# Qlogic FASXXX Family Driver Notes

This driver supports the Qlogic FASXXX family of chips. This driver only works with the ISA, VLB, and PCMCIA versions of the Qlogic FastSCSI! cards as well as any other card based on the FASXX chip (including the Control Concepts SCSI/IDE/SIO/PIO/FDC cards).

This driver does NOT support the PCI version. Support for these PCI Qlogic boards:

- IQ-PCI
- IQ-PCI-10
- IQ-PCI-D

is provided by the qla1280 driver.

Nor does it support the PCI-Basic, which is supported by the 'am53c974' driver.

## PCMCIA Support

This currently only works if the card is enabled first from DOS. This means you will have to load your socket and card services, and QL41DOS.SYS and QL40ENBL.SYS. These are a minimum, but loading the rest of the modules won't interfere with the operation. The next thing to do is load the kernel without resetting the hardware, which can be a simple ctrl-alt-delete with a boot floppy, or by using loadlin with the kernel image accessible from DOS. If you are using the Linux PCMCIA driver, you will have to adjust it or otherwise stop it from configuring the card.

I am working with the PCMCIA group to make it more flexible, but that may take a while.

## All Cards

The top of the qlogic.c file has a number of defines that controls configuration. As shipped, it provides a balance between speed and function. If there are any problems, try setting SLOW_CABLE to 1, and then try changing USE_IRQ and TURBO_PDMA to zero. If you are familiar with SCSI, there are other settings which can tune the bus.

It may be a good idea to enable RESET_AT_START, especially if the devices may not have been just powered up, or if you are restarting after a crash, since they may be busy trying to complete the last command or something. It comes up faster if this is set to zero, and if you have reliable hardware and connections it may be more useful to not reset things.

## Some Troubleshooting Tips

Make sure it works properly under DOS. You should also do an initial FDISK on a new drive if you want partitions.

Don't enable all the speedups first. If anything is wrong, they will make any problem worse.

## Important

The best way to test if your cables, termination, etc. are good is to copy a very big file (e.g. a doublespace container file, or a very large executable or archive). It should be at least 5 megabytes, but you can do multiple tests on smaller files. Then do a COMP to verify that the file copied properly. (Turn off all caching when doing these tests, otherwise you will test your RAM and not the files). Then do 10 COMPs, comparing the same file on the SCSI hard drive, i.e. "COMP realbig.doc realbig.doc". Then do it after the computer gets warm.

I noticed my system which seems to work 100% would fail this test if the computer was left on for a few hours. It was worse with longer cables, and more devices on the SCSI bus. What seems to happen is that it gets a false ACK causing an extra byte to be inserted into the stream (and this is not detected). This can be caused by bad termination (the ACK can be reflected), or by noise when the chips work less well because of the heat, or when cables get too long for the speed.

Remember, if it doesn't work under DOS, it probably won't work under Linux.