

THE PORTABLE

# PERIPHERALS

# SUPPORT

## Types of Peripherals

### Portable PLUS supports

- Plotters
- Printers
- Modems
- Discs
- Cassette drive

Most with no additional hardware other than proper cables.

## HP-IL

It's a snap to hook up HP-IL. Just connect the cables. Here's what Portable PLUS can talk to:

- Converters
  - HP-IL/HPIB 82169A
  - HP-IL/RS-232 82164A
- Modem 82168A
- Discs 9114, 82161A cassette
- Printers 82905B, 2225B
- Plotters 7470

Once the connection is made, set System Config and away you go...

## HPIB

All HPIB peripherals MUST be connected via an 82169A HP-IL/HPIB converter. Here are the device types supported.

- HPIB printers
- HPIB plotters
- HPIB discs

Make the connection, set the switches, determine the address, set System Config, and away you go...

## HPIB

### Making the Connection

- Printers/plotters
  - Set converter switches 000000
  - Printer interface: HPIBxx  
(xx is HPIB address) or
  - Plotter interface: HPIBxx
- Discs (see mass storage section)

## RS-232

### What's Supported?

- Modems
- Plotters
- Printers
- ?????? \*

\* With additional user programming and the Technical Reference Manual.

## RS-232

### Making the Connection

- Make the connection from the built-in interface
  - 92221M for modems/communications
  - 92221P for plotters/printers
- Set the RS-232 characteristics
- Set System Config
- Set Datacomm Config

## RS-232

### Making the Connection

- Make the connection via the 82164A HP-IL/RS-232
  - The cable is up to you
- Set the RS-232 characteristics
- Set System Config
- Set Datacomm Config



## 82985A EXTERNAL VIDEO MONITOR

- Dealer installable connector (battery door)
- Powered by standard AC adapter
- Reset and freeze-frame buttons
- Uses standard video monitor

## OPTIONAL BUILT-IN MODEM

P/N HP 82983A

- Compatible with Hayes Smartmodem 1200 commands.
- 300 BPS and 1200 BPS transmission rates.
- Standard modular phone jack (RJ11C).
- Factory and dealer installable.

## ENABLING THE MODEM

With Term

Use PAM  "Datacom Interface" field.

With PC-2622

Use ,  "Remote To" field.

With Custom Application

Use I/O control calls as documented in System Reference Manual.

## MODEM OPERATING MODES

- Command Mode – the modem accepts commands from the user (console) and attempts to execute them.
- Data Mode – the modem simply passes data between the computer and the telephone line.
- The modem switches to data mode when connection (carrier) is made with another modem over the phone line.
- The modem switches to command mode at loss of carrier.
- Forcing command mode: the +++ stop action.
- Returning to data mode with ATA or ATO.

## COMMANDS

- The modem has a 40 character command buffer.
- The "AT" (attention) command clears the buffer.
- Non-command characters are ignored.
- "AT" and "A/" commands must be uppercase.

## COMMAN DS

- A (answer)

Modem goes off hook and brings up answer carrier. Possible responses: connect, connect 1200, no carrier.

- A/ (repeat last command)

No  key necessary.

- , (pause)

A comma causes a 2-second delay.

- D (dial)

Dialing sequence must be terminated by  or .  
Accepts digits 0-9, #, \*, comma, D, R, P, T arguments.

- E (echo commands)

E or E0 disables echoing of commands back to computer.  
E1 enables echoing of commands.

## MORE COMMANDS

- F (echo data)

This is ignored and is included only for compatibility. F0 and F1 generate OK response. Data is never echoed.

- H (hook switch)

H or H0 cause modem to go on-hook (hang-up). H1 causes modem to go off-hook and remain in command mode.

- I (interrogate)

I or I0 causes response of identification string. I1 causes response of baud rate, word length, and parity. Identification string is dependent upon active response set.

## YET MORE COMMANDS

- O (on-line)  
Causes modem to go on-line in originate mode.
  
- P (pulse)  
ATP RETURN changes default dialing method to pulse. A P command within the D command is only active for the duration of that command. # and \* are ignored during pulse dialing.
  
- Q (send responses)  
Q0 enables responses. Q1 inhibits responses.
  
- R (reverse mode)  
Causes modem to change from originate to answer mode.
  
- ; (remain in command)  
Causes modem to remain in command mode after dialing



## YOU GUESSED IT: MORE COMMANDS

- T (tone)

ATT `RETURN` changes default dialing method to tone. A T command within a D command is only active for the duration of that command.

- V (verbose)

V and V0 cause terse response messages.

V1 causes verbose response messages.

- X (change response set)

X and X0 select the minimum response set.

X1 selects the extended response set.

X2 selects the full response set.

BELIEVE IT OR NOT:

## THE LAST COMMAND

- Z (zap)

Resets all modem options to their default values.

Puts modem on-hook.