

Field Technical Procedure

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45118498, rev. B FTP-00308, rev. E April 3, 2014 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 <u>EFI Ink Jet Printer Safety</u> <u>Guide</u> located at <u>https://inkjet.support.efi.com/doc.php?doc=683</u> 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.

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1 of 12

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Procedure Overview

This section outlines the general installation steps.

- 1. Procedure Overview
- 2. Hardware/BIOS Setup
- 3. <u>Hard Drive Configuration</u>
 - A. Using a SATA Hard Drive
 - B. Using an IDE (PATA) Hard Drive
- 4. Main Screen
- 5. <u>Setting Up VxWorks Hard Drive</u>
 - A. Rebuilding the Entire Hard Drive
 - B. <u>Replacing Only the VxWorks Image on a Formatted Hard Drive</u>
 - C. Perform Scandisk on a Formatted Drive
 - D. Setup Bootable USB Flash Drive
 - E. Use USB Flash Drive to Boot into DOS
 - F. Additional Information

Hardware/BIOS Setup

Follow these instructions to update the hardware/BIOS.

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



Figure 1: Motherboard connector J25

J25 SATA Hard drive

J27 DVD Drive If an IDE hard drive is to be used, connect IDE hard drive cable to IDE1 connector on the motherboard. See <u>Figure 2</u>.
 Figure 2: IDE1 connector



4. Connect the DVD drive to the J27 connector on the motherboard. See Figure <u>1</u>.

- 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.
- On the Chipset tab, select the South Bridge Configuration, shown in Figure 3.

IDE1 Connector



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**.

Ľ.	hipset
ion	Options
18 USB Ports] Enabled] Disabled] Disabled] Disabled] Disabled]	Disabled 2 USB Ports 4 USB Ports 6 USB Ports 8 USB Ports
1 to 2 seconds] Power Off]	
Disabled] Disabled] Disabled] Disabled] Disabled] Disabled]	 Select Screen Select Item Change Option General Help Save and Exit ESC Exit
	8 USB Ports] Enabled] Disabled] Disabled] Disabled] Disabled] 1 to 2 seconds] Power Off] Disabled] Disabled] Disabled] Disabled] Disabled] Disabled] Disabled]

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

- Igu	Fence Right 114_015	- (3.8-an-	
BI Main Advanced PCIPnP	COS SETUP UTILITY	Chipset Exit	ALT
Root Settings Boot Settings Configuration Ist Boot Device	[Remoushin Dou]	Configure Settings during System Boot.	
2nd Boot Device 3rd Boot Device Hard Disk Drives Removable Drives CD/DUD Drives	[CD/DUD] [Hard Drive]		
▶ BIOS Boot Configuration Optic	ms	 ← Select Screen ↑↓ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit 	

Figure 5: Boot order

Hard Drive Configuration

Choose the Hard drive configuration before proceeding.

- Using a SATA Hard Drive
- Using an IDE (PATA) Hard Drive

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]

	BIOS SETUP UTILITY	
Advanced		
IDE Configuration		Options
ATA/IDE Configuration Legacy IDE Channels Port0 SATA AHCI Speed: GI Port2 SATA AHCI Speed: GI	ICompatible) ISATA Pri, PATA Sec] 2N 2 (3.0 Gb/sec) 2N 1 (1.5 Gb/sec)	Disabled Compatible Enhanced
 Primary IDE Master Primary IDE Slave Secondary IDE Master Secondary IDE Slave 	: [Hard Disk] : [ATAPI CDROM] : [Not Detected] : [Not Detected]	
Hard Disk Write Protect IDE Detect Time Out (Sec)	(Disabled) (35)	 Select Screen Select Item Change Option General Help Save and Exit ESC Exit
082.59 (C) Copyr ig	ht 1985-2005, American Me	gatrends, Inc.

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

IDE Configuration		Options
ATA/IDE Configuration Configure SATA as Configure SATA Channels Port2 SATA AHCI Speed: GEN Primary IDE Master Primary IDE Slave Secondary IDE Master Secondary IDE Slave Third IDE Master Third IDE Slave	[Enhanced] [IDE] [Before PATA] 1 (1.5 Gb/sec) : [Not Detected] : [ATAPI CDROM] : [Not Detected] : [Not Detected] : [Hard Disk] : [Not Detected]	Disabled Compatible Enhanced ← Select Screen 14 Select Item
Hard Disk Write Protect IDE Detect Time Out (Sec)	[Disabled] [35]	+- Change Option F1 General Help F10 Save and Exit ESC Exit

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

elcome to Knoppix 6 based on MICROKHOPPIX!		
<pre>imux Kernel 2.6.28.4, 2017 MB RAM. PU 0: Intel(R) Pentium(R) 4 CPU 3.40GHz 0 3399MHz, 2048 KB Cache PU 1: Intel(R) Pentium(R) 4 CPU 3.40GHz 0 3399MHz, 2048 KB Cache inoppix 6 found at: /dew/sr0 >> Starting in Live-Mode. >> Please do not remove medium until shutdown! NIT: version 2.86 booting</pre>	***	
Aystem Setup This CD enables you to:		
 create USB (DOS) flash drive, for copying images to Uddorks HD editing DEFAULT.DAT, copying log files, etc. 		
install bootloader and image on Uddorks hard drive (SATA or IDE) UTE: This CD must only be run on the Firmware (Uddorks) computer! 'repare: (U)SB Flash Drive or (U)sddorks Hard Drive or (S)hutdown or (D	R)eboot? _	

Setting Up VxWorks Hard Drives

Follow these instructions to setup the VxWorks hard drive.

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

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

elcome to Knoppix 6 based on MICROKNOLPIX!	
<pre>imax Report 2.6.28.4. 2017 MS RAM TU 0: Intel(R) Pentium(R) 4 CPU 3.40GHz 0 3399MHz, 2048 KB Cache PU 1: Intel(R) Pentium(R) 4 CPU 3.40GHz 0 3399MHz, 2048 KB Cache impplix 6 found at: >decwar0 >> Starting in Live-Mode. >> Please do not remove medium until shutdown! NIT: version 2.86 booting</pre>	«« ««
Aystem Setup Dr	
create USB (DOS) flash drive, for copying images to UXWorks HD editing DEFAULT.DAT, copying log files, etc.	
install bootloader and image on UxWorks hard drive (SATA or IDE)	
OTE: This CD must only be run on the Firmware (UxGorks) computer!	
'repare: (D)SB Flash Drive or (D)skkorks Hard Drive or (S)hutdown or to to you want to: D)eplace only Uskkorks image on hard drive with Uskkorks image on this le(D)uild entire Uskkorks hard drive, including the Uskkorks image on to S)candisk the drive and fix filesystem errors or leturn to (D)ain Menu?	(R)eboot? v s software configurator DVD or this software configurator DVD or
le(b)uild entire hard drive or (B)eplace Uddorks image on hard drive	or (S)candisk the drive or return to (M)ain Menu? _

Rebuilding the Entire Hard Drive

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

Now restoring VxWorks hard drive onto /dev/sdb.

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.

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 <u>1</u> 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.
- 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.