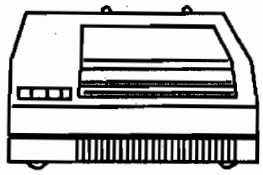
North American Response Center
Application Note #1

HP3000

Printer Configuration

Guide



The information contained in this document is applicable to all supported releases of MPE including G.01.00 (T-Mit).

Configurations for the Series III are NOT included.

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From: Bob Shields

Date: February 21, 1985

To: HP3000 System Managers

Subject: Response Center Application Note

Attached is the first of a series of Application Notes from the North American Response Center. Application Notes are intended to provide Hewlett-Packard customers with information in a format that will aid them in using and managing the hardware and software capabilities of their systems. Application Notes are created as a result of analysis of telephone inquiries to the Response Centers where the volume of calls we receive indicates a need for addition to or consolidation of information available through Hewlett-Packard support services.

The Application Notes will be distributed with the Software Status Bulletin (SSB) to assure wide availability, but won't be included with every SSB since their creation is determined by the circumstances outlined above.

Application Note #1 is the HP3000 Printer Configuration Guide for HP-IB systems (this excludes the Series II and III.) Hewlett-Packard has introduced a number of printers in recent years for text, graphic and word-processing applications. This guide covers some of the most common questions that System Managers have in configuring printers on their systems.

I welcome comments or suggestions for future Application Notes. Please direct them to me in writing at the above address.

Sincerely,

Bob Shields

Bob Shields
Support Engineering Manager

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This guide is intended to be a quick reference for printer configuration problems. Each printer, or series of printers, appears on a page in numerical order. The format of this guide is a series of questions to answer about your system that will lead to the proper configuration.

This guide lists the TYPE, SUB-TYPE, TERM-TYPE (if applicable), and DRIVER for each printer. The following information is also needed in the configuration:

Configurator Dialogue	Suggested Values
LOGICAL DEVICE #?	The ldev number is up to the user. The system printer is usually ldev 6.
DRT #?	The DRT is the hardware address of the device. It is calculated with the following formulas: Series 64, 68: (IMB# * 128) + (CHAN# * 8) + (HP-IB 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 HP-IB: The unit number should be 0.
SOFTWARE CHANNEL#?	The software channel number is always 0 on HP-IB machines.
TYPE? SUB-TYPE? TERM-TYPE? (MPE IV & V/P) or ENTER [TERM TYPE#], [DESCRIPTOR FILENAME]? (MPE V/E)	Refer to this guide for these values.
SPEED IN CHARACTERS PER SECOND?	This question is only asked for device type 16 and 32. The most common values will be 120 and 960. You

	cannot specify 1920, but ATP ports will speed sense 1920.
RECORD WIDTH?	Enter the record width in words; 66 will give 132 column output.
OUTPUT DEVICE?	For the 2635B printing terminal, enter its ldev number. For everything else, enter 0.
ACCEPT JOBS/SESSIONS? ACCEPT DATA? INTERACTIVE? DUPLICATIVE?	For the 2635B printing terminal, enter YES to each of these. For everything else, 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 system line printers and PP be used for the 2680A Laser Printer.

256X series

Includes the 2563A, 2565A and 2566A.

The 256X series of printers are high speed, dot matrix line printers. They are replacements for the 2608A, 2608S and 261X printers. These printers are available with HP-IB, MTS, and serial RS-232 interfaces. If you are configuring for MTS, please see the "HP 26067A System Interface Option 002, Multipoint Interface" manual, section 2-12. For additional information on the serial interface, please refer to the "26067A/B System Interface Option 003, Serial Interface Manual." This manual contains information that is not in the printer manual.

The 2563A is a 300 line per minute printer, the 2565A prints 600 lines per minute, and the 2566A prints 900 lines per minute.

1. Does the printer have an HP-IB or a serial RS-232 interface?

If the printer has a serial RS-232 interface, go to step 3.

2. Do you want TRANSPARENT or FEATURE access?

Feature access means that the printer will recognize special control codes and escape sequences. If you don't know which you want, use FEATURE access.

Configuration for feature access:

TYPE 32, SUB-TYPE 9, DRIVER HIOCIPR0

Configuration for transparent access:

TYPE 32, SUB-TYPE 13, DRIVER HIOCIPR0

3. Is the printer connected to an ADCC or ATP port?

If the printer is on ADCC, go to step 4.

Configuration for serial printer on ATP:

TYPE 32, SUB-TYPE 14, TERM-TYPE 19, DRIVER HIOASLP0

4. Is the system on MPE V/E?

If the system is on MPE V/E (or T-MIT), go to step 5.

Configuration for a serial printer on ADCC with MPE IV or V/P:

TYPE 32, SUB-TYPE 14, TERM-TYPE 19, DRIVER HIOTERM0

5. Configuration for a serial printer on ADCC with MPE V/E or later:

TYPE 32, SUB-TYPE 14, TERM-TYPE 19, DRIVER HIOASLP2

NOTE: The 2563A is not supported over a modem but should work with SUB-TYPE 15 for a dial up modem, 14 for a leased line.

KNOWN PROBLEMS:

The 256X printers use column 0 as the first column of a printout. The serial printer drivers send an escape sequence to start printing in column 1. This will cause the 132nd character to be lost. This is easily fixed with the Workstation Configurator in MPE V/E. There are patches available for MPE V/P. Contact the Response Centers for assistance.

[1] Some spoolfiles that print fine on the 2608A, may print wrong on the 2563 with FEATURE access. The 2563A recognizes control codes and escape sequences that the 2608A ignores. In this case, use TRANSPARENT access.

2601A

The 2601A printer is a letter quality, impact printer.

1. Is the printer connected to an ADCC or ATP port?

If the printer is on ADCC go to step 4.

2. Is the printer on a 25 pin ATP modem port?

If the printer is on a 25 pin modem port, go to step 3.

Configuration for a 2601A on a three pin ATP port:

TYPE 16, SUB-TYPE 0, TERM-TYPE 13, DRIVER HIOTERM1

WARNING - This configuration will require a special cable to provide the proper RS-232 signals to the printer. See the note below.

3. Configuration for 2601A on a 25 pin ATP modem port:

TYPE 16, SUB-TYPE 1, TERM-TYPE 13, DRIVER HIOTERM1

4. Is the system on MPE V/E?

If the system is on MPE V/E (or T-MIT), go to step 5.

Configuration for a serial printer on ADCC with MPE IV or V/P:

TYPE 16, SUB-TYPE 0, TERM-TYPE 13, DRIVER HIOTERM0

5. Configuration for serial printer on ADCC with MPE V/E or later:

TYPE 16, SUB-TYPE 1, TERM-TYPE 13, DRIVER HIOTERM2

NOTE: The 2601A can be spooled, but it is not supported as a spooled printer. If you wish to spool the 2601A, configure it as "Everything Else" later in this guide. Please read the note below.

The 2601A printer requires the DSR (Data Set Ready) signal on pin 6 of the RS-232 connector. Without this signal, the printer will not print at all. On a three wire ATP port it will be necessary to jumper pin 20 to pin 6 on the printer side of the RS-232 cable. ADCC ports on MPE V/E only put out the DSR signal when the printer is configured as SUB-TYPE 1.

2602A

The 2602A printer is a letter quality, impact printer.

1. Is the printer connected to an ADCC or ATP port?

If the printer is on ADCC go to step 4.

2. Is the printer on a 25 pin ATP modem port?

If the printer is on a 25 pin ATP port, go to step 3.

Configuration for 2602A printer on a three pin ATP port:

TYPE 16, SUB-TYPE 0, TERM-TYPE 13, DRIVER HIOTERM1

WARNING - This configuration will require a special cable to provide the proper RS-232 signals to the printer. See the note below.

3. Configuration for a 2602A on a 25 pin ATP modem port:

TYPE 16, SUB-TYPE 1, TERM-TYPE 13, DRIVER HIOTERM1

2. Is the system on MPE V/E?

If the system is on MPE V/E (or T-MIT), go to step 3.

Configuration for a serial printer on ADCC with MPE IV or V/P:

TYPE 16, SUB-TYPE 0, TERM-TYPE 13, DRIVER HIOTERM0

3. Configuration for serial printer on ADCC with MPE V/E or later:

TYPE 16, SUB-TYPE 1, TERM-TYPE 13, DRIVER HIOTERM2

NOTE: The 2602A can be spooled, but it is not supported as a spooled printer. If you wish to spool the 2601A, configure it as "Everything Else" later in this guide. Please read the note below.

The 2602A printer requires the DSR (Data Set Ready) signal on pin 6 of the RS-232 connector. Without this signal, the printer will not print at all. On a three wire ATP port it will be necessary to jumper pin 20 to pin 6 on the printer side of the RS-232 cable. ADCC ports on MPE V/E only put out the DSR signal when the printer is configured as SUB-TYPE 1.

2608A

The 2608A printer is a 400 line per minute, dot matrix printer.

1. The configuration is simple, you don't have any choices:

TYPE 32, SUB-TYPE 4, DRIVER HIOLPRT0

2608S

The 2608S is a 400 line per minute, dot matrix printer. It can be connected to a 3000 via HP-IB or MTS.

1. Does the printer have an HP-IB or MTS interface?

If the printer is connected via MTS, go to step 3.

2. Do you want TRANSPARENT or FEATURE access?

Feature acces means that the printer will recognize special control codes and escape sequences. If you don't know which you want, use FEATURE access.[1]

Configuration for feature access:

TYPE 32, SUB-TYPE 9, DRIVER HIOCIPR0

Configuration for transparent access:

TYPE 32, SUB-TYPE 13, DRIVER HIOCIPR0

3. The configuration for MTS:

The DRT number for the 2608S on MTS should back reference the ldev number of the MTS INP board. Enter the "#" character followed by the INP ldev number, i.e. "#200". If you are using an MPCONFIG file, the unit number can be 0. Please see the "2608S Multipoint Serial Interface Manual" for more information.

TYPE 32, SUB-TYPE 9 (FEATURE access) or 13 (TRANSPARENT), DRIVER IOMPLP0

[1] Some spoolfiles that print fine on the 2608A, may print wrong on the 2608S with FEATURE access. The 2608S recognizes control codes and escape sequences that the 2608A ignores. In this case, use TRANSPARENT access.

261X series

Includes the 2613, 2617 and 2619.

The 261X series of printers are high speed line printers introduced with the series III. They run off a parallel differential interface. To get one of these printers to work on an HP-IB machine, you must have a translator board in the card cage. These machines also use a punched paper tape for vertical forms control (VFC). The operator has to punch each hole in the tape by hand.

1. The configuration is simple, you don't have any choices:

TYPE 32, SUB-TYPE 2, DRIVER HIOLPRT2

KNOWN PROBLEMS:

Some installations that make their own VFC tapes only punch holes in the first three columns. On MPE V/E, the printing of $STDLIST requires that there be holes punched in the fourth column also. If these holes are not present, you may get "FORMAT FAULTS" or unwanted page feeds in the printout.

2631B

The 2631B is a dot matrix printer. It comes with an HP-IB (not real common) or RS-232 interface.

1. Does the printer have an HP-IB or serial RS-232 interface?

If the printer has a serial RS-232 interface, go to step 2.

Configuration for 2631B via HP-IB:

TYPE 32, SUB-TYPE 5, DRIVER HIOLPRT1

2. Is the printer connected to an ADCC or ATP port?

If the printer is connected to ADCC, go to step 3.

Configuration for a serial printer on ATP:

TYPE 32, SUB-TYPE 14 [1], TERM-TYPE 19, DRIVER HIOASLP0

3. Is the system on MPE V/E?

If the system is on MPE V/E (or T-MIT), go to step 4.

Configuration for MPE IV or V/P via ADCC:

TYPE 32, SUB-TYPE 14 [1], TERM-TYPE 19, DRIVER HIOTERM0

4. Configuration for a serial printer on MPE V/E via ADCC:

TYPE 32, SUB-TYPE 14 [1], TERM-TYPE 19, DRIVER HIOASLP2

[1] Use SUB-TYPE 15 for dial up modems, SUB-TYPE 14 for leased lines.

2635B

The 2635B is a printing terminal.

1. Is the printer on ATP or ADCC?

If the printer is on ADCC, go to step 2.

Configuration for 2635B via ATP:

TYPE 16, SUB-TYPE 0, TERM-TYPE 15[1], DRIVER HIOTERM1

2. Is the system on MPE V/E?

If the system is on MPE V/E (or T-MIT), go to step 3.

Configuration for 2635B on MPE IV or V/P via ADCC:

TYPE 16, SUB-TYPE 0, TERM-TYPE 15[1], DRIVER HIOTERM0

3. Configuration for 2635B on ADCC with MPE V/E or later:

TYPE 16, SUB-TYPE 0, TERM-TYPE 15[1],.DRIVER HIOTERM2

[1] Use TERM-TYPE 16 for 7-bit data with parity or TERM-TYPE 15 for 8-bit data without parity. TERM-TYPEs 15 and 16 can prevent loss of data when the 2635B runs out of paper.

2680A

The 2680A laser printer is a high volume page printer that will print graphics.

1. The configuration is simple, you don't have any choices:

TYPE 32, SUB-TYPE 8, DRIVER HIOPPRT0

2686A

The 2686A is the Laserjet that was designed for use with personal computers. It is not supported on the 3000 yet, but it will work with the following configurations.

1. Is the printer connected to an ADCC or ATP port?

If the printer is on ADCC, go to step 2.

Configuration for ATP:

TYPE 32, SUB-TYPE 14, TERM-TYPE 18, DRIVER HIOASLP0

2. Is the system on MPE V/E?

If the system is on MPE V/E (or T-MIT), go to step 3.

Configuration for MPE IV or V/P via ADCC:

TYPE 32, SUB-TYPE 14, TERM-TYPE 18, DRIVER HIOTERM0

WARNING this configuration will need a patch. Contact the Response Centers for more information.

3. Configuration for MPE V/E via ADCC:

TYPE 32, SUB-TYPE 14, TERM-TYPE 18, DRIVER HIOASLP2

NOTE: This printer is not supported as a spooled printer because it is not able to respond to status requests properly. The system has no way of telling if the printer is out of paper or if it is on line. This is why TERM-TYPE 18 is used in the configuration.

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 a less intelligent controller. It does not do the same graphics as the 2688A.

1. Is the printer connected to an ADCC or ATP port?

If the printer is on ADCC, go to step 2.

Configuration for ATP:

TYPE 32, SUB-TYPE 14, TERM-TYPE 18, DRIVER HIOASLP0

2. Is the system on MPE V/E?

If the system is on MPE V/E (or T-MIT), go to step 3.

Configuration for MPE IV or V/P via ADCC:

TYPE 32, SUB-TYPE 14, TERM-TYPE 18, DRIVER HIOTERM0

WARNING this configuration will need a patch. Contact the Response Centers for more information.

3. Configuration for MPE V/E via ADCC:

TYPE 32, SUB-TYPE 14, TERM-TYPE 18, DRIVER HIOASLP2

NOTE: This printer is not supported as a spooled printer because it does not respond to status requests properly. The system has no way of telling if the printer is out of paper or if it is on line. This is why TERM-TYPE 18 is used in the configuration.

2688A

The 2688A is a desk top laser that has many of the same capabilities as the 2680A. It uses single-sheet instead of fan-fold paper.

1. The configuration is simple, you don't have any choices:

TYPE 32, SUB-TYPE 8, DRIVER HIOPPRT0

293X series

The 293X series of printers are 200 character per second, 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 HP-IB. On a 3000, the only place you will find a Centronics interface would be if the 2932A is used as a slaved printer off a 2392A 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 only.

1. Is the printer on an ADCC or ATP port?

If the printer is on ADCC, go to step 2.

Configuration for a serial printer on ATP:

TYPE 32, SUB-TYPE 14 [1], TERM-TYPE 19, DRIVER HIOASLP0

2. Is the system on MPE V/E?

If the system is on MPE V/E (or T-MIT), go to step 3.

Configuration for MPE IV or V/P via ADCC:

TYPE 32, SUB-TYPE 14 [1], TERM-TYPE 19, DRIVER HIOTERM0

3. Configuration for a serial printer on MPE V/E via ADCC:

TYPE 32, SUB-TYPE 14 [1], TERM-TYPE 19, DRIVER HIOASLP2

[1] Use SUB-TYPE 15 for a dial up modem. On a leased line, use SUB-TYPE 14.

Everything Else

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

1. Is the printer connected to an ADCC or ATP port?

If the printer is on an ADCC port, go to step 2.

Configuration for a serial printer on ATP:

TYPE 32, SUB-TYPE 14, TERM-TYPE 18, DRIVER HIOASLP0

2. Is the system on MPE V/E?

If the system is on MPE V/E (or T-MIT), go to step 3.

Configuration for MPE IV or V/P via ADCC:

TYPE 32, SUB-TYPE 14, TERM-TYPE 18, DRIVER HIOTERM0

3. Configuration for a serial printer on MPE V/E via ADCC:

TYPE 32, SUB-TYPE 14, TERM-TYPE 18, DRIVER HIOASLP2

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.

HP82905 printers and some foreign printers use a hardware handshake instead of an X/ON, X/OFF protocol. These printers will not work on a 3000.

Troubleshooting

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

SYMPTOM	POSSIBLE CAUSES
Printer does not print anything.	1. Check the configuration.
SP #ldev/STOPPED, SPOOLEE I/O ERROR	2. Check that the printer is powered up and on-line.
	3. Check the cable. HP-IB 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 reccommended). Modems will require more pins. The cable between the printer and modem should also be a 13242N. The cable between the 3000 and the other modem must have pins 2 and 3 crossed.
	4. Is the the paper out indicator lit? Check that the paper is loaded properly.
	5. HP 2601A, 2602A and some foreign printers require other pins of the RS-232. Three wire ATP ports cannot provide the signals needed. Watch out for ADCC ports on MPE V/E - they don't use pin 6. A custom cable can be made to jumper pins 4 and 5 together and pins 6, 8 and 20 together.
	6. Check the parity. The parity should be ODD.
	7. The printer may be busted. Try the self test.

The printer is printing garbage.	1. Check that the baud rate on the printer matches the configuration. 2. Check the parity. The parity should be ODD. 3. Check the configuration.