



DivIDE is an IDE controller for the ZX Spectrum and compatibles. You can use IDE hard drives, CD-ROM drives or Compact Flash memory cards, which are the most recommended for using with these computers (because of their small proportions and low electric consumption).

Compatibility

The DivIDE interface can be used with Sinclair ZX Spectrum 16K, ZX Spectrum 48K and Spectrum +, ZX Spectrum 128K and ZX Spectrum 128+2, Timex 2048 as well as Spectrum clones from Czechoslovakian provenience Didaktik Gama 80K, 128K, 192K and Didaktik M.

With a corresponding setting of one jumper on the PCB there is a possibility to connect the controller also to ZX Spectrum +2A, +2B and +3.

Controller's Overview

DivIDE is built by both circuits controlling IDE device and 8K EEPROM memory, containing firmware to control computer's cooperation with the controller and keeping compatibility with existing software for the ZX Spectrum. There is also a 32K RAM on the PCB for firmware needs. There is also a NMI button for calling the firmware service routine.

Firmware Overview

At the moment, there is a couple of firmwares available for the DivIDE, each covers another range of user's requirements.

1) FATware

FATware is shipped with new DivIDE interfaces. It works with hard drives and CF cards containing at least one FAT16 partition; it allows use of TAP files (simulation of a tape), Z80 and SNA (snapshots) and SCR (screen content). At the moment, it can only read (load) the files. Writing (save) possibility is planned in some of the next versions.

2) DEMFIR

It works with ISO9660 file system, so it's ideal for CD-ROM drives; it can even open the ISO file from hard drive or CF card. It works with TAP, TZX, Z80, SNA, MFC, POK and SCR files. In can read files only, so it's ideal for gaming. NOTE: The TZX support doesn't operate non standard loading techniques.

3) MDOS3

Modified system taken from Didaktik D40 and D80 disk drives. It works with diskette images of these systems; comparing to it's diskette version stored in D40/80 ROM, this one has many enhancements such as tape emulation (no need to use * in LOAD and SAVE commands), use of up to four virtual disk drives, etc. This system can regularly store your data using SAVE on disk images. There is a Windows utility for extracting files from/to the images. Ideal system for former Didaktik users.

4) +DivIDE

+DivIDE is an adaptation of the GDOS/G+DOS system found in the DISCiPLE/+D disk interfaces. It should work with all DISCiPLE and +D software which doesn't call routines in GDOS/G+DOS ROM directly. +DivIDE uses virtual disks of 1600 sectors each on the ATA drive. Certain GDOS/G+DOS features are extended and improved. NOTE: +DivIDE uses raw LBA access to disk images so take care if you're hosting another file system on your disk.

5) T-BIOS

TBIOS is basically a hardware testing utility. If you just built your divide you will probably want to flash this. TBIOS source code is available for starting developers as a demonstration of how to interface with ATA devices, how to handle shadow ROM entry points etc. Some goodies are included, such as divIDEo player and dithvIDE picture viewer. Anyway, this system doesn't handle any real files, you cannot load up your favourite game using it.

Instruction Manual

Preparing your IDE device (for "FATware" firmware)

(it is recommended to use a standard PC or a Mac for this step. Don't format the CF in your digital camera!)

- Connect your Compact Flash memory card or hard disk (IDE device) to the PC (you'll need a card reader or CF-IDE adaptor).
- Make a FAT16 type partition on the connected IDE device; maximum size can be 2GB so if you need more capacity, make more partitions but maximum is 8.
- Format the partition(s) you've made. Make sure you're formatting the right partition to avoid data loss!
- Copy your ZX Spectrum emulator files (in TAP format) to the formatted partition. You can download them from numerous software archives such as www.worldofspectrum.org.
- Disconnect the IDE device from PC.

The Interface's Connection with the Computer

ATTENTION: *Connect DivIDE as well as any other edge connector device having your computer off, else there is a big probability of damage both the computer or the interface!*

NOTE: Jumper A on the DivIDE must be closed if using with Spectrum +2A, +2B or +3, otherwise leave it open.

- Turn the computer off.
- Connect the IDE device (hard drives and CD-ROM drives are usually connected by a 40pin ribbon cable, the Compact Flash memory cards need the IDE->Compact Flash adaptor (such as CF-IDE).
- Insert the DivIDE into the edge connector on the back of your Spectrum and make sure that both connectors are fully and tight inserted.
- Connect your IDE device to power (except CF-IDE adaptors, which don't need external power)
- Turn the computer on. If there is FATware, it should display big DivIDE logo, list some important data (found IDE devices and number of disk volumes) and "Press any key" request. After pressing any key follows a classic reset (black screen and a copyright message after it).

Working With TAP Files (tape emulation) in FATware.

- Press NMI button on the controller; a simple file selector appears.
- Using cursor keys (CAPS SHIFT+6, CAPS SHIFT+7) locate the requested file with TAP extension which you want to work with and press ENTER.
- Using LOAD "name" command (or just LOAD "") load the file in just the very same way as from tape, but dramatically faster.

Disconnecting DivIDE from the Computer

- Turn the computer off
- Turn the power of the IDE device (skip this when using CF-IDE)
- Remove the interface from the computer's edge connector carefully. Don't wobble with it!