DATATEXT Program for the HP-75

100 DELAY 0
110 REM "IDX"
120 INPUT "DATA file: ".FS
130 DISP TAB(1);" Working "
140 ASIGN #1 TO FS
150 ASIGN #2 TO "XXX",TEXT
160 ON ERROR GOTO 210
170 READ #1;$S
180 OFF ERROR
190 PRINT #2; $S
200 GOTO 160
210 GOTO OFF ERROR
220 IF ERR=34 THEN BEEP @ DISP "ERROR line:ERRI at STOP"
230 ASIGN #1 TO * 
240 ASIGN #2 TO *
250 PURGE FS
260 RENAME "XXX" TO FS
270 DISP 'Done'
280 END

Create dummy TEXT file.
Set up end of file detection.
Read string item or numeric items in string format.
Save string item or string-formatted numeric items.
Error handling routine.
Copy new file to old file name.

For additional information about Hewlett-Packard's handheld computers in manufacturing solutions, call the HP office nearest you and ask for your technical computer or instrument representative. Local HP sales offices are listed in the white pages of your telephone book.

Hewlett-Packard
Handheld Computer and Calculator Operation
1000 N.E. Circle Blvd.
Corvallis, Oregon 97330
FULL DUPLEX HARDWIRED  Port 1

BaudRate 2880  Parity None  DataBits 8  Stop Bits 1  Clock 1  Handshake OFF

Asterisk TR(CD)  Check Parity No  SR(CH)  OFF

Recv Pace Xon/Xoff; SRRXmit  No  RR(CF)  Recv  No  CS(CD)  Xmit  No  DMIC(X)  Xmit  No

Xmit Pace Xon/Xoff; SRRInvert  No  CS(CD)  Xmit  No

Press (F1) to save the Port 1 configuration.
Press (F3) and (F4) simultaneously to return to the P.A.M. menu.

4. Configure MS-DOS as follows:
   - Run DEVICE CONFIG from the P.A.M. menu.
   - Set COM1 to Remote and press (F4) to save the configuration.
   - Press (F8) to exit DEVICE CONFIG.

5. Set up the system as follows:
   - Connect the RS-232C cable to the HP-IL/RS-232C Interface and to Port 1 of the HP 150.
   - Connect the HPIL cables to the HPIL/RS-232C Interface and to either the HP-71 or HP-75. NOTE: If using the HP-75, the interface
     must be the first device on the HPIL loop.

6. Program the HP 150 as follows:
   - Create a file entitled "DOWNLOAD" on the HP 150 using the
     commands listed below. This file will be used as a command file by
     Advanced/Link (or DSN/Link), and it is recommended that both
     reside on the same disc.
   - To create the file, use an HP 150 editor such as EDLIN, a word
     processing program such as WordStar® (in the NON-DOCUMENT
     MODE), or the MS-DOS Copy command (copy from console) command.
     To use the Copy command, run MS-DOS commands from the
     P.A.M. menu.
     - Type "Copy command" and type each line of text as it
       appears below. Refer to the Advanced/Link (or DSN/Link) Owner's
       Manual for a description of the commands used in the command file.
     - Where applicable, press (F8) and (F9) to input the control character
       "~" in the program.
     - Precede the file name with a disc drive identifier if the DOWN-LOAD
       file is to be created on a disc other than the default.
     - Press (F11) (F) to terminate the command, and type "PAM" to
       return to the P.A.M. menu.


Comment Home cursor and clear display Assign P1 to text Input filename for P1 Send file to host Send EOT character

Programming DATATEXT Program for the HP-71

Line # Keystrokes Comment
100 CALL DATATEXT  Save DELAY setting.
110 END  
120 SUB DATATEXT  
130 R$ ~ PEAKS(2P464,4)  Save display format.
140 DELAY 1  
150 D$ ~ PEAKS(2P169.5)  
160 STD  
170 DIM S(90)  
180 INPUT "DATA file: "",?;F$  
190 Disp "A1(0): " Working "  
200 CREATE TEXT XXX  Create dummy TEXT file.
210 ASSIGN #1 TO FS  
220 ASSIGN #2 TO XXX  
230 ON ERROR GOTO 310  
240 READ #1.N  
250 OFF ERROR  
260 S$ ~ STS(N)  
270 GOTO 290  
280 READ #1.$S  
290 PRINT #2.$S  
300 GOTO 290  
310 OFF ERROR  
320 IF ERR$ ~ 31 THEN 280  
330 IF ERR$ ~ 54 THEN BEEP 6 DISP 'ERR 1' ERL: ERRM$ @ PAUSE  
340 A2S(X) #1 TU *  
350 ASSIGN #2 TU *  
360 PURGEFS  
370 COPY XXX TO FS  
380 PURGE XXX  
390 POKE '2H49'; 0S  
400 DISP 'Done'  
410 POKE '2F46'; 85  
420 END SUB  

Program as next page.

WordStar® is a registered trademark of MicroPro International.
Appendix A

Converting DATA TEXT files in Preparation for Transfer

The following program, in separate versions for the HP 71 and HP 75, can be used to convert a DATA TEXT file into a TEXT file, thus extending the functionality of the XFERPC program. The program is analogous to a hypothetical BASIC command "TRANSFORM <data file> INTO TEXT", which is not available on the HP 71 or HP 75. (Actually, the transformation of an HP 75 BASIC file containing DATA statements into TEXT is possible, but the resulting TEXT file probably won't be in the format desired for data transfer.)

The program is called DATA TEXT (convert DATA file to TEXT) and works independently of the program called XFERPC. To use it in conjunction with XFERPC, run DATATEXT first to convert one or more DATA files to TEXT, then use XFERPC for the actual data transfer.

Because of the differences between DATA and TEXT files, DATATEXT must use an arbitrary method for conversion. The method is defined as follows:

- Each numeric item in a DATA file is converted to a string of the minimum number of numerals consistent with presenting maximum accuracy (this corresponds to the HP 75 display format and the HP 71 format STD). The numeral string is then stored sequentially into the TEXT file.
- Each string item in a DATA file is stored, unchanged, sequentially into the TEXT file. String items longer than 96 characters cause an error, and must be modified before using DATATEXT. (Refer to HP 71 or HP 75 Owner's Manual for details.)

Procedure

1. Load the correct version of DATA TEXT into the HP 71 or HP 75. Note that during the conversion process, DATATEXT requires that there be enough free RAM for both the original DATA file (in main memory) and the resulting TEXT file.
2. Type: RUN "DATATEXT"
   (ENGLISH) / (FIN)
   (Quotation marks are optional with the HP 75.)
3. At the prompt, "DATA file?", key in the name of the DATA file to be converted to TEXT and press [EN] / [FIN] / [EN] / [FIN]). With an HP 75, the DATA file must be in main memory; with an HP 71, a DATA file on mass storage or independent RAM can be indicated by appending a device specifier to the file name.
4. The computer will display "Working..." as each DATA item is converted to text and stored into a dummy TEXT file called "XXX".
   - When completed, the computer will purger the original DATA file, so be sure to keep a copy if needed.
   - Next, the computer will rename or copy the dummy TEXT file "XXX" to the original DATA file name, purge "XXX" (if applicable), and then display "Done".

Operation

Transferring files from the HP 71 or HP 75 to the HP 150 (Upload)

This section provides an explanation of the steps required to upload TEXT files from your handheld computer to the HP 150.

1. Configure the HP 150 and run Advance/Link (or DSN/Link).
2. From the main menu, press 1 (Logging Options), then 1 (Local file). Enter the name of the local log file (the file to be stored after uploading) and press [Return]. If a file by that name does not already exist, an asterisk will appear in the "Local File" and "Logging" key labels. The HP 150 is now ready to receive data.
3. Run "XFERPC" on the HP 71 or HP 75. Press [F4] to upload data. If it is not necessary to press [EN] / [FIN] / [EN] / [FIN]), Enter the name of the file to be downloaded from the HP 75. This name need not be the same name as the file being downloaded from the HP 150. "Uploading data..." will appear in the display.
4. Each line of uploaded data will appear in the display of the HP 150 as it is received. When the transfer is complete, press [F2] to store the uploaded file on disc.
5. "Transferring another file?" will appear in the display of the HP 71 or HP 75 when the transfer is complete. Press [F3] to transfer another file, or [F4] to end the program.

Transferring files from the HP 150 to the HP 71 or HP 75 (Download)

This section provides an explanation of the steps required to download files from the HP 150 to your handheld computer.

1. Configure the HP 150 and run Advance/Link (or DSN/Link).
2. From the main menu, press 1 (Command), then 1 (Command File). The HP 150 will prompt for the name of the command file to be used to download files to the handheld computer. Enter "DOWNLOAD", using a disc label identifier if necessary, and press [Return].
3. Run "XFERPC" on the HP 71 or HP 75. Press [F4] to download data. If it is not necessary to press [EN] / [FIN] / [EN] / [FIN]), Enter the name of the file to be downloaded from the HP 150. This name need not be the same name as the file being downloaded from the HP 150. "Downloading data..." will appear in the display. At this point the HP 71 or HP 75 is ready to receive data.
4. Run the HP 150, enter the name of the local file to be downloaded, being sure to include a disc label identifier if applicable. Press [Return] to begin the transfer. Once the data has been downloaded, "Transfer Complete" will appear in the display of the HP 150.
5. "Transferring another file?" will appear in the display of the HP 71 or HP 75 when the transfer is complete. Press [F3] to transfer another file, or [F4] to end the program.

6. Depending on the format of the HP 150 source file (the file being downloaded), the resulting HP 71 or HP 75 TEXT file may contain unnecessary "blank" lines. If these are unacceptable, they should be deleted.

HP 71/HP 75 to IBM PC/XT/AT File Transfers

This section provides an explanation of how to set up the system; enter the XFERPC program into your handheld computer, and set up script and command files for the Crosstalk software on the IBM.

Procedure

1. Set up the system as follows:
   - Connect the RS-232 cable to the HP 71/75 RS-232C interface and to COM1 of the IBM.
   - Connect the HP 44L cables to the HP 71/75 RS-232C interface and to either the HP 71 or HP 75. NOTE: If using the HP 75, the interface must be the first device on the HP 44L loop.
2. Enter the program XFERPC on either the HP 71 or HP 75. Be sure to use the BASIC program specified for the handheld computer you are using. If you are using the HP 75, the "HP 75 CMD5" file must be resident in the machine before loading XFERPC. (Both the Users' Library I/O Utilities and the HP 75 I/O ROM contain this file)
3. If you don't already have one, follow the Crosstalk instructions to create a working copy of the Crosstalk disc. Put this disc in drive B.
4. With the MS-DOS disk in drive A, use EDLIN to input the XFERPC.XTS Script File (see programs at the end of this note) onto the Crosstalk disc. Where applicable, press (F) and (G) to input the control character "*\*".

The IBM will prompt you with: A>
On IBM type in: edlin bolverc.xls
Press: ENTER

5. Make B the default drive. The IBM will prompt you with: A>
Type in: B
Press: ENTER
Then load the Crosstalk software. The IBM will prompt you with: B>
Type in: stalk
Press: ENTER

6. Choose NEWUSER from the selection displayed on the IBM. Set up the XFERPC.XTS file by responding to the prompts as follows (press ENTER after each response unless otherwise noted):

<table>
<thead>
<tr>
<th>Prompts</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter phone number:</td>
<td>555-555</td>
</tr>
<tr>
<td>Enter system name or comments:</td>
<td>XFERPC</td>
</tr>
<tr>
<td>0110.300.000.1200.2400.4800.9600</td>
<td>9600</td>
</tr>
<tr>
<td>Do you want to save this setup in a command file?</td>
<td>y (don't press: ENTER)</td>
</tr>
<tr>
<td>Save settings in what file?</td>
<td>XFERPC.XTS</td>
</tr>
<tr>
<td>To begin the ... command prompt: Press ENTER</td>
<td>LO XFERPC.XTS</td>
</tr>
</tbody>
</table>

7. Follow the instructions in the display on the IBM from this point on. Subsequent use of the routine will load XFERPC.XTS automatically when you load the XFERPC command file.

8. Sample prompts and responses for downloading a file named TEST from the IBM PC to the HP71 or HP75 are shown below.

On the IBM:

<table>
<thead>
<tr>
<th>Prompts</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you want to UPLOAD, DOWNLOAD or END transfer routine?</td>
<td>(S)</td>
</tr>
</tbody>
</table>

(IBM will display)
To DOWNLOAD a file to the HP71 or HP75:
ON HP: Run XFERPC, then following instructions in the display, choose D, enter file name.
ON IBM: As requested on the command line, press ENTER, then type SEND filename then ENTER again. When COMMAND? returns, transfer is done, type in DO then ENTER.

Script processing suspended - use DO alone to restart. press ENTER.
XFERPC Program for the HP-75 Handheld Computer

<table>
<thead>
<tr>
<th>Line</th>
<th>Keystrokes</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>ASSIGN 10 'RS'</td>
<td>Configure HP 82164A using Remote mode instructions</td>
</tr>
<tr>
<td>110</td>
<td>I REV A 681.85</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>DELAY 0</td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>DIM L[96]</td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>SENDIO 'RS';UNI,L,LAD#,'SBE;C3;C2,P4.5W0; S50,S7,'</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>SENDIO 'UNIRE'</td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>DISP 'Upload or Download?'</td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>KS = UPRC(KEYS) AT IF KS = -' THEN 170</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>IF KS = 'U' THEN GOSUB 280</td>
<td></td>
</tr>
<tr>
<td>190</td>
<td>IF KS = 'D' THEN GOSUB 430</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>IF KS = -'U' AND KS = -'D' THEN BEEP @ GOTO 160</td>
<td></td>
</tr>
<tr>
<td>210</td>
<td>BEEP 'Transfer another file?'</td>
<td></td>
</tr>
<tr>
<td>220</td>
<td>KS = UPRC(KEYS) @ IF KS = -' THEN 220</td>
<td></td>
</tr>
<tr>
<td>230</td>
<td>IF KS = 'Y' THEN 160</td>
<td></td>
</tr>
<tr>
<td>240</td>
<td>IF KS = 'N' THEN 410</td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>BEEP @ GOTO 210</td>
<td></td>
</tr>
<tr>
<td>260</td>
<td>OFF ERROR</td>
<td></td>
</tr>
<tr>
<td>270</td>
<td>DISP 'PC not found' @ BEEP @ WAIT 1</td>
<td></td>
</tr>
<tr>
<td>280</td>
<td>INPUT 'File to Upload:' , 'FS'</td>
<td></td>
</tr>
<tr>
<td>290</td>
<td>IF FS = -' THEN 290</td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>ON ERROR GOTO 260</td>
<td></td>
</tr>
<tr>
<td>310</td>
<td>CAT FS</td>
<td></td>
</tr>
<tr>
<td>320</td>
<td>OFF ERROR</td>
<td></td>
</tr>
<tr>
<td>330</td>
<td>DISP 'Uploading data...'</td>
<td></td>
</tr>
<tr>
<td>340</td>
<td>ASSIGN # 1 TO FS</td>
<td></td>
</tr>
<tr>
<td>350</td>
<td>ON ERROR GOTO 400</td>
<td></td>
</tr>
<tr>
<td>360</td>
<td>READ # 1 ; LS</td>
<td></td>
</tr>
<tr>
<td>370</td>
<td>OFF ERROR</td>
<td></td>
</tr>
<tr>
<td>380</td>
<td>SENDIO 'RS';UNI,L,LAD#,'L3&amp;CHR(13)&amp;CHR(10)'</td>
<td></td>
</tr>
<tr>
<td>390</td>
<td>GOTO 580</td>
<td></td>
</tr>
<tr>
<td>400</td>
<td>OFF ERROR</td>
<td></td>
</tr>
<tr>
<td>410</td>
<td>IF ERR = -34 THEN BEEP @ DISP 'ERROR line:EERR@STOP'</td>
<td></td>
</tr>
<tr>
<td>420</td>
<td>GOTO 570</td>
<td></td>
</tr>
<tr>
<td>430</td>
<td>INPUT 'File to Download:' , 'FS'</td>
<td></td>
</tr>
<tr>
<td>440</td>
<td>IF FS = -' THEN 430</td>
<td></td>
</tr>
<tr>
<td>450</td>
<td>DISP 'Downloading data...'</td>
<td></td>
</tr>
<tr>
<td>460</td>
<td>ASSIGN # 1 TO FS,TEXT</td>
<td></td>
</tr>
<tr>
<td>470</td>
<td>DIM L[13] [96]</td>
<td></td>
</tr>
<tr>
<td>480</td>
<td>L5 = -'</td>
<td></td>
</tr>
<tr>
<td>490</td>
<td>SENDIO 'RS';UNI,L,LAD#,'CHR(17)'</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>L5 = ENTOC('RS';UNI,L,LAD#,'SDA')</td>
<td></td>
</tr>
<tr>
<td>510</td>
<td>L5 = L5 &amp; L5</td>
<td></td>
</tr>
<tr>
<td>520</td>
<td>IF NOT POS(L5,CHR(13)) THEN 500</td>
<td></td>
</tr>
<tr>
<td>530</td>
<td>IF L5[1]' = -' THEN 520</td>
<td></td>
</tr>
<tr>
<td>540</td>
<td>PRENT # 1 : L5[1]:POS(L5,CHR(13))</td>
<td></td>
</tr>
<tr>
<td>550</td>
<td>L5 = L5[1]:POS(L5,CHR(13))</td>
<td></td>
</tr>
<tr>
<td>560</td>
<td>IF POS(L5,CHR(13)) THEN 530 ELSE 490</td>
<td></td>
</tr>
<tr>
<td>570</td>
<td>ASSIGN # 1 TO *</td>
<td></td>
</tr>
<tr>
<td>580</td>
<td>DISP 'Transfer Complete'</td>
<td></td>
</tr>
<tr>
<td>590</td>
<td>WAIT 1</td>
<td></td>
</tr>
<tr>
<td>600</td>
<td>RETURN</td>
<td></td>
</tr>
<tr>
<td>610</td>
<td>DISP 'Done'</td>
<td></td>
</tr>
<tr>
<td>620</td>
<td>END</td>
<td></td>
</tr>
</tbody>
</table>

9. Implement the above instructions by doing the following:
   - On the HP-71 or HP-75, key in: run XFERPC (quotation marks are optional on the HP-71).
   - Subsequent HP-71 or HP-75 prompts and your responses are:

<table>
<thead>
<tr>
<th>Prompts</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upload or Download?</td>
<td>(D)</td>
</tr>
<tr>
<td>File to Download:</td>
<td>TEST</td>
</tr>
<tr>
<td>Downloading data...</td>
<td>(no response needed)</td>
</tr>
</tbody>
</table>

- Prompts and responses on the IBM are:

<table>
<thead>
<tr>
<th>Prompts</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command?</td>
<td>ENTER</td>
</tr>
<tr>
<td>Sending a fast press Esc to stop</td>
<td>(no response needed)</td>
</tr>
</tbody>
</table>

- Subsequent command lines on the IBM should be similar to the following:

<table>
<thead>
<tr>
<th>Prompts</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command?</td>
<td>do</td>
</tr>
<tr>
<td>Do you want to transfer another file?</td>
<td>Y or N</td>
</tr>
</tbody>
</table>

Operation

Transferring files between the IBM and HP-71 or HP-75 (Upload and Download):

This section provides an explanation of the steps required to upload and download files between the IBM and HP-71 or HP-75.

1. The first time you transfer files, follow all the steps described in the Procedure section. Then:
   - Choose XFERPC from the selection displayed on the IBM.
   - To upload or download files, type in (Y) or (N) and follow the instructions in the IBM display.

2. After the first time you transfer files, follow steps 1, 2 and 5 in the Procedure section. Then:
   - You will have the opportunity to end the transfer routine when you are finished uploading and downloading files. The IBM will display: Do you want to transfer another file? Y or N.
   - Press (Y) or (N) and follow the prompts.
   - The HP-71 or HP-75 will display: Transfer another file?
   - Press (Y) to transfer another file or (N) to end the program.

4. Depending on the format of the IBM source file (the file being downloaded), the resulting HP-71 or HP-75 TEXT file may contain unnecessary "blank" lines. If these are unacceptable, they should be deleted.
Programming

XERPC Program for the HP-51 Handheld Computer

Line # Keystrokes Comment
100 CALL XERPC @ END 'REV A 8/01/85
110 SUB XERPC1
120 RS = PEEK(21H) 4
130 DELAY 0,0
140 DBM L3@P6
150 RESTORE IO
160 REMOTE RS232
170 OUTPUT RS232
170 ;82E CO.CIP.CSW0.SSW8.SL2
180 LOCAL
190 DISP 'Upload or Download?'
200 K5 = KEYS @ IF K5 = ' ' THEN 200
210 IF S5 = 'U' THEN GOSUB 310
220 IF S5 = 'D' THEN GOSUB 460
230 IF K5 = '<' AND S5 = '>' THEN BEEP
240 GOTO 190
250 DISP 'Transfer another file?'
260 S5 = 'Y' THEN 250
270 IF K5 = 'N' THEN 680
280 BEEP @ GOTO 240
290 OFF ERROR
300 DISP FS: not found @ BEEP WAIT 1
310 INPUT 'File to Upload: ' @ F5
320 IF FS = '?' THEN 310
330 ON ERROR GOTO 290
340 CAT FS
350 OFF ERROR
360 DISP 'Uploading data...'
370 GOTO #1 TO FS
380 ON ERROR GOTO 430
390 READ @#1@LS
400 OFF ERROR
410 OUTPUT RS232 ,LS

Line # Keystrokes Comment
420 GOTO 380
430 OFF ERROR
440 IF ERRIN<>54 THEN BEEP @ DISP
450 RS: ERR1,ERR2, ERR3 @ PAUSE
460 GOTO 380
470 INPUT 'File to Download: ' @ FS
480 IF FS = ' ' THEN 460
490 DISP 'Downloading data...'
500 CREATE TEXT FS
510 ASSIGN #1 TO FS
520 DIM L1@P6
530 F = FLA(#23,1)
540 OUTPUT RS232 USING '#',K,CHR$(17)
550 ENTER RS232 ,L1$L
560 LS = L1&L1S
570 IF NOT POS(LS,CHR$(13)) THEN 550
580 IF L1[1] = CHR$(0) THEN 620
590 PRINT #1,L1S,POS(LS,CHR$(13))-1
600 LS = L1[POS(LS,CHR$(13))-1]
610 IF POS(LS,CHR$(13)) THEN 580 ELSE 540
620 F = FLA(#23,F)
630 ASSIGN #1 TO *
640 DISP 'Transfer complete'
650 WAIT 1
660 RETURN
670 DISP 'Done'
680 POKK '25946',RS
690 END SUB
700 SUB VER(V$)
710 VS = 'W' @ END SUB

Save delay setting.
Configure HP 82164A using remote mode instructions.
Upload to PC.
Download from PC.
Transfer another file.
End program.
Error handling routine.
Nonexistent file name.
Upload routine.
Insure specified file exists.
Prepare for end-of-file condition.

Read a line of text.

If not end of file, error halts program.
Download routine.
Save flag -23 setting and set flag -23.
Signal PC to send a line of text.
Receive data from PC.
Add data to current line.
Check for end of record.
Check for end of file.
Store a line of text.
Update current line.
Check for another end-of-record.
Restore flag -23 setting.
Restore delay setting.
Version subprogram.
<table>
<thead>
<tr>
<th>Line</th>
<th>Keystrokes</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>CALL XFERPC @ END 'REV A 8/01/85</td>
<td>Save delay setting.</td>
</tr>
<tr>
<td>110</td>
<td>SUB XFERPC</td>
<td>Configure HP 82164A using remote mode instructions.</td>
</tr>
<tr>
<td>120</td>
<td>R# = PEEK(25946,4)</td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>DELAY 0.0</td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>DBM LSP</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>RESTORE IO</td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>REMOTE RS232</td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>OUTPUT RS232</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>;58E0;CO;CP;PL;SW05;SS05;BL;2;</td>
<td></td>
</tr>
<tr>
<td>190</td>
<td>LOCAL</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>DISP 'Upload or Download?'</td>
<td>Upload to PC.</td>
</tr>
<tr>
<td>210</td>
<td>IF KS = 'Y' THEN GOSUB 310</td>
<td>Download from PC.</td>
</tr>
<tr>
<td>220</td>
<td>IF KS = 'D' THEN GOSUB 460</td>
<td></td>
</tr>
<tr>
<td>230</td>
<td>IF KS = 'U' AND KS = 'D' THEN BEEP @ GOTO 190</td>
<td></td>
</tr>
<tr>
<td>240</td>
<td>DISP 'Transfer another file?'</td>
<td>Transfer another file.</td>
</tr>
<tr>
<td>250</td>
<td>KS = KEYS @ IF KS = 'Y' THEN 250</td>
<td></td>
</tr>
<tr>
<td>260</td>
<td>IF KS = 'Y' THEN 190</td>
<td>End program.</td>
</tr>
<tr>
<td>270</td>
<td>IF KS = 'N' THEN 680</td>
<td>Error handling routine.</td>
</tr>
<tr>
<td>280</td>
<td>BEEP @ GOTO 240</td>
<td>Nonexistent file name.</td>
</tr>
<tr>
<td>290</td>
<td>OFF ERROR</td>
<td>Upload routine.</td>
</tr>
<tr>
<td>300</td>
<td>DISP FS = 'not found' @ BEEP @ WAIT 1</td>
<td>Insure specified file exists.</td>
</tr>
<tr>
<td>310</td>
<td>INPUT 'File to Upload: ',?,?5</td>
<td>Prepare for end-of-file condition.</td>
</tr>
<tr>
<td>320</td>
<td>IF FS = '? THEN 310</td>
<td>Read a line of text.</td>
</tr>
<tr>
<td>330</td>
<td>ON ERROR GOTO 290</td>
<td></td>
</tr>
<tr>
<td>340</td>
<td>CAT FS</td>
<td></td>
</tr>
<tr>
<td>350</td>
<td>OFF ERROR</td>
<td></td>
</tr>
<tr>
<td>360</td>
<td>DISP 'Uploading data...'</td>
<td></td>
</tr>
<tr>
<td>370</td>
<td>ASSIGN #1 TO FS</td>
<td></td>
</tr>
<tr>
<td>380</td>
<td>ON ERROR GOTO 430</td>
<td></td>
</tr>
<tr>
<td>390</td>
<td>READ #1;L;S</td>
<td></td>
</tr>
<tr>
<td>400</td>
<td>OFF ERROR</td>
<td></td>
</tr>
<tr>
<td>410</td>
<td>OUTPUT RS232 ,L;S</td>
<td></td>
</tr>
</tbody>
</table>

**Line**

<table>
<thead>
<tr>
<th>Keystrokes</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>420</td>
<td>GOTO 380</td>
</tr>
<tr>
<td>430</td>
<td>OFF ERROR</td>
</tr>
<tr>
<td>440</td>
<td>IF ERR = ? THEN BEEP @ DISP 'ERR U?ERRL=7'; ERRMS @ PAUSE</td>
</tr>
<tr>
<td>450</td>
<td>GOTO 380</td>
</tr>
<tr>
<td>460</td>
<td>INPUT 'File to Download: ',?,?5</td>
</tr>
<tr>
<td>470</td>
<td>IF FS = '?' THEN 460</td>
</tr>
<tr>
<td>480</td>
<td>DISP 'Downloading data...'</td>
</tr>
<tr>
<td>490</td>
<td>CREATE TEXT FS</td>
</tr>
<tr>
<td>500</td>
<td>ASSIGN #1 TO FS</td>
</tr>
<tr>
<td>510</td>
<td>DIM L1[P9]</td>
</tr>
<tr>
<td>520</td>
<td>F = FLAG(23,1)</td>
</tr>
<tr>
<td>530</td>
<td>LS =</td>
</tr>
<tr>
<td>540</td>
<td>OUTPUT RS232 USING '#',K;CHR(17)</td>
</tr>
<tr>
<td>550</td>
<td>ENTER RS232 ,L;S</td>
</tr>
<tr>
<td>560</td>
<td>LS = L;L&amp;L;S</td>
</tr>
<tr>
<td>570</td>
<td>IF NOT POS(LS,CHR(13)) THEN 550</td>
</tr>
<tr>
<td>590</td>
<td>PRINT #1,L[L1],POS(LS,CHR(13)) - 1</td>
</tr>
<tr>
<td>600</td>
<td>LS = L[L;POS(LS,CHR(13)) - 1]</td>
</tr>
<tr>
<td>610</td>
<td>IF POS(LS,CHR(13)) THEN 580 ELSE 540</td>
</tr>
<tr>
<td>620</td>
<td>F = FLAG(23,3)</td>
</tr>
<tr>
<td>630</td>
<td>ASSIGN #1 TO *</td>
</tr>
<tr>
<td>640</td>
<td>DISP 'Transfer complete'</td>
</tr>
<tr>
<td>650</td>
<td>WAIT 1</td>
</tr>
<tr>
<td>660</td>
<td>RETURN</td>
</tr>
<tr>
<td>670</td>
<td>DISP 'Done'</td>
</tr>
<tr>
<td>680</td>
<td>POKE '25946',RS</td>
</tr>
<tr>
<td>690</td>
<td>END SUB</td>
</tr>
<tr>
<td>700</td>
<td>SUB VER(V$)</td>
</tr>
<tr>
<td>710</td>
<td>VS = 'A' @ END SUB</td>
</tr>
</tbody>
</table>
XFERPC Program for the HP-75 Handheld Computer

Line  #Keystrokes  Comment
100 ASSIGN K1 'RYS'  Configure HP232A using Remote mode instructions
110 'REV A 640.85'
120 DELL 0
130 DIM L[S][96]
140 SENDIO 'RYS',UNL,LEN,LADK","SRE,CO(C2,PL5W0),
150 SENDIO 'UNL', "'
160 DISP 'Upload or Download?'
170 IF KS=UPR(S(KEYS)) AND KS=1 THEN 170
180 IF KS='U' THEN GOSUB 280
190 IF KS='D' THEN GOSUB 430
200 IF KS=U' AND KS=D' THEN BEEP @ GOTO 160
210 DSO 'Transfer another file?'
220 IF KS=UPR(S(KEYS)) THEN 220
230 IF KS='Y' THEN 160
240 IF KS='N' THEN 410
250 BEEP @ GOTO 210
260 OFF ERROR
270 DISP 'PC not found @ BEEP @ WAIT 1
280 INPUT 'File to Upload: ',_;FS
290 IF FS='N' THEN 290
300 CN ERROR GOTO 260
310 CAT FS
320 OFF ERROR
330 DSO 'Uploading data...'
340 ASSIGN #1 TO FS
350 ON ERROR GOTO 400
360 READ #1 LS
370 OFF ERROR
380 SENDIO 'RYS',LADK",L$&CHR$(13)&CHR$(10)
390 GOTO 260
400 OFF ERROR
410 IF ERR=-34 THEN BEEP @ DSO 'ERROR line:ERRR @ STOP
420 GOTO 570
430 INPUT 'File to Download: ',_;FS
440 IF FS='N' THEN 440
450 DSO 'Downloading data...
460 ASSIGN #1 TO FS,TEXT
470 DBM L[1][96]
480 L$="'
490 SENDIO 'RYS',LADK",CHR$(17)
500 L$='ENTRY('RYS',LADK",SDA)
510 LS='"&LS,A
520 IF NOT POS(LS&,CHR$(13)) THEN 500
530 IF L$[1]=CHR$(4) THEN 520
540 PRENT #1 LS,CHR$(13)-1
550 LS-=LS[POS(LS&,CHR$(13)-1]
560 IF POS(LS&,CHR$(13)) THEN 530 ELSE 490
570 ASSIGN #1 TO
580 DSO 'Transfer Complete'
590 WAIT 1
600 RETURN
610 DSO 'Done'
620 END

9. Implement the above instructions by doing the following:
   ■ On the HP-71 or HP-75, key in: run XFERPC (quotation marks are optional with the HP-71)
   ■ Subsequent HP-71 or HP-75 prompts and your responses are:

   **Prompts**  **Responses**
   Upload or Download? [D]  D
   File to Download: [F] or [T]  TEST
   Downloading data... (no response needed)

   ■ Prompts and responses on the IBM are:

   **Prompts**  **Responses**
   Send test [E]  send test
   [no response needed]
   Subsequent command lines on the IBM should be similar to the following:

   **Prompts**  **Responses**
   Command? [D]  do
   Do you want to transfer another file? [y] or [n]  y or n
   0 or 1

**Operation**

Transferring files between the IBM and HP-71 or HP-75 (Upload and Download)

This section provides an explanation of the steps required to upload and download files between the IBM and HP-71 or HP-75:

1. The first time you transfer files, follow all the steps described in the Procedure section.
2. After the first time you transfer files, follow steps 1, 2 and 5 in the Procedure section. Then:
   ■ Choose XFERPC from the selection displayed on the IBM.
   ■ To upload or download files, type in [D] or [T] and follow the instructions in the IBM display.
3. You will have the opportunity to end the transfer routine when you are finished uploading and downloading files. The IBM will display: Do you want to transfer another file? Y or N
4. Press [T] or [D] and follow the prompts. The HP-71 or HP-75 will display: transfer another file?
   ■ Press [T] to transfer another file or [D] to end the program.
5. Depending on the format of the IBM source file (the file being downloaded), the resulting HP-71 or HP-75 TEXT file may contain unnecessary "blank" lines. If these are unacceptable, they should be deleted.
4. With the MS-DOS disk in drive A, use EDLIN to input the XFERPC.XTS Script File (see programs at the end of this note) onto the Crosstalk disc. Where applicable, press (X) and (S) to input the control character *-*.

The IBM will prompt you with: A> 
On IBM type in: edlin bosterpc.xts 
Press: (ENTER)

5. Make B the default drive. The IBM will prompt you with: A> 
Type in: B: 
Press: (ENTER)
Then load the Crosstalk software. The IBM will prompt you with: B> 
Type in: stalk 
Press: (ENTER)

6. Choose NEWUSER from the selection displayed on the IBM. Set up the XFERPC.XTS file by responding to the prompts as follows (press (ENTER) after each response unless otherwise noted):

<table>
<thead>
<tr>
<th>Prompts</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter phone number:</td>
<td>RS232</td>
</tr>
<tr>
<td>Enter system name or comments:</td>
<td>XFERPC</td>
</tr>
<tr>
<td>Date:</td>
<td>9/90</td>
</tr>
<tr>
<td>Do you want to save this setup in a command file?</td>
<td>y (don’t press ENTER)</td>
</tr>
<tr>
<td>Save settings in what file?</td>
<td>XFERPC.XTS</td>
</tr>
<tr>
<td>To begin the command prompt:</td>
<td>Press (ENTER) LO XFERPC.XTS</td>
</tr>
</tbody>
</table>

7. Follow the instructions in the display on the IBM from this point on. Subsequent use of the routine will load XFERPC.XTS automatically when you load the XFERPC command file.

8. Sample prompts and responses for downloading a file named TEST from the IBM PC to the HP71 or HP75 are shown below.

   On the IBM:

   Prompts | Response
   --------|---------
   Do you want to UPLOAD, DOWNLOAD or END transfer routine? | (X)
   (IBM will display)
   To DOWNLOAD a file to the HP71 or HP75: 
   ON HP: Run XFERPC, then following instructions in the display, choose D, enter filename.
   ON IBM: As requested on the command line, press ENTER, then type SEND filename then ENTER again. When COMMAND? returns, transfer is done, type in DO then ENTER.

   Script processing suspended — use DO alone to restart, press (ENTER).
Appendix A

Converting DATA TEXT to TEXT Files in Preparation for Transfer

The following program, in separate versions for the HP-71 and HP-75, can be used to convert a DATA file into a TEXT file, thus extending the functionality of the XFERPC program. This program is analogous to a hypothetical BASIC command “TRANSFORM <data file> INTO TEXT,” which is not available on the HP-71 or HP-75. (Actually, the transformation of an HP-75 BASIC file containing DATA statements into TEXT is possible, but the resulting TEXT file probably won’t be in the format desired for data transfer.)

The program is called DATA TEXT (convert DATA file to TEXT) and works independently of the program called XFERPC, to use it in conjunction with XFERPC, run DATA TEXT first to convert one or more DATA files to TEXT, then use XFERPC for the actual data transfer.

Because of the difference between DATA and TEXT files, DATA TEXT must use an arbitrary method for conversion. The method is defined as follows:

- Each numeric item in a DATA file is converted to a string of the minimum number of characters necessary to maintain maximum accuracy (this corresponds to the HP-75 display format and the HP-71 format STD). The string is then stored sequentially into the TEXT file.
- Each string item in a DATA file is stored, unchanged, sequentially into the TEXT file. String items longer than 96 characters cause an error, and must be modified before using DATA TEXT. (Refer to HP-71 or HP-75 Owner's Manual for details.)

Procedure

1. Load the correct version of DATA TEXT into the HP-71 or HP-75. Note that during the conversion process, DATA TEXT requires that there be enough free RAM for both the original DATA file (in main memory) and the resulting TEXT file.
2. Type: RUN "DATA TEXT" (English) or RUN (Quotation marks are optional with the HP-71).
3. At the prompt, “DATA file:?” key in the name of the DATA file to be converted to TEXT and press [ENT] (EN). With an HP-75, the DATA file must be in main memory; with an HP-71, a DATA file on mass storage or independent RAM can be indicated by appending a device specifier to the file name.
4. The computer will display “Working...” as each DATA file item is converted to text and stored into a dummy TEXT file called “XXX.”
   - When completed, the computer will purge the original DATA file, so be sure to keep a copy if needed.
   - Next, the computer will rename or copy the dummy file into the original DATA file name, purge “XXX” (if applicable), and then display “Done.”

Operation

Transferring files from the HP-71 or HP-75 to the HP-150 (Upload)

This section provides an explanation of the steps required to upload TEXT files from your handheld computer to the HP 150.

1. Configure the HP 150 and run Advance/Link (or DSN/Link).
2. From the main menu, press [F] (Logging Options), then [F] (Local file). Enter the name of the local log file (the file to be stored after uploading) and press [ENT]. If a file by that name does not already exist, an asterisk will appear in the “Local File” and “Logging” key labels. The HP 150 is now ready to receive data.
3. Run “XFERPC” on the HP-71 or HP-75. When prompted, press [D] to upload data. It is not necessary to press [EN] (EN). Enter the name of the file you wish to upload to the HP 150. “Uploading data...” will appear in the display.
4. Each line of uploaded data will appear in the display of the HP 150 as it is received. When the transfer is complete, press [ENT] to store the uploaded file on disc.
5. “Transfer another file?” will appear in the display of the HP 71 or HP-75 when the transfer is complete. Press [Y] to transfer another file, or [N] to end the program.

Transferring files from the HP 150 to the HP-71 or HP-75 (Download)

This section provides an explanation of the steps required to download files from the HP 150 to your handheld computer.

1. Configure the HP 150 and run Advance/Link (or DSN/Link).
2. From the main menu, press [F] (Command), then [F] (Command File). The HP 150 will prompt for the name of the command file to be used to download files to the handheld computer. Enter “DOWNLOAD,” using a disc label identifier if necessary, and press [ENT].
3. Run “XFERPC” on the HP-71 or HP-75. Press [D] to download data. (It is not necessary to press [EN] (EN).) Enter the name of the file to be downloaded from the HP 150. This name need not be the same name as the file being downloaded from the HP 150. “Downloading data...” will appear in the display. At this point the HP-71 or HP-75 is ready to receive data.
4. On the HP 150, enter the name of the local file to be downloaded, being sure to include a disc label identifier if applicable. Press [ENT] to begin the transfer. Once the data has been downloaded, “Transfer Complete” will appear in the display of the HP 150.
5. “Transfer another file?” will appear in the display of the HP 71 or HP-75 when the transfer is complete. Press [Y] to transfer another file, or [N] to end the program.

6. Depending on the format of the HP 150 source file (the file being downloaded), the resulting HP 71 or HP-75 TEXT file may contain unnecessary “blank” lines. If these are unacceptable, they should be deleted.

HP-71/HP-75 to IBM PC XT/AT File Transfers

This section provides an explanation of how to set up the system; enter the XFERPC program into your handheld computer, and set up script and command files for the Crosstalk software on the IBM.

Procedure

1. Set up the system as follows:
   - Connect the RS-232C cable to the HP-71/HP-75 RS-232C Interface and COM1 of the IBM.
   - Connect the HP-71/75 cables to the HP-71/HP-75 Interface and either the HP-71 or HP-75. NOTE: If using the HP-75, the interface must be the first device on the HP-71.
2. Enter the program XFERPC on either the HP-71 or HP-75. Be sure to use the BASIC program specified for the handheld computer you are using. If you are using the HP-75, the HP-75'S CP detergent file must be resident in the machine before loading XFERPC. (Both IBM Library 101 Utilities and the HP-71/75 ROM contain this file.)
3. If you do not already have one, follow the Crosstalk instructions to create a working copy of the Crosstalk disk. Put this disk in drive B.
FULL DUPLex HARDWIRED

Port 1

<table>
<thead>
<tr>
<th>Baud Rate</th>
<th>9600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parity</td>
<td>None</td>
</tr>
<tr>
<td>Data Bits</td>
<td>8</td>
</tr>
<tr>
<td>Stop Bits</td>
<td>1</td>
</tr>
<tr>
<td>Clock</td>
<td>IT</td>
</tr>
<tr>
<td>TR(CD)</td>
<td>H</td>
</tr>
<tr>
<td>Check Parity</td>
<td>L0</td>
</tr>
<tr>
<td>Receiver</td>
<td>Xon/Xoff, SRRXmor</td>
</tr>
<tr>
<td>Transmitter</td>
<td>Xon/Xoff, SRRXm</td>
</tr>
</tbody>
</table>

- Press (IT) to save the Port 1 configuration.
- Press (H) and (L0) simultaneously to return to the P.A.M. menu.

4. Configure MS-DOS as follows:
   - Run DEVICE CONFIG from the P.A.M. menu.
   - Set COM1 to Remote and press (H) to save the configuration.
   - Press (H) to exit DEVICE CONFIG.

5. Set up the system as follows:
   - Connect the RS-232C cable to the HP-IL/RS-232C Interface and to Port 1 of the HP 150.
   - Connect the HPIL cables to the HPIL/RS-232C Interface and to either the HP-71 or HP-75. NOTE: If using the HP-75, the interface must be the first device on the HPIL loop.

6. Program the HP 150 as follows:
   - Create a file entitled "DOWNLOAD" on the HP 150 using the commands listed below. This file will be used as a command file by Advance/Link (or DSN/Link), and it is recommended that both reside on the same disc.
   - To create the file, use an HP 150 editor such as EDLIN, a word processing program such as WordStar® (in the NON-DOCUMENT MODE), or the MS-DOS Copy command (copy from console) command. To use the Copy command, run MS-DOS commands from the P.A.M. menu.
   - Type "Copy con DOWNLOAD" and type each line of text as it appears below. Refer to the Advance/Link (or DSN/Link) Owner's Manual for a description of the commands used in the command file.
   - Where applicable, press (H) and (L0) to input the control character "-" in the program.
   - Precede the file name with a disc drive identifier if the DOWNLOAD file is to be created on a disc other than the default.
   - Press (H) to terminate the command, and type "PAM" to return to the P.A.M. menu.

Keystrokes | Comment
---|---
&MSG. "[H-J]" | Home cursor and clear display
&ASSIGN &P1 | Assign P1 to text
&MSG. "[INPUT File to Download?",&P1 | Input filename for P1
&MSG. ":[A6B Downloading data...", &SENDFILE &P1 | Send file to host
&SEND -D &P1 | Send EOT character
&MSG. &MSG. "[A6B Transfer Complete" |&MSG. &MSG. "[A6B Choose another software to continue."

---

Programming

DATATEXT Program for the HP-71

<table>
<thead>
<tr>
<th>Line</th>
<th># Keystrokes</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>CALL DATATEXT</td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>END</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>SUB DATATEXT!</td>
<td>Save DELAY setting.</td>
</tr>
<tr>
<td>150</td>
<td>R$ = PEEK(2,P965,J)</td>
<td>Save display format.</td>
</tr>
<tr>
<td>140</td>
<td>DELAY 111</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>DS = PEEK(2,P969.5)</td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>STD</td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>DIM S969</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>INPUT &quot;DATA file: &quot;:&quot;,?&quot;,F$</td>
<td>Create dummy TEXT file.</td>
</tr>
<tr>
<td>190</td>
<td>DISP T96(n); &quot; Working &quot;</td>
<td>Set up &quot;data type&quot; and end of file detectors.</td>
</tr>
<tr>
<td>200</td>
<td>CREATE TEXT XXX</td>
<td>Attempt to read numeric item.</td>
</tr>
<tr>
<td>210</td>
<td>ASSIGN #1 TO F$</td>
<td>Convert numeric item to string.</td>
</tr>
<tr>
<td>220</td>
<td>ASSIGN #2 TO XXX</td>
<td>Read string item.</td>
</tr>
<tr>
<td>230</td>
<td>ON ERROR GOTO 310</td>
<td>Store string item or string-formatted numeric item.</td>
</tr>
<tr>
<td>240</td>
<td>READ #1,IN</td>
<td>Error handling routine.</td>
</tr>
<tr>
<td>250</td>
<td>OFF ERROR</td>
<td>If error is &quot;data type&quot;, read string item.</td>
</tr>
<tr>
<td>260</td>
<td>S$ = STR$(N)</td>
<td>If not end of file, error halts program.</td>
</tr>
<tr>
<td>270</td>
<td>GOTO 290</td>
<td>Copy new file to old file name.</td>
</tr>
<tr>
<td>280</td>
<td>READ #1,IS</td>
<td>Restore display format.</td>
</tr>
<tr>
<td>290</td>
<td>PRINT #2,SS</td>
<td>Restore DELAY setting.</td>
</tr>
<tr>
<td>300</td>
<td>GOTO 230</td>
<td></td>
</tr>
<tr>
<td>310</td>
<td>OFF ERROR</td>
<td></td>
</tr>
<tr>
<td>320</td>
<td>IF ERR=31 THEN 280</td>
<td></td>
</tr>
<tr>
<td>330</td>
<td>IF ERRN&lt;=54 THEN BEEP @ DISP &quot; ERR 1:ERRR&quot;,ERRMS @ PAUSE</td>
<td></td>
</tr>
<tr>
<td>340</td>
<td>ASIGN #1 TO T</td>
<td>Copy new file to old file name.</td>
</tr>
<tr>
<td>350</td>
<td>ASSIGN #2 TO T</td>
<td>Restore display format.</td>
</tr>
<tr>
<td>360</td>
<td>PURGEFS</td>
<td>Restore DELAY setting.</td>
</tr>
<tr>
<td>370</td>
<td>COPY XXX TO FS</td>
<td></td>
</tr>
<tr>
<td>380</td>
<td>PURGE XXX</td>
<td></td>
</tr>
<tr>
<td>390</td>
<td>POKE &quot;2969&quot;,0S</td>
<td></td>
</tr>
<tr>
<td>400</td>
<td>POKE &quot;2969&quot;,RS</td>
<td></td>
</tr>
<tr>
<td>420</td>
<td>END SUB</td>
<td></td>
</tr>
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DATATEXT Program for the HP-7S

Line  Comment
100 DELAY 0
110 DIM S(6)
120 INPUT "DATA file: ",FS
130 DISP TAB(12);" Working"
140 ASGN #1 TO FS
150 ASGN #2 TO "XXX",TEXT
160 ON ERROR GOTO 210
170 READ #1;S$ Create dummy TEXT file.
180 OFF ERROR
190 PRINT #2;S$
200 GOTO 160
210 OFF ERROR
220 IF ERR=3 THEN GOTO 200
230 ASGN #1 TO * Save string item or string-
240 ASGN #2 TO * formatted numeric item.
250 PURGE FS
260 RENAME "NAME" TO FS
270 DISP 'Done'
280 END

Summary

This application note provides instructions for transferring ASCII (TEXT) files between an HP-71 or HP-7S Handheld Computer and an HP 150 or IBM PC/XT file program. Procedures, instructions, and/or programs are provided for each step in the transfer process. These steps include:

- Enter the BASIC data transfer program (XFERPC) into handheld computer (either HP-71 or HP-7S).
- Configure the HP 150 or IBM 150 computer.
- Connect system components.

Listings of programs for the following functions are included:

- Interactive configuration of the HP 82164A HP-IL/RS-232C Interface.
- Text file upload from an HP-71 or HP-7S to either an HP 150 or IBM PC/XT.
- Text file download from an HP 150 or IBM PC/XT to an HP-71 or HP-7S.

Note: This assumes you have working knowledge of the products involved.

Appendix A provides instructions and programs to allow conversion of HP-71 or HP-7S DATA files into TEXT files. After conversion, these TEXT files can be uploaded to the HP 150 or IBM using the XFERPC program for the appropriate handheld computer. HP-71 or HP-7S BASIC programs may be transformed into TEXT files for uploading. Refer to Owner's Manual for instructions.

Required Equipment

- Either HP-71 Handheld Computer or HP 82101A HP-IL Interface
- HP 715Handheld Computer plus 00075-15081 I/O ROM or Users' Library 00075-13013 I/O Utilities
- HP 82164A HP-IL/RS-232C Interface and HP-IL Cables (2)
- Either HP 150A, B, or C, RS-232C Cable and HP 45431A AdvanceLink or HP 45425A DSXLink (For IBM PC, AT, or XT, RS-232C Cable and CrossTalk or VXI Data Communications System Software)

Hardware Configuration

HP-IL/RS-232C Interface

RS-232C Cable (for HP 150)
Use a male to female RS-232C cable with pins wired end-to-end.

RS-232C Cable (for IBM)
Use a cable with pins wired end-to-end, one connector female and the other connector as required by the COM1 port of the IBM.

Procedure

1. Enter the program XFERPC on either the HP-71 or HP-7S (refer to Owner's Manual for instructions). Be sure to use the BASIC program specified for the handheld computer you are using. If you are using the HP-7S, the "HPILCMSD" file must be resident in the machine before loading XFERPC. Both the Users' Library I/O Utilities and the HP-75 I/O ROM contain HPILCMSD.

2. Configure the HP 150 as follows:
   - Ensure that the HP 150 is in terminal mode. (Press [ ]
   - Press [Open System], then [ ] (global config).

3. Configure the HP 150 as a computer and ensure that Port 1 is the remote device. (Press [ ] to save the configuration.

4. Configure Port 1 as follows:
   - Press [ ] (config keys), then [ ] (Port 1 config). The following menu will appear.

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