

QL RomDisq

This small card for the QL is designed to plug in to the QLs rom slot. and gives up to 8 mbytes of writeable but permanent memory. Note the 2 and 4mb versions do not have all ICs fitted. Each 8 mb *RomDisq* has over 64 million transistors - quite good value per transistor!

Fitting Instructions/ Getting started

SWITCH OFF INPUT POWER. *RomDisq* contains static sensitive devices. When not fitted keep it in the supplied antistatic conductive bag. When fitting in or removing from the QL, keep one hand on a metal part on the QL - eg Gold Card heat sink. Remove the QLs ROM cover plate, or existing rom, and plug in *RomDisq*. Note for the QL, the large chip with version sticker must face downwards. It can be fitted to Aurora with our adapter. Fit the adapter such that the ROM connector faces inwards towards Aurora, and then plug in *RomDisq* (chip with sticker upwards this time!). If you are using the Qubbesoft adapter, follow their instructions. Do not use an adaptor that has ribbon cable on it - *RomDisq* will not work reliably as extra noise is generated. **NOTE: *RomDisq* will not work when Gold Card (or Trump Card) and Qubide are used together without use of a modified GAL2 and RESPR version of qubide driver (available from us or Qubbesoft).** *RomDisq* cannot be used on QLs without extra memory, or a QL rebooted with RES_128.

We have found some QLs have very dirty ROM slot connectors, especially if the ROM slot has never been used. If you suspect yours, then clean it with a fibreglass contact cleaner brush (if you have it!). I use an old toothbrush with meths, isopropyl alcohol or a professional contact cleaner lubricant.

If you are using Qubide, make sure you use an address location for the driver that does not use the ROM port (C000) or *RomDisq* (or any other plug in ROM) will not work. All jumpers off is recommended for Super Gold Card for instance.

NOTE: The driver necessary to run *RomDisq* is stored internally on *RomDisq* and loads automatically at boot up. No action is normally necessary by the user.

LRUN rom1_backup_bas and this will copy to a formatted disk in flp1_ to BOOT and rewrite the ROM driver, should this be necessary with a crashed *RomDisq*.

RomDisq as supplied will load the superHermes UK driver, and STOP. The first task is to copy the file to re-install the driver if it should become necessary (ROMD_EXE) from *RomDisq* to say floppy, and create rom1_BOOT file to suit yourself, and copy all the files you need to *RomDisq*. Don't underestimate this task - you may well not have touched your favourite BOOT program for years! Don't forget there may be reference to a device in program EXECable files (config blocks) or in program configuration files. If there is a problem with your boot which stops the QL starting, then the QL can be booted direct off floppy disk and rom1_BOOT fixed.

It is recommended that all files that are loaded by your normal boot program (eg drivers, QPAC2, SMSQ etc) are stored on *RomDisq* and loaded from there (capacity of *RomDisq* permitting of course), with a suitable rom1_BOOT. The RESPR version of Qubide is very relevant here, as upgrades become very easy (You should remove the EPROM on Qubide). If you want to write protect the contents, fit the jumper on to one pin only (two pin connector nearest the gold edge connector). If you find in use that *RomDisq* fails to initialise at boot up (eg after a power failure or crash while copying), it can often be recovered by EXECing the driver program. It may then need formatting (see *Using RomDisq*). If that fails, then return it to us for recovery.

Jumpers

WRITE PROTECT - this jumper is nearest the QL edge connector. When not fitted (or fitted to one pin) the *RomDisq* is write protected.

EXTERNAL LED This jumper is at a corner of the board near the large capacitor. Connect an external LED here if using *RomDisq* in a situation where the internal LED is not visible (ie tower case). Polarity is important - if there is no light when writing, then reverse it. The external LED should have no series resistance - it will be faint if there is. **DO NOT SWITCH OFF POWER OR PRESS RESET WHEN THIS LED IS LIT.** Note the write/erase activity may continue in the background.

DISABLING *RomDisq* This jumper (if fitted) is opposite the QL edge connector, 1/3 of the way along the back. If you want to disable *RomDisq* (ie RES_128 reboot) then connect a jumper (eg write protect jumper), or if desired connect a switch via a cable. If in a tower case, keylock is ideal.

Software The logic chip on board contains code written by Stuart Honeyball to address the flash memory. If upgrades to this code are necessary these can be carried out by us. Tony Tebby's directory device driver loads automatically at power up/reset from *RomDisq*. Update of the driver is automatic by EXECing a QL program. This will be on QBBS (01442-828255), by post, or on my homepage (<http://www.firshman.demon.co.uk>). If you want a new driver and haven't modem access, then send me a stamped addressed envelope (two IRCs if overseas) and floppy disk when you hear about a new driver.

Using *RomDisq*

If a basic program called BOOT is found on *RomDisq*, then the QL will LRUN this. If no rom1_BOOT exists, then the *RomDisq* driver (and any ROMn files - see below) will load. The QL will then boot normally. ie the QL will boot off flp, win etc. If there is no FLP or WIN driver, the QL will boot off mdv1_ as normally.

All standard QL directory commands (LRUN, EXEC, SAVE, DELETE, FORMAT, LBYTES, SBYTES etc) apply with the device name ROM1_.

eg EXEC rom1_xchange will execute xchange from *RomDisq*.
 FORMAT 'rom1_' will format *RomDisq*
 FORMAT 'rom1_full' will format & do a detailed check of each location
 (recommended if

you are restoring a crashed *RomDisq* after driver failure.

If you use the commands FLP_USE 'xxx':ROM_USE 'flp' then any reference to 'flp' in programs etc will be changed to 'rom'. DEV_USE can also be used (see TKII documentation).

ROM_LOAD device will load and initialise a standard QL rom or RESPR driver.

SBYTES 'flp1_tk3',49152,16384 and copy this to *RomDisq*.
ROM_LOAD 'rom1_TK3' will set up the toolkit 3 rom.

If a file ROM1, ROM2, ROM3, or ROM4 (case independent) exists in the root directory of *RomDisq*, then this will be initialised prior to F1/F2. This file must be either a bootable ROM, or a RESPR driver file, otherwise the *RomDisq* may cause the QL to lock up (this would require a TF Services rescue!).

Warning: some roms are designed only to work in the ROM slot (direct addressing) or write to themselves as a copy protection trick.

ROM_SPEED n

n=2 - fast file read/write - RAM based lookup table
n=0 - slower read/write (default) as lookup table is on *RomDisq* (safer if you often write to *RomDisq*) There is slightly more risk of data damage on *RomDisq* if the QL crashes.

Tony Tebby's level 2 device driver works in much the same way as on floppy disks - ie you can set hard directories and files are backup date stamped. There is one major difference. *RomDisq* can only be erased in 64k blocks. This operation is performed automatically as necessary by the driver. Each block can be erased at least 100,000 times. This does not mean an erasure every time a file is written, but only when there is no blank memory left. We would not expect a *RomDisq* to reach its design life in normal use, especially with a *RomDisq* with at least 64k free. In view of this this we will repair free of charge any *RomDisq* that fails prematurely. This does not cover a *RomDisq* destroyed by power surges, lightning, or direct physical damage.

A *RomDisq* can be returned to us for upgrading to 4mb or 8mb for the difference in price (including postage etc). Note you should save any files on disk, as the *RomDisq* will be re-formatted.

(c) 1998 Tony Firshman, Stuart Honeyball, Tony Tebby (27 Jan 00)