**BBC / Master 128K – IDE Interface**

Thanks for buying this IDE Interface from me. This unit is my own, new single chip custom programmable logic design, made to be compatible with various IDE patched operating systems for the BBC and Master Series Computers.

Connections on the interface are very straightforward:

* 1MHz BUS – This connects to the 34 way 1MHz bus connector underneath your Beeb. Ensure you do NOT connect it to the floppy drive, although no damage should result if you do, I say “SHOULD”, so best not to try! Try and keep the cable as short as reasonably possible, and in any case under 1m. I find 50cm is a good compromise.
* IDE – This goes to the IDE connector of your hard drive, or flash adaptor. More on flash adaptors down the page...
* PWR – This is pin compatible with the standard 3.5” floppy drive power connector, in that pin 1 is +12v (unused), pins 2-3 are 0v (GND), and Pin 4 is +5v. There is no power supplied through the1MHz connector, so this connection is needed.

There is one jumper on the interface – JP1. This is described later too. The ACT light shows when the drive is in use. If you intend to mount this interface in an enclosure, you can desolder the ACT LED, and put a header there to bring the LED to the outside of the case. It is current limited through a 1k resistor, so no extra one is needed.

This IDE interface is 8 bit, as opposed to 16 bit that you would find in an Arc, or your PCs. We’re forced to using only 8 bit, because that is the width of the data bus in the Beeb, and what all the operating systems have been written for. There is a 16 bit interface available for the Beeb, but because there’s no support software for it, it still has the same limitations as this 8 bit one. Because of this, only half the capacity of an IDE drive is available to the Beeb, meaning if you have a 512MB hard drive, you can only use 256MB of it. I would recommend using 1GB drives, as the limit of the Beeb is 512MB in any case, so this just fits nicely. I’ve tested the interface with many drives, and it does seem to like most of them, but I can’t warrant that every single drive will work perfectly – IDE was not as standardised then as it is now, and not all drives are capable of 8 bit mode, although most are.

**SOLID STATE HARD DRIVES**

These are the latest craze, and because of the Beeb’s limit of 512MB, a 1 GB Compact flash card, with adaptor, makes a cheap, fast and reliable storage device. The adaptors are available on eBay (Search for “CF IDE”), or I can supply one for you. The interface has a jumper, JP1, which when connected, supplies 5v through pin 20 of the interface to power CF adaptors that can use this facility. If you are using a regular hard drive, I suggest you leave this jumper off.

I’ve found that there can be reliability issues with some CF cards when they are run at 5v – even if the card says it is dual voltage. If your CF adaptor has the option, I recommend setting it to 3.3v if you have regular read/write errors. You can use 2 Diodes (1N4001 from Maplin for example) in series to drop the voltage to the supply of the CF adaptor, that works a treat too. But make sure the voltage is only dropped to the CF adaptor, not to the IDE Interface.

**SOFTWARE**

This unit is designed to be compatible with Patched Operating systems that are currently available for download. Because the Acorn ADFS was designed to use SCSI drives, it needs to be patched to use the different command set that IDE uses. Various Filing systems for the B and Master are available on several websites, but a good source of reference is John Harston’s:

<http://www.mdfsnet.f9.co.uk/Info/Comp/BBC/IDE/>

Resources and utilities can be found there, as well as his own HADFS, which works well with a regular BBC B that uses 8271 DFS (remember the Acorn ADFS will always require a 1770 interface – standard on a Master, but not so on a B). I would recommend the HADFS for a BBC B, and ADFS 1.53 for the Master. Remember to \*UNPLUG 13 to remove the original ADFS from the ROM list when using 1.53 on a Master.

Thanks once again for purchasing this item from me. Please contact me if you have any further questions or issues.

mark@retroclinic.com
eBay ID: retroclinic
