

HEWLETT  PACKARD

2100 series computers



SIO HP 2762A
terminal printer
driver

*HP Product Nos. 24326 (4K Version)
24327 (8K Version)
24328 (12K Version)
24329 (16K Version)*

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*Small Programs Manual
May 1973*

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SIO HP 2762A Terminal Printer Driver



This SIO driver program operates an HP 2762A Terminal Printer through an HP 12531D Interface Kit for an HP 2100 series computer. SIO drivers operate in a non-interrupt environment; once an operation is started, control is not returned to the calling program until the operation is completed.

The program consists of two sections. One operates the HP 2762A Terminal Printer (or an HP 2600A Keyboard-Display Terminal or an HP 2749B Teleprinter) as a keyboard input device. The other section operates only the HP 2762A Terminal Printer as a printer output device.

To operate the HP 2762A as both the input and output device, the driver can be configured to only one I/O channel. Or, to operate the HP 2762A as the output device with another unit as the input device, the driver can be configured to two separate I/O channels.

All data is transmitted (input or output) in ASCII codes only. To use any other code, another device and SIO driver must be used.

Because this driver occupies memory space otherwise allocated to a teleprinter driver, other devices and their drivers must be used to read and punch paper tapes.

SPECIAL FEATURES

At configuration time, the maximum line length for output can be specified to be 75 or 118 characters.

After printing 60 lines, this driver automatically ejects paper to start a new page. Three blank lines are left at the beginning and end of each page.

Three special keys on the input keyboard have special effects and *are not* transmitted to the user's buffer:

- | | |
|-----------------|---|
| RUBOUT | causes all characters of the current input to be deleted. RUBOUT should be followed by RETURN then LINEFEED. |
| RETURN | causes a carriage return on the Printer. |
| LINEFEED | signals the end of the current input. If characters were transmitted to the user's buffer before LINEFEED was used, operation is complete and control returns to the user program. If no characters were transmitted to the user's buffer, the operation is not complete and control is not returned. In either case, a line is fed on the Printer and an 8-character delay occurs in the mechanical operation. |

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Special forms control characters can be in a user's output buffer; the user must follow each such character (other than LINEFEED) with null or rubout characters as required. For more information on form control characters and their required delays, see the Operating and Service Manual for the HP 2762A Terminal Printer.

USER CALLING SEQUENCES

For keyboard input:

| Address | Instruction |
|---------|---|
| (P) | LDA <length of input buffer > |
| (P+1) | LDB <address of input buffer > |
| (P+2) | JSB 104B,I (keyboard input entry point) |
| (P+3) | <return > |

For printer output:

| Address | Instruction |
|---------|---|
| (P) | LDA <length of output buffer > |
| (P+1) | LDB <address of output buffer > |
| (P+2) | JSB 102B,I (printer output entry point) |
| (P+3) | <return > |

A positive buffer length value specifies the number of characters to be read or written. For an odd number of characters on input, the last character position is filled with a blank. On output, the driver produces a RETURN and LINEFEED at the end of each record.

A negative buffer length value on output causes a page eject.

An output buffer length value greater than 75 or 118, depending upon the maximum length specified at configuration time, is truncated to the maximum value.

A buffer length of 0 for output prints a blank line (a line-feed).

After an input operation, the A register contains a positive integer, the number of characters transmitted. The B register contents are meaningless because the interface does not return any status information.

After an output operation, the contents of both the A and B registers are meaningless.

DRIVER CONFIGURATION

Perform either of these two procedures:

One-Channel Configuration

1. Use the BBL (Basic Binary Loader) to load the SIO HP 2762A Terminal Printer Driver.
2. Set the starting address 2_8 .
3. Set bits 0 - 5 of the switch register to the select code (I/O channel number) of the HP 2762A.
4. Set bit 15 of the switch register off.
5. Set bit 14 of the switch register on for 118 characters maximum line length, or off for 75 characters maximum line length.
6. Press RUN, the computer HALTs with $M = 102077_8$.

Two-Channel Configuration

1. Use the BBL to load the SIO HP 2762A Terminal Printer Driver.
2. Set the starting address 2_8 .
3. Set bits 0 - 5 of the switch register to the select code (I/O channel number of the keyboard input device).
4. Set bit 15 of the switch register on.
5. Set bit 14 of the switch register on for 118 characters maximum line length, or off for 75 characters maximum line length.
6. Press RUN, the computer HALTs with $M = 102076_8$.
7. Set bits 0 - 5 of the switch register to the select code (I/O channel number) of the printer output device.
8. Press RUN, the computer HALTs with $M = 102077_8$.

SIO HP 2762A Terminal Printer Driver

After the SIO HP 2762A Driver is configured as described above, load and configure other drivers to be used in the following order:

| Sequence Number | Driver |
|-----------------|--|
| 2 | SIO line printer driver |
| 3 | SIO punched tape reader driver (or SIO card reader driver) |
| 4 | SIO tape punch driver |
| 5 | SIO magnetic tape unit (or SIO disc/drum unit driver) |

Then a permanent copy of the SIO system can be made by using the SIO System Dump program.