

Installing control cards in a laser control computer.

Telesis laser systems require various cards in the laser control computer. Lasers with embedded computers have these already installed, and systems with separate computers supplied by Telesis also come with the cards installed. In the event that you are using a computer that you have supplied, or are adding an I/O kit to an existing system, you'll need to install the board(s).

All computers require an RTC card (Real Time Controller) to control the laser and Galvo (Laser steering head). FQ series lasers may also have an additional connector that requires a slot. If an I/O kit is also needed, an additional slot is required. The RTC card requires a standard PCI slot. The FQ may need an additional mounting slot in the back of the computer (not a pci slot, but an opening for the connector next to the RTC card). The I/O kit has a PCI/DIO card that is available in either a PCI or PCIe configuration.

Installation requires several steps:

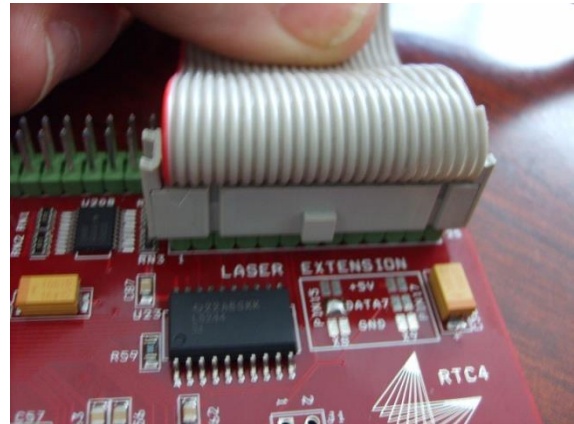
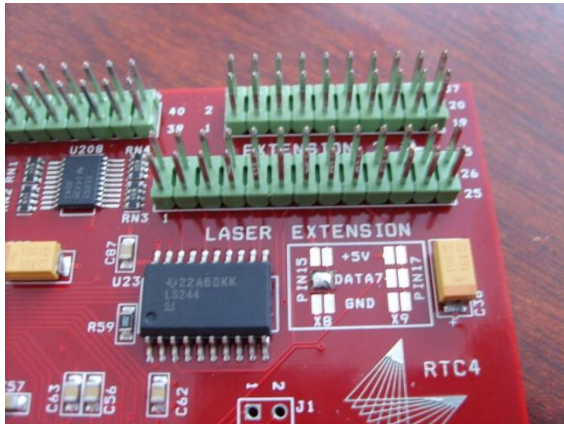
The Merlin software folder must be copied onto the C drive. Installation from a CD or UBS drive usually does not work. Open the Merlin folder and install the Merlin II LS software. Start the software, you may get an error that no RTC or I/O card is present, which can be ignored.

Close Merlin and shut down the computer. Install the RTC card in an available PCI slot. If it will be used with an FQ laser, make sure there is an empty slot next to it for the Laser Extension connector. If the Laser Extension connector is not connected to the RTC card, locate the Laser Extension connection on the RTC card, and attach the ribbon cable, making sure that the red edge is on the side where the #1 pin is located.

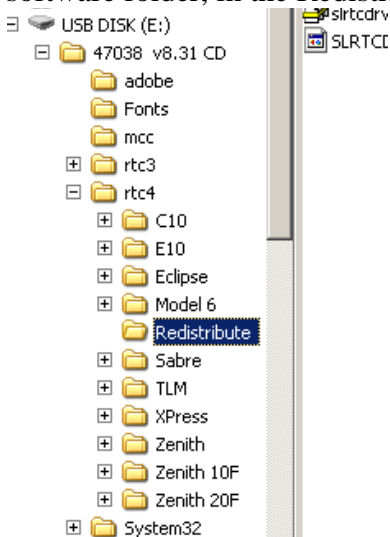
In the picture below, the RTC card is located in the first PCI slot, with an empty slot beside it.



The pictures below show the Laser Extension connection, and the cable attached to it.



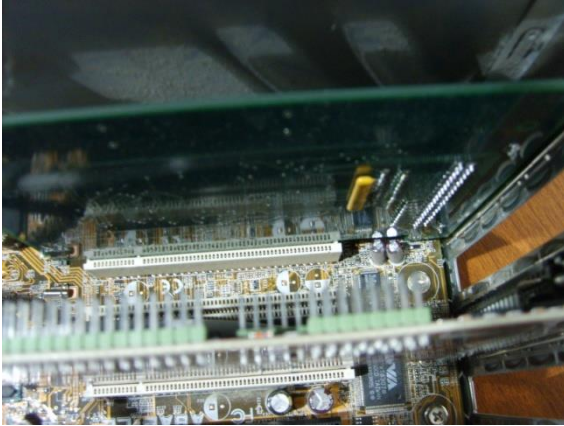
Once the card is installed, restart the computer. The Found New Hardware wizard should open and indicate it found the RTC card. It will ask for a location of the driver(s) for the card, which are located in the Merlin software folder, in the Redistribute folder inside the RTC4 folder.



If the windows system does not recognize the hardware, please go to Control panel hardware and device manager and update the driver manually. The card will be installed when the description is ScanLAB RTC\$.

Once the software is loaded and the drivers installed, start Merlin. In the lower righthand corner of the Merlin window it should indicate that it is Laser mode.

To install an I/O kit, shut the computer down, and insert the PCI/DIO card in an available PCI or PCIe slot. Below is a picture of the PCI/DIO card inserted in the appropriate slot, and a view from the back showing the RTC card, the space for the laser extension connector, and the PCI/DIO card.



Once the card is in place, start the computer, and go through the same steps as with the RTC card. If asked for the location of the driver, point to the mcc folder in the Merlin software folder.

Open the mcc folder, and run the icalsetup program. This will set up the PCI/DIO card for use with Merlin II LS.

To activate the I/O card, You will need to go to Merlin software and to Machine properties and select the checkbox next to PCI DI/O 24 to activate.