SITE PREPARATION AND INSTALLATION MANUAL

D/S 3000 DISTRIBUTED SYSTEM

Manual Part No. 32190-90002
Printed in U.S.A. 3/77

HEWLETT hp PACKARD

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All pages.....March 1977

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First Edition.....March 1977

PREFACE

This manual describes the site preparation and installation required for a DS/3000 Distributed System. Except for site preparation, all activities described in this manual are performed by a HP Customer Engineer (CE).

* Section I outlines the equipment to be installed for hardwired communication, via cables, and for Remote Job Entry (RJE), via telephone lines.

* Site preparation by the customer, described in Section II, consists of laying cables and selecting modems and their options.

* Unpacking, connector fabrication and installation of hardware items is covered in Section III.

* The procedure for configuring the Synchronous Single Line Controller (SSLC) in to the system is contained in Section IV.

* Section V describes configuring the Hardwired Serial Interface (HSI) into the system.

CONTENTS

ILLUSTRATIONS

TABLES

CONVENTIONS USED IN THIS MANUAL

NOTATION	DESCRIPTION
[ ]	An element inside brackets is *optional*. Several elements stacked inside a pair of brackets means the user may select any one or none of these elements. Example: $\left[\begin{matrix}A\\B\end{matrix}\right]$ user may select A or B or neither
{ }	When several elements are stacked within braces the user **must** select one of these elements. Example: $\left\{\begin{matrix}A\\B\\C\end{matrix}\right\}$ user must select A or B or C.
italics	Lowercase italics denote a parameter which must be replaced by a user-supplied variable. Example: CALL *name* *name* one to 15 alphanumeric characters.
underlining	Dialogue: Where it is necessary to distinguish user input from computer output, the input is underlined. Example: NEW NAME? <u>ALPHA1</u>
superscript C	Control characters are indicated by a superscript C Example: Y^C
return	*return* in italics indicates a carriage return
linefeed	*linefeed* in italics indicates a linefeed
. . .	A horizontal ellipsis indicates that a previous bracketed element may be repeated, or that elements have been omitted.

INTRODUCTION

SECTION I

A DS/3000 Distributed System allows hardwired communication between HP 3000 Series II systems, or between HP 3000 Series II and HP 1000 systems. It also may provide Remote Job Entry (RJE) capability, via binary-synchronous data communication, between a HP 3000 Series II system and a host computer located at a remote site.

For hardwired communication up to distances of 2000 feet, the equipment to be installed consists of the following:

a. One Hardwired Serial Interface Printed Circuit Assembly (HSI PCA), part number 30360-60001.

b. One HSI Cable Assembly, part number 30360-60003.

c. One HP 3022A Cable Kit for each hardwired channel to be installed.

The HP 30055A Synchronous Single Line Controller (SSLC) provides the HP 3000 Series II system with RJE capability. The equipment to be installed, which is the hardware portion of the HP 30130 2780/3780 Emulator Subsystem, consists of the following:

a. One SSLC PCA, part number 30055-60001.

b. One SSLC-to-Modem Interconnecting Cable Assembly, part number 30055-60003.

c. One Test Connector Assembly, part number 30055-60005.

Site preparation is the responsibility of the customer. Installation is the responsibility of the HP Customer Engineer (CE). The installation can be part of an initial system installation or an add-on to an existing system. Most procedures in the following sections apply to both situations and any exceptions are so noted.

SITE PREPARATION

SECTION II

The customer is responsible for laying the Hardwired Serial Interface (HSI) cables but not the connector fabrication. He is also responsible for obtaining and installing the modems that connect to the Synchronous Single-Line Controller (SSLC).

2-1 HP 30220A HSI CABLES

WARNING

Do not install HP 30220A cables in conduit or cable ways containing power conductors or other hazardous voltages.

A set of two cables comprise one hardwired channel, and up to four cable sets can be installed for each HSI PCA in use. The cables should be laid before the connectors are assembled on the cable. The maximum operational cable length is 2000 feet (610 meters). Table 2-1 lists cable options and part numbers.

The cables are installed between each pair of systems that are connected together by the HP 30360A and/or the HP 12889A HSI PCAs. Avoid routing cables near sources of stray electromagnetic radiation, especially when the cable runs are long. The systems can operate at their maximum speed (2.5 megabits/sec.) with cable runs up to 1000 feet. With a 2000 feet cable run, the maximum speed is limited to 1.25 megabits/sec. Cable length cannot exceed 2000 feet. Excess cable can be cut off or coiled.

Insert the insulating sleeves over the cable ends. The portion of the sleeve with identifying numbers should go on first, otherwise the connector clamp will cover the numbers.

Table 2-1. Cable Options and Part Number's (1)

Option Number	Cable Set Length		Insulating Sleeves P/N	Cable P/N
	Feet	Meters		
Std.	25	7.62	30220-80001	8120-2404
001	100	30.48	30220-80002	
002	250	76.20	30220-80003	
003	500	152.40	30220-80004	
004	1000	304.80	30220-80005	
005	2000	609.60	30220-80006	
(1) Each channel connection requires two cables				

2-2. MODEMS USED WITH HP 2780/3780 EMULATOR

Six Bell System data sets (modems) can be used with the HP 2780/3780 Emulator. The hardware portion of the Emulator consists of the HP 30055A SSLC. Table 2-2 shows the designated modems, line types and transmission rates.

Table 2-2. Modems Used With the HP 2780/3789 Emulator

Bell System Modem Type	Type of Telephone Line	Transmission Rate (bps)
201A3	Public (Switched)	2000
201B3	Private (Leased)	2400
201C (DATAPHONE 2400)	Public and Private	2400

Table 2-2. Modems Used With the HP 2780/3789 Emulator (Continued)

Bell System Modem Type	Type of Telephone Line	Transmission Rate (bps)
208A (DATAPHONE 4800)	Private	4800
208B (DATAPHONE 4800)	Public	4800
209A (DATAPHONE 9600)	Private	9600

2-3. MODEM OPTIONS

Tables 2-3 through 2-8 show the available options for the modems listed in table 2-1. Where possible, recommendations for which option to choose are also shown.

Table 2-3. 201A3 Options and Recommendations

Option Number	Description	Recommendation
A1	EIA interface.	A1 (required)
A2	Contact interface.	
B3	With alternate voice.	B3*
B4	Without alternate voice.	
C5	With new sync.	C6 (required)
C6	Without new sync.	
D7	Half duplex (2-wire).	D7
D8	Full duplex (4-wire).	
E9	4-wire continuous carrier.	**
E10	4-wire carrier controlled by Request To Send.	

*If option B3 is selected and automatic answering is to be used, the automatic answering capability is normally provided as a key-controlled function. If you want the automatic answer to be permanently wired, then state so in the remarks column on the Bell System order form.

**If option D7 is selected, the E options have no meaning and should be ignored.

Table 2-4. 201B3 Options and Recommendations

Option Number	Description	Recommendation
A1	EIA interface.	A1 (required)
A2	Contact interface.	
B3	With alternate voice.	B3*
B4	Without alternate voice.	
C5	With new sync.	C6 (required)
C6	Without new sync.	
D7	Half duplex (2-wire).	D8
D8	Full duplex (4-wire).	
E9	4-wire continuous carrier.	E9**
E10	4-wire carrier controlled by Request To Send.	

*If option B3 is selected and automatic answering is to be used, the automatic answering capability is normally provided as a key-controlled function. If you want the automatic answer to be permanently wired, then state so in the Remarks column on the Bell System order form.

**If option D7 is selected, the E options have no meaning and should be ignored.

Table 2-5. 201C Options and Recommendations

Option Number	Description	Recommendation
A1	Transmitter internally timed.	A1 (required)
A2	Transmitter externally timed.	
B3	Without 801 Automatic Calling Unit.	B3
B4	With 801 Automatic Calling Unit.	
C5	EIA interface.	C5 (required)
C6	Contact interface.	
D7	Without automatic answer.	D8
D8	With automatic answer.	
E9	Automatic answer permanently wired.	Either *
E10	Automatic answer key-controlled.	

*If option D7 is selected, the E options have no meaning and should be ignored.

Table 2-6. 208A Options and Recommendations

Option Number	Description	Recommendation
A1	Transmitter internally timed.	A1 (required)
A2	Transmitter externally timed.	
B3	Continuous carrier.	B3
B4	Switched carrier.	
C5	Switched Request To Send.	C6
C6	Continuous Request To Send.	
D7	One second holdover used.	D7
D8	One second holdover not used.	
E9	With new sync.	E10 (required)
E10	Without new sync.	
F11	CC ON when analog loop is present.	F11
F12	CC OFF when analog loop is present.	

Table 2-7. 208B Options and Recommendations

Option Number	Description	Recommendation
A1	Transmitter internally timed.	A1 (required)
A2	Transmitter externally timed.	
B3	Without 801 Automatic Calling Unit.	B3
B4	With 801 Automatic Calling Unit.	
C5	CC OFF when analog loop is present.	
C6	CC ON when analog loop is present.	C6
D7	Without automatic answer	D8
D8	With automatic answer.	
E9	Desk mounting.	Either
E10	Rack or cabinet mounting.	

Table 2-8. 209A Options and Recommendations

Option Number	Description	Recommendation
A1 A2	Transmitter internally timed. Transmitter externally timed.	A1 (required)
E9 E10	Continuous carrier. Switched carrier.	E9
F11 F12	Switched Request-To-Send. Continuous Request-To-Send.	F12
D7 D8	Elastic store in. Elastic store out.	D8
	Slaved transmitter timing by receiver.	Out
	Data Set Ready circuit.	CC OFF
	Grounding.	AA to AB
	Alternate - Voice Service. Without alternate - Voice Service.	Either

2-4. DS/3000 CONFIGURATION AND SUPPORT DIRECTORY

Table 2-9 must be completed as part of the site preparation procedure. The first page is for network-level information, and the diagram provides a conceptual picture of the total network. The second page of the table is for node-level information at a particular site.

Table 2-9. DS/3000 Configuration and Support Directory

CUSTOMER:_____

NETWORK DIAGRAM

SHOW LINKS BETWEEN NODES AND IF HSI AND/OR SSLC WITH MODEM TYPE.

NODE A

SYSTEM:
SYS. MGR :
LOCATION:

NODE B

SYSTEM:
SYS. MGR:
LOCATION:

NODE E

SYSTEM:
SYS. MGR :
LOCATION:

NODE C

SYSTEM:
SYS. MGR :
LOCATION:

NODE D

SYSTEM:
SYS. MGR :
LOCATION:

NETWORK SUPPORT INFORMATION

network administrator		sales office
address	phone	field engineer
system manager		system engineer
address	phone	customer engineer

customer		
street address		
city	state	zip
purchase order number		

Table 2-9. DS/3000 Configuration and Support Directory (Continued)

NODE INFORMATION

customer		
street address		
city	state	zip
purchase order number		

network administrator	
address	phone

NODE INFORMATION

location	phone
system manager	

SYSTEM MAINTENANCE AGREEMENT ☐

SYSTEM: HP 3000 DS ☐ RJE ☐ OTHER _____

HP CONTACT

field engineer	
sales office	phone

HP SUPPORT FOR NODE

field engineer	
system engineer	
office	phone

customer engineer	
office	phone

LINK INFORMATION SSLC ☐ HSI ☐ LENGTH _____

MODEM: Type _____, speed _____

Vendor _____

Service Rep _____, phone _____

TELEPHONE: 2 Wire Dial ☐ 4 Wire Private ☐

Conditioning Required _____

Phone Number(s) _____, _____

LINK INFORMATION SSLC ☐ HSI ☐ LENGTH _____

MODEM: Type _____, speed _____

Vendor _____

Service Rep _____, phone _____

TELEPHONE: 2 Wire Dial ☐ 4 Wire Private ☐

Conditioning Required _____

Phone Number(s) _____, _____

HARDWARE INSTALLATION

SECTION III

The hardwired installation consists of fabricating the connectors on the previously-installed cables, configuring and inserting the HP 30360A Hardwired Serial Interface Printd Circuit Assembly (HSI PCA) into its module, and mounting the HSI Cable Assembly.

The Remote Job Entry (RJE) installation consists of configuring and installing the HP 30055A Synchronous Single-Line Controller (SSLC) into its module.

Enter the installation information into the configuration section of the System Support Log.

3-1 UNPACKING AND INSPECTION

The HSI and SSLC components are shipped in more than one container. When the shipment arrives, check to ensure the receipt of all containers as specified in the carrier's documents. Inspect each container immediately upon receipt for evidence of mishandling during transit. If a container is damaged or water stained, request the carrier's agent be present when the container is opened.

Open the shipping containers and locate the shipping lists. Compare them against the purchase order to verify that the shipment is correct. Inspect the equipment for shipping damage.

If the visual examination reveals any damage to the components, report the damage to the carrier or the carrier's agent. Save the shipping containers and packing material for examination in the settlement of claims.

3-2. HSI CONNECTOR CONFIGURATION

3-3. Cable Identification

To identify each cable pair after the cables have been laid, short one end of one cable of the pair. At the other end use an ohmmeter (not a light) to identify matching ends.

3-4. HP 3000-HP 3000 Connectors

For a 3000-3000 link, each cable will have a two-contact connector on one end of a cable and a three-contact connector on the other end. As shown in figure 3-1, the connectors are fabricated on the cables so that there is a two-contact and a three-contact connector attached to each system.

3-5. HP 3000-HP 1000 Connectors

For a 3000-1000 link, one cable will have a two-contact connector on one end and a three-contact connector on the other end. The other cable will have two-contact connectors on each end. The connectors used are shown in figure 3-2. Note that at the HP 3000, the two-contact female goes to a RCV connector, and the three-contact female to an XMT connector.

3-6. Connector Fabrication

Supplied components for connector fabrication are listed in table 3-1.

Table 3-1. Connector Components

Item	Part No.	Quantity
Cable Clamp	1251-2689	4
3-Pin Female Connector	1251-2760	2
2-Pin Female Connector	1251-4749	2
2-Pin Male Connector	1251-4847	1
Bare No. 26 Wire 1.5 ft. (45.7 cm)	8151-0030	1

CAUTION

Do not use conventional coaxial connectors with HP 30220A cables as they will not mate with the connectors on the HSI Cable Assembly.

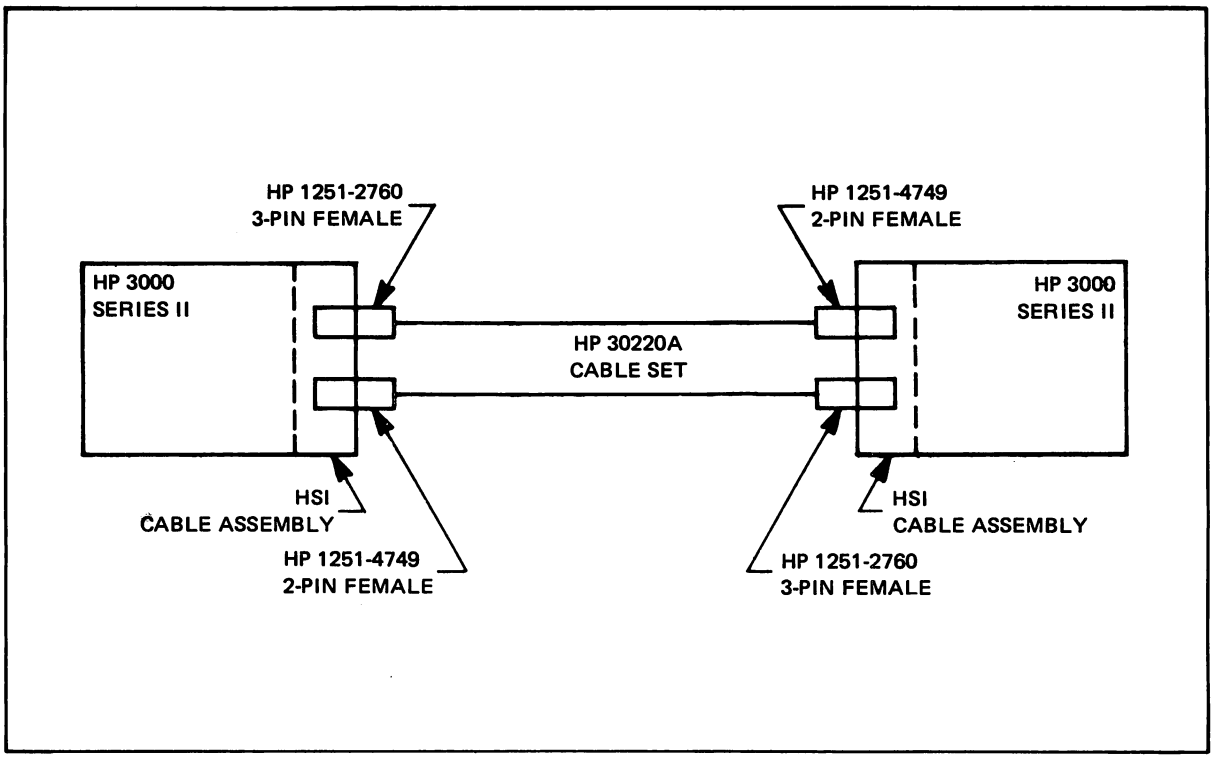


Figure 3-1. HP 3000-HP 3000 Connectors

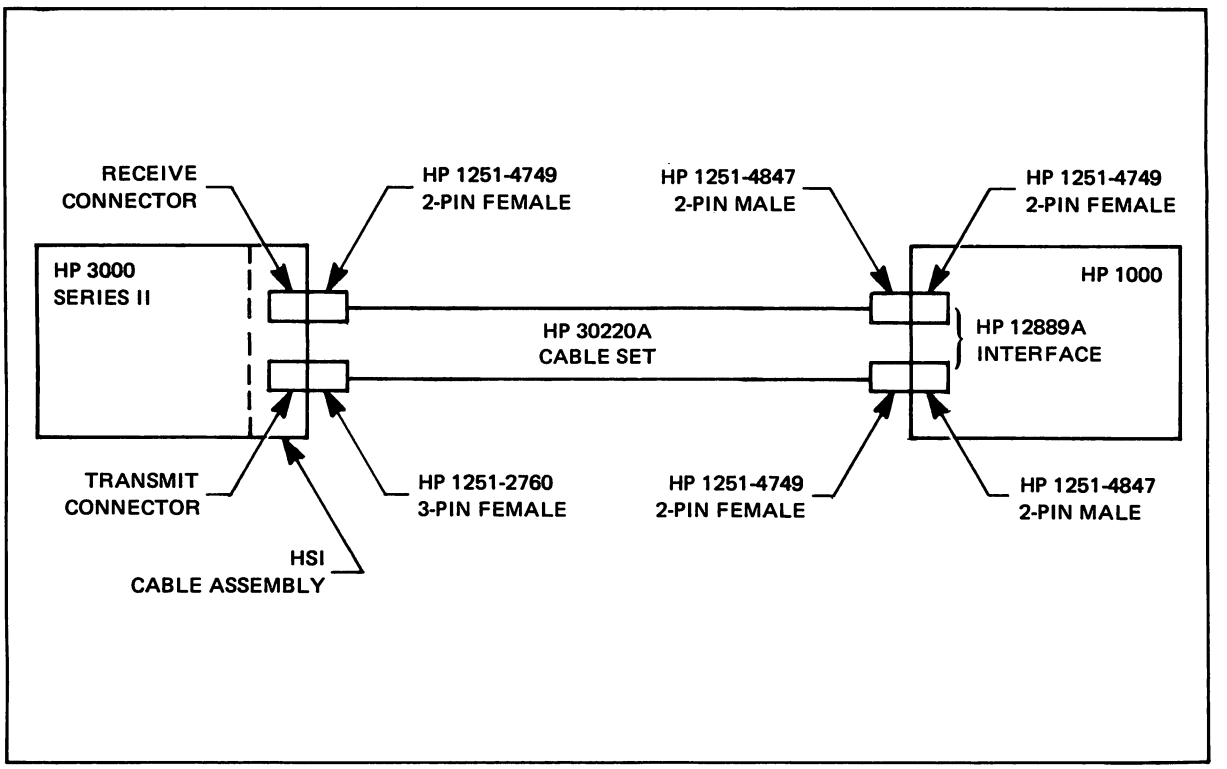
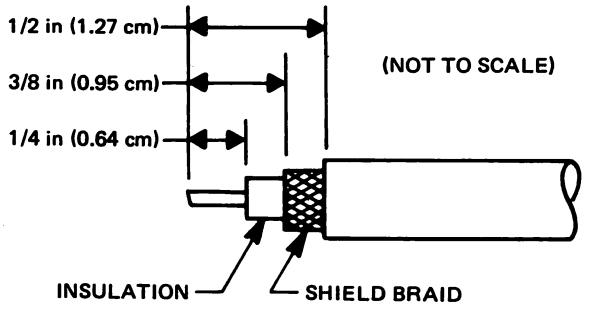


Figure 3-2. HP 3000-HP 1000 Connectors

(1) Strip the coax cable to the indicated dimensions.

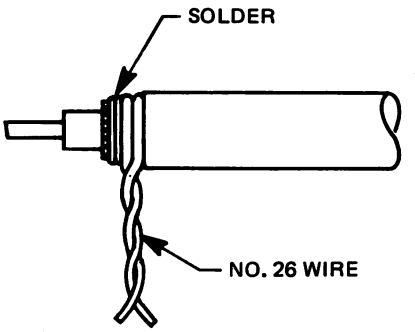


(2) A. Cut a 3 inch length from the No. 26 wire.

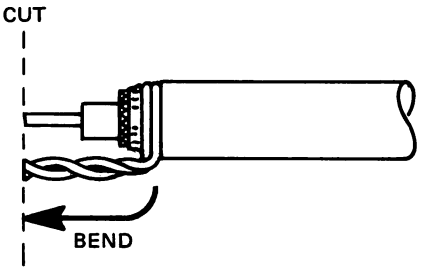
B. Wrap it around the shield twice, then twist the ends.

C. Next to the wire, wrap solder around the shield once or twice, depending on thickness.

D. Holding cable vertical, solder the wire to the to the shield. (Beware of melting the insulation.)



(3) Bend the twisted ends, then cut them even with the end of the center conductor.



(4) Discard the rubber sleeve from the cable clamp.

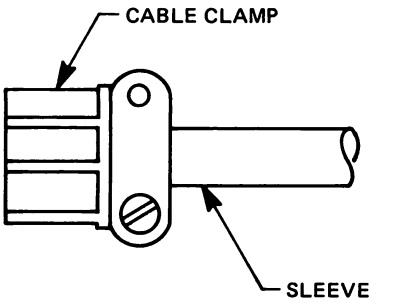
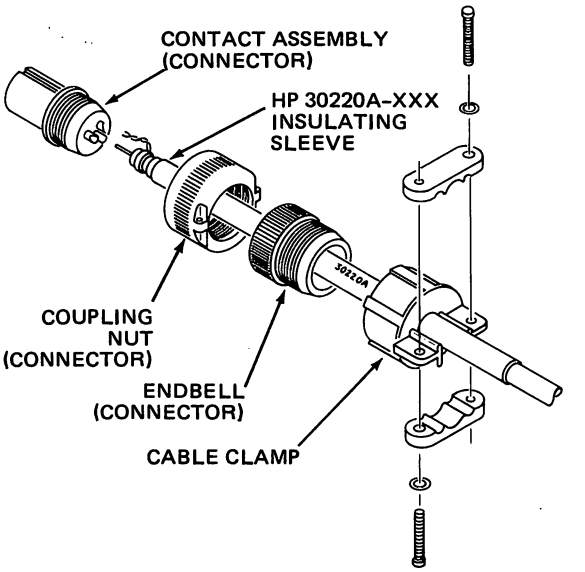


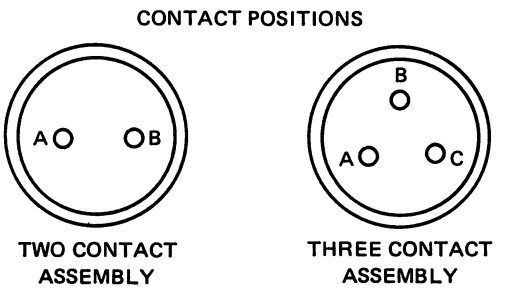
Figure 3-3. Cable-Connector Assembly (Sheet 1 of 2)

(5) Assemble the connector parts, insulating sleeve, and cable clamp on the coax cable in the sequence shown here. Note that the numbered end of the sleeve is located away from the cable end. The contact assembly and coupling nut may be separate (as shown here) or may be pre-assembled into one unit.

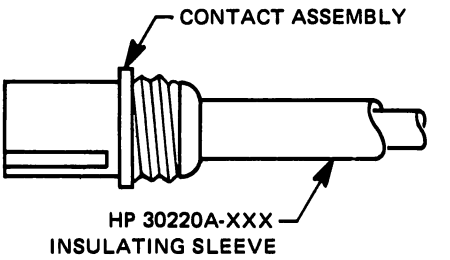
OPTION (HP 30220-XXX)	LENGTH		INSULATING SLEEVE PART NO.
	FEET	METERS	
Standard	25	7.62	30220-80001
-001	100	30.48	30220-80002
-002	250	76.20	30220-80003
-003	500	152.40	30220-80004
-004	1000	304.80	30220-80005
-005	2000	609.60	30220-80006



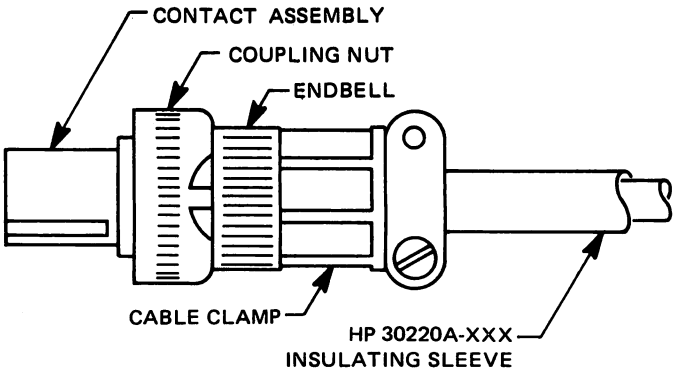
(6) Solder the twisted wire to socket contact A, and the center conductor to socket contact B. (Contact C of 3-contact assemblies is not used.)



(7) Slide the insulating sleeve over the soldered connections so they are fully covered.



(8) Assemble the connector and clamp as shown here, then tighten the clamp enough to firmly grip the cable.



(9) Repeat this procedure for remaining connectors.

Figure 3-3. Cable-Connector Assembly (Sheet 2 of 2)

The connectors used with HP 30220A cables are assembled as described in figure 3-3. These are specially designed connectors that provide a greater degree of noise immunity than a conventional coaxial connector, because the outer conductor cannot come in contact with other conducting material.

When the first set of connectors is fabricated, do not connect them to the system while fabricating the second set of connectors. This applies even if the HSI Cable Assembly switches are set to TEST.

3-7. HSI PCA

Install the HSI PCA as follows:

a. Configure the HSI PCA jumpers shown in figure 3-4.

   1. For the group interrupt mask, set the jumper to ENABLE.

   2. Refer to chapter two, Signal and Power Distribution Manual (P/N 30000-90021) for data service request configuring information.

   3. Configure the device number in socket XW3. The presence of a jumper signifies a logical ''0''. In the example in figure 3-4, position 5 does not have a jumper (logical 1) and the device number is decimal 16 or octal 20.

b. If an add-on to an existing installation, set the SYSTEM DC POWER switch to the STANDBY position.

c. Unlock and open the door of the multiplexer channel card cage.

d. Install the HSI PCA into the PCA card cage associated with the multiplexer channel. Record the PCA location in the configuration section of the System Support Log.

3-8. HSI CABLE ASSEMBLY UNIT

Install the HSI Cable Assembly as follows:

a. Figure 3-5 shows the location for installing the connector panel.

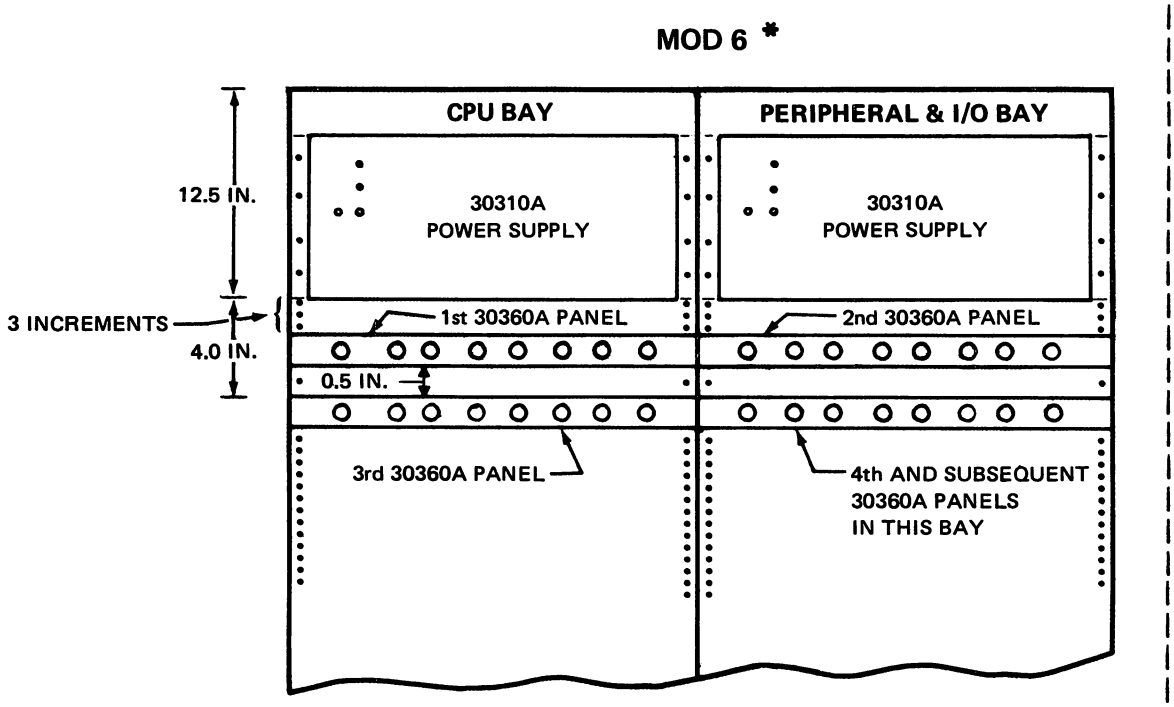


Figure 3-5. HSI Cable Assembly Panel Location

b. Remove the rear door from the appropriate bay.

c. Mount the connector panel inside the rear door frame with the hardware supplied.

d. Route the hood end of the coaxial cables to the front of the card cage containing the HSI PCA.

e. Connect the cable hood to the HSI PCA.

f. To install the interrupt poll, refer to interrupt polling connections in chapter three, System Installation Manual (P/N 3000-90010).

CAUTION

Do not plug cables into the connector panel until all connectors are fabricated on cables at both systems.

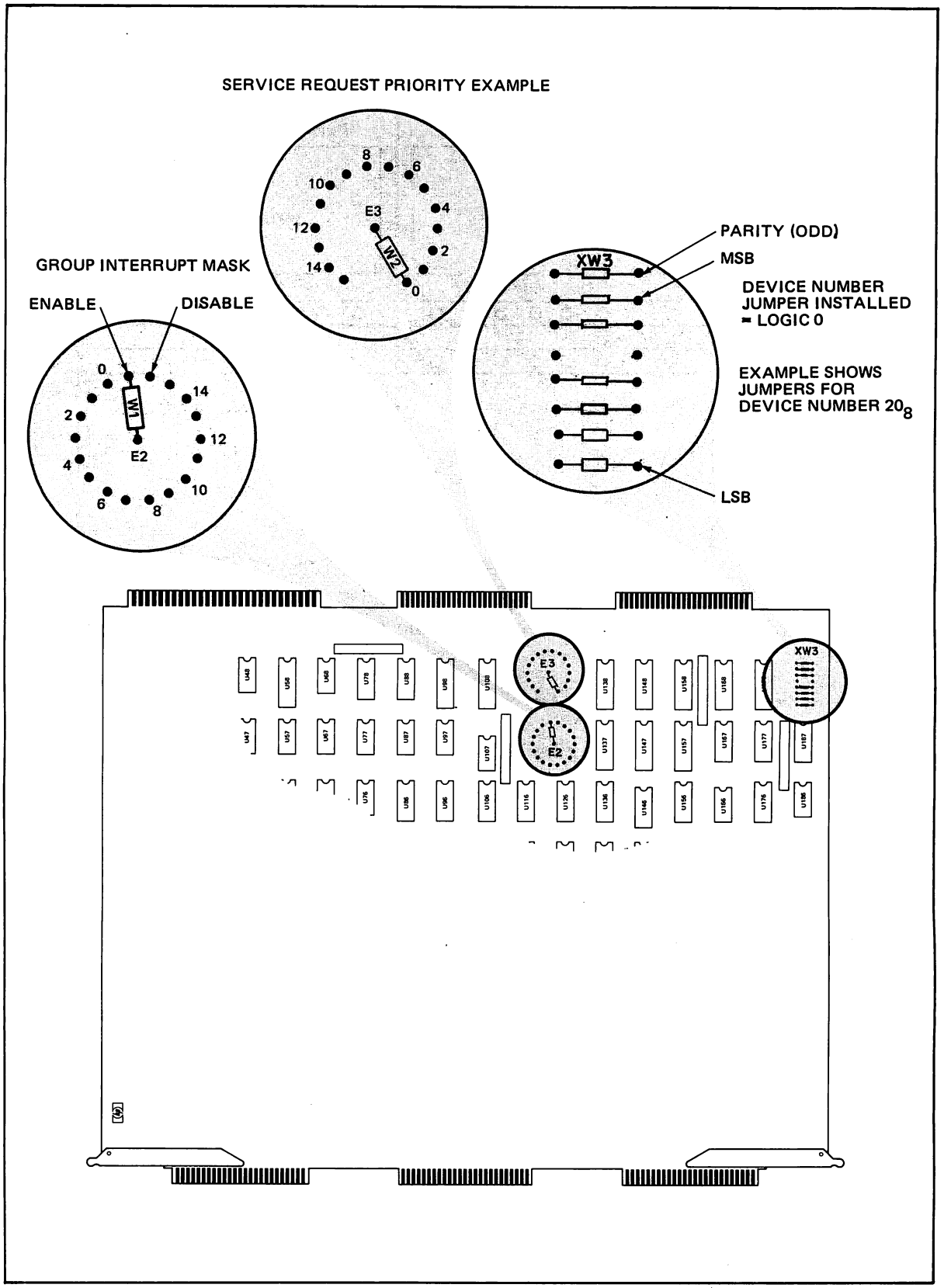


Figure 3-4. HSI PCA Jumper Locations

3-9. SECOND SYSTEM INSTALLATION

a. Repeat the previous installation procedures at the other system.

b. Connect the HP 30220A coaxial cables to the HSI Cable Assembly panel. Two cables comprise one hardwired channel. Check that with each cable pair attached to a system, the connectors are as shown in figures 3-1 or 3-2.

c. If an add-on to an existing system, set the SYSTEM DC POWER to the ON position.

d. If an add-on to an existing system, adjust the system voltage as described section four of the System Installation Manual (P/N 30000-90019).

e. Repeat steps a through d at the first system.

3-10. DIAGNOSTIC

a. With power on, set the switches on the HSI Cable Assembly connector panel to TEST.

b. Run the HP 30360A HSI PCA diagnostic to ensure proper operation of the PCA. (Refer to the HP 30360A Stand-Alone 303 Diagnostic Manual, P/N 60-90007).

c. The diagnostic can also check the interaction between systems. To do this the connector panel switches at both systems are set to NORMAL.

d. After a single-system check, return the connector panel switches to NORMAL.

NOTE

If the system is to be operated with the HSI PCA removed, the interrupt poll most be rewired.

3-11. SSLC INSTALLATION

Install the SSLC PCA as follows:

a. Configure the SSLC jumpers shown in figure 3-6:

   1. Refer to chapter two, Signal and Power Distribution Manual (P/N 30000-90021) for data service request configuring information.

   2. Set the group interrupt mask jumper to ENABLE.

   3. Configure the device number. The presence of a jumper signifies a logical ''0''.

b. If an add-on to an existing system, set the SYSTEM DC POWER switch to the STANDBY position.

c. Unlock and open the door of the multiplexer channel card cage.

d. Install the SSLC PCA into the card cage associated with the multiplexer channel. Record the PCA location in the configuration section of the System Support Log.

e. Install the interconnecting cable between the SSLC PCA and the modem.

f. To install the interrupt poll, refer to interrupt polling connections in chapter three, System Installation Manual (P/N 30000-90019).

g. If an add-on to an existing system, set the SYSTEM DC POWER switch to the ON position.

h. If an add-on to an existing system, adjust the system voltages as described in section four of the System Installation Manual (part number 30000-90019).

i. Run the HP 30055A SSLC diagnostic. (Refer to the HP 30055A Stand-Alone Diagnostic Manual, P/N 30055-90004.)

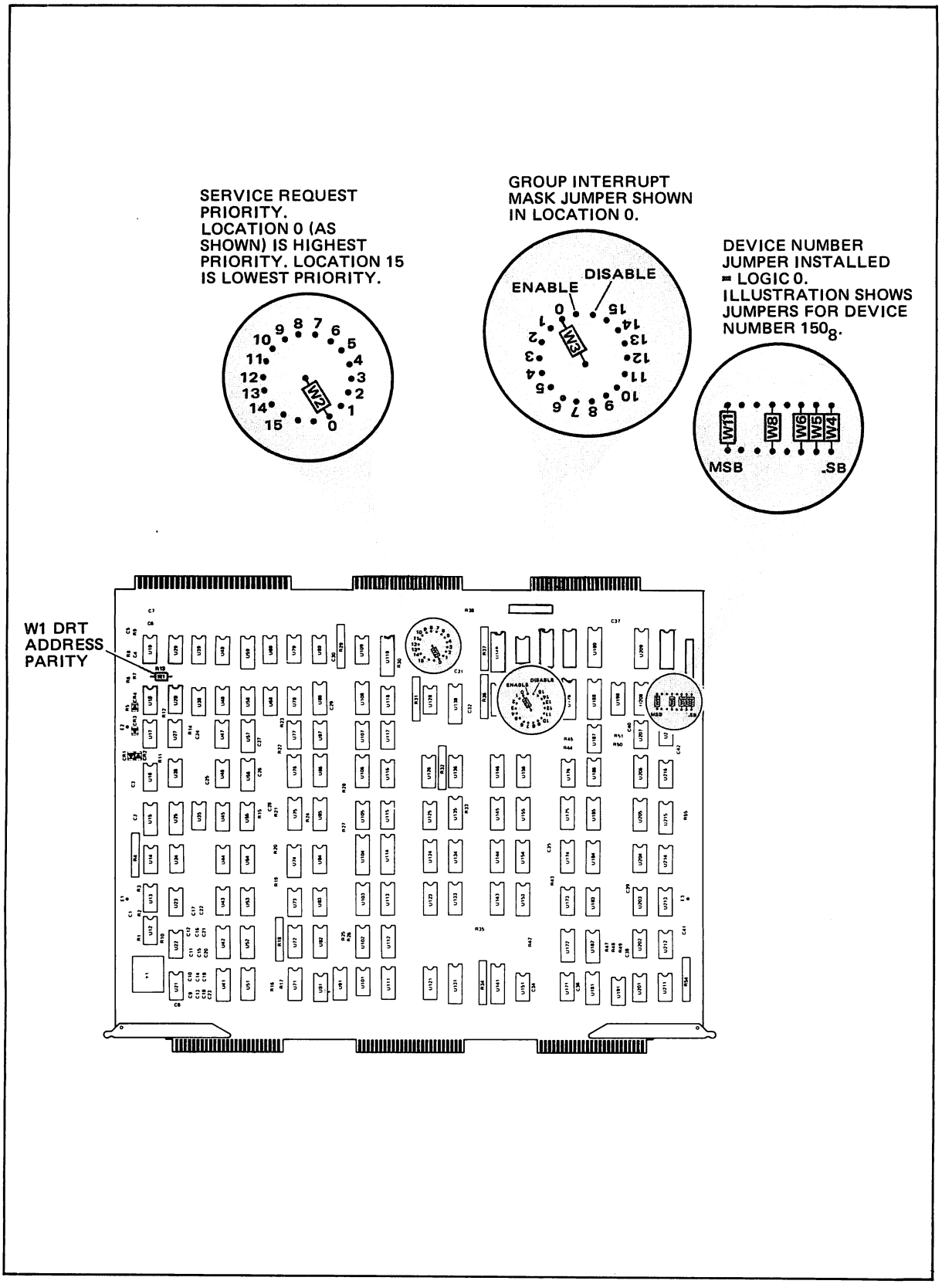


Figure 3-6. SSLC PCA Jumper Locations

SSLC CONFIGURATION

SECTION IV

The programs that constitute the HP 2780/3780 Emulator software are on two reels of magnetic tape (called the Maintenance Tapes) and also on the Master Instruction Tape (MIT). The HP 30055A Synchronous Single-Line Controller (SSLC) is the Emulator hardware.

One reel of the Maintenance Tapes is for CS/3000 (HP 30131) and the other reel is for RJE (HP 30130). The tapes contain an Instruct File that describes how to add the Emulator to an existing HP 3000 Series II Computer System.

The same instructions are on the MIT under Groups HP 30131 and HP 30130 of the Support Account.

The following procedure is the dialogue to configure the SSLC. Each SSLC in the HP 3000 Series II Computer System must be configured as follows. In the responses, Y and N can be used for YES and NO. A carriage return is equivalent to NO.

Step No.	Dialogue
	Enter the following two lines, including the file name in the two places shown: :FILE name;DEV=TAPE :SYUSDUMP* name
2	ANY CHANGES? Y
3	SYSTEM ID? Return
4	MEMORY SIZE? Return
5	I/O CONFIGURATION CHANGES? Y
6	LIST I/O DEVICES Enter YES for a listing of characteristics of I/O devices currently assigned to the system. Enter return to suppress the listing. For a description of the entries in the listing, see the HP 3000 System Manager/System Supervisor Manual, (part number 30000-90014), section four.

Step No.	Dialogue
7	LIST CS DEVICES? This will appear only if CS devices were previously configured into the system. Enter YES for a listing of the characteristics of CS devices currently assigned to the system. Enter return to suppress the listing. The meanings of the entries are explained in the following steps of this procedure. The headings for the CS device listing are: LDN PM PRT LCL MOD TC RCV TMOUT LCL TMOUT CON TMOUT MODE TRANSMIT SPEED TM BUFFER SIZE D C DRIVER OPTIONS where LDN = Logical device number PM = HSI port mask PRT = Protocol LCL MOD = Local mode TC = Transmission code RCV TMOUT = Receive timeout LCL TMOUT = Local timeout CON TMOUT = Connect timeout MODE O = Dial out I = Manual answer A = Automatic answer D = Dual speed

Step No.	Dialogue
	H = Half speed C = Speed changeable TRANSMIT SPEED = Transmission speed in characters per second. TM = Transmission mode BUFFER SIZE = Default buffer word capacity DC = Driver changeable or not changeable DRIVER OPTION = Driver options
8	HIGHEST DRT=? Enter the highest DRT number for the devices now in the system, including SSLC. Enter <u>return</u> if the number displayed is the highest DRT number.
9	LOGICAL DEVICE #? Enter the logical device number of the particular SSLC board being configured. Note: The above prompt question will appear later in the configuration procedure. Entering <u>YES</u> at that time will return the procedure to this point to configure another SSLC board.
10	DRT #? Enter the DRT number of the particular SSLC board being configured.
11	UNIT #?<u>0</u>
12	CHANNEL #?<u>0</u>
13	TYPE ?<u>18</u>
14	SUBTYPE ? Enter the appropriate subtype number. The subtype numbers are as follows: 0 = Point-to-point switched line with modem 1 = Point-to-point nonswitched line with modem
15	PROTOCOL ?<u>1</u>

Step No.	Dialogue
16	LOCAL MODE ? Enter the appropriate mode number for the local station. The mode numbers are: 1 = Local is a primary contention station 2 = Local is a secondary contention station Note: To resolve the problem of contention in point-to-point operation, each station is assigned a priority--primary or secondary. Thus the secondary station can gain control of the line for a transmission only when the line is left free by the primary station. The Emulator is usually a primary station.
17	TRANSMISSION CODE ? Enter the appropriate number for the transmission code in use. The code numbers are: 1 = Automatic code sensing of ASCII and EBCDIC if initially receiving; ASCII if initially sending. 2 = ASCII 3 = EBCDIC
18	RECEIVE TIMEOUT ? Enter the positive number of seconds the Emulator will wait to receive text before terminating the the read mode. Entering return provides a 20-second timeout. Note: For all timeout responses: Entering 0 disables the timeout; maximum timeout is 32000 seconds; the Emulator displays an error when CS disconnects because of a timeout.
19	LOCAL TIMEOUT ? Enter the positive number of seconds a connected local station will wait to transmit or receive before disconnecting. Entering return provides a 60-second timeout.
20	CONNECT TIMEOUT ? Enter the positive number of seconds the local station will wait after one attempt to make a connection to a remote station. Entering return provides a 900-second timeout.

Step No.	Dialogue
	Note: The following three steps apply to switched lines.
21	DIAL FACILITY ? Enter YES when calls can be dialed from the local station. Enter return when they cannot.
22	ANSWER FACILITY ? Enter YES if the local modem can answer calls, either manually or automatically. Enter return if it cannot. A return response causes the next step to be skipped.
23	AUTOMATIC ANSWER ? Enter YES if the local modem can automatically answer calls. Enter return if manual answering is required.
24	DUAL SPEED ? Enter YES if the local modem is dual speed (European models). Enter return if it is single speed. A return causes the next step to be skipped.
25	HALF SPEED ? Enter YES if the local modem is to operate at half speed. Enter return if it is to operate at full speed; this causes the next step to be skipped.
26	SPEED CHANGEABLE ? Enter YES if the speed of the line is changeable. Enter return if the line speed is fixed.
27	TRANSMISSION SPEED ? Enter the transmission speed of the line in characters per second.
28	TRANSMISSION MODE ? Enter the appropriate number for the transmission mode in use. The SSLC may be either half or full duplex, depending upon the type of line and modem. The mode numbers are: 0 = Full duplex 1 = Half duplex
29	PREFERRED BUFFER SIZE ? If no other subsystems are using the line, enter 4096. Where there are other subsystems, enter the buffer size (in words) most suitable to the device being configured, but no more than 4096.

Step No.	Dialogue
30	DRIVER CHANGEABLE ? Return
31	DRIVER OPTIONS ? 0
32	DRIVER NAME? CSSBSC0
33	CONTROL LENGTH ? 0
34	PHONELIST ? Enter YES to provide a default phone number list. Enter return if none provided. A return causes the next step to be skipped. Note: The Emulator will sequentially step through the default phone number list if there is no specified number. The default phone number list is overridden at run time by specifying a phone number for ;CONNECT=parameter in the #RJLINE command.
35	PHONE NUMBER ? Enter a string of numbers and hyphens, but not more than 20 characters. This can be repeated until a return is entered.
36	LOCAL ID SEQUENCE ? The default local ID sequence can be specified in terms of code or number system. Enter a return for a null local ID sequence. Enter one of the letters below, followed by the ID sequence in quotes, if code, or parentheses, if number system: A = ASCII Example: A ''JOE'' E = EBCDIC Example: E ''STRING'' O = Octal Example: O (7, 35, 5) H = Hexadecimal Example: H (A1, 1F, BB) Note: Do not enter more than 16 characters for the local or remote ID sequence.
37	REMOTE ID SEQUENCE ? Enter the default remote ID sequence in the same format as the local ID sequence (above). This can be repeated until a return is entered.

Step No.	Dialogue
38	DEVICE CLASSES ? RJLINE
39	LOGICAL DEVICE #? This prompt returns the configuration procedure to step nine and the sequence is repeated. If another configuration is required, enter the logical device number of the next SSLC board to be configured. Enter return if configuration is complete.
40	MAX # OF OPEN SPOOL FILES ? Return
41	LIST I/O DEVICES ? Enter YES to list the characteristics of the new I/O device configuration. Enter return to suppress the listing.
42	LIST CS DEVICES ? Enter YES to list the characteristics of the new CS device configuration. Enter return to suppress the listing.
43	CLASS CHANGES? Return
44	LIST I/O DEVICES ? Return
45	ADDITIONAL DRIVER CHANGES ? Return This completes the procedure for adding new SSLC boards to the system. Enter a return to the following prompt questions: SYSTEM TABLE CHANGES ? MISC CONFIGURATION CHANGES ? DISC ALLOCATION CHANGES ? SCHEDULING CHANGES ? SEGMENT LIMIT CHANGES ? SYSTEM PROGRAM CHANGES ? ENTER PROGRAM NAME, REPLACEMENT FILE NAME ? SYSTEM SL CHANGES ?
46	ENTER DUMP DUMP ? Enter a return to copy the above entries onto magnetic tape.
47	LIST FILES DUMPED ? N This completes the Emulator hardware configuration.

Request the console operator to mount the tape on the assigned magnetic tape device. It can then be loaded and initialized as described in the HP 3000 System Manager/ System Supervisor Manual (part number 30000-90014) under System Supervisor Capabilities.

HSI CONFIGURATION

SECTION V

There are seven sequences in the dialogue for configuring DS software. These are:

1. Create a group in the SUPPORT account (HP 32190) for a HP 3000 - HP 3000 link. For a HP 3000 - HP 1000 link, create a second group (HP 32195).
2. Restore these groups from the MIT tape.
3. Stream the install files.
4. Update from the MIT.
5. Perform a SYSDUMP adding the new I/O configuration.
6. COLDSTART the new system.
7. Print a load map.

Step No. Dialogue

With the system up and running the dialogue commences as follows:

1.1 :HELLO FIELD. SUPPORT,PUB

1.2 :NEWGROUP HP32190;CAP=IA,BA,PH,DS,PM

Enter step 1.3 if a HP 3000 - HP 1000 link is also being configured. Otherwise skip to step 1.4.

1.3 :[NEWGROUP HP32195;CAP=IA,BA,PH,DS,PM]

1.4 :HELLO FIELD.SUPPORT, HP32190[,HP32195]

Enter steps 2.1 and 2.3 to restore the groups. Step 2.2, which is optional, sends the SHOW listing to the line printer.

2.1 :FILE T;DEV= TAPE

Step No. Dialogue

2.2 :FILE SYSLIST;DEV= LP

2.3 :RESTORE *T;@.HP32190[,@HP32195];SHOW

FILES RESTORED = XX

Where XX is the number of restored files displayed in the following listing. The format of the listing is:

FILE .GROUP .ACCOUNT LDN ADDRESS

FILES NOT RESTORED = XX

Three HP 3000 - HP 3000 link installation files are streamed in steps 3.1, 3.2 and 3.3. Step 3.4 is entered where a HP 3000 - HP 1000 link is also being configured.

3.1 :STREAM I00I190A

#J1

3.2 :STREAM I10I190A

#J2

3.3 :STREAM I11I190A

#J3

3.4 :[STREAM I11I195A]

#J4

Now update from the MIT. Set the SWITCH REGISTER to the READ setting and DRT number of the device (octal 003006).

Step No.	Dialogue
	Simultaneously, press and momentarily hold the ENABLE and LOAD switches after the tape stops moving. Press RUN. Enter return at the terminal. The system will respond with:
	HP32002V.UU.FF
	Where V is the current MPE version, UU is the present update-level number and FF is the fix-level numbers.
4.0	WHICH OPTION <COLDSTART/RELOAD/UPDATE>?UPD
4.1	SYSTEM DISC DRT = 4.?
4.2	LOAD MAP? RETURN
4.3	ANY CHANGES? N
	DATE?
4.4	M/D/Y
	Enter the numeric date, where M is the month, D the day and y the year.
	TIME?
4.5	HH:MM
	Enter the time, where HH is hours and MM is minutes.
5.1	:HELLO MANAGER.SYS
	Perform a SYSDUMP, adding the new I/O configuration, as follows?
	SESSION NUMBER = #S1
	M, M, Y.HH:MM
	HP32002V.UU.FF
5.2	:FILE T;DEV=TAPE

Step No. Dialogue

5.3 :SYSDUMP *T

5.4 ANY CHANGES?Y

SYSTEM ID = HP32002V.UU.FF

5.5 MEMORY SIZE = 256.?

5.6 I/O CONFIGURATION CHANGES? Y

5.7 LIST I/O DEVICES? Return

The numbers and names entered for logical devices, DRT's and device classes are installation-dependent. Those entered in the following sequences are only shown as examples for later reference in the I/O configuration listing (step 5.211).

5.8 HIGHEST DRT = 31.?

Steps 5.9 through 5.29 configure one HSI PCA into the system.

5.9 LOGICAL DEVICE #? 12

5.10 DRT #? 18

5.11 UNIT #? 0

5.12 CHANNEL #? 0

5.13 TYPE? 19

5.14 SUB TYPE? 3

5.15 PORT MASK? 8

5.16 PROTOCOL? 1

5.17 LOCAL MODE? 1

5.18 TRANSMISSION CODE? 1

Step No.	Dialogue
5.19	RECEIVE TIMEOUT? Return
5.20	LOCAL TIMEOUT? Return
5.21	CONNECT TIMEOUT? Return
5.22	SPEED CHANGEABLE? Y
5.23	TRANSMISSION SPEED? 250000
5.24	TRANSMISSION MODE? 1
5.25	PREFERRED BUFFER SIZE? 1024
5.26	DRIVER CHANGEABLE? N
5.27	DRIVER OPTIONS? 0
5.28	DRIVER NAME? CSHBSC0
5.29	DEVICE CLASSES? HSI1

Steps 5.30 through 5.50 configure a second HSI PCA into the system.

5.30	LOGICAL DEVICE #? 13
5.31	DRT #? 19
5.32	UNIT #? 0
5.33	CHANNEL #? 0
5.34	TYPE? 19
5.35	SUB TYPE? 3
5.36	PORT MASK? 8
5.37	PROTOCOL? 1
5.38	LOCAL MODE? 1
5.39	TRANSMISSION CODE? 1

Step No.	Dialogue
5.40	RECEIVE TIMEOUT? Return
5.41	LOCAL TIMEOUT? Return
5.42	CONNECT TIMEOUT? Return
5.43	SPEED CHANGEABLE? Y
5.44	TRANSMISSION SPEED? 250000
5.45	TRANSMISSION MODE? 1
5.46	PREFERRED BUFFER SIZE? 1024
5.47	DRIVER CHANGEABLE? N
5.48	DRIVER OPTIONS? 0
5.49	DRIVER NAME? CSHBSC0
5.50	DEVICE CLASSES? HSI2
	Steps 5.51 through 5.65 are the entries for the DS device associated with logical device 12 (LDEV12).
5.51	LOGICAL DEVICE #? 40
5.52	DRT #? #12
5.53	UNIT #? 0
5.54	CHANNEL #? 0
5.55	TYPE? 41
5.56	SUB TYPE? 0
5.57	RECORD WIDTH? 128
5.58	OUTPUT DEVICE? 0
5.59	ACCEPT JOBS/SESSIONS? Return
5.60	ACCEPT DATA? Return
5.61	INTERACTIVE? Return

Step No.	Dialogue
5.62	DUPLICATIVE? Return
5.63	INITIALLY SPOOLED? Return
5.64	DRIVER NAME? IODS0
5.65	DEVICE CLASSES? ROBIN,HDS1,HDS

Steps 5.66 through 5.80 are the entries for the DS device associated with logical device 13 (LDEV13).

5.66	LOGICAL DEVICE #? 41
5.67	DRT #? 13
5.68	UNIT #? 0
5.69	CHANNEL #? 0
5.70	TYPE? 41
5.71	SUB TYPE? 0
5.72	RECORD WIDTH? 128
5.73	OUTPUT DEVICE? 0
5.74	ACCEPT JOBS/SESSIONS? Return
5.75	ACCEPT DATA? Return
5.76	INTERACTIVE? Return
5.77	DUPLICATIVE? Return
5.78	INITIALLY SPOOLED? Return
5.79	DRIVER NAME? IODS0
5.80	DEVICE CLASSES? ICLHDS2

The step sequence 5.81 through 5.96 is the first of four virtual terminal entries for LDEV 12 to allow MPE-DS interfacing. These are shown as examples, and the CE should consult with the customer for the number required. The customer may specify none, but a minimum of one is recommended.

Step No.	Dialogue
5.81	LOGICAL DEVICE #? 50
5.82	DRT #? 12
5.83	UNIT #? 0
5.84	CHANNEL #? 0
5.85	TYPE? 16
5.86	SUB TYPE? 0
5.87.1	TERM TYPE? Return
5.87.2	SPEED IN CHARACTERS PER SECOND? Return
5.88	RECORD WIDTH? 36
5.89	OUTPUT DEVICE? 50
5.90	ACCEPT JOBS/SESSIONS? Y
5.91	ACCEPT DATA? Return
5.92	INTERACTIVE? Y
5.93	DUPLICATIVE? Y
5.94	INITIALLY SPOOLED? Return
5.95	DRIVER NAME? IODSTRM0
5.96	DEVICE CLASSES? DSTERM
	Steps 5.97 through 5.112 are the entries for a second virtual terminal for LDEV 12.
5.97	LOGICAL DEVICE #? 51
5.98	DRT #? #12
5.99	UNIT #? 1
5.100	CHANNEL #? 0

Step No.	Dialogue
5.101	TYPE? 16
5.102	SUB TYPE? 0
5.103.1	TERM TYPE? Return
5.103.2	SPEED IN CHARACTERS PER SECOND? Return
5.104	RECORD WIDTH? 36
5.105	OUTPUT DEVICE? 51
5.106	ACCEPT JOBS/SESSIONS? Y
5.107	ACCEPT DATA? Return
5.108	INTERACTIVE? Y
5.109	DUPLICATIVE? Y
5.110	INITIALLY SPOOLED? Return
5.111	DRIVER NAME? IODSTRM0
5.112	DEVICE CLASSES? DSTERM
	Steps 5.113 through 5.128 are the entries for a third virtual terminal for LDEV12.
5.113	LOGICAL DEVICE #? 52
5.114	DRT #? 12
5.115	UNIT #? 2
5.116	CHANNEL #? 0
5.117	TYPE? 16
5.118	SUB TYPE? 0
5.119.1	TERM TYPE? Return
5.119.2	SPEED IN CHARACTERS PER SECOND? Return

Step No.	Dialogue
5.120	RECORD WIDTH? 36
5.121	OUTPUT DEVICE? 52
5.122	ACCEPT JOBS/SESSIONS? Y
5.123	ACCEPT DATA? Return
5.124	INTERACTIVE? Y
5.125	DUPLICATIVE? Y
5.126	INITIALLY SPOOLED? Return
5.127	DRIVER NAME? IODSTRM0
5.128	DEVICE CLASSES? DSTERM
	Steps 5.129 through 5.144 are the entries for a fourth virtual terminal for LDEV12.
5.129	LOGICAL DEVICE #? 53
5.130	DRT #? 12
5.131	UNIT #? 3
5.132	CHANNEL #? 0
5.133	TYPE? 16
5.134	SUB TYPE? 0
5.135.1	TERM TYPE? Return
5.135.2	SPEED IN CHARACTERS PER SECOND? Return
5.136	RECORD WIDTH? 36
5.137	OUTPUT DEVICE? 53
5.138	ACCEPT JOBS/SESSIONS? Y
5.139	ACCEPT DATA? Return
5.140	INTERACTIVE? Y

Step No.	Dialogue
5.141	DUPLICATIVE? Y
5.142	INITIALLY SPOOLED? Return
5.143	DRIVER NAME? IODSTRM0
5.144	DEVICE CLASSES? DSTERM

The step sequence 5.145 through 5.160 is the first of four virtual terminal entries for LDEV13 to allow MPE-DS interfacing. These are shown as examples; the actual number is specified by the customer.

5.145	LOGICAL DEVICE #? 60
5.146	DRT #? 13
5.147	UNIT #? 0
5.148	CHANNEL #? 0
5.149	TYPE? 16
5.150	SUB TYPE? 0
5.151.1	TERM TYPE? Return
5.151.2	SPEED IN CHARACTERS PER SECOND? Return
5.152	RECORD WIDTH? 36
5.153	OUTPUT DEVICE? 60
5.154	ACCEPT JOBS/SESSIONS? Y
5.155	ACCEPT DATA? Return
5.156	INTERACTIVE? Y
5.157	DUPLICATIVE? Y
5.158	INITIALLY SPOOLED? Return
5.159	DRIVER NAME? IODSTRM0

Step No.	Dialogue
5.160	DEVICE CLASSES? DSTERM
	Steps 5.161 through 5.176 are the entries for a second virtual terminal for LDEV 13.
5.161	LOGICAL DEVICE #? 61
5.162	DRT #? 13
5.163	UNIT #? 1
5.164	CHANNEL #? 0
5.165	TYPE? 16
5.166	SUB TYPE? 0
5.167.1	TERM TYPE? Return
5.167.2	SPEED IN CHARACTERS PER SECOND? Return
5.168	RECORD WIDTH? 36
5.169	OUTPUT DEVICE? 61
5.170	ACCEPT JOBS/SESSIONS? Y
5.171	ACCEPT DATA? Return
5.172	INTERACTIVE? Y
5.173	DUPLICATIVE? Y
5.174	INITIALLY SPOOLED? Return
5.175	DRIVER NAME? IODSTRM0

Step No.	Dialogue
5.176	DEVICE CLASSES? DSTERM
	Steps 5.177 through 5.192 are the entries for a thrid virtual terminal for LDEV13.
5.177	LOGICAL DEVICE #? 62
5.178	DRT #? #13
5.179	UNIT #? 2
5.180	CHANNEL #? 0
5.181	TYPE? 16
5.182	SUB TYPE? 0
5.183.1	TERM TYPE? Return
5.183.2	SPEED IN CHARACTERS PER SECOND? Return
5.184	RECORD WIDTH? 36
5.185	OUTPUT DEVICE? 62
5.186	ACCEPT JOBS/SESSIONS? Y
5.187	ACCEPT DATA? Return
5.188	INTERACTIVE? Y
5.189	DUPLICATIVE? Y
5.190	INITIALLY SPOOLED? Return
5.191	DRIVER NAME? IODSTRM0
5.192	DEVICE CLASSES? DSTERM
	Steps 5.193 through 5.208 are the entries for a fourth virtual terminal for LDEV13.

Step No.	Dialogue
5.193	LOGICAL DEVICE #? 63
5.194	DRT #? 13
5.195	UNIT #? 3
5.196	CHANNEL #? 0
5.197	TYPE? 16
5.198	SUB TYPE? 0
5.199.1	TERM TYPE? Return
5.199.2	SPEED IN CHARACTERS PER SECOND? Return
5.200	RECORD WIDTH? 36
5.201	OUTPUT DEVICE? 63
5.202	ACCEPT JOBS/SESSIONS? Y
5.203	ACCEPT DATA? Return
5.204	INTERACTIVE? Y
5.205	DUPLICATIVE? Y
5.206	INITIALLY SPOOLED? Return
5.207	DRIVER NAME? IODSTRM0
5.208	DEVICE CLASSES? DSTERM
5.209	LOGICAL DEVICE #? Return
5.210	MAX # OF OPEN SPOOFILES=20.?

Step No. Dialogue

5.211 LIST I/O DEVICES? Y

In the following listing, note that logical devices 12, 13 and 40 through 63 show the result of the entries made as a configuration example.

LOG DEV	DRT #	UNIT #	CHAN	TYPE	SUB-TYPE	TERM TYPE	REC WIDTH	OUTPUT DEV	MODE	DRIVER NAME	DEVICE CLASSES
1	4	0	0	0	0		128	0		*IUMDISC1	DISC
2	5	0	0	0	3		128	0		*IUMDISC0	SPOOL DISC SPOOL
4	5	1	0	0	3		128	0		*IUMDISC0	DISC SPOOL
6	14	0	0	32	2		66	0	S	IULPRT0	LP
7	6	0	0	24	0		128	0		IUTAPE0	TAPE
8	6	1	0	24	0		128	0		IUTAPE0	TAPE
9	6	2	0	24	0		128	0		IUTAPE0	TAPE
10	6	3	0	24	0		40	LP	JA	IUTAPE0	JOBTAPE
12	16	0	0	19	3		0	0		CSMBSC0	HSI1
13	17	0	0	19	3		0	0		CSMBSC0	HSI2
20	7	0	0	16	0	5	36	20	JAIO	IUTERM0	TERM
21	7	1	0	16	0	6	66	21	JAIO	IUTERM0	TERM
22	7	2	0	16	0	6	36	22	JAIO	IUTERM0	TERM
23	7	3	0	16	0	3	36	23	JAIO	IUTERM0	TERM
24	7	4	0	16	1	3	36	24	JAIO	IUTERM0	TERM
25	7	5	0	16	0	3	36	25	JAIO	IUTERM0	TERM
26	7	6	0	16	0	3	36	26	JAIO	IUTERM0	TERM
27	7	7	0	16	0	10	40	27	JAIO	IUTERM0	TERM
28	7	8	0	16	0	10	40	28	JAIO	IUTERM0	TERM
29	7	9	0	16	0	0	36	29	JAIO	IUTERM0	TERM
30	7	10	0	16	0	10	40	30	JAIO	IUTERM0	TERM
31	7	11	0	16	0	10	40	31	JAIO	IUTERM0	TERM
32	7	12	0	16	1	3	36	32	JAIO	IUTERM0	TERM
33	7	13	0	16	1	3	36	33	JAIO	IUTERM0	TERM
34	7	14	0	16	1	3	36	34	JAIO	IUTERM0	TERM
35	7	15	0	16	1	3	36	35	JAIO	IUTERM0	TERM
40	#12	0	0	41	0		128	0		IUDS0	ROBIN HDS1
41	#13	0	0	41	0		128	0		IUDS0	HDS ICL HDS2
50	#12	0	0	16	0	??	36	50	J IO	IUDSTRM0	DSTERM
51	#12	1	0	16	0	??	36	51	J IO	IUDSTRM0	DSTERM
52	#12	2	0	16	0	??	36	52	J IO	IUDSTRM0	DSTERM
53	#12	3	0	16	0	??	36	53	J IO	IUDSTRM0	DSTERM
60	#13	0	0	16	0	??	36	60	J IO	IUDSTRM0	DSTERM
61	#13	1	0	16	0	??	36	61	J IO	IUDSTRM0	DSTERM
62	#13	2	0	16	0	??	36	62	J IO	IUDSTRM0	DSTERM
63	#13	3	0	16	0	??	36	63	J IO	IUDSTRM0	DSTERM

Step No. Dialogue

5.212 LIST CS DEVICES? Y

In the following listing, note that logical device numbers 12 and 13 show the result of the entries made as a configuration example.

LDN	PM	PRT	LCL MOD	TC	RCV TMOUT	LCL TMOUT	CON TMOUT	MODE	TRANSMIT SPEED	IM	BUFFER SIZE	D C	DRIVER OPTIONS
12	8	1	1	1	20	60	900	C	250000	0	1024	N	0
13	8	1	1	1	20	60	900	C	250000	0	1024	N	0

Step No.	Dialogue
5.213	CLASS CHANGES? Return
	The following sequence COLDSTARTS from tape tc implement the new I/O configuration table.
	HP32002V.UU.FF
6.1	WHICH OPTION ,COLDSTART/RELOAD/UPDATE>? COL
6.2	LOAD MAP? Return
6.3	ANY CHANGES? Return
	DATE?
6.4	Enter M/D/Y
	TIME?
6.5	Enter HH:MM
	M, D, Y, HH:MM?
6.6	Enter return if date and time shown are correct.
	The following sequence provides a listing of the loadmap on the line printer and concludes the dialogue.
7.1	:HELLO MANAGER.SYS
	SESSION NUMBER = #S1
	M, D, Y, HH:MM
	HP 32002V.UU.FF
7.2	:FILE LIST;DEV=LP
7.3	:EDITOR *LIST
	HP32201V.UU.FF EDIT/3000 M,D,Y,HH:MM
7.4	/s SHORT;T LOADMAP,UNN;LQ ALL,OFFLINE;E
	***OFF LINE LISTING BEGUN ***

7.5 CLEAR? Y

END OF SUBSYSTEM

7.6 :BYE

READER COMMENT SHEET

D/S 3000
SITE PREPARATION AND
INSTALLATION MANUAL
32190-90002 MARCH 1977

We welcome your evaluation of this manual. Your comments and suggestions help us improve our publications. Please use additional pages if necessary.

Is this manual technically accurate?	Yes ☐ No ☐	(If no, explain under Comments, below.)
Are the concepts and wording easy to understand?	Yes ☐ No ☐	(If no, explain under Comments, below.)
Is the format of this manual convenient in size, arrangement, and readability?	Yes ☐ No ☐	(If no, explain or suggest improvements under Comments, below.)

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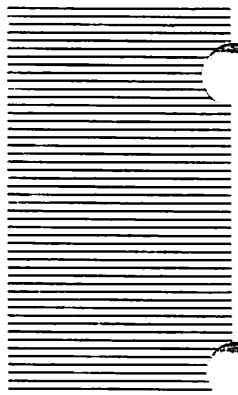

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