C⊃ CONTROL DATA
CORPORATION

NOS/BE 1
INSTALLATION HANDBOOK ADDENDUM

CDC® COMPUTER SYSTEM:
CYBER 170 MODEL 176

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PREFACE

This addendum provides the additional information an analyst needs to install the CONTROL DATA® Network Operating System/Batch Environment (NOS/BE) on a CDC® CYBER 170 Model 176 Computer System.

Each section and subsection of this addendum corresponds to a section or subsection of the same name in the NOS/BE Installation Handbook. Although not all sections of the installation handbook are identified in this addendum, those that are identified are arranged in the same manner as in the installation handbook.

Each section of this addendum should be used in conjunction with the section of the same name in the installation handbook. This addendum supplements the installation handbook documentation or substitutes pertinent model 176 information for nonapplicable information.

For proper installation of NOS/BE on a model 176, the analyst should follow the instructions given in the NOS/BE Installation Handbook using this addendum as previously described.

DISCLAIMER

NOS/BE and its product set are intended to be used only as described in this document. Control Data is not responsible for the proper functioning of undescribed features or undefined parameters.

RELATED PUBLICATIONS

For additional information concerning NOS/BE and CYBER 170 Model 176, refer to the following manuals.

Control Data Publication	Publication Number
NOS/BE 1 Installation Handbook	60494300
NOS/BE 1 Reference Manual	60493800
NOS/BE 1 System Programmers Reference Manual	60494100
CYBER 170 Computer System Reference Manual	60420000

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FIGURES

TABLE

INSTALLATION AND VERIFICATION DECKS

The additional installation deck needed for installation on a model 176 is PL1GI. This deck is required only if the 819 subsystem will be installed.

This deck and the decks listed in the installation handbook are available on the installation decks program library.

DECK OPTIONS

BASE   Defining BASE also affects job deck PL1GI.

C819   This option can be defined in conjunction with setting installation parameter IP.819 to 1 and running job PL1GI before running job DST1, DST2, or DST3. Control statements are activated in these decks by C819 to accommodate the extra CMR segments required for RMS support.

C176   This option affects all jobs that use SYMPL in their build process and jobs PL1AI, DST1, and DST2. It changes job control statements to specify an EC parameter.

Defining C176 affects the following job decks.

PL1DI	PL3BI	PL3CI
PL3CO	PL4I	PL6AE
PL6AI	PL6AO	PL27I
PL32BI	PL32BO	PL54I
PL55I	PL55O	PL56I
PL56O	PL58I	PL60I
PL60I1	PL60O	

DEADSTART TAPE CREATION

The following symbols influence control statements and/or EDITLIB directives in the referenced job deck by including the product on consolidated binary and deadstart tapes.

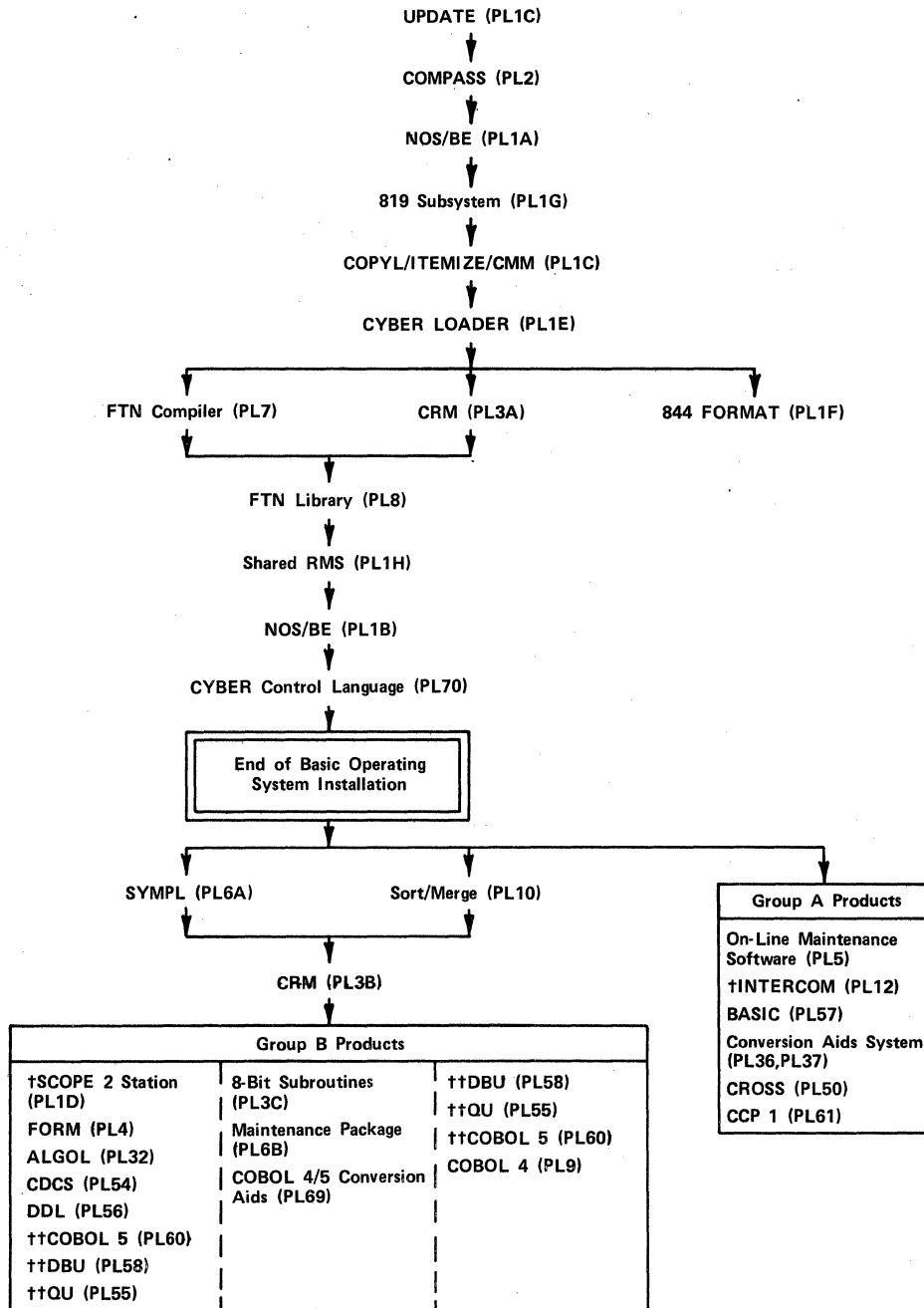| Symbol	DST1	DST2	DST3	DST4	PL No.
C819	*	*	*		1G

INSTALLATION ORDER

Figure 1-1 indicates the point in the installation process at which PL1G will be installed. Although no subsequent products require the binaries created from PL1G, the successful execution of PL1GI verifies that the proper installation parameters were selected when assembling PL1A.

SYSTEM TEXTS

The following common deck is available on model 176 systems and is combined with other common decks to form the 13 system texts.

COMSHSP   (PL1A program library)

819 RMS definitions and macros

Table 1-1 shows the combination of the common decks into the various system texts required for full utilization of the product set.

UPDATE (PL1C)
↓
COMPASS (PL2)
↓
NOS/BE (PL1A)
↓
819 Subsystem (PL1G)
↓
COPYL/ITEMIZE/CMM (PL1C)
↓
CYBER LOADER (PL1E)
↓

FTN Compiler (PL7)   CRM (PL3A)   844 FORMAT (PL1F)
↓   ↓

FTN Library (PL8)
↓
Shared RMS (PL1H)
↓
NOS/BE (PL1B)
↓
CYBER Control Language (PL70)
↓

End of Basic Operating
System Installation

↓

SYMPL (PL6A)   Sort/Merge (PL10)

CRM (PL3B)

Group B Products		
†SCOPE 2 Station (PL1D)	8-Bit Subroutines (PL3C)	††DBU (PL58)
FORM (PL4)	Maintenance Package (PL6B)	††QU (PL55)
ALGOL (PL32)		††COBOL 5 (PL60)
CDCS (PL54)	COBOL 4/5 Conversion Aids (PL69)	COBOL 4 (PL9)
DDL (PL56)		
††COBOL 5 (PL60)		
††DBU (PL58)		
††QU (PL55)		

Group A Products
On-Line Maintenance Software (PL5)
†INTERCOM (PL12)
BASIC (PL57)
Conversion Aids System (PL36,PL37)
CROSS (PL50)
CCP 1 (PL61)

† When installing the CDC CYBER 70 Model 76 connected I/O feature, it is necessary to defer the installation of INTERCOM until the SCOPE 2 Station has been installed. The INTERCOM installation deck requires the output tape from the station installation deck if CIOCP is defined.

†† COBOL 5, QU, and DBU are listed twice to show the dependency of these products for SYMPL and SORT.

Figure 1-1. General Installation Order

TABLE 1-1. COMMON DECKS AND SYSTEM TEXTS

System Text Name / Common Deck Name	CMRTEXT	CPCTEXT	CPUTEXT	IOTEXT	IPTEXT	LDRTEXT	PFMTEXT	PPTEXT	SCHTEXT	SCPTEXT	STATEXT	SYSTEXT DEFAULT	SYSTEXT ALTERNATE
ACTCOM		X	X	X						X		X	X
COMACIO			X										
COMAFET		X	X							X			X
COMAREG			X										
COMSRAS		X	X	X				X		X		X	X
CPSYS		X								X			X
COMSHSP	X												
IPARAMS	X				X								
LMACOM						X							
PFCOM							X						
PPSYS								X		X			
SCHCOM	X								X				
SISICOM		X											X
STATCOM											X		
6RMCOM				X								X	

HARDWARE CONFIGURATION

Refer to appendix E of the NOS/BE Reference Manual for a discussion of the differences between the model 176 and other 170 models.

RELEASE MATERIALS

For model 176 installation, the following is also included in the operating system release package.

    PL1G   819 RMS

PL1G is a three-file tape, structured as follows:

File 1	Program library
File 2	Binary of the 819 FLPP driver
File 3	Binary of CMR segments to support 819 RMS

NOTES AND CAUTIONS

ECS I/O buffering and swapping of non-MUJ jobs to ECS cannot be activated if 819 RMS is installed. L.ECSSWAP defaults to 20B when 819 RMS is installed to allow MUJ jobs to swap to ECS.

GENERAL INSTALLATION PARAMETERS (IPARAMS)

General installation parameters pertaining to model 176 installation are listed in this section. Assigned default values and descriptions are also listed. The parenthetical value is the default value as set on the released program library.

IP.C176   (0)   If nonzero, the code in CMR to support model 176 systems is assembled. While this code has no adverse effect on non-176 systems, it is recommended that this parameter be set to zero. This option is automatically enabled if IP.819 is set to one.

IP.819   (0)   If nonzero, the code in CMR to support the model 176 819 RMS subsystem is activated. LDCMR errors occur if this code is activated without installing code from PL1G.

IP.TYPE (6600)   Determines the type of central processor to be used by the operating system for the generation of optimal code (6600 specifies CDC CYBER 170 Models 175/176 or CYBER 70 Model 74, and 6400 specifies CDC CYBER 170 Models 172/173/174 or CYBER 70 Models 71/72/73). Acceptable values are 6400 or 6600.

MODEL   (74)   This micro is used by the product set members for optimal code generation. Its value is the CDC CYBER 70 or CYBER 170 model number corresponding to the type of central processor for which code is to be generated or optimized. Acceptable values are 71, 72, 73, 74, 172, 173, 174, 175, or 176.

EQUIPMENT CONFIGURATION

The following device type is also supported for model 176 installation.

    AH   819 disk drive

The AH device type can have only the attributes ON, FREE, PF, IDLE, and OFF. It may not have the system device attribute (SYS) nor can it be a MASTER device. Also, it must be a member of a public set.

RECORD BLOCK RESERVATION TABLE

Device	Mnemonic	PB Size
819 unit	AH	160

Number of PRUs in Default RB	Corresponding Count
160	4030

For the 819 unit, PRU/RB cannot be changed from the default of 160. For the 819 unit, 1 PRU = 64 CM words = 1/8 sector.

FLAW TABLE

The format of the flaw string for 819 units is as follows:

Device	Format	Values
819	Txx,Cyy,S0.	$0 \leq xx \leq 10B$
		$0 \leq yy \leq 403B$

Parameters

T Track number
C Cylinder number
S Sector number

COMPUTING PHYSICAL ADDRESSES FOR CONVERTING RB NUMBERS

The following additional information is needed for 819 units.

PB = RB

Cylinder   (PB - 1)/10

Headgroup   PB - 1 - cylinder * 10

Sector   PRU/8 (since there are eight PRUs per 819 sector)

CMR EQUIPMENT CONFIGURATION EXAMPLE

Figure 2-1 shows CMR modifications for installation of the following equipment, including 819 RMS devices (176 only).

415 card punch on channel 5, equipment 4

405 card reader on channel 12, equipment 4

Console on channel 10, controller 7

Two 512 printers on channel 11, equipments 6 and 7

Sixteen magnetic tape units on channels 5, 11, 12, and 13 with 6681 converter, equipment number 5, units 0 through 17B

Three 9-track magnetic tape units on channel 7 with 6681 converter, equipment 7, units 0, 1, and 2

Two 844 units (one available as a nonshared private device and one available as the system resident device and master device of the public set containing 819 devices)

Four 819 units configured on FLPP channels 4, 5, 6, and 7 (2 by 4 access), equipment 7, units 0 through 3 (available for scratch and permanent files)

```
*INSERT    EST.1
AY         EST         NAME=844A,CH=4,EQP=0,UNIT=0,MOD=(SYS,PF,QUE),SN=PUBLSET,
,VSN=SYS000,MASTER=(SYS,PF,QUE,SCR)
CP         EST         CH=05,EQP=4
CR         EST         CH=12,EQP=4
LQ         EST         CH=11,EQP=6
LQ         EST         CH=11,EQP=7
DS         EST         CH=10,IQP=7
MT         EST         CH=(13,12,11,5),EQP=5,UNIT=0,UNITS=16,ESTO=10
NT         EST         CH=7,EQP=7,UNIT=0,UNITS=2
AY         EST         NAME=844B,CH=4,EQP=0,UNIT=1,MOD=(FREE,IDLE)
AH         EST         NAME=819A,CH=(4,6),EQP=7,UNIT=0,MOD=PF,SN=PUBLSET,
,VSN=SYS002
AH         EST         NAME=819B,CH=(4,6),EQP=7,UNIT=1,MOD=PF,SN=PUBLSET,
,VSN=SYS003
AH         EST         NAME=819C,CH=(4,6),EQP=7,UNIT=2,MOD=PF,SN=PUBLSET,
,VSN=SYS004
AH         EST         NAME=819D,CH=(4,6),EQP=7,UNIT=3,MOD=PF,SN=PUBLSET,
,VSN=SYS005
*INSERT    RBR.1
844A       RBR         COUNT=3232
844B       RBR         COUNT=3232
819A       RBR         COUNT=4030,PRURB=160
819B       RBR         COUNT=4030,PRURB=160
819C       RBR         COUNT=4030,PRURB=160
819D       RBR         COUNT=4030,PRURB=160
```

Figure 2-1. CMR Configuration

DEADSTART INSTALLATION PARAMETERS

If the 819 subsystem will be installed, the size of DRIVBUF must be increased. This may be done by adding 1000B additional words to the size of DRIVBFL. This change should be made at DSLCOM.13.

ECS INSTALLATION PARAMETERS

If 819 buffering is enabled (IP.819 is nonzero), the parameter IP.EBUF has no effect for 819 buffering. The default buffer size is not variable.

MACROS TO CONSTRUCT ECS LABEL

When constructing the ECS label, ECS on a model 176 cannot be shared between mainframes; all partitions of ECS must be associated with the 176.

ECS AS A LINK BETWEEN MAINFRAMES

On a model 176, ECS cannot be used as a link medium between two mainframes. (The discussion in the installation handbook does not apply to model 176.)

MODEL JOBS FOR CREATION OF AN INSTALLATION DEADSTART TAPE

In addition to the decks listed in the installation handbook required for the installation of NOS/BE, deck PL1GI is also required if the 819 RMS subsystem is installed.

Job PL1GI updates PL1G and places the assembled binary on the revised PL as files 2 and 3. The assembled binary is also placed in a user library if the ULIB installation method is selected.

To add an additional CMR to the deadstart tape for model 176, run a job as shown in figure 2-2 before running DST1.

```
.CMRS,TO,IO0.
ATTACH(USERNUC,ID=CCT)
LIBRARY(USERNUC)
ATTACH(RANPL,ID=CCT)
ATTACH(PL1G,ID=CCT)                     IF 819 SUBSYSTEM.
COMMENT.  BEGINNING OF CONTROL STATEMENT SEQUENCE FOR CMRL108.
REQUEST(CMRLIB,PF)
UPDATE(Q,X,P=RANPL)                GET CONFIGURATION AND INSTALLATION PARAMETERS
UPDATE(Q,X,P=PL1G,C=C819)          IF 819 SUBSYSTEM
RFL(75000).
COMPASS(I,S=0,B=CMRTEXT,L=0)                        CMRTEXT
COMPASS(I,S=PPTEXT,L=0)                             CMR
COMPASS(I,S=PPTEXT,G=CMRTEXT,L=0,B=CMRLIB)          CMR SEGMENTS
COMPASS(I=C819,S=PPTEXT,G=CMRTEXT,L=0,B=CMRLIB)           819 SEGMENT
REWIND(CMRTEXT)
COPYBF(CMRTEXT,CMRLIB)
CATALOG(CMRLIB,CMRL108,ID=CCT,XR=XYZ,PW=XYZ,RP=20)
RETURN(CMRTEXT,CMRLIB)
COMMENT.  END OF CONTROL STATEMENT SEQUENCE FOR CMRL108.
COMMENT.  REPEAT ABOVE CONTROL STATEMENT SEQUENCE FOR ADDITIONAL CMRS
COMMENT.  ADDING INPUT RECORDS AS APPROPRIATE.
COMMENT.  8 CMRS = MAXIMUM.
REWIND(LGO)
REQUEST(CMR,PF)
REWIND(CMR)
COPYBF(LGO,CMR)
CATALOG(CMR,ID=CCT,XR=XYZ,PW=XYZ,RP=20)
7/8/9
*/ INPUT RECORD 1
*ID CMRL108
*I IPARAMS.15
*/ IPARAMS MODIFICATIONS FOLLOW THIS STATEMENT
*/
*I CMRIP.1
*/ CMR INSTALLATION PARAMETER MODIFICATIONS FOLLOW THIS STATEMENT
*/
*I CMR.1
*/ CMR MODIFICATIONS FOLLOW THIS STATEMENT
*/
*I LID.1
*/ LOGICAL ID TABLE MODIFICATIONS FOLLOW THIS STATEMENT
*/
*I EST.1
*/ EST CONFIGURATION FOLLOWS THIS STATEMENT
*/
*I RBR.1
*/ RBR ENTRIES FOLLOW THIS STATEMENT
*/
*I FLAW.1
*/ FLAW ENTRIES FOLLOW THIS STATEMENT
*/
*I MUX.1
*/ MUX ENTRIES FOLLOW THIS STATEMENT
*/
*COMPILE        CMRTEXT,CWEOR1
*COMPILE        CMR
*COMPILE        CWEOR2.CWEOR3
7/8/9
*COMPILE LCM
6/7/8/9
```

Figure 2-2. Addition of CMR

INSTALLATION PROCEDURES

For model 176 installation only, the installation decks must be extracted with the UPDATE symbol C176 defined. After job PL6AE is run, job PL6AI must be run.

LIMITATIONS

If the MODEL installation parameter is set to 176, the compiled object code will not execute correctly on other models when the source programs contain level 2 LCM direct-access statements.

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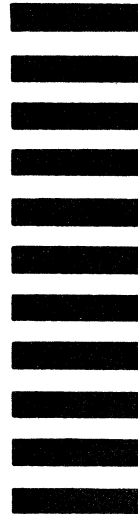PRINTED IN U.S.A

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