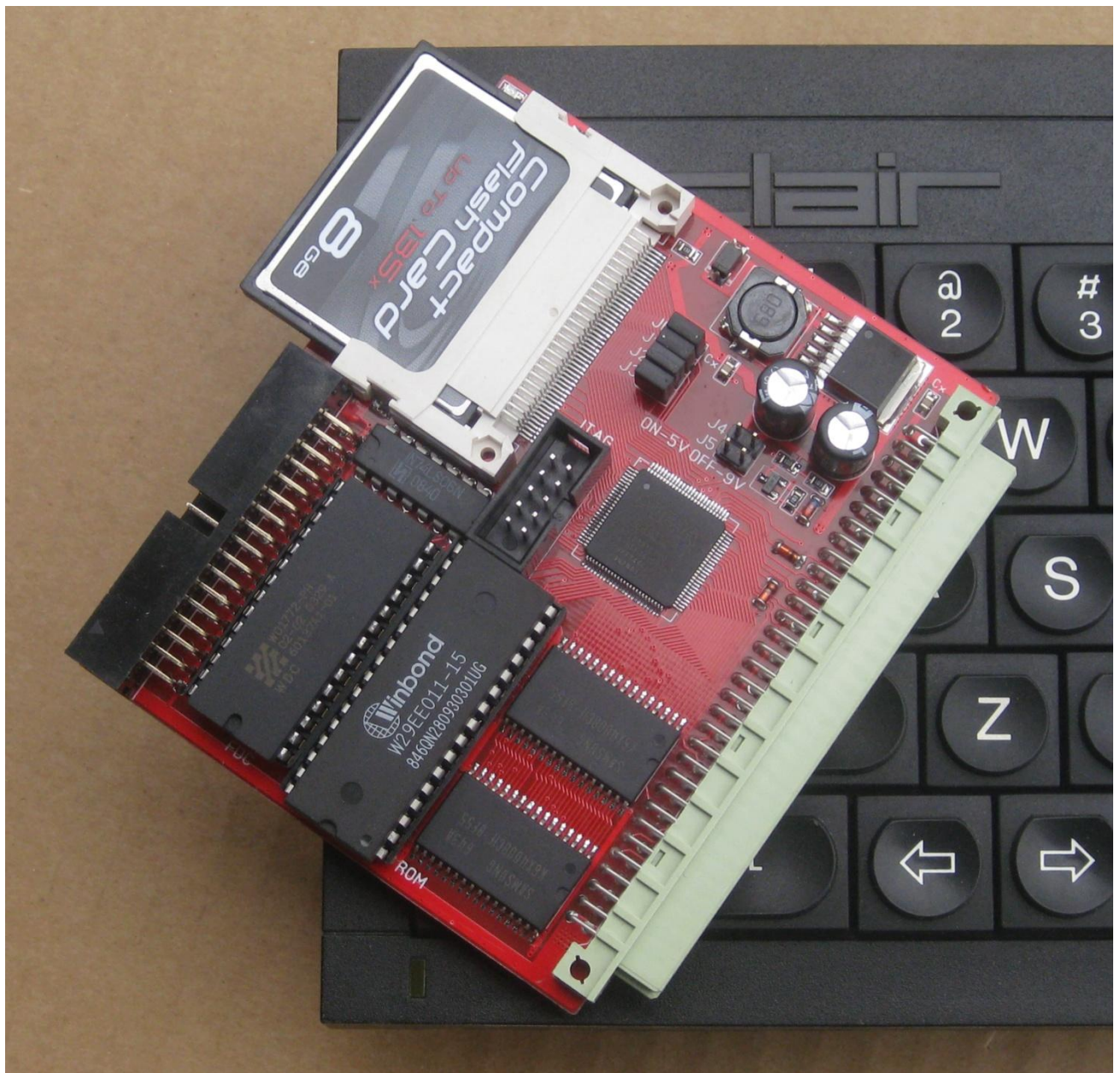


Tetroid disk interface (TDI)

QL Memory expansion, Floppy disk drive, Compact Flash card Interface and built-in Minerva ROM.

Installation and User Guide



Introduction.

The TDI interface consists of four hardware parts :

1. 768 Kb memory expansion
2. Floppy disk interface, based on Miracle Trump card interface logic, with Toolkit II software.
3. Compact flash card interface, based on QUBIDE/QUBATA interface logic.
4. QL ROM replacement – Minerva ROM with Toolkit II software.

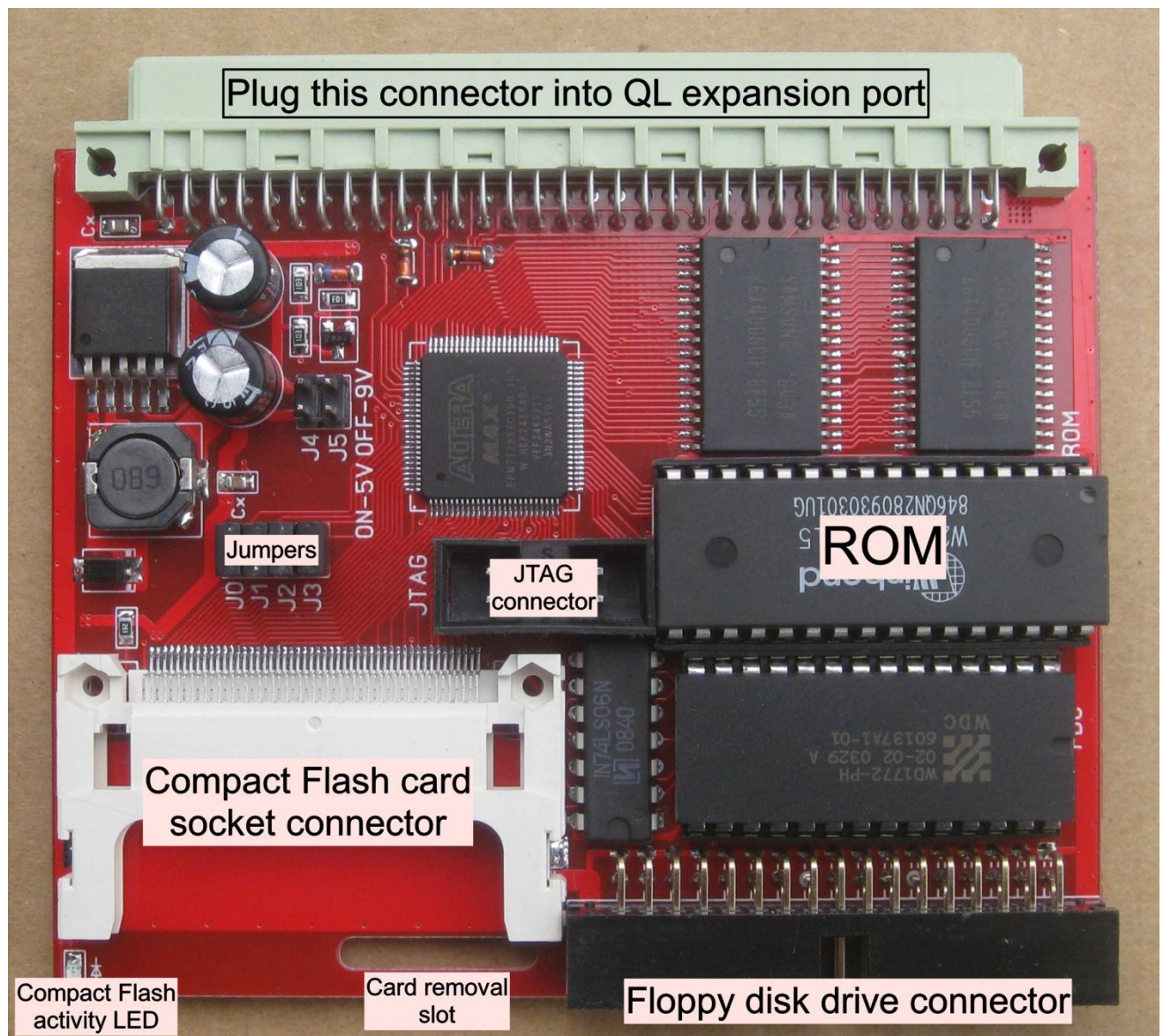
You can enable and disable any of these parts as you wish.

Power Requirement

TDI uses power from the QL. We have taken every step we could think of to keep the power drain to a minimum. The interface has a switch-mode power supply and should represent a negligible power drain on your system.

Connectors and jumpers

TDI has four Connectors and two jumper blocks, one of which consists of 4 jumpers (J0, J1, J2, J3, which are used to configure the card), the other consisting of 2 jumpers (J4 & J5) , used to select the input voltage. The locations of these are shown below.



Configuring the card

Be sure to configure the card BEFORE you fit it into your system, because the jumpers might be inaccessible once the card is plugged in !

Jumper J0 – J3 settings :

Jumper	Open	Close
J0	Minerva ROM disabled	Minerva ROM enabled
J1	768Kb memory expansion disabled	768Kb memory expansion enabled
J2	Floppy disk interface disabled	Floppy disk interface enabled
J3	QUBIDE / QUBATA interface disabled	QUBIDE / QUBATA interface enabled

Selecting the base address of QUBIDE / QUBATA

To ensure compatibility of QUBIDE/QUBATA and Trump card, the address of the QUBIDE drivers in memory is fixed as 0C000h. This means that the external ROM port will no longer be usable and any ROM cartridge plugged-in will not be detected by the QL.

Selecting the Minerva ROM

When you set J0 jumper to **Close** position the internal QL ROM is replaced by Minerva ROM from TDI. Don't need to open QL cover and remove internal ROM chips. TDI ROM also contains ToolKit II software, but this feature won't work if QUBIDE / QUBATA interface is enabled (J3 - **Close**).

Running the board from +5v

There are two jumpers (J4 & J5) which, when left open (default setting) allow the TDI to convert the 9v unregulated supply given out by the QL into +5v via a voltage regulator on the TDI.

If you have a powered backplane, where the 9V rail is being supplied with +5v, the TDI will cease to function. To get TDI functioning again you must place jumpers on both J4 & J5. This will by-pass the on-board voltage regulator and supply the interface directly with +5v.

WARNING !!!!! If these jumpers are not removed when plugged into a standard QL arrangement, there will be FATAL consequences for the TDI and possibly any Compact flash card installed in the TDI.

Fitting and removing the interface.

Before connecting or disconnecting the TDI to or from your QL system **BE SURE TO SWITCH OFF ALL THE POWER TO YOUR SYSTEM!!!**

If you have a standard QL remove the plastic cover from the expansion port located on the left-hand side of the QL. This should expose the QL's expansion port. Carefully plug the TDI into the exposed expansion port, taking care not to apply excessive force.

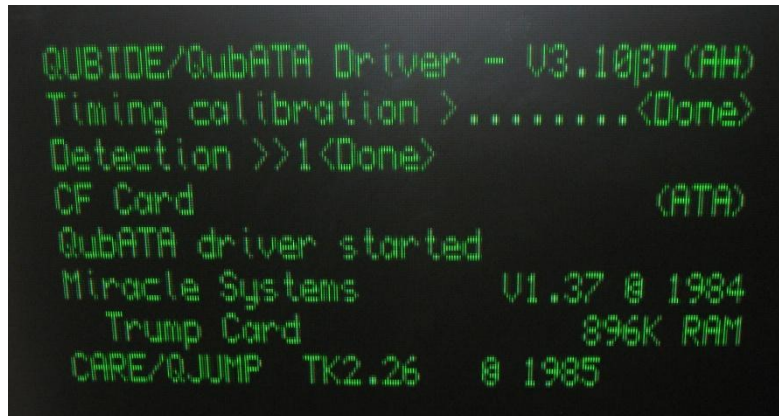
Fitting and removing the Compact flash card into the TDI

Before you fit and remove a Compact Flash card **BE SURE TO SWITCH OFF ALL THE POWER TO YOUR SYSTEM!!!**

Getting up and running

Once you have configured the jumpers on the TDI for your preferred configuration, connected the TDI to your QL and insert a CF card and / or connected a floppy disk drive, you can power up your QL and floppy disk drive.

As the QL boots the following messages will appear on your screen:



The QUBIDE / QUBATA and/or Floppy disk interface messages will only be present if the respective devices are enabled, depending on chosen Jumpers settings (J1 - J3).

If the expected messages do not appear, switch everything off and check the jumper settings and the physical connection with the QL.

Using your CF card.

For information on how to use your CF card, please refer to QUBIDE / QUBATA software manual.

Using your Floppy disk drives.

For information on using a floppy disk drive, please refer to Miracle Trump card user software manual.

TDI ROM mapping

The TDI has 128 Kbytes of ROM, for which you can use any versions of Trump card, QUBIDE / QUBATA ROM images and QL ROM replacement images, according the following mapping :

TDI Internal ROM address ranges	Image
00000h – 07FFFh	Trump card ROM
08000h – 0BFFFh	QUBIDE / QUBATA ROM
0C000h - 0FFFFh	Not used
10000h – 0BFFFh	QL ROM 0000h – BFFFh (Minerva ROM)
1C000h - 1FFFFh	QL ROM-port C000h – FFFFh (TK2 extension)

Internal ROM Address ranges - remapped to the appropriate address-space within the QL Memory map.