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VisualAge Pacbase

Pocket Guide

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DBPOC000251A

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This Pocket guide describes the command language used to access the different VisualAge Pacbase screens.
All VisualAge Pacbase screens can be accessed via input in the OPERATION CODE and CHOICE fields (O: CH:), located at the bottom of the screens.
The OPERATION CODE field is made up of 2 characters. The first character indicates the desired sub–network and the second indicates the requested screen presentation option.
The CHOICE field is used to select a screen.
A set of hierarchical "MENUS" guide the user in accessing the various screens of the System.
The General Menu can be accessed by entering "H" in the CHOICE field, or, on the sign–on screen, by pressing ENTER with no input in the CHOICE field.
An Entity sub–menu may be accessed by positioning the cursor on the desired sub–menu line and pressing ENTER. If the cursor position is not supported by the hardware in use, enter a slash "/" in the input field of the corresponding line and pressing ENTER.

Conventions

In the entities choices descriptions, (M) means Update allowed

Please let us know if you find any errors or omissions to that we can improve this manual.

TABLE OF CONTENTS

THE FUNCTION KEYS

The access to the various screens, in VisualAge Pacbase database, is facilitated by the cursor position or the Use of PFkeys.
The use of these functions depends on the hardware and operating system in use at the site. If the hardware does not support the standard use of function keys, you can use ".nn" Choice to simulate "PFnn" function key use (for example, PF7 —> CH: .7).
In any case, the use of the standard command language is always valid.
The standard assignment of Function Keys is resumed as follows:

Number	Standard significance
PF1	Recall screen memorized in M1 (equivalent to operation code R1)
PF2	Recall screen memorized in M2 (equivalent to operation code R2)
PF3	Recall screen memorized in M3 (equivalent to operation code R3)
PF4	Call screen–related HELP (equivalent to action code "?")
PF5	Return to main menu (equivalent to choice "H")
PF6	Return to initial screen (equivalent to operation code "FT")
PF7	Inhibits implicit updates
PF8	CICS: "–TC" screen display starting from cursor position
PF9 or	Call of "–TC" screen from "–PG" and vice–versa Zoom on key description from screen B..... DR
PF10	Branch to Entity Definition screen
PF11	Branch to Entity or Description Line General Documentation ("G")
PF12	End of session with conversation saved

THE CHOICE FIELD

Presentation

1 – Access an Entity

- Each entity is identified by a 1–character entity type code:

*	LIBRARY
K	KEYWORD
T	TEXT
V	VOLUME
U	USER MANUAL
E	ELEMENT
D	DATA STRUCTURE
S	SEGMENT
I	INPUT AID
B	BLOCK DATABASE
O	ON–LINE SCREEN
R	REPORT
P	PROGRAM
M	MODEL ENTITY
F	USER ENTITY
Q	USER RELATIONSHIP
$	USER ENTITY ITEM

- Definition screen for an entity is accessed by entering the appropriate 1–character entity type code:
  Program Definition P .....
  On–Line Screen Definition O .....

- Depending on the entity, different description screens can be accessed:

  - The description of an entity is generally accessed by the 1–character code D:
    Element Description E ..... D

  - Call screens are used to call an entity within another. Use C for call followed by the entity type code:
    Program Call of Program P ..... CP
    Segment Call of Elements S .... CE

  - Specific screens used to further describe an entity are accessed through a 1–character code:
    Program Work Areas P ..... W –– ...
    Program Procedural Code P ..... P .. –– ...

NB: Available function keys and "choice", "operation", "action code" fields are detailed in the User Interface Guide.

- Cross-References of an entity are accessed by entering X, optionally followed by the key of the first line to be displayed:
  Element X-Reference to Program pppppp, starting with Procedural Code ff sf lll:
  E ..... XP{pppppp P ff sf lll}

- Assigned Text is accessed by entering AT:
  On-Line Screen Assigned Text O ..... AT

- General Documentation is accessed by entering G:
  Input Aid General Documentation I ..... G

Remark: Once an entity has been selected, the combination "entity type/entity code" can be replaced with a "-".

2 - Lists of entities

- An entity list is obtained by entering an "L"

- The second character specifies the type of list:

List by code	LC
List by type	LT
List by name	LN
List of undefined entities in dictionary	LF
List by code for update	LU
List by external name	LE

- The third character specifies the entity type: LCT List by Code Text

Remark: Special list commands are described with each entity.

3 - Special choices

- Special requests are entered with an explicit one to four character code:

Journal File Display of transactions	JO
Activity Calculation on Segment	S .... ACT

- Menus are accessed by entering H with or without the entity type code specified:

Elements menu	HE
Special choices menu	HSC

Library

Definition (U)
* ...

General Documentation (U)
* ... G ...

Cross-References to User Relationship
* ... XQ .....^...

List of Libraries by code
LC * ...

Keyword

Enrichment of the Thesaurus (U)
K .....

Word Search
WS

List of Keywords by code
LCK .....

NB: For a detailed description of Library and Keyword entities, see the Specifications Dictionary Reference Manual.

Element

Definition (U)
E .....

General Documentation (U)
E ..... G ...

Assigned Text
E ..... AT .....

Cross-References
E X

to Text
E ..... XT .....

to Model Entity
E ..... XM .....

to User Relationships
E ..... XQ .....

to Volume
E ..... XV .....

to Segments
E ..... XS ....

to Reports
E ..... XR ...
E ..... XR ... CE

to User Entity
E ..... XF .....

to Relational/SQL Key
E ..... XK .....

to Database Block
E ..... XB .....
E ..... XB ..... DH ...
E ..... XB ..... DC ...
E ..... XB ..... DR ...

to On-Line Screens
E ..... XO .....
E ..... XO ..... CP .....
E ..... XO ..... W -- ...
E ..... XO ..... B ..--...
E ..... XO ..... P .. -- ...

NB: For a detailed description of Element entity, see the Specifications Dictionary Reference Manual.

to Programs
E ..... XP .....
E ..... XP ..... CP .....
E ..... XP ..... W -- ...
E ..... XP ..... B ..--...
E ..... XP ..... P .. -- ...
E ..... XP ..... 8 .....
E ..... XP ..... 9 .....
E ..... XP ..... FC -- ...

Description (U)
E ..... D ...

List of Undefined Elements in Dictionary
by code LFE .....

List of Elements
by code LCE .....
by name LNE .....
for update (U) LUE .....
(C2 : 3 formats indicated)
by Label LALE .....
by COBOL name LACE .....
by Relational name LARE .....

Text

Definition (U)
T .....

General Documentation (U)
T ..... G ...

Assigned Text
T ..... AT .....

Cross-References
T X

Cross-References to User Manual
T ..... XU ..

Cross-References to Volume
T ..... XV .....

Cross-References to Documentation
T ..... XG ...

Cross-References to Text
T ..... XT .....

Cross-References to User Relationships
T ..... XQ .....

List of Section Titles
T ..... LT ..

Description of Section (U)
T ..... D .. ---

Simulation of Section Desc.
T ..... SIM ... D ..

List of Texts
by type LTT .. T .....
by code LCT .....

NB: For a detailed description of Text entity, see the Specifications Dictionary Reference Manual.

Volume

Definition (U)
V .....

General Documentation (U)
V ..... G ...

Assigned Text
V ..... AT .....

Cross-References
V X

to Volume
V ..... XV .....

to User-Defined Relationships
V ..... XQ .....

Description of Contents (U)
V ..... D .. -- ...

List of Volumes
by Type LTV .
LTV .V .....
by Code LCV .....

User Manual

Definition (U)
U ..

General Documentation (U)
U ..G ...

NB: For a detailed description of Volume entity, see the Personalized Documentation Manager Reference Manual. For the User Manual entity, see the Specifications Dictionary Reference Manual.

Cross-Reference to User Relation
U .. XQ .....

Description (U)
U .. D .. --

List of User Manuals by Code
LCU ..

(Parameterized) Input Aid - (P.I.A.)

Definition (U)
I .....

General Documentation (U)
I ..... G ...

Assigned Text
I ..... AT .....

Cross-References
I X
I ..... X* ...
I ..... XD ..
I ..... XR ...
I ..... XO .....
I ..... XM .....
I ..... XB .....
I ..... XT .....
I ..... XV .....
I ..... XI .....
I ..... XP .....
I ..... XS ....
I ..... XF .....
I ..... X$ --.....
I ..... XQ .....
I ..... XE .....
I ..... XU ..

Description (U)
I ..... D ...

List of Input Aids by code
LCI .....

List of Input Aid by External Ref's
LXI .....

X-Refs of Input Aid External Ref's
XI .....
XI ..... I .....

NB: For a detailed description of Input Aid entity, see the Specifications Dictionary Reference Manual.

Data Structure

Definition (U)
D ..

General Documentation (U)
D .. G ...

Assigned Text
D .. AT .....

Cross-References
D .. X

to User-Defined Relationships
D .. XQ .....

to Volumes
D .. XV .....

to Programs
D .. XP .....
D .. XP ..... W -- ...

to Screens
D .. XO .....
D .. XO ..... W -- ...

Data Structure List

of segments	D .. LS ..
of reports	D .. LR .

List of Data Structures

by code	LCD
by type	LTD . LTD . D ..
by external name	LPD .....

NB: For a detailed description of Data Structure and Segment entities, see the Specifications Dictionary Reference Manual.

Segment

Definition (U)
S ....

General Documentation (U)
S .... G ...

Assigned Text
S .... AT .....

List within Segments
of Parent Segments S .... LSP ....
of Child Segments S .... LSC ....

Cross–References
S X

to Segments
S .... XS ....

to User–Defined Relationships
S .... XQ .....

to Volumes
S .... XV .....

to Database Blocks
S .... XB .....

to Programs
S .... XP .....
S .... XP ..... W –– ...

to Screens
S .... XO .....
S .... XO ..... W –– ...

Sub–schemas and Sub–systems (U)
S .... SS .–

Integrity Constraints on Segment
S .... CN .....

Call of Elements (U)
(C2 : internal format)
(C3 : output format)
S .... CE ...
Documentation (U)
S .... CE ... G ...

View of statistical information
Level, Address and Length S .... LAL
Data Element Details S .... DED
Statistics S .... STA
Activity S .... ACT

DB2 View Description (U)	S .... DBE ...
Socrate Description (U)	S .... SE ...
List of Segments by code	LCS ....

Report

Definition (U)
R ...

General Documentation (U)
R ... G ...

Assigned Text
R ... AT .....

Cross–References
R ... X

to Volumes
R ... XV .....

to Programs
R ... XP .....

to User Relationships
R ... XQ .....

Layout (U)
R ... L ..
R ... L .. C ...
(C for column)

Description (U)
R ... D .. ---

Call of Elements (U)
R ... CE .. ---
(C2 : output format)

List of Reports

by code	LCR ...
by type	LTR.
	LTR . R ...

NB: For a detailed description of Report entity, see the Batch Systems Development Reference Manual.

Program

Definition (U)	P .....
General Documentation (U)	P ..... G ...
Assigned Text	P ..... AT .....
Cross–References	P X
to Volumes	P ..... XV .....
to User–Defined Relationships	P ..... XQ .....
to Programs (U)	P ..... XP .....
to Screens (U)	P ..... XO .....
Call of Data Structures (U)	P ..... CD ..
(zoom)	P ..... HCD ..
Call of P. M. S. (U)	P ..... CP .....
Beginning Insertions (U) (C2 : with source)	P ..... B .. –– ...
Work Areas (U) (C2 : with source)	P ..... W –– ...
Procedural Code (U) (C2 : with source)	P ..... P .. –– ...
Specific Treatments (U) (C2 : with source)	P ..... 8 .....
Pure COBOL Source Code (U) (C2 : with source)	P ..... 9 .....
COBOL Generator (Reverse Eng.) Source Code (U)	P ..... SC .. –– ...
List of Programs	
by code	LCP .....
by external name	LEP .....
by type	LTP . P .....
List of Titles	
without Condition	P ..... TO .. –– < ..
with Conditions	P ..... TC .. –– < ..
with Conditions	P ..... < ..
	P ..... < .. TC ....
	P ..... < .. TO ....
(C2 : with source for–TC and–<)	
Generated Procedural Code (U)	P ..... PG .. –– ...
List of Titles of Functions	P ..... STR ....

NB: For a detailed description of Program entity, see the Structured Code Reference Manual.

On-Line Screen

Definition (U)
O .....

General Documentation (U)
O ..... G ...

Assigned Text
O ..... AT .....

Cross-References
O X

to Screens
O ..... XO .....

to User-Defined Relationships
O ..... XQ .....

to Volumes
O ..... XV .....

to Segments
O ..... XS ....

Call of Elements (U)(C2)(C3)
O ..... CE ...

Call of Segments (U)
O ..... CS - ....

Call of P.M.S. (U)
O ..... CP .....

Beginning Insertions (U)
O ..... B .. -- ... (C2 : with source)

Work Areas (U)
O ..... W -- ... (C2 : with source)

Procedural Code (U)
O ..... P .. -- ... (C2 : with source)

Layout (U)
O ..... L .. C ... (C for column)

Mapping (U)
O ..... M .. C ... (C for column)

Dialogue Complement (U)
O ..... O

Dialogue Simulation (C1 , C3, C4 or C5)
O ..... SIM ..

Address of Elements
O ..... ADR .. C ...

List of Screens
by code
LCO .....

by external program name
LPO .....

by external map name
LSO .....

by transaction name
LTO .....

by type
LNO .. O .....

List of Titles
without condition
O ..... TO .. -- < ..

with condition (U)
O ..... TC .. -- < ..

with condition (U)
O ..... < ..
O ..... < .. TC ....
O ..... < .. TO
(C2 : with source for-TC and-<)

Generated procedural Code(U)
O ..... PG .. -- ...

NB: For a detailed description of On-Line Screen entity, see the Online Systems Development Reference Manual.

Database Block

Definition (U)
B .....

General Documentation (U)
B ..... G ...

Assigned Text
B ..... AT .....

Cross-References
B X

to Volumes
B ..... XV .....

to User Relationship
B ..... XQ .....

to Blocks in PSB'S
B ..... XB .....

to Screens
B ..... XO .....
B ..... XO ..... CS ....
B ..... XO ..... W ..

to Programs
B ..... XP .....
B ..... XP ..... W ..

Description (Hierarchical) (U)
B ..... DH ...
Documentation (U)
B ..... DH ... G ...

Description (Codasyl/DB2) (U)
B ..... DC ...
Documentation (U)
B ..... DC ... G ...

Description (Relational/SQL) (U)
B ..... DR ...
Documentation (U)
B ..... DR ... G ...
Building of Relational/SQL Key (U)
B ..... DR ... K

Description (Turbo.Image)(U)
B ..... DT ...
Documentation (U)
B ..... DT ... G ...

Generation of SQL commands
B ..... GEN

Interactive SQL	
B ..... SQL	
List of Blocks	
by code	LCB .....
by type	LTB..———
by external name	LEB –– .....
List of Areas by code	LCA .....
List of Codasyl Sets by code	LCC .....
Codasyl Activity on a Set	C ..... ACT
List of Objects in Relational/SQL Blocks	
by type/code	LTS – .....
by type/external name	LES – .....

Model Entity

Definition (U)	M .....
General Documentation (U)	M ..... G ...
Assigned Text	M ..... AT .....
Cross–References	M X
to Model Entities	M ..... XM .....
to User Relationships	M ..... XQ .....
to Segments	M ..... XS ....
to Volumes	M ..... XV .....
to DB Blocks	M ..... XB .....
Relationship Call of Objects (U)	M ..... CM ...
Documentation (U)	M ..... CM ... G ...
Call of Elements/Attribute (U)	M ..... CE ...
Documentation (U)	M ..... CE ... G ...
List of Model Attributes by code	LMP .....
List of Model F.I.C.'s by code	LMC .....
List of Model Objects by code	LMO .....
List of Model Relationships by code	LMR .....

NB: For a detailed description of Database Block entity, see the Database Description Reference Manual of the database concerned. For Model entity, see the Specifications Dictionary Reference Manual.

User Entity (Extensibility)

Definition (U)
F .....

General Documentation (U)
F ..... G ...

Assigned Text
F ..... AT .....

Cross-references F X

to Volumes F ..... XV .....

to User Relationships F ..... XQ .....

Call of Elements (U)
F ..... CE - ...

List of User Entities by code
LCF .....

List of Occurrences for User Entity
F ..... L$ .....

User Relationship

Definition (U)
Q .....

General Documentation (U)
Q ..... G ...

Assigned Text
Q ..... AT .....

Cross-References Q X

to Volumes Q ..... XV .....

to User Relationships Q ..... XQ .....

to Entities Q ..... X* ...

to User Entities Q ..... XF .....

List of User Relationships by code
LCQ .....

User Entity Occurrence

Definition (U)
$ -- .....

General Documentation (U)
$ -- ..... G ...

Assigned Text
$ -- ..... AT .....

Cross-References
$ -- X

to Volumes
$ -- ..... XV .....

to User-Defined Relationships
$ -- ..... XQ .....

Description (U)
$ -- ..... D - ...

List of User Entity Occurrences by code
LC$ -- .....

Special Choices

General Menu	H
Sub–Menu for the x entity	Hx
Generation and print requests (U)	GP.. –––
List of Locked Entities (U)	LL ..... L – .....
	LL ..... L$ –– .....
	LL ..... E .....
List of historical (frozen) sessions	LH....
List of journalized transactions	J O
Previous screen (Jump Previous)	JP
Next screen (Jump Forward)	JF
Same screen (Jump in Place)	JI
New Context:	
New Library	N* ...
New session	NH .... –
Return to Current Session	NH9999
New Change	NC .....
Update mode:	
No update (inhibits the implicit action codes)	. NU
Update (sets the implicit action codes)	. U
Inhibit all update (implicit & explicit)	. NT
Input mode:	
Insert mode	. NY
Return to standard overlay mode	. NN
Display the differences between sessions:	
without update	. D .... –
modify	. M .... –
Within the Help function:	
Return to beginning of documentation	–
Return to PACBASE screen	END or JP
IMS Job Review:	
List of jobs	LJOB
Review of Job «nnpp»	JOB nnpp

Special Text Editing

- S/string 1 / Search for string 1
- C1 /old string/new string/ Step–by–Step Replacement
- C2/old string/new string/ B . –– ..... E . –– ..... Replacement from the Beginning bound to the End bound
- C3/old string/new string/ Global Replacement

- R nn Lines renumbering with "nn" interval (default=20).

OPERATION FIELD

C1	Selected library and higher level libraries	
U1	Selected library only	
Z1	Selected library and lower level libraries	
I1	Selected library and lower and higher level libraries	
>1	Higher level libraries	
<1	Lower level libraries	
A1	Identical to C1 with display of duplicates	
Mn	Stores or memorizes the screen upon which the request is executed (n=1–9)	
Rn	Recalls the screen that was stored by the Mn operation (n=1–9)	
FT	Final Transaction	

ACTION CODE FIELD

Blank	Implicit Update (create or modify)
C	Create
M	Modify
D	Delete
B	Block (multiple) deletion
L	End delimiter of multiple deletion
E or –	Inhibits implicit update on the line
?	Help documentation
S	Split line of text where cursor is positioned
T	Line transfer
G	Group line transfer
L	End delimiter of group line transfer
I nnn	Insert nnn lines here (nnn is entered in the Line number field).
R nnn	Repeat nnn times, beginning with the line number where the R action code is entered (nnn is entered in the next field).
J nnn	On any line other than an 1, R or S line, gives the step "nnn" by which to increment line numbers (optional, defaults to calculated line number).
X	Explicit update (creation/modification)

GENERATION AND PRINT COMMANDS

THESAURUS

DCK	Description of Thesaurus' Keywords with synonyms
LCK	List of Keywords defined in the Thesaurus

DATA ELEMENTS AND PROPERTIES

DCE	Data Elements/Properties description
DFE	Undefined Data Elements description
LCE	List of Data Elements/Properties by Code
LKE	List of Data Element/Properties by Keywords
LNE	List of Data Elements/Properties by Name
LXE	List of unused Data Elements
LACE	List by COBOL name (Rev. Eng.)

TEXTS

DCT	Description for Texts by Code
DTT	Description for Texts by Type
LCT	List of Texts by Code
LKT	List of Texts by Keywords
LTT	List of Texts by Type
L*T	List of Paragraph Titles of Text

VOLUMES

DCV	Description for Volumes by Code
LCV	List of Volumes by Code
PCV	Print Volumes by Code
LKV	List of Volumes by Keywords

USER MANUALS

DCU	Description of User Manuals by Code
LCU	List User Manuals by Code
LKU	List User Manuals by Keyword
PCU	Print selected User Manuals

INPUT AIDS (P.I.A.'S)

DCI	P.I.A. description
LCI	List of P.I.A. by Code
LKI	List of P.I.A. by Keywords
LXI	List of P.I.A. by X–reference

DATA STRUCTURES

DCD	Description of Data Structures
GCD	Generation of Selected Data Structures
LCD	List of Data Structures by Code
LKD	List of Data Structures related by Keywords
LPD	List of Data Structures by External Name
LTD	List of Data Structures by Type

SEGMENTS

DCS	Description of Segments in Format
LCS	List of Segments by Code
LKS	List of Segments by Keywords

REPORTS

DCR	Reports description
LCR	List of Reports by Code
LKR	List of Reports related by Keywords
LTR	List of Reports by Type

PROGRAMS

DCP	Program description
DSP	Description of Programs (Rev. Eng.)
GCP	Source code for selected Program
GSP	Source code for selected Program (Rev. Eng.)
LCP	List of Programs by Code
LEP	List of Programs by External Name
LKP	List of Programs related by Keywords
LTP	List of Programs by Type

ON-LINE SCREENS

DCO	Description of Selected On-line Screens
DSO	On-line Screen description (Rev. Eng.)
GCO	Program and Map source code
GSO	Program and Map source code (Rev. Eng)
LCO	List of On-line Screens by Code
LKO	List of On-line Screens by Keywords
LPO	List by External program name
LSO	List of On-line Screens by Map name
LTO	List of On-line Screens by Transaction code
LNO	List of On-line Screens by Type

SPECIAL COMMAND

UPC	Shift to upper case for printers that do not support lower case.

CLIENT/SERVER ENTITY

DGC	Description of a C/S Screen.
DGS	Description of a Business Component
GGC	Generate a C/S Screen
GGS	Generate a Business Component
GVC	Generate a Proxy Logical View (from Server Component)

ERROR MESSAGES

LEC	List of error messages for a Client Component/Screen
LED	List of error messages for a Data Structure/ Segment
LEO	List of all error messages for a On–line Dialogue/Screen
GE6	Generation of error messages for a (R6) file
GED	Generation of error messages for a Data Structure/Segment
GEO	Generation of error messages for a Dialog/ Screen
GIP	Generation for the VisualAge Pacbase–GIP Interface
GEC	Generation of error messages for a C/S Dialogue/Component
C1	Error messages for the Dialog and for each Screen
C2	C1 plus documentary help messages
C3	Error messages for the Dialog only
C4	PAW revamping (GEO)

DATABASE BLOCKS

DTB	Database Blocks description by Type
GCB	Generation of source: Database Blocks
GSQ	Generation of DDL for Relational/SQL block
LCB	List of Database Blocks by Code
LEB	List of Database Blocks by External name
LKB	List of Database Blocks related by Keywords
LTB	List of Database Blocks by Type
LES	List of SQL objects by External name
LTS	List of SQL objects by Code

MODEL ENTITIES

DCM	Description of the Model Entity
DCMC	Functional Integrity Constraints Description
DCMO	Model Objects description
DCMR	Model Relationships description
LCMC	List of Model F.I.C. by Code
LCMO	List of Model Objects by Code
LCMP	List of Model Properties by Code
LCMR	List of Model Relationships with F.I.C.'s.
LKM	List of Model entities related by Keywords

USER ENTITY

DCF	User Entities description
LCF	List of User Entities by Code
LKF	List of User Entities related by Keywords

USER RELATIONSHIP

DCQ	Description of User relationships
LCQ	List of User–Defined relationships by Code
LKQ	List of U.E. Relationships by Keywords

USER ENTITY OCCURRENCE

DC$	Description of User Entity items
LC$	List of User Entity items by Code
LK$	List of User Entity items related by keywords

JOB CARDS and END–OF JOB DELIMITER

FLB	Flow control of the Block
FLS	Flow control for Relational/SQL blocks
FLD	Flow control of Data Structures
FLO	Flow control for Screens
FLP	Flow control for Programs
FSP	Flow control for Rev. Eng. Programs
FSO	Screen job card / end delim (Rev. Eng.)
FGC	Flow control for Client Component
FGS	Flow control for Server Component
FLE	Flow control for Error messages
FLV	Flow control for Volumes

NB: All the Generation and Print Commands are grouped in the Bath Procedures Manual – User's Guide. They are detailed, for each entity, in the Reference Manual of the concerned Module.

STRUCTURED CODE

General Operators

N	Title, must be line 000
*	Comment
M	Move
MA	Move all
P	Perform
C	Compute
A	Add
S	Subtract
MP	Multiply
DV	Divide into
MES	Display message
ACC	Accept
STR	String
UNS	Unstring
CAL	Call
GT	Go to end of current sub-function with level number nn
GFT	Go to end of iteration
GDI	Go to beginning of iteration
GB	Go to beginning of current loop with level number nn
EXA	Examine
EXC	Used to access the VisualAge Pacbase Repository through CICS
INS	Inspect
COB	COBOL B margin
COA	COBOL A margin
SUP	Suppress
SCH	Search (not COBOL search)
SCB	Search (on sorted table)
ADT	Call system date (6 characters)
ADC	System date with century (8 characters)
AD	Date format : Century positioned from CENTUR field.
AD0	Date format : Century positioned from DAT-CTY
AD1	Date format : Century set to "19" if year < value in DAT-CTYT field.
AD2	Date format : Century set to "20" if year < value in DAT-CTYT field.
ADI	Date inversion (6 characters)
ADE	Date with slash (8 characters)
TIM	TIME HHMMSS format
TIF	HHMMSS to HH:MM:SS

COBOL II Operators

CON	Continue (no operand)
EVA	Evaluate
EVT	Evaluate True
EVF	Evaluate False
EEV	END–Evaluate (no operand)
EIF	END–IF (no operand)
EPE	END–PERFORM (no operand)
ESE	END–SEARCH (no operand)
INI	INITIALIZE
SEA	SEARCH
GOB	GO BACK

SQL Operators

EXQ	EXEC SQL... END–EXEC
SCC	CONNECT order (or its like)
SDC	DISCONNECT order (or its like)
SCO	COMMIT order.
SRO	ROLLBACK order.
SWH	WHENEVER order.

Operators for Batch Only

OPE	Open
CLO	Close
R	File read
W	File write
RW	File rewrite
RN	File read next (VSAM)
STA	File start read (VSAM)
DEL	Record delete (VSAM)
SRT	Sort
E	Error message
ADM	Insertion of slashes in a date with century
ADS	Date inversion with century

Operators for On–Line Only

AD6	ADT and ADI (on–line)
AD8	ADE (on–line)
GF	Go to end of automatic sub–function
GFR	Go to end–of–reception
GFA	Go to end–of–display
GDB	Branch to start of current loop
OTP	Immediate transfer to screen of external name
OSC	Screen transter
OSD	Deterred screen transfer
XR	Read segment (Perform of paragraph F80–ddss–R)
XP	Read first occurrence of segment

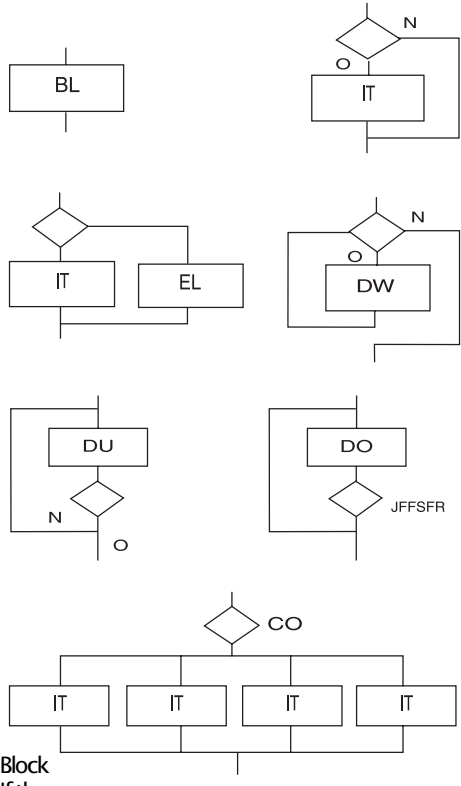
XRN	Read next occurrence of segment
XRU	Read for update of segment
XW	Write segment
XRW	Rewrite segment
XD	Delete segment
XUN	Unlock segment (VSAM)
Yaa	Create paragraph labels (F80–ddss–aa)
Xaa	With Yaa, Perform of paragraph F80–ddss–aa
ERU	User error (specified at dialogue level)
ERR	User field error

Operators for Business Component Only

GFA	End of selection processing (Branch to the Fvunn–SELC–FN label).
GFR	End of validation/update processing (Branch to the Fvunn–CHUP–FN label).
GDB	Return to the beginning of current iteration (Branch to the Fvunn–CHUP–CATR–SVRx–CHCK label or Fvunn–SELC–CATR–SVRx–SELC label).
GDI	Go to the beginning of next iteration (Branch to the Fvunn–CHUP–CATR–SVRx–DONE label or Fvunn–SELC–CATR–SVRx–DONE label).
GFT	Go to the end of iteration. (Branch to the Fvunn–CHUP–CATR–FN label or Fvunn–SELC–CATR–FN label).
GF ENDV	Go to end of logical view processing (Branch to the Fvunn–ENDV label).
XT	Allows you to call an elementary processing (transfers, processing on Segment, ...).
ERL	Logical error indicator on control/update access Error on Lock or Unlock query ordered by a graphical client (MOVE "L" TO TECH–IERRU)

NB: For a detailed description of Structures Types, Operator and of Specific operators lists (On–line monitors or Database), see the Stuctured Code Reference Manual.

Structured code condition types



BL	Block
IT	If then
EL	Else (only after an IT)
CO	Case of (followed by IT's)
DW	Do white
DU	Do until
DO	Do (Generates Subscript: JffssR)
OR	Or
AN	And

Relative positioning (On-line only)

*A	To insert the sub-function before the automatic sub-function (F20, F25, F35 and F65)
*P	To insert the sub-function after the automatic sub-function (F20, F25, F30, F35, F60 and F65)
*R	To replace an automatic sub-function (F20, F25, F35, F60 and F80)

Specific Business Component

*C	Insert or replace code in the server or for a logical view. It must be defined on a level 05
*B	To insert in the elementary processing called by PERFORM.

ON-LINE GENERATION

Variables and Constants

INA	Number of Data Elements in the screen-top category
INR	INA + Number of Data Elements in the repetitive category
INZ	INR + Number of Data Elements in the screen-bottom category
IRR	Number of repetitions in the repetitive category
INT	Number of input fields in the Screen
IER	Number of error messages on the Screen
SESSI	Session number of the generated program
LIBRA	Code of the VisualAge Pacbase library
DATGN	Date of program generation
DATGNC	Program generation date with century
PROGR	VisualAge Pacbase Program code
PROGE	External name of the program
TIMGN	Time of program generation
USERCO	User code
COBASE	Database code
PRDOC	External name of the “Help screen” program
DATOR	Field storing the date of processing
DATCTY	Field for loading the century
DATSEP	Contains the separator used for dates
DAT-CTYD	Field which allows to determine the current day century
DAT-CTYT	Field which allows to add the century to a date
TIMCO	Field for loading the time
TIMDAY	Field for loading the formatted time (HH:MM:SS)
5-xxnn-PROGE	Field containing the name of the program to branch to

Program control variables

ICF Input configuration
- '1' Screen in input
- '0' No screen in input

OCF Output configuration
- '1' Screen in output
- '0' No screen in output

OPERD Operation code for deferred branching, transferred to OPER in the F40 function 'O' Deferred call of another Screen

CATMA Saving of the transaction code of the screen-top category

OPER Operation code
'A' Display
'M' Update
'S' Screen continuation
'E' End
'P' Same Screen
'O' Call of another Screen

CATM Transaction code
'C' Creation
'M' Modification
'A' Deletion
'X' Implicit update

CATX Code of the category being executed
'0' Beginning of reception or display
' ' Screen–top
'R' Repetitive
'Z' Screen–bottom

ICATR Indicator for current category being processed (Repetitive category only)

FT End of repetitive category indicator
'0' Lines to display
'1' No more lines to display

ddss–CF Segment configuration indicator
'0' Segment I/O area does not contain a record
'1' Segment I/O area contains a record.

IK Error indicator for Segment access or server call
'0' No error
'1' Error

Error variables

CAT–ER Ongoing error indicator for current category
' ' No error
'E' Error

SCR–ER Screen error indicator
'1' No error
'4' Error

ER–scrn–delcod Data Element error indicator
'0' Absent Data Element
'1' Present Data Element
'2' Invalid absence of Data Element
'3' Invalid presence of Data Element
'4' Erroneous class
'5' Invalid content
scrn : last four characters of the screen code
delcod : Data Element code

DEL–ER Memorization of the Data Element Presence or Status at a given time

C/S Screen Structure

01 – Initializations 05 BL

Reception 03 IT ICF = '1'

05 – Reception 05 BL
0510 – Reception of the Screen 10 BL
0512 – Documentation call processing 10 BL
0520 – Validation of the operation code 10 BL

LOOP BY CATEGORY 04 DW CATX ≠'Z'

10 – Category processing loop 05 BL
1010 – Category positioning 10 BL

15 – Validation of the transaction code 05 BL

20 – Data Element validation 05 BL
20A – Screen–top category
20R – Repetitive category
20Z – Screen–bottom category

25 – Segment access for reception 05 IT CAT–ER = ' '
25A – Screen–top category
25R – Repetitive category
25Z – Screen–bottom category

30 – Data Element transfer 05 IT CAT–ER = ' '
30A – Screen–top category
30R – Repetitive category
30Z – Screen–bottom category

35 – Segment access for update – Server call 05 IT CAT–ER = ' '

END OF LOOP for reception 04 BL
3999 – ITER–FI. GO TO F10.
3999 – ITER–FT. EXIT.

40 – Transaction management 05 IT SCR–ER = '1'
4010 – Set–up keys for new display 10 IT OPER = 'A' or 'M'
4020 – Set–up keys for screen paging 10 IT OPER = 'S'
4030 – End of transaction 10 IT OPER = 'E'
4040 – Transfer to another C/S Screen 10 IT OPER = 'O'

END OF RECEPTION. (F45–FN)

NB: For a detailed description of Generated On–Line Program, see the OLSD Reference Manual for the concerned On–line monitor.

Display 03 IT OCF = '1'

50 – Display 05 BL
5010 – Initialization 10 BL

LOOP BY CATEGORY 04 DW CATX ≠'Z'

55 – Category processing loop 05 BL
5510 – Category positioning 10 BL

60 – Segment access for display – Server call 05 BL
60A – Screen–top category
60R – Repetitive category
60Z – Screen–bottom category

65 – Data Element transfer 05 BL
65A – Screen–top category
65R – Repetitive category
65Z – Screen–bottom category

END OF LOOP for Display 04 BL
6999 – ITER–FI. GO TO F55.
6999 – ITER–FT. EXIT.

70 – Error management 05 BL
7010 – Error messages processing 10 BL
7015 – Logical View error processing 10 BL
7020 – Positioning of attributes 10 BL

End of display. (F78–FN)

8Z – Display and end of Program 05 BL
8Z05 – Help sub–function 10 IT SCR–ER = '1'
8Z10 – Display 10 BL
8Z20 – End of Program 10 BL

Called functions

80 – Physical Segment access routines 05 BL

81 – Called Validation Functions
81CS – Server call 10 BL
81CV – Recovery of Client/Server communication area 10 BL
81ER – Abnormal end procedure 10 BL
81TA – Client context save 10 BL
81TR – Client context retrieval 10 BL
81UT – Memorization of user's errors 10 BL
81UV – Database access error 10 BL
8110 – Numeric validation 10 BL
8115 – Initialization of the variable fields 10 BL
8120 – Validation and setting of date 10 BL
8130 – Help sub–function 10 BL
8150 – Documentation Help 10 BL
8160 – Help function return processing 10 BL

Business Component Structure

05 FSERVER
Beginning of server processing

10 FSERVER-STRVIEW
Structure validation and length of the communication area buffers

05 FSQL
SQL declaration

10 FSQL-WHENEVER
Clause Whenever

10 FSQL-CURSR-SEET
Declare Cursor

05 FDDSS
Processing of the DDSS logical view

10 FDDSS-BEGV
Initialization of the logical view processing

10 FDDSS-CHUP
Check/update processing

15 FDDSS-CHUP-CATX
X Category processing (X = 'A': before repetitive, 'R': repetitive, 'Z': after repetitive)

20 FDDSS-CHUP-CATX-SRVO
O Service processing (O = 'E', 'L', 'M', 'T' or 'X')

25 FDDSS-CHUP-CATX-SRVO-INIT
Initialization

25 FDDSS-CHUP-CATX-SRVO-CHCK
Logical check processing

25 FDDSS-CHUP-CATX-SRVO-TRAN
Loading before update

25 FDDSS-CHUP-CATX-SRVO-UPDT
Logical update processing

25 FDDSS-CHUP-CATX-SRVO-DONE
End of service processing

10 FDDSS-LOCK
Lock

10 FDDSS-UNLK
Unlock

10 FDDSS-SELC
Selection processing

15 FDDSS-SELC-CATX
X Category processing (X = 'A': before repetitive, 'R': repetitive, 'Z': after repetitive)

20 FDDSS-SELC-CATX-SRVA
Selection service processing

25 FDDSS-SELC-CATX-SRVA-INIT
Initialization

25 FDDSS-SELC-CATX-SRVA-SELC
Logical selection processing

25 FDDSS-SELC-CATX-SRVA-TRAN
Loading after selection

25 FDDSS-SELC-CATX-SRVA-DONE
End of service processing

10 FDDSS-USER
User processing

10 FDDSS-ERRV
DDSS logical view error processing

10 FDDSS-ENDV
End of DDSS logical view processing

05 FSERVER-END
End of server processing

10 FDDSS-TRDT
Transfer of the logical view data to the Segment data in physical access

15 FDDSS-TRDT-CATX
X Category processing (X = 'A', 'R' or 'Z')

10 FDDSS-CHKD
Logiciel view data control

10 FDDSS-CHKD-CATX
X Category processing (X = 'A', 'R' or 'Z')

10 FDDSS-TRVW
Transfer of Segment data to the logical view data

15 FDDSS-TRVW-CATX
X Category processing (X = 'A', 'R' or 'Z')

10 FSSNN-CHCK
Logical check access processing of SSNN Segment

15 FSSNN-CHCK-CATX
X Category processing (X = 'A', 'R' or 'Z')

20 FSSNN-CHCK-CATX-ALIM
Key loading

20 FSSNN-CHCK-CATX-CALL
Physical access call

20 FSSNN-CHCK-CATX-ERRS
Error processing on physical access

10 FSSNN-UPDT
Processing of the logical update access on SSNN Segment

15 FSSNN-UPDT-CATX
X Category processing (X = 'A', 'R' or 'Z')

20 FSSNN-UPDT-CATX-ALIM
Key loading

20 FSSNN-UPDT-CATX-CALL
Physical access call

20 FSSNN-UPDT-CATX-ERRS
Error processing on physical access

10 FSSNN-SLCT
Processing of the logical selection access on SSNN Segment

15 FSSNN-SLCT-CATX
X Category processing (X = “A”, “R”, “Z” or “T”)

20 FSSNN-SLCT-CATX-ALIM
Key loading

20 FSSNN-SLCT-CATX-CALL
Physical access call

20 FSSNN-SLCT-CATX-ERRS
Error processing on physical access

F80 Physical access

F81 Complementary processing (end of Program, error management...)

Conditional Variables

FTBN — Final total control break at level n.

Processing is ending on all data structures synchronized on input for all records having the same key at level n.
'1'– YES '0'– NO

ITBN — Initial total control break at level n.

Processing is starting on all data structures synchronized on input for all records having the same key at level n.
'1'– YES '0'– NO

dd–FBn — Final control break on data structure dd at level n.

The last record, at level n, on data structure dd, is ready for processing.
'1'– YES '0'– NO

dd–IBn — Initial control break on data structure dd, level n.

The first record, at level n, on data structure dd, is ready for processing.
'1'– YES '0'– NO

dd–CFn — File configuration at level n.
'1' – File match: process in this iteration
'0' – Bypass file in this iteration

dd–OCn — Occurrence on Data Structure dd at level n.

A record on Data Structure dd with usage "P" is being processed in this program cycle.

dd–FT — Input data structure dd has detected end–of–file.
'1'– YES '0'– NO

dd–Fi — Control break processing only.
'1' – File 1/0 area contains last record of file
'0' – File 1/0 area does not contain last record of file

Table Indexes

IddssM — Maximum number of table entries, specifie by the user, for a table defined by Data Structure dd, segment ss.

IddssL — Number of entries actually loaded from segment ss in data structure dd. This number cannot exceed the maximum specified above.

IddssR — Varying from 1 to IddssL, used for all look-ups on the table loaded from data structure dd, segment ss. Once the table is loaded, this index is initialized to zero if there is no overflow, or to the number of records read if an overflow has occurred.

Validation Processing (Work areas and variables)

DE-ERR — Stores the presence status of each data element ofthe transaction being processed.
Each elementary data element (eeeeee), other than FILLER, ENPR, GRPR, ERUT and their sub-elements, is provided with a status field within the table. This field is named ER-ss-eeeeee (ss = SEGMENT CODE).
The values vary at different points in the processing cycle:

0 data element absent
1 data element present
2 invalid absence of data element
3 invalid presence of data element
4 erroneous class
5 invalid content

ID-ER — The last field in the table is ID-ER and is used for storing the record identification status:

0 record type and action code are valid values
5 error detected on record type
6 error detected on action code

DEL-ER — Stores the presence status of the data element being processed.
Generated if the program contains a transaction file (to be validated or not).

ER-PRR — Used only to carry out transfers between DE-ERR and a data structure (USAGE OF D.S. = M, N or E) with a reduced error array.

SE–ERR Stores the presence status of each transaction file record type.
Generated if the program contains a transaction file (to be validated or not).
Each record type is provided with a status field within this table. This field is named SE–ER(I01).
The values vary at different points in the processing cycle:
0 record absent
1 record present
2 invalid absence of record
3 invalid presence of record
7 duplicate record
8 invalid creation
9 invalid modification or deletion

TR–ER The last field in the table is named TR–ER and is used for storing errors detected.
1 no error detected
4 an error is detected

SE–ERE Stores the presence status of the record being processed.

GR–ER Stores information concerning errors detected on a group of transactions which update a record, of at least one principal data structure.

UT–ERUT Stores the user's errors.

Record Counters

5–dd00–RECCNT Record counter for file dd.
It is incremented after each read or write.

Tables used for Reports

CAT–TAB	Category table: stores all categories to be printed in this iteration.
ST–TA	Table storing the structure number, constant part number, and page/line skip for the category to be printed.
r–LAB	Table containing constants for report r.

Print variables and Counters

ST–SLS	Stores the structure number, constant part number, skip to be executed before writing a line and char. set. option (special printer).
CATX	Stores the category of report being printed.
5–dd00–rPC	Page counter for report r in data structure dd initially set to zero. Automatically handled by VisualAge Pacbase.
5–dd00–rLC	Line Counter. Initially set equal to the maximum number of lines for report r to allow for a new heading situation. Automatically handled by VisualAge Pacbase.
5–dd00–rLCM	Maximum number of lines per page for report r.
5–dd00–rLC1	Line counter for Report r from Data Structure dd, incremented at each output line and indicating the line number of the last written line.
5–dd00–rTP	Start of Page indicator for Report r from Data Structure dd.
5–dd00–rRC	Counter for number of lines written for the report r. Incremented after writing.

Automated Totaling Fields

Trst–eeeeee(n)	Accumulator at level n, for data element eeeeee of structure st in report r.
Grst–eeeeee	Grand total accumulator, for data element eeeeee of structure st in report r.

Batch Program Standard Structure

(This structure will vary, depending on the environment. Based on the specifications entered, all or none of these functions may be generated.)

```
01 – Initializations                                  05 BL
       01dd – Open Files or Initialize                10 BL
       Table (Data Structure dd)
       (for each d.s. to open)

05 – Read sequential files with no control break      05 BL
       05dd – Read dd–file                            10 BL
       (for each appropriate d.s.)

10 – Read sequential files with control break         05 BL
       10dd – Read dd–file                            10 BL
       (for each appropriate d.s.)

20 – End of run                              05 IT FT=ALL '1'
       20dd – Close dd–file                           10 BL
       (for each d.s. to close)
       2099 – Stop Run                                10 BL

22 – Calculate file control breaks                    05 BL

24 – File matching logic                              05 BL

26 – Total control break logic                        05 BL

30 – Calculate validation variables                   05 BL
       (where n is lowest match level)

33 – Identification validation                        05 BL
       33AA – Record Type Validation                  10 BL
       33BB – Transaction Code Valid.    10 IT ID–ER='0'

36 – Duplicate record validation                      05 BL

39 – Presence of data elements          05 IT ID–ER='0'
       3900 – Record dd00                             10 BL
       39nn – Record ddnn                  10 IT 1–dd00–
       (for each record type)              rectyp='x'

42 – Record structure validation        05 IT ID–ER='0'
       4210 – Common Part                             10 BL
       4220 – Specific parts                          10 BL

45 – Data element contents validation   05 IT ID–ER='0'
       4500 – Record dd00                             10 BL
       45nn – Record ddnn       10 IT 1– dd00–rectyp='x'
       (for each record type)

51 – Record presence validation           05 IT ID–ER='0'
       5110 – Record Presence Validation              10 BL
       5120 – Record Absence Valid.      10 IT dd–FBn='1'
```

70 – Existence validation	05 IT ID–ER='0' AN dd–IB n='1'
70dd – Existence validation on dd–file (for each appropriate d.s.)	10 BL
73 – Update	05 IT ID–ER='0' AN SE–ER(I01)='1'
76 – Store errors & Backout	05 BL
76dd – Backout for dd–file (for each appropriate d.s.)	10 IT FTBn='1' AN GR–ER='1'
8r – Report logic for report r by report structures:	05 IT condition on –D (top)
8rzz – Loads Constant Part	10 BL
8r00 – Loads Variable Part	10 BL
8r99 – Physical Write	10 BL
90 – Write files	05 BL
90dd – Write dd–file	10 BL
9099 – ITER–FN. GO TO F05	10 BL

NB: For a detailed description of Generated Batch Program, see the Batch Systems Development Reference Manual.

VisualAge Pacbase ENVIRONMENT

General Choices

Menus		
	Management of user's parameters	HP
	Production Environment Interface	HE
	Back to general Menu	H
SignOff		FT

Function Keys

Number	Significance
PF4	Help for the screen
PF5	Back to general menu
PF6	SignOff
PF7	Implicit action code ignored
PF8	Help for the element
PF10	Entity called by cursor positioning
PF12	Conversation exit

Management of User's Parameters

List of control cards	LCPC..
List of user codes	LCPU.....
List of methods	LCPM..
VisualAge Pacbase programs identification	PD
Optional control cards updating (U)	PC....
Text types updating (U)	PT.
Standard error messages updating (U)	PE.
Update of user parameters (U)	PU.....
Access keys updating (U)	PK
Update of special characters	PW.
Update of method choices (U)	PM.....
VisualAge Pacbase associated DSMS database (U)	PB....

Production Environment Interface

Generation environment (U)
EE..... (library, env. entity type)

Default environments (U)
ED..... (session and library)

Entities generated (U)
EG..... (library, env. type, type and entity code)

Production sessions (U)
ES....

Entities in production / session
LSEP..... (session, library, env. type, type and entity code)

NB: the Management of user's parameters is described in the User Interface Guide; the Production Environment Interface is detailed in the Production Environment Manager reference Manual.

NOTES

NOTES

This Pocket guide describes the command language used to access the different VisualAge Pacbase screens.
All VisualAge Pacbase screens can be accessed via input in the OPERATION CODE and CHOICE fields (O: CH:), located at the bottom of the screens.
The OPERATION CODE field is made up of 2 characters. The first character indicates the desired sub–network and the second indicates the requested screen presentation option.
The CHOICE field is used to select a screen.
A set of hierarchical "MENUS" guide the user in accessing the various screens of the System.
The General Menu can be accessed by entering "H" in the CHOICE field, or, on the sign–on screen, by pressing ENTER with no input in the CHOICE field.
An Entity sub–menu may be accessed by positioning the cursor on the desired sub–menu line and pressing ENTER. If the cursor position is not supported by the hardware in use, enter a slash "/" in the input field of the corresponding line and pressing ENTER.

Conventions

In the entities choices descriptions, (M) means Update allowed

Please let us know if you find any errors or omissions to that we can improve this manual.

TABLE OF CONTENTS

THE FUNCTION KEYS

The access to the various screens, in VisualAge Pacbase database, is facilitated by the cursor position or the Use of PFkeys.
The use of these functions depends on the hardware and operating system in use at the site. If the hardware does not support the standard use of function keys, you can use ".nn" Choice to simulate "PFnn" function key use (for example, PF7 —> CH: .7).
In any case, the use of the standard command language is always valid.
The standard assignment of Function Keys is resumed as follows:

Number	Standard significance
PF1	Recall screen memorized in M1 (equivalent to operation code R1)
PF2	Recall screen memorized in M2 (equivalent to operation code R2)
PF3	Recall screen memorized in M3 (equivalent to operation code R3)
PF4	Call screen–related HELP (equivalent to action code "?")
PF5	Return to main menu (equivalent to choice "H")
PF6	Return to initial screen (equivalent to operation code "FT")
PF7	Inhibits implicit updates
PF8	CICS: "–TC" screen display starting from cursor position
PF9 or	Call of "–TC" screen from "–PG" and vice–versa Zoom on key description from screen B..... DR
PF10	Branch to Entity Definition screen
PF11	Branch to Entity or Description Line General Documentation ("G")
PF12	End of session with conversation saved

THE CHOICE FIELD

Presentation

1 – Access an Entity

- Each entity is identified by a 1–character entity type code:

*	LIBRARY
K	KEYWORD
T	TEXT
V	VOLUME
U	USER MANUAL
E	ELEMENT
D	DATA STRUCTURE
S	SEGMENT
I	INPUT AID
B	BLOCK DATABASE
O	ON–LINE SCREEN
R	REPORT
P	PROGRAM
M	MODEL ENTITY
F	USER ENTITY
Q	USER RELATIONSHIP
$	USER ENTITY ITEM

- Definition screen for an entity is accessed by entering the appropriate 1–character entity type code:
  Program Definition P .....
  On–Line Screen Definition O .....

- Depending on the entity, different description screens can be accessed:

  - The description of an entity is generally accessed by the 1–character code D:
    Element Description E ..... D

  - Call screens are used to call an entity within another. Use C for call followed by the entity type code:
    Program Call of Program P ..... CP
    Segment Call of Elements S .... CE

  - Specific screens used to further describe an entity are accessed through a 1–character code:
    Program Work Areas P ..... W –– ...
    Program Procedural Code P ..... P .. –– ...

NB: Available function keys and "choice", "operation", "action code" fields are detailed in the User Interface Guide.

- Cross-References of an entity are accessed by entering X, optionally followed by the key of the first line to be displayed:
  Element X-Reference to Program pppppp, starting with Procedural Code ff sf lll:
  E ..... XP{pppppp P ff sf lll}

- Assigned Text is accessed by entering AT:
  On-Line Screen Assigned Text O ..... AT

- General Documentation is accessed by entering G:
  Input Aid General Documentation I ..... G

Remark: Once an entity has been selected, the combination "entity type/entity code" can be replaced with a "-".

2 - Lists of entities

- An entity list is obtained by entering an "L"

- The second character specifies the type of list:

List by code	LC
List by type	LT
List by name	LN
List of undefined entities in dictionary	LF
List by code for update	LU
List by external name	LE

- The third character specifies the entity type: LCT List by Code Text

Remark: Special list commands are described with each entity.

3 - Special choices

- Special requests are entered with an explicit one to four character code:

Journal File Display of transactions	JO
Activity Calculation on Segment	S .... ACT

- Menus are accessed by entering H with or without the entity type code specified:

Elements menu	HE
Special choices menu	HSC

Library

Definition (U)
* ...

General Documentation (U)
* ... G ...

Cross-References to User Relationship
* ... XQ .....^...

List of Libraries by code
LC * ...

Keyword

Enrichment of the Thesaurus (U)
K .....

Word Search
WS

List of Keywords by code
LCK .....

NB: For a detailed description of Library and Keyword entities, see the Specifications Dictionary Reference Manual.

Element

Definition (U)
E .....

General Documentation (U)
E ..... G ...

Assigned Text
E ..... AT .....

Cross-References
E X

to Text
E ..... XT .....

to Model Entity
E ..... XM .....

to User Relationships
E ..... XQ .....

to Volume
E ..... XV .....

to Segments
E ..... XS ....

to Reports
E ..... XR ...
E ..... XR ... CE

to User Entity
E ..... XF .....

to Relational/SQL Key
E ..... XK .....

to Database Block
E ..... XB .....
E ..... XB ..... DH ...
E ..... XB ..... DC ...
E ..... XB ..... DR ...

to On-Line Screens
E ..... XO .....
E ..... XO ..... CP .....
E ..... XO ..... W -- ...
E ..... XO ..... B ..--...
E ..... XO ..... P .. -- ...

NB: For a detailed description of Element entity, see the Specifications Dictionary Reference Manual.

to Programs
E ..... XP .....
E ..... XP ..... CP .....
E ..... XP ..... W -- ...
E ..... XP ..... B ..--...
E ..... XP ..... P .. -- ...
E ..... XP ..... 8 .....
E ..... XP ..... 9 .....
E ..... XP ..... FC -- ...

Description (U)
E ..... D ...

List of Undefined Elements in Dictionary
by code LFE .....

List of Elements
by code LCE .....
by name LNE .....
for update (U) LUE .....
(C2 : 3 formats indicated)
by Label LALE .....
by COBOL name LACE .....
by Relational name LARE .....

Text

Definition (U)
T .....

General Documentation (U)
T ..... G ...

Assigned Text
T ..... AT .....

Cross-References
T X

Cross-References to User Manual
T ..... XU ..

Cross-References to Volume
T ..... XV .....

Cross-References to Documentation
T ..... XG ...

Cross-References to Text
T ..... XT .....

Cross-References to User Relationships
T ..... XQ .....

List of Section Titles
T ..... LT ..

Description of Section (U)
T ..... D .. ---

Simulation of Section Desc.
T ..... SIM ... D ..

List of Texts
by type LTT .. T .....
by code LCT .....

NB: For a detailed description of Text entity, see the Specifications Dictionary Reference Manual.

Volume

Definition (U)
V .....

General Documentation (U)
V ..... G ...

Assigned Text
V ..... AT .....

Cross-References
V X

to Volume
V ..... XV .....

to User-Defined Relationships
V ..... XQ .....

Description of Contents (U)
V ..... D .. -- ...

List of Volumes
by Type LTV .
LTV .V .....
by Code LCV .....

User Manual

Definition (U)
U ..

General Documentation (U)
U ..G ...

NB: For a detailed description of Volume entity, see the Personalized Documentation Manager Reference Manual. For the User Manual entity, see the Specifications Dictionary Reference Manual.

Cross-Reference to User Relation
U .. XQ .....

Description (U)
U .. D .. --

List of User Manuals by Code
LCU ..

(Parameterized) Input Aid - (P.I.A.)

Definition (U)
I .....

General Documentation (U)
I ..... G ...

Assigned Text
I ..... AT .....

Cross-References
I X
I ..... X* ...
I ..... XD ..
I ..... XR ...
I ..... XO .....
I ..... XM .....
I ..... XB .....
I ..... XT .....
I ..... XV .....
I ..... XI .....
I ..... XP .....
I ..... XS ....
I ..... XF .....
I ..... X$ --.....
I ..... XQ .....
I ..... XE .....
I ..... XU ..

Description (U)
I ..... D ...

List of Input Aids by code
LCI .....

List of Input Aid by External Ref's
LXI .....

X-Refs of Input Aid External Ref's
XI .....
XI ..... I .....

NB: For a detailed description of Input Aid entity, see the Specifications Dictionary Reference Manual.

Data Structure

Definition (U)
D ..

General Documentation (U)
D .. G ...

Assigned Text
D .. AT .....

Cross-References
D .. X

to User-Defined Relationships
D .. XQ .....

to Volumes
D .. XV .....

to Programs
D .. XP .....
D .. XP ..... W -- ...

to Screens
D .. XO .....
D .. XO ..... W -- ...

Data Structure List

of segments	D .. LS ..
of reports	D .. LR .

List of Data Structures

by code	LCD
by type	LTD . LTD . D ..
by external name	LPD .....

NB: For a detailed description of Data Structure and Segment entities, see the Specifications Dictionary Reference Manual.

Segment

Definition (U)
S ....

General Documentation (U)
S .... G ...

Assigned Text
S .... AT .....

List within Segments
of Parent Segments S .... LSP ....
of Child Segments S .... LSC ....

Cross–References
S X

to Segments
S .... XS ....

to User–Defined Relationships
S .... XQ .....

to Volumes
S .... XV .....

to Database Blocks
S .... XB .....

to Programs
S .... XP .....
S .... XP ..... W –– ...

to Screens
S .... XO .....
S .... XO ..... W –– ...

Sub–schemas and Sub–systems (U)
S .... SS .–

Integrity Constraints on Segment
S .... CN .....

Call of Elements (U)
(C2 : internal format)
(C3 : output format)
S .... CE ...
Documentation (U)
S .... CE ... G ...

View of statistical information
Level, Address and Length S .... LAL
Data Element Details S .... DED
Statistics S .... STA
Activity S .... ACT

DB2 View Description (U)	S .... DBE ...
Socrate Description (U)	S .... SE ...
List of Segments by code	LCS ....

Report

Definition (U)
R ...

General Documentation (U)
R ... G ...

Assigned Text
R ... AT .....

Cross–References
R ... X

to Volumes
R ... XV .....

to Programs
R ... XP .....

to User Relationships
R ... XQ .....

Layout (U)
R ... L ..
R ... L .. C ...
(C for column)

Description (U)
R ... D .. ---

Call of Elements (U)
R ... CE .. ---
(C2 : output format)

List of Reports

by code	LCR ...
by type	LTR.
	LTR . R ...

NB: For a detailed description of Report entity, see the Batch Systems Development Reference Manual.

Program

Definition (U)	P .....
General Documentation (U)	P ..... G ...
Assigned Text	P ..... AT .....
Cross–References	P X
to Volumes	P ..... XV .....
to User–Defined Relationships	P ..... XQ .....
to Programs (U)	P ..... XP .....
to Screens (U)	P ..... XO .....
Call of Data Structures (U)	P ..... CD ..
(zoom)	P ..... HCD ..
Call of P. M. S. (U)	P ..... CP .....
Beginning Insertions (U) (C2 : with source)	P ..... B .. –– ...
Work Areas (U) (C2 : with source)	P ..... W –– ...
Procedural Code (U) (C2 : with source)	P ..... P .. –– ...
Specific Treatments (U) (C2 : with source)	P ..... 8 .....
Pure COBOL Source Code (U) (C2 : with source)	P ..... 9 .....
COBOL Generator (Reverse Eng.) Source Code (U)	P ..... SC .. –– ...
List of Programs	
by code	LCP .....
by external name	LEP .....
by type	LTP . P .....
List of Titles	
without Condition	P ..... TO .. –– < ..
with Conditions	P ..... TC .. –– < ..
with Conditions	P ..... < ..
	P ..... < .. TC ....
	P ..... < .. TO ....
(C2 : with source for–TC and–<)	
Generated Procedural Code (U)	P ..... PG .. –– ...
List of Titles of Functions	P ..... STR ....

NB: For a detailed description of Program entity, see the Structured Code Reference Manual.

On-Line Screen

Definition (U)
O .....

General Documentation (U)
O ..... G ...

Assigned Text
O ..... AT .....

Cross-References
O X

to Screens
O ..... XO .....

to User-Defined Relationships
O ..... XQ .....

to Volumes
O ..... XV .....

to Segments
O ..... XS ....

Call of Elements (U)(C2)(C3)
O ..... CE ...

Call of Segments (U)
O ..... CS - ....

Call of P.M.S. (U)
O ..... CP .....

Beginning Insertions (U)
O ..... B .. -- ... (C2 : with source)

Work Areas (U)
O ..... W -- ... (C2 : with source)

Procedural Code (U)
O ..... P .. -- ... (C2 : with source)

Layout (U)
O ..... L .. C ... (C for column)

Mapping (U)
O ..... M .. C ... (C for column)

Dialogue Complement (U)
O ..... O

Dialogue Simulation (C1 , C3, C4 or C5)
O ..... SIM ..

Address of Elements
O ..... ADR .. C ...

List of Screens
by code
LCO .....

by external program name
LPO .....

by external map name
LSO .....

by transaction name
LTO .....

by type
LNO .. O .....

List of Titles
without condition
O ..... TO .. -- < ..

with condition (U)
O ..... TC .. -- < ..

with condition (U)
O ..... < ..
O ..... < .. TC ....
O ..... < .. TO
(C2 : with source for-TC and-<)

Generated procedural Code(U)
O ..... PG .. -- ...

NB: For a detailed description of On-Line Screen entity, see the Online Systems Development Reference Manual.

Database Block

Definition (U)
B .....

General Documentation (U)
B ..... G ...

Assigned Text
B ..... AT .....

Cross-References
B X

to Volumes
B ..... XV .....

to User Relationship
B ..... XQ .....

to Blocks in PSB'S
B ..... XB .....

to Screens
B ..... XO .....
B ..... XO ..... CS ....
B ..... XO ..... W ..

to Programs
B ..... XP .....
B ..... XP ..... W ..

Description (Hierarchical) (U)
B ..... DH ...
Documentation (U)
B ..... DH ... G ...

Description (Codasyl/DB2) (U)
B ..... DC ...
Documentation (U)
B ..... DC ... G ...

Description (Relational/SQL) (U)
B ..... DR ...
Documentation (U)
B ..... DR ... G ...
Building of Relational/SQL Key (U)
B ..... DR ... K

Description (Turbo.Image)(U)
B ..... DT ...
Documentation (U)
B ..... DT ... G ...

Generation of SQL commands
B ..... GEN

Interactive SQL	
B ..... SQL	
List of Blocks	
by code	LCB .....
by type	LTB..———
by external name	LEB –– .....
List of Areas by code	LCA .....
List of Codasyl Sets by code	LCC .....
Codasyl Activity on a Set	C ..... ACT
List of Objects in Relational/SQL Blocks	
by type/code	LTS – .....
by type/external name	LES – .....

Model Entity

Definition (U)	M .....
General Documentation (U)	M ..... G ...
Assigned Text	M ..... AT .....
Cross–References	M X
to Model Entities	M ..... XM .....
to User Relationships	M ..... XQ .....
to Segments	M ..... XS ....
to Volumes	M ..... XV .....
to DB Blocks	M ..... XB .....
Relationship Call of Objects (U)	M ..... CM ...
Documentation (U)	M ..... CM ... G ...
Call of Elements/Attribute (U)	M ..... CE ...
Documentation (U)	M ..... CE ... G ...
List of Model Attributes by code	LMP .....
List of Model F.I.C.'s by code	LMC .....
List of Model Objects by code	LMO .....
List of Model Relationships by code	LMR .....

NB: For a detailed description of Database Block entity, see the Database Description Reference Manual of the database concerned. For Model entity, see the Specifications Dictionary Reference Manual.

User Entity (Extensibility)

Definition (U)
F .....

General Documentation (U)
F ..... G ...

Assigned Text
F ..... AT .....

Cross-references F X

to Volumes F ..... XV .....

to User Relationships F ..... XQ .....

Call of Elements (U)
F ..... CE - ...

List of User Entities by code
LCF .....

List of Occurrences for User Entity
F ..... L$ .....

User Relationship

Definition (U)
Q .....

General Documentation (U)
Q ..... G ...

Assigned Text
Q ..... AT .....

Cross-References Q X

to Volumes Q ..... XV .....

to User Relationships Q ..... XQ .....

to Entities Q ..... X* ...

to User Entities Q ..... XF .....

List of User Relationships by code
LCQ .....

User Entity Occurrence

Definition (U)
$ -- .....

General Documentation (U)
$ -- ..... G ...

Assigned Text
$ -- ..... AT .....

Cross-References
$ -- X

to Volumes
$ -- ..... XV .....

to User-Defined Relationships
$ -- ..... XQ .....

Description (U)
$ -- ..... D - ...

List of User Entity Occurrences by code
LC$ -- .....

Special Choices

General Menu	H
Sub–Menu for the x entity	Hx
Generation and print requests (U)	GP.. –––
List of Locked Entities (U)	LL ..... L – .....
	LL ..... L$ –– .....
	LL ..... E .....
List of historical (frozen) sessions	LH....
List of journalized transactions	J O
Previous screen (Jump Previous)	JP
Next screen (Jump Forward)	JF
Same screen (Jump in Place)	JI
New Context:	
New Library	N* ...
New session	NH .... –
Return to Current Session	NH9999
New Change	NC .....
Update mode:	
No update (inhibits the implicit action codes)	. NU
Update (sets the implicit action codes)	. U
Inhibit all update (implicit & explicit)	. NT
Input mode:	
Insert mode	. NY
Return to standard overlay mode	. NN
Display the differences between sessions:	
without update	. D .... –
modify	. M .... –
Within the Help function:	
Return to beginning of documentation	–
Return to PACBASE screen	END or JP
IMS Job Review:	
List of jobs	LJOB
Review of Job «nnpp»	JOB nnpp

Special Text Editing

- S/string 1 / Search for string 1
- C1 /old string/new string/ Step–by–Step Replacement
- C2/old string/new string/ B . –– ..... E . –– ..... Replacement from the Beginning bound to the End bound
- C3/old string/new string/ Global Replacement

- R nn Lines renumbering with "nn" interval (default=20).

OPERATION FIELD

C1	Selected library and higher level libraries	
U1	Selected library only	
Z1	Selected library and lower level libraries	
I1	Selected library and lower and higher level libraries	
>1	Higher level libraries	
<1	Lower level libraries	
A1	Identical to C1 with display of duplicates	
Mn	Stores or memorizes the screen upon which the request is executed (n=1–9)	
Rn	Recalls the screen that was stored by the Mn operation (n=1–9)	
FT	Final Transaction	

ACTION CODE FIELD

Blank	Implicit Update (create or modify)
C	Create
M	Modify
D	Delete
B	Block (multiple) deletion
L	End delimiter of multiple deletion
E or –	Inhibits implicit update on the line
?	Help documentation
S	Split line of text where cursor is positioned
T	Line transfer
G	Group line transfer
L	End delimiter of group line transfer
I nnn	Insert nnn lines here (nnn is entered in the Line number field).
R nnn	Repeat nnn times, beginning with the line number where the R action code is entered (nnn is entered in the next field).
J nnn	On any line other than an 1, R or S line, gives the step "nnn" by which to increment line numbers (optional, defaults to calculated line number).
X	Explicit update (creation/modification)

GENERATION AND PRINT COMMANDS

THESAURUS

DCK	Description of Thesaurus' Keywords with synonyms
LCK	List of Keywords defined in the Thesaurus

DATA ELEMENTS AND PROPERTIES

DCE	Data Elements/Properties description
DFE	Undefined Data Elements description
LCE	List of Data Elements/Properties by Code
LKE	List of Data Element/Properties by Keywords
LNE	List of Data Elements/Properties by Name
LXE	List of unused Data Elements
LACE	List by COBOL name (Rev. Eng.)

TEXTS

DCT	Description for Texts by Code
DTT	Description for Texts by Type
LCT	List of Texts by Code
LKT	List of Texts by Keywords
LTT	List of Texts by Type
L*T	List of Paragraph Titles of Text

VOLUMES

DCV	Description for Volumes by Code
LCV	List of Volumes by Code
PCV	Print Volumes by Code
LKV	List of Volumes by Keywords

USER MANUALS

DCU	Description of User Manuals by Code
LCU	List User Manuals by Code
LKU	List User Manuals by Keyword
PCU	Print selected User Manuals

INPUT AIDS (P.I.A.'S)

DCI	P.I.A. description
LCI	List of P.I.A. by Code
LKI	List of P.I.A. by Keywords
LXI	List of P.I.A. by X–reference

DATA STRUCTURES

DCD	Description of Data Structures
GCD	Generation of Selected Data Structures
LCD	List of Data Structures by Code
LKD	List of Data Structures related by Keywords
LPD	List of Data Structures by External Name
LTD	List of Data Structures by Type

SEGMENTS

DCS	Description of Segments in Format
LCS	List of Segments by Code
LKS	List of Segments by Keywords

REPORTS

DCR	Reports description
LCR	List of Reports by Code
LKR	List of Reports related by Keywords
LTR	List of Reports by Type

PROGRAMS

DCP	Program description
DSP	Description of Programs (Rev. Eng.)
GCP	Source code for selected Program
GSP	Source code for selected Program (Rev. Eng.)
LCP	List of Programs by Code
LEP	List of Programs by External Name
LKP	List of Programs related by Keywords
LTP	List of Programs by Type

ON-LINE SCREENS

DCO	Description of Selected On-line Screens
DSO	On-line Screen description (Rev. Eng.)
GCO	Program and Map source code
GSO	Program and Map source code (Rev. Eng)
LCO	List of On-line Screens by Code
LKO	List of On-line Screens by Keywords
LPO	List by External program name
LSO	List of On-line Screens by Map name
LTO	List of On-line Screens by Transaction code
LNO	List of On-line Screens by Type

SPECIAL COMMAND

UPC	Shift to upper case for printers that do not support lower case.

CLIENT/SERVER ENTITY

DGC	Description of a C/S Screen.
DGS	Description of a Business Component
GGC	Generate a C/S Screen
GGS	Generate a Business Component
GVC	Generate a Proxy Logical View (from Server Component)

ERROR MESSAGES

LEC	List of error messages for a Client Component/Screen
LED	List of error messages for a Data Structure/ Segment
LEO	List of all error messages for a On–line Dialogue/Screen
GE6	Generation of error messages for a (R6) file
GED	Generation of error messages for a Data Structure/Segment
GEO	Generation of error messages for a Dialog/ Screen
GIP	Generation for the VisualAge Pacbase–GIP Interface
GEC	Generation of error messages for a C/S Dialogue/Component
C1	Error messages for the Dialog and for each Screen
C2	C1 plus documentary help messages
C3	Error messages for the Dialog only
C4	PAW revamping (GEO)

DATABASE BLOCKS

DTB	Database Blocks description by Type
GCB	Generation of source: Database Blocks
GSQ	Generation of DDL for Relational/SQL block
LCB	List of Database Blocks by Code
LEB	List of Database Blocks by External name
LKB	List of Database Blocks related by Keywords
LTB	List of Database Blocks by Type
LES	List of SQL objects by External name
LTS	List of SQL objects by Code

MODEL ENTITIES

DCM	Description of the Model Entity
DCMC	Functional Integrity Constraints Description
DCMO	Model Objects description
DCMR	Model Relationships description
LCMC	List of Model F.I.C. by Code
LCMO	List of Model Objects by Code
LCMP	List of Model Properties by Code
LCMR	List of Model Relationships with F.I.C.'s.
LKM	List of Model entities related by Keywords

USER ENTITY

DCF	User Entities description
LCF	List of User Entities by Code
LKF	List of User Entities related by Keywords

USER RELATIONSHIP

DCQ	Description of User relationships
LCQ	List of User–Defined relationships by Code
LKQ	List of U.E. Relationships by Keywords

USER ENTITY OCCURRENCE

DC$	Description of User Entity items
LC$	List of User Entity items by Code
LK$	List of User Entity items related by keywords

JOB CARDS and END–OF JOB DELIMITER

FLB	Flow control of the Block
FLS	Flow control for Relational/SQL blocks
FLD	Flow control of Data Structures
FLO	Flow control for Screens
FLP	Flow control for Programs
FSP	Flow control for Rev. Eng. Programs
FSO	Screen job card / end delim (Rev. Eng.)
FGC	Flow control for Client Component
FGS	Flow control for Server Component
FLE	Flow control for Error messages
FLV	Flow control for Volumes

NB: All the Generation and Print Commands are grouped in the Bath Procedures Manual – User's Guide. They are detailed, for each entity, in the Reference Manual of the concerned Module.

STRUCTURED CODE

General Operators

N	Title, must be line 000
*	Comment
M	Move
MA	Move all
P	Perform
C	Compute
A	Add
S	Subtract
MP	Multiply
DV	Divide into
MES	Display message
ACC	Accept
STR	String
UNS	Unstring
CAL	Call
GT	Go to end of current sub-function with level number nn
GFT	Go to end of iteration
GDI	Go to beginning of iteration
GB	Go to beginning of current loop with level number nn
EXA	Examine
EXC	Used to access the VisualAge Pacbase Repository through CICS
INS	Inspect
COB	COBOL B margin
COA	COBOL A margin
SUP	Suppress
SCH	Search (not COBOL search)
SCB	Search (on sorted table)
ADT	Call system date (6 characters)
ADC	System date with century (8 characters)
AD	Date format : Century positioned from CENTUR field.
AD0	Date format : Century positioned from DAT-CTY
AD1	Date format : Century set to "19" if year < value in DAT-CTYT field.
AD2	Date format : Century set to "20" if year < value in DAT-CTYT field.
ADI	Date inversion (6 characters)
ADE	Date with slash (8 characters)
TIM	TIME HHMMSS format
TIF	HHMMSS to HH:MM:SS

COBOL II Operators

CON	Continue (no operand)
EVA	Evaluate
EVT	Evaluate True
EVF	Evaluate False
EEV	END–Evaluate (no operand)
EIF	END–IF (no operand)
EPE	END–PERFORM (no operand)
ESE	END–SEARCH (no operand)
INI	INITIALIZE
SEA	SEARCH
GOB	GO BACK

SQL Operators

EXQ	EXEC SQL... END–EXEC
SCC	CONNECT order (or its like)
SDC	DISCONNECT order (or its like)
SCO	COMMIT order.
SRO	ROLLBACK order.
SWH	WHENEVER order.

Operators for Batch Only

OPE	Open
CLO	Close
R	File read
W	File write
RW	File rewrite
RN	File read next (VSAM)
STA	File start read (VSAM)
DEL	Record delete (VSAM)
SRT	Sort
E	Error message
ADM	Insertion of slashes in a date with century
ADS	Date inversion with century

Operators for On–Line Only

AD6	ADT and ADI (on–line)
AD8	ADE (on–line)
GF	Go to end of automatic sub–function
GFR	Go to end–of–reception
GFA	Go to end–of–display
GDB	Branch to start of current loop
OTP	Immediate transfer to screen of external name
OSC	Screen transter
OSD	Deterred screen transfer
XR	Read segment (Perform of paragraph F80–ddss–R)
XP	Read first occurrence of segment

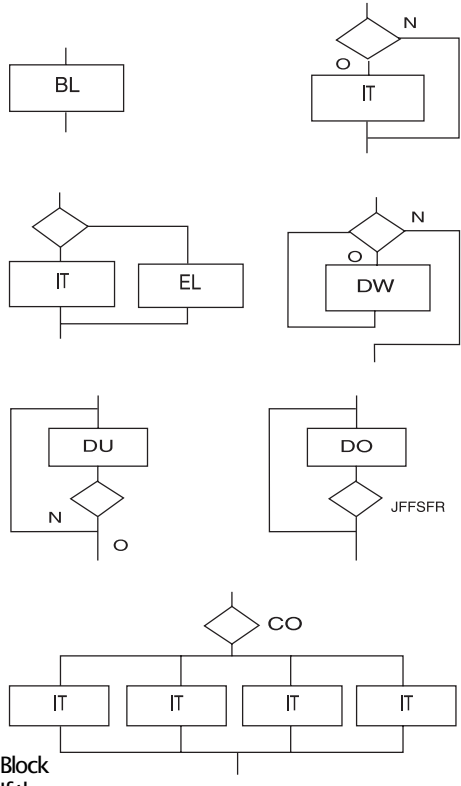
XRN	Read next occurrence of segment
XRU	Read for update of segment
XW	Write segment
XRW	Rewrite segment
XD	Delete segment
XUN	Unlock segment (VSAM)
Yaa	Create paragraph labels (F80–ddss–aa)
Xaa	With Yaa, Perform of paragraph F80–ddss–aa
ERU	User error (specified at dialogue level)
ERR	User field error

Operators for Business Component Only

GFA	End of selection processing (Branch to the Fvunn–SELC–FN label).
GFR	End of validation/update processing (Branch to the Fvunn–CHUP–FN label).
GDB	Return to the beginning of current iteration (Branch to the Fvunn–CHUP–CATR–SVRx–CHCK label or Fvunn–SELC–CATR–SVRx–SELC label).
GDI	Go to the beginning of next iteration (Branch to the Fvunn–CHUP–CATR–SVRx–DONE label or Fvunn–SELC–CATR–SVRx–DONE label).
GFT	Go to the end of iteration. (Branch to the Fvunn–CHUP–CATR–FN label or Fvunn–SELC–CATR–FN label).
GF ENDV	Go to end of logical view processing (Branch to the Fvunn–ENDV label).
XT	Allows you to call an elementary processing (transfers, processing on Segment, ...).
ERL	Logical error indicator on control/update access Error on Lock or Unlock query ordered by a graphical client (MOVE "L" TO TECH–IERRU)

NB: For a detailed description of Structures Types, Operator and of Specific operators lists (On–line monitors or Database), see the Stuctured Code Reference Manual.

Structured code condition types



BL	Block
IT	If then
EL	Else (only after an IT)
CO	Case of (followed by IT's)
DW	Do white
DU	Do until
DO	Do (Generates Subscript: JffssR)
OR	Or
AN	And

Relative positioning (On-line only)

*A	To insert the sub-function before the automatic sub-function (F20, F25, F35 and F65)
*P	To insert the sub-function after the automatic sub-function (F20, F25, F30, F35, F60 and F65)
*R	To replace an automatic sub-function (F20, F25, F35, F60 and F80)

Specific Business Component

*C	Insert or replace code in the server or for a logical view. It must be defined on a level 05
*B	To insert in the elementary processing called by PERFORM.

ON-LINE GENERATION

Variables and Constants

INA	Number of Data Elements in the screen-top category
INR	INA + Number of Data Elements in the repetitive category
INZ	INR + Number of Data Elements in the screen-bottom category
IRR	Number of repetitions in the repetitive category
INT	Number of input fields in the Screen
IER	Number of error messages on the Screen
SESSI	Session number of the generated program
LIBRA	Code of the VisualAge Pacbase library
DATGN	Date of program generation
DATGNC	Program generation date with century
PROGR	VisualAge Pacbase Program code
PROGE	External name of the program
TIMGN	Time of program generation
USERCO	User code
COBASE	Database code
PRDOC	External name of the “Help screen” program
DATOR	Field storing the date of processing
DATCTY	Field for loading the century
DATSEP	Contains the separator used for dates
DAT-CTYD	Field which allows to determine the current day century
DAT-CTYT	Field which allows to add the century to a date
TIMCO	Field for loading the time
TIMDAY	Field for loading the formatted time (HH:MM:SS)
5-xxnn-PROGE	Field containing the name of the program to branch to

Program control variables

ICF Input configuration
- '1' Screen in input
- '0' No screen in input

OCF Output configuration
- '1' Screen in output
- '0' No screen in output

OPERD Operation code for deferred branching, transferred to OPER in the F40 function 'O' Deferred call of another Screen

CATMA Saving of the transaction code of the screen-top category

OPER Operation code
'A' Display
'M' Update
'S' Screen continuation
'E' End
'P' Same Screen
'O' Call of another Screen

CATM Transaction code
'C' Creation
'M' Modification
'A' Deletion
'X' Implicit update

CATX Code of the category being executed
'0' Beginning of reception or display
' ' Screen–top
'R' Repetitive
'Z' Screen–bottom

ICATR Indicator for current category being processed (Repetitive category only)

FT End of repetitive category indicator
'0' Lines to display
'1' No more lines to display

ddss–CF Segment configuration indicator
'0' Segment I/O area does not contain a record
'1' Segment I/O area contains a record.

IK Error indicator for Segment access or server call
'0' No error
'1' Error

Error variables

CAT–ER Ongoing error indicator for current category
' ' No error
'E' Error

SCR–ER Screen error indicator
'1' No error
'4' Error

ER–scrn–delcod Data Element error indicator
'0' Absent Data Element
'1' Present Data Element
'2' Invalid absence of Data Element
'3' Invalid presence of Data Element
'4' Erroneous class
'5' Invalid content
scrn : last four characters of the screen code
delcod : Data Element code

DEL–ER Memorization of the Data Element Presence or Status at a given time

C/S Screen Structure

01 – Initializations 05 BL

Reception 03 IT ICF = '1'

05 – Reception 05 BL
0510 – Reception of the Screen 10 BL
0512 – Documentation call processing 10 BL
0520 – Validation of the operation code 10 BL

LOOP BY CATEGORY 04 DW CATX ≠'Z'

10 – Category processing loop 05 BL
1010 – Category positioning 10 BL

15 – Validation of the transaction code 05 BL

20 – Data Element validation 05 BL
20A – Screen–top category
20R – Repetitive category
20Z – Screen–bottom category

25 – Segment access for reception 05 IT CAT–ER = ' '
25A – Screen–top category
25R – Repetitive category
25Z – Screen–bottom category

30 – Data Element transfer 05 IT CAT–ER = ' '
30A – Screen–top category
30R – Repetitive category
30Z – Screen–bottom category

35 – Segment access for update – Server call 05 IT CAT–ER = ' '

END OF LOOP for reception 04 BL
3999 – ITER–FI. GO TO F10.
3999 – ITER–FT. EXIT.

40 – Transaction management 05 IT SCR–ER = '1'
4010 – Set–up keys for new display 10 IT OPER = 'A' or 'M'
4020 – Set–up keys for screen paging 10 IT OPER = 'S'
4030 – End of transaction 10 IT OPER = 'E'
4040 – Transfer to another C/S Screen 10 IT OPER = 'O'

END OF RECEPTION. (F45–FN)

NB: For a detailed description of Generated On–Line Program, see the OLSD Reference Manual for the concerned On–line monitor.

Display 03 IT OCF = '1'

50 – Display 05 BL
5010 – Initialization 10 BL

LOOP BY CATEGORY 04 DW CATX ≠'Z'

55 – Category processing loop 05 BL
5510 – Category positioning 10 BL

60 – Segment access for display – Server call 05 BL
60A – Screen–top category
60R – Repetitive category
60Z – Screen–bottom category

65 – Data Element transfer 05 BL
65A – Screen–top category
65R – Repetitive category
65Z – Screen–bottom category

END OF LOOP for Display 04 BL
6999 – ITER–FI. GO TO F55.
6999 – ITER–FT. EXIT.

70 – Error management 05 BL
7010 – Error messages processing 10 BL
7015 – Logical View error processing 10 BL
7020 – Positioning of attributes 10 BL

End of display. (F78–FN)

8Z – Display and end of Program 05 BL
8Z05 – Help sub–function 10 IT SCR–ER = '1'
8Z10 – Display 10 BL
8Z20 – End of Program 10 BL

Called functions

80 – Physical Segment access routines 05 BL

81 – Called Validation Functions
81CS – Server call 10 BL
81CV – Recovery of Client/Server communication area 10 BL
81ER – Abnormal end procedure 10 BL
81TA – Client context save 10 BL
81TR – Client context retrieval 10 BL
81UT – Memorization of user's errors 10 BL
81UV – Database access error 10 BL
8110 – Numeric validation 10 BL
8115 – Initialization of the variable fields 10 BL
8120 – Validation and setting of date 10 BL
8130 – Help sub–function 10 BL
8150 – Documentation Help 10 BL
8160 – Help function return processing 10 BL

Business Component Structure

05 FSERVER
Beginning of server processing

10 FSERVER-STRVIEW
Structure validation and length of the communication area buffers

05 FSQL
SQL declaration

10 FSQL-WHENEVER
Clause Whenever

10 FSQL-CURSR-SEET
Declare Cursor

05 FDDSS
Processing of the DDSS logical view

10 FDDSS-BEGV
Initialization of the logical view processing

10 FDDSS-CHUP
Check/update processing

15 FDDSS-CHUP-CATX
X Category processing (X = 'A': before repetitive, 'R': repetitive, 'Z': after repetitive)

20 FDDSS-CHUP-CATX-SRVO
O Service processing (O = 'E', 'L', 'M', 'T' or 'X')

25 FDDSS-CHUP-CATX-SRVO-INIT
Initialization

25 FDDSS-CHUP-CATX-SRVO-CHCK
Logical check processing

25 FDDSS-CHUP-CATX-SRVO-TRAN
Loading before update

25 FDDSS-CHUP-CATX-SRVO-UPDT
Logical update processing

25 FDDSS-CHUP-CATX-SRVO-DONE
End of service processing

10 FDDSS-LOCK
Lock

10 FDDSS-UNLK
Unlock

10 FDDSS-SELC
Selection processing

15 FDDSS-SELC-CATX
X Category processing (X = 'A': before repetitive, 'R': repetitive, 'Z': after repetitive)

20 FDDSS-SELC-CATX-SRVA
Selection service processing

25 FDDSS-SELC-CATX-SRVA-INIT
Initialization

25 FDDSS-SELC-CATX-SRVA-SELC
Logical selection processing

25 FDDSS-SELC-CATX-SRVA-TRAN
Loading after selection

25 FDDSS-SELC-CATX-SRVA-DONE
End of service processing

10 FDDSS-USER
User processing

10 FDDSS-ERRV
DDSS logical view error processing

10 FDDSS-ENDV
End of DDSS logical view processing

05 FSERVER-END
End of server processing

10 FDDSS-TRDT
Transfer of the logical view data to the Segment data in physical access

15 FDDSS-TRDT-CATX
X Category processing (X = 'A', 'R' or 'Z')

10 FDDSS-CHKD
Logiciel view data control

10 FDDSS-CHKD-CATX
X Category processing (X = 'A', 'R' or 'Z')

10 FDDSS-TRVW
Transfer of Segment data to the logical view data

15 FDDSS-TRVW-CATX
X Category processing (X = 'A', 'R' or 'Z')

10 FSSNN-CHCK
Logical check access processing of SSNN Segment

15 FSSNN-CHCK-CATX
X Category processing (X = 'A', 'R' or 'Z')

20 FSSNN-CHCK-CATX-ALIM
Key loading

20 FSSNN-CHCK-CATX-CALL
Physical access call

20 FSSNN-CHCK-CATX-ERRS
Error processing on physical access

10 FSSNN-UPDT
Processing of the logical update access on SSNN Segment

15 FSSNN-UPDT-CATX
X Category processing (X = 'A', 'R' or 'Z')

20 FSSNN-UPDT-CATX-ALIM
Key loading

20 FSSNN-UPDT-CATX-CALL
Physical access call

20 FSSNN-UPDT-CATX-ERRS
Error processing on physical access

10 FSSNN-SLCT
Processing of the logical selection access on SSNN Segment

15 FSSNN-SLCT-CATX
X Category processing (X = “A”, “R”, “Z” or “T”)

20 FSSNN-SLCT-CATX-ALIM
Key loading

20 FSSNN-SLCT-CATX-CALL
Physical access call

20 FSSNN-SLCT-CATX-ERRS
Error processing on physical access

F80 Physical access

F81 Complementary processing (end of Program, error management...)

Conditional Variables

FTBN — Final total control break at level n.

Processing is ending on all data structures synchronized on input for all records having the same key at level n.
'1'– YES '0'– NO

ITBN — Initial total control break at level n.

Processing is starting on all data structures synchronized on input for all records having the same key at level n.
'1'– YES '0'– NO

dd–FBn — Final control break on data structure dd at level n.

The last record, at level n, on data structure dd, is ready for processing.
'1'– YES '0'– NO

dd–IBn — Initial control break on data structure dd, level n.

The first record, at level n, on data structure dd, is ready for processing.
'1'– YES '0'– NO

dd–CFn — File configuration at level n.
'1' – File match: process in this iteration
'0' – Bypass file in this iteration

dd–OCn — Occurrence on Data Structure dd at level n.

A record on Data Structure dd with usage "P" is being processed in this program cycle.

dd–FT — Input data structure dd has detected end–of–file.
'1'– YES '0'– NO

dd–Fi — Control break processing only.
'1' – File 1/0 area contains last record of file
'0' – File 1/0 area does not contain last record of file

Table Indexes

IddssM — Maximum number of table entries, specifie by the user, for a table defined by Data Structure dd, segment ss.

IddssL — Number of entries actually loaded from segment ss in data structure dd. This number cannot exceed the maximum specified above.

IddssR — Varying from 1 to IddssL, used for all look-ups on the table loaded from data structure dd, segment ss. Once the table is loaded, this index is initialized to zero if there is no overflow, or to the number of records read if an overflow has occurred.

Validation Processing (Work areas and variables)

DE-ERR — Stores the presence status of each data element ofthe transaction being processed.
Each elementary data element (eeeeee), other than FILLER, ENPR, GRPR, ERUT and their sub-elements, is provided with a status field within the table. This field is named ER-ss-eeeeee (ss = SEGMENT CODE).
The values vary at different points in the processing cycle:

0 data element absent
1 data element present
2 invalid absence of data element
3 invalid presence of data element
4 erroneous class
5 invalid content

ID-ER — The last field in the table is ID-ER and is used for storing the record identification status:

0 record type and action code are valid values
5 error detected on record type
6 error detected on action code

DEL-ER — Stores the presence status of the data element being processed.
Generated if the program contains a transaction file (to be validated or not).

ER-PRR — Used only to carry out transfers between DE-ERR and a data structure (USAGE OF D.S. = M, N or E) with a reduced error array.

SE–ERR Stores the presence status of each transaction file record type.
Generated if the program contains a transaction file (to be validated or not).
Each record type is provided with a status field within this table. This field is named SE–ER(I01).
The values vary at different points in the processing cycle:
0 record absent
1 record present
2 invalid absence of record
3 invalid presence of record
7 duplicate record
8 invalid creation
9 invalid modification or deletion

TR–ER The last field in the table is named TR–ER and is used for storing errors detected.
1 no error detected
4 an error is detected

SE–ERE Stores the presence status of the record being processed.

GR–ER Stores information concerning errors detected on a group of transactions which update a record, of at least one principal data structure.

UT–ERUT Stores the user's errors.

Record Counters

5–dd00–RECCNT Record counter for file dd.
It is incremented after each read or write.

Tables used for Reports

CAT–TAB	Category table: stores all categories to be printed in this iteration.
ST–TA	Table storing the structure number, constant part number, and page/line skip for the category to be printed.
r–LAB	Table containing constants for report r.

Print variables and Counters

ST–SLS	Stores the structure number, constant part number, skip to be executed before writing a line and char. set. option (special printer).
CATX	Stores the category of report being printed.
5–dd00–rPC	Page counter for report r in data structure dd initially set to zero. Automatically handled by VisualAge Pacbase.
5–dd00–rLC	Line Counter. Initially set equal to the maximum number of lines for report r to allow for a new heading situation. Automatically handled by VisualAge Pacbase.
5–dd00–rLCM	Maximum number of lines per page for report r.
5–dd00–rLC1	Line counter for Report r from Data Structure dd, incremented at each output line and indicating the line number of the last written line.
5–dd00–rTP	Start of Page indicator for Report r from Data Structure dd.
5–dd00–rRC	Counter for number of lines written for the report r. Incremented after writing.

Automated Totaling Fields

Trst–eeeeee(n)	Accumulator at level n, for data element eeeeee of structure st in report r.
Grst–eeeeee	Grand total accumulator, for data element eeeeee of structure st in report r.

Batch Program Standard Structure

(This structure will vary, depending on the environment. Based on the specifications entered, all or none of these functions may be generated.)

```
01 – Initializations                                  05 BL
       01dd – Open Files or Initialize                10 BL
       Table (Data Structure dd)
       (for each d.s. to open)

05 – Read sequential files with no control break      05 BL
       05dd – Read dd–file                            10 BL
       (for each appropriate d.s.)

10 – Read sequential files with control break         05 BL
       10dd – Read dd–file                            10 BL
       (for each appropriate d.s.)

20 – End of run                              05 IT FT=ALL '1'
       20dd – Close dd–file                           10 BL
       (for each d.s. to close)
       2099 – Stop Run                                10 BL

22 – Calculate file control breaks                    05 BL

24 – File matching logic                              05 BL

26 – Total control break logic                        05 BL

30 – Calculate validation variables                   05 BL
       (where n is lowest match level)

33 – Identification validation                        05 BL
       33AA – Record Type Validation                  10 BL
       33BB – Transaction Code Valid.    10 IT ID–ER='0'

36 – Duplicate record validation                      05 BL

39 – Presence of data elements          05 IT ID–ER='0'
       3900 – Record dd00                             10 BL
       39nn – Record ddnn                  10 IT 1–dd00–
       (for each record type)              rectyp='x'

42 – Record structure validation        05 IT ID–ER='0'
       4210 – Common Part                             10 BL
       4220 – Specific parts                          10 BL

45 – Data element contents validation   05 IT ID–ER='0'
       4500 – Record dd00                             10 BL
       45nn – Record ddnn       10 IT 1– dd00–rectyp='x'
       (for each record type)

51 – Record presence validation           05 IT ID–ER='0'
       5110 – Record Presence Validation              10 BL
       5120 – Record Absence Valid.      10 IT dd–FBn='1'
```

70 – Existence validation	05 IT ID–ER='0' AN dd–IB n='1'
70dd – Existence validation on dd–file (for each appropriate d.s.)	10 BL
73 – Update	05 IT ID–ER='0' AN SE–ER(I01)='1'
76 – Store errors & Backout	05 BL
76dd – Backout for dd–file (for each appropriate d.s.)	10 IT FTBn='1' AN GR–ER='1'
8r – Report logic for report r by report structures:	05 IT condition on –D (top)
8rzz – Loads Constant Part	10 BL
8r00 – Loads Variable Part	10 BL
8r99 – Physical Write	10 BL
90 – Write files	05 BL
90dd – Write dd–file	10 BL
9099 – ITER–FN. GO TO F05	10 BL

NB: For a detailed description of Generated Batch Program, see the Batch Systems Development Reference Manual.

VisualAge Pacbase ENVIRONMENT

General Choices

Menus		
	Management of user's parameters	HP
	Production Environment Interface	HE
	Back to general Menu	H
SignOff		FT

Function Keys

Number	Significance
PF4	Help for the screen
PF5	Back to general menu
PF6	SignOff
PF7	Implicit action code ignored
PF8	Help for the element
PF10	Entity called by cursor positioning
PF12	Conversation exit

Management of User's Parameters

List of control cards	LCPC..
List of user codes	LCPU.....
List of methods	LCPM..
VisualAge Pacbase programs identification	PD
Optional control cards updating (U)	PC....
Text types updating (U)	PT.
Standard error messages updating (U)	PE.
Update of user parameters (U)	PU.....
Access keys updating (U)	PK
Update of special characters	PW.
Update of method choices (U)	PM.....
VisualAge Pacbase associated DSMS database (U)	PB....

Production Environment Interface

Generation environment (U)
EE..... (library, env. entity type)

Default environments (U)
ED..... (session and library)

Entities generated (U)
EG..... (library, env. type, type and entity code)

Production sessions (U)
ES....

Entities in production / session
LSEP..... (session, library, env. type, type and entity code)

NB: the Management of user's parameters is described in the User Interface Guide; the Production Environment Interface is detailed in the Production Environment Manager reference Manual.

NOTES

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