MAZAK® M PLUS/ T PLUS Memory Upgrade

Installation Instructions

Memory upgrade instructions for the MAZAK M-PLUS control.

Before starting this upgrade, we highly recommend that you acquire Cassette Magnetic Tape (CMT) I/O software from Mazak. It can be obtained from your local distributor or by calling Mazak direct. Using this software assures that all data is saved in the correct format and nothing will be lost. It will also allow you to upload and download Mazatrol programs to your machine.

If you are upgrading memory from 512k to 1.5meg, please follow the steps below.
Home all axis before beginning.

1. Go into Privileged Mode (if you know how to go to privilege mode, skip to step 2)

    a. Press far left soft key

    b. Press Param soft key

    c.   Press far right soft key

    d.   Type in the number 1131 and press input (it should show up on the screen as shown above)

2.   Change "O" parameters, see below

    a.   Press far right key if "O" parameters are not already visible and press Option Param soft key

b. Arrow over to appropriate parameter and enter value
c. Press input key
The following changes should be made to the "O" parameters now
O5=9
O37=2
O100=16

At this point, you should back up all your Programs, Tool Data, Tool Offsets, Tool C. Conditions, Work Offsets, User Parameters, Machine Parameters, Macro Variables, Add WPC and Maintenance. Back up to EEPROM and to a file.

A) **Save All Data To Microdisk.**
Note! The machine control macros for tool change and C-axis engagement must be saved on some Slant Turn and Integrex machines. To determine if these macros are present follow the procedure below (Steps 1 - 7). If you do not have a Slant Turn or Integrex machine, continue in section "B" below.
1.) On the POSITION page push the "Screen Selection" Key. (Extreme left key under CRT)
2.) Push "PROGRAM".
3.) PROGRAM FILE.
4.) Push "DEVICE CHANGE".
5.) Key in "01", and push "INPUT". If the macro programs are listed on the screen, save them to Micro Disk, otherwise continue with step 6 of this procedure.
6.) Push "DEVICE CHANGE".
7.) Key in "10", and push "INPUT". This returns the part program file.

If your control does not have a "Device Change" soft key, you may have to access your 9000 programs and macros by changing "O" parameter 108 to a 1. This will give you access to these programs. If you go to your programs after changing this parameter, you will see previously hidden programs. Back these up as you would your normal programs.

Save Data to EEPROM

1.) Push the Screen Selection Key. (Extreme left key under CRT)
2.) Push "DIAGNOS".
3.) Push "VERSION".
4.) Push "DIAGNOSE MONITOR".
5.) Push "MEMORY EEPROM".
6.) Move the cursor down from "MEMORY (0)" to ROM (0)".
6a.)Press 1 and press input to change "ROM(0)" to "ROM(1)"
7.) Push "START". "ROM (1)" changes to "ROM (0)".
8.) Cycle power on the control. You should see the screen below from anywhere from 1-30 seconds.
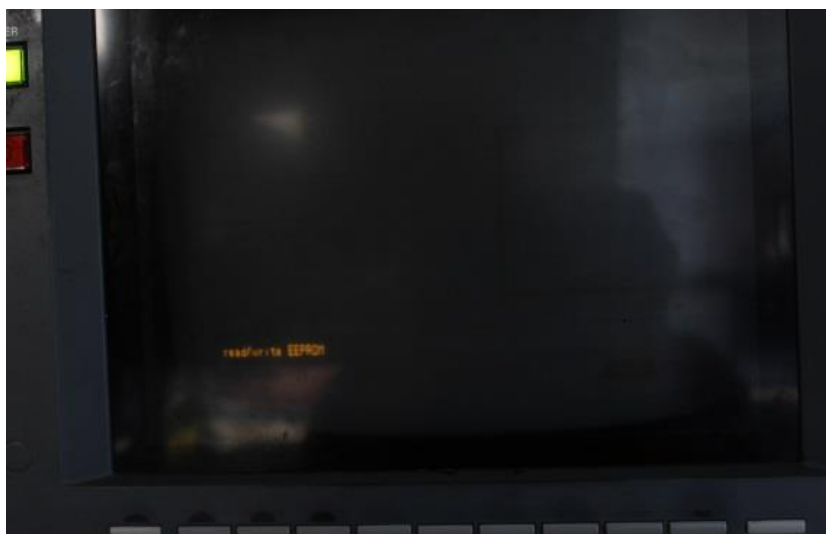
This will ensure that your data (parameters etc) are saved. Use the CMT to backup your data. If you do not have Mazak's CMT software, use software you know and trust will save your parameters correctly. Once you initialize the memory, there is no going back. Hopefully it will not be needed, as you should be able to restore from the EEPROM. This is an extra safety step to ensure all data is saved.

1. Press the Data I/O soft key
2. Press the CMT soft key
3. Press the NC>CMT soft key
4. Move cursor to Tool Data field
5. Highlight all items in this area, including User Parameters, Machine parameters etc by pressing the input button

You should already have the CMT software open and ready to go. It looks like below.

Please note that you will have to choose the correct control (in this case
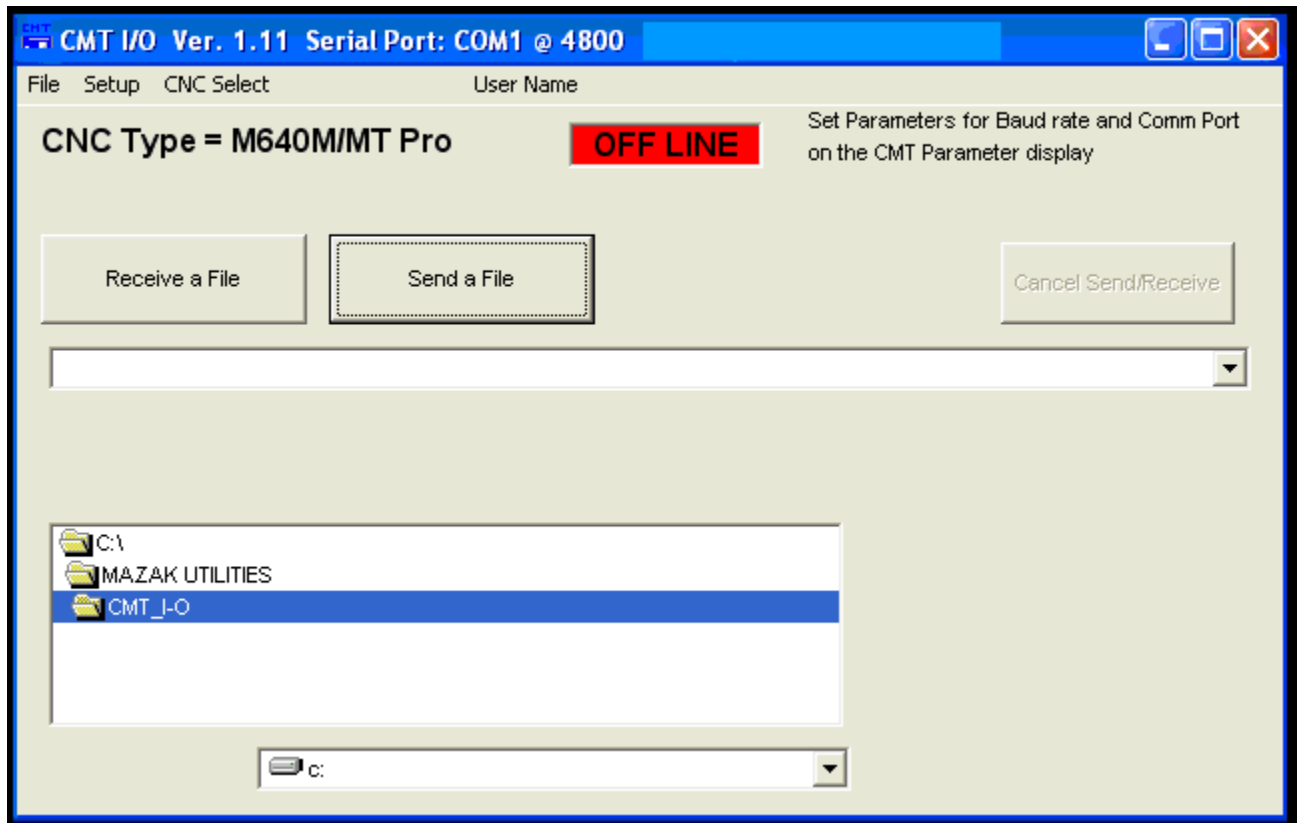
M Plus) under the CNC Select menu. Make sure your machine parameters are set according to what the software indicates in the top right of the window.

Press "Receive file" on CMT software and press "Start" soft key on control. As the data is being transferred, the highlighted items on your control will go out indicating that it has transferred. When all is unhighlighted, you are finished backing up your control.
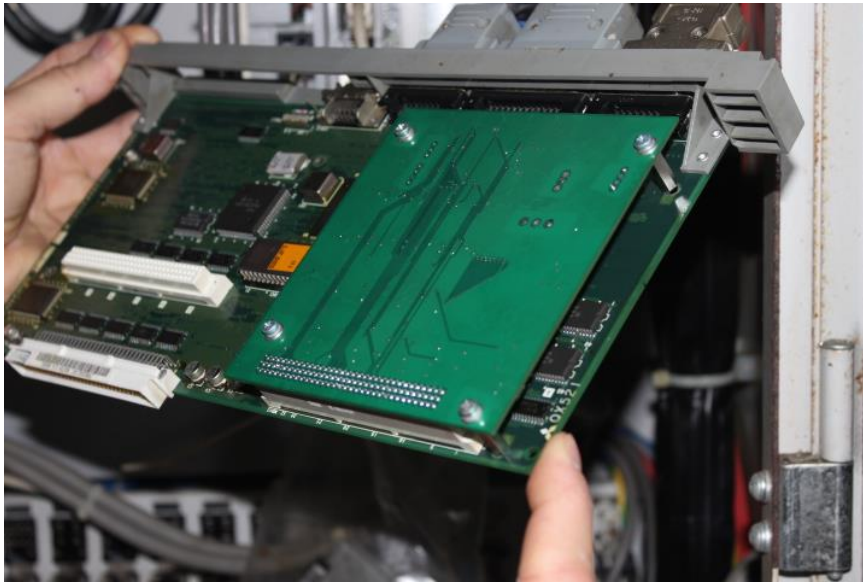
Power off the control.

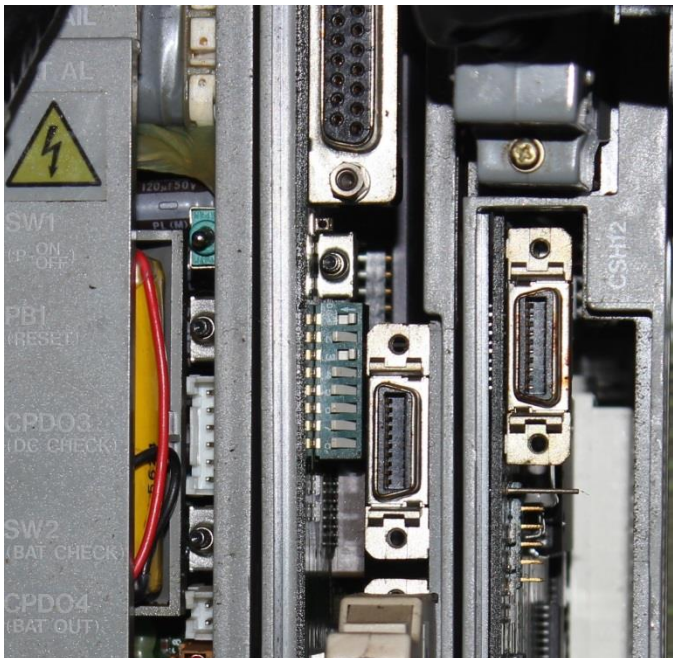Open up the electrical cabinet and locate the QX521 or QX524 board.
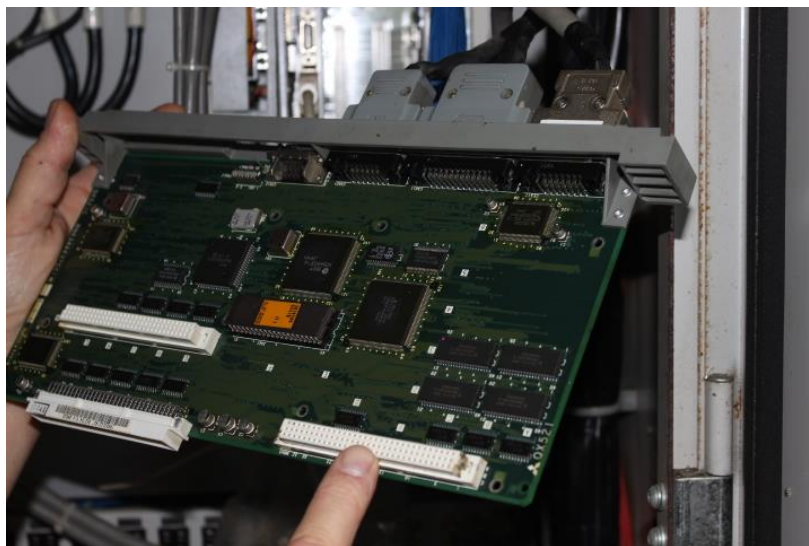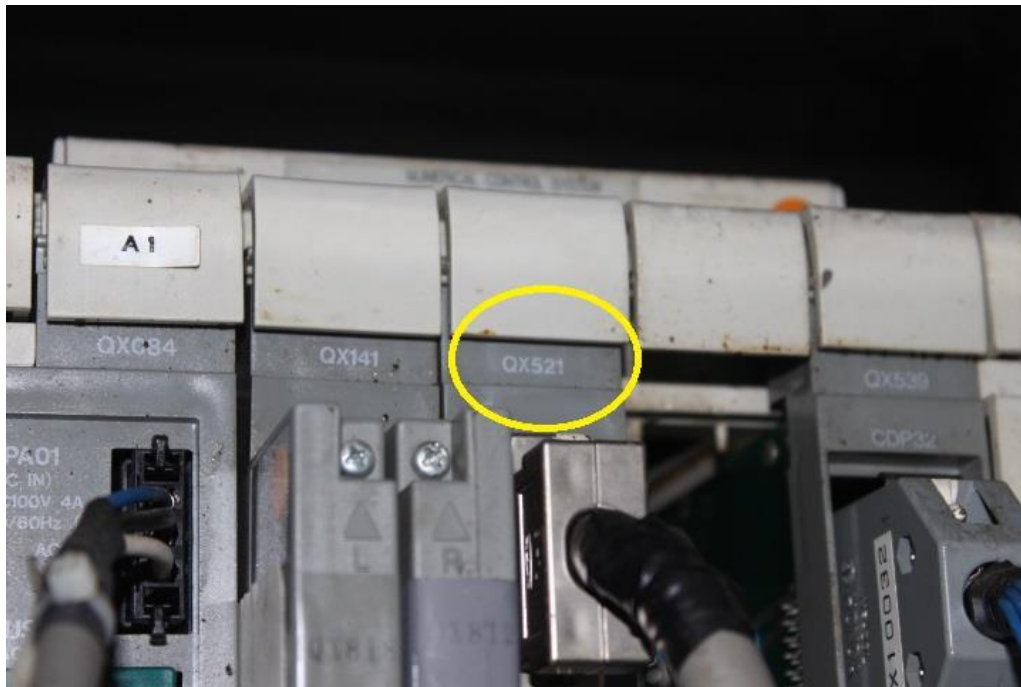
Remove the board from the rack.

Install the new memory onto the QX521/QX524 board as shown; you may have to remove the existing board and/or install the stand offs. Slide the board back into the rack and lock it in.

Locate the dip switches on the QX141 board and push switch 1 and 3 to the right as shown below.

Power on the control and watch the 2 small green LED's just below the dip switches. They should come on, go out for a second and then come on steady. It has also been reported that they should go out after 30 seconds, but that has not been my experience.

Power off the control and move switches 1 and 3 back to the left.

Power on the control.

You should see the control come up as normal, however, all your parameters will be 0's.

Go into privilege mode (see above for procedure) and then go to Diagnos Monitor (see above for procedure) and move cursor to ROM(0) and enter 2 and press input. The 0 changes to a 2. Press Start and the 2 changes back to a 0. Your machine is now ready to restore from the EEPROM. Power off machine and wait 15 seconds. Power control back on. Restoring parameters will take 1-30 seconds. Once complete, you should be able to bring up your parameter screen and see all of your original parameters.

Go into "Privileged Mode".
Go to "Diagnos page" and select the "Data Erase" menu key. Select all of the display data by using the menu keys to highlight them.
The —> key must be used to get into the "Program", "Maintenance Check" or "System Program". Failure to do the "System Program" area will result in a 442 alarm (Data Renewal not Allowed).
Note: "System Program" is the same as the T32's .00 memory area.
Key in -9999 & press "Input". This will clear all data.
Reload the programs and any other backed up information.
This concludes the upgrade. You should be able to go to your programs page and see that the % of program area used is much lower than before the upgrade.

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