IO71 and IO71ASC

These are the transfer programs that operate in the PC. They perform the same function. The difference between the two is that IO71 was written specifically for use with Maptech cogo files. IO71ASC works with generic ASCII coordinate files. If you are not a Maptech user, you will have no use for IO71.

In order for these programs to operate, it is necessary for the HP-71 to be connected to an Oregon Digital box with a serial port, and the HP-71 must be running the program PCX. The two computers must have a direct serial connection. They will not be using HP-IL, and an HP-IL/RS-232-C interface will not help. This software was designed to work with Super Surveyor files, but it will also work with any HP-71 Surveying Pac coordinate files and any HP-71 text files.

Coordinates that are brought into the PC are stored in a new file. If you wish to add them to an existing file, you must merge them using some other file management software. Any elevations equal to zero or less than -100 will automatically be converted to a null elevation. Text files and Autostake figures may also be transferred. The Autostake figures are kept in files separate from the coordinate file. Super Surveyor print files may be transferred as text files. You will have the option of printing any incoming data.

When the program is started, you will be prompted for the COMM port. Start PCX on the HP-71 before proceeding any further. On the prompt, touch any key and give the computers a few seconds to connect. A menu will appear on the screen. Just follow the prompts.

PCX

PCX is a program to be run in the HP-71 in conjunction with IO71.EXE or IO71ASC.EXE, which run on the PC. PCX was designed to work principally with Super Surveyor coordinate and descriptor files, but it will also transfer Hewlett-Packard coordinate files with no descriptors. Also, it will tranfer Autostake alignment figures and it will tranfer ASCII text files. Since Super Surveyor print files are text files, they can be archived using PCX. HP-71 BASIC programs can be transformed into text files and tranferred to the PC for storage.

PCX uses serial communication, not HP-IL, so it is necessary to be equipt with an Oregon Digital box with a serial port. The HP-IL/RS-232-C interface will be of no use. To start the program enter "RUN PCX" at the BASIC prompt. At this point control will be transferred to the PC.

There is no point protection built into this program, so it is up to the user to take precautions. Coordinate files must be large enough to accomodate incoming points. The file will not be expanded automatically. When Autostake figures are sent to the PC, They will be stored in a separate file not attached to any coordinate file. When they are sent back to the HP-71, they must be sent to an existing coordinate file. Again, be careful, because they will overwrite any existing figures attached to that file.

TRANSFERRING PROGRAMS

The most efficient way to store HP-71 programs is with a 9114 portable disk drive. If this is not available, the programs can be transformed into text files and transferred between the HP-71 and the PC using PCX.

To transform a program into text, Use this syntax:

TRANSFORM (program name) INTO TEXT

            or

TRANSFORM (program name) INTO TEXT (new text file name)

When a program has been sent from the PC to the HP-71, it is in text format. This is the syntax for transforming it back into BASIC format:

TRANSFORM (text file) INTO BASIC

            or

TRANSFORM (text file) INTO BASIC (new program name)

This still leaves you with an obvious dilemma. How do you transfer PCX itself into the HP-71? Included in these instructions is a printed listing of an HP-71 program called LOAD. It is a crude program with only one function, to load PCX into the HP-71.

Clear the screen on the HP-71. If the "user" flag is on, turn it off. Type "EDIT LOAD", then enter every line of LOAD exactly as it is printed. Each space and punctuation mark is important. When you finish, copy the files LOAD.EXE and PCX onto the current directory of the PC. On the HP-71, enter "RUN LOAD". On the PC, enter "LOAD". On the PC, you will be asked which serial port is being used. Enter 1 or 2. If all of the hardware is properly configured, you should see the program scroll past on the screen. When it is finished, enter "TRANSFORM PCX INTO BASIC" on the HP-71. The transformation will take a minute or so.

LOAD.EXE, like LOAD, has now served its only function, which is to load PCX. It can now be deleted, but keep a copy of it, and keep the printout of LOAD. You will need them in the event of a memory loss. If you have an isolated freeport in the HP-71, that would be the safest place to store PCX or LOAD.

LOAD

This is a listing of the HP-71 BASIC program LOAD:

```
10 DESTROY ALL
20 DIM Q$[120]
30 T$=CHR$(13)&CHR$(10)
40 SETUP 2400,30,10,0,1,T$
50 Q$=""
60 CREATE TEXT PCX
70 ASSIGN #3 TO *
80 ASSIGN #3 TO PCX
90 Q$=SERIAL$(120,"+")
100 IF Q$="" THEN 90
110 IF Q$="?" THEN 140
120 PRINT #3;Q$
130 GOTO 90
140 ASSIGN #3 TO *
150 END
```

ASCII COORDINATE FILE

The coordinate file used with IO71.ASC will have this generic ASCII format:

(point #), (northing), (easting), (elevation), (descriptor)

The fields may be any length, but they must be separated by commas. Point numbers must be integers. There must be a comma after the elevation, even if there is no descriptor. Null elevations are expressed as -9999.