

**Specification  
for**

# Print master

**The printer utility ROM for the BBC micro**



# Print master

The first in the PRINTMASTER range of ROMs is designed to support EPSON MX, RX and FX printers (not suitable for MX 80 type I). Others will follow to support the most popular makes of printer upon request.

Three different types of printer dump are provided. Graphics dumps will copy whatever graphics is on the screen onto the printer. This is only suitable for graphics modes and would typically be used to obtain hardcopy of graphs and charts or of any sort of graphics. If colours are on the screen then these would be printed as different shades of grey, in exactly the same manner as a black and white TV would display the image.

The two other printer dumps are text only - one will copy whatever text is on the screen to the printer, the other will copy text from a file on tape or disc onto the printer. The latter routine will operate as a background task while other programs are running.

A range of commands are provided to enable easy use of certain built-in printer functions like margins, italics etc.

User definable character definition has always been difficult on the BBC Micro involving complicated VDU codes. Utility programs have been available to make this easier but now PRINTMASTER has its own built-in routine along with commands to save and load all user defined characters once they have been defined.

It must be noted that this ROM is not a printer driver for WORDWISE. Although the commands may be used freely from the WORDWISE menu they cannot be included into the text. It is hoped that an enhanced version of WORDWISE will be produced which will allow Operating System commands to be used from within the text. Please ask for details.

There follows a list of the commands with a brief explanation. All commands are preceded by an asterisk and can be included in BASIC programs in exactly the same way as all normal Operating System commands.

## **\*DEFINE** <chr>

This is the command which allows user definable characters to be re-programmed. It will display an 8 by 8 grid showing the character whose number is given. The user simply fills or blanks the required pixels. The current definition of all 224 characters is displayed at the top of the screen and a string of numbers below the grid shows the VDU statement required to program the character. Control of character definition space is left under user control - see page 427 of the User Guide.

## **\*FDUMP** ( <fsp> )

Will attempt to dump a file from the current filing system to the currently selected printer. This will continue while other programs are running. Any other programs using the event timer will cause this routine to fail. Unfortunately this includes WORDWISE so it is not possible to use WORDWISE while \*FDUMPing text.

## **\*FONT** <country>

Allows the selection of any of the different fonts available on the EPSON printer.

**\*GDUMP** ( <or, op > ) ( < X, Y > ) ( < gap > )

Will start a graphics dump of the current screen to the printer. Any part of the screen may be dumped. The first two parameters given after the command control the orientation of the dump on the paper and whether the dump is monotone (no shading of colours) or inverted (white is printed black and vice versa) or a combination of both.

The X and Y parameters control the magnification factor along the X and Y axis. The GAP controls the position of the dump from the left hand margin of the paper.

**\*GPRINT** <str > <X, Y > ( <or, op > ) ( < gap > )

Prints enlarged text on the printer. This would normally be used for printing large titles etc. on the paper. Again the parameters control the size, the angle and the position of the text.

**\*INITIALISE**

Totally re-initialises the printer, i.e. will reset the margins, text styles, line spacing etc.

**\*ITALIC** ( <on/off > )

As its name suggests, this command will turn the italic printing mode on or off. (The MX printers do not have the italics facility).

**\*LINCH** <lines per inch >

Sets the number of printed lines per inch. For example the command \*LINCH 4 would make the printer print lines at 4 lines per inch.

**\*LINESPACE** ( < a > ) ( </b inches > )

This command is very like the previous command in that it sets the line spacing but this will take the parameter as a fraction of an inch. For example \*LINESPACE 1/4 would set quarter inch spacing between printed lines.

**\*MARGIN** ( < left > ) ( < right/+width > )

Controls the position of the left and right margin on the paper. The left and right may be specified separately or alternatively the left and the text width may be given.

**\*PAGELEN** ( < inches/+lines > ) ( < skip > )

Sets the page length on the printer either as a number of inches or a number of lines. It also allows the printer to automatically skip over the perforations at the base of every page. For example the command \*PAGELEN 11, 2 would make the printer skip two lines at the base of 11 inch paper.

**\*PCODE** <codes/\$ASCII >

This allows the user to send any sequence of control codes direct to the printer. This may be used as an alternative to some of the commands in this ROM or to allow access to other features of the printer. For example the \*PCODE 7 would make the printer 'bleep.

**\*PROPORTION** ( < on/off > )

Enables or disables the proportional printing capabilities of the FX range of printers.

## **\*STYLE** <str >

Many different type styles are available on EPSON printers especially the FX range. This allows easy selection of any style, e.g. enlarged or subscript.

## **\*TAB** <columns ..>

This allows the user to set the horizontal tab position on the printer. Each time a CHR\$9 or CHR\$137 is sent to the printer it will move on to the next position. Note that SHIFT-f9 may be used to send this code.

## **\*TDUMP** ( <udc width > )

Will copy the current text on the screen onto the printer. This text may include user definable characters, in which case the printed size of these may be altered.

## **\*TEXT** ( < width > ) ( < shade > ) ( < height > )

An alternative way of selecting different type styles. The user simply gives a number corresponding to the height, width and shade of the text to be printed.

## **\*TPRINT** <str > <chr > ( < X, Y > ) ( < or, op > )

This will print on the screen large text whose characters are built up from any single character. This may be output to the printer as well.

## **\*ULOAD** < fsp >

Will load a user defined character set from the current filing system, as saved by \*USAVE.

## **\*UNDERLINE** ( < on/off > )

Turns on or off the in-built underlining feature of EPSON printers.

## **\*USAVE** < fsp >

Saves onto the current filing system all user defined characters which may later be re-loaded with \*ULOAD.

## **\*WINDOW**

Screen windows are usually quite tedious to set in the correct place. This command will display a moving box on the screen, the outline represents the graphics window and this may be moved to any screen position. Pressing return will re-define the graphics window to be the size of the box. It is this graphics window area which is printed in \*GDUMP.

## **\*WVALS**

This will list out the values for the current graphics window. These values may then be used in a BASIC program to obtain the same window setting.

PRINTMASTER is supplied in ROM together with a spiral bound manual and full fitting instructions.

Order as PRINTMASTER (EPSON) Price : £33.35 including P&P and VAT.  
Available from your local BBC Micro software dealer, or direct from: