TB213 (Rev3) - Upgrading to v2.6x+

Hardware Requirements

CPU Requirements: Minimum- PIII 800 Mhz, Recommended- P4 2Ghz Recommended

NOTE: 2.6X should work with most motherboards but the only sure way to tell if a particular brand/model/revision motherboard will work is for you to PERSONALLY test it. Newer motherboards have a High Performance Event Timer (HPET) Bios setting. If running CNC Linux v2.60 this needs to be disabled. You will experience the following problems if it isn't disabled:

- Software will start but the DRO and function keys would not display until the ESC key is pressed.
- The power meters will go to 100% with no motion from any axis, but the axes will still hold position.
- When in MDI mode, the block prompt won?t appear but the function keys will be there as if in MDI mode.
- Live PLC I/O works but no messages are displayed. Estop Detected, Limit Tripped, etc.

If you don't have the HPET Bios setting or dont want to disable it you will have to update to CNC Linux v2.61 or higher.

RAM Requirements: Minimum- 256MB, Recommended 512MB

Flash Card Requirements: Minimum- 1GB, Recommended 2GB

Note: If the older flash card is less then 1GB, the flash card reader will need to be replaced. Centroid sells new flash cards with the readers for $395 list

General Requirements and Preparation

In order to upgrade to v2.6x CNC software, a new compact flash card and reader is required. You simply cannot just upgrade with an upgrade disk/usb. To simplify the upgrade to 2.6x there are helper scripts that can be downloaded at www.centroidcnc.com/dealersupport/downloads/software/linux/helperscripts.zip. The zip file will contain 3 folders: backup, restore, and current_backup. Extract the zip file onto an empty 2GB USB storage device. The script files within these folders will be used to automatically back up and restore the system files for either Mill or Lathe controls. You can order a pre loaded flash card and reader from tech support or you can build your own. If you choose to build you own v2.6x flash card. Download the 2.6x ISO file, Using your desktop: burn the ISO to CD and with a new flash card installed in your PC's reader. Boot from CD and follow the instructions to create new flach card HD for the control. Note: DO NOT use this ISO on an existing system.

Performing the Upgrade using the helper scripts

1. Insert the USB device with the "helper scripts" folders
2. Press F7 - Utility then F2 - Update.
3. Select the install.sh file in the backup folder on the USB device. This will backup the g-code, intercon, and report files all-in-one.
4. Once the files are backed you will need to power off. From the main screen Press F10 - Shutdown then F2 - Power Off.
5. Replace the old compact flash card with the new one.
6. Power the system back on.
7. Press F6 - Update.

Note: This is assuming the new flash card doesn't have a demo code or permanent unlocks. If the flash card isn't locked out of software then you would go to F7 - Utility, F2 - Update.
8. Select the install.sh file in the restore folder on the USB device. This will restore the g-code, intercon, and report files all-in-one.
9. Once the files are restored up it will prompt you to power off. Press F2 - Power Off to power down the control.
10. Power the system back on.
11. Test the system after the reboot. Be sure that the G-code files and Intercon programs have been restored. Check the machine configuration. For an ATC system, use ALT-K to check the carousel position and verify that the tool library is correct.

Note: A copy of the backup is saved on the USB device whenever an upgrade is performed using the helper scripts. This backup will be save in a created folder that is named with the current date and time. As more and more systems are updated, additions folders will

be created with saved backups. These backups should be periodically removed from the USB device so there is room for other updates.

For systems that do not have USB support, a report and backup of the CNC/ICN files will need to be created manually on floppy disks. Then you can update the report from floppy and restore the CNC/ICN files like before.

Network Configuration

If the system was setup to use DHCP then the networking configuration will not change. If the system was using a Static IP address, then changes need to be made to not only the ifcfg-eth0 file but the ifroute-eth0 file as well. The BOOTPROTO, BROADCAST, IPADDR, NETMASK, and NETWORK should be modified in the ifcfg-eth0 file and the GATEWAY will be modified in the ifroute-eth0 file. The following steps should be followed only if a network has been established before the upgrade. If not, please follow TB168 to gather the information needed to setup a Static IP.

Editing the ifcfg-eth0 file

1. Type edit /etc/sysconfig/network/ifcfg-eth0
2. Under BOOTPROTO, change 'dhcp' to 'static'
3. Enter the Broadcast address under BROADCAST
4. Enter the IP address under IPADDR
5. Enter the Subnet Mask address under NETMASK
6. Enter the Network address under NETWORK

The default ifcfg-eth0 file will look like this:

BOOTPROTO='dhcp'
BROADCAST="
ETHTOOL_OPTIONS="
IPADDR="
MTU="
NAME='Ethernet Adapter'
NETMASK="
NETWORK="
REMOTE_IPADDR="
STARTMODE='auto'
USERCONTROL='no'

If the control was using a static IP address of 192.168.0.3 on the network 192.168.0.0, the ifcfg-eth0 file would look like this:

BOOTPROTO='static'
BROADCAST='192.168.0.255'
ETHTOOL_OPTIONS="
IPADDR='192.168.0.3'
MTU="
NAME='Ethernet Adapter'
NETMASK='255.255.255.0'
NETWORK='192.168.0.0'
REMOTE_IPADDR="
STARTMODE='auto'
USERCONTROL='no'

Editing the ifroute-eth0 file

1. Type edit /etc/sysconfig/network/ifroute-eth0
2. Delete the the the # that is located in front of the default 192.168.0.1

3. Change the 192.168.0.1 to your current Default Gateway address

The default ifroute-eth0 file is set up to use DHCP and looks like this:

```
# route    gateway      remote_network device
# ======= =========== ============== ======
# default 192.168.0.1 -              -
```

If the control was using a static IP address of 192.168.0.3 on the network 192.168.0.0, the ifroute-eth0 file would look like this:

```
# route    gateway      remote_network device
# ======= =========== ============== ======
  default 192.168.0.1 -              -
```

Accelerated X Server Driver

Support for using accelerated X server drivers depends upon the motherboard chipset. Using an accelerated driver can improve system response, especially when scrolling through some menus or in the file editor. By default, accelerated X server support is disabled. When the system is booting, a prompt will appear that looks similar to this:

Available video drivers:

====================
(1) Keep previous (default: vesa)

(2) VESA

(3) via (recommended)

(0) choose

If no selection is made after 5 seconds the system will automatically select option (1). Since option (1) is the last selected video driver, there is no need to make a selection on every boot up.

In this example option (3) via is an accelerated video driver. This option will not appear if an accelerated video driver is not available.

To select an accelerated video driver press the number 3 when the available video drivers are displayed. In the example shown above, the "via" option would have been selected and will now be your default video driver.

Option (0) can be used in the rare cases where the video driver could not be automatically detected. This is not recommended and can cause display problems. If the system does have display problems, you can always reboot the system. It will always prompt you with available video drives to choose and simply select a different video driver.

One problem with using the accelerated video driver is that it may choose to change your display to 800x600 instead of the 1024x768. This depends upon the video chipset and/or the monitor. The 800x600 resolution wont be as "crisp" as the 1024x768. In this case it would be a matter of personal preference whether a "crisper" display is more important or faster user interface.

The video driver prompt can also be accessed at a Linux prompt by typing autogen_xorg_conf script and pressing enter. The system will need to be rebooted if changes have been made.

Document History

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