Kempston Centronics Interface

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Centronics Interface for ZX Spectrum

Instructions for use.

Introduction.

The Kempston Centronics Interface 18 designed to allow a full size printer to be attached to the Spectrum. The interface software recognises the commands LLIST and LPRINT directly and also allows a TEXT copy of the screen to be made with a simple USR call.

It is also possible to use a version of the driving software to print a high resolution copy of the screen on certain printers, again with a USR call.

Connecting the Interface.

The interface should be plugged into the expansion port at the back of the Spectrum BEFORE app1ying power.

DO NOT ATTEMPT TO INSERT OR REMOVE THE INTERFACE WHIILST THE POWER IS ON, OTHERWISE PERMANENT DAMAGE MIGHT OCCUR TO BOTH THE INTERFACE AND THE SPECIRUM.

The cable terminates with a 36 way plug which is of the right type for any Centronics compatable printers including :-

All Epsons, all Seikosha, Star DP 510, Shinwa CP/80, Tandy CGP 115 or similar, etc, etc. The interface is also suitable for driving the Roland DG DXY 100 X-Y plotter.

Selecting the Software.

The interface is simply a connection between the Spectrum expansion port and your printer and must be programmed by a suitable piece of software selected from the tape provided. This needs to be done once only, after applying power to the Spectrum.

All versions of the software are located in the printer buffer. For most purposes you will find that the first program on the tape called "BUFF1" is the best to use since it is compatable with a number of commercially available programs.

When using any of the programs, you must avoid using the commands NEW or COPY as these have the effect of clearing the printer buffer, in which case the driving software will have to be reloaded and reinitialised.

APPENDIX

Adaptation of Commercial Software.

The following instruction details procedures for adapting commercial software currently available.

TASWORD II. (Tasman software)

(1) Load Tasword.
(2) Enter Basic by pressing the STOP control key and then the B key followed by ENTER.
(3) Execute the following instructions, taking care to type the correct numbers,

POKE 57979,191
POKE 57980,227
POKE 57982,129
POKE 57985,0
POKE 57986,0
POKE 57989,15
POKE 57999,191
POKE 58000,226
POKE 58008,191
POKE 58009,224
POKE 58012,6
POKE 58013,227
POKE 58014,62
POKE 58015,14
POKE 58018,60

(4) Run Tasword and create your customised version by pressing the STOP control key and then the T key.
(5) The interface control codes should be as supplied on the tape.

MASTERFILE (campbell systems)

This program was originally designed for a ZX printer, using the COPY command, which of course is not recognised by our software, so the following modifications are required.

Load "BUFF1" and wait for it to autorun.

Load Masterfile in the normal way. When the menu appears, use the V option which saves Masterfile. Press F which saves the file only and ENTER when asked for the file name. Hold down the SHIFT and BREAK keys to break into the save routine. This returns you to BASIC enabling you to LIST the program. EDIT line 4010 by changing COPY to RANDOMIZE USR 23370.

Finally, restart Masterfile by typing GOTO USR R.

VU-CALC (SINCLAIR)

Load BUFF1.
Load VU-CALC.
Enter Basic by typing #Q.
Edit line 2000 by changing COPY to RANDOMIZE USR 23370.
Restart VU-CALC by typing GOTO USR 25674.

1. Loading the Standard Software.

The first program on the tape is the standard version of the driving software called BUFF1 which auto runs if you type:

LOAD "BUFF1"

The program contains two lines of Basic which can be erased once it has loaded.

The software recognizes LLIST, LPRINT, LPRINT AT, "," and TAB. In addition, all ASCII characters are printed and TOKENS are expanded into KEY words.

To send a TEXT copy of the screen to the printer simply type RANDOMIZE USR 23370, (this should be used instead of COPY).

Control codes can be sent to the printer by using LPRINT CHR$() where the bracket should contain the value of the code to be sent in decimal.
eg To send the code for a carriage return use LPRINT CHR$ (13).

Outlined below are the modifications that can be made to the standard software in order to change the printing format.

(a) Changing the characters printed per line.
POKE 23550, number.

Where the number refers to the number of characters per line. This location contains 80 when the software is first loaded which means that 80 characters are printed per line.

(b) Switching auto line feed on and off.
POKE 23545,192 Switches line feed on after C. R.
POKE 23545,201 Switches off auto line feed.

This location contains 192 when first loaded which means that the paper is automatically advanced by one line after each carriage return. Most printers allow you to select this option with a switch setting so this must be turned off when using the standard software, otherwise an extra blank line may result.

(c) Switching tokens off.
POKE 23298,195
POKE 23299,214 – no character count (for control codes)
POKE 23299,182 – character count on (for spare character set)

If you wish to send out control codes above 128 or below 32, or access a character set other than Sinclairs, then it is necessary to switch off tokens using the above pokes. Remember to switch tokens back on again by poking the original values.
ie   POKE 23298,202   POKE 23299,25

Saving the software

If you wish to make a back-up copy of the software, this is simply done as follows:

SAVE "BUFF1" LINE 1
SAVE "buff1" CODE 23296 ,256

High Resolution Screen Copies

2. EPSON MX 80/FX 80/RX 80 and similar types.

The second program on the tape is called "EPSONHR" and is loaded simply by

LOAD "EPSONHR"

This version can be used with an EPSON (MX80, RX80 or FX80) printer to produce high resolution copies of the screen. It can also be used with the STAR DP 510 or SHINWA CW/P 80.

Note that ALL the facilities of BUFF1, (LLIST, LPRINT etc.) are supported, but TEXT copy is replaced by a high res copy so this version can be used INSTFAD of BUFF1 if you have any of the above printers.

To copy the screen, simply type RANDOMIZE USR 23370. (Please note that this ONLY copies in proportion to the screen and NOT to the full width of the printer).

3. High Res Screen Copy (Seikosha GP80 and GP100)

The third program on the tape is called "SEIKO80" and should be selected if you have either a Seikosha GP80 / GP100 or similar type of printer.

LOAD "SEIKO80" is used to select this version.

Once again, RANDOMIZE USR 23370 will produce a high res copy of the screen, all other facilities being the same.

4. Seikosha GP250X version.

The third program is called "SEIKO250" and is aversion for the Seikosha GP250X printer.

LOAD "SEIKO250" loads and runs this version after which the screen can again be copied with RANDOMIZE USR 23370.