. It assumes that you are already familiar with the systems and network programs your site uses.

## Host Attachment – Overview

Before the printer can function properly, you must do the following:

- Make sure that the latest available level of service for your Print Services Facility (PSF) system is installed on the host. See "Software Support" on page 10 for PSF Function Support available for various processing environments.
- Define the printer to your host environment
- Ask your LAN administrator for the following:
  - IP Address
  - Subnet Mask
  - Default Gateway Address

    **Note:** These values must be the same as those used when you completed the printer configuration worksheet.
  - Make sure you complete the "Configuration Worksheet" on page 38. For detailed descriptions of the Printer Configuration Parameters see "Chapter 4. Configuring The System" on page 21.

© Copyright IBM Corp. 1997

## AS/400 Attachment

The tasks you need to perform before using the printer are:

- Create a line description.
- Create a TCP/IP Interface description
- Create a Printer Device Description.
- Create a PSF configuration object.

The following publications from the AS/400 library provide detailed information relevant to establishing the host attachment for your printer.

- *AS/400 Guide to Advanced Function Presentation & Print Services Facility*, S544-5319, provides an overview of using IBM programs in a printing solution.
- *AS/400 Advanced Series Printer Device Programming Version 3,*, SC41-3713, provides the application programmer and system operator with information to understand and control printing. Provides detailed information about the configuration parameters used in the Device Description and PSF Configuration Objects.
- *AS/400 Advanced Series TCP/IP Configuration and Reference*, SC41-3420, provides information for configuring and using AS/400 TCP/IP support. Provides detailed information about the configuration parameters used in the Interface Description.
- *AS/400 Advanced Series Communication Configuration*, SC41-3401, provides information on objects, commands, and parameters used to configure OS/400 communications. Provides detailed information about the configuration parameters used in the Line Description.

The following values from the "Configuration Worksheet" on page 38 will be used in setting up your configuration on the host.

Table 28. Configuration Worksheet Values Used with AS/400

| Configuration Parameter | Available Value Options | Selected Value |
|---|---|---|
| **Token Ring Attachment** | | |
| IP Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| MTU Size (BYTES) | 60 to 4096 | |
| Ring Speed | 4/MB/SEC or *16/MB/SEC | |
| **Ethernet Attachment** | | |
| IP Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| MTU Size (BYTES) | 60 to 1500 | |
| **IPDS Attachment Setup** | | |
| IPDS TCP Port Address | Numeric value is this format : xxxx | |

Enter the values from the Configuration Worksheet into the following table for use while you are setting up the host configuration. Some of the parameters that appear in this table are used in more than one place and the values must match wherever they are used.

Table 29. PSF/MVS Configuration Values

| Printer Configuration Parameter | Line Description Parameter | Interface Description Parameter | CRTPSFCFG (V3R2) Parameter | WRKAFP2 (V3R1 & V3R6) Parameter | Device Description | Value |
|---|---|---|---|---|---|---|
| IP Address | | Internet Address | RMTLOCNAME | RMTSYS | | |
| MTU Size | Maximum Frame Size | | | | | |
| Ring Speed[1] | Line Speed[1] | | | | | |
| IPDS TCP Port Address | | | PORT | PORT | | |
| Subnet Mask | | Subnet Mask | | | | |
| | LIND | LIND | | | | |
| | | | | DEVD | DEVD | |

**Note:** [1] – Token Ring Only

## Creating the Line Description

You must first create a line description. The line description defines the physical connection to the host.

This section provides samples of a Token Ring and Ethernet line description. Use the Reference Document for details of all the parameters contained within the description.

***Reference Document*** –

- *AS/400 Advanced Series Communication Configuration*, SC41-3401, provides information on objects, commands, and parameters used to configure OS/400 communications. It provides detailed information about the configuration parameters used in the Line Description.

### Token Ring Line Description

To create the Token Ring line description, enter the **CRTLINTRN** command, from the AS/400 command line. Following is a sample of a Token Ring Line Description.

```
Line Description..............:   LIND         LINETRN
Option........................:  OPTION       *ALL
Category of line..............:               *TRLAN
Resource name.................:  RSCRNAME     LIN021
Online at IPL.................:  ONLINE       *YES
Vary at wait..................:  VRYWAIT      *NOWAIT
Network controller............:  NETCTL       TRLANET
Maximum controllers...........:  MAXCTL       40
Line speed....................:  LINESPEED    16M
Maximum frame size............:  MAXFRAME     4060
TRLAN manager logging level...:  TRNLOGLVL    *OFF
  Current logging level.......:               *OFF
TRLAN manager mode............:  TRNMGRMODE   *OBSERVING
Log configuration changes.....:  LOGCFGCHG    *LOG
Token ring inform of beacon...:  TRNINFBCN    *YES
Local adapter address.........:  ADPTADR      400044445555
Exchange identifier...........:  EXCHID       056E00E6
Error threshold level.........:  THRESHOLD    *OFF
Text..........................:  TEXT         Token ring line description
SSAP list.....................:  SSAP         *SYSGEN
-------------------------------------------------------------------------
```

*Figure 7. AS/400 Token Ring Line Description*

### Ethernet Line Description

To create the Ethernet line description enter the **CRTLINETH** command, from the AS/400 command line. Following is a sample of a Ethernet Line Description.

```
Line Description..............:   LIND         LINEETH
Option........................:  OPTION       *ALL
Category of line..............:               *ELAN
Resource name.................:  RSCRNAME     LIN021
Online at IPL.................:  ONLINE       *YES
Vary at wait..................:  VRYWAIT      *NOWAIT
Network controller............:  NETCTL       ETHERNET
Local adapter address.........:  ADPTADR      400044445555
Exchange identifier...........:  EXCHID       056E00E6
Ethernet Standard.............:  ETHSTD       *ALL
Maximum controllers...........:  MAXCTL       40
Error threshold level.........:  THRESHOLD    *OFF
Text..........................:  TEXT         Token ring line description
SSAP list.....................:  SSAP         *SYSGEN
-------------------------------------------------------------------------
```

*Figure 8. AS/400 Ethernet Line Description*

## Creating the Interface Description

This section provides a sample of a Token Ring and an Ethernet Interface description. The interface description defines a new interface to the TCP/IP configuration. This is the logical interface. Use the Reference Document for details on all the parameters within the description.

**Note:** The line description must be defined BEFORE the interface can be added.

***Reference Document*** –

- *AS/400 Advanced Series TCP/IP Configuration and Reference*, SC41-3420, provides information for configuring and using AS/400 TCP/IP support. Provides detailed information about the configuration parameters used in the Interface Description.

To create the interface description enter the **ADDTCPIFC** command, from the AS/400 command line.

**Notes on the Interface Description:**

1. The line description value must be the same value you used when you created the Line description.("Creating the Line Description" on page 45)
2. The Subnet Mask value must be the same value used in the printer attachment configuration.
3. The value for Maximum Transmission Unit should be LIND. This tells the system to use the value defined in the Line Description.
4. By setting AUTOSTART to YES, the interface will automatically start when TCP/IP is started.

Following is a sample of a Token Ring Interface Description. This is only a sample portion of the interface description.

```
Internet Address..............:  INTNETADR  > 9.99.25.250
Line description..............:  LIND         *LINETRN
Subnet mask...................:  SUBNETMASK   255.255.255.128
Type of service...............:  TOS          *NORMAL
Maximum transmission unit.....:  MTU          *LIND
Autostart.....................:  AUTOSTART    *YES
PVS logical channel identifier:  PVCLGLCHLI
                          + for more values
--------------------------------------------------------------------------
```

*Figure 9. AS/400 Token Ring Line Description*

Following is a sample of a Ethernet Line Description. This is only a sample portion of the interface description.

```
Internet Address..............:  INTNETADR  > 9.99.25.250
Line description..............:  LIND         *LINEETH
Subnet mask...................:  SUBNETMASK   255.255.255.128
Type of service...............:  TOS          *NORMAL
Maximum transmission unit.....:  MTU          *LIND
Autostart.....................:  AUTOSTART    *YES
PVS logical channel identifier:  PVCLGLCHLI
                         + for more values
--------------------------------------------------------------------------
```

*Figure 10. AS/400 Ethernet Interface Description*

## Creating the Device Description

This section provides a sample of a Device description. The device description defines the printer to the system. Use the Reference Document for details on all the parameters within the description.

***Reference Document*** –

- *AS/400 Advanced Series Printer Device Programming Version 3*, SC41-3713, provides the application programmer and system operator with information to understand and control printing. Provides detailed information about the configuration parameters used in the Device Description and PSF Configuration Object.

To create the Printer Device Description, enter the **CRTDEVPRT** command form the AS/400 command line.

Following is a sample of a printer device description. This is a sample only and you should use the Reference Document for a full explanation of the description.

```
Device Description....................:   DEVD         PRT4370
Option................................:   OPTION       *ALL
Category of device....................:                *PRT
Automatically created.................:                NO
Device class..........................:   DEVCLS       *RMT
Device type...........................:   TYPE         *IPDS
Device model..........................:   MODEL        0
Advanced function printing............:   AFP          *YES
AFP attachment........................:   AFPATTACH    *APPC
Online at IPL.........................:   ONLINE       *YES
Font..................................:   FONT
  Identifier .........................:                011
  Point size .........................:                *NONE
Form Feed.............................:   FORMFEED     *CONT
Separator drawer......................:   SEPDRAWER    *FILE
Separator program.....................:   SEPPGM       *NONE
  Library.............................:
Printer error message.................:   PRTERRMSG    *INQ
Message queue.........................:   MSGQ         QSYSOPR
  Library.............................:                *LIBL
Character identifier..................:   CHRID        *SYSVAL
Remote location.......................:   RMTLOCNAME   DUMMY
Local location........................:   LCLLOCNAME   *NETATR
Remote network identifier.............:   RMTNETID     *NETATR
Mode..................................:   MODE         QSPWTR
Text..................................:   TEXT         Printer Description
```

*Figure 11. Printer Device Description*

## Creating a PSF Configuration Object

PSF cannot be configured for TCP/IP support with a Printer Device Description. The PSF configuration object must be used in conjunction with a printer device description to obtain this support.

To configure PSF for TCP/IP support you must first create a printer device description (“Creating the Device Description” on page 47), as if the printer were using an APPC attachment. Then you create a PSF configuration object, providing values for RMTLOCNAME and PORT.

This section provides a sample of the PSF configuration object for V3R1 & V3R6 as well as V3R2. These are samples only. You should the reference document and the information provided with your level of software, for a more detailed description.

***Reference Document*** –

- *AS/400 Advanced Series Printer Device Programming Version 3*, SC41-3713, provides the application programmer and system operator with information to understand and control printing. Provides detailed information about the configuration parameters used in the Device Description and PSF Configuration Object.

## Configuring PSF for TCP/IP – (V3R1 & V3R6)

To configure PSF for TCP/IP on V3R1 and V3R6, enter the **WRKAFP2** command from the AS/400 command line.

Following is a sample of the configuration for TCP/IP using the WRKAFP2 command.

```
WRKAFP2  DEVD(PRT4370)
         TCPIP(*YES)
         RMTSYS('9.99.25.250')
         PORT(5001)
         ACTTMR(170)
         INACTTMR(*NOMAX)
```

*Figure 12. PSF TCP/IP Configuration – WRKAFP2*

**Notes on the WRKAFP2 Command:**

1. The value for **DEVD** must match the value for **DEVD** value in the Printer Device Description. ("Creating the Device Description" on page 47)
2. The value for **TCPIP** must be ***YES.**
3. The value for **RMTSYS** is the IP address. This value must match the IP Address value in the Printer Attachment Configuration and the Interface Description.
4. The value for **PORT** is the port number and must match the value for the **IPDS TCP/IP Port Address** value in the printer configuration.
5. The value for **ACTTMR** specifies the number of seconds PSF/400 will wait for the printer to respond to an activation request. A value of NOMAX means that PSF/400 will wait indefinitely to establish connection with a printer, which may be busy because another PSF system is using it.
6. The value for **INACTTMR** (V3R1) or **RLSTMR** (V3R6) specifies how long PSF/400 will maintain a session with the printer while there are no spooled files with a status RDY. A value of NOMAX means PSF/400 will not release the connection to the printer until you enter ENDWTR. If you wish to have PSF/400 share this printer with another PSF system, use a value that is appropriate for your environment.

## Configuring PSF for TCP/IP – (V3R2)

To configure PSF for TCP/IP on V3R2 , enter the **CRTPSFCFG** command from the AS/400 command line.

Following is a sample of the configuration for TCP/IP using the CRTPSFCFG command.

```
PSF Configuration.....................:   PSFCFG     > PRT4370
 Library..............................                   QGPL
User resource library list............:   USRRSCLIBL   *JOBLIBL
Device resource library list..........:   DEVRSCLIBL
                       + for more values
IDPS pass through.....................:   IDPSPASTHRU  *NO
Activate release timer................:   ACTRLSTMR    *NORDYF
Release timer.........................:   RLSTMR       *NOMAX
Restart timer.........................:   RESTRTMR     *IMMED
Text..................................:   TEXT         Printer Description
Remote location.......................:   RMTLOCNAME
  Name or Address.....................:              > '9.99.25.250
TCP/IP port...........................:   PORT        >5001
TCP/IP activation timer...............:   ACTTMR       170
PSF defined option....................:   PSFDFNOPT    *NONE
                       + for more values
Replace...............................:   REPLACE      *YES
Authority.............................:   AUT          *LIBCRTAUT
```

*Figure 13. PSF TCP/IP Configuration – CRTPSFCFG*

**Notes on the CRTPSFCFG Command:**

1. The value for **ACTRLSTMR** specifies the point at which the release timer (RLSTMR) is activated.
2. The value for **PSFCFG** must match the value for **DEVD** value in the Printer Device Description. (“Creating the Device Description” on page 47). The PSF configuration object must exists in the QGPL library.
3. The value for **RMTLOCNAME** is the IP address. This value must match the IP Address value in the Printer Attachment Configuration and the Interface Description.
4. The value for **PORT** is the port number and must match the value for the **IPDS TCP/IP Port Address** value in the printer configuration.
5. The value for **ACTTMR** specifies the number of seconds PSF/400 will wait for the printer to respond to an activation request. A value of NOMAX means that PSF/400 will wait indefinitely to establish connection with a printer, which may be busy because another PSF system is using it.
6. The value for **RLSTMR** specifies how long PSF/400 will maintain a session with the printer while there are no spooled files with a status RDY. A value of NOMAX means PSF/400 will not release the connection to the printer until you enter ENDWTR. If you wish to have PSF/400 share this printer with another PSF system, use a value that is appropriate for your environment.

## PSF/MVS Attachment

In the MVS environment, Print Services Facility (PSF) supports Advanced Function Presentation (AFP) printers as system output devices for deferred printing under the Job Entry System (JES). PSF attached printers are defined as Functional Subsystem Applications (FSAs) that run under separate address spaces called a PSF Functional Subsystem (FSS).

The PSF Functional Subsystem Application dynamically establishes a session for a TCP/IP attached printer and manages the printer until the FSA is stopped.

The tasks you need to perform before you can use the printer are the following:

- Define the PSF/MVS Functional Subsystem.

- Define the Functional Subsystem Application for the printer.
- Update the startup procedure for the PSF Functional Subsystem.
- Modify the TCP/IP Profile in MVS.

For more detailed information refer to the following publications:

- *PSF/MVS System Programming Guide*, S544–3672.
- *PSF/MVS Update Guide*, G544–3984.

The following values from the "Configuration Worksheet" on page 38 will be used in setting up PSF/MVS.

Table 30. Configuration Worksheet Values Used with PSF/MVS

| Configuration Parameter | Available Value Options | Selected Value |
|---|---|---|
| **Token Ring Attachment** | | |
| IP Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| MTU Size (BYTES) | 60 to 4096 | |
| **Ethernet Attachment** | | |
| IP Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| MTU Size (BYTES) | 60 to 1500 | |
| **IPDS Attachment Setup** | | |
| IPDS TCP Port Address | Numeric value is this format : xxxx | |

Enter the values from the Configuration Worksheet into the following table for use while you are setting up PSF. The parameters that appear in this table are used in more than one place and the values must match wherever they are used.

Table 31. PSF/MVS Configuration Values

| Printer Configuration Parameter | Initialization Statement Parameter | Startup Procedure Parameter | MVS TCP/IP Profile Parameter | Value |
|---|---|---|---|---|
| IP Address | | IPADDR | | |
| MTU Size | | | GATEWAY (Packet_Size) | |
| IPDS TCP Port Address | | PORTNO | | |
| | PNAME (JES3) | Printer FSA name | | |
| | JNAME (JES3) | labels for<br>• CNTL<br>• PRINTDEV<br>• ENDCNTL | | |

## JES Printer Initialization Statement

This section provides samples only, of the JES2 and JES3 Initialization Statements. Refer to the JES publication for the level of JES that you are using. The following publications will also provide more detailed information about the JES initialization statements.

***Reference Document*** –

- *PSF/MVS System Programming Guide,* S544–3672.
- *PSF/MVS Update Guide,* G544–3984

These publications provide a detailed description of all the parameters as well as values.

### JES2 Initialization Statement

The following figure shows a JES2 initialization statement. This is a sample only.

```
FSS(FSS1) PROC=SAMPPROC,HASPFSSM=HASPFSSM
PRT1 FSS=FSS1,MODE=FSS,PRMODE=(LINE,PAGE,SOSI1),
     CLASS=C,UCS=0,SEP=YES,SEPDS=no,CKTPAGE=100,
```

*Figure 14. Sample JES2 Initialization Statement*

### JES3 Initialization Statement

The following figure shows a JES3 initialization statement. This is a sample only.

```
FSSDEF,TYPE=WTR,FSSNAME=FSS1,PNAME=PRT1,SYSTEM=SYS1,TERM=NO
DEVICE,DTYPE=PRTAFP1,JNAME=PRT1,JUNIT=(,SYS1,,OFF),FSSNAME=FSS1,
         MODE=FSS,NPRO=99,PM=(LINE,PAGE,SOSI1),CHARS=(YES,GT12)
```

*Figure 15. Sample JES3 Initialization Statement*

## PSF/MVS Startup Procedure

Before starting a PSF Functional Subsystem you must have a cataloged startup procedure in the system procedure library. This procedure specifies PSF initialization parameters and libraries that contain system and installation resources. The procedure can also specify defaults that cannot be set with the JES initialization statements.

Several PSF startup procedures are supplied with PSF. For information on what is supplied see*PSF/MVS Program Directory*, G544–3805.

Included within this section is a sample startup procedure. This is a sample only.

***Reference Document*** –

For detailed information on all the parameters contained within a startup procedure see *PSF/MVS System Programming Guide,* S544–3672.

```
//SAMPPROC PROC
//*THE FOLLOWING STARTUP PROCEDURE DEFINES THE JCL AND
//*PRINTDEV STATEMENTS FOR PRT1 A TCP/IP ATTACHED PRINTER
//STEP01   EXEC PGM=APSPPIEP,REGION=4096K
//JOBHDR OUTPUT PAGEDEF=V06483     /* JOB SEPARATOR PAGEDEF         */
//       FORMDEF=A10110,CHARS=GT12 /* JOB SEPARATOR FORMDEF         */
//JOBTLR OUTPUT PAGEDEF=V06483     /* JOB SEPARATOR PAGEDEF         */
//       FORMDEF=A10110,CHARS=GT12 /* JOB SEPARATOR FORMDEF         */
//DSHDR OUTPUT PAGEDEF=V06483      /* DS SEPARATOR PAGEDEF          */
//      FORMDEF=A10110,CHARS=GT12  /* DS SEPARATOR FORMDEF          */
//MSGDS OUTPUT PAGEDEF=V06462      /* MESSAGE DATASET  PAGEDEF      */
//      FORMDEF=A10110             /* MESSAGE DATASET  FORMDEF      */
//FONT01  DD   DSN=SYS1.FONTLIBB,  /* SYSTEM FONTS - 240 PEL        */
//        DISP=SHR
//        DD   DSN=SYS1.FONTOLN,   /* IBM OUTLINE FONTS             */
//        DISP=SHR
//PSEG01  DD   DSN=SYS1.PSEGLIB,   /* SYSTEM PAGE SEGMENTS          */
//        DISP=SHR
//OLAY01  DD   DSN=SYS1.OVERLIB,   /* SYSTEM MEDIUM OVERLAYS        */
//        DISP=SHR
//PDEF01  DD   DSN=SYS1.PDEFLIB,   /* SYSTEM PAGEDEFS               */
//        DISP=SHR
//FDEF01  DD   DSN=SYS1.FDEFLIB,   /* SYSTEM FORMDEFS               */
//        DISP=SHR
//* ************************************************************      */
//*                     PRINTDEV                                      */
//* ************************************************************      */
//PRT1  CNTL
//PRT1  PRINTDEV FONTDD=*.FONT01,  /* 240 PEL FONT LIBRARY          */
//      OVLYDD=*.OLAY01,           /* OVERLAY LIBRARY DD            */
//      PSEGDD=*.PSEG01,           /* SEGMENT LIBRARY DD            */
//      PDEFDD=*.PDEF01,           /* PAGEDEF LIBRARY DD            */
//      FDEFDD=*.FDEF01,           /* FORMDEF LIBRARY DD            */
//      JOBHDR=*.JOBHDR,           /* JOB HEADER SEPARATOR OUTPUT   */
//      JOBTRLR=*.JOBTLR,          /* JOB TRAILER SEPARATOR OUTPUT  */
//      DSHDR=*.DSHDR,             /* SEGMENT LIBRARY DD            */
//      FORMDEF=A10110,            /* DEVICE FORMDEF DEFAULT        */
//      PIMSG=(YES,16)             /* ACCUMULATE DATASET MESSAGES   */
//      DATACK=BLOCK,              /* BLOCK DATA CHECK ERRORS       */
//      TRACE=NO,                  /* BUILD INTERNAL TRACE          */
//      FAILURE=WCONNECT,          /* ATTEMPT RECONNECT             */
//      DISCINTV=0,                /* NO TIMEOUT                    */
//      MGMTMODE=IMMED,            /* MAINTAIN SESSION              */
//      IPADDR='xxx.xxx.xxx.xxx'   /* IP ADDRESS FOR TCP/IP         */
//      PORTNO='5001'              /* IPDS TCP/IP PORT NUMBER       */
//PRT1  ENDCNTL
```

*Figure 16. Sample Startup Procedure*

## Modifying the TCP/IP Profile in MVS

The TCP/IP profile contains system configuration statements used to initialize the TCP/IP address space. This section contains information about those configuration statements that have special considerations when you are printing from PSF on TCP/IP attached printers. If you change any of the values in the TCP/IP profile, restart TCP/IP to pick up the changes.

For more detailed information about the TCP/IP profile and the statements described in this section refer to.

***Reference Document*** –

- *TCP/IP for MVS : Programmer's Reference*, SC31–7135.
- *IBM TCP/IP MVS Customization and Administration Guide*, SC31–7134.
- *IBM TCP/IP Performance Tuning Guide*, SC31–7188.

The following statements in the MVS TCP/IP profile have special considerations when using PSF to print on a TCP/IP attached printer.

Table 32. MVS TCP/IP Profile Statements

| **Statement** | **Description** | **IBM Recommended Value** |
|---|---|---|
| DATABUFFERPOOLSIZE | Defines the amount and size of the data buffers. | • 160 data buffers<br>• 32768 buffer size |
| SMALLDATABUFFERPOOLSIZE | Defines the amount of small data buffers. | At least 256 |
| TINYDATABUFFERPOOLSIZE | Defines the amount of tiny data buffers | At least 256 |
| KEEPALIVEOPTIONS<br><br>PSF relies on TCP to detect when a connection with a TCP/IP attached printer is no longer usable. TCP sends keep-alive transmissions to the connection partner periodically to determine when a connection is no longer usable. | INTERVAL<br><br>The frequency of the transmissions . | 10 minutes |
| | SENDGARBAGE<br><br>Specifies the contents of the Keep alive packet. | TRUE |
| GATEWAY | Packet Size<br><br>Defines the MTU size to the MVS host.<br><br>For values in the GATEWAY statement other than packet_size, specify the correct value for you installation. | Must match Printer Configuration. |

## Testing the Configuration Setup

To verify that the MVS system can establish a connection with the TCP/IP attached printer, ping the printer from the MVS system.

- From a TSO session enter the following command

  TSO PING *ip-address*
- In JES2, enter the following command from the System Display and Search Facility (SDSF) menu 6:

  ping *ip-address*

**Note:** *ip-address* specifies the IP address of the printer.

### Ping is Successful

A example of a successful ping follows:

```
EZA0458I Ping V3R1: Pinging host 9.99.12.33
(Use ATTN to interrupt.)
EZA0463I PING: Ping #1 response took 0.084 seconds.
Successes so far = 1.
```

*Figure 17. Successful Ping in MVS*

A successful ping usually indicates that the MVS system can communicate with the printer. You may however receive a successful ping even though the TCP/IP attached printer is a duplicate of another IP address.

### Ping is Not Successful

A example of a unsuccessful ping follows:

```
EZA0458I Ping V3R1: Pinging host 9.99.12.33
(Use ATTN to interrupt.)
EZA046I PING: Ping #1 timed out.
```

*Figure 18. Unsuccessful Ping in MVS*

If the ping is not successful, verify the following:

- The printer is powered on.
- The MVS address is unique in the TCP/IP network.

  If the IP address of the MVS system is not unique, see your network administrator to resolve the IP address problem.
- Ensure that the Maximum Transmission Unit (MTU) size is defined with the same value for MVS and the printer.

## PSF/2 Attachment

The tasks you need to perform before you can use the printer are the following:

- Define the printer to PSF/2 as a TCP/IP attached device. See“Creating a TCP/IP Attached PSF/2 Printing Device” on page 56.
- Create a PSF/2 queue for the printer. See “Creating a PSF/2 Queue for the Printer” on page 57.

This attachment requires that TCP/IP be installed on the OS2 print server. For more information about setting up TCP/IP to coexist with OS/2, refer to *IBM Transmission Control Protocol/Internet Protocol Version 2 for OS/2:Installation and Administration*, SC31–6075.

The following publication provide more information on PSF/2.

- *A Guide to Using PSF/2*, G544-5225.
- *Facts about PSF/2*, G544-3890.

## Creating a TCP/IP Attached PSF/2 Printing Device

This section shows how to define *only* the attachment of the printer to PSF/2 print server. You also need the define a partner logical unit to describe the PSF/2 connection to a host processor. If this is a new installation and you need information on configuring PSF/2 for attachment to a host reference whichever of the following manuals is appropriate in your environment:

***Reference Document*** –

- For attachment to a S/370 using Communications Manager/2 see *IBM Print Services Facility for OS/2: A Network Configuration Guide for S/370 and Communications Manager/2*, S544–3911.
- For attachment to an AS/400 using Communications Manager/2 see *IBM Print Services Facility for OS/2: An Installation Cookbook for AS/400 and Token Ring Networks*, G544–3966.

The following values from the "Configuration Worksheet" on page 38 will be used in setting up PSF/2 and TCP/IP for OS2.

Table 33. Configuration Worksheet Values Used with PSF/2

| Configuration Parameter | Available Value Options | Selected Value |
|---|---|---|
| **Token Ring Attachment** | | |
| IP Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| MTU Size (BYTES) | 60 to 4096 | |
| **Ethernet Attachment** | | |
| IP Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| MTU Size (BYTES) | 60 to 1500 | |
| **IPDS Attachment Setup** | | |
| IPDS TCP Port Address | Numeric value is this format : xxxx | |

Enter the values from the Configuration Worksheet into the following table for use while your setting up PSF/2. The parameters that appear in this table are used in more than one place and the values must match wherever they are used.

Table 34. PSF/2 Configuration Values

| Printer Configuration Parameter | PSF/2 Parameter | Setup Queue Parameter | TCP/IP for OS/2 Parameter | Value |
|---|---|---|---|---|
| IP Address | Internet Address | | | |
| MTU Size | | | MTU Size | |
| IPDS TCP Port Address | Port Number | | | |
| | Device name | Device Name | | |

To create a PSF/2 printing device that is attached by TCP/IP, follow these steps:

1. Open the PSF/2 group, then open the PSF/2 Control Panel.
2. Select the **Profile** menu item.

3. Select **New**.
4. Type the printer name is the **Device name** field.
5. Type a description of the printer in the **Description** field.
6. Select **TCP/IP** from the **Attachment type** list.
7. Select the **Settings** push button.
8. In the **Settings** window, you need to provide the following parameters:

Table 35. PSF/2 TCP/IP Attachment Settings – Parameters

| Parameter | Description |
|---|---|
| IP address | Get this address form your network administrator. You can enter the address as a dotted decimal or a named address. If you enter a named address (host name), your network administrator must make sure the host name is mapped to the IP address. This mapping is done in either the \ETC\HOSTS file or on the IP name server. In OS/2, the HOSTS file is normally located in TCPIP\ETC. |
| TCP/IP Port Number | The default is 5001. The port identifies the appropriate internal process in the device. Normally this number should not be changed. However, in some cases it may need to be changed depending on the printer/device to which you are connecting. |
| Form Definition | Type the form definition to be used as the default for this device. (see the online help for sample form definitions) |
| Connect Timeout | Type the number of seconds the print server will wait for the printer to become available. After waiting the specified number of seconds, PSF/2 will no longer attempt to connect to the printer.<br><br>A timeout value of zero means that PSF/2 will continue to attempt to connect to the printer and never timeout.<br><br>By increasing this value, PSF/2 will continue to attempt to connect with the printer until the timeout value has expired or a connection is established.<br><br>Default is 30 seconds. |

9. Select the **Device resolution** to be used when printing metafile data (produced by OS/2 applications) on this device. Refer to the online help for additional information.
10. Select **OK**.
11. Select **Create** to create the PSF/2 device.

## Creating a PSF/2 Queue for the Printer

Once the device has been created, create a queue by doing the following:

1. Select the **Options** menu item.
2. Select **Setup queues**.
3. Type in the name of the queue to be used with the TCP/IP attached device.
4. Type the description of the queue. This information is displayed under the icon for the queue on the OS/2 desktop.
5. Make sure that the **Device name** selected in the **Device** list, is the TCP/IP attached device you created earlier.
6. Select **Setup** and a printer object appears on the desktop.

## PSF for AIX Attachment

The task you need to perform before you can use the printer is:

- Configure PSF for AIX.

The following publications will provide you with detailed information:

***Reference Document*** –

- *AIX for Users of Print Services Facility*, G544-3877, provides an overview of hardware and software prerequisites, and migration considerations.
- *Print Services Facility for AIX: Print Administration*, G544-3817, is intended for use by the system administrator. It provides information on installing, configuring and diagnosing PSF for AIX.

The following values from the "Configuration Worksheet" on page 38 will be used in setting up PSF for AIX.

Table 36. Printer Configuration Worksheet Values Used with PSF for AIX

| Configuration Parameter | Available Value Options | Selected Value |
|---|---|---|
| **Token Ring Attachment** | | |
| IP Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| MTU Size (BYTES) | 60 to 4096 | |
| **Ethernet Attachment** | | |
| IP Address | Numeric value is this format : xx.xxx.xxx.xxx | |
| MTU Size (BYTES) | 60 to 1500 | |
| **IPDS Attachment Setup** | | |
| IPDS TCP Port Address | Numeric value is this format : xxxx | |

Enter the values from the Configuration Worksheet into the following table for use while your setting up PSF. The parameters that appear in this table are used in more than one place and the values must match wherever they are used.

Table 37. PSF for AIX Configuration Values

| Printer Configuration Parameter | PSF Parameter | TCP/IP Parameter | Value |
|---|---|---|---|
| IP Address | Internet Address | | |
| MTU Size | | MTU Size | |
| IPDS TCP Port Address | Port Number | | |

## Configuring PSF for AIX

To configure PSF for AIX, do the following:

1. At the AIX command line prompt, enter: **smit psfcfg**.

The **Manage a PSF for AIX Printer** panel displays.

2. Select **Add a Printer or PSF for AIX Queue**.

   The **Add a Printer or PSF for AIX Queue** panel displays.

3. Select **TCP/IP**.

   The **Add a TCP/IP Attached Printer** panel displays.

4. Fill in the fields, and press **Enter**.

```
* Data stream type                    IPDS
* Printer NAME                      [      ]
* Internet ADDRESS                  [      ]
* PORT number                       [      ]
* Number of QUEUE DEVICES           [      ]
* Connection TIMEOUT (seconds)      [      ]
  Description
```

   **Notes::**

   a. The Internet Address must match the IP address parameter . If you enter a named address (host name). your network administrator must make sure the host name is mapped to the IP address.

   b. The Port number must match the IPDS TCP Port parameter.

5. Exit SMIT.

## Testing the Configuration Setup

To test the configuration setup, ping the printer from a workstation on the network. To ping the printer do the following:

1. At the AIX command line enter: **ping** <*ipaddress*>. Where *ipaddress* is the IP address of the printer.
2. To stop the ping, hold down the **CTRL** key and press the **C** key.

A successful ping response will look similar to the following:

```
PING risc.sl.dfw.ibm.com(9.19.141.xx) : 56 data bytes
64 bytes from 9.19.141.xx: icmp_seq=0 ttl=255 time=12ms
64 bytes from 9.19.141.xx: icmp_seq=1 ttl=255 time=7ms
64 bytes from 9.19.141.xx: icmp_seq=2 ttl=255 time=7ms
```

If the ping response is not successful, ensure that the cables are correctly connected and the correct port is being used.

Once the printer is successfully attached, use the **lpstat**, **enq –A**, or **qchk –A** commands to display the queues and their status.

# Glossary

The following terms are defined as they are used in InfoPrint 62 documentation. If you do not find the term you need, refer to the index or to the *IBM Dictionary of Computing*, SC20-1699.

The following cross-references are used in this glossary:

- Contrast with. This refers to a term that has an opposed or substantively different meaning.
- Synonym for. This indicates that the term has the same meaning as another term, which is defined.
- Synonymous with. This identifies terms that are synonyms for the term that is defined.
- See. This refers to multiple-word terms that have the same last word.
- See also. This refers to related terms that have a similar, but not synonymous, meaning.

## A

**adhesive label.** Special-application material; typically consists of paper labels coated on one side with an adhesive mixture temporarily affixed to backing material. See also *carrier*.

**Advanced Function Common Control Unit (AFCCU).** An IBM RISC-based control unit with code common to all printers that use the AFCCU.

**all-points addressability.** The capability to address, reference, and position text, overlays, and images at any defined point on the printable area of a page.

**application.** The use to which an information processing system is put; for example, a payroll application, an airline reservation application, a network application.

**application program.** A program written for or by a user that applies to the user's work, such as a program that does inventory control or payroll.

**application programmer.** A person who develops application programs. Contrast with *system programmer*.

**auto load.** In the InfoPrint 62 Library, the automatic forms threading facility.

## B

**bar code.** A code representing characters by sets of parallel bars of varying thickness and separation that are read optically by transverse scanning.

**basis weight.** The weight in pounds of a ream (500 sheets) of paper cut to a given standard size for that grade; for example, 25 x 38 inches for book papers, 17 x 22 inches for bond papers, and other sizes for other grades. The basis weight of continuous forms for computer output is based on the size for bond papers.

**binder holes.** A series of holes or slots punched at set intervals that allows the form to be inserted in a loose-leaf or ring binder.

**bond (paper).** Paper formulated with at least 80% wood pulp. .

## C

**calender.** A process to make paper smooth or glossy by passing it through a series of metal rollers during the last steps of a paper-making machine.

**calender cut.** Slits, glazed lines, or discolored lines across the paper caused when wrinkles pass through the calender rollers.

**caliper.** The thickness of forms. This is usually expressed in thousandths of an inch.

**carrier.** The backing material for labels. Labels consist of the printable material, the adhesive, and the carrier.

**chad.** (1) The material separated from a data medium when punching a hole. (2) The residue separated from the carrier holes in continuous forms.

**channel command.** An instruction directing a data channel, control unit, or device to perform an operation or set of operations.

**character.** A letter, number, punctuation mark, or special graphic used for the production of text.

**character set.** (1) A finite set of different characters that is complete for a given purpose; for example, the character set in ISO Standard 646, "7-bit Coded Character Set of Information Processing Interchange." (2) A group of characters used for a specific reason; for example, the set of characters a printer can print.

**check.** As used in InfoPrint 62, instructs the printer operator to inspect a component.

© Copyright IBM Corp. 1997

**clear.** As used in InfoPrint 62, instructs the printer operator to remove jammed forms, paper scraps, and other debris from the printer.

**coated paper.** Paper that has had a surface coating applied to produce smoothness.

**configuration.** (1) The arrangement of a computer system or network as defined by the nature, the number, and the chief characteristics of its functional units. More specifically, the term configuration may refer to a hardware configuration or a software configuration. (2) The devices and programs that make up a system, subsystem, or network.

**configure.** The procedure used to customize the InfoPrint 62 to a specific operating and communication environment.

**connector.** A means of establishing electrical flow.

**constant data.** Data that does not change; for example, the company letterhead and standard text in form letters, or the headings and boxes on a preprinted form. Contrast with *variable data*.

**continuous forms.** A series of connected forms that feed continuously through a printing device. The connection between the forms is perforated to allow the user to tear them apart.

**controlled-access area.** An area where access is limited to authorized personnel.

**controlling computer system.** The data-processing system to which a network is connected and with which the system can communicate.

**corner cut.** In a form, a cut or opening of any size containing one or more right angles.

**corona.** A small diameter wire (or wires, depending on the function) to which a high voltage is applied, causing ionization of the air. The ionization creates an electrical charge to perform various functions during the printing process.

**cut.** The severed part of a perforation. Cuts are separated by ties. See also *perforation*.

**cutout.** A part of the form that has been eliminated or perforated for subsequent removal; for example, corner cuts and binder holes.

# D

**data streaming.** A noninterlocked method of data transfer used by the printer channel to decrease data transfer time during write operations.

**developed image.** The image that has been exposed onto the photoconductor and covered with toner by the developer.

**developer mix.** A combination of carrier beads and toner in which the beads electrically charge the toner.

**diagnostic.** Pertaining to the detection and isolation of errors in programs and faults in equipment.

**diagnostic mode.** The operational mode in which the printer can check itself in case of a malfunction. When the InfoPrint 62 is in diagnostic mode, it is not accepting information from the attached controlling computer system. In the InfoPrint 62, only service representatives can use diagnostic mode. Contrast with *print mode* and *test mode*.

**direct attach.** The environment in which an application program directly allocates the InfoPrint 62 printing subsystem.

**dishing.** The curve a stack of forms takes when folded or refolded at the fold perforation.

**diskette.** A thin, flexible, magnetic disk enclosed in a protective jacket.

**Document Composition Facility (DCF).** An IBM licensed program that provides text formatting for the InfoPrint 62.

**down fold.** Fanfold forms are alternately folded. When fanfold forms are unfolded and held horizontally, a fold is a down fold if it points down from the horizontal surface.

**DPI.** Dots per inch.

**drag.** The resistance to forms feeding freely into the printer; for example, the form rubbing against the carton.

# E

**electronic overlay.** A collection of constant data electronically composed in the controlling computer. Can be merged with variable data on a page during printing. An electronic overlay defines its own environment. It can be in coded form or raster pattern form. See also *preprinted form*.

**electrophotographic process.** The creation of an image on forms by uniformly charging the photoconductor, creating an electrostatic image on the photoconductor, attracting negatively charged toner to the discharged areas of the photoconductor, and transferring and fusing the toner to forms.

**emboss.** To press and raise the surface of paper into a design. Embossed paper appears thicker than nonembossed paper, can increase printer wear, and can degrade print quality.

**end-of-forms sensor.** A sensor that detects when the last sheet of a form enters the printer.

**error log.** (1) A data set or file in a product or system where error information is stored for later access. (2) A record of machine checks, device errors, and volume statistical data.

**Ethernet.** A local area network that allows attachments to transmit on the network without prior coordination.

**exchange.** As used in InfoPrint 62 action messages, instructs the printer operator to remove a component and then install a new one. For example, the `EXCHANGE MAIN CHARGER` message indicates that the operator should take out the main charger, and put in a new one.

## F

**fanfold.** Continuous forms that are alternately folded at regular intervals, usually on a perforation.

**fold memory.** The ability of a form to refold at the fold perforation after exposure to heat during the fusing process.

**fold perforation.** The perforation on which a form is folded during manufacture and refolded after printing. See also *page perforation*.

**Font Library Service Facility (FLSF).** A licensed program that provides a way to make changes to a font while retaining its correct format, as defined by the architecture and as required by Print Services Facility.

**format.** (1) The arrangement or layout of data on a data medium. (2) The size, style, type of page, margins, printing requirements, and so on, of a printed page.

**forms.** The material on which output data is printed, such as paper or adhesive labels. The area between perforations on continuous printer forms. See *electronic overlay* and *preprinted form*.

**forms path.** The entire route that forms travel during processing. The forms path usually begins where the forms are loaded and ends at the stacker. Synonym for *paper path*.

**fuse.** In the InfoPrint 62, to use heat to blend toner onto forms to make a permanent bond. In some printers, the fusing process use heat and pressure.

## G

**graphic.** A symbol produced by a process such as handwriting, drawing, or printing. See also *vector graphics*.

**Graphical Data Display Manager (GDDM).** An IBM licensed program that allows pictures to be defined and displayed through function routines.

## I

**IBM branch office.** The local IBM sales office.

**IBM installation planning representative.** An IBM representative who assists customers in planning and meeting the requirements for installing hardware.

**IBM marketing representative.** An IBM representative who takes your order.

**IBM service representative.** An IBM representative who services IBM products in the field.

**IBM World Trade Corporation.** A subsidiary of IBM that manufactures and markets IBM products outside of the United States of America.

**installation.** (1) In system development, preparing and placing a functional unit in position for use. (2) A particular computing system, including the work it does and the people who manage it, operate it, apply it to problems, service it, and use the results it produces.

**installation verification procedure.** A procedure distributed with IBM licensed programs that tests the newly installed IBM programs to verify that the basic facilities of the programs are functioning correctly.

**Intelligent Printer Data Stream (IPDS).** Information the system sends to printers that contains decision-making capability. Generally, this information contains basic formatting, error recovery, and character data.

**IPM.** Impressions Per Minute

**ISO sizes.** Pertaining to a set of paper sizes selected from those standardized by the International Organization for Standardization (ISO) for use in data processing.

## J

**jam.** In a printer, a condition where forms have become blocked or wedged in the forms path so the printer cannot operate.

## L

**LAN.** Local Area Network

**landscape orientation.** Text and images that are printed parallel to the longer side of the forms. Contrast with *portrait orientation*.

**latent image.** In a printer, the invisible image that exists in the sensitized material after exposure but before development.

**layout plan.** A list of requirements, such as electrical and space, that must be considered before installing the printer.

**library.** A collection of related files. For example, one line of an invoice may form an item, a complete invoice may form a file, and the collection of inventory control files may form a library. The libraries used by an organization are known as the data bank.

**licensed program.** A separately priced program that bears an IBM copyright and is offered to customers under the terms and conditions of the Agreement for IBM Licensed Programs.

**line printer.** A printer that prints a line of characters as a unit. Contrast with *page printer*.

**logical page.** The print on the page, such as composed text, graphics, and fonts within defined margins. Contrast with *physical page*.

**logo.** An identifying emblem, statement, or motto of a company.

# M

**microcode.** In the InfoPrint 62, refers to the microprogramming stored on the microcode (or EC) diskette. Microcode is used by the control unit to manage the printer and its functions.

**microperforation.** Extremely small perforations. After forms are separated, those with microperforations typically have smoother edges than those with regular perforations.

# N

**nonimpact printer.** A printer in which printing is not the result of mechanical impacts. Contrast with *impact printer*.

**nonprocess runout (NPRO).** An operation that moves forms through the forms path without printing.

# O

**offset paper.** A grade of paper to which sizing is added to resist moisture and surface during printing by ink presses.

**operating environment.** The physical environment; for example, temperature, humidity, layout, or power requirements.

**operating requirements.** A list of requirements, such as environmental, electrical, and space, that must be satisfied before the printer can be installed.

**optical character recognition (OCR).** Character recognition that uses optical means to identify graphic characters.

**orientation.** The number of degrees an object is rotated relative to a reference; for example, the orientation of an overlay relative to the page point of origin. See also *text orientation*.

**overlay.** See *electronic overlay*.

**Overlay Generation Language/370 (OGL/370).** The licensed program that is used to create electronic overlays.

# P

**page.** A printed form. See also *logical page* and *physical page*.

**page definition (PAGEDEF).** A statement that specifies attributes of a logical page, such as the width of its margins and the orientation of text.

**page perforation.** The perforation that defines the page of a form. It may or may not be at a fold in the form. A form may have several pages between each fold. See also *fold perforation*.

**page printer.** A device that prints one page as a unit. Contrast with *line printer*.

**pallet.** A portable platform for handling, storing, or moving materials.

**paper break.** A separation, either at a perforation or from a tear, of the continuous-forms paper.

**paper path.** The entire route that forms travel while they are being processed. The paper path usually begins where the forms are loaded and ends at the stacker. Because not all forms are paper, the term *forms path* is preferred.

**parameter.** A variable that is given a constant value for a specified application and that may denote the application.

**PC drum.** A hollow cylinder that is covered with photoconductive material.

**pel (picture element).** (1) An element of a raster pattern; a point where a toned area on the photoconductor may appear. (2) On an all-points-addressable output medium, each pel is an addressable unit. On a row-column addressable output medium, the only pel addressable is the beginning of a character cell.

**perforation.** A linear series of unconnected cuts in the continuous-forms paper. The interval between cuts is referred to as a tie. The perforation defines either a fold

or page boundary. See also *cut*, *fold perforation*, *microperforation*, and *page perforation*.

**photoconductor.** The material that is wrapped about the drum. The medium for transferring images to paper.

**physical page.** The form on which the printer is printing, such as an 11 x 8.5-inch sheet of paper. Contrast with *logical page*.

**physical planner.** The person in an organization who plans the environmental, electrical, and space requirements for your facility.

**planning coordinator.** The person in your organization who is responsible for coordinating all the planning and installation activities for the printer.

**plant.** A manufacturing location.

**point of origin.** The location of the first print position on a logical page. The point of origin is usually stated in terms of X and Y coordinates. The point of origin used by a printer can be affected by factors such as printable area and forms orientation.

**portrait orientation.** Pertaining to a display or hard copy with greater height than width. Contrast with *landscape orientation*.

**preprinted form.** A sheet of forms containing a preprinted design of constant data with which variable data can be combined. See also *electronic overlay*.

**print mode.** The operational mode in which information is received from the attached controlling computer system and printed output is produced. Contrast with *test mode* and *diagnostic mode.*

**print position.** The physical positions of the characters constituting a print line relative to the form.

**print quality.** The quality of printed output relative to existing standards and in comparison with jobs printed earlier.

**print surface.** The side of a form that receives the printed image.

## R

**registration.** In printing, refers to the relative print positions of images that are printed at different times. For example, when you process preprinted forms, the registration is good if the new image printed aligns correctly with the preprinted image. Print that extends beyond box edges and text that overlaps other text are examples of poor registration.

**resource.** (1) People, equipment, or material used to perform a task or a project. (2) Any facility of a computing system or operating system required by a job or task, including main storage, input/output devices, processing units, data sets, and controller processing programs; for example, page printers use resources such as form definitions, page definitions, and fonts.

**reverse heading.** A heading where each character is highlighted by reversing the color of the character with its background; for example, changing a black character on a white background to a white character on a black background.

## S

**scanner.** A device that examines OCR, graphics, MICR, or bar-code patterns and generates electrical signals corresponding to the pattern. It sends the signals to a computing device for processing.

**screen or screening.** In document printing, a sheet of material, usually film, carrying a regular pattern of small dots. When printing, ink adheres only to the dots, and many dots close together appear solid. This method prints large areas of ink on paper but uses much less ink than printing the same area with solid ink.

**security paper.** Specially formulated paper used for negotiable documents, such as checks, which improves the anti-fraud characteristics of the document.

**shift.** A scheduled work period. For example, a 24-hour day is often divided into three 8-hour shifts.

**sizing.** A process where paper is treated to give it resistance against penetration of liquids.

**special-purpose materials.** Printable items other than blank forms; for example, adhesive labels and preprinted forms.

**stack lean.** A measurable slope from the vertical of a stack of forms. Excessive stack lean can cause failures when feeding and refolding forms.

**system reference code.** A code that contains information, such as a failing field-replaceable unit, for a customer engineer.

**system programmer.** A programmer who plans, generates, maintains, extends, and controls the use of an operating system, with the aim of improving overall productivity of an installation. Contrast with *application programmer*.

## T

**task.** A basic unit of work to be accomplished by a device or an operator.

**TCP/IP.** Transmission Control Protocol/Internet Protocol. A set of communication protocols that support peer-to-peer connectivity functions for both local and wide area networks.

**tensile strength.** A measure of the force that the paper forms can withstand without tearing.

**test mode.** The operational mode in which the printer can produce print samples, accept configuration changes, and control traces. When the printer is in test mode, they is not accepting information from the attached controlling computer system. Contrast with *print mode* and *diagnostic mode*.

**text orientation.** The position of text as a combination of print direction and baseline direction.

**tie.** The interval between cuts of a perforation. See also *perforation*.

**Token.** In a local area network, a particular message or bit pattern passed successively from one attaching device to another to indicate which attachment has permission to transmit.

**Token ring.** A network with a ring topology that passes tokens from one attaching device to another.

**toner.** The material that forms the image on the paper.

**trace.** (1) A record of the running of a computer program. It exhibits the sequences in which the instructions were executed. (2) To record a series of events as they occur. (3) In the InfoPrint 62 Library, a customer engineer and customer analysis procedure.

**tractor.** The mechanism that controls movement of continuous forms by way of holes (see *tractor holes*).

**tractor holes.** The holes in the side margins on continuous forms. When placed on the tractor pins, the holes maintain printer alignment and registration, and control the movement of the paper.

# U

**up fold.** Fanfold forms are alternately folded. When fanfold forms are unfolded and held horizontally, a fold is an up fold if it points up from the horizontal surface.

# V

**variable data.** The data that can vary; for example, the names and addresses in form letters.

**void.** (1) A missing part of the printed character. (2) A missing piece of a continuous form.

# Index

## Numerics

32MB RAM 5

## A

acoustic levels 18
Advanced Function Image and Graphics 9
AFP programs 11
air conditioning 13
AIX 58
  configuration values 58
  configuring PSF 58
  ping 59
  testing configuration 59
application environment 9
  Advanced Function Image and Graphics 9
AS/400 attachment 44
  configuration values 44
  device description 47
  Ethernet interface description 47
  Ethernet line description 46
  interface description 46
  line description 45
  PSF configuration 48
  Token Ring interface description 47
  token ring line description 45
attachment requirements 19
  Ethernet 19
  token ring 19
attachments configuration 23
  Ethernet 25
  IPDS attachment 26
  overview 23
  TCP/IP System 24
  Token Ring 24

## C

cable, power 15
characteristics 5
  error log 6
  fonts 11
  message display 6
  print samples 7
  print speed 5
  print width 6
  printable area 6
  traces 6
checklists 35
  pre-installation 36
code pages 29
configuration 21
  attachments overview 23
  code pages 29
  default font 28
  Ethernet 25
  IPDS application 27
  IPDS attachment 26
  printer configuration 26
  TCP/IP System 24
  Token Ring 24
configuration *(continued)*
configuration worksheet 38
configuring the printer 21
consumption, power 15
creating a queue, PSF/2 57
creating printing device, PSF/2 56

## D

default font 28
  code pages 29
  overview 28
  using 28
defining forms 30
  overview 30
  parameters 30
  predefined forms parameters 31
description 1
device description, AS/400 47
dimensions 5
dissipation, power 15

## E

environment specifications 13
error log 6
Ethernet 19
Ethernet configuration 25
  parameters 25

## F

features 2
  attachment 2
  Ethernet 10Base2 2
  Ethernet 10BaseT 2
  gravity stacker 4
  memory 5
  power stacker 4
  stacker 3
  Token Ring 2
fonts 11
forms 5, 30
  predefined 31
forms identification worksheet 40

## G

gravity stacker 4

## H

host system 43
  AIX 58
  AS/400 44
  overview 43
host system *(continued)*
  PSF/2 55
  PSF/MVS 50
humidity 13

## I

initialization statement 52
  JES2 52
  JES3 52
installation planning worksheet 35
installation requirements 20
interface description, AS/400 46
introduction 1
IPDS application 27
  configuration parameters 27
  default font 28
IPDS Attachment Setup 26
  parameters 26

## J

JES 50
  initialization statement 52
  startup procedure 52
Job Entry System 50

## L

line description, AS/400 45

## M

memory feature 5
message display 6
MVS environment 50
  configuration values 51
  initialization statement 52
  startup procedure 52
  TCP/IP profile 53
  testing configuration 54

## O

operating environment 13
  air conditioning 13
  humidity 13
  specifications 13
  temperature 13
  ventilation 13
operator responsibilities 7

## P

physical environment 13
  attachment requirements 19
  installation requirements 20
  physical layout 17

© Copyright IBM Corp. 1997

physical environment *(continued)*
space requirements 17
physical layout 17
ping, AIX 59
ping, MVS 54
plug, power 16
power 14
cable 15
consumption 15
dissipation 15
plug 16
receptacle 15
source requirements 14
power conversion unit 16
power receptacle, power 15
power source 14
power stacker 4
pre-installation checklist 36
print samples 7
print speed 5
print width 6
printable area 6
printer 1
AFCCU 2
description 1
features 2
system components 2
printer configuration 26
parameters 26
processing environment 9
acoustic levels 18
applications 9
power conversion unit 16
PSF/2 attachment 55
configuration values 56
creating a queue 57
creating printing device 56
PSF configuration object, AS/400 48
PSF/MVS 50
configuration values 44, 51
ping 54
startup procedure 52
TCP/IP profile 53
testing configuration 54
PSF support 10

## R

requirements, power source 14

## S

software support 10
space requirements 17
specifications 5, 13
dimensions 5
environment 13
specifications *(continued)*
operating 14
forms 5
physical 5
weight 5
supplies 33
obtaining 33
storing 34
warranty 33

## T

TCP/IP System Configuration 24
parameters 24
temperature 13
token ring 19
Token Ring Configuration 24
parameters 24
traces 6

## V

ventilation 13

## W

weight 5
worksheets 35
configuration 38
forms identification 40
installation planning 35

Printed in the United States of America
on recycled paper containing 10%
recovered post-consumer fiber.

G544-5384-00