Worldwide Response Center

HP 3000 APPLICATION NOTE #83

Serial Printer

Configuration

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Worldwide Response Center

HP 3000 APPLICATION NOTE

SERIAL PRINTER CONFIGURATION

MPE/V AND MPE/XL
Table of Contents

Serial Printer Configuration Guide

ATP/ADCC PRINTER PORT CONFIGURATION FOR MPE/V

Introduction

This Application Note is intended to be a quick reference for serial printer configuration for MPE/V systems.

The information listed below is part of the SYSDUMP dialog. To configure a printer port you must enter SYSDUMP at a colon prompt and answer "YES" to "I/O Configuration Changes?". For more information please consult you *SYSTEM OPERATIONS AND RESOURCE MANAGEMENT Manual (Hewlett-Packard Part No. 32033-90005)* section 7.

Configurator Dialogue	Suggested Values
LOGICAL DEVICE #?	The ldev number is up to the user. The system printer is usually ldev 6.
DEVICE NAME? (T-MIT and later)	A name used to look up default configuration values in the file DEFDATA.PUB.SYS
DRT#?	The DRT is the hardware address of device. It is calculated with the following formulas: Series 64,68,70: (IMB# * 128) + (CHAN# * 8) + (HPIB address) All other HP-IB machines: (CHAN# * 8) + (HP-IB address)
	Note: Each ADCC port has its own DRT number. Ports on an ATP will have the same DRT number with different unit numbers.
UNIT #?	ADCC ports: The unit number is always 0. ATP ports: The unit number depends on the port on that ATP.
SOFTWARE CHANNEL#?	Always 0.
TYPE?	Enter 32.
SUB-TYPE?	Enter 14 for direct connect or 15 for modem.
ENTER [TERM TYPE#], [DESCRIPTOR FILENAME]?	Refer to specific printer note.

1

SPEED IN CHARACTERS PER SECOND?   This question is prompted for
                                                 device type 32, sub-type 14 &
                                                 15;Printers do not speed sense.

RECORD WIDTH?   Enter the record width in words;66
                                                 will give 132 column output.

OUTPUT DEVICE?   Enter 0.

ACCEPT JOBS/SESSIONS?   Enter NO.
ACCEPT DATA?   Enter NO.
INTERACTIVE?   Enter NO.
DUPLICATIVE?   Enter NO.

INITIALLY SPOOLED?   If the printer is to be spooled
                                                 when the system is started, enter
                                                 YES.

DRIVER NAME?   Refer to this guide.

DEVICE CLASSES?   Device classes are up to the
                                                 user. It is suggested that LP be
                                                 used for the system line printers
                                                 and PP be used for the 2680A Laser
                                                 printer.

                                                 Some applications require specific
                                                 device classes. Please refer to the
                                                 individual printer configurations
                                                 for more information.

DTC PRINTER PORT CONFIGURATION FOR MPE/XL

The purpose of this guide is to provide step-by-step instructions to configure a DTC port on a MPE/XL system. We will assume the configuration of a supported HP printer. For a full explanation on all available options for each menu in NMMGR, please refer to the *MPE XL Asynchronous Serial Communications System Administrator's Reference Manual (Hewlett-Packard Part Number 32022-61000)*. This guide is not meant to replace the manual but rather serve as a 'quick reference guide'.

In the walk-thru below, we use soft-keys to move through NMMGR. It should be noted that the Command: line at the top of the screens could be used to access any screens. It is much faster and also eliminates several PRIOR SCREEN steps. This guide is not for use with PC based or MPE X/L releases 2.2 or greater if the system is *not* HOST based, but is PC based.

CONFIGURATION OVERVIEW:

A) Creating a profile
B) Assigning a profile to a port
C) Validating the configuration in NMMGR
D) Validating the configuration in SYSGEN
E) Booting the system and resetting the DTC

CREATING A PROFILE

Creation, modification and assignment of profiles is done using the NMMGR utility.

1) Enter the following command in response to an MPE XL prompt:

       :RUN NMMGR.PUB.SYS
               or
       :NMMGR

   This will bring up the OPEN CONFIGURATION FILE screen.

2) OPEN CONFIGURATION FILE screen: Press OPEN FILE (f1).

                     NMCONFIG.PUB.SYS is the default file. Other files may
                     be configured but only NMCONFIG is downloaded to DTC's.

3) MAIN menu: Press GO TO CONFIG (f1).

4) CONFIGURATION menu: Press GO TO HP-HP (f1).

5) HP-HP CONFIGURATION menu: Press GO TO DTS (f4).

6) DISTRIBUTED TERMINAL SUBSYSTEM menu: Press GO TO PROFILE (f1).

3

7) DISTRIBUTED TERMINAL SUBSYSTEM PROFILE SELECTION screen:

Verify that the profile already exists. If so, proceed to step 8.

Modifying a profile: Fill the PROFILE NAME field and press ENTER.   Make
the appropriate changes in the DTS PRINTER
PROFILE screen and press UPDATE DATA (f6).
Press PRIOR SCREEN (f8).

Adding a profile: Fill the PROFILE NAME and TYPE and press ENTER.
e.g.   .
TR10U24 and TERMINAL for 2400 baud terminals over modem

PR22D96 and PRINTER for printers configured for 9600
baud and connected directly to port

Make any necessary changes in the DTS PRINTER PROFILE
screen and press UPDATE DATA (f6).
Separate profiles must be configured for ports that
require unique device class names.

Press PRIOR SCREEN (f8).

8) DISTRIBUTED TERMINAL SUBSYSTEM PROFILE SELECTION screen:

Press PRIOR SCREEN (f8).

ASSIGNING A PROFILE

Using NMMGR, the profile has to be associated to a physical port on the DTC. A unique logical device number (LDEV) also has to be assigned to that port. It is to be assumed that the DTSLINK has already been configured. If this is an initial configuration of a DTC, this step is required before proceeding. Refer to the *Asynchronous Serial Communication System Manual (Hewlett-Packard Number 32022-61000)* for more information

1) DISTRIBUTED TERMINAL SUBSYSTEM menu: Press GO TO DTC (f2).

2) DISTRIBUTED TERMINAL CONTROLLERS CONFIGURATION screen:

> Press GO TO SELECT (f1).

3) CONFIGURED DISTRIBUTED TERMINAL CONTROLLERS SELECTION screen:

> Select the DTC from the CONFIGURED DISTRIBUTED
> CONTROLLERS list and fill the name in the
> DISTRIBUTED TERMINAL CONTROLLER NAME field. Press
> ENTER.

4) DISTRIBUTED TERMINAL CONTROLLER PROFILE menu:

> When configuring a port on CARD 0,1 or 2 press GO TO
> CARD012 (f1).
> When configuring a port on CARD 3,4 or 5 press GO TO
> CARD345 (f2).

5) DTC INTERFACE CARD (0, 1 and 2) CONFIGURATION screen:
   (3, 4 and 5)

> Tab the cursor down/across to the field corresponding
> to the CARD # and the PORT NUMBER which is being
> configured. Fill the LDEV field with logical device
> number selected for this port.

> It is recommended that the LDEV is assigned a 3-digit
> number that corresponds to the DTC/SIC/PORT. E.G. LDEV
> 206 should denote DTC 2, SIC 0 and PORT 6. This is not
> required but it can make referencing these ports a
> little simpler.

> Fill the DEVICE PROFILE NAME field with the desired
> profile selected/created earlier.

> Press UPDATE DATA (f6).

> Press PRIOR SCREEN (f8) 7 times.

VALIDATING THE CONFIGURATION IN NMMGR:

The purpose of the validation process is to ensure that the configuration is syntactically correct and no conflicts exist within NMMGR.

1) MAIN menu: Press GO TO UTILITY (f2).

2) UTILITY menu: Press GO TO VALIDATE (f3).

3) VALIDATE CONFIGURATION FILE menu: Press VALIDATE DTS/LINK (f2).

   The following message should appear if there are no errors detected by NMMGR:

                 SEARCHING FOR SUBSYSTEM VALIDATION ROUTINE VALIDATEDTS --->
                 VALIDATION OF DTS/LINK STARTED. <---
                 ---> VALIDATION OF DTS/LINK FINISHED. <---

                 (PRESS RETURN WHEN DONE VIEWING SCREEN CONTENTS)

4) Press RETURN.

5) VALIDATE CONFIGURATION FILE menu: Press PRIOR SCREEN (f8) 2 times.

6) MAIN menu:
                 If an error is displayed in step 3, press GO TO CONFIG (f1) and go
                 back to the CONFIGURATION menus to make the appropriate changes
                 and/or update the data. Use the above guide to step through
                 different screens. Refer to Appendix A for an explanation and
                 appropriate actions of the validation error messages.

                 If no error is detected by NMMGR, press PRIOR SCREEN (f8).

7) OPEN CONFIGURATION FILE screen: Press EXIT PROGRAM (f8)

6

VALIDATING THE CONFIGURATION IN SYSGEN:

Validating within SYSGEN provides LDEV and CLASS data to the system and also makes sure that no conflicts exist with system configuration. For more information on SYSGEN refer to the *System Configuration Manual (Hewlett-Packard Number 32650-90042)*.

Enter the following command in response to an MPE XL prompt:

        MPE/XL:SYSGEN

        SYSGEN> SYSFILE

        SYSFILE> RDCC NMCONFIG.PUB.SYS

                (if any conflicts exist, an **ERROR** will be displayed; in this
                case EXIT out of SYSFILE> and SYSGEN> and correct the
                configuration in SYSGEN and/or NMMGR.)

        SYSFILE> HOLD

        SYSFILE> EXIT

          SYSGEN> KEEP
                KEEPING TO GROUP CONFIG.SYS
                PURGE OLD CONFIGURATION (YES/NO)?Y
                ** CONFIGURATION FILES SUCCESSFULLY
                SAVED **

          SYSGEN> EXIT

        MPE/XL:

When all configuration information is both validated and cross-validated, the system must be shutdown and restarted for the configuration changes to take effect. For more detailed information, refer to *System Startup And Shutdown Manual (HP Part Number 32650-60004)*.

At the console, shutdown the system as follows:

   1) Press the CTRL key and type A.

   2) At the = prompt, enter SHUTDOWN.

   3) A series of console messages will end with a blank line. At the blank
       line, press the CTRL key and type B.

   4) At the CM> prompt, enter TC.

   5) Enter Y to the following prompts:
                restart the system (Y/N):
                Boot from the primary boot path (Y or N)?>
                Interact with IPL (Y or N)?>

   6) At the ISL> prompt, enter START NOREOVERY and respond to the date
       prompt.

7

During bootup, the DTC is initialized. If it completes successfully, a DCC STARTUP - OK message appears. If not, one or more DCC ERROR messages appear. For more on DCC messages refer to Appendix A of the MPE/XL ASYNCHRONOUS SERIAL COMMUNICATIONS manual. You may have to reconfigure the DTC port and go through the entire process again.

7) After rebooting the system successfully, the DTC's must be downloaded with the new configuration information. A download can be initiated only by resetting a DTC.

Turn the DTC off and then on. The DTC will perform its self-test and then request to be downloaded.

The system will then download the DTC's that have been reset. If there are errors in the download process, they will be indicated by the DTC's LED display. DTC download takes about 5 minutes and a completion message is displayed on the console.

The ports are now operational.

If the DTC is located in another building, >RUN TERMDSM in :SYSDIAG to chose the Reset option for the DTC. Observe the console messages for a successful completion of download.

The DTC configuration process can be summarized in 5 steps.

1) Make configuration changes in NMMGR to the NMCONFIG.PUB.SYS file.

2) Validate the changes in NMMGR with the VALIDATE command.

3) Cross-validate the NMCONFIG.PUB.SYS configuration against the SYSGEN configuration using RDCC command in SYSFILE option.

4) =SHUTDOWN, TC, START NORECOVERY

5) After system is back up and at MPE/XL prompt, PowerCycle the DTCs or on all DTCs to request CODE and CONFIG download.

If an error occurs in any one of the steps, the process may have to be started from the beginning. Consult the appropriate manual for detailed explanations on any of the steps or error messages that might be encountered. For further explanations and questions, call the RC.

256X SERIES

The 256X series of printers are high-speed, dot-matrix line printers. The 2563A and 2563B print 300 lines-per-minute, the 2564B and 2566A print 600 lines per minute, the 2566A and 2566B printer 900 lines per minute, and the 2567B prints 1200 lines per minute. These printers are all PCL LEVEL III compatible.

Connected to an ATP port:

If the system is on MPE V/E or later:

Type 32, Sub-type 14, Term-type TTPCL22.PUB.SYS,
Driver HIOASLP0, Device name: HPPCLATP

Connected to ADCC port:

If the system is on MPE V/E or later:

Type 32, Sub-type 14, Term-type TTPCL22.PUB.SYS,
Driver HIOASLP2, Device name: HPPCLADCC

Connected to DTC port:

Printer Type=22, Type of modem attached = 0, Parity = none

Known Problems:

The 256X printers use column 0 as the first column of a printout. Some serial printer term-type files send an escape sequence to start printing in column 1. This will cause the 132nd character to be lost. This is fixed in the term-type files TTPCL19.PUB.SYS, TTPCL22.PUB.SYS, and TTPCL26.PUB.SYS in MPE V/E.

Printer Settings:

The settings for the 256X printers are set from the operator's panel on the printer. To change the settings, follow these instructions:

1. Take the printer offline.

2. Hold down the "CONFIG." key and press the "FINE ADJUST." key until the appropriate function number appears in the window.

3. Release the "CONFIG." key. The current value of that function will appear in the window. Use the "FINE ADJUST." key to change the value.

4. Press the "ENTER" key to save your changes.

5. Put the printer back online.

Suggested Settings:

RS-232/422:

The following tables list the configuration settings for a 256X printer.

Table 1. RS-232 256X Printer Settings

Function Number	Value	What It Does
20	31	XON/XOFF Protocol Strip Null and Delete Characters (see note 3)
21	00	DTR always on
22	21 31 41 51 61	1200 Baud, ignore modem signals 2400 Baud, ignore modem signals 4800 Baud, ignore modem signals 9600 Baud, ignore modem signals 19200 Baud, ignore modem signals (select the speed that matches the system I/O configuration)
23	03 00	Odd parity (see note 1) No parity (see note 2)

Note 1 - Use this setting for terminal types 19,21, and TTPCL19.

10

Note 2 - Use this setting for terminal types 18,20,22,26,TTPCL18,TTPCL22
    and TTPCL26.

Note 3 - If it is desirable to not strip nulls and deletes for
    8-bit data operation, set this value to 01 instead of 31.

Table 2. RS-422 256X Printer Settings

Function Number	Value	What It Does
20	31	XON/XOFF Protocol Strip Null and Delete Characters (see note 3)
21	00	Not Used
22	20 30 40 50 60	1200 Baud, ignore modem signals 2400 Baud, ignore modem signals 4800 Baud, ignore modem signals 9600 Baud, ignore modem signals 19200 Baud, ignore modem signals (select the speed that matches the system I/O configuration)
23	03 00	Odd parity (see note 1) No parity (see note 2)

Note 1 - Use this setting for terminal types 19, 21, and TTPCL19.

Note 2 - Use this setting for terminal types 20, 22, 26, TTPCL22, and
    TTPCL26.

Note 3 - If it is desirable to not strip nulls and deletes for 8-bit data
    operation, set this value to 01 instead of 31.

11

2631B

The 2631B is a 180 character-per-second, dot matrix printer. Although this printer responds correctly to most PCL Level I and II escape sequences, it was designed before PCL was standardized and is NOT considered a PCL Printer.

Connected to an ATP port:

```
If system is on MPE V/E or later:

Type 32, Sub-type 14, Term-type 21, Driver HIOASLP0,
Device name: HPLPATP
```

Connected to an ADCC Port:

```
If system is on MPE V/E or later:

Type 32, Sub-type 14, Term-type 21, Driver HIOASLP2,
Device name: HPLPADCC
```

NOTE

The TTPCL files shipped with T-MIT(and later) are not intended to work with the 2631B printer. The VFC defined in the TTPCL files use an escape sequence(ESC 'E' Programmable Reset) to which the 2631B responds by going offline.

The 2631B printer is not supported on MPE/XL but will work with Printer type 18.

Printer Settings

RS-232 Interface

The operator panel on the 2631B printer has two banks of DIP switches. The left bank controls the RS-232 interface. The following will work for a 2631B printer configured at 2400 Baud with term-type 21.

Table 3. 2631B Printer Settings

Switch	Setting	Meaning
1	OFF (0)	Full Duplex
2,3	ON (1), OFF (0)	Odd Parity
4	Don't Care	Not Used
5,6,7,8	OFF (0), ON (1), OFF (0), OFF (0)	2400 Baud

Table 4. 2631B RS-232 Connector Adapter Switch Settings

Switch	Setting	Meaning
1	Open	Enable XON/XOFF
2	Closed	Disable ENQ/ACK
3	Closed	Normal SCA Line Operation
4	Closed	Normal SCA Line Operation
5	Closed	Normal CD Line Operation
6	Closed	Normal CD Line Operation
7	Open	CB Signal Not Required
8	Closed	Disable Auto Modem Disconnect

(Switches are located on the rear of the printer)

The LaserJet, LaserJet Plus and LaserJet Series II printers are all 8 page per minute laser printers. The LaserJet is a PCL Level III printer. The LaserJet Plus and LaserJet Series II printers are PCL Level IV.

The following configurations will work for the *LaserJet and LaserJet Plus (Product Number 2686X)*, and the *LaserJet Series II(Product Number 33440A)*.

Connected to an ATP Port:

If the system is on MPE V/E or later:

Type 32, Sub-type 14, Term-type TTPCL22.PUB.SYS, Driver HIOASLP0, Device name:HPPCLATP

Connected to an ADCC Port:

If the system is on MPE V/E or later:

Type 32, Sub-type 14, Term-type TTPCL22.PUB.SYS, Driver HIOASLP2, Device name: HPPCLADCC

Connected to DTC port:

Printer type 22, Type of modem attached = 0, parity = none

NOTE

The 2686A is shipped from the factory with the Baud rate set to 9600.

All LaserJets run with 8 data bits, no parity only.

Robust XON must be enabled for the LaserJet Plus and the LaserJet II. You can enable this on the front panel of the LaserJet II. If you have a LaserJet Plus you may need to call your Hewlett-Packard support team for assistance.

The term-type TTPCL22.PUB.SYS will send a hard reset(ESC 'E') to the printer. This will cause the LaserJet to reset to portrait orientation. To disable all initialization, use term-type 18.

2684X LASERJET 2000

The LaserJet 2000 is a 20 page per minute, PCL Level IV laser printer.

The following configurations are recommended for the LaserJet 2000 (Product Number 2684X).

Connected to ATP Port:

If the system is on MPE V/E UB-Delta-1 or later:

Type 32, Sub-type 14, Term-type TTPCL26.PUB.SYS,
Driver HIOASLP0

Connected to ADCC Port:

If the system is on MPE V/E UB-DELTA-3 or later:

Type 32, Sub-type 14, Term-type TTPCL26.PUB.SYS,
Driver HIOASLP2

Connected to DTC port:

Printer Type 22, Type of modem attached = 0, Parity = None

NOTE

The LaserJet 2000 is supported on MPE V/E using TTPCL26 only. If the system is on an older version of MPE and updating the operating system is not an option, configure as shown under "Everything Else" explained later in this guide.

Duplex printing will work but is not supported due to potential job separation conflicts. Adding ESC 'E' (programmable reset) at the end of the job will ensure that the next job starts on a fresh sheet.

Robust XON must be enabled for the LaserJet 2000. You can enable this from the front panel on the LaserJet 2000.

The term-type TTPCL26.PUB.SYS will send a programmable reset to the printer. This causes the LaserJet to reset to portrait orientation. To disable all initialization, use term-type 18.

2687A

The 2687A is a desk-top laser printer with a serial RS-232 interface. It uses the same print engine as the 2688A, but has a less intelligent controller. It does not print graphics.

Connected to an ATP Port:

    If the system is on MPE V/E or later:

    Type 32, Sub-type 14, Term-type TTPCL18.PUB.SYS,
    Driver HIOASLP0

Connected to an ADCC Port:

    If the system is on MPE V/E or later:

    Type 32, Sub-type 14, Term-type TTPCL18.PUB.SYS,
    Driver HIOASLP2

Connected to a DTC Port:

    Printer Type 18, Type of modem attached = 0, parity = none

NOTE

This printer is not supported as a spooled printer because it does not respond to status requests. The system has no way of telling if the printer is out of paper or if it is on line.

HPSLATE requires that this printer be configured with device class "BONSAIA"; TDP requires "LP2687".

33447A LASERJET IID

The LaserJet IID is an 8 page per minute, PCL Level IV laser printer.

The following configurations are recommended for the LaserJet IID (Product Number 33447A).

Connected to an ATP Port:

If the system is on MPE V/E or later:

Type 32, Sub-type 14, Term-type TTPCL18.PUB.SYS,
Driver HIOASLP0

Connected to an ADCC Port:

If the system is on MPE V/E or later:

Type 32, Sub-type 14, Term-type TTPCL18.PUB.SYS,
Driver HIOASLP2

Connected to a DTC Port:

Printer-Type 18, Type of modem attached = 0, parity = none

```
        NOTE
```

Term-type TTPCL22 (MPE V/E) and Printer type 22 (MPE XL) can be
used on LaserJet IID IF optional P/N 26013A HP 3000/RDBK I/O card is
purchased and installed. This enables the printer to respond to status
checking, and insures data integrity. If this option is not installed, the
printer has to be configured with TTPCL18 or TT18, and DOES NOT
respond to status checking. The system has no way of telling if the printer
is out of paper or if it is on line.

33449A LaserJet III

The LaserJet III is an 8 page per minute, PCL Level V laser printer.

The following configurations are recommended for the LaserJet III (Product Number 33449A).

Connected to an ATP Port:

```
If the system is on MPE V/E or later:

Type 32, Sub-type 14, Term-type TTPCL18.PUB.SYS,
Driver HIOASLPO
```

Connected to an ADCC Port:

```
If the system is on MPE V/E or later:

Type 32, Sub-type 14, Term-type TTPCL18.PUB.SYS,
Driver HIOASLP2
```

Connected to a DTC Port:

```
Printer-Type 18, Type of modem attached = 0, parity = none
```

NOTE

Term-type TTPCL26 (MPE V/E) and Printer type 26 (MPE XL) can be used on LaserJet IID IF optional P/N 26013A HP 3000/RDBK I/O card is purchased and installed. This enables the printer to respond to status checking, and insures data integrity. If this option is not installed, the printer has to be configured with TTPCL18 or TT18, and DOES NOT respond to status checking. The system has no way of telling if the printer is out of paper or if it is on line.

293X SERIES

The 293X series of printers are 200 characters-per-second, PCL Level II, dot-matrix printers. They are replacements for the 2631B. The 2932A is a basic dot-matrix printer. The interfaces available are: RS-232, RS-422, Centronics and HPIB. On a 3000, this printer would not be connected via a Centronics interface except as a slaved printer off a terminal. HP-IB is not used on this printer with a 3000.

The 2933A and 2934A have all the features of the 2932A. In addition they can print bar codes, and have options for MTS and DSN/Data Link. The 2934A also has some limited word processing functions.

This guide contains configuration for RS-232 and RS-422 only.

Connected to an ATP port:

If the system is on MPE V/E or later:

Type 32, Sub-type 14 , Term-type TTPCL22.PUB.SYS,
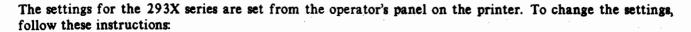Driver HIOASLP0, Device name: HPPCLATP

Connected to an ADCC port:

If the system is on MPE V/E or later:

Type 32, Sub-type 14 , Term-type TTPCL22.PUB.SYS,
Driver HIOASLP2, Device name: HPPCLADCC

Connected to a DTC port:

Printer Type 22, Type of Modem Attached = 0, Parity = None

19

Printer Settings

The settings for the 293X series are set from the operator's panel on the printer. To change the settings, follow these instructions:

1. Press the SELECT key and then the VIEW key. The printer will print a menu of choices.

2. Use the left and right arrow keys to move the print head underneath the desired selection on the menu.

3. Press the SELECT key.

4. Repeat steps 2 and 3 until you have made all your changes.

5. Press VIEW to save your changes.

Suggested Settings:

The following settings will work for a 293X printer configured with term-type 22(MPE V/E or MPE/XL) or TTPCL22.PUB.SYS at 2400 Baud:

```
*****     LIST INTERFACE    *****


*****     SERIAL     *****

DATA SETTINGS      CONTROL SETTINGS      SET DEFAULTS



*****     DATA SETTINGS     *****


BAUD RATE  DATA BITS    PARITY   PARITY CHECK  ·STRIP NULL/DEL  ALL
  2400         8         none        off              off

*****  CONTROL SETTINGS  *****

XON/XOFF  ENQ/ACK  BINARY ENQ/ACK  DTR/CD  (S)RTS/SCA  CTS/CB  RS/CH
   on      off         off         High      Low       Ignore   Low

*****  END OF SETTINGS  *****
```

20

EVERYTHING ELSE

For any other SERIAL RS-232 printer, from HP or another vendor, configure as follows:

Printers connected to an ATP Port:

    Type 32, Sub-Type 14, Term-type 18, Driver HIOASLP0

Printers connected to an ADCC Port:

    Type 32, Sub-Type 14, Term-type 18, Driver HIOASLP2

Printers connected to a DTC Port:

    Printer Type 18, Type of Modem Attached = 0, Parity = none

---

NOTE

A printer configured with TERM-TYPE 18 is not supported as a spooled printer because the system cannot do any status checking. There is no way to tell if the printer is out of paper or if it is on line. If the printer is powered off, out of paper, or off line, the spoolfile will go into an active state and disappear.

HP82905 printers and some foreign printers use a hardware handshake instead of an XON/XOFF protocol. These printers will not work on the HP3000.

TROUBLESHOOTING

If you have trouble with a printer, especially a serial printer, follow these guidelines:

SYMPTOM

POSSIBLE CAUSES

Printer does not print anything
                and/or
SP #ldev/STOPPED, SPOOLEE I/O ERROR
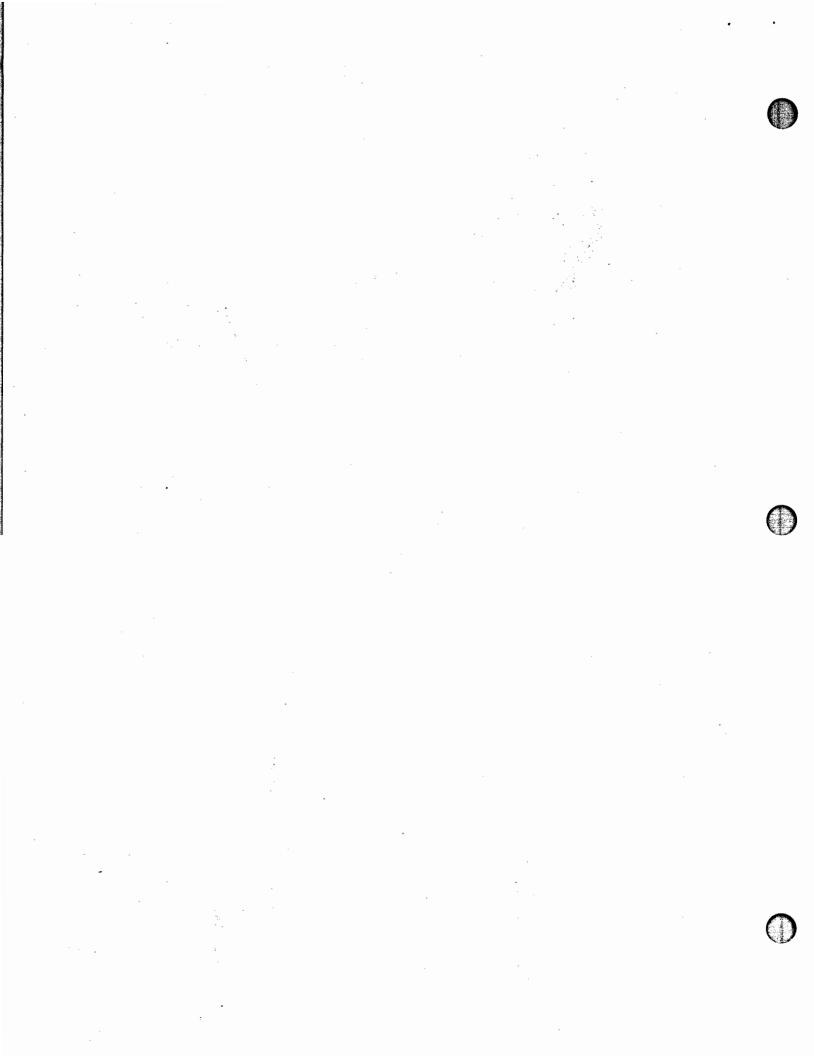
1. Check the configuration.

2. Check that the printer is powered up and on-line.

3. Check the cable. HPIB cables should be firmly attached at both ends. For RS-232 cables, direct connect cables must have at least pins 2,3 and 7(HP cable 13242N is recommended). Modems will require more pins. The cable between the printer and the modem should also be a 13242N. The cable between the 3000 and the other modem must have pins 2 and 3 crossed (HP cable 30062B).

4. Is the paper out indicator lit? Check that the paper is loaded properly.

5. HP 2601A, 2602A and some foreign printers require other RS-232 pins. Three-wire ATP ports cannot provide the signals needed. Note that ADCC ports on MPE V/E don't supply DTR on pin 6 with sub-types 0 or 14. A custom cable can be made to jumper pins 4 and 5 together and pins 6, 8 and 20 together.

6. For term-types 19, 21 or TTPCL19.PUB.SYS the parity should be ODD. For termtypes 18,20,22,26,TTPCL22,TTPCL26, use 8 data bits with no parity.

7. Check that the Baud rate on the printer matches the Baud rate that is configured on the 3000.

The printer is printing garbage.

8. The printer may be broken. Try the self test.

1. Check that the Baud rate on the printer matches the configuration.

2. The parity for term-type 18 and TTPCL18 should be "none".

3. Check the configuration.

The printer stops in the middle of a printout with a SPOOLEE I/O ERROR.

1. If you are using term-type 19, try term-type 21 instead. If you are using TTPCL19.PUB. SYS, use TTPCL22.PUB.SYS and change the printer to 8 data bits, NONE parity.

23

Published Application Notes

HP 3000

Following is a list of the Application Notes published to date. If you would like to order single copies of back issues please use the *Request Form* attached and indicate the number(s) of the note(s) you need, and the part number(s).

Note #	Part Number	Topic
1	5958-5824	Printer Configuration Guide - Version 1
2	5960-2841	Terminal types for HP 3000 HPIB Computers - Version 1
3	5960-2842	Plotter Configuration Guide
4	5960-2843	Printer Configuration Guide - Version 2
5	5960-2844	MPE System Logfile Record Formats
6	5960-2845	Stack Operation
7	5960-2846	COBOL II/3000 Programs: Tracing Illegal Data
8	5960-2847	KSAM Topics: COBOL's Index I/O: File Data Integrity
9	5960-2848	Port Failures, Terminal Hangs, TERMDSM
10	5960-2849	Serial Printers - Configuration, Cabling, Muxes
11	5960-2850	System Configuration or System Table Related Errors
12	5960-2851	Pascal 3000 - Using Dynamic Variables
13	5960-2852	Terminal Types for HP 3000 HPIB Computers - Version 2
14	5960-2853	Laser Printers - A Software and Hardware Overview
15	5960-2854	FORTRAN Language Considerations - A Guide to Common Problems
16	5960-2855	IMAGE: Updating to TurboIMAGE & Improving Database Loads
17	5960-2856	Optimizing VPLUS Utilization
18	5960-2857	The Case of the Suspect Track for 792X Disc Drives
19	5960-2858	Stack Overflows: Causes & Cures for COBOL II Programs
20	5960-2859	Output Spooling
21	5960-2860	COBOLII and MPE Intrinsics
22	5960-2861	Asynchronous Modems

Note #	Part Number	Topic
23	5960-2862	VFC Files
24	5960-2863	Private Volumes
25	5960-2864	TurboIMAGE: Transaction Logging
26	5960-2865	HP 2680A, 2688A Error Trailers
27	5960-2866	HP Trend: An Installation and Problem Solving Guide
28	5960-2867	The Startup State Configurator
29	5960-2868	A Programmer's Guide to VPLUS 3000
30	5960-2869	Disc Cache
31	5960-2870	Calling the CREATEPROCESS Intrinsic
32	5960-2871	Configuring Terminal Buffers
33	5960-2872	Printer Configuration Guide - Version 3
34A	5960-2873	RIN Management (Using COBOLII Examples) (A)
34B	5960-2874	Process Handling (Using COBOLII Examples) (B)
35	5960-2875	HPDESK IV (Script files, FSC, and Installation Considerations)
34C	5960-2876	Extra Data Segments (Using COBOLII Examples) (C)
36	5960-2877	Tips for the DESK IV Administrators
37	5960-2878	AUTOINST: Trouble-free Updates
38	5960-2879	Store/Restore Errors
39	5960-2880	MRJE Emulates a HASP Workstation
40	5960-2881	HP 250 / 260 to HP 3000 Communications Guidelines
41	5960-2882	MPE File Label Revealed
42	5960-2883	System Interrupts
43	5960-2884	Run Time Aborts
44	5960-2885	HPPA Patching Conventions for HP3000 900 Series Processors - Version 1
45	5960-2886	Vplus & Multiplexers
46	5960-2887	Setting Up an HPDesk HPTelex for the First Time
47	5960-2900	Customizing Database Data Items & Changing Passwords in JCL Files
48	5959-9215	Printer Configuration - Version 4
49	5959-9227	Configuring DATACOMM Products Into MPE
50	5959-9228	VFC's for Serial Printers

Note #	Part Number	Topic
51	5959-9237	Terminal Types for the HP 3000 HPIB Computers
52	5959-9242	Configuring MRJE
53	5959-9245	Using Special Characters on the 700/9x Series Terminals
54	5959-9251	Improving Database Performance
55	5959-9258	Customized Message Catalogs and Help Facilities
56	5959-9266	BRW Tips for Beginners
57	5959-9270	Configuring the HP 2334A Plus & HP 2335A As a Statistical Multiplexer
58	5959-9274	HPPA Pathing Conventions for HP3000 900 Series Processors - Version 2
59	5959-9289	HP 2334A and HP 2334A Configuration Recipes
60	5959-9301	TurboIMAGE's I-FILES and J-FILES
61	5959-7385	HPDeskManager - Looking Behind the Scenes
62	5959-7803	Setting Up a System Dictionary
63	5959-7834	Configuring Telesupport Modems for MPE V/E Systems
64	5960-1816	Finding Solutions in HP SupportLine
65	5960-1817	Using the Electronic Call Feature of HP SupportLine
66	5960-1818	Using the Feedback Feature of HP SupportLine
67	5960-1819	Printing Documents from HP SupportLine
68	5960-1820	HP SupportLine Commands
69	5960-2901	Nonsystem Volume Sets and the Migration of Private Volumes to an S9000 HP 3000
70	5960-2907	Modem Links for Remote Console and Standard DTC Connections on Commercial XL HPPA Systems
71	5960-2918	Asynchronous Cabling
72	5960-2919	BRW Tips and Tricks
73	5960-2998	SNA NRJE Configuration
74	5960-2999	SNA IMF Configuration
75	5060-3000	XL NRJE Configuration

HP 3000 (continued) (continued)

Note #	Part Number	Topic
76	5960-4301	XL IMF Configuration
77	5960-4302	Calling the BRW Intrinsics
78	5960-4303	PUB.SYS What Is Behind It?
79	5960-4625	Conquest of Disc Space
80	5960-4633	Looking Behind the Scenes of Resource Sharing
81	5960-4637	MPE/XL System Interrupt Recovery Procedures
82	5960-4347	Private Volumes
83	5960-4396	Serial Printer Configuration

HP 3000 Application Note Request

☐ Please send me the HP 3000 Application Notes listed below. To order an Application Note just fill in the Application Note number and the part no. in the space provided below. (Use the Published Application Notes form)

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1515

NOTES

NOTES

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We welcome your evaluation of this Application Note. Your comments and suggestions will help us improve our publications. Attach additional pages if necessary.

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- Are concepts and wording easy to understand?   Yes   No
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