

## The PLUS D Disc and Printer Interface

The first sentence of a brochure is always important. In this case it's because in the time it took you to read it, you could have loaded a complete 48k game from a disc drive controlled by a PLUS D, the latest creation from MGT, the designers of the DISCIPLE disc and printer interface. The obvious question at this point is why did we design the same thing twice. Right? Wrong. The PLUS D, while doing basically the same thing twice, is much more advanced than the DISCIPLE. This time we put it in a durable steel case, made it smaller and a little bit smarter. We also made it much less expensive. Now, when you decide to add the power and speed of a disc drive to your Spectrum, it won't cost you the earth.

The PLUS D will allow you to save all your games and serious software to disc at the touch of a button for reloading at any time in the future. With the fastest load and save times of any disc system available for the Spectrum, the PLUS D will make your computer grow to meet your needs today and tomorrow! In the software arena, many leading companies are now producing software that is specifically tailored to the PLUS D. But don't worry -you don't have to buy new software to use the PLUS D! And if some of your software is Microdrive compatible, so much the better! The PLUS D will add a new dimension to all your existing software, greatly enhancing all your own programs as well!

Compare these features with the Plus 3 and other disc systems:

- \* The fastest load and save times: 3.5 seconds for 48K and 10 seconds for 128K.
- \* Snapshot saving to take you further into games than you've ever been before.
- \* Save at any place in the game and when you reload, you return to the same place. So, if you want, you can start the game half way through!
- \* Large or small screen dumps on a printer. Use this to map your way through a game, or print from an Art program, or even make wallpaper!
- \* 780K of storage with a DSDD drive. That's 6 128K games or 16 48K games on a single disc that you can load as fast as 3.5 seconds. For more serious use, this means that your Spectrum can at last handle serious software such as word processors, spreadsheets and databases with ease.
- \* Printing with any parallel printer can now be accomplished easily and quickly with the PLUS D's printer capabilities. Even if your printer is not Epson compatible, a configuration program supplied with the PLUS D will help you to install the correct control codes for trouble-free printing.
- \* Full support from INDUG, the Independent DISCIPLE and PLUS D User's Group. INDUG publishes a monthly magazine containing hints and tips for PLUS D and DISCIPLE users. For example, recently, INDUG published all the code necessary to convert the Extended Art Studio over to disc. INDUG also regularly reviews exciting new software and hardware and is just a phone call away for any software or hardware enquiries.

Although the PLUS D is designed to be fun and very easy to use, even if you are a newcomer to computers the scope for business use and serious programming is immense. Our 24 page manual was written so as to be both a complete user's guide and a handy quick reference book. The reliability of a fast disc-based system makes the Spectrum available choice for the small business and a pleasant change for anyone used to tape or microdrive storage. For programmers, this means that you will be able to save your basic or code files and then test them in only a few seconds. You can open and close streams and channels from within Basic and even load and save specific sectors of a disc. This means that once a piece of software has been snapshotted you can load a sector of code and see how the program works. The operating system is loaded from disc at power-up time and stored in the PLUS D's 8K of RAM. During normal usage 512 bytes in this RAM are free for your use to store machine code programs, such as a renumber utility.

Business users will benefit from the large selection of software that has been converted for the PLUS D. These include word processors, spreadsheets, accounting packages, finance programs and many more. For graphics work, there are several fine programs, including the Animator 1 for animation and design, that work at their best with the PLUS D. If you already have a selection of business software, the chances are that most of it will already work with the PLUS D but if you have any questions about a program call our sales and advice desk.

Naturally, you will need a disc drive to go with your PLUS D. The PLUS D can control up to 2 DSDD drives - that's 1560K of storage space with a dual drive! These drives can be 3",3.5" or 5.25" and either single or double sided, single density or double density in size. In short, any BBC compatible drive will work with your PLUS D. MGT can supply you with a drive guaranteed to work with your PLUS D, giving you 780K of instantly accessible storage. We also stock discs from only leading manufacturers.

Printing with your PLUS D couldn't be easier than with the STAR LC-10 printers. Just connect the cable and start printing! These printers replace the highly successful NL-10 and are packed with features you wouldn't expect to find on printers costing almost twice the price! Things like paper parking (to hold fanfold paper while you print on single sheet and then automatically reload the fanfold paper when you're ready) and eight built-in fonts that you can even select while printing! And then there's the sensational new Star LC-10 Colour printer- with all the features of the Mono and colour too, for full colour screen dumps at the touch of a button. You'll also find our price hard to beat!

What else will you need? Well, as the PLUS D connects to the Spectrum's edge connector, if you use another interface (perhaps a joystick interface) you may need a two-way connector so that both can be connected at the same time. We have just designed a new product called the TwoFace. This is a two-way connector with a difference! Not only can you use it to connect a second interface to your Spectrum, but because you can switch in either or both of the expansion ports, our TwoFace will allow previously incompatible interfaces to be operated together for the first time. As if that wasn't enough, we also built in a Kempston compatible joystick port.

## PLUS D Specifications

**COMPATIBILITY:** The PLUS D is compatible with all 48K and 128K Spectrums except the Plus 3 and 2A. The PLUS D connects to the expansion port at the rear of the Spectrum allowing access to all other ports. If another interface is to be used with the PLUS D, a two-way connector is available which provides a second expansion port. This connector allows you to select either or both expansion ports for use and also has a Kempston compatible joystick port. The PLUS D is not compatible with the Interface 1 and the ZX and Alphacom printers.

**DIMENSIONS:** The PLUS D lies flat behind the Spectrum and measures 22mm high,93mm wide and 98mm long.

**POWER REQUIREMENT:** Power is taken from the Spectrum 9 volt line with internal regulation, drawing +5 volts at 200 mAmps with 1 Watt dissipation.

**DISC INTERFACE:** Shugart (SA) 400 supporting double density operation. A BBC type 34-way IDC connector allows connection to a single or dual drive of 3",3.5" or 5.25" type.

**PRINTER INTERFACE:** Standard centronics parallel - 8 bit data output with strobe line, 1 bit input on busy line. The PLUS D has a BBC Micro type 26-way IDC connector; at the printer end you should have a standard 36-way parallel connector.

**PRINTER DRIVER:** The Disc Operating System has default settings set to Epson FX-80 compatibility. These settings may be changed to accommodate any parallel printer, and are stored permanently by the user in his System file using a customisation program supplied with the PLUS D. The PLUS D recognises all standard LPRINT and LLIST commands and will also print user-defined graphics. 32 column screen dumps can be output to all compatible printers and A4 size dumps to printers recognising the ESC \* control code.

**DISC STORAGE CAPACITY (Formatted):** The PLUS D can format a DSDD disc to 780K of storage space. All disc drives and disc supplied by MGT are DSDD. The PLUS D will work happily with drives of a lesser capability, but we recommend using a DSDD drive. If you have any queries on a specific drive, call us and we will be happy to offer advice.

**LOAD AND SAVE TIMES:** The PLUS D can load a 48K file in 3.5 seconds and a 128K file in 10 seconds. Loading of smaller files is almost instantaneous.

**SNAPSHOT BUTTON:** The Snapshot Button has five modes of operation. You can save a 48K or 128K game or any other kind of software to disc at the touch of a button for reloading at the same point at any time. You can save the graphics screen to disc or send it to the printer in either 32 column size or A4 size. When the snapshot operation is complete, the program will resume from the point at which you left it.

These specifications may be subject to later change without notice.