

ElkSD128 RAM Expansion, SD Card & Joystick Interface

www.ramtop-retro.uk

Installation

1. Thank you for purchasing an ElkSD128! The package should contain the ElkSD128 interface in an anti-static bag. Remove the interface from the bag and check that it is intact and has not been damaged in shipping.
2. Clean the Electron's expansion slot contacts. Use of a pencil eraser followed by cleaning with Isopropyl Alcohol or contact cleaner is recommended.
3. Connect the interface card to the Electron's expansion slot, it will only fit one way but may require a firm push to seat correctly. The small white 'key' on the interface's connector should be aligned with the gap in the Electron's expansion slot. At boot up you should see a new banner on the screen which reads **ElkSD128 MMFS SPI**. This indicates the interface is active and available for use. You should also see the count of fitted memory has increased from 32K to 144K.

Preparing the SD Card

Disk images (.SSD files) are stored on the memory card as part of a master file called 'beeb.mmb'. There are several pre-made beeb.mmb files available on the internet with a selection of games. If you download one of these please make sure it contains Electron games, BBC Micro ones will not work.

A pre-made image with a collection of games, along with a full user manual and other downloads are available here : <http://ramtop-retro.uk/elksd128.html>

Download the elkbig.zip file, which contains a wide selection of games. Unzip it and copy the beeb.mmb file to an SD card no larger than 8GB and formatted as FAT16 or FAT32. Insert the SD card into the slot on the rear of the ElkSD128 with the contacts facing upward; it may require a firm push to seat correctly. Next, switch on the Electron. To load the games menu, hold down **Shift** and tap **Break** at the same time, and keep holding **Shift** until the menu loads. Alternatively, you can type

***DBOOT 0**

If you wish to create your own beeb.mmb file, please consult the relevant section of the user manual. After you have finished playing a game it is recommended to press **Ctrl** and **Break** to reset the Electron, and then **Shift** and **Break** if you wish to reload the game menu.



It is recommended that you do not insert or remove the SD card while the Electron is switched on as this can lead to data corruption.

Do not remove the interface while the Electron is switched on. Doing so may damage the interface and the Electron.

Using the Joystick Port

The ElkSD128 features a 9-pin Atari/Commodore type joystick port. Most 9-pin digital joysticks will work with the ElkSD128, but other devices such as joypads and paddles will not. The joystick plug should be attached or removed only when the Electron is switched off.

Once you have connected a joystick and powered on the Electron, correct functioning of the joystick can be tested by typing:

***JOYSTICK 2 TEST**

And then moving the joystick.

Four interface standards are supported by the ElkSD128; Acorn Plus 1, First Byte and Slogger joystick interfaces, plus keyboard emulation. Games which support the Plus 1 joystick port should work without any configuration. Games supporting First Byte, Slogger or compatible interfaces may request an I/O port address to be entered. On the ElkSD128 these are &FCC0 for First Byte and &FCD0 for Slogger. A 'code' or 'polarity' number may need to be entered as well, this will be either 0 or 1 depending on the game.

Finally, keyboard emulation is available for games that have no joystick support. Not all games work with emulation, but many do. This can be configured by typing:

***JOYSTICK 2 SETUP**

You will then need to enter the keys used by the game for up/down/left/right and fire. An 'address' must also be entered, this is where the small code patch that enables keyboard emulation is located. Pressing return will accept the default location of &150.

After this you can load the game – please note that pressing SHIFT-BREAK should not be used for this. You will need to boot the game or game menu using the DBOOT command. For the games collection downloadable from the ElkSD128 web site the command would be:

***DBOOT 0**

To load the game menu, after which you can select the game as normal.

Using Disk Images

1. Typing *DCAT will list all available disk images and their slot numbers.
2. Typing *DIN followed by the slot number will 'insert' a disk image and make it available for use.
3. *CAT will show a directory of files on the disk image.
4. Typing CHAIN "NAME" will load and run a program, where NAME is the program to be loaded. Some games can also be loaded by pressing **Shift** and **Break** at the same time.

For more information on disk image commands please see ElkSD128 user guide.

Troubleshooting

1. If your Electron does not boot with the interface cartridge installed or the 'ElkSD128 MMFS SPI' banner is missing, please clean the cartridge slot contacts again.
2. If you receive a **Card?** error when using disk image commands, check the SD card is inserted correctly. Some very cheap, off-brand SD cards are known to function incorrectly in SPI mode, which the ElkSD128 uses. It is recommended to use cards from major brands such as SanDisk, Kingston or Samsung.
3. If you receive an **Image not found** error, check that the SD card is formatted as FAT32 and contains only a beeb.mmb file.
4. Avoid cards smaller than 1GB and those from unknown brands; the ElkSD128 is tested before shipping with cards from Samsung, Kingston and SanDisk to ensure correct operation. SD cards larger than 8GB will often work with the ElkSD128 provided they are formatted as FAT32, but this is not guaranteed.

Acknowledgements

The ElkSD128 interface uses the MMFS software, originally developed by Martin Mather and maintained by David Banks, and the RH Plus 1 ROM which is maintained by J.G. Harston. Many thanks to these gentlemen for their excellent software, on which the ElkSD128 depends.