

INTERCONNECTION GUIDE

HP 7470A
Graphics Plotter

RS-232-C/CCITT V.24



PART NO. 07470-90003
MICROFICHE NO. 07470-90053

JULY 1984
PRINTED IN U.S.A.



The United States Federal Communications Commission (in 47 CFR 15.838) has specified that the following notice be brought to the attention of users of this product.

**FEDERAL COMMUNICATIONS COMMISSION
RADIO FREQUENCY INTERFERENCE
STATEMENT**

"This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate the computer with respect to the receiver
- move the computer away from the receiver
- plug the computer into a different outlet so that computer and receiver are on different branch circuits.

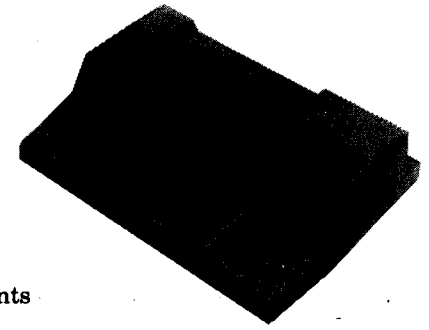
If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

'How to Identify and Resolve Radio-TV Interference Problems'.

This booklet is available from the US Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4."

your comments please

Your comments assist us in improving the usefulness of our publications and they are an important part of the inputs used in preparing updates to existing publications. Please complete this questionnaire, fold it up, and return it to us. Feel free to make any additional comments. All comments and suggestions become the property of HP.



7470A

1. Did you have any difficulty in understanding or applying the material presented in this manual?

☐ None ☐ Minimal Difficulty ☐ Difficulty ☐ Considerable Difficulty

If so:

a. If you had any degree of difficulty, please identify the areas: _____

b. What do you suggest we do to clarify these areas? _____

2. How would you rate:

	Excellent	Good	Adequate	Poor
The depth of coverage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The examples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The overall manual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please explain: _____

3. What did you find most helpful in this manual? _____

4. What was your level of graphics knowledge before you started using this manual?

☐ None ☐ Beginner ☐ Intermediate ☐ Expert

5. Do you wish to receive information on Hewlett-Packard:

<input type="checkbox"/> Plotters	<input type="checkbox"/> Instrumentation Tape Recorders
<input type="checkbox"/> X-Y Recorders	<input type="checkbox"/> Oscillographic Recorders
<input type="checkbox"/> Strip Chart Recorders	<input type="checkbox"/> Other (Please identify)

Name _____

Address _____



THANK YOU FOR YOUR HELP.

NO POSTAGE NECESSARY IF MAILED IN U.S.A.

Please tape edges closed.

Please tape edges closed.



BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 5963 SAN DIEGO, CA U.S.A.

POSTAGE WILL BE PAID BY ADDRESSEE



**HEWLETT
PACKARD**

San Diego Division
Attn: Marketing Communications
16399 West Bernardo Drive
San Diego, CA U.S.A. 92127-9989

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



**INTERCONNECTION
GUIDE**

HP 7470A
Graphics Plotter

RS-232-C/CCITT V.24

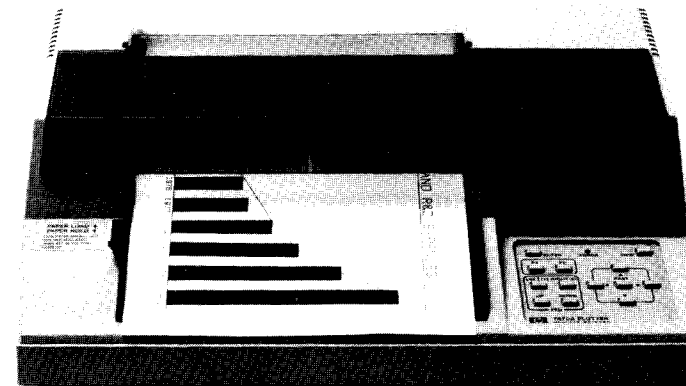


Table of Contents

Introduction	1
If Your Computer Isn't Listed	1
If Your System Configuration Is Different From the One Listed	1
If the Interconnection Doesn't Work	2
If You Are Using a Graphics Software Package	3
For All HP-IB Users	3
HP-41/HP 7470A-003	4
HP-75/HP 7470A-003	6
HP Series 80/HP 7470A-003	8
HP-85/HP 7470A-002	10
HP-86/HP 7470A-002	12
HP-87/HP 7470A-002	14
HP 125/HP 7470A-002	16
HP 150/HP 7470A-001	17
HP 150/HP 7470A-002	19
HP Series 200/HP 7470A-002	21
Apple* IIe or II Plus/HP 7470A-001	23
Apple* IIe or II Plus/HP 7470A-002	25
Apple* III/HP 7470A-001	27
Commodore CBM* 8032/HP 7470A-002	29
Commodore PET* 2001/HP 7470A-002	31
DEC Rainbow 100/HP 7470A-001	33
IBM Personal Computer/HP 7470A-001	35
Osborne 1/HP 7470A-001	37
Texas Instruments Professional Computer/HP 7470A-001	39
Wang Professional Computer/HP 7470A-001	41

*Apple is a trademark of Apple Computer, Inc.
Commodore CBM and PET are trademarks of Commodore Business Machines, Inc.
IBM is a registered trademark of International Business Machines Corporation.
DEC and Rainbow 100 are registered trademarks of Digital Equipment Corporation.

Introduction

This interconnection guide is designed to help you connect the HP 7470A Graphics Plotter to your computer and verify communication between them. For more detailed information on interfacing using either HP-IB, RS-232-C, or HP-IL, refer to Chapter 9 through 11 of the Interfacing and Programming Guide.

To use this manual, read the general instructions in the following paragraphs, then locate the interfacing instructions for the computer you are using (refer to the Table of Contents for a listing). Use the instructions to interface your computer and plotter.

Each instruction set lists a required minimum system configuration, gives connection instructions for the hardware, and provides a short program to verify that programming information is being sent correctly from the computer to the plotter. Once this has been verified, you can use the Interfacing and Programming Guide to write your own programs, or you can use a software package already written for your computer/plotter system.

If Your Computer Isn't Listed...

If your computer isn't listed, there is a good possibility that it still can be interfaced to the HP 7470A. First, determine which kinds of communication interfaces are available for your computer. If your computer supports an RS-232-C/CCITT V.24 interface, an ANSI/IEEE 488-1978 (HP-IB) interface, or an HP-IL interface, then it probably can be interfaced to an HP 7470A. Read the manual that describes the communications equipment for your computer, and then determine how information is sent and received. Next, read either Chapter 9, 10, or 11 in the HP 7470A Interfacing and Programming Manual (depending on which interface you're using) to get a better understanding of how information is sent and received by the plotter. In the RS-232-C environment, pay particular attention to the cabling requirements between the computer and the plotter. Then, choose a computer configuration in this guide that appears similar to yours and use this as a guideline for creating your own communication verification program.

If Your System Configuration Is Different From the One Listed...

There are many variables in computer systems. Often substituting one piece of hardware or software for another can cause communication problems. Therefore, if you're going to use substitutions, be aware that these may affect the interfaces described in this guide or the communication verification program.

If you are having problems getting your system to work with substitute hardware, carefully read the manual on the substitute equipment. Try to identify the difference between the hardware you are using and that which is recommended. Also consult either Chapter 9, 10, or 11 of the Interfacing and Programming Manual to understand what is required to communicate with the plotter. For RS-232-C interfacing, pay particular attention to the cabling requirements between the computer and the plotter. Finally, adapt the interconnection and programming information for use with your hardware configuration.

If you are having problems getting the program to work with software other than that listed (if any) in the system configuration, read the software manual, paying particular attention to the sections dealing with programming the communications hardware. There are usually two parts to this type of program — opening the communications port and writing to the communications port. Opening the communications port may require specifying a number of interface parameters, such as baud rate, parity, etc. For more information on what the plotter requires for communication, see Chapter 9, 10, or 11 of the Interfacing and Programming Manual. Writing to the communications port is usually straightforward. The plotter communicates using ASCII code. Find the output statement in your language that can send an ASCII string to the communications port. Then adapt the communication verification program for use with your operating system and/or programming language.

If the Interconnection Doesn't Work...

If you have connected the system as shown, running the verification program should cause the plotter to label "COMMUNICATION OK". If it doesn't, there are a number of things to check:

Is your computer working properly?

- Check the computer by running a program that you know works.

Is your communications hardware and cable working properly?

- Check the interface and cable with another peripheral.
- Check that none of the connectors on the computer interface, cable, or plotter interface are damaged.
- Try another cable if one is available.
- See that the switches are set properly on your communications hardware.
- Make sure the card is in the proper slot in the computer.

Is your plotter working properly?

- The Operator's Manual describes how to perform the HP 7470A plotter self-test.
- Make sure the switches on the back of the plotter are set properly.
- Check to see that the plotter is turned on.

Are you using the proper operating system and programming language?

- Check to see if you are using the operating system and/or programming language listed in the guide.

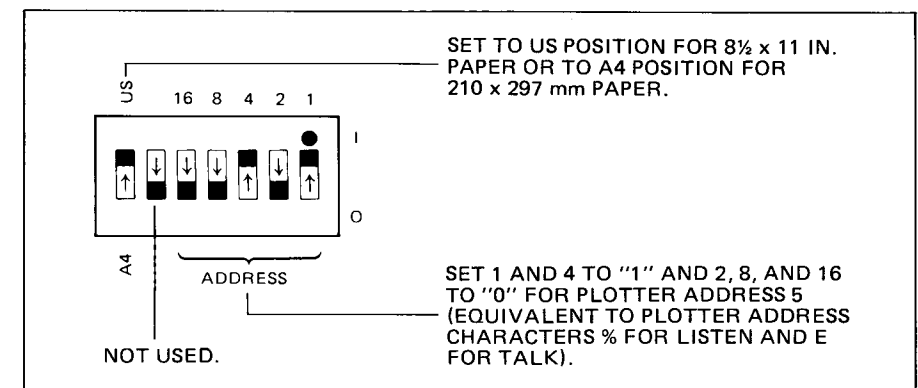
If you are still having problems, contact your salesperson. Your salesperson will probably be able to help solve your problem or refer you to someone who can.

If You Are Using a Graphics Software Package...

Some software packages designed to be used with your computer and the HP 7470A may require you to configure your system differently than described in this guide. For example, a software package may require you to use slightly different plotter switch settings. If you are using a graphics software package with your system, always *check the software documentation* to make sure the configuration requirements are being met.

For All HP-IB Users

The switch settings shown in the following illustration should be considered as part of the specific instruction set for all HP 7470A Option 002 (HP-IB) interconnection examples.



Computer: HP-41

Plotter Interface Option: HP 7470A-003 (HP-IL)

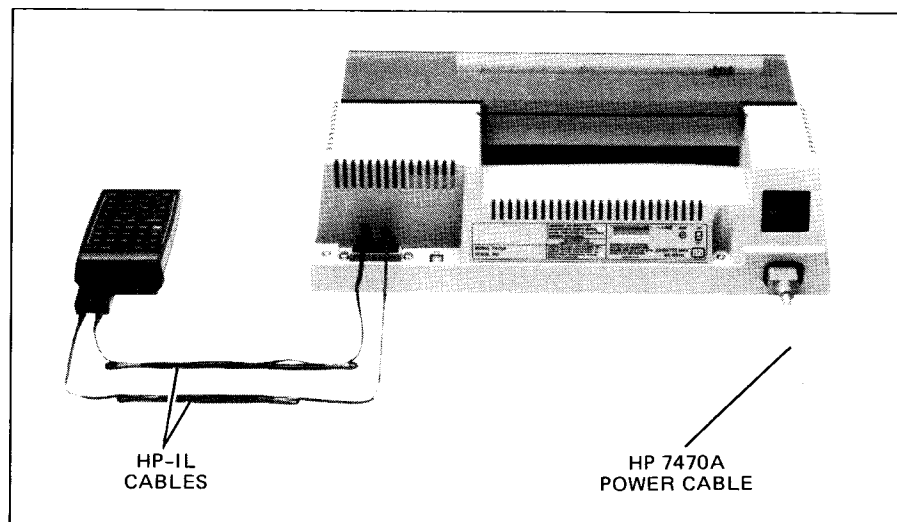
Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-003
Handheld Computer	HP-41
HP-IL Interface Module	HP 82160A
HP-IL Cable (2 required)*	HP 8120-3380

*One cable is supplied with the HP-IL Module, and one cable is supplied with the plotter.

Connection Instructions

The illustration below shows how the HP 7470A-003 plotter is to be connected to your HP-41 computer.



HP-IL Cable Connection

Communication Verification

Load pens and paper in the plotter and run the following RPN program.

NOTE: The characters that are enclosed in quotation marks must be entered in the alpha mode (the quotation marks do not need to be entered). The "⌈" symbol is the "alpha append" symbol; it is produced by pressing the shift and K keys while in the alpha mode.■

```

01 ♦LBL "OK"
02 AUTOIO
03 "IN SP1"
04 "⌈PA500,500"
05 OUTA
06 "LBCOMMUNICATION"
07 "⌈ OK"
08 0
09 ENTER↑
10 3
11 BLDSPEC
12 ARCL X
13 OUTA
14 "PA0,0 SP0"
15 OUTA
16 END

```

Plotter labels: COMMUNICATION OK

Computer: HP-75

Plotter Interface Option: HP 7470A-003

(HP-IL)

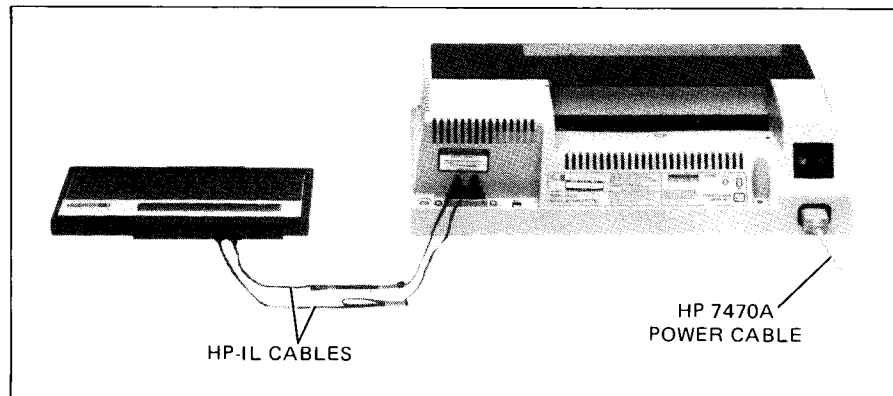
Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-003
Portable Computer	HP-75
HP-IL Cable (2 required)*	HP 8120-3380

*One cable is supplied with the HP-75, and one cable is supplied with the plotter.

Connection Instructions

The illustration below shows how the HP 7470A-003 plotter is to be connected to your HP-75 computer.



HP-IL Cable Connection

Communication Verification

Load pens and paper in the plotter and run the following BASIC program.

```
10 ASSIGN IO ":PL"
20 PRINTER IS ":PL"
30 PRINT "IN;SP1;PA500,500;"
40 PRINT "LB COMMUNICATION OK"&CHR$(3)
50 PRINT "PA 0,0;SP0;"
60 END
```

Plotter labels: COMMUNICATION OK

Computer: HP Series 80 **Plotter Interface Option: HP 7470A-003** **(HP-IL)**

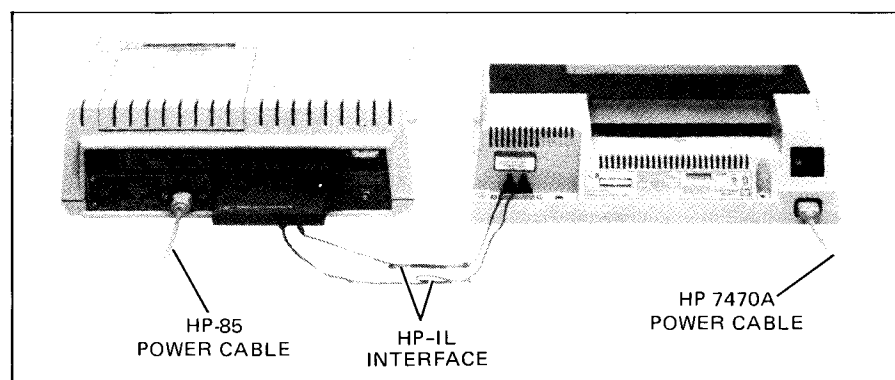
Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-003
HP-IL Interface	HP 82938A
ROM Drawer	HP 82936A
HP-IL Cable (2 required)*	HP 8120-3380
One of the following computers:	
HP-85 Personal Computer	HP-85
Plotter/Printer ROM	HP 00085-15002
HP-86 Personal Computer	HP-86
Plotter ROM	HP 00087-15002
Video Monitor	HP 82912A or 82913A
HP-87 Personal Computer	HP-87
Plotter ROM	HP 00087-15002

*One cable is supplied with the HP-IL Interface, and one cable is supplied with the plotter.

Connection Instructions

The following illustration shows how the HP 7470A-003 plotter is to be connected to your HP Series 80 computer. The HP-85 is shown; the setups for the HP-86 and HP-87 are similar.



HP-IL Interface Cable Connection

Communication Verification

Load pens and paper in the plotter and run the following BASIC program.

```

10 PLOTTER IS 901
20 PEN 1
30 MOVE 5,10
40 LABEL "COMMUNICATION OK"
50 MOVE 0,0
60 PEN 0
70 END

```

Plotter labels: COMMUNICATION OK

Computer: HP-85

Plotter Interface Option: HP 7470A-002

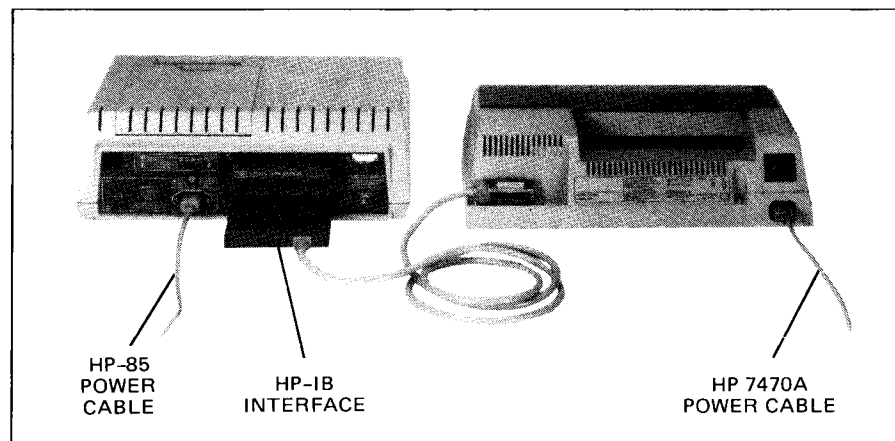
(HP-IB)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-002
Personal Computer	HP-85
ROM Drawer	HP 82936A
Plotter/Printer ROM	HP 00085-15002
HP-IB Interface	HP 82937A

Connection Instructions

The illustration below shows how the HP-7470A-002 plotter is to be connected to your HP-85 computer. Set the plotter switches as shown at the beginning of this guide under "For All HP-IB Users."



HP-IB Interface Cable Connection

Communication Verification

Load pens and paper in the plotter and run the following BASIC program.

```
10 PLOTTER IS 705
20 PEN 1
30 MOVE 5,10
40 LABEL "COMMUNICATION OK"
50 MOVE 0,0
60 PEN 0
70 END
```

Plotter labels: COMMUNICATION OK

Computer: HP-86

Plotter Interface Option: HP 7470A-002

(HP-IB)

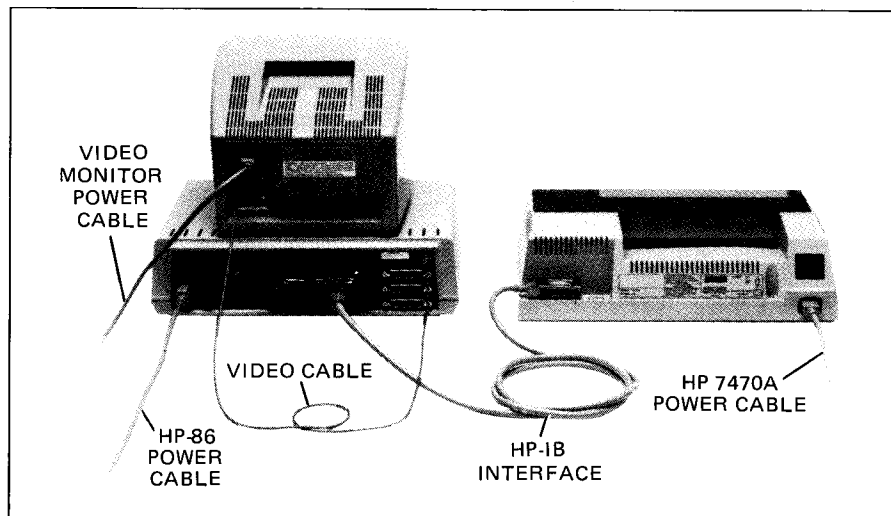
Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-002
Personal Computer	HP-86
Video Monitor	HP 82912A or HP 82913A
ROM Drawer	HP 82936A
Plotter ROM	HP 00087-15002
HP-IB Interface	HP 82937A

Connection Instructions

The illustration below shows how the HP 7470A-002 plotter is to be connected to your HP-86 computer. Set the plotter switches as shown at the beginning of this guide under "For All HP-IB Users."

NOTE: The select code of the HP-IB interface should be set to 6.■



HP-IB Interface Cable Connection

Communication Verification

Load pens and paper in the plotter and run the following BASIC program.

```

10 PLOTTER IS 605
20 PEN 1
30 MOVE 5,10
40 LABEL "COMMUNICATION OK"
50 MOVE 0,0
60 PEN 0
70 END

```

Plotter labels: COMMUNICATION OK

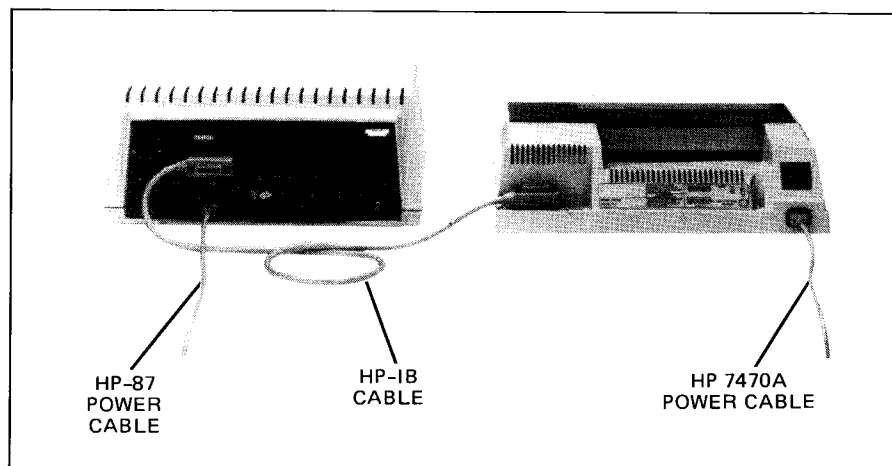
Computer: HP-87 **Plotter Interface Option: HP 7470A-002** **(HP-IB)**

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-002
Personal Computer	HP-87
ROM Drawer	HP 82936A
Plotter ROM	HP 00087-15002
HP-IB Cable	HP 10833A,B,C, or D (HP 45529A, B, C, or D)

Connection Instructions

The illustration below shows how the HP 7470A-002 plotter is to be connected to your HP-87 computer. Set the plotter switches as shown at the beginning of this guide under "For All HP-IB Users."



HP-IB Cable Connection

Communication Verification

Load pens and paper in the plotter and run the following BASIC program.

```

10 PLOTTER IS 705
20 PEN 1
30 MOVE 5,10
40 LABEL "COMMUNICATION OK"
50 MOVE 0,0
60 PEN 0
70 END

```

Plotter labels: COMMUNICATION OK

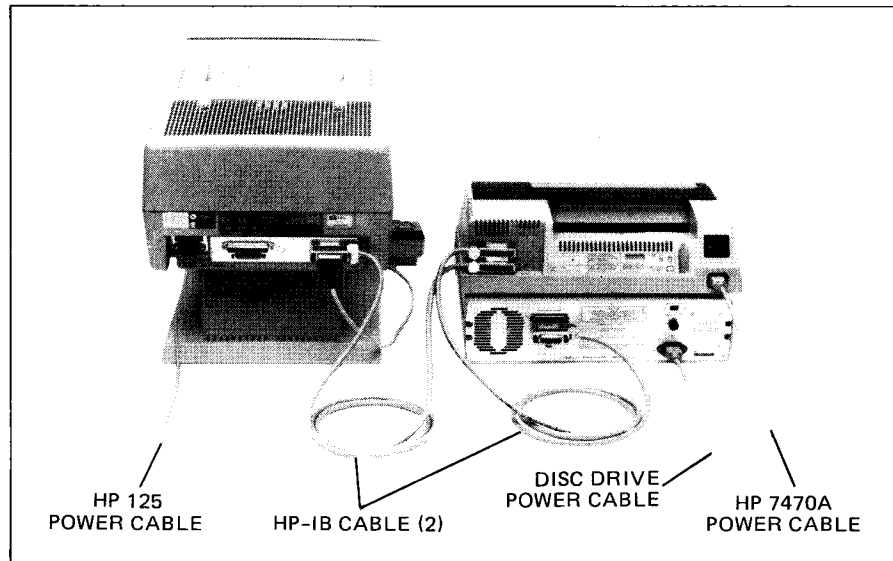
Computer: HP 125 Plotter Interface Option: HP 7470A-002 (HP-IB)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-002
Personal Computer	HP 125
Disc Drive	HP 82901M
HP-IB Cable (2 required)	HP 10833A,B,C, or D (HP 45529A, B, C, or D)
GRAPHICS/125 (updated to version A.01.01)	HP 45532A

Connection Instructions

The illustration below shows how the HP 7470A-002 plotter is to be connected to your HP 125 computer. Set the plotter switches as shown at the beginning of this guide under "For All HP-IB Users."



HP-IB Cable Connection

Communication Verification

Use GRAPHICS/125 to verify communication. See the GRAPHICS/125 manual for examples.

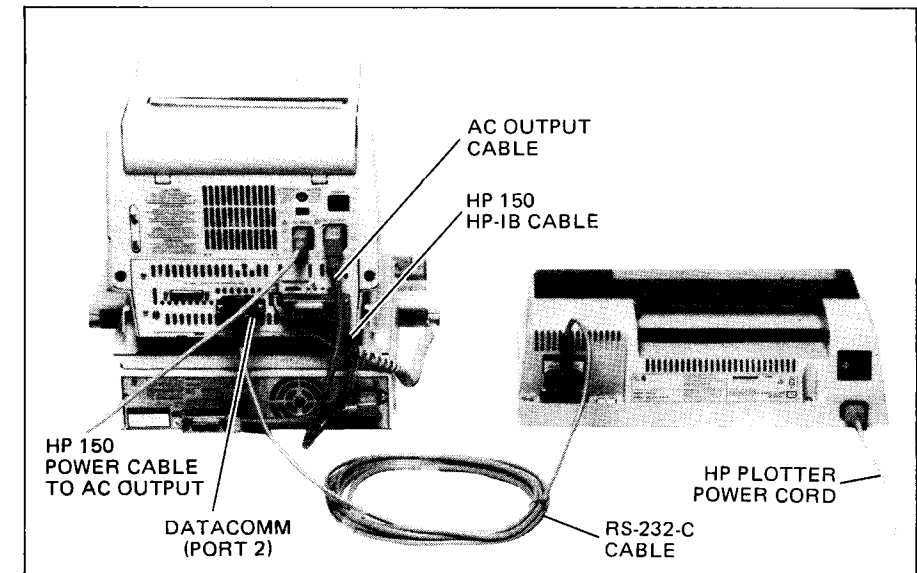
Computer: HP 150 Plotter Interface Option: HP 7470A-001 (RS-232-C/CCITT V.24)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-001
HP 150 Standard System (includes monitor, keyboard, MS™-DOS 2.0)	HP 150
Mass Storage Device	HP 9121D, HP 82901M, HP 9133V, or HP 9133XV/9134XV
Male-to-male RS-232-C Cable	HP 13242G or equivalent

Connection Instructions

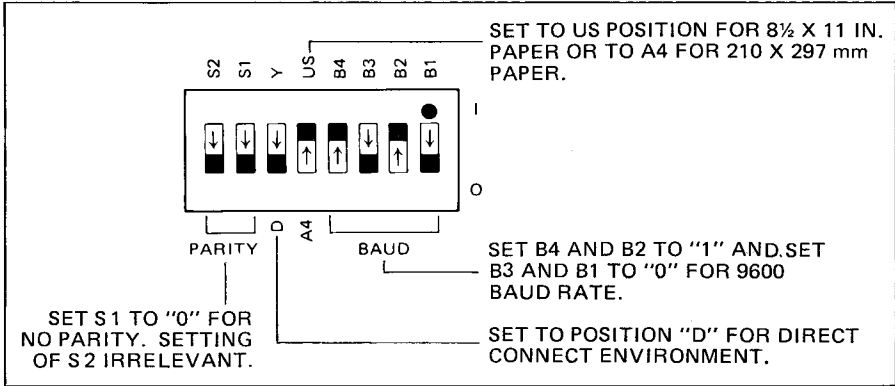
The photograph below shows how to connect the HP 7470A-001 to your HP 150 computer.



RS-232-C Cable Connection

MS is a trademark of Microsoft Corporation.

Set the plotter switches on the back panel as shown by the following diagram.



Configure your HP 150 computer by setting system device "PLT" to "Port 2." Then configure "Port 2" by setting the "CS(CB)Xmit" field to "yes" and the "BaudRate" field to "9600." Set all other fields to default values.

Communication Verification

Load pens and paper and run the following Series 100 BASIC program:

```
10 OPEN "Q",1,"PLT"
20 PRINT #1,"IN;SP1;PA500,500;"
30 PRINT #1,"LB COMMUNICATION OK"+CHR$(3)
40 PRINT #1,"PA0,0;SP0;"
50 END
```

Plotter labels: COMMUNICATION OK

Communication can also be verified by loading the demonstration disc provided with the HP 150. Ensure that the demo is configured to support a plotter, and run the CREATE GRAPHS AND SLIDES section. The demo will give instructions for producing a plot.

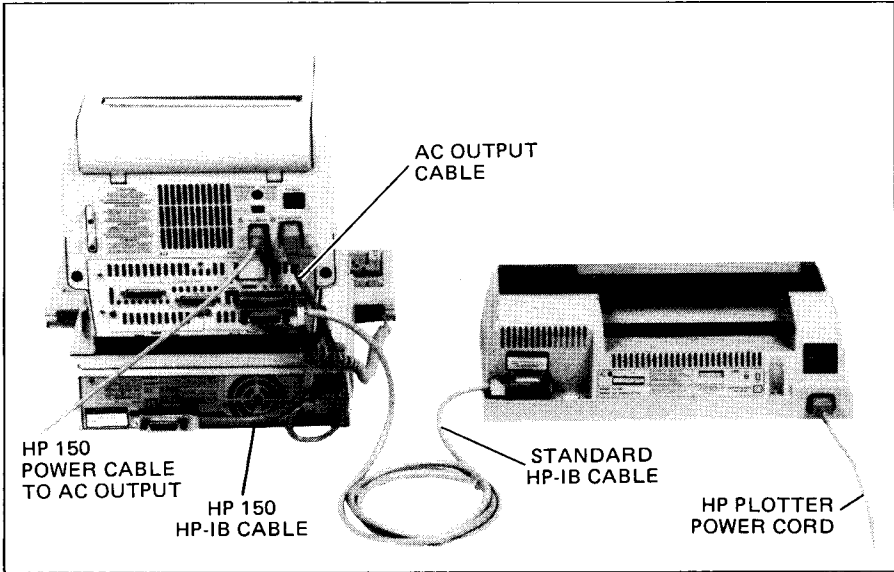
Computer: HP 150
Plotter Interface Option: HP 7470A-002
(HP-IB)

Minimum System Configuration

Table with 2 columns: Equipment, Model/Part Number. Rows include Graphics Plotter (HP 7470A-002), HP 150 Standard System (HP 150), Mass Storage Device (HP 9121D, HP 82901M, HP 9133V, or HP 9133XV/9134XV), and HP-IB Cable (HP 10833A, B, C, or D; HP 45529A, B, C, or D).

Connection Instructions

The photograph below shows how to connect the HP 7470A-002 to your HP 150 computer.



HP-IB Cable Connection

Set the plotter switches as shown at the beginning of this guide under "For All HP-IB Users." Configure your HP 150 computer by setting the "PLT:" field to "HP-IB."

Communication Verification

Load pens and paper and run the following Series 100 BASIC program:

```
10 OPEN "Q",1,"PLT"
20 PRINT #1,"IN;SP1;PA500,500;"
30 PRINT #1,"LB COMMUNICATION OK"+CHR$(3)
40 PRINT #1,"PA0,0;SP0;"
50 END
```

Plotter labels: COMMUNICATION OK

Communication can also be verified by loading the demonstration provided with the HP 150. Ensure that the demo is configured to support a plotter, and run the CREATE GRAPHS AND SLIDES section. The demo will give instructions for producing a plot.

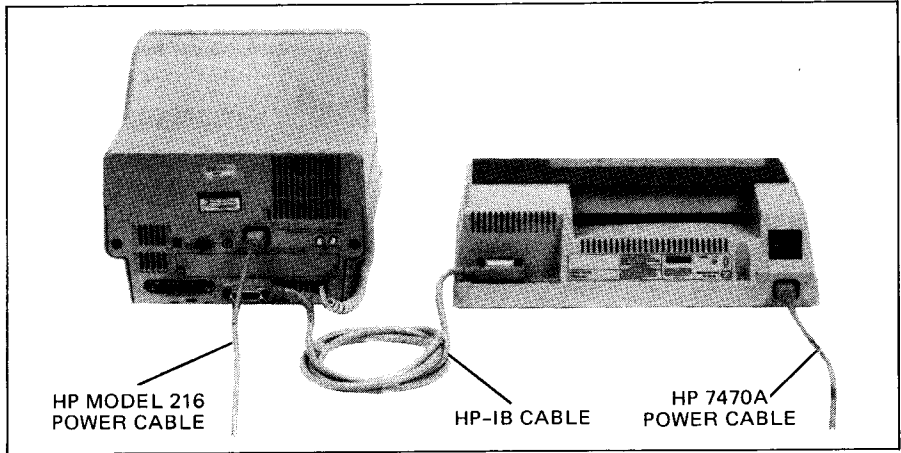
Computer: HP Series 200
Plotter Interface Option: HP 7470A-002
(HP-IB)

Minimum System Configuration

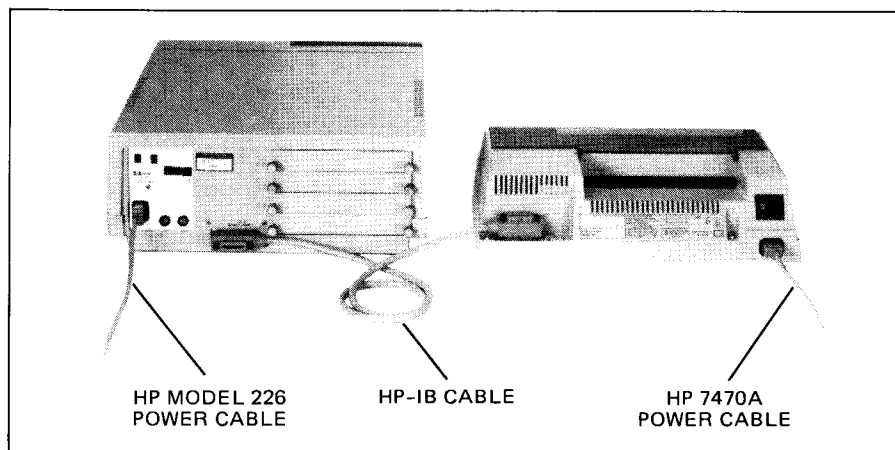
Table with 2 columns: Equipment, Model/Part Number. Rows include Graphics Plotter (HP 7470A-002), Desktop Computer (HP Model 216, 226, or 236), and HP-IB Cable (HP 10833A, B, C, or D).

Connection Instructions

The illustrations below show how the HP 7470A-002 plotter is to be connected to your HP Series 200 computer. Set the plotter switches as shown at the beginning of this guide under "For All HP-IB Users."



HP-IB Cable Connection; Model 216



HP-IB Cable Connection
Model 226 is shown; Model 236 is similar

Communication Verification

Load pens and paper in the plotter and run the program which corresponds with the currently selected language.

BASIC

```
10 PLOTTER IS 705, "HPGL"
20 PEN 1
30 MOVE 5,10
40 LABEL "COMMUNICATION OK"
50 MOVE 0,0
60 PEN 0
70 END
```

Plotter labels: COMMUNICATION OK

HPL

```
0: pclr
1: pen# 1
2: plt 1,2,1
3: lbl "COMMUNICATION OK"
4: plt 0,0,1
5: pen# 0
6: end
```

Plotter labels: COMMUNICATION OK

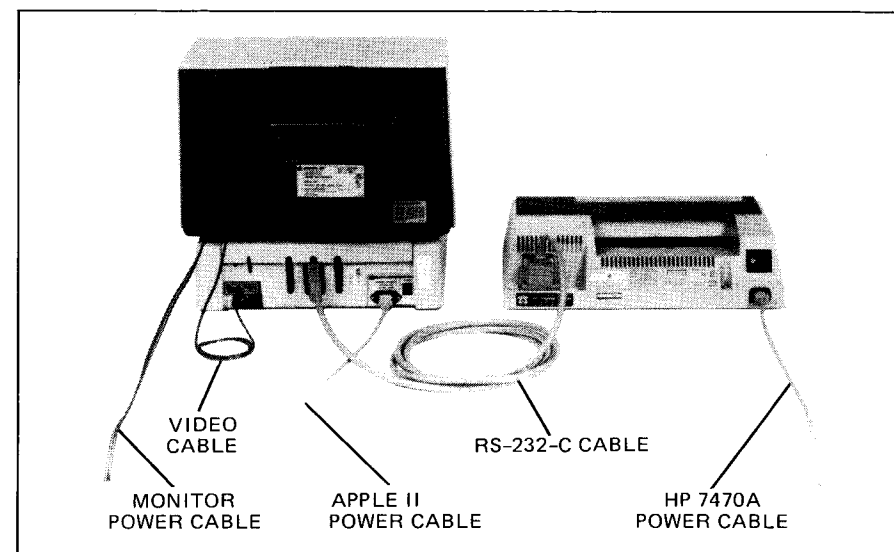
Computer: Apple IIe or II Plus Plotter Interface Option: HP 7470A-001 (RS-232-C/CCITT V.24)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-001
Apple IIe or II Plus Unit	—
Apple III Monitor or equivalent	—
Apple Super Serial Card	Apple A2B0044
Male-to-male RS-232-C Cable	HP 17355A or equivalent

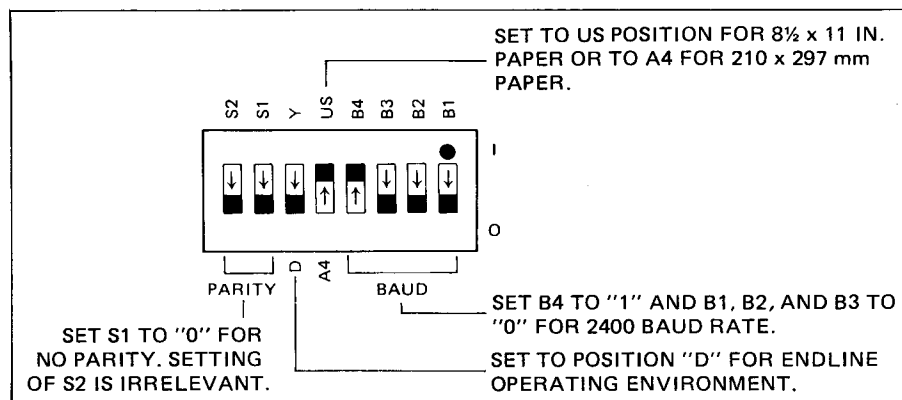
Connection Instructions

The illustration below shows how the HP 7470A-001 plotter is to be connected to your Apple II computer.



RS-232-C Cable Connection

Set the plotter switches as follows:



Install the Apple Super Serial Card in slot #2. Set the two banks of switches on the Super Serial Card as follows:

	1	2	3	4	5	6	7
SW1	OFF	ON	OFF	ON	OFF	ON	ON
SW2	ON	OFF	OFF	ON	OFF	OFF	OFF

This sets the Super Serial Card to 2400 baud, no parity, 8 data bits, etc.

Check to see that the arrow on the Super Serial Card's jumper block is pointing toward the word "TERMINAL." If it isn't, reverse its direction.

NOTE: Sometimes, the plotter's **ERROR** light will go on when you press certain keys on your Apple computer or when you turn the power on. This error condition does not affect the operation of the plotter. The error may be cleared and the error light turned off by simultaneously pressing the plotter's **ENTER** and **VIEW** buttons.■

Communication Verification

Load pens and paper and run the following Applesoft BASIC program:

```

10 PR# 2
20 PRINT "IN;SP1;PA500,500;"
30 PRINT "LB COMMUNICATION OK"+CHR$(3)
40 PRINT "PA0,0;SP0;"
50 PR# 0
60 END

```

Plotter labels: COMMUNICATION OK

Computer: Apple IIe or II Plus Plotter Interface Option: HP 7470A-002 (HP-IB)

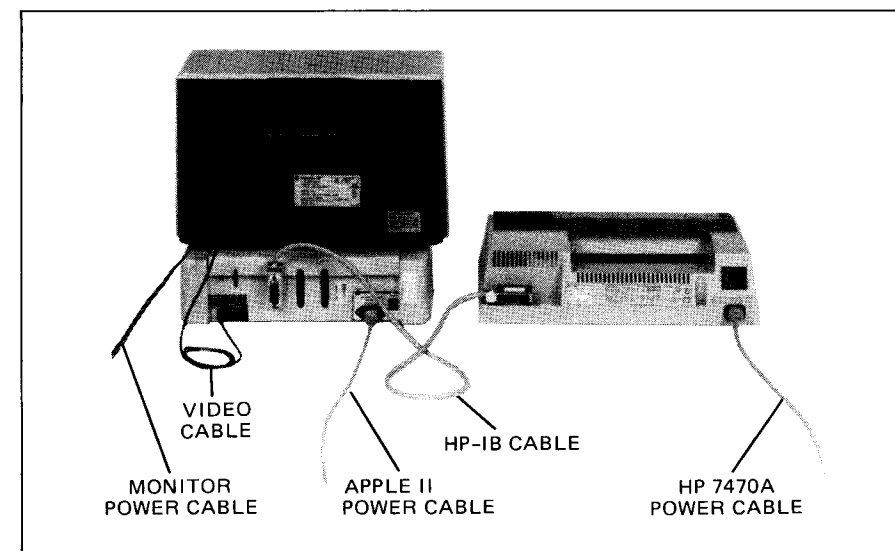
Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-002
Apple II Plus Unit	—
Apple III Monitor or equivalent	—
IEEE-488 Card	Apple A2B0015
HP-IB (IEEE-488) Cable	HP 10833A, B, C, or D (HP 45529A, B, C, or D) or Apple 590-0040

Connection Instructions

The illustration below shows how the HP 7470A-002 plotter is to be connected to your Apple II computer. Set the plotter switches as shown at the beginning of this guide under "For All HP-IB Users."

NOTE: It is assumed the IEEE-488 interface card is installed in connector slot #3.■



HP-IB Cable Connection

Communication Verification

Load pens and paper in the plotter and run the following Applesoft BASIC program.

```
10 PR# 3: IN# 3
20 PRINT "WT%"+CHR$(26);
30 PRINT "IN;SP1;PA500,500;";
40 PRINT "LB COMMUNICATION OK"+CHR$(3);
50 PRINT "PA0,0;SP0;";
60 PRINT CHR$(13);
70 PR# 0: IN# 0
80 END
```

Plotter labels: COMMUNICATION OK

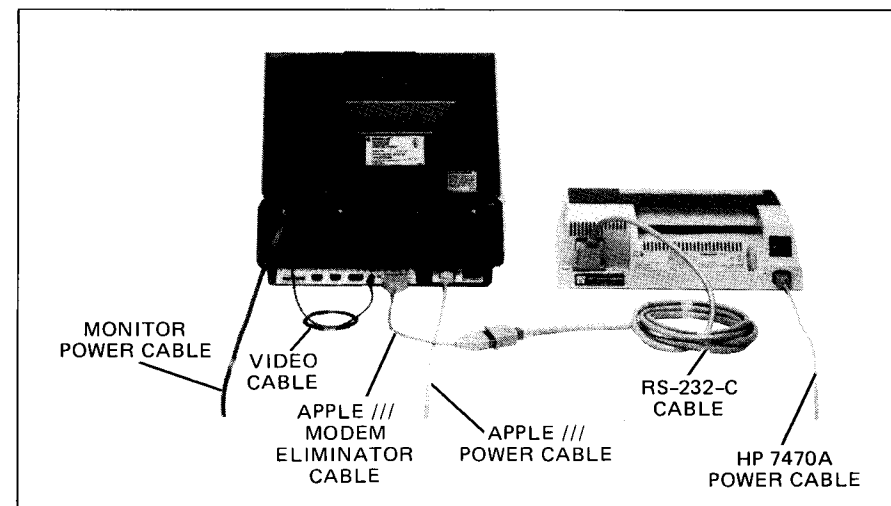
Computer: Apple III Plotter Interface Option: HP 7470A-001 (RS-232-C/CCITT V.24)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-001
Apple III Unit	—
Monitor III	—
Male-to-male RS-232-C Cable	HP 17355A or equivalent
Apple III Modem Eliminator Cable	Apple A3M0019

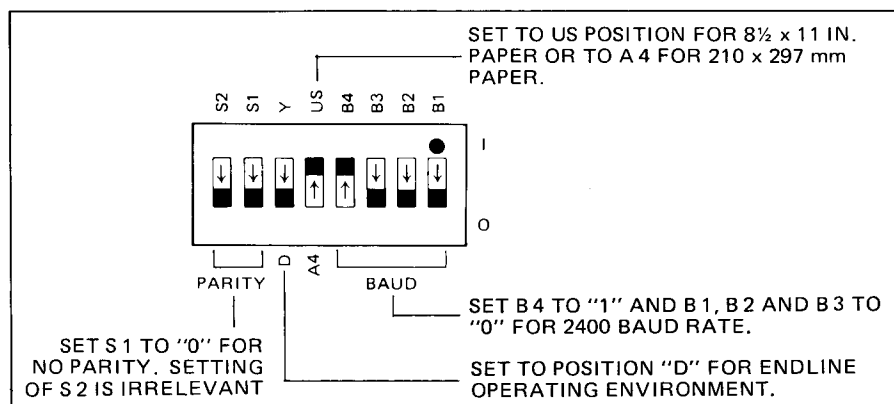
Connection Instructions

The illustration below shows how the HP 7470A-001 plotter is to be connected to your Apple III computer.



RS-232-C Cable Connection

Set the plotter switches as shown below.



Using the Apple III System Configuration Program, modify the RS-232-C Serial Driver by setting the Driver Configuration Block as follows (for more details, see the Apple III Standard Device Drivers Manual):

Byte	0	1	2	3	4	5	6	7	8	9	A	B
Value	0A	2E	00	00	00	00	00	00	00	00	00	80

This sets the driver to 2400 baud, 7 data bits, space for parity, and hardware handshaking.

Communication Verification

Run the following Apple Business BASIC program.

```

10 OPEN #1, ".RS232"
20 PRINT #1; "IN;SP1;PA500,500;"
30 PRINT #1; "LB COMMUNICATION OK"+CHR$(3)
40 PRINT #1; "PA0,0;SP0;"
50 CLOSE #1
60 END

```

Plotter labels: COMMUNICATION OK

Computer: Commodore CBM 8032

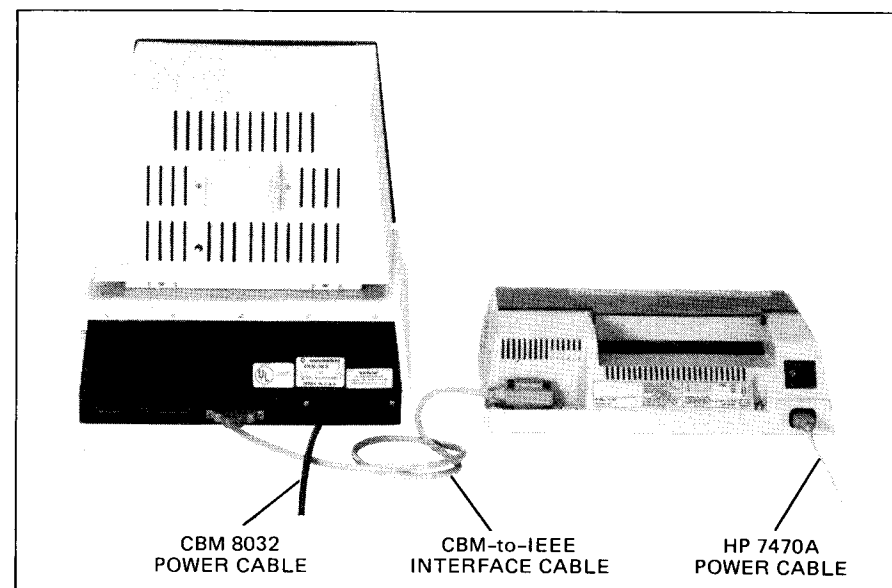
Plotter Interface Option: HP 7470A-002 (HP-IB)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-002
Commodore CBM System Unit	CBM 8032
CBM-to-IEEE Interface Cable	Commodore 320202

Connection Instructions

The illustration below shows how the HP 7470A-002 plotter is to be connected to your Commodore CBM 8032 computer. Set the plotter switches as shown at the beginning of this guide under "For All HP-IB Users."



CBM-to-IEEE Cable Connection

Communication Verification

Load pens and paper in the plotter and run the following BASIC program.

```
10 OPEN 5,5
20 PRINT#5,"IN;SP1;"
30 PRINT#5,"PA500,500;"
40 PRINT#5,"LBCOMMUNICATION OK";CHR$(3)
50 PRINT#5,"PA0,0;SP0;"
60 END
```

Plotter labels: COMMUNICATION OK

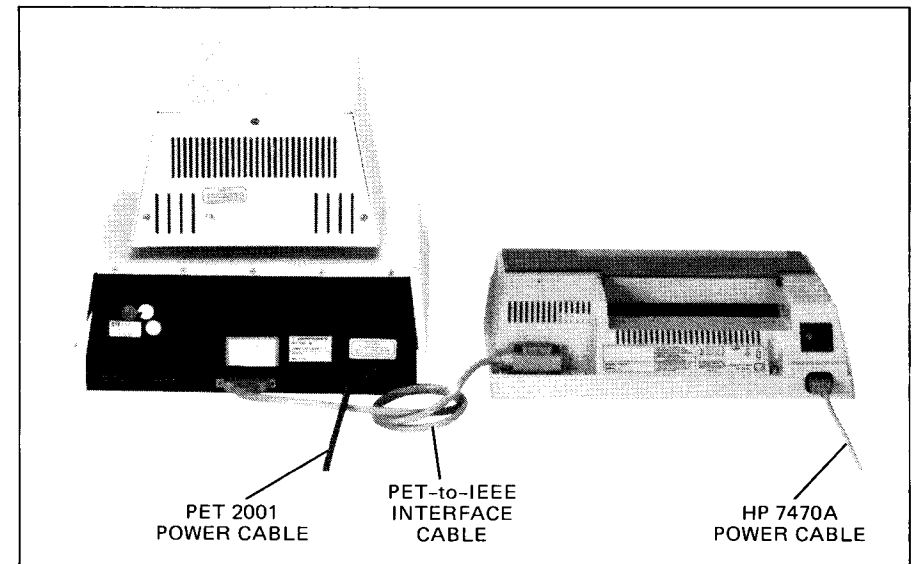
Computer: Commodore PET 2001 Plotter Interface Option: HP 7470A-002 (HP-IB)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-002
Commodore PET System Unit	PET 2001
PET-to-IEEE Interface Cable	Commodore 320201

Connection Instructions

The illustration below shows how the HP 7470A-002 plotter is to be connected to your Commodore PET 2001 computer. Set the plotter switches as shown at the beginning of this guide under "For All HP-IB Users."



PET-to-IEEE Cable Connection

Communication Verification

Load pens and paper in the plotter and run the following BASIC program.

```
10 OPEN 5,5
20 PRINT#5,"IN;SP1;"
30 PRINT#5,"PA500,500;"
40 PRINT#5,"LBCOMMUNICATION OK";CHR$(3)
50 PRINT#5,"PA0,0;SPO;"
60 END
```

Plotter labels: COMMUNICATION OK

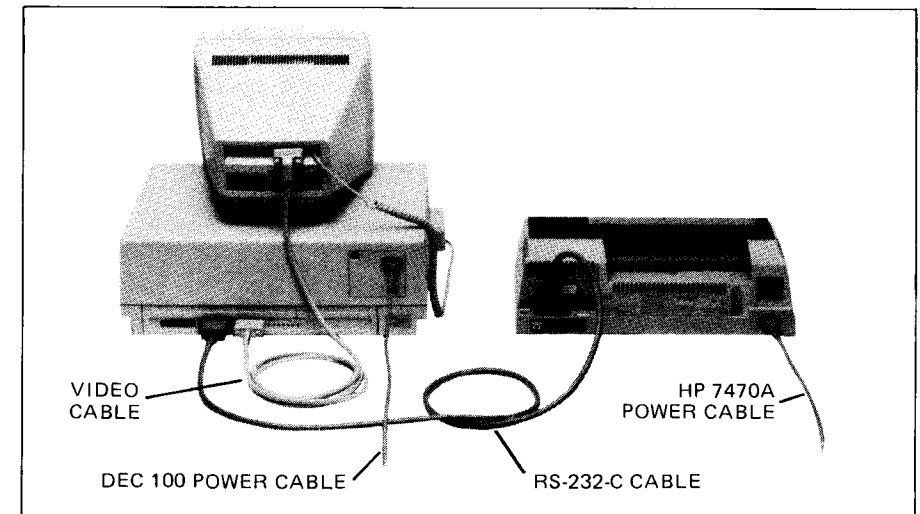
Computer: DEC Rainbow 100 Plotter Interface Option: HP 7470A-001 (RS-232-C/CCITT V.24)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-001
DEC Rainbow 100 Unit	—
Monochrome Display	—
Male-to-male RS-232-C Cable	HP 17355A or equivalent

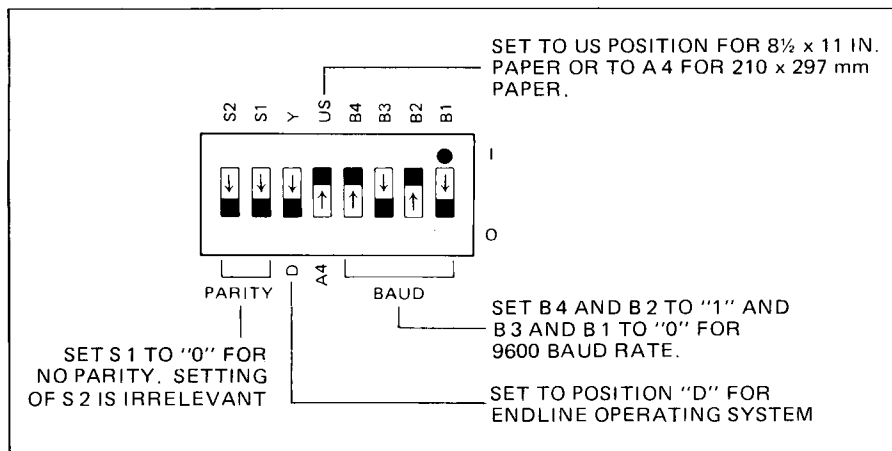
Connection Instructions

The photograph below shows how to connect the HP 7470A-001 to your DEC Rainbow 100 computer.



RS-232-C Cable Connection

Set the plotter switches on the back panel as shown by the following diagram.



Set the DEC 100's printer port configuration as follows: Press the "Set-Up" key, then press the "Next Screen" key three times to display the Printer set-up. Use the arrow keys to change the screen to read "8N=DATA B/P" and "9600=XMIT/RCV BAUD".

Communication Verification

Load pens and paper and run the following MBASIC program:

```
10 LPRINT "IN;"
20 LPRINT CHR$(27)+" .I80;0;17:"
30 LPRINT CHR$(27)+" .N0;19:"
40 LPRINT "SP1;PA500,500;"
50 LPRINT "LBCOMMUNICATION OK"+CHR$(3)
60 LPRINT "PA0,0;SP0;"
70 END
```

Plotter labels: COMMUNICATION OK

Computer: IBM Personal Computer Plotter Interface Option: HP 7470A-001 (RS-232-C/CCITT V.24)

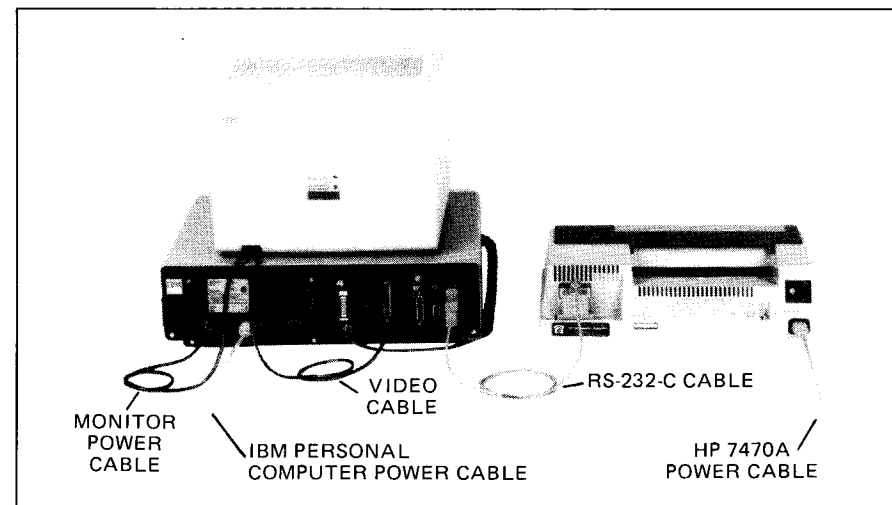
Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-001
IBM System Unit	—
Monochrome Display* or equivalent	—
IBM Asynchronous Communications Adapter	—
Male-to-female Special RS-232-C Cable	HP 17255B or equivalent

*Graphics Monitor with Color Graphics Adapter may also be used and is the recommended configuration.

Connection Instructions

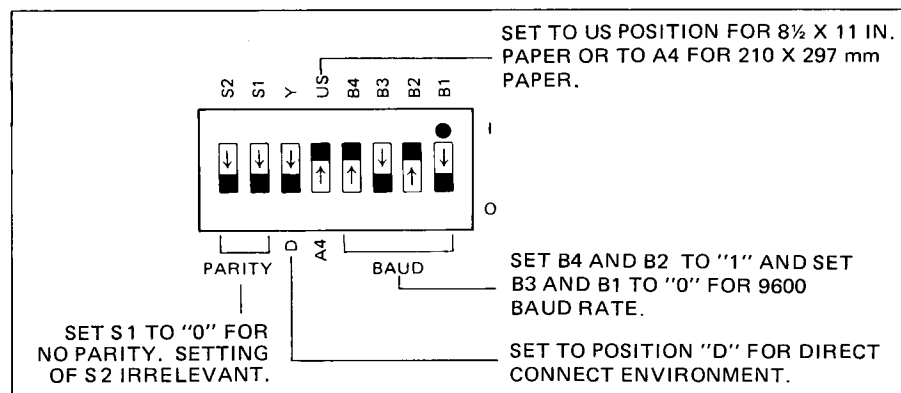
The illustration below shows how the HP 7470A-001 plotter is to be connected to your IBM Personal Computer.



RS-232-C Cable Connection

Communication Verification

Set the plotter switches as shown below, load pens and paper, and run the following BASIC 1.10 program.



```
10 OPEN "COM1:9600,S,7,1,RS,CS65535,DS,CD" AS #1
20 PRINT #1, "IN;SP 1;PA 500,500;"
30 PRINT #1, "LBCOMMUNICATION OK"+CHR$(3)
40 PRINT #1, "PA 0,0;SP 0;"
50 END
```

Plotter labels: COMMUNICATION OK

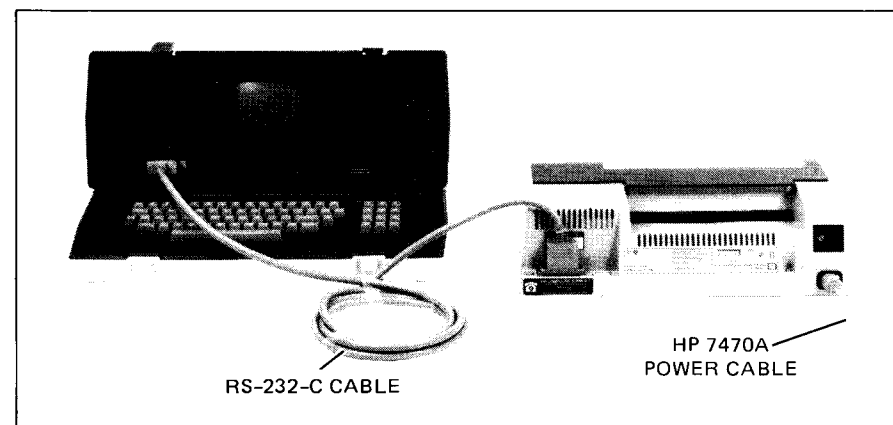
Computer: Osborne 1 Plotter Interface Option: HP 7470A-001 (RS-232-C/CCITT V.24)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-001
Osborne 1	—
Male-to-male RS-232-C Cable	HP 17355A or equivalent

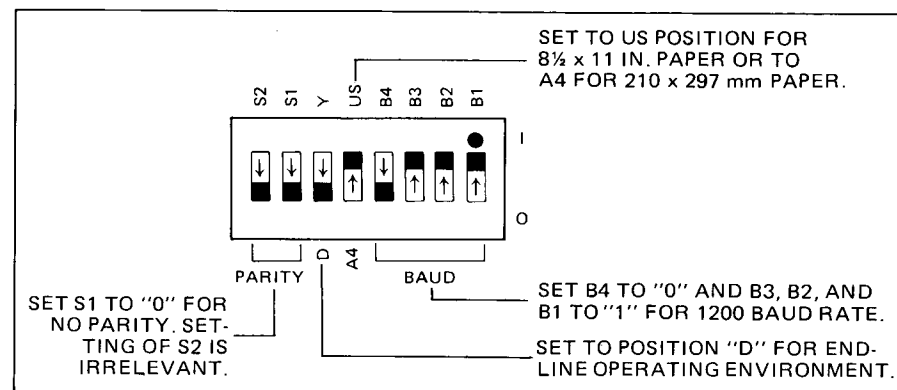
Connection Instructions

The illustration below shows how the HP 7470A-001 plotter is to be connected to your Osborne 1 computer.



RS-232-C Cable Connection

Set the plotter switches as shown below.



Communication Verification

Load pens and paper in the plotter and run the following MBASIC program.

```
10 LPRINT "IN;SP1;PA500,500;"
20 LPRINT "LB COMMUNICATION OK"+CHR$(3)
30 LPRINT "PRO,0;SPO;"
40 END
```

Plotter labels: COMMUNICATION OK

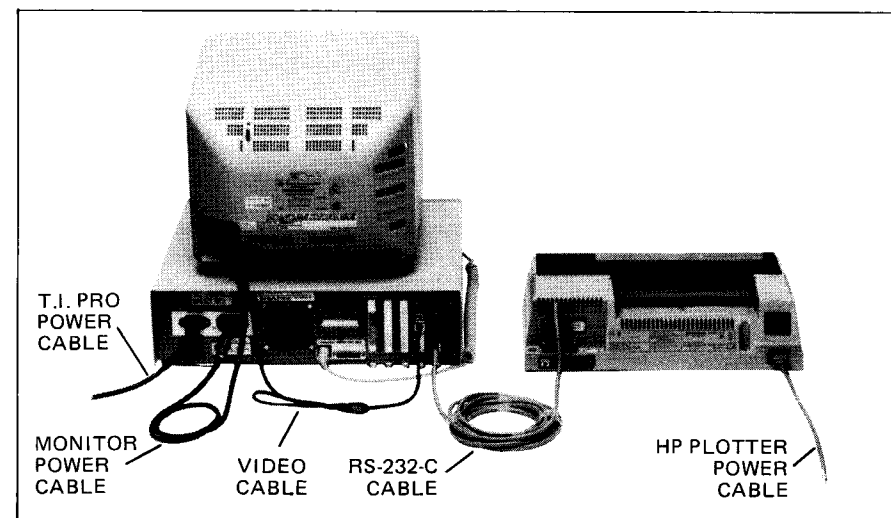
Computer: Texas Instruments Professional Computer Plotter Interface Option: HP 7470A-001 (RS-232-C/CCITT V.24)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-001
TI Professional Computer	—
Male-to-male RS-232-C Cable	HP 13242G or equivalent

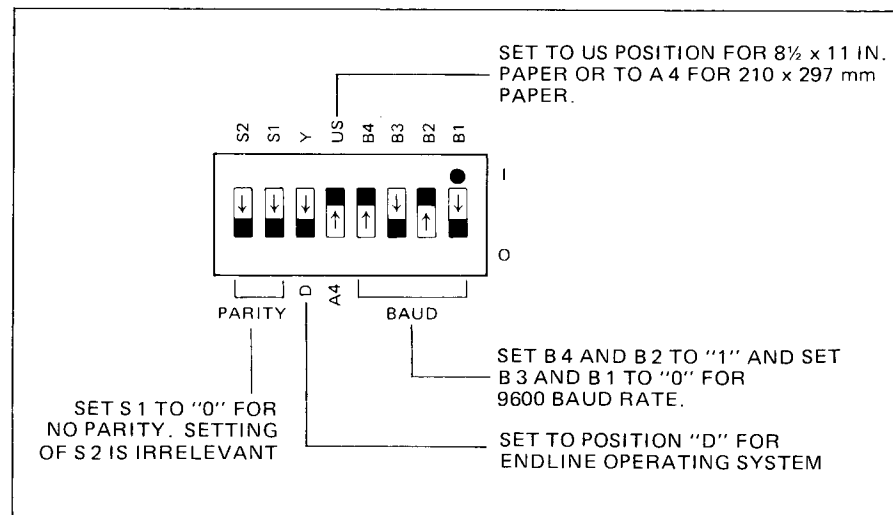
Connection Instructions

The photograph below shows how to connect the HP 7470A-001 to a Texas Instruments Professional Computer.



RS-232-C Cable Connection

Set the switches on the rear panel of the plotter as shown by the following diagram.



After loading the Disc Operating System (DOS) configure the system by entering "CONFIG P = S/S" and "CONFIG S=P1,9600,N,8,1,DSR/S".

The computer will save your entries on the DOS disc so the configuration will be set automatically anytime the operating system is loaded. You can check the entered configuration by entering "CONFIG". The following statements should appear on the screen: "Printer = Serial" and "Serial = P1_port, 9600_baud, No_parity, 8_databits, 1_stopbits, Dsr_busy."

Communication Verification

Load pens and paper and run the following MS-BASIC program:

```
10 OPEN "LPT1:" FOR OUTPUT AS #1
20 PRINT #1, "IN;SP1;PA500,500;"
30 PRINT #1, "LBCOMMUNICATION OK" + CHR$(3)
40 PRINT #1, "PA0,0;SPO;"
50 END
```

Plotter labels: COMMUNICATION OK

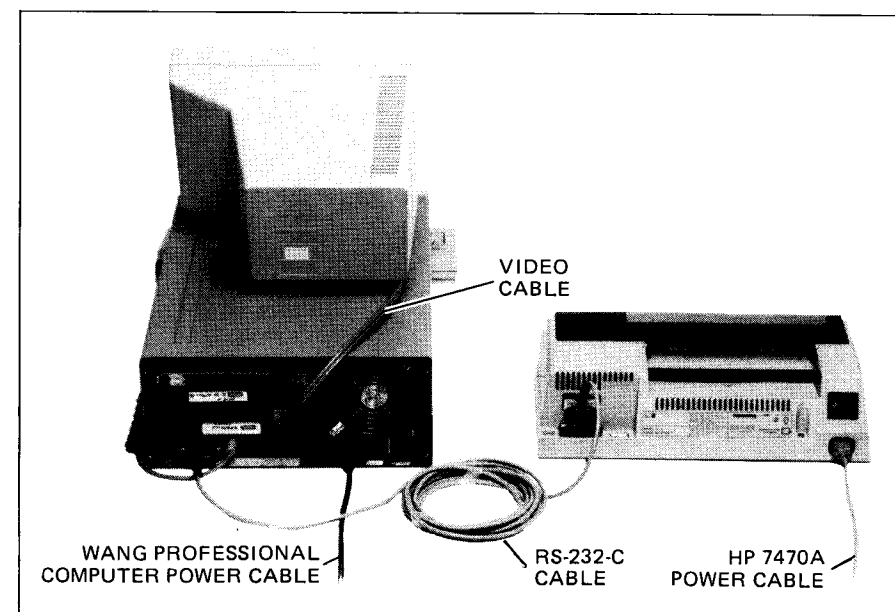
Computer: Wang Professional Computer Plotter Interface Option: HP 7470A-001 (RS-232-C/CCITT V.24)

Minimum System Configuration

Equipment	Model/Part Number
Graphics Plotter	HP 7470A-001
Wang System Unit (including Async Serial Port, MS™-DOS, MS™-Interpretive Basic)	—
Monochrome or Color Monitor	—
Male-to-male RS-232-C Cable	HP 13242G or equivalent

Connection Instructions

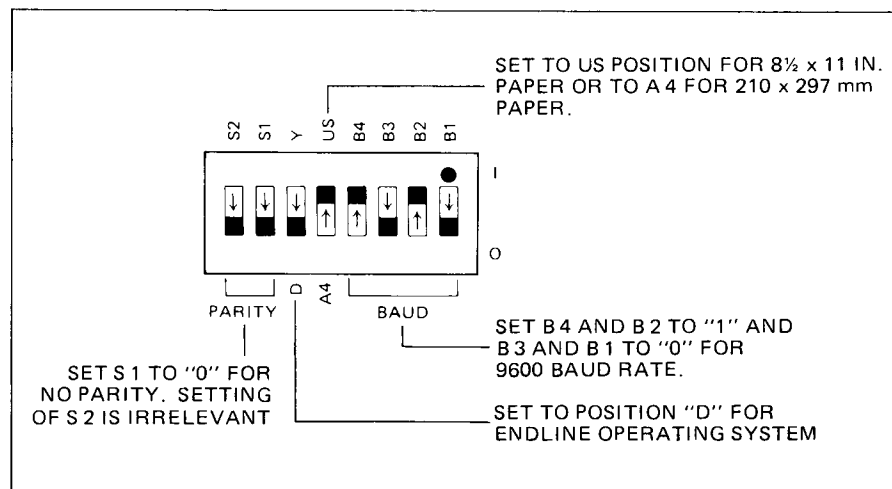
The photograph below shows how to connect the HP 7470A-001 to your Wang Professional Computer.



RS-232-C Cable Connection

MS is a trademark of Microsoft Corporation.

Set the plotter switches on the back panel as shown by the following diagram.



Communication Verification

Load pens and paper and run the following BASIC program:

```
10 OPEN "COM1:9600,N,8,1" AS #1
20 PRINT #1, "IN;SP1;PA500,500;"
30 PRINT #1, "LBCOMMUNICATION OK"+CHR$(3)
40 PRINT #1, "PA0,0;SP0;"
50 END
```

Plotter labels: COMMUNICATION OK