

dtc3x80.txt

README file for the Linux DTC3180/3280 scsi driver.
by Ray Van Tassle (rayvt@comm.mot.com) March 1996
Based on the generic & core NCR5380 code by Drew Eckhard

SCSI device driver for the DTC 3180/3280.
Data Technology Corp---a division of Qume.

The 3280 has a standard floppy interface.

The 3180 does not. Otherwise, they are identical.

The DTC3x80 does not support DMA but it does have Pseudo-DMA which is supported by the driver.

Its DTC406 scsi chip is supposedly compatible with the NCR 53C400.
It is memory mapped, uses an IRQ, but no dma or io-port. There is internal DMA, between SCSI bus and an on-chip 128-byte buffer. Double buffering is done automagically by the chip. Data is transferred between the on-chip buffer and CPU/RAM via memory moves.

The driver detects the possible memory addresses (jumper selectable):
CC00, DC00, C800, and D800

The possible IRQ's (jumper selectable) are:
IRQ 10, 11, 12, 15

Parity is supported by the chip, but not by this driver.
Information can be obtained from /proc/scsi/dtc3c80/N.

Note on interrupts:

The documentation says that it can be set to interrupt whenever the on-chip buffer needs CPU attention. I couldn't get this to work. So the driver polls for data-ready in the pseudo-DMA transfer routine. The interrupt support routines in the NCR3280.c core modules handle scsi disconnect/reconnect, and this (mostly) works. However..... I have tested it with 4 totally different hard drives (both SCSI-1 and SCSI-2), and one CDROM drive. Interrupts works great for all but one specific hard drive. For this one, the driver will eventually hang in the transfer state. I have tested with: "dd bs=4k count=2k of=/dev/null if=/dev/sdb". It reads ok for a while, then hangs. After beating my head against this for a couple of weeks, getting nowhere, I give up. So.....This driver does NOT use interrupts, even if you have the card jumpered to an IRQ. Probably nobody will ever care.