

PLOTMATE INTERFACE DISK FOR THE BBC MICROCOMPUTER

The PLOTMATE interface disk is a utility which gives the following options:-

Provide driver software which allows data to be output to PLOTMATE M via the RS423 serial, Centronics parallel user or printer port.

Change plotter drivers on LINSOFT packages designed for use with PLOTMATE A4 (direct driver), so that they will drive PLOTMATE M via the Centronics or RS232 serial interface.

Restore original plotter drivers on LINSOFT packages, so that they can be used in direct drive mode.

NOTE:

The option switches on PLOTMATE M must be configured correctly, see section 1 - Intelligent Plotting - Table 1 of PLOTMATE M manual. As indicated above PLOTMATE M has RS232 Serial and Centronics parallel interfaces. In addition a direct drive mode can be configured to achieve compatibility with PLOTMATE A4.

Operating Instructions

Place Plotmate interface disk in drive U, hold down the SHIFT key, press and release the BREAK key, then release the SHIFT key. This will 'auto-boot', the disk.

The following menu appears:-

PLOTMATE interfacing utility
version 0.4 (c) Linear Graphics Ltd.

Options:-

Review instructions
Customize A4M/A3M drivers
Re-configure LINSOFT discs
Quit

Use vertical arrow-keys to change your selection and return key to confirm it.

Option 1 - Review instructions

Option 1 gives a full description of PLOTMATE interfacing utility.

Option 2 - Customize A4M/A3M drivers

This option allows custom PLOTMATE drivers to be created. These drivers may be easily incorporated within user programs.

1. Select option 2, a disk drive selection menu will appear.
2. Select target disk drive. Driver selection menu will appear.
3. Select one of the following :-

User port to Centronics
Printer port to Centronics
Serial link

4. If serial link is selected then a menu showing available Baud

rates appears. Select Baud rate.

5. The PLOTMATE driver program is less than 256 bytes long and may be located anywhere in the BBC RAM area which is unused. The safest place is at &A00 (cassette/serial input buffer). To place the driver at this location, type &A00 and press RETURN.
6. Type in a filename for the driver.
7. A message will appear indicating that the file has been successfully saved.
8. Press space-bar to return to the main menu.

Driver Operation

Example:

Assume that the driver is called Debussy and is located at &A00. The driver is loaded by entering the following line.

```
100 *LOAD DEBUSSY
```

To activate the driver (and plotter), enter

```
110 CALL &A00
```

Both procedures may be invoked by simply entering

```
100 *RUN DEBUSSY
```

To de-activate the driver (and plotter), enter

```
800 CALL &A03
```

That is, the routine to de-activate the driver (and plotter) is called at (AD)+3, where (AD) is the start-location chosen for the driver.

Once the driver is activated, all data sent to the screen is also sent to the plotter.

In the case of serial operation, as an alternative enter the following lines:-

```
100 *FX8, n
```

Where n is the baud-rate, followed by

```
110 *FX3,1
```

to tell the operating system to send all data both to the screen and to the serial buffer.

To disable the driver once more, enter

```
800 *FX3,0
```

Unfortunately no such simple procedure can be adopted for the user and printer ports due to problems with ACORN's own driver software.

In serial mode the settings of n (in the expression *FX8,n) are as follows :-

Value of n		Baud-rate
2	-	150
3	-	300
4	-	1200
5	-	2400
6	-	4800
7	-	9600

If a driver is placed at one of the low memory locations suggested, BASIC programs should run as normal.

If a location is chosen just below the setting of PAGE (e.g. &1800) make sure not too many disk files are opened simultaneously, or the driver will be corrupted.

If &1900 is chosen for the driver location, reset the value of PAGE to &1A00 before the program is RUN.

If a higher value is chosen (just below screen memory), remember to set HIMEM to that value (or lower) at the beginning of each program, otherwise any procedures in the programs may crash.

Option 3 - Re-configure LINSOFT disks

This option allows LGL graphics (LINSOFT) packages originally designed for use on the direct-drive PLOTMATE A4 to be reconfigured to run on PLOTMATE M.

Note: This does not in any way alter the speed or memory-use of these packages.

DO NOT try to reconfigure the PLOTMATE system disks themselves.

Technical note:-

Most LGL software packages have an option to *SPOOL data so as to create standard VDU files. In order to accomodate this option, it is necessary to issue *FX3,n commands.

The PLOTMATE M drivers intercept these commands, so that the command *FX3,0 does not disable them.

When the drivers are disabled, the BBC operating system interprets all *FX commands in the usual way. Any disk reconfigured for the CENTRONICS interface has the suffix 'c' added to the disk title.

Similarly any disk reconfigured for SERIAL operation is given a new title with the suffix 's'.

If the Centronics interface is selected, files H.PLTMATE and L.PLTMATE are replaced by user port Centronics drivers.

The names of the drivers are not changed. Only the disc title gives an indication of the change.

If a direct drive user port driver is to be converted to a printer-port/centronics driver, rename it as follows :-

```
*RENAME H.PLTMATE H.PLTMATP
```

or

```
*RENAME L.PLTMATE L.PLTMATP
```

Then re-boot this disc.

If a program expects to find the files H.PLTMATE and L.PLTMATE, the reverse procedure should be followed :-

```
*RENAME H.PLTMATP H.PLTMATE
```

```
*RENAME L.PLTMATP L.PLTMATE
```

To convert a direct drive printer port driver to a user port centronics driver, rename it as follows :-

*RENAME H.PLTMATP H.PLTMATE

or

*RENAME L.PLTMATP L.PLTMATE

Then re-boot this disc.

If a program expects to find the files H.PLTMATP and L.PLTMATP, the reverse procedure, should be followed :-

*RENAME H.PLTMATE H.PLTMATP

*RENAME L.PLTMATE L.PLTMATP

If a conversion is made to serial drivers, ALL drivers are converted for serial operation. Therefore there is no distinction between user port and printer port operation.