Instructions for use of TPS BASIC software with 901PH and IBM™ (or compatible) Computer

Computer requirements

IBM (or compatible) computer, with at least 1 x RS232 interface port, designated as "COM1". "COM2" can be used, see below.

Setting up the 901PH meter and the computer.

1. Plug one end of the data cable into the 901PH meter and the other end in to the "COM1" serial port of the computer. If "COM1" is unavailable, "COM2" may be used. The system configuration must be changed to select "COM2". See command 5.

2. Turn the 901PH meter and the computer ON.

3. MAKE A BACKUP COPY OF THE DISK.

4. (Optional) Copy software to a New Directory on a Fixed Disk.

5. Check that the BAUD rate is on the 901PH meter is set to 9600. To do this, use the following sequence of keystrokes: Press "Mode" until "H" is displayed. Now press "Mode" again for Baud Rate. Press "Calibrate" until "9" is displayed in the enunciator. Now use the Up and Down arrows until 0 is displayed in the data. (This sets the print rate to zero.)
   The display should now show "9   0"

6. Back at the computer, place the floppy disk in drive A, and type A:901PH and press Enter. If you have copied the files on the disk to a subdirectory on your Fixed Disk (recommended) then change to that directory and type 901PH and press Enter. This starts the computer interface program.

Once in the program, this menu screen comes up...

> 0 --- Exit to DOS
>
> 1 --- Display Data
>
> 2 --- Printer Mode
>
> 3 --- Disk Storage Mode
>
> 4 --- File Utilities
>
> 5 --- Configure System

Command : _

At this point, enter the menu number of the command you wish to execute.

The menu commands have the following functions.

0 --- Exit to DOS

This quits the program, and returns to the DOS prompt.

1 --- Display Data

This function samples the data displayed on the instrument an interval set by the user (1 to 600 seconds). When used in disk storage mode (see command 3) this function allows the user to log readings over a period of time.

2 --- Printer Mode

This function has been included to simulate having a printer connected directly to the 901PH meter, without a computer. The user can transmit readings to the computer instantly at the touch of the F3 key on the 901PH unit.

When used in disk storage mode (see command 3) this function allows the user to log readings taken at particular moments.

3 --- Disk Storage Mode

This function stores readings to disk. After selecting this command, the program asks you to enter the name of the file to which you wish to store the data. The three letter DOS extension is not required, as the program adds this automatically. The following instructions are written, using the file name "TEST".

a) Enter "TEST" and press enter. If this is a new file name, the screen will flash the message "New File". Press Enter if you wish to continue. If this file name has already been previously used, the message "File Exists" flashes. The computer gives you the following options before going on :
1) Append File   Adds data to an existing file.
2) Overwrite File   Deletes existing file, and inserts new data.
3) Re-Enter Filename   Allows you to enter an alternative file name.
4) Quit   Allows you to quit and return to the main menu.

b) After selecting the relevant function the computer returns to the main menu. Functions 1 and 2 are now highlighted with asterisks to indicate that if used, they will cause the displayed data to be written to disk.

c) Use functions 1 and 2 as outlined previously. When you have finished recording data, you MUST close the file. Note that function 3 is now "3 --- Stop Disk Storage". This function will close the file correctly.

NOTES: Data is stored in sequential ASCII format as shown on the screen. Each line is terminated with <cr><lf>. (ASCII 13 & 10) This file can be PRINTed and TYPEed when at DOS.

4 --- File Utilities

This function accesses the File Utilities menu, which has the following functions :

(0) - Exit File Utilities	Return to Main Menu.
(1) - Type Disk Data File	This function is used to display the readings in any data file. Type "TEST" and press 'Enter' to display the readings that you took when testing option 3.
(2) - Print Disk Data File	This function is used to Print the readings in any Data file. A printer must be plugged into the parallel printer port. Type "TEST" and press 'Enter' to print the readings that you took when testing option 3.
(3) - Directory	Display current directory.
(4) - Create a Lotus Format ASCII File	This function converts an existing data file (eg. TEST.DAT) into an ASCII file that can be IMPORTED by LOTUS 1-2-3. The file created has a ".123" DOS extension. (eg. TEST.123)
(5) - Create a EXCEL Format ASCII File	This function converts an existing data file (eg. TEST.DAT) into an ASCII file that can be used by EXCEL. The file created has a ".CSV" DOS extension. (eg. TEST.CSV)

5 --- Configure System

This function allows the user to select the baud rate and Communication Port. The 901PH unit (or cable only) should be plugged in as a test of the port is attempted at the end of configuration.

TROUBLESHOOTING

Program Stops, "Locks Up".

Hold down the IBM 'Ctrl' key and press the 'Break' key.
Now type "RUN" and press 'Enter' key.
Ensure the System Configuration is correct.
Use command 5.

Program Stops, Error displayed.

Note the Error Number and Line Number in case problem re-occurs.
Contact TPS if problem persists.
Ensure the System Configuration is correct.
Use command 5 to check or change Configuration.

Press 'Enter' to re-start program.

Notes

Do Not turn the 901PH unit ON or OFF when running the program.

DOS Version

This software has been written using MSDOS Version 3.3 .
this can be used on systems with Version 3.3 or higher.

MODE.COM requirement

This program shells to the DOS program MODE.COM if a communication port error is
detected. This program is supplied on your MSDOS installation disks. MODE.COM is DOS
Version dependant and so is not supplied by TPS.
Ensure that there is a path to the DOS directory of your system or copy MODE.COM on to
the disk or directory where you intend to run the software.

See the DOS manual for details of the PATH command if you are unsure of this procedure.

Failure to follow these steps may result in an error message displayed briefly during a comm.
port error. The program will continue and RUN but will fail to clear the communication
buffers which may cause further communication port errors.

FILE INFORMATION

The following files are supplied on the distribution disk.

(1)   901PH.BAS   The 901PH program stored in protected format to prevent tampering.

(2)   901PH.ASC   The 901PH program stored as an ASCII format file.
                     This file may be listed and altered.

                     If the user wishes to modify the logger program to suit special requirements,
                     please rename file 901PH.BAS to 901PH.OLD and rename file 901PH.ASC to
                     901PH.BAS. The file 901PH.BAS can now be modified using BASIC.

(3)   BASIC.EXE   The version of basic to use with 901PH.BAS.

(4)   901PH.BAT   The batch file that runs the 901PH software.