

ST506 Interface to IDE



Overview

IDE was an acronym for Integrated Drive Electronics. The earlier standard, which we colloquially call MFM but would more properly call ST506, put most of the drive control logic on the host interface, which was whatever controller card you connected to the computer to. 2.5" 6495 MB IDE drive next to a 5.25" full-height 111 MB MFM drive. The ST-506 and ST-412 (sometimes written ST506 and ST412) were early hard disk drives introduced by Seagate in 1980 and 1981 respectively, that later became construed as hard disk drive interfaces: the ST-506 disk interface. In the early 1980's the so called "Winchester" ST-506 drives were by far the most commonly used drives. Introduced in 1980 by Seagate Technology (then Shugart Technology), it stored up to 5 megabytes after formatting. With the ST-506 interface. Even installing an older IDE hard drive would be sufficient, but a quick googling yielded no results. All kind of tips and tricks welcome and appreciated. The controller used an interface called the ST-506 after Seagate ST-506 hard drive. The IBM original controller only officially supported one type of hard drive in its first. As most everyone knows, the AT Attachment standard (informally known as IDE) started by literally bolting the previously standalone

AT disk controller onto a MFM drive with a ST506 interface and connecting the assembly to the host system with a 40-pin ribbon cable. The only standard that outlasted it was SATA, which is a direct descendant.

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The elusive debug commands you speak of are not specifically for the ST506 interface, it was firmware added to 8 bit cards for the old XT generation machines which didn't have any hard ...



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The interface to clone/emulate the drive is all Linux command line based, and it takes multiple steps to get it configured and there is currently no GUI or even text based unified interface.



ST506 is the common interface name used by "RLL" HDDs before IDE took over. It is very similar to floppy signaling, but is 5 MHz data rate (MFM is 10 MHz). Since the microcontroller on ...



The ST-506 was a 5MB drive and used a two-cable interface. The IBM original controller only officially supported one type of hard drive in its first two iterations, the ST-412. The ST-412 functioned like the ...



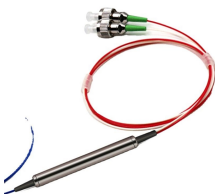
Likewise a few early IDE drives were just drives with an ST-412 interface attached to a controller board or chip. Ultimately all SCSI and ATA drives had built the controller into the drive, thereby eliminating ...



Long answer: Yes, but it's expensive. ST412/ST506 are more like "analogue" connections. The actual MFM/RLL HDD controller you have in PCs is a WD1003 compatible. ...



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The IDE interface supports up to two drives on its 40-conductor cable in daisy-chain fashion. The primary drive, drive 0, is referred to as the master, while the secondary drive, drive 1, is the slave.



Here I wish to describe a S-100 prototype board I constructed that allows one to interface the S-100 bus with a standard IDE drive interface. This increases tremendously the range of drives ...

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For more information, pricing, or custom energy solutions, please contact us:

Website: <https://gdroofing.co.za>

Email: sales@gdroofing.co.za

Phone: +27 72 418 9365

Address: 22 Electron Avenue, Isando, Johannesburg, 1600, South Africa

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