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Field Technical Procedure

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Printers Affected	**QS220, QS2000, QS3200, QS3220, QS3200r, QS3250r, TX3250r**

Firmware (VxWorks) Installation for Printers with Corvalent Motherboards

This document describes the steps required to install the following Firmware versions on printers with a 45086880 Corvalent motherboard installed:

- QS Software versions 1.3.0 (FW), 1.2.7 (MW), and 1.2.5 (VUI) and later releases
- QSr Software versions 1.6.4.8 (FW), 1.6.4.6 (MW), and 1.6.4.6 (VUI) and later releases
- TX3250r Software versions 2.0.2.0 (FW), 2.0.2.0 (MW), and 2.0.2.0 (VUI) and later releases

Note: This document is specifically for Firmware installation and Utilities using the 45086880 Corvalent motherboard and has not been tested on MB820 or Protech motherboards.

Before Starting

Follow the instructions in this section prior to starting the installation procedure.

- For safety concerns, please read and understand the EFI Ink Jet Printer Safety Guide located at https://inkjet.support.efi.com/doc.php?doc=683 prior to attempting any service work on your printer.
- Verify you have all the parts and software to complete this procedure.
- This procedure takes approximately **1 hour** to complete.

Required Materials

This procedure requires a DVD drive to install VX Works.

Optional Equipment

Systems utilizing 45040329 (or similar) SATA Hard Drives.

Procedure Overview

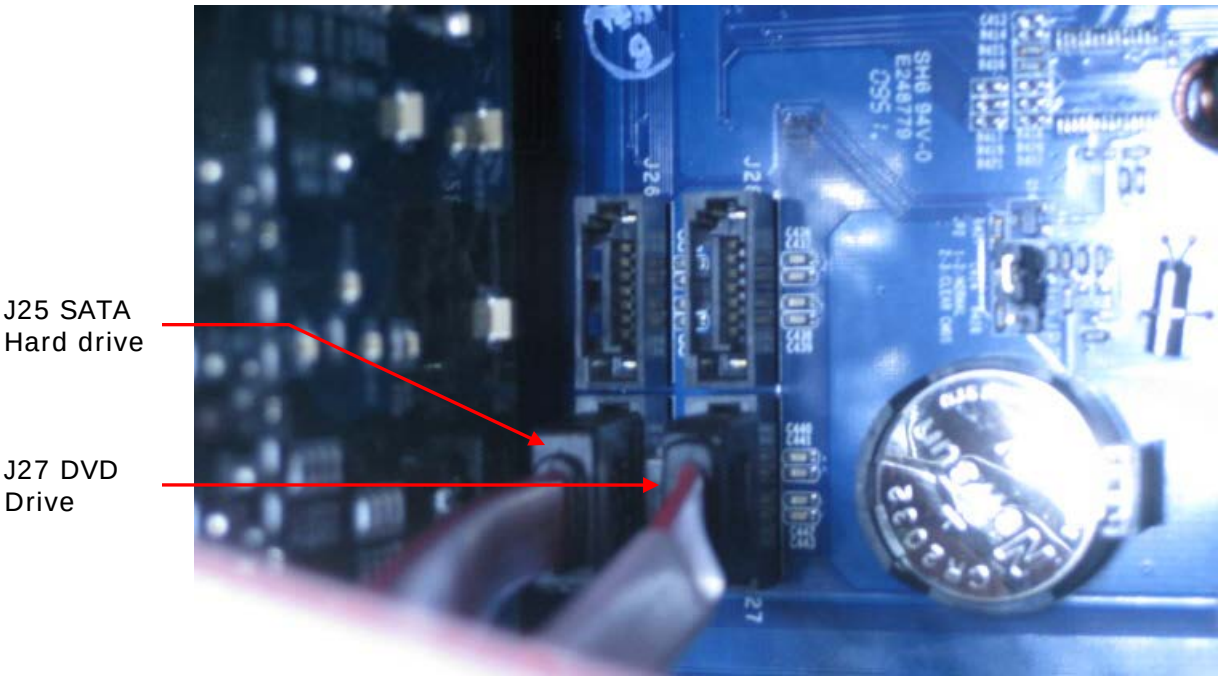
This section outlines the general installation steps.

Hardware/BIOS Setup

Follow these instructions to update the hardware/BIOS.

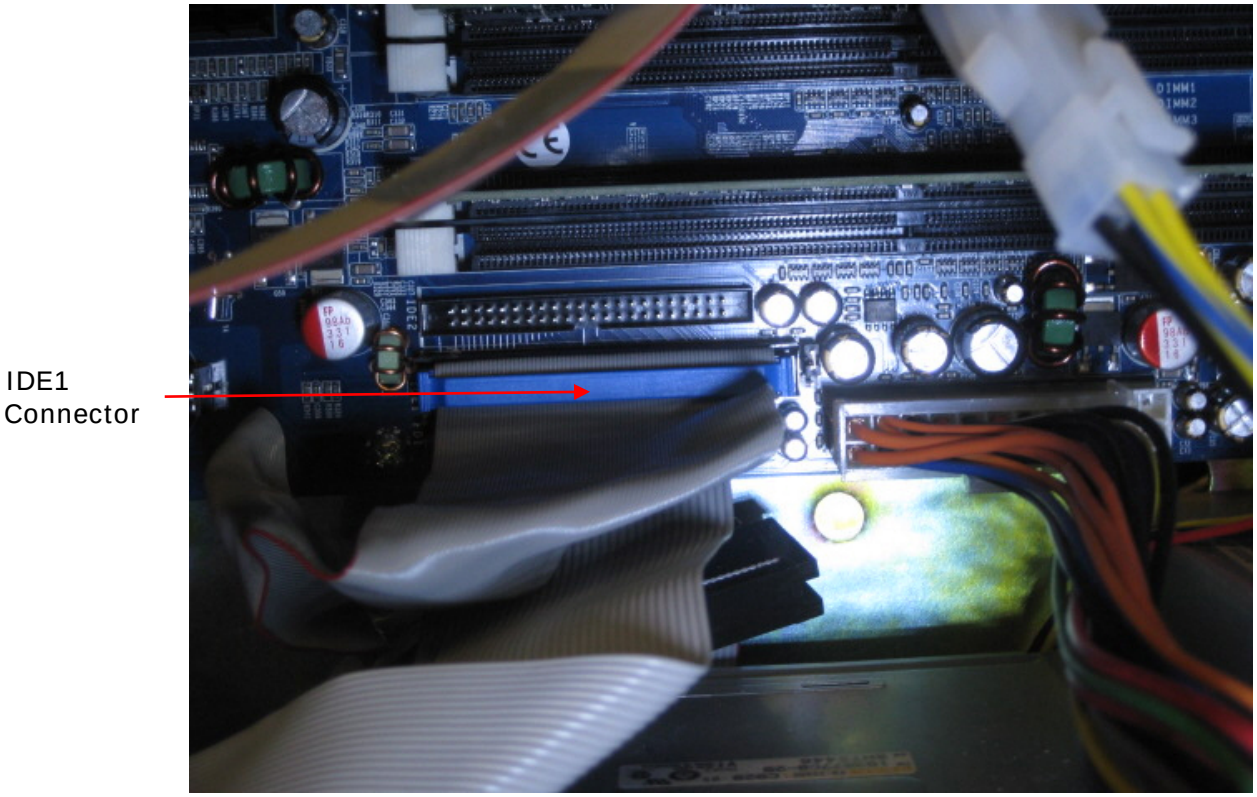
1. Ensure that the VxWorks side of the printer is OFF.
2. If a SATA hard drive is used, connect it to the first SATA port on the motherboard, J25. See **Figure 1**.

Figure 1: Motherboard connector J25



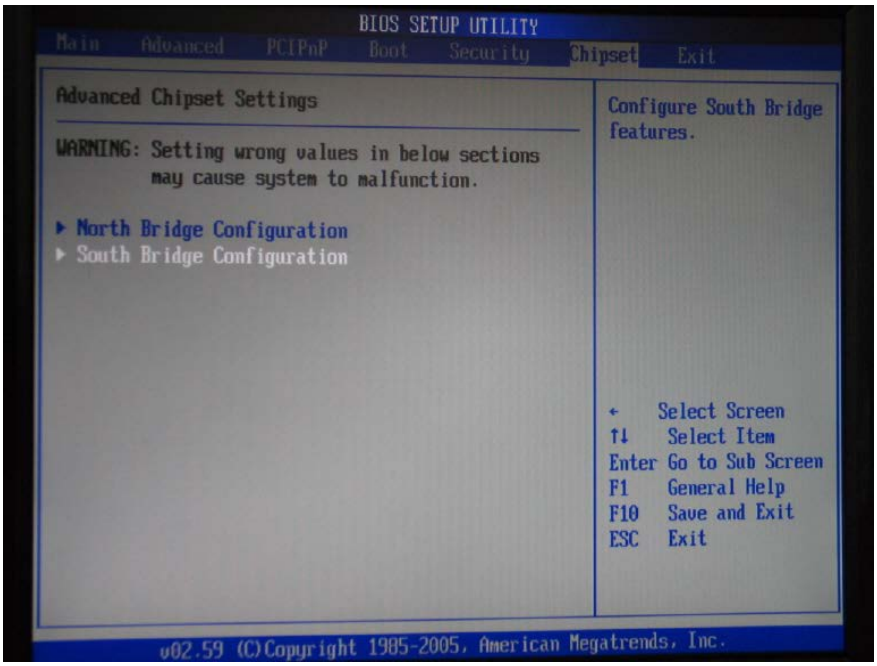
3. If an IDE hard drive is to be used, connect IDE hard drive cable to IDE1 connector on the motherboard. See **Figure 2**.

Figure 2: IDE1 connector



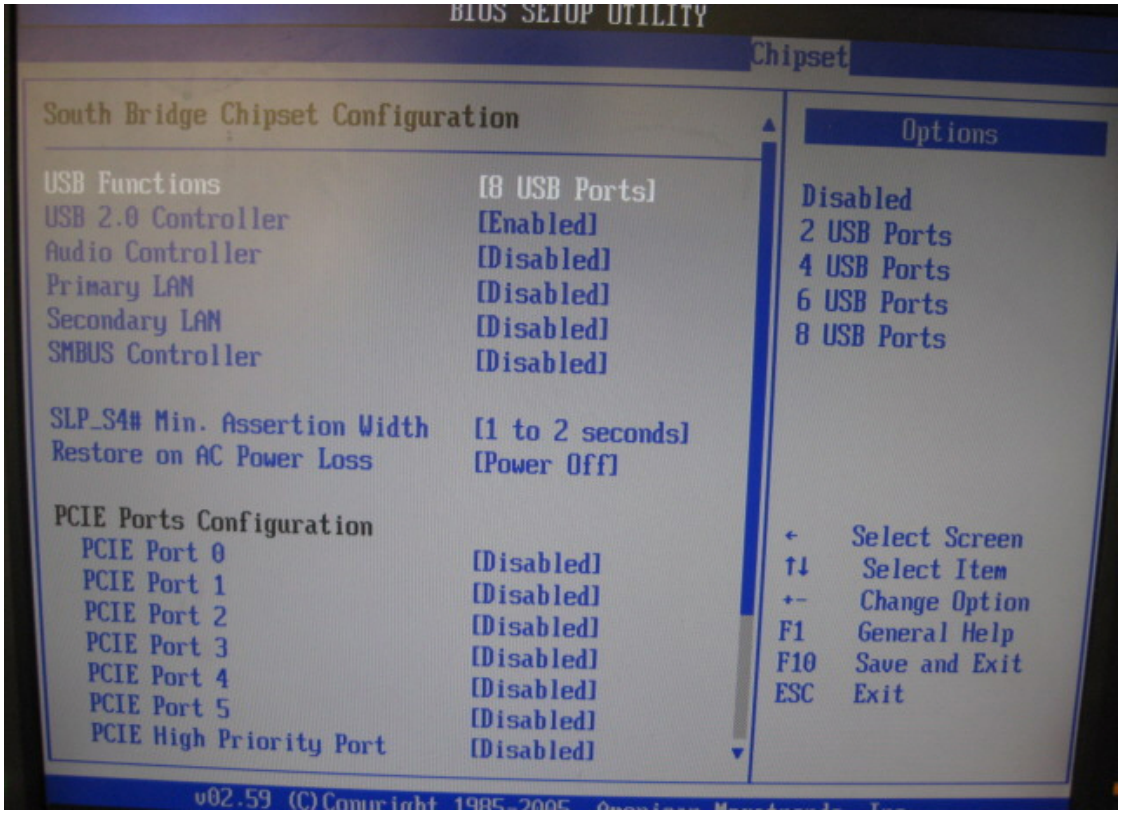
4. Connect the DVD drive to the J27 connector on the motherboard. See Figure 1.
5. Press the green power button at the operator console.
6. Press the **Delete** key to enter the BIOS setup.
7. Select the **Chipset** tab.
8. If there is a **South Bridge** selection on the chipset tab, proceed to step 9. If not, proceed to step 10.
9. On the **Chipset** tab, select the **South Bridge Configuration,** shown in **Figure 3**.

Figure 3: South Bridge Configuration



10. Select **USB Functions** and choose **8 USB Ports**, shown in Figure 4. Also set the USB 2.0 Controller to USB 2.0 Controller to **Enabled**.

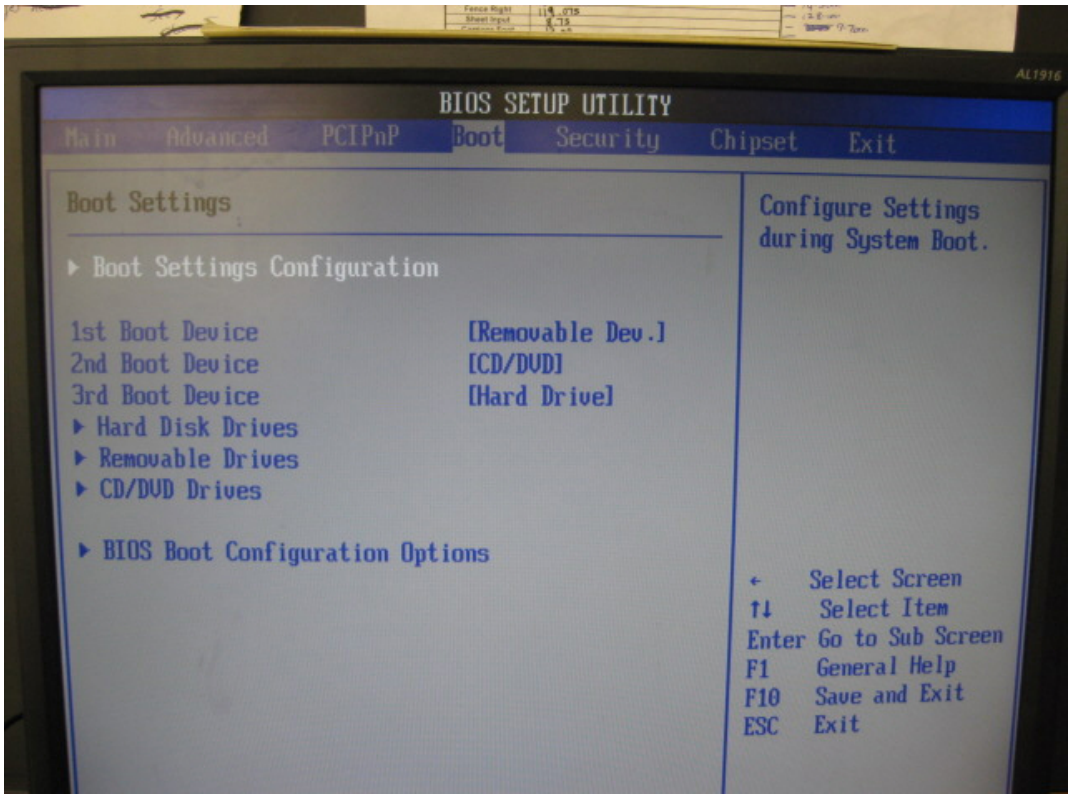
Figure 4: 8 USB Ports



11. Select Boot tab and verify the following settings under **Boot Configuration:**

A. 1st Boot device = **Removable Device**
B. 2nd Boot device = **CD/DVD**
C. 3rd Boot device = **Hard Drive**

Figure 5: Boot order



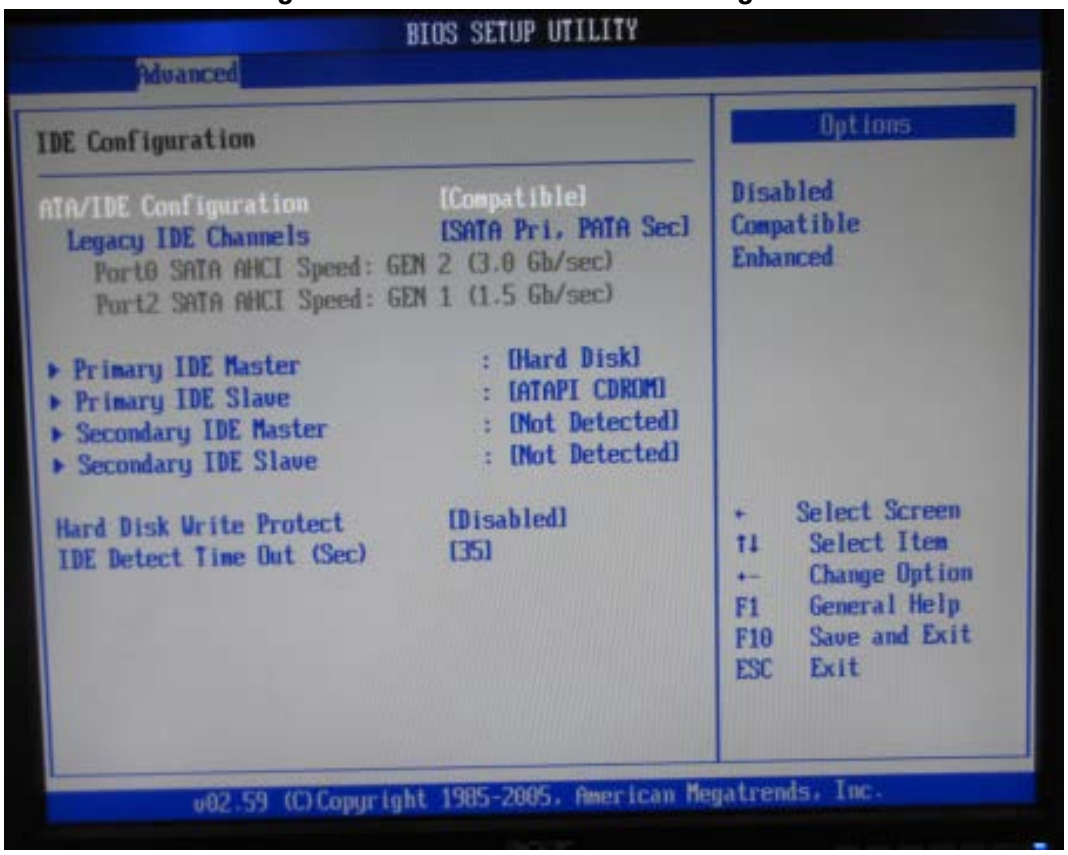
Hard Drive Configuration

Choose the Hard drive configuration before proceeding.

Using a SATA Hard Drive

1. Under the **Advanced** tab, select **IDE Configuration**.
2. Select:
   A. ATA/IDE Configuration = **Compatible**
   B. Legacy IDE Channels **[SATA Pri, PATA, Sec]**

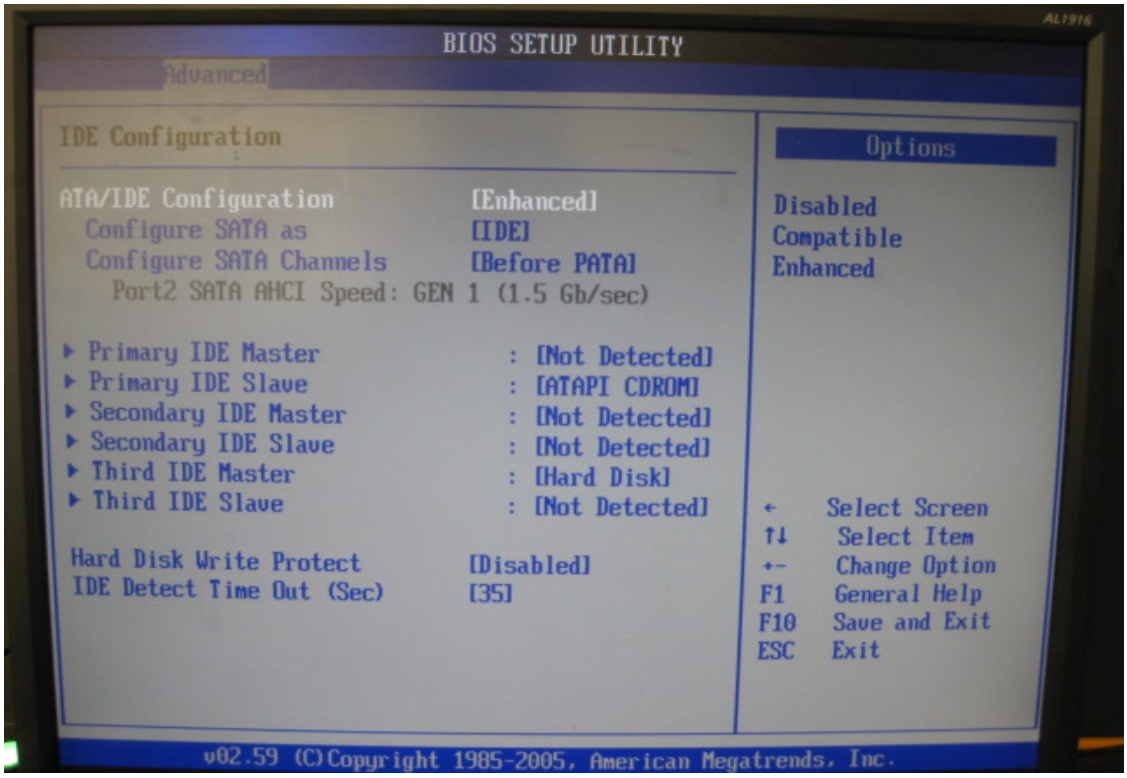
Figure 6: SATA Hard Drive settings



Using an IDE (PATA) Hard Drive

1. Under the **Advanced** tab, select **IDE Configuration**.
2. Select:
   A. ATA/IDE Configuration = **Enhanced**
   B. Configure SATA as **IDE**
   C. Configure SATA channels **Before PATA**

Figure 7: IDE Hard Drive Settings



3. Place the configuration disk into the drive.
4. Press the F10 key and **OK** to save and exit the BIOS Setup utility.

Main Screen

1. Insert the VxWorks Configurator DVD into the DVD drive of the VxWorks computer. Reboot the VxWorks computer.
2. The following text greeting displays (see **Figure 8**):

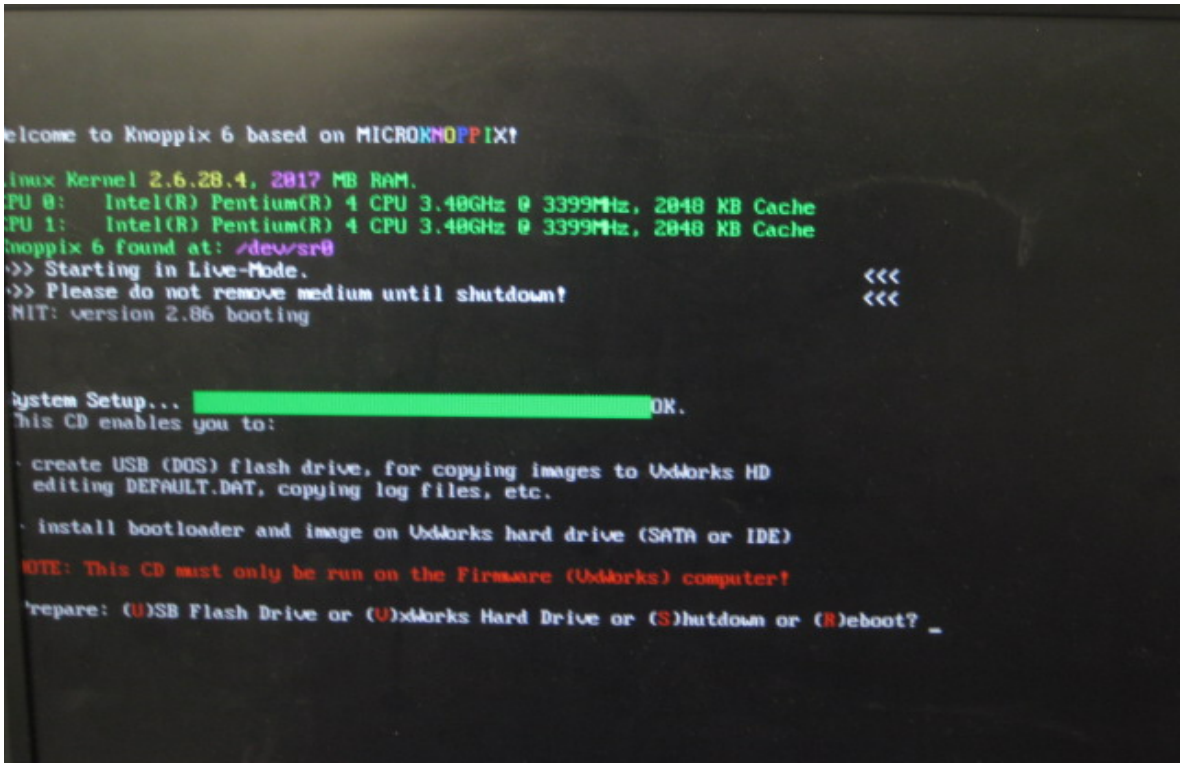
This CD enables you to:

- **Create USB (DOS) flash drive, for copying FW images to the VxWorks Hard Drive**
- **Editing the DEFAULT.DAT file**
- **Copying and Viewing log files**
- **Install the Boot Loader and FW Image on the VxWorks hard drive (SATA or IDE)**

Note: This utility must ONLY be run on the Firmware (VxWorks) computer!

Prepare: (**U**)SB Flash Drive or (**V**)XWorks Hard Drive or (**S**)hutdown?

Figure 8: Text greeting



Setting Up VxWorks Hard Drives

Follow these instructions to setup the VxWorks hard drive.

Note: Remove any flash drives attached to the VxWorks motherboard.

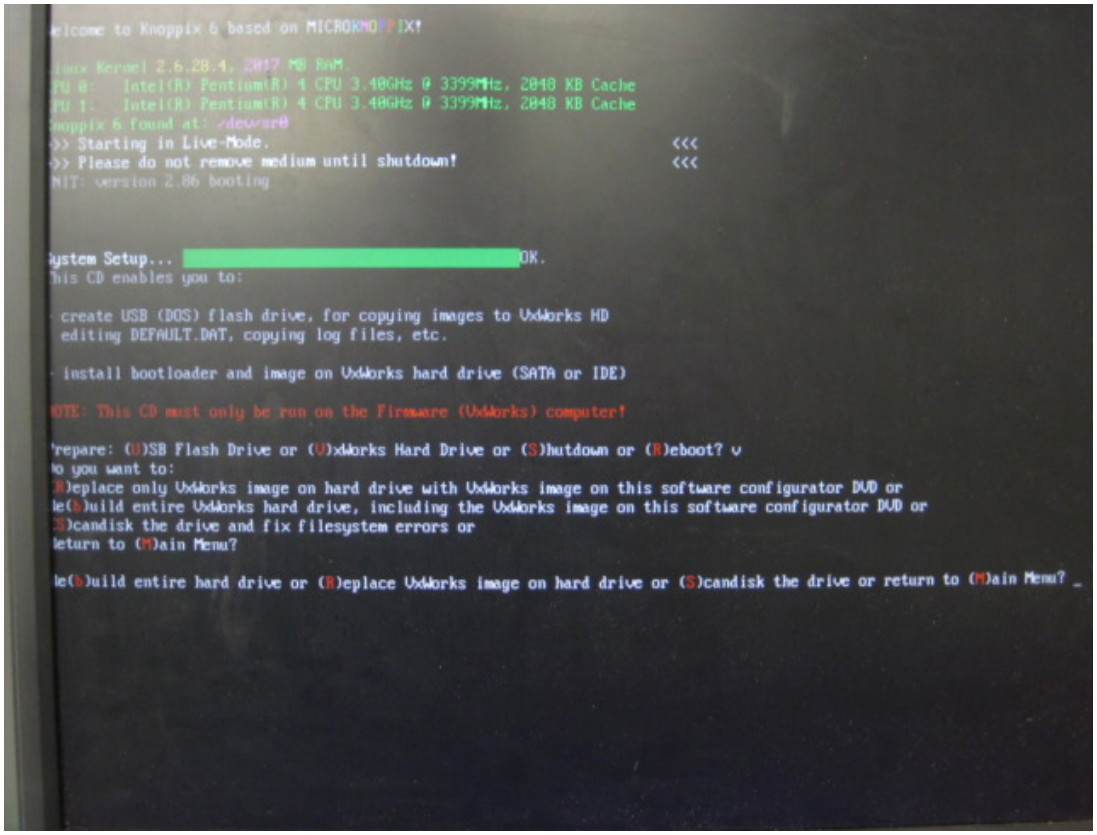
1. Press **v** then press **Enter**. The following message displays (See also Figure 9):

Do you want to:

a. **(r)eplace only VxWorks image on hard drive with VxWorks image on this software Configurator DVD?**
b. **Re(b)uild entire VxWorks hard drive, including the VxWorks image on this software Configurator DVD**
c. **(s)candisk the drive and fix file system errors**
d. **Return to (m)ain menu.**

Re(b)uild entire hard drive or (r)eplace VxWorks image on hard drive, (s)candisk the drive or return to (m)ain menu?

Figure 9: Setting up VxWorks Hard Drive



Rebuilding the Entire Hard Drive

1. Press **b**, then press **Enter**.
2. The following message displays:

   Now restoring VxWorks hard drive onto /dev/sdb.

   52%
   [==========.....]
   Up to 100%

3. The hard drive is then checked for errors:

   dosfsck 3.0.1, 23 Nov 2008, FAT32, LFN
   Starting check/repair pass.
   Starting verification pass.
   /dev/sda1: 2 files, 119/65505 clusters

4. Finally, the VxWorks image is copied from the DVD onto the hard drive:

   Archive: /mnt-system/Firmware/QS Firmware/VXWORKS.EXE
   inflating: VXWORKS

5. When **SUCCESS!!!** displays, the hard drive has been properly initialized.

6. Press **s** to shutdown. Remove the DVD and press **Enter**.

Replacing Only the VxWorks Image on a Formatted Hard Drive

1. Press **R**, then press **Enter**.
2. The following message displays:

   dosfsck 3.0.1, 23 Nov 2008, FAT32, LFN
   Starting check/repair pass.
   Starting verification pass.
   /dev/sda1: 2 files, 120/65505 clusters

3. Then the VxWorks image is copied from the DVD to the hard drive:

   Archive: /mnt-system/Firmware/QS Firmware/VXWORKS.EXE
   inflating: VXWORKS

4. When **SUCCESS!!!** is displayed, the hard drive has been properly initialized.
5. Press **s** to shutdown, remove the DVD and press **Enter**.

Perform Scandisk on a Formatted Drive

1. Press **s**, then press **Enter**.
2. The following message displays:

   dosfsck 3.0.1, 23 Nov 2008, FAT32, LFN
   Starting check/repair pass.
   Starting verification pass.
   /dev/sda1: 2 files, 120/65505 clusters

3. If any errors display, it is recommended that the hard drive be replaced.
4. When **SUCCESS!!!** is displayed, the hard drive has been properly initialized.
5. Press "**s**" to shutdown, remove the DVD and press **Enter**.

Setup Bootable USB Flash Drive

1. Install a USB flash drive, 128MB minimum, into one of the USB slots on the VxWorks motherboard.
2. Power-up the VxWorks side of the printer and insert the **Configurator** disk into the VxWorks DVD drive.
3. Press **u**, then press **Enter**. The following message displays:

   Now restoring USB flash drive using dev/sdb.

   57%
   [==========.....]
   Up to 100%

Note: The SouthBridge Configuration in the BIOS must be configured to support 8 USB ports.

4. If the USB drive is found, proceed to step **Error! Reference source not found.**. If the USB drive cannot be found or a failure occurs, try the following troubleshooting steps:

   a. Press **s** to shutdown the program and press **Enter**.
   b. Power up the VxWorks side of the printer and press **Delete** key to enter the BIOS setup.
   c. Go to the **Boot** tab and select **Hard Disk Drives**.
   d. Select the second drive, **USB:X** (where X = the type of USB drive) and press the "**+**" button to key to move it into the first drive location.
   e. Press **F10** to save and click **OK**.
   f. Return to step 1 of this section and start over.

5. A summary of blocks displays.

   239929+111 records in
   239929+111 records out
   122880000 bytes (123 MB) copied, 15.23 s, 8.1 MB/s

6. A Scandisk starts to verify the USB flash drive was properly initialized.

   dosfsck 2.11, 12 Mar 2005, FAT32, LFN
   Starting check/repair pass.
   Starting verification pass.
   /dev/sdb1: 54 files, 484/52085 clusters

7. When **SUCCESS!!!** is displayed, the USB Flash Drive has been properly initialized.

Use USB Flash Drive to Boot into DOS

1. Power up VxWorks side of printer.
2. A prompt displays asking, **Do you want to update the VxWorks image on D: Drive?**

Note: There are 15 seconds to choose before the system defaults to **No** and a command prompts opens.

   a. Type **Y** to replace the VxWorks image on the hard drive with the image on the USB Flash drive. When the image finishes loading, **VuPrint Installation Complete** displays.
   b. Type **N** if you do not want to replace the image. Instead of a message, the DOS prompt opens.

Additional Information

This section contains additional information about the USB Flash Drive

Drive letter **C** is the USB Flash drive, and drive letter **D** is the VxWorks hard drive. From the **C** drive, you can edit the **default.dat** file on drive D, and perform other DOS functions residing on the USB Flash drive, including the following useful utilities.

1. Edit – Edit or View a file on the VxWorks hard drive, i.e., default.dat.
2. Chkdsk – Check the VxWorks hard drive for errors.
3. Scandisk – Check the VxWorks hard drive for errors with mouse support.
4. Format – Format the VxWorks hard drive.