P6060

Disk System
Generation of the Operating System
and Reference Guide

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GR Code 3975120 L

Printed in Italy

PREFACE

This book provides a quick reference for those involved in the generation of the Disk Operating System and in the use of the system. The book is divided into three parts. The first part describes how to generate a Disk Operating System; the second part gives some information relating to switching the system on and off; and the third part describes the system commands and utility programs available with the Disk Operating System. For Disk Operating System error messages, see the P6060 Disk System Release Guide 1.Ø. code 3974270 (0).

Related Documents:

P6060 Disk System Release Guide 1.Ø.
code 3974270 P (0)

Distribution: General (G)

First Edition: September 1977

PUBLICATION ISSUED BY:

Ing. C. Olivetti & C., S.p.A.
Direzione Marketing Centrale
Servizio Documentazione
77, Via Jervis - 10015 IVREA (Italy)

PREFACE

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GENERATION OF THE OPERATING SYSTEM ON DISK

Before the explanation of how to generate the operating system on a disk of a DCU or HDU unit, some definitions relating to the floppy disks and disks involved in the use of the P6060 Disk System are given.

Up to three different types of floppy disk can be used:

1. Floppy disk containing the generator of the P6060-Disk Operating System in the P6SGEN library (Volume identifier KØ1282)
2. Floppy disk containing the Bootstrap, for loading into main memory the resident part of P6060-Disk Operating System, in the P6SBTS library (Volume identifier SYSBTS)
3. User Floppy Disk containing only the user-created library.

Two different types of disk can be used:

1. System Disk, containing the P6060-Disk Operating System in the P6SW library (Volume identifier SYSDIS)
2. User Disk, containing only the libraries created by the user.

To generate the P6060-Disk Operating System on a disk, the floppy disk containing the Disk Operating System generator must be inserted in the floppy disk unit.

After the P6060 and the disk unit (DCU or HDU) are switched on and the P6060 system is initialized, a program that records the P6060 - Disk Operating System on a specified disk is loaded into main memory.

At the user's request, the above program can also:

1. Initialize the disk on which the P6060 - Disk Operating System is to be recorded

2. Record the Bootstrap on a floppy disk.

The user must provide the program with the following information:

- the type of disk unit to be used by the P6060 - Disk Operating System
- the internal code of the unit
- the symbolic name by which the unit will be subsequently referred to in system and utility control commands.

This information is provided when the following message is displayed:

UNIT?

The response to this message takes the form:

type, code, unit-name

where:

type may be one of the following codes:

DCU to specify a DCU unit

FDU to specify a floppy disk unit

HDU to specify an HDU unit

code may be one of the following:

CØ to specify the upper drive of the floppy disk unit

C1 to specify the lower drive of the floppy disk unit

AØ to specify the fixed disk of the DCU unit connected nearer to the P6060 or the HDU unit connected nearer to the P6060

A1 to specify the removable disk of the DCU unit connected nearer to the P6060 or the HDU unit connected farther from the P6060

A2 to specify the fixed disk of the DCU unit connected farther from the P6060

A3 to specify the removable disk of the DCU unit connected farther from the P6060

unit-name is a string of up to 6 alphanumeric characters, the first of which must be alphabetic. This code specifies the symbolic name to be used in the unit-name operand of subsequent system and utility control commands.

The UNIT? message will appear more than once. The first time the message appears, the user must specify either DCU or HDU -- to indicate the unit on which the P6060-Disk Operating System is to be generated.

After the codes are entered, the UNIT? message is displayed again. This gives the user the chance to specify another unit for the configuration he is defining. (Note that if, in response to the message, a disk unit is again specified, it must be the same type as the type first specified: DCU or HDU). If no additional units are to be specified, an asterisk (*) must be entered in response to the message.

The responses to the UNIT message suggested as standard are shown in Table 1.

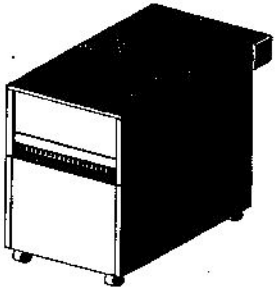
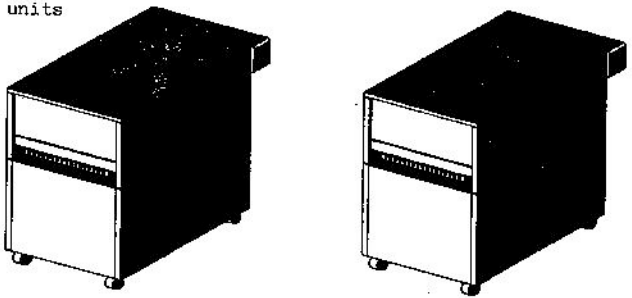
DCU	FDU – Single Drive	FDU – Dual Drive
One unit 	DCU,AØ,LD DCU,A1,UD7 FDU,CØ,UF *	DCU,AØ,LD DCU,A1,UD FDU,CØ,UF FDU,C1,LF *
Two units 	DCU,AØ,LD DCU,A1,UD DCU,A2,DLS DCU,A3,SUD FDU,CØ,UF *	DCU,AØ,LD DCU,A1,UD DCU,A2,SLD DCU,A3,SUD FDU,CØ,UF FDU,C1,LF *

Table 1 – Responses to the UNIT message suggested as standard

After the entry of an asterisk, the following message is displayed:

SYSTEM PASSWORD?

In response, the user must enter a string of up to 6 alphanumeric characters, excluding the blank, that is to be used as the system password to access the libraries specified in the LBOPEN command and in the commands that call the LBEMTY, LBPROTECT, and LBSCRATCH utility program.
If only END OF LINE is pressed, the blank is assumed as system password.

Next, the following message relating to disk initialization is displayed:

INIT unit-name?

where unit-name is the symbolic name that was assigned to the unit containing the disk on which the P6060-Disk Operating System will be recorded.

The user can enter:

P to physically and logically initialize the disk
L to logically initialize the disk
N if the disk does not need to be initialized

After a response is given, execution is resumed. It is interrupted when the following message is displayed:

DISK FOR SYSTEM ON unit-name

where unit-name is the symbolic name that was assigned to the unit.

If the requested disk has been loaded, the CONTINUE button must be pressed to resume program execution. If not, the disk should be loaded, and CONTINUE then pressed.

If the disk contains some libraries that would be deleted when the operating system is recorded, program execution is interrupted, and the following message is displayed:

```
LISTED LIBRARIES WILL BE DELETED
```

A printed listing of the libraries, in the following format, is given:

```
LIBRARY    lib-name
LIBRARY    lib-name
LIBRARY    lib-name
```

where lib-name is the name previously assigned to the library in a LBCREATE utility program.

If the BREAK button is pressed, program execution restarts with the following message being issued:

```
DISK FOR SYSTEM ON unit-name
```

and the user can change the disk.

If the deletion of the libraries is unimportant, the CONTINUE button can be pressed to resume program execution. The operating system is recorded on the disk, and the disk is assigned the name SYSDIS.

When recording of the operating system is complete, the following message is displayed:

```
BOOTSTRAP?
```

If the Bootstrap is not to be recorded, the user responds to the BOOTSTRAP? message by entering an N.

If the user responds by entering Y, the Bootstrap is recorded on the floppy disk loaded in the drive identified by unit-name in the message next displayed:

LOAD DISK FOR BTSTRAP ON unit-name

After the user inserts the required floppy disk in the drive, the CONTINUE button must be pressed.

After the Bootstrap is recorded (or if N was entered), the following message is displayed:

END OF CONFIGURATION

and information describing the system configuration generated is printed on the integrated printer.

DISK OPERATING SYSTEM START-UP PROCEDURES

To use the Disk Operating System recorded on disk, follow the steps outlined below:

1. Switch on the power for the DCU unit; the LOAD and POWER console indicators of the DCU unit will light
2. Set the LOAD/RUN switch to the RUN position
3. When the READY console indicator of the DCU lights, switch on the P6060. When the initialization phase of the P6060 is complete, the READY message is displayed.

When switching off the system, first switch off the P6060 then the DCU unit.

Note: Each time a removable disk must be removed from or mounted onto the DCU unit, the LOAD/RUN switch must be set to the LOAD position.

REFERENCE GUIDE

This reference guide describes the syntax of the system commands and utility control commands specifically available for the P6060-Disk Operating System. The full set of P6060 system commands appears in the P6060 Personal Minicomputer Reference Guide, code 3972430 E (2). Note that if the same command appears in both guides, the syntax shown in this guide is the syntax to be used for the P6060-Disk Operating System.

TERM	MEANING
input-unit-name	string of up to 6 alphanumeric characters, the first of which must be alphabetic, that specifies the symbolic name of a disk or floppy disk unit referred to as input in a disk copy operation
lib-name	string of up to 6 characters, the first of which must be alphabetic, that specifies the name of a library. Alphabetic characters must be capital letter
lib-ref	= { (lib-name, unit-name) / lib-name / (, unit-name) } Note that lib-ref = lib-name only when there is one library with lib-name as symbolic name. lib-ref = (, unit-name) only when there is one library on the unit with symbolic name unit-name.
output-unit-name	string of up to 6 alphanumeric characters, the first of which must be alphabetic, that specifies the symbolic name of a disk or floppy disk unit referred to as output unit in a disk copy operation

TERM	MEANING
password	string of up to 6 characters giving access to a library
volume-identifier	string of up to 6 characters recorded on disk or floppy disk and used as identifier
unit-name	string of up to 6 alphanumeric characters, the first of which must be alphabetic, that specifies the symbolic name of a disk or floppy disk unit. See in Table 1 the standard name suggested.

Table 2. - Terms used in command formats

NAME	FUNCTION	FORMAT
CATALOG	Lists the contents of a library	CAT[ALOG] [filename / * / + / :] ,[lib-ref] ,[P / T / D] [,F] Examples: CAT *, (INSTAL,UD),,F CAT MATR,MATH1,P,F
CREATE	Allocates space on a library for an external data file	CRE[ATE] filename,[lib-ref],[S / R / Z] [,n] Note: n is the space requested, in bytes Examples: CRE DATA1,STA,R,25600 CRE DATA,U
DCHANGE	Allows substitution of one disk or floppy disk for another, while the system is active, without deleting the contents of main memory	DCH[ANGE] unit-name Examples: DCH UD DCH LF

NAME	FUNCTION	FORMAT
ENVIRONMENT	Prints information describing the system configuration	ENV[IRONMENT] Example: ENV
LBCLOSE	Closes the access to one or more libraries	LBC[LOSE] {lib-ref / *} Note: * means all libraries Examples: LBC (MAT1,UF) LBC *
LBOPEN	Opens the access to one library	LBO[PEN](lib-name, unit-name)[,password] Examples: LBO (STAT,LF), &ps LBO (MAT,UD)
LBRESTORE	Closes all the open libraries and reopens the libraries opened by default	LBR[ESTORE] Note: the libraries opened by default are those specified in LBSTORE or the first library created on the system disk by the LBCREATE utility program. Example: LBR

NAME	FUNCTION	FORMAT
LBSTORE	Specifies the libraries that will be opened each time system initialization is performed	LBS[TORE] Example: LBS
LINK	Inserts a subroutine (or a user-defined function), stored in a library, into a program in main memory	LIN[K] filename,[lib-ref],line-num[,α] Note: α is a capital letter Examples: LIN GAUSS,STAT1,1000,A LIN JACOB,MAT,500
LVTOC	Lists the names of the libraries on a disk or floppy disk unit	LVT[OC] [unit-name / *] Examples: LVT UD LVT * Note: LVT* lists all opened libraries
MODIFY	Changes filenames and/or data file size	MOD[IFY] old-filename,[lib-ref],{new-filename[,n] / ,n} Note: n is the space requested, in bytes. Examples: MOD FILE7,1024 MOD FILE1,(MAT,UD),DATA1,2048

NAME	FUNCTION	FORMAT
OLD	Loads an existing file from a library into main memory	OLD filename[,lib-ref] Examples: OLD MAT OLD CAL1,(MAT1,UF)
PREPARE	Pre-executes a program and places the system in debug mode	PRE[PARE][filename[,lib-ref]] Examples: PRE CAL1,MAT1 PRE
PURGE	Deletes a file in a library	PUR[GE] filename [,lib-ref] Examples: PUR CAL1,(MAT1,LF) PUR CAL2
REPLACE	Replaces a program or text file in a library with one in main memory	REP[LACE][lib-ref] Examples: REP MAT1 REP

NAME	FUNCTION	FORMAT
RUN	Starts program execution	RUN [filename [,lib-ref] / line-num] Examples: RUN CAL1,MAT2 RUN 215
SAVE	Saves a program or text file in a library	SAV[E]filename,[lib-ref][,MSG=n] Note: n = Ø or 1 Examples: SAV CAL1,(MAT,UF),MSG=Ø SAV CAL2
SECURE	Inhibits listing, display and editing of programs or printing transcoding, truncating and rewriting of data files	SEC[URE]filename,[lib-ref][,n] Examples: SEC CAL1,MAT1,115 SEC DATA1
SPACE	Prints the storage space available in a library	SPA[CE][lib-ref] Examples: SPA (MAT1,UF) SPA

NAME	FUNCTION	FORMAT
TRANSCODE	Converts a data file into a text file or vice versa	TRA[NSCODE]$\left\{\begin{matrix}T\\D\end{matrix}\right\}$, filename,[lib-ref][,#] Examples: TRA T,STAT1,STAT,# TRA D,DATA
TRUNCATE	Sets the allocation length of a data file equal to its actual length	TRU[NCATE] filename [,lib-ref] Example: TRU NUM1,MAT TRU DATA1
VALIDATE	Closes a data or text file left open because program execution has been abnormally terminated	VAL [IDATE] filename [,lib-ref] Examples: VAL NUM1,(MAT,UF) VAL DATA1

NAME	FUNCTION	FORMAT
DCOPY	Copies the contents of one floppy disk or disk onto another floppy disk or disk	EXE[C]DCO[PY],input-unit-name,output-unit-name,[volume-identifier][,V] Examples: EXE DCO,LD,UD,VOLUM2,V EXE DCO,LF,UF
DINIT	Initializes a volume physically or logically	EXE[C]DIN[IT],unit-name[,volume-identifier][,{P / I}] Examples: EXE DIN,UD,D281,I EXE DIN,SUD,D280,P
FLCOPY	Copies a file from one library into another library	EXE[C]FLC[OPY],IN=[lib-ref],old-filename,OUT=[lib-ref][,{new-filename / . / +}] Examples: EXE FLC,IN=MAT1,CAL1,OUT=STAT1,TRACE EXE FLC,IN=CAL2,OUT=
FLPRINT	Prints the contents of a data file	EXE[C]FLP[RINT],filename[,lib-ref] Examples: EXE FLP,CAL1,MAT1 EXE FLP,CAL2

NAME	FUNCTION	FORMAT
LBCREATE	Allocates space on disk or floppy disk for a library	EXE[C]LBC[REATE],lib-ref,[password][,SIZE=K][,*=1][,+=n2][,NP=n3] Note: n1,n2, and n3 are positive integer numbers such that n1+n2+n3 < 15.K is the number of Kilobytes requested for the library Examples: EXE LBC,(MAT1,UD),&7K,SIZE=15,*=3, +=3,NP=5 EXE LBC,(MAT2,LF)
LBEMPTY	Reinitializes a library, deleting its files, but maintaining the allocation space defined by the LBCREATE utility program	EXE[C]LBE[MPTY],lib-ref[,password] Note: if the library is not on system disk lib-ref must be (lib-name,unit-name) Examples: EXE LBE,MAT1,&K6 EXE LBE,CAL1
LBPROTECT	Protects the library specified	EXE[C]LBP[ROTECT],[lib-ref],[password] $\left[,\left\{\begin{matrix}*\\+\end{matrix}\right\}\right]$ Note: if the library is not on system disk lib-ref must be (lib-name,unit-name) Examples: EXE LBP,MAT1,&6K,* EXE LBP

NAME	FUNCTION	FORMAT
LBRNAME	Changes the name and/or the password of a library	EXE[C]LBR[ENAME],lib-ref,[old-password], {new-lib-name[,new-password] ,new-password} Note: if the library is not on system disk lib-ref must be (lib-name,unit-name)
LBSCRATCH	Deletes a library without freeing the space occupied on disk or floppy disk	EXE[C]LBS[CRATCH],lib-ref[,password] Note: if the library is not on system disk lib-ref must be (lib-name,unit-name) Examples: EXE LBS,MAT,Kh7 EXE LBS,(MAT1,UF)

NAME	FUNCTION	FORMAT
LIBCOPY	Copies the library specified onto another disk	EXE[C]LIB[COPY],IN=[lib-ref],[*/+/:],OUT=[lib-ref][,filename] Note: if the library is not on system disk lib-ref must be (lib-name,unit-name) Examples: EXE LIB,IN=MAT,:,OUT=CALCOL EXE LIB,IN=(PROFSYS,UF),*,OUT=(INSTAL,UD)
RESTRUCT	Frees the space on disk that was occupied by the libraries deleted by the LBSCRATCH utility program	EXE[C]RES[TRUCT][,unit-name] Examples: EXE RES,UD EXE RES
VOLLABEL	Records the volume identifier	EXE[C]VOL[LABEL],unit-name,volume-identifier Example: EXE VOL,UD,1215