Release Notes

English

Lotem 800 II Family

version **3.80.16**

653-01033A-EN
Internal 739-00127B-EN Rev A

www.creo.com

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RE37,376	5,325,217	5,532,728	5,742,743	5,996,499	6,158,345	6,353,216
4,558,302	5,339,176	5,561,691	5,764,374	5,998,067	6,159,659	6,366,339
4,743,091	5,343,059	5,568,595	5,764,381	6,003,442	6,164,637	6,371,026
4,992,864	5,355,446	5,576,754	5,771,794	6,014,471	6,180,325	6,377,739
5,049,901	5,359,451	5,579,115	5,785,309	6,016,752	6,181,362	6,387,597
5,079,721	5,359,458	5,592,309	5,813,346	6,031,932	6,181,439	6,396,422
5,103,407	5,367,360	5,594,556	5,818,498	6,043,865	6,186,068	6,396,618
5,111,308	5,384,648	5,600,448	5,854,883	6,060,208	6,189,452	6,407,849
5,113,249	5,384,899	5,608,822	5,861,904	6,063,528	6,191,882	6,414,755
5,122,871	5,412,491	5,615,282	5,861,992	6,063,546	6,204,874	6,422,801
5,124,547	5,412,737	5,625,766	5,875,288	6,072,518	6,208,369	6,435,091
5,132,723	5,420,702	5,636,330	5,894,342	6,090,529	6,214,276	6,441,914
5,150,225	5,420,722	5,649,220	5,900,981	6,096,461	6,217,965	6,450,092
5,153,769	5,459,505	5,650,076	5,934,196	6,098,544	6,260,482	6,456,396
5,155,782	5,473,733	5,652,804	5,942,137	6,107,011	6,266,080	6,476,931
5,157,516	5,481,379	5,680,129	5,946,426	6,112,663	6,266,134	6,477,955
5,208,818	5,488,906	5,691,823	5,947,028	6,115,056	6,267,054	6,509,903
5,208,888	5,497,252	5,691,828	5,958,647	6,121,996	6,268,948	6,541,181
5,247,174	5,508,828	5,696,393	5,966,504	6,130,702	6,283,589	6,545,772
5,249,067	5,509,561	5,699,174	5,969,872	6,134,393	6,295,076	6,564,018
5,283,140	5,517,359	5,699,740	5,973,801	6,136,509	6,299,572	
5,291,273	5,519,852	5,708,736	5,986,819	6,137,580	6,318,266	
5,323,248	5,526,143	5,713,287	5,995,475	6,147,789	6,352,816	

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Introduction

We are pleased to release the latest revision of Lotem 800 II family software. These release notes highlight the changes and improvements made to version 3.80.16. This version supports all Lotem 800 II, Lotem 800 Quantum and Lotem Spectrum platesetters with multi/dual/single cassettes and can be installed over the following previous software versions: 3.51.02, 3.60.09, 3.70.02, 3.72.02, 3.75.01, 3.75.09, and 3.80.12.

What Is in These Release Notes

The release notes include the following sections:

Problems Fixed—lists problems in the previous release of Lotem 800 II Software Version that are now resolved.

New Features—describes new menu commands, options, windows, or dialog boxes that were added to Lotem 800 II Software Version.

Known Problems—lists problems that are not yet resolved.

Prerequisites—lists the mandatory and recommended FCOs that should be performed before this installation.

Installation flowchart- step by step flowchart of the kit installation.

- steps to perform before hardware/software installation.

Installing Software Version 3.80.16—describes how to install software version 3.80.16.

Appendix A: Firmware for Version 3.80.16—describes the firmware versions needed in the TMCE board and Thermal Head 2 (TH2) for version 3.80.16.

Appendix B: Update max drum speed for high throughput—describes how to define the correct drum speed.

Appendix C: Specifying the Head Type for Quantum and non Quantum Platesetters—describes how to start the software.

Appendix D: Required Update for Spectrum platesetters—describes how to install the software on a LotemSpectrum platesetter.

Appendix E: Update for Lotem 850—describes how to install the software on a Lotem 850 platesetter.

Appendix F: Remote Support—provides remote support information.

Appendix G: Hardware Upgrade Kit—describes how to perform a hardware upgrade.

Appendix H: Updating Centering, X and Y motors values—describes how to measure the X, Y motor values.

Problems Fixed

This section lists problems that were resolved in the current release of the Lotem 800 II family software.

- When accessing the Drum Motor dialog box to perform different operations (GoSpeed, GoPos etc.), Lotem Controller no longer freezes.
- The *release upper tray* function and button now work when replacing the SLC with a DLC. In addition, an error message is no longer generated, after the cassette has been reconnected to the Lotem in the single/dual cassette system.
- Platesetters without a previous version of the Registry installed, but with Kit 0.15 or any variable punch installed, will no longer have installation problems with this software version.
- The message `Your password will expire in the next xxx days` is no longer generated when the Lotem starts up.
- Diagnostics no longer issue an alarm when the value of the **Strobe 7** parameter is not set to **0**, nor when the **IO Objects\Loader** is not deleted from the hierarchy tree.
- When trying to expose an image, the **5230** error message is no longer generated.
- The **Focus Learn** error message is no longer generated when switching from either, a plate to proof and then back to a plate, or from a proof to a plate and then back to a proof.
- MCU elevator No. 5 cassette now stops at the correct position.
- Previously, when a plate failed to load correctly and the drum performed side to side measurement, the drum would rotate backwards, causing potential damage to both the plate and the platesetter. Now the drum rotates in the loading direction and an incorrectly loaded plate can only cause a fly off.
- Software protectors have been added to the XY system, eliminating the potential of damage when the platesetter operator releases the cassette and the XY system is engaged. (There was a tendency for the operator to forcibly remove the cassette.)
- When a plate is stationary on the conveyor, the message `Please take the plate manually and call the Response Center` is generated.
- The majority of the motors and switches now have software interlock protectors.
- When starting up the PC, or whenever there is a crash or power failure, the status of the XY init and the Drum init detectors are now checked to ensure that the platesetter is correctly initiated.
- All motors and switches now have an appropriate software, low speed protector.

- When the **Release Cassette** button is pressed, a 5 second delay occurs before the pins are elevated. (This resolves the problem whereby the pins moved up and down without a delay.)
- It is now possible to click the **Release Cassette** button to open the pins without first having to insert the DLC. (Previously, in order to change the pin status after a power failure, the operator would use a cheater to simulate a cassette in the platesetter.)
- In earlier versions if the load head grippers were opened, the drum would rotate slightly backwards. This problem has been resolved by introducing a new parameter:
  Path: **IO OBJECTS\Loading System\Load Plate\From drum entry to drum stage**
  Parameter: **enable drum power during stage C (0=No power 1=Intermittent 2=Always)** (default=1).
- Previously, 0.15mm plates collided with the punches. This problem has been resolved by updating the value of the X on wheel parameter to 307.
  Path: **Loading system\Load plate\from punch entry to drum entry stage**
  Parameter: **X on wheel**
- The unload conveyor no longer stops prematurely when a small plate is being unloaded. This problem was resolved by increasing the default value to 7000 ms
  Path: **IO OBJECTS\Loading System\Unload Plate**
  Parameter: **Plate TimeOut to Get Out From The Conveyor** [MSec].
- Previously, if the main air valve detector was active for more than 17,000 milliseconds, the `Main air valve detector is missing or the detector is in an invalid state` message was generated. This problem has been fixed by raising the value to 4294967295 milliseconds
  Path: **IO OBJECTS\LOADER\SOLENOIDS\Main Air Valv**e
  Parameter: **Max. Allowed Sol Activation Time(DWORD) [Sec]**.
- The tray recovery method has been improved in cases when the MCU fails and the tray stays on the MCU tunnel. On first operation after every failure, the cassette will now be pushed back into the Lotem platesetter.

New Features

This section lists new features added to this software release.

Fly Off Detection Options

A new Registry parameter has been created:

Path: **Loading System\Load Plate\From drum entry to drum stage**

Parameter: **enable drum power during stage C**

This parameter offers the operator a choice of three *fly off detection* options:

- If the parameter is set to **0 - No power**: Loading sequence will not check the side-to-side measurement.
- If the parameter is set to **1 - Intermittent** (default): Loading sequence will only check the side-to-side measurement of the first load per each new plate type.
- If the parameter is set to **2 - Always**: Loading sequence will always check the side-to-side measurement.

Note: The platesetter's throughput is slower when the parameter is set to 2.

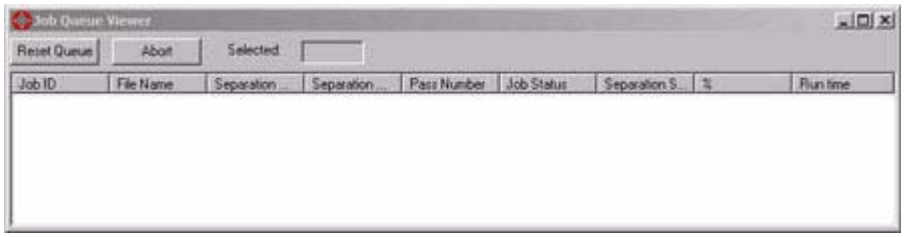
Punch Detectors 9 and 10 are Automatically Disabled

When Kit 0.15 is installed, the punch detectors 9 and 10 are disabled by default.

Job Queue Viewer

A Job Queue Viewer dialog box has been added to Lotem Controller. This feature enables the operator to remotely view the workstation's queued jobs.

In the Lotem GUI select **Utilities and Log Files**.



Amended Drum Rotation Speed for Remote Sessions

Previously, when the platesetter doors were open during a remote session, the drum would rotate at a maximum of 20 rpm. To prevent the need for a low speed detector, the rotation speed has been increased to 35 rpm. If the doors are closed during a remote session, the drum rotation speed is limited only by the platesetter's capabilities.

Enabling Edge Detection and Spiral Punch Options

In the Media Definition/Advanced settings, it is now possible to choose between the edge detection or spiral punch option.

Lotem 800 II Quantum Diagnostics

The Lotem 800 II Quantum diagnostics for software version 3.80.16, include a new suite of diagnostic tools with enhanced capabilities. There are three diagnostic modes:

- JOIND Diagnostic from the Desktop - can be used when Lotem Controller is down.
- JOIND Diagnostic from the Lotem Controller - can be used from within Lotem Controller, without having to close the application.
- Diagnostic from the Lotem Controller Hardware Tree (Right Click) - can be used to test specific components without launching the JOIND.

The following new components are covered by the diagnostics (JOIND mode only):

- Proof system
- GTO arm
- Conveyor unit
- Phase monitor unit
- Multi-cassette unit

For a more detailed description of diagnostics, see Diagnostics for the Lotem 800 II Quantum, running s/w version 3.80.xx

New Interlock View

The interlock display has been redesigned. The interlocks are now logically divided between motor interlocks and laser interlocks.
The Open Interlock dialog box automatically opens when an interlock is open.





To open or close the Open Interlock dialog box, click on the **padlock** icon (located in the Main window):

Improved Centering Process

The centering process has been improved. If Lotem Controller discovers a discrepancy between the actual size of the plate and the plate's measurements entered into the media and data base definition, it will recheck the measurements according to the parameter:
Path: **IO OBJECTS\Loading System\Loading System Setup**
Parameter: **Max Centering Retrys** (default = 3)

An error message is displayed if the discrepancy persists.

Note: After installing this software upgrade, the Improved Centering Process feature, requires that the **Virtual HP App Value,** is readjusted.

Enhanced Remote Support

Remote connectivity has been improved from previous versions.

The Creo Service Port (CSP) is a software package which enables improved support from the Response Center when connecting through the RSS/Service Wire. A new and faster VNC enables better connectivity when remotely controlling the platesetter's Desktop. See *Appendix F: Remote Support*, page 32.

User Level Access

This version enables three user levels: *User*, *Field Engineer* and *Expert*. The passwords for each level are as follows:

- User: aaa
- Field Engineer: creo
- Expert: creopro (shortcut: Ctrl+U)

Backup and Restore Utility

The Backup and Restore utility has an improved interface. In addition, a plate counter and an FCO tracking method have been incorporated into the utility. The backup tools now has a feature that enables backup restoration to be performed from a diskette.

Improved UDRC and Vacuum Pump Reliability

The UDRC and the vacuum pump reliability has been improved by extending their working time after each exposure. This minimizes the number of shutdowns and restarts. In addition, the software engineer can customize the length of the time-out according to the customer's requirements but not less than 150000.

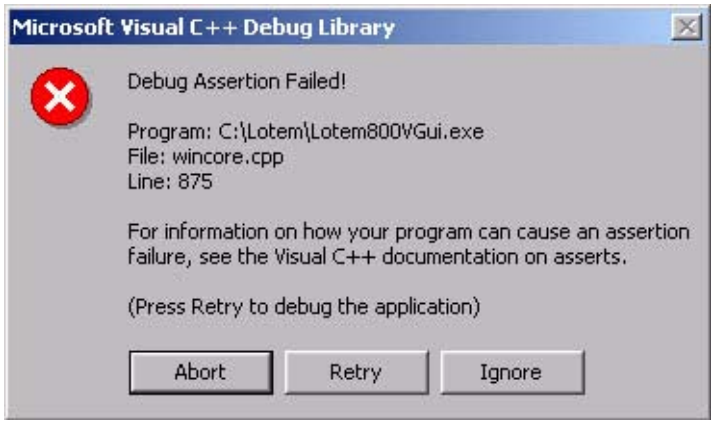
Path: **IO OBJECTS\Loading System**
Parameter: **Timeout For Shutdown Vacuum Pumps mSec** (default is 300000 m Sec)

Known Problems

This section lists known problems in the Lotem 800 II software. The problems may be outstanding issues from a previous release or new problems. When a problem is resolved, the solution appears in next version of the release notes, under the *Problems Fixed* section

Microsoft Visual Basic Error Message

The following error message is generated if the cassette is released, and then reinserted within 7 seconds:



To dismiss this error message, click **Ignore** and continue working.

P33 Thermistor Detector

The MCE board does not read the P33 thermistor detector (**AI_EngineTemp**).
If the **AI_EngineTemp** thermistor detector does not exist, then bypass it as described below:
In Service Shell, type the following:
`Quantum>>`**scan groups**, and then navigate to **AI_EngineTemp**.
The letter **b** should be displayed next to the detector's name. This informs the MCE that the detector has not been bypassed.
To bypass the detector, type the following:
`Quantum>>`**scan AI_EngineTemp bon**
`Quantum>>`**reset**
`Quantum>>`**scan groups**. The letters **xb** should be displayed adjacent to the **AI_EngineTemp** line.

MCU Cover Detector

If you upgrade from any previous version of Lotem Controller, *except* versions 3.75.01 and 3.75.09, you may need to manually change the cover detector's value from 1 to **0**. This will change the detector's status from opened to **closed**.

Unload Conveyor Motor

After upgrading to software version 3.80.16, there is a possibility that the unload conveyor motor will rotate in reverse when a plate is unloaded. To solve this problem, change the value of the speed factor parameter from either negative (-) to positive (+) or from positive (+) to negative (-)
Path: **IO OBJECTS\LOCAL 3\DC MOTORS\Unload Conveyor Motor**
Parameter: **Speed Factor** (default = -0.08)

Upgrading Software When MCU Tray is Inside the Lotem

If the MCU tray is inside the Lotem during the software upgrade, the cassette number displayed in the cassette dialog will be **NONE**. However, the first time the loading process is run, the cassette number will be automatically updated .

Prerequisites

The Lotem Controller version 3.80.16 applies to:

- Lotem 800 with Win 95 versions 3.51.02, 3.60.09, 3.70.02 and 3.72.02
- Lotem 800 with Win 2K versions: 3.75.01, 3.75.09 and 3.80.12

Note: Upgrade from 3.80.12 to 3.80.16: Refer to *Install Lotem controller version 3.80.16*, page 15.

Note: Other versions of Lotem software cannot be upgraded directly. For example, if software version 3.50.05 needs to be upgraded for the MCU as well as version 3.80.16, the MCU must first be upgraded to version 3.60.09, followed by the software version 3.80.16 upgrade.

Workstation

- Brisque version 4.1.70 OutPut update 5 (or higher).
- CS Xpose 2.00.064 Update 2 or higher. For more details, see the CS Xpose Update procedure.

Mandatory FCOs

The following FCOs must be implemented:

- FCO 514-00033A (20/40 GB Hard Drive Field Installation Kit): Short flat cable (p/n 220-00135A) in the E-box.
- FCO 512-00269A: Shifting the Lotem to network connection.
- FCO 512-00470: Carriage amplifier board replacement.
- FCO 512-03285A: Resolving 'Local3 does not respond' error message.
- FCO 512-00207A: Replacing the plate/paper detector (not for Spectrum machines).

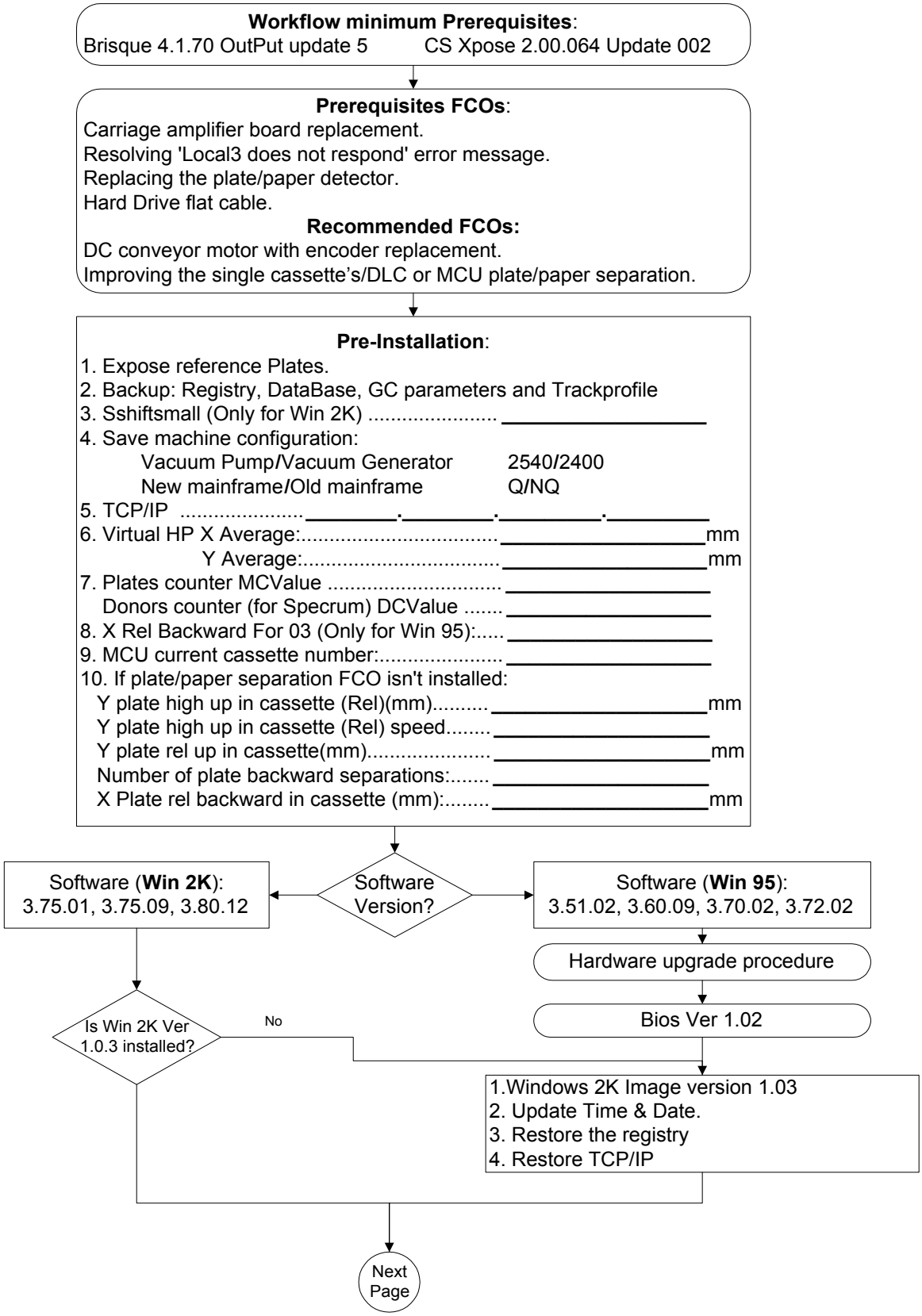
Recommended FCOs

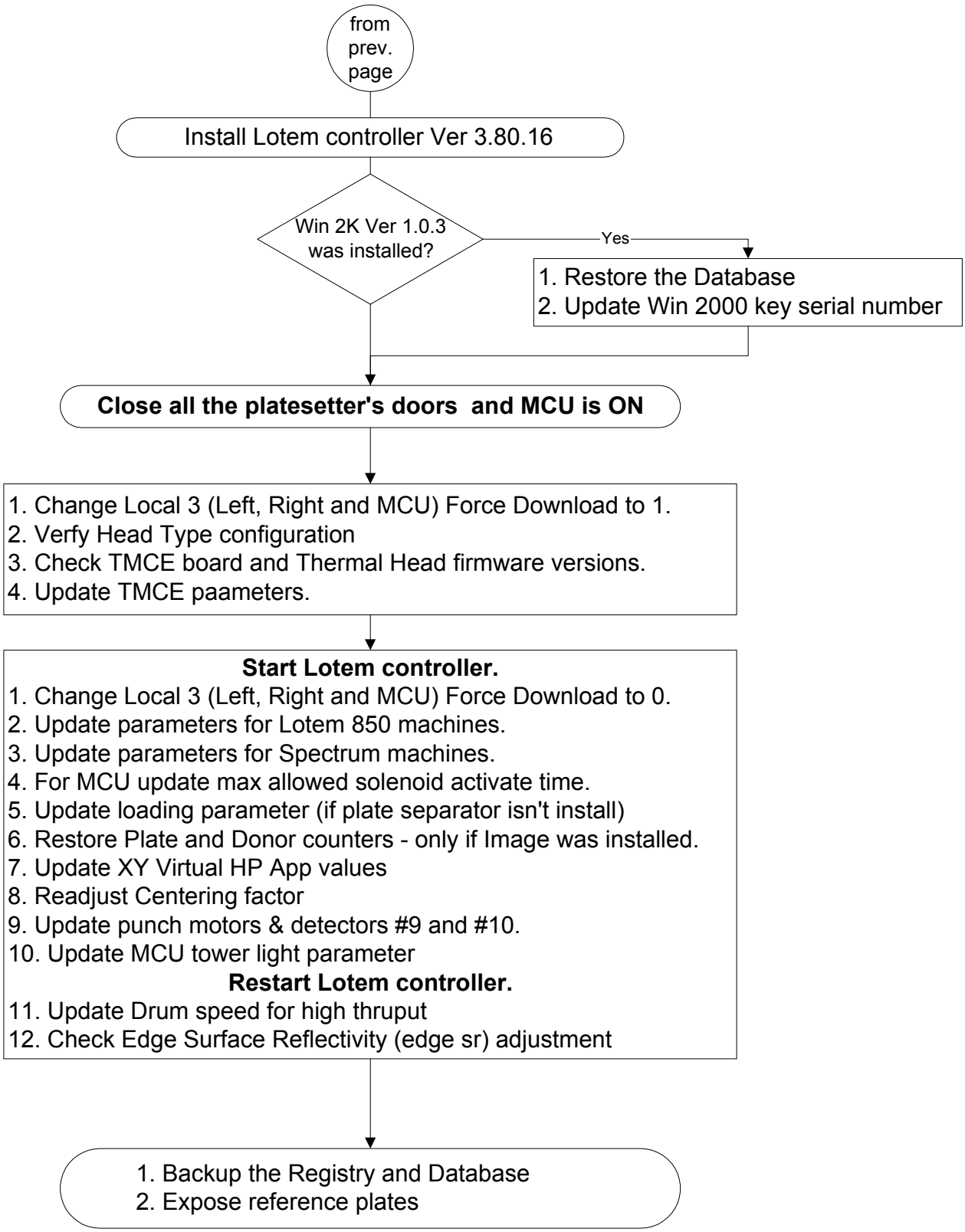
It is recommended to implement the following FCOs:

- FCO 512-00044: DC conveyor motor with encoder replacement.
- FCO 512-00181A: Improving the dual-loading cassette's plate/paper separation.
- FCO 512-00182A: Improving the single-loading cassette's plate/paper separation.
- FCO 512-00183A: Improving the multi-cassette unit's plate/paper separation.

Note: This software version updates the existing loading parameters to meet with the recommended FCOs. Therefore, if you have not installed the recommended FCOs (512-00181/2/3A), you will have to restore some loading parameters back to their previous values.

Installation flowchart




from prev. page
Install Lotem controller Ver 3.80.16
Win 2K Ver 1.0.3 was installed?
Yes
1. Restore the Database
2. Update Win 2000 key serial number
Close all the platesetter's doors and MCU is ON
1. Change Local 3 (Left, Right and MCU) Force Download to 1.
2. Verfy Head Type configuration
3. Check TMCE board and Thermal Head firmware versions.
4. Update TMCE paameters.
Start Lotem controller.
1. Change Local 3 (Left, Right and MCU) Force Download to 0.
2. Update parameters for Lotem 850 machines.
3. Update parameters for Spectrum machines.
4. For MCU update max allowed solenoid activate time.
5. Update loading parameter (if plate separator isn't install)
6. Restore Plate and Donor counters - only if Image was installed.
7. Update XY Virtual HP App values
8. Readjust Centering factor
9. Update punch motors & detectors #9 and #10.
10. Update MCU tower light parameter
Restart Lotem controller.
11. Update Drum speed for high thruput
12. Check Edge Surface Reflectivity (edge sr) adjustment
1. Backup the Registry and Database
2. Expose reference plates

Pre-installation



Important: The Pre-installation procedures **MUST BE** performed prior to any hardware or software upgrades.

Before installing the hardware and software version 3.80.16, do the following:

1. Expose a reference plate by exposing a customer's file (per plate size). Put the reference plate to one side. If the customer uses a GTO, expose an additional GTO reference plate, as the geometric change (GC) parameters are different for GTO machines.



Note: The reference plate is used for verifying the customer's *cross marks*, *margins*, *shifts* and *image quality,* prior to the software installation and comparing it with the cross marks, margins, shift and image quality, after the installation.

2. Backup/write down the following (use the Backup & Restore Utility if available):
   - Registry of the machine.
   - Database.
   - GC parameter. (**set gc**)
   - Trackprofile. (**set gc trackprofile**)
   - Sshift and Sshiftsmall (Sshiftsmall is applicable for Win 2K firmware only)
   - Write down the machine configuration:

     X-Y Vacuum Pump/X-Y Vacuum Generator

     Old mainframe/New mainframe.

     Head resolution - 2540/2400

     Head type P22/P33
   - TCP/IP address



Note: GC, Trackprofile & Sshiftsmall can be backed up as text file for later use.

3. Perform steps 1 and 2 of procedure on *Appendix H: Updating Centering, X and Y motors values*, page 40, and write down the calculated HP average measurement of X and Y motors.
4. Write down the following Registry parameters:
   a. Navigate to **HKey_Local_Machine/Software/MCkey** and copy:
   MCValue = Plates
   DCValue = Donors (only applicable to the Lotem Quantum Spectrum)

b. Navigate to **Loading System/Load plate/From cassette to punch entry stage/** and write down the parameter: **X Rel Backward For 03 (mm)**. If they exist, write down the parameters for **0.15**, **0.2**, and **0.4**.

c. For MCU configuration: write down the current cassette number in the Lotem.

d. If Plate separation FCO is not installed, navigate to: **Loading system\ load plate\from cassette to punch entry stage** and write down the following parameters:

- **Y plate high up in cassette (Rel)(mm)**
- **Y plate high up in cassette (Rel) speed**
- **Y plate rel up in cassette (mm)**
- **Number of plate backward separations**
- **X Plate rel backward in cassette (mm)**

5. If required, open the right side door of the platesetter.
6. Close Lotem Controller and the Service Shell client.

Installing Software Version 3.80.16

To upgrade from Lotem Controller software versions (Windows 95) 3.51.02, 3.60.09, 3.70.02, and 3.72.02, install the hardware kit located in *Appendix G: Hardware Upgrade Kit Appendix G: Hardware Upgrade Kit*, page 34 and then proceed from here.

To upgrade from Lotem Controller software versions (Win 2000) 3.75.01, 3.75.09 and 3.80.12, to version 3.80.16, follow these release notes without upgrading the hardware, as these three versions are already running on Microsoft Windows 2000 with an up-to-date image version.



Note: To verify if Win 2000 Ver 1.03 has correctly loaded, navigate to **Run** and type: **cd_ver**. Make sure that **1.0.3 8/9/04** is displayed and proceed to **Install Lotem version 3.80.16** below.

If another version of Windows is installed, proceed to *Install Windows 2000 Ver 1.03*, page 15.

Install BIOS version1.02 (no need for 3.75.xx or 3.80.12)

1. Insert the BIOS version 1.02 diskette (part number 633-00073C) into the diskette drive.
2. Before Windows starts, press the **F2** key continuously, until the BIOS Setup window appears on the monitor.
3. From **Bios/setup/inside utilities/secure cmos**, change the **secure cmos** status from Enabled to **Disabled**.
4. To save your changes, click **F10**. A prompt message appears. Click **Yes** to confirm the changes and exit the BIOS Setup window.

   The BIOS default setting is automatically uploaded.



Note: Wait for the A prompt to appear on the monitor (this may take a few moments); then remove the BIOS diskette.

When the PC starts up the following message is displayed on the monitor:

```
System BIOS shadowed
System confi data updated - Error
Check date and time setting
F1- resume, F2 - setup
```

If nothing appears when you press any of the keys on the keyboard, check the mouse/keyboard connection - make sure it is secure and properly connected. When the BIOS installation has finished, remove the BIOS diskette from the diskette drive.

From Lotem version 3.75.xx or 3.80.12, continue here:

Install Windows 2000 Ver 1.03

1. Insert **Windows 2000 Image CD version 1.03** (633-00078B) into the CD drive.
2. Restart the platesetter by pressing **Ctrl+Alt+Del** and wait for `F1` to appear on the monitor. Click **F1**. Make sure the choice is set to **1**, and press **Enter**. The image is automatically loaded. After the CD is successfully loaded, remove it from the CD drive.
3. Press **Ctrl+Alt+Del** on your keyboard to restart the system. Wait a few moments for Windows 2000 to load. A time and date error message may appear on the monitor.
4. Set the time and date, then restart the platesetter.

Update settings after the Windows 2K Image is installed

1. Restore the registry from the diskette.
2. Reset the TCP/IP address by doing the following:
   - From the Start menu, select **Settings**.
   - Select **Control Panel**.
   - Double-click on **Network and Dial-up Connections**.
   - Double-click on **Local Area Connections**.
   - Click the **Properties** button.
   - Double-click on **Internet Protocol (TCP/IP)**.
     Or
     Select **Internet Protocol (TCP/IP)** and click the **Properties** button.
   - Select the **Use the following IP address** option button and enter the desired TCP/IP address.
   - Click **OK** and then click **OK** again to exit the window.

Install Lotem controller version 3.80.16

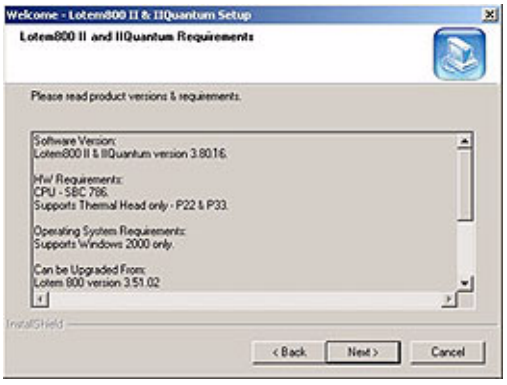
1. Insert **CD 3.80.16** into the CD drive and follow the on screen installation procedures:
   - The **Installation Warning** dialog box appears.



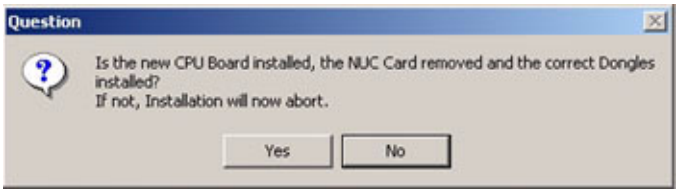
   - Make sure all Windows programs are closed.
   - Click **Next**. The **Welcome - Lotem800 II & IIQuantum Setup** dialog box appears.



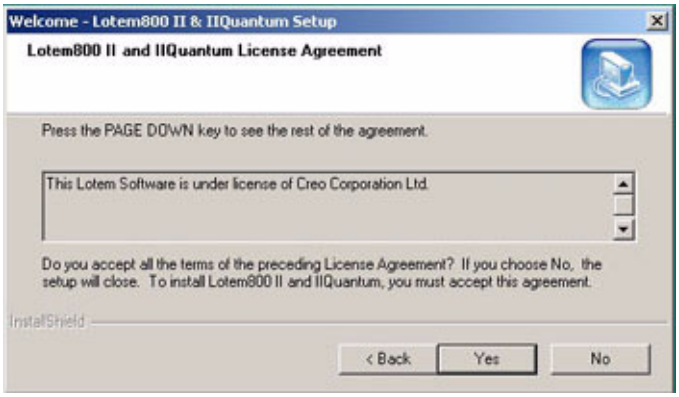
- Click **Next**. The **Lotem800II and IIQuantum Requirements** dialog box appears:



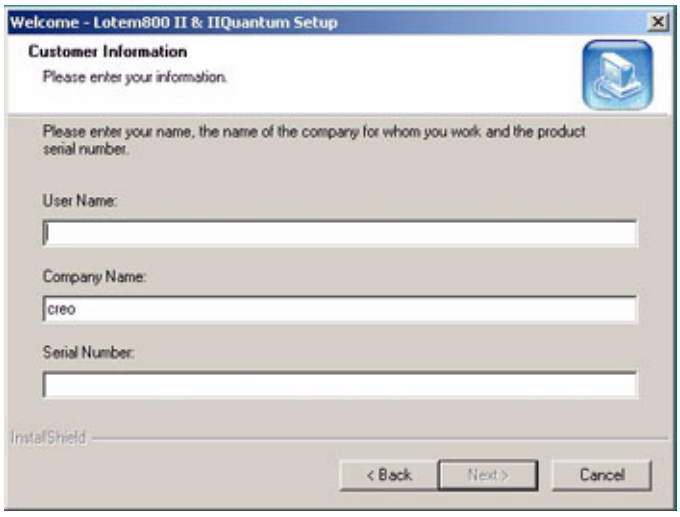
- Read the product versions and requirements and then click **Next**. The **Question** dialog box appears.



- Click **Yes**. The **Lotem800II and IIQuantum License Agreement** dialog box appears.



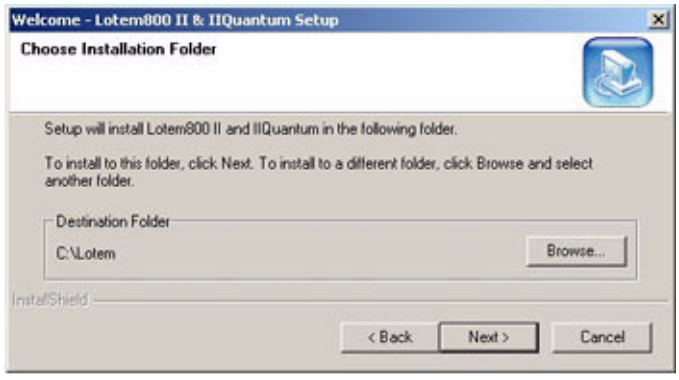
- Click **Yes.** The **Customer Information** dialog box appears.



- Enter your user name (or any other logical name), company name (it is recommended to keep the default 'Creo') and the serial number of the platesetter. Click **Next.**

Note: Enter the serial number as described in the section *How to identify a platesetter's serial number*, page 18.

- The **Choose Installation Folder** dialog box appears.



- Select the destination folder and click **Next.**

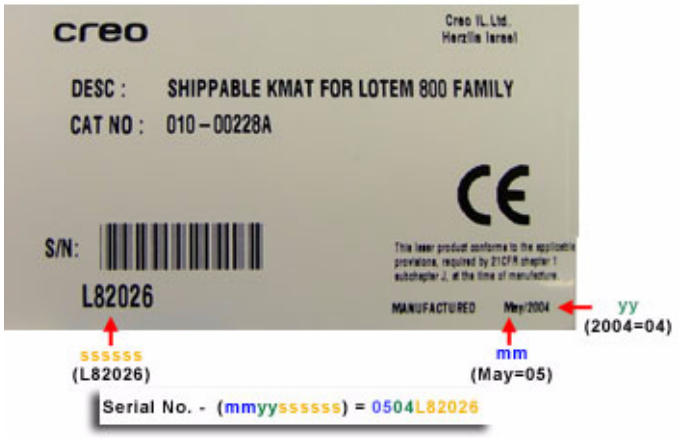
How to identify a platesetter's serial number

An adhesive label is affixed to the lower rear panel of each platesetter. There are two different types of label, depending on the year the platesetter was manufactured.

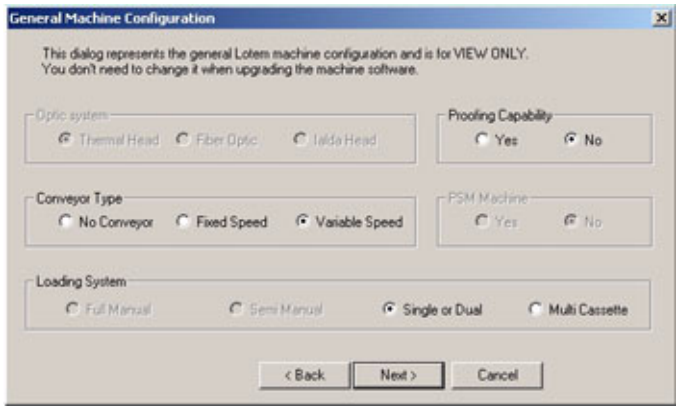
When installing software version 3.80.16, the first four digits of the Lotem's serial number must be included in the 10-digit access code. Identify the access code and serial number as illustrated below:



The 10-digit access code (**yywwssssss**) comprises of the following characters:
yy: Represents the year (first two digits)
ww: Represents the week (third set of digits)
ssssss: Represents the serial number (last six digits)
When the serial number only contains five digits, add a **0** to the end of the serial number in order to complete the installation. For example, the serial number 77777 would be entered as 77777**0**



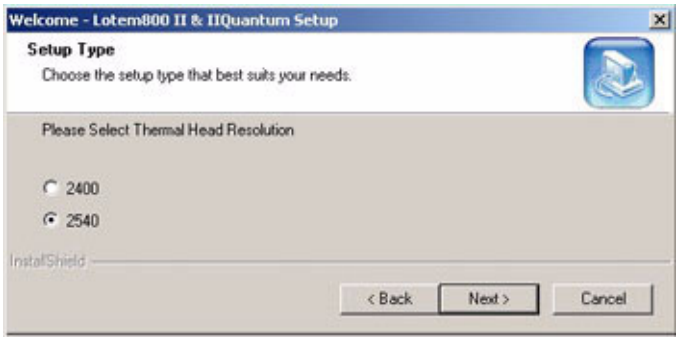
- The **General Machine Configuration** dialog box appears.



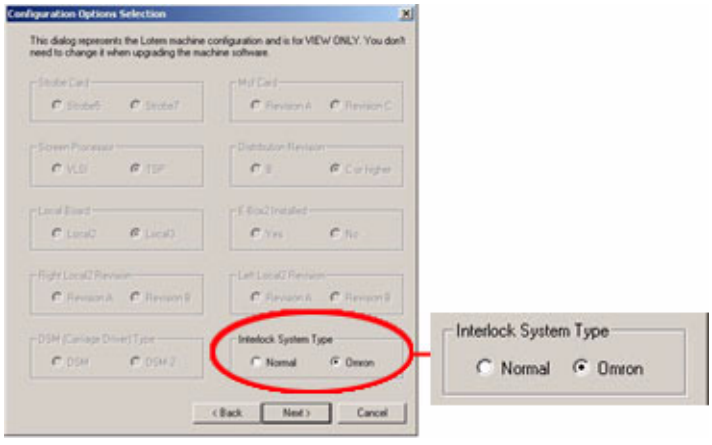
- Select the required Proofing Capability, Loading System and Conveyor Type. Click **Next**.

Note: If you have implemented FCO 512-00044, then select a Conveyor Type with a **Variable Speed**, otherwise select **Fixed Speed**.

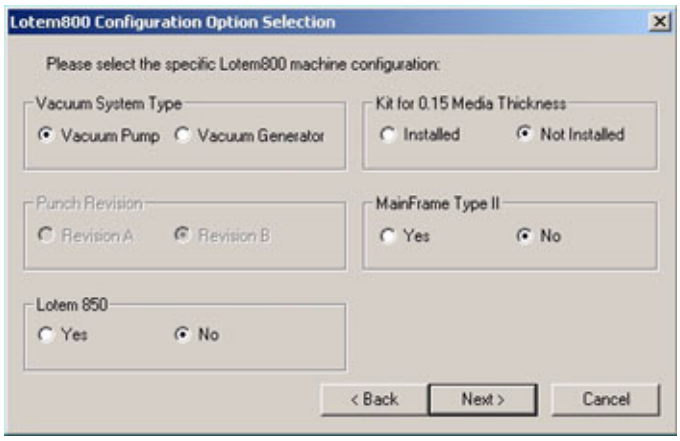
- The **Setup Type** dialog box appears.



- Select the required thermal head resolution and click **Next**. The **Configurations Option Selection** dialog box appears.

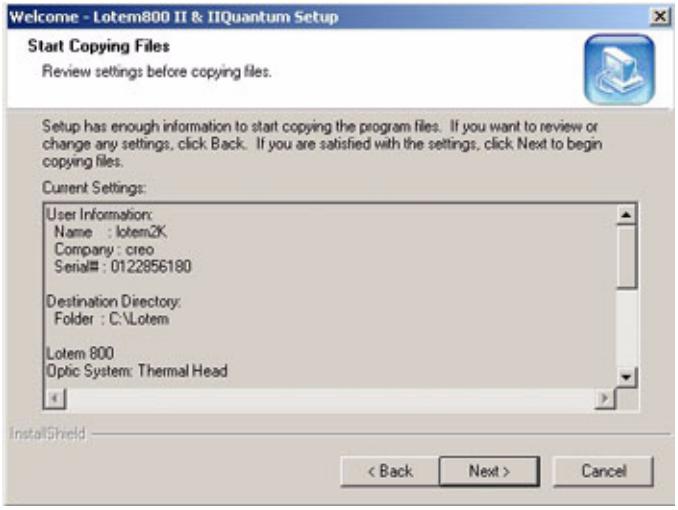


- Select the required interlock system type and click **Next**.The **Lotem Configuration Option Selection** dialog box appears.

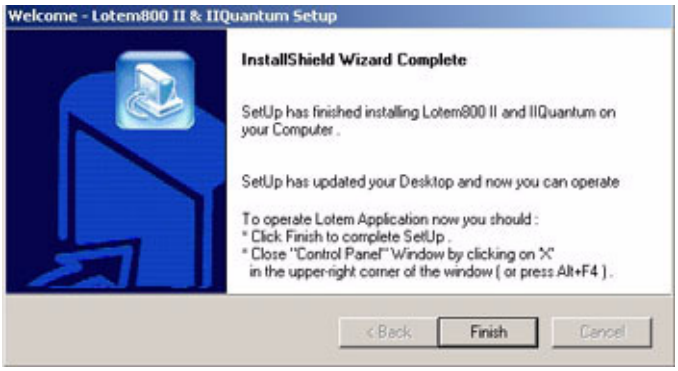


– Select the required vacuum system type.
– Select if the **Kit for 0.15 Media Thickness** has been installed.
– Select whether or not the platesetter is a **MainFrame Type II**.
– Select whether or not the platesetter is a Lotem 850 and then click **Next**.

- The **Start Copying Files** dialog box appears.



- If you are satisfied with the settings, click **Next**. The **Install Wizard Complete** dialog box appears.

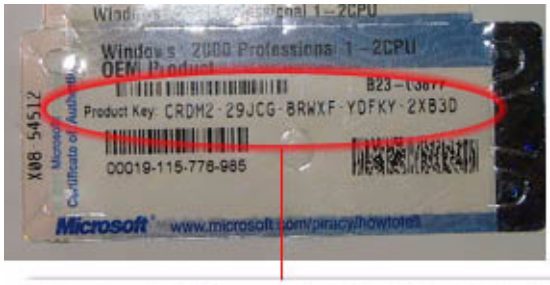


- Check that the information is correct and click **Finish**. The dialog box closes and the software will be installed in the selected destination folder.

Update setting after software installed

If you upgrade from 3.75.xx or 3.80.12 proceed to *Proceed here for upgrading from 3.75.xx or 3.80.12*, page 22.

1. Restore the database.
2. In the Registry Edit, navigate to the following path: **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\ CurrentVersion\ProductId** and in the **Value Data** field, replace the existing default product key number with the **Product Key** number displayed on the Windows 2000 software kit (included in this upgrade kit):



Note: The Image CD generates a generic product key (51873-270-9224254-09681). Replace the generic product key with the product key displayed on the Windows 2000 software kit.

3. Remove the Product Key sticker from the Windows 2000 software kit package, and affix it to the Lotem mainframe, located beside the E-box.



Proceed here for upgrading from 3.75.xx or 3.80.12

4. Verify all doors are closed, the **MCU 24V is On.**
5. Change the value of Local3 (Left, Right and MCU) from 0 to **1.**

   Path: **IO OBJECTS\LOADER\Loader Local 3 Card**
   IO OBJECTS\LOCAL 3\Left Local Card
   IO OBJECTS\LOCAL 3\Right Local Card

   Parameter: **Force DownLoading [Y=1/N=0]**
6. To verify correct head setting, refer to *Specifying the Head Type procedure* on *Specifying the Head Type for Quantum and non Quantum Platesetters*, page 33.
7. On the Service Shell, type the following:
   `QUANTUM>>`**fw dir**
   `QUANTUM>>th2 "ver"`
   Make sure that this firmware is correct, as described in *Appendix A: Firmware for Version 3.80.16*, page 25.

   Note: To identify the correct firmware versions, navigate to the Tools folder: **C:\TH2\Tools** (The Tools folder contains the firmware files in binary format.)
8. Set other required parameters:
   `QUANTUM>>`**set carriage mspeed 32**
   `QUANTUM>>`**set drum maxacc 11**
   `QUANTUM>>`**set drum tsettle 2**
   `QUANTUM>>`**Sshiftsmall** (Calculate the new value: **Sshift - 500 = Sshiftsmall**)
9. Start the Lotem application.
10. Make sure the platesetter reaches **Ready** mode.
11. Change the value of Local3 (Left, Right and MCU) from 1 to **0**

    Path: **IO OBJECTS\LOADER\Loader Local 3 Card**

    IO OBJECTS\LOCAL 3\Left Local Card

    IO OBJECTS\LOCAL 3\Right Local Card

    Parameter: **Force DownLoading [Y=1/N=0]**
12. For Lotem 850 machines, refer to *Appendix E: Update for Lotem 850 Appendix E: Update for Lotem 850*, page 31.
13. Verify Lotem Quantum Spectrum platesetters are correctly defined, as described in *Appendix D: Required Update for Spectrum platesetters Appendix D: Required Update for Spectrum platesetters*, page 30.

14. Amend the following parameters in the registry:

    - If MCU is installed, verify that the value is **4294967295**
      Path: **IO OBJECTS\LOADER\SOLENOIDS\Main Air Valve**
      Parameter: **max allowed solenoid activate time**
    - If plate separation FCO is not installed, restore the following parameters as saved before the update:
      Path: **IO OBJECTS\Loading System\Load Plate\From Cassette To Punch Entry Stage**
      Parameters:

      Y plate high up in cassette (Rel) speed

      Y plate high up in cassette (Rel)[mm]

      Y plate rell up in cassette(Rel)[mm]

      Number of plate backward separations

      X Plate rell backward in cassette [mm]

15. If the Windows Image was loaded, restore the Plate & Donor counters:
    Path: **HKEY_LOCAL_MACHINE\SOFTWARE\Mckey**
    Parameter(plate counter): **MCValue**
    Parameter (donor counter): **Dckey**

16. Update **X and Y Virtual HP App Value** as described in steps 2 of *Appendix H: Updating Centering, X and Y motors values*, page 40.

17. Readjust the **Centering** as in *Appendix II*: *Appendix H: Updating Centering, X and Y motors values*.

18. If the platesetter has a 0.15 kit installed, make the following amendments:

    - For **punches #9** and **#10**:

      Path: **IO OBJECTS\LOCAL 3\PUNCH MOTORS\Punch Motor #09**
      IO OBJECTS\LOCAL 3\PUNCH MOTORS\Punch Motor #10
      Parameter: **Home Pos Detector** - change to NONE

      Path: **IO OBJECTS\LOCAL 3\DETECTORS\Punch Motor #9 Home Pos. Detector**
      IO OBJECTS\LOCAL 3\DETECTORS\Punch Motor #10 Home Pos. Detector
      Parameter: **Open** - change to **1**

    - To solve collision of X with punch
      Path: Loading system\Load plate\from punch entry to drum entry stage
      Parameter: **X on wheel** - change to **307**.

19. If an MCU does not have a tower light installed, navigate to:
    Path: **IO OBJECTS\LOADER\DC MOTORS\Paper Disposal Warning Light Motor**
    Parameter: **Open** - change to **0.**

20. Restart the Lotem Controller.

21. Update drum speed for high throughput. Refer to *Appendix B: Update max drum speed for high throughput*, page 26.

22. In Service Shell, check **Edge Surface Reflectivity (edge sr)** is adjusted.

23. Check Remote Support works correctly:
    - In Lotem Controller, activate the Remote Support. Verify that both Net Meeting and VNC are launched.
    - Ask the Response Center to verify access to the Lotem by testing the following:
        - Remote desktop using Net Meeting
        - Remote desktop using VNC
        - Mapping of Drive C
        - Check SeSh
24. Make sure you have configured the workflow station as described in *Workstation*, page 9.
25. Use the Backup and Restore Utility to backup the registry and database. (Save the backup onto a diskette.)
26. Re-expose the reference plate and compare the results to the reference plate exposed in step 1 of the pre-installation procedures. Compare the quality between the plates and make sure the image quality, image position and image geometric have remained the same. If required, repeat this procedure for the GTO plate.

    Upgrade to 3.80.16 has been completed.

Appendix A: Firmware for Version 3.80.16

There are three options:

The following firmware versions are to be loaded in the TMCE board and TH2 when installing version 3.80.16. The corresponding file name is in parenthesis:

- **TMCE firmware: 1.32.03** (QuantumFMW13203.bin)
  a. **Head firmware 1.04d** (th2fmw104d.bin)
  b. **Xilinx firmware: 2.23** (mcelca0223.bin)
  c. **Boot Code: 1.09** (MCREBOOT109.BIN)
  d. **Post Code: 1.05** (mcepost105.BIN)
  e. **BBR: 1.03** (mcerec103.bin)
  f. **Pattern Data: 1.01** (mcedata0101.bin) for Spectrum platesetters only.

Note: To identify the correct firmware versions, navigate to the Tools folder: **C:\TH2\Tools** (The Tools folder contains the firmware files in binary format.)

To load any required firmware, type the following command in Service Shell:
`QUANTUM>>`**download c:\TH2\Tools\<filename>.bin**

Information about firmware versions loaded in the TMCE and TH2 can be obtained by typing the following commands in Service Shell:
`QUANTUM>> fw dir (or: list version all)`

Verify the correct firmware versions are displayed:

```
QUANTUM>>
fw dir
QUANTUM>> fw dir
Name          Version  Start     Sctr Length  Checksum Used Free
------------- -------  --------  ---- ------- -------- ---- ----
MCE BBR  Code 1.03     00000000    1    6832 Passed     5% 95%
MCE NVS Parms n/a      00020000    2  262144 n/a      100%  0%
MCE BOOT Code 1.09     00060000    2  108096 Passed    41% 59%
MCE FW Dir    1.00     000A0000    1  131072 n/a      100%  0%
MCE MAIN Code 1.32.03  000C0000   16 1463148 Passed    69% 31%
MCE OVWR Data n/a      002C0000    2       0 n/a        0% 100%
MCE POST Code 1.05     00300000    2   75294 Passed    28% 72%
MCE Xilinx    2.23     00340000    6  218976 Passed    27% 73%
------------- -------  --------  ---- ------- -------- ---- ----
Totals:                          32 2265562          54% 46%
*** Command Complete
```

`QUANTUM>> th2 "ver"`

```
QUANTUM>>
th2 ver
QUANTUM>> th2 ver
*** Command Complete
TH2 > ver
Project:          Thermal II
Firmware:         1.04d Release
Build:            2494
Date:             Feb 23 2004 11:20:49
Control board:    3
Xilinx:           30
*** Command Success ***
```

Appendix B: Update max drum speed for high throughput



Important: Set the new drum speed according to the HASP (dongle) key attached to the platesetter.

To upgrade the drum speed, do the following:

1. Open Service Shell and type the following command for each media defined in Service Shell:
   `Quantum>>`**th2 "set med (X-1) drumspeed Y"**
   `Quantum>>`**media X**
   Where **X** denotes the number in the media table (subtract 1 from this value), and **Y** is the recommended drum speed.

   - S speed: **150 rpm***
   - F speed: **235 rpm***
   - V speed: **375 rpm***

   * Depending on the type and size of media used. See Media Calculator.



Note: When a lower value is entered, the platesetter operates correctly; however, entering a higher value will cause a plot to fail.

Example: The example below sets the drum speed for media 1 (Kodak IR) to 235 RPM.

```
Quantum>>th2 "set med 0 drumspeed 235"
Quantum>>media 1
Current Media = 1
```

Name	= Kodak IR
Color	=
Type	= Plate (9)
Invert	= 0
Depth	= 0 microns
Reflectivity	= 0.084
ExtraScanLines	= 1
DrumPlotSpeed	= 235 rpm
TempCoeff	= 0
DebrisOptions	= 1
Density	= 2750 kg/m^3
Emissions Intensity	= 1.000
Pattern Identifier	= 0
Flags	= 0
Mainscan scale	= 0 ppm
Subscan scale	= 0 ppm
AirjestMarginHome	= 0 um
AirjetMarginAway	= 0 um

Available Media
1. Kodak IR
2. Horsell
** Command Complete.

Appendix C: Specifying the Head Type for Quantum and non Quantum Platesetters

Important: The head type must be defined according to the head installed.

WARNING: Check the head type BEFORE entering the configuration settings. If you enter incorrect settings, the platesetter will not be able to expose any media; you will not be able to re-enter new configurations; and the head will have to be replaced!

Identifying the Head Type

Identify the type of head installed on the platesetter before entering the configuration settings.
Located on the rear lower panel of the platesetter is an adhesive label enabling you to identify the type of head installed on the platesetter.
The **DESC** line on the label either contains the letter **Q** or the Roman numerals **II**:

- **Q** represents Quantum SquareSpot and indicates that a **P22** head is installed on the platesetter.
- **II** represents a Lotem 800 II platesetter and indicates that a **P33** thermal head is installed on the platesetter.



Defining the Head in the TMCE Board

Note: The above command is context sensitive; make sure to upper case the relevant letters in the command.

After the head type has been identified, it is necessary to define the head in the TMCE board.

To define the head, do the following:

1. Open Service Shell.
2. Type the following:
   QUANTUM>>**access dev**
   QUANTUM>>**config**
   A list containing all the available Quantum modes and their corresponding codes appears on the monitor.
   QUANTUM>>Config AVerySecretPassword [head type]
   Change the head type as required (a mismatch will cause the exposure to fail):

   Note: Although **Lotem Defaul**t appears in the list, it is not an available option. Select either **LotQU** or **LotII**, as described below:

   - For P22 heads, the head type is **LotQU**.
   - For P33 heads, the head type is **LotII**.

Note: The above command is context sensitive; make sure to upper case the relevant letters in the command.

Defining the Head Model

After the head type has been defined, verify that the information you entered in Service Shell is correct, and if required, define the head model.

Verifying the head type information:

To verify the head type information, type the following command:

QUANTUM>>**access dev**
QUANTUM>>**ceh head info**
Exposure Head Type = Thermal 2
Firmware Build = Release
Firmware Version = 1.04d
Serial Number = T00531
Head Model = Standard
*** Command Complete

The above output indicates that the **Head Model** is **standard** (last line) meaning that it is a **P22** head. For a **P33** head the last line would be:
Head Model = Entry Level

Defining the head model:

If the Thermal Head 2 is not defined as P33, type the following command:

`TH2>>`**sys model p33**
The following screen message will be displayed:

```
WARNING! Configuring a P33 head will degrade plot quality, and
could disable the head. This command must only be run on P33
heads installed on non-Quantum engines.
Proceed with P33 configuration (Y/N)
```

WARNING: If you type Y (Yes) the action is irreversible.

Type **Y**
To ensure that the head protocol is set to **True**, type the following:
`Quantum>>`**set ehi protocol**
The following screen message will be displayed:

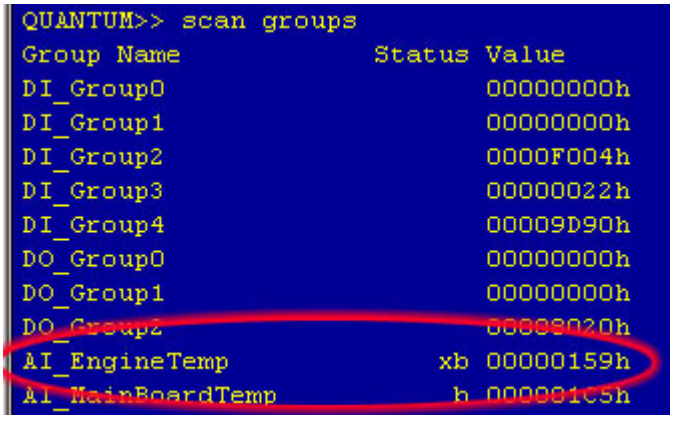
```
ehi protocol true
```

To change the status from **False** to **True**, type the following:
`Quantum>>`**set ehi protocol true**

Note: The above actions ensure that the head works correctly.
If the head protocol is not set to true, several scripts will be effected and the head will not work.

Important: The P33 head does not support thermal compensation. Therefore, the thermal compensation detector must be bypassed in the TMCE board, otherwise the **AI_Engine Temp** error message will be displayed.
To bypass the thermal compensation detector:

1. Type the following in Service Shell:
   `Quantum>>`**scan groups**
2. Navigate to the line **AI_EngineTemp.** If the letter **b** appears next to this line, then the detector is not bypassed. (The **b** informs the MCE not to bypass the detector.) To overcome this problem, type the following:
   `Quantum>>`**scan AI_EngineTemp bon**
   `Quantum>>`**reset**
   Then type `Quantum>>`**scan groups**.
   The letters **xb** will appear next to the **AI_EngineTemp** line. (The letters **xb** inform the MCE to bypass the detector.)



Appendix D: Required Update for Spectrum platesetters



Important: Spectrum platesetters will only expose proofs when the following procedures have been completed.

1. Open Service Shell.
2. Type the following command:
   `Quantum>>`**access dev**
   `Quantum>>`**option**

   Note: Ensure that the Spectrum option is enabled.

EdgeDetect option is	enabled
Spectrum option is	**enabled**
Debris UDRCB option is	disabled
Debris UDRCL option is	disabled

   If the Spectrum option is disabled, type the following command:
   `Quantum>>`**option spectrum enable**
   `Quantum>>`**reset**
3. Type the following command:
   `Quantum>>`**set proof 1 name "proof"**

   Note: Implement this command to successfully plot a proof. This command will only work on Spectrum platesetters. An error message will be generated on non-Spectrum platesetters.

Appendix E: Update for Lotem 850

When installing software version 3.80.16 on a Lotem 850 platesetter, the majority of the registry parameters automatically change to accommodate the Lotem 850. However, the following parameters need to be changed manually, because their default values are set for a Lotem 800 platesetter and not for a Lotem 850 platesetter:

- **Others/Lotem800/Machine/Min media height size (mm)**
  Amend value to: 455
- On SeSh:
- `Quantum>>` **Set Carriage** and amend the **mtravel** value to **1176**
- `Quantum>>` **Set Prd** and amend the **Drumdiam**value to **344**
- `Quantum>>` **Set Drum** and make the following amendments:

  MaxAcc = **7**

  MaxPacc = **7**

  Kt = **1.6**

  JI = **2.3**
- `Quantum>>` **Feature**.

  The following screen message will be displayed:

```
Current Model
-------------
Lotem Quantum [LotQU]
Licensable Limits
-------------
Tag Description
1 Maximum plate size in mainscan: 1030 mm [Optional]
2 Minimum plate size in mainscan: 318 mm [Optional]
3 Maximum plate size in subscan: 1150 mm [Optional]
4 Minimum plate size in subscan: 225 mm [Optional]
```

Appendix F: Remote Support

Network connection

In order to access the Lotem machine remotely, the Lotem must be connected on the customer network and not in Point To Point (PTP) connection to the Brisque.

Please refer to FCO 512-00269A for connecting the Lotem to the network.

Creo Service Port and Service Wire

The Creo Service Port (CSP) is installed with the Windows 2000 image CD. This enables defining the Lotem directly to the Service Wire (RSS). Guidelines for supporting the Lotem from the Service Wire can be found in the Lotem Family and RSS - Quick Connectivity Guide.

Remote Control

To access the remote control feature on the Lotem, select **Remote Support** from the **Utilities** menu. This launches the following:

- Net Meeting
- VNC
- Remote Applications dialog box

Note: To connect to Net Meeting from a remote computer, type **Remote** in the **User** box and type **sciremote** in the **Use Password** box.

The VNC on this version is Tight VNC with improved performance compared to previous releases.
To connect to VNC from a remote computer, type **sciremote** in the **Session Password** box.

Remote Diagnostics

There are two main advantages in running remote diagnostics:

- Saves time when the service engineer is on site by having test results available.
- Makes it possible to ship parts to the site before the engineer arrives on site.

When a TCP/IP connection has been established to the customer's site, it is possible to do the following:

- Remotely control the Lotem's desktop and activate three different kinds of diagnostics.
- Run the JOIND as a client/server application, as described below:
  - Ask the customer to close Lotem Controller (or use the desktop control to remotely close the application).
  - Ask the customer to activate the JServer via the **Start > Lotem 800 - Diag** menu (or use the desktop control).
  - Activate the JOIND Client on the remote PC. (This may be downloaded from the Remote Support section in TechPlanet).
  - In **Step 1** of the JOIND Startup, type in the IP address of the Lotem.
  - Click **Next** and then **Finish**.

Drive Sharing & Mapping

Drive C of the Lotem can be used sharing and mapping purposes. To connect to drive C from a remote computer, type the following in the **Start > Run** dialog box:

\\Lotem-IP-Address\C$

or

\\Lotem-IP-Address\C

When prompted, type **remote** in the UserName box and **sciremote** in the Password box.

Appendix G: Hardware Upgrade Kit

Important: This procedure only applies to platesetters whose operating systems need upgrading from Windows 95 to Windows 2000.

Important: The Pre-installation procedures **MUST BE** performed prior to any hardware or software upgrades.

- Open the right side door of the platesetter.
- Close Lotem Controller and the Service Shell client.
- Shut down the Lotem, including the main power supply.

Replacing the Boards, Cables and COM Outputs

Note: Use an anti-static bracelet when working with the boards.

1. In order to gain greater access to the E-box, remove the screws securing it to the mainframe and then slightly rotate the E-box.
2. Using the anti-static bag provided in this kit, remove the NUC board and return it to stock.
3. Disconnect cable J6 from the top right hand corner of the motherboard.

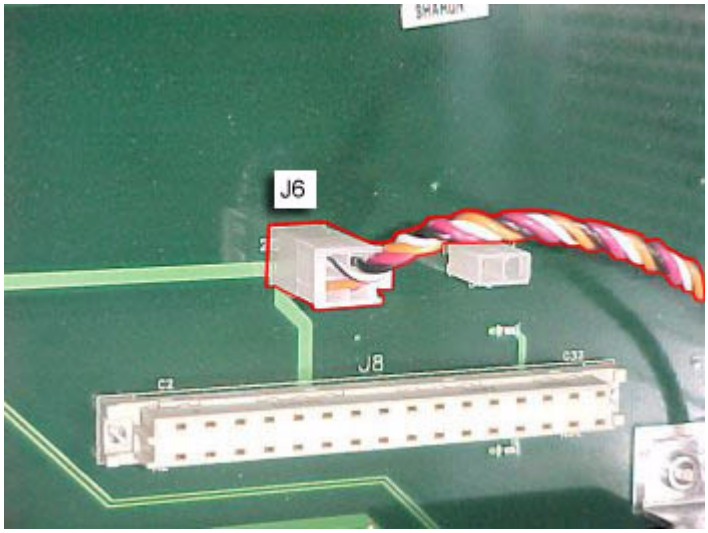


Figure 1: Disconnect cable J6.

4. Ensure that the cable and all other wires are disconnected, then pull out the hard disk tray.
5. Release the PS2, COM2 and bracket.
6. Disconnect the cables from the SBC 686 CPU board and remove the board.

7. Disconnect cable J2 from the top left hand side of the E box.

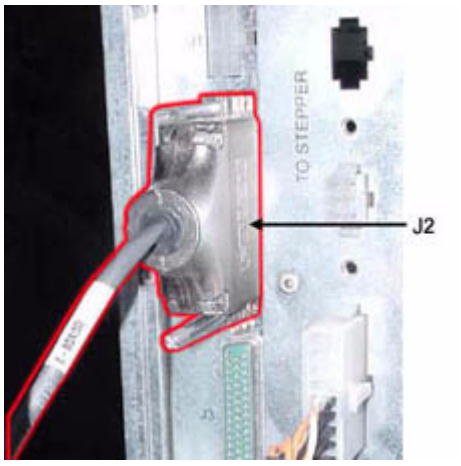


Figure 2: Disconnect cable J2.

8. Remove one of the slot blocks from the PC unit.



Figure 3: Remove one of the slots.

9. Replace the disk's power cable with the new cable.

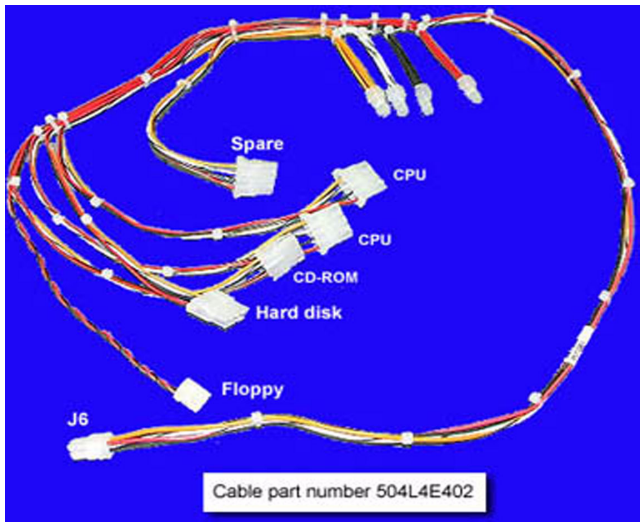


Figure 4: Replace the disk's power cable.

Note: The order of the connections is not important. The Spare connection is left unconnected and may be used in the future.

10. Insert the hard disk tray back into place. Make sure you do not short circuit the wires.
11. Connect the power cable to the floppy, hard disk and CD-ROM connectors.
12. Connect the power cable splitter to the power cable and the CPU connectors.
13. Reconnect cable J6 to the motherboard.
14. Insert the new SBC 786 board with the COM brackets and the SBC 786 connector outputs as shown in figures 4 and 5.
15. Ensure that the length of the flat cable to the hard disk (40 pins) is not more than 1 meter.

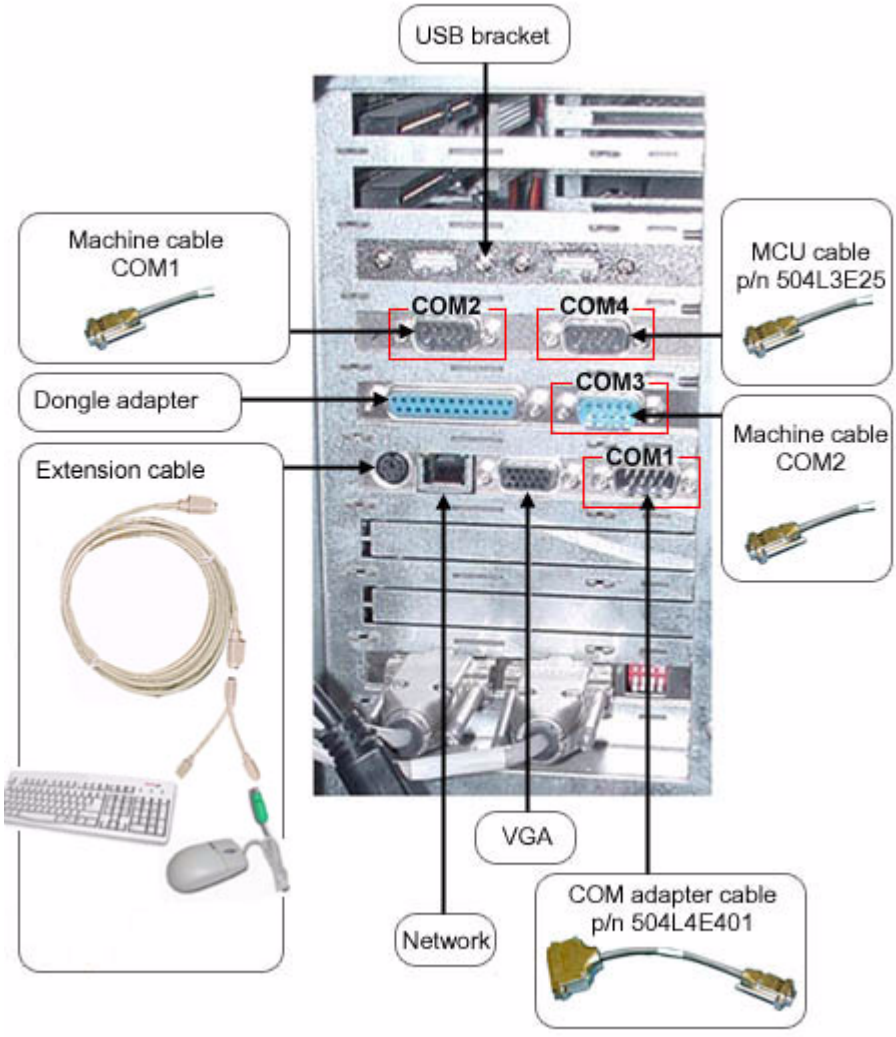
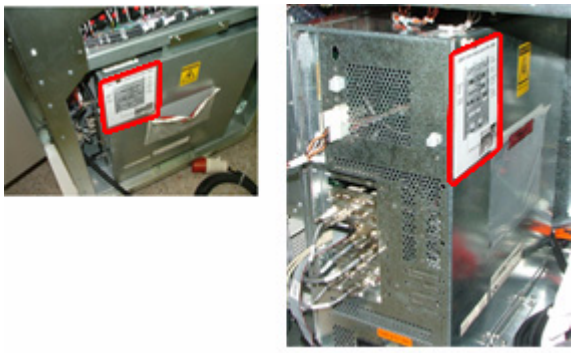


Figure 5: Insert the new SBC 786 board.

16. Affix the **Lotem 800 II E-box Win. 2K cable layout** adhesive to the cover of the E-box.



17. Connect the USB to the SBC. Make sure the black wire faces outwards.

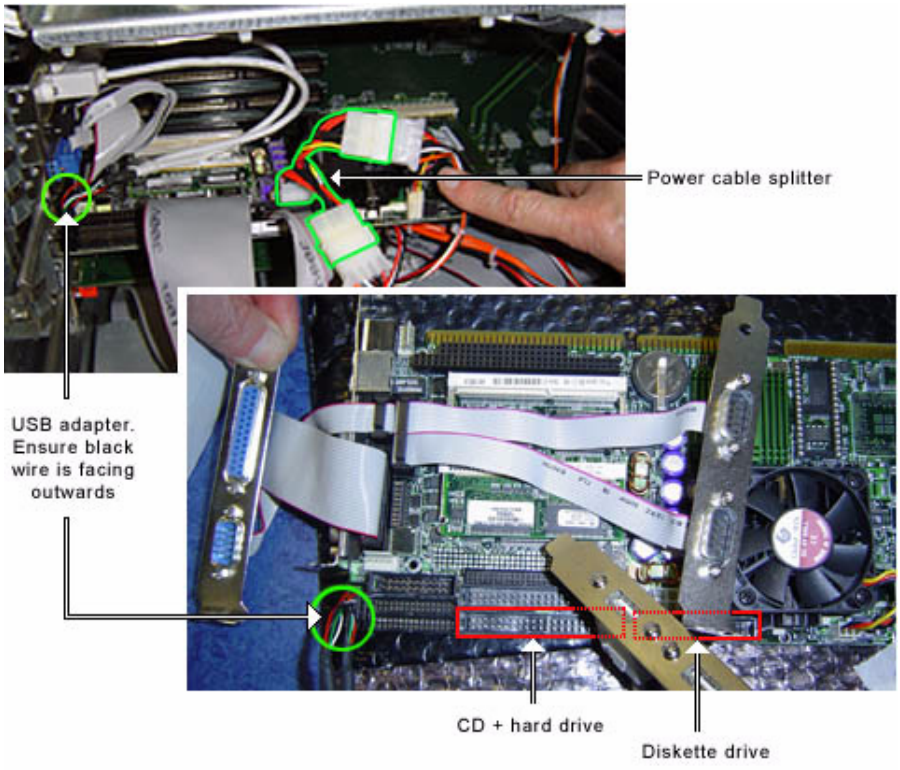


Figure 6: Connect the USB to the SBC

18. Connect the Com adaptor cable between Com 1 and J2 (E-box 50 pin) - removed in Figure 6.

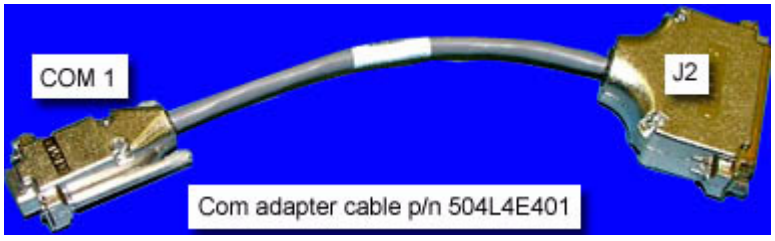


Figure 7: Connect the Com adapter cable.

19. Connect Machine Cable Com 1 to Com 2 of the SBC 786 board.

20. **Windows 2000 - Lotem Controller version 3.75**

    Connect one end of the extension cable to the SBC 786 board, and connect the Y splitter cable to the other end of the extension cable.

    The Y splitter cable has two connectors: One is labelled mouse and the other is labelled keyboard. Connect the mouse connector to the mouse and the keyboard connector to the keyboard.



Figure 8: Windows 2000 cable connections.

Windows 95 - Upgrading to Windows 2000
Connect Machine Cable Com 2 to Com 3 of the SBC 786 board.

Existing on site are two extension cables. One is connected to the keyboard, and one is connected to the mouse. Connect the opposite ends of these extension cables to the Y splitter cable and then connect the Y splitter cable to the SBC 786 board.

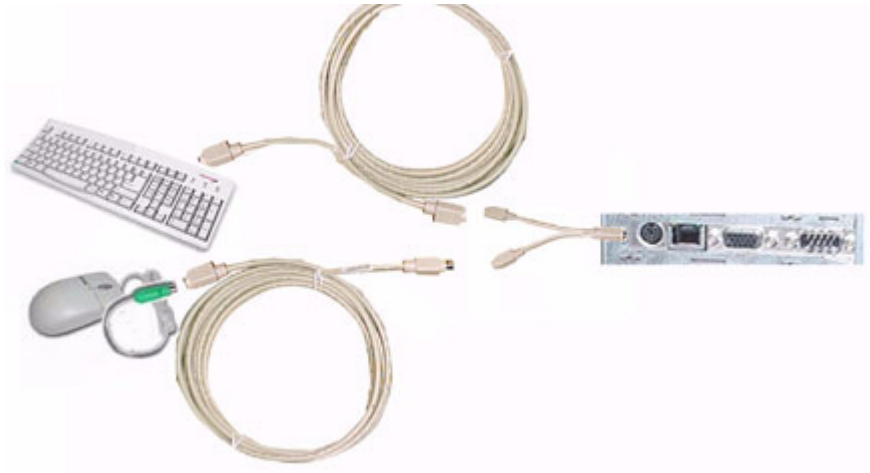


Figure 9: Upgrading from Windows 95 to Windows 2000.

21. Connect the dongle adaptor and the other relevant dongles. Mount them with bands to the left wall of the E-box:

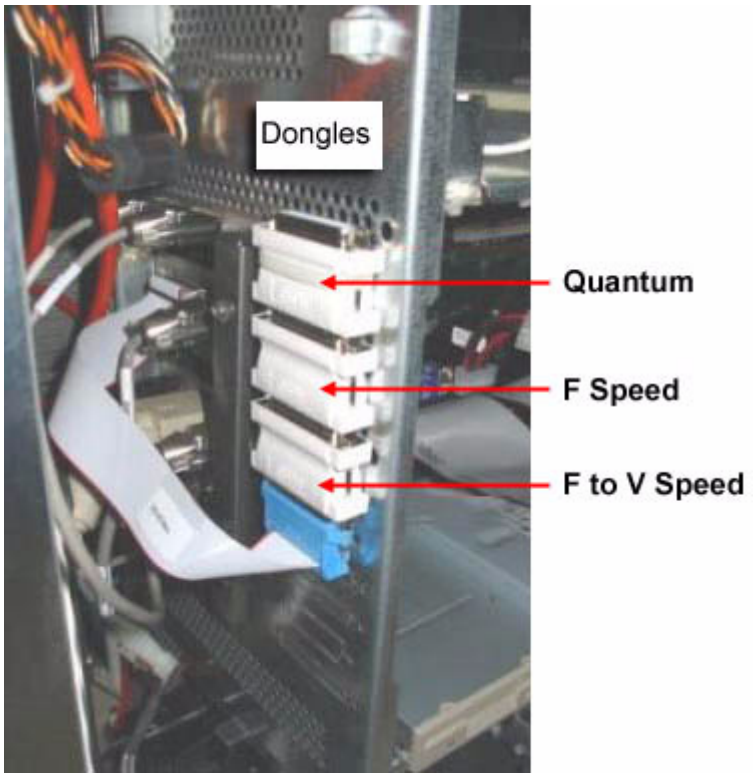


Figure 10: Connect the dongle adapter and the other relevant dongles.

22. Connect the monitorand network cable to the E-box.

23. If an MCU is installed, the RS-232 cable should be connected between Com4 and the MCU local motherboard (J8).

24. After completing the installation, the configuration should resemble the following schematic:

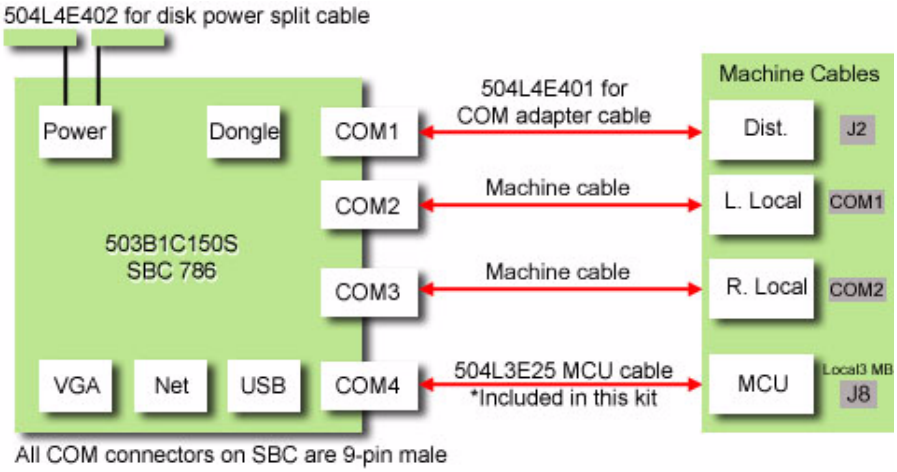


Figure 11: Schematic of configuration.

Appendix H: Updating Centering, X and Y motors values

A closed circuit loop was added to Lotem Controller software version 3.80.16. This enabled the following enhancements:

- Accurate control over the centering motor and X,Y movements
- Increased stability
- Increased movement flexibility
- Reduced margin of error

In order for the enhancement to work correctly, it is necessary to adjust the Virtual Home Position application detector values, as described below.

Procedure:



Important: This procedure must be performed prior upgrading to software version 3.80.160.

1. **X motor**
    - Move the **X motor** to **position 350** at a speed of **10.**
    - Use a ruler to measure the distance from the loading system to the front beam of the main frame as shown in the pictures below (old and new mainframe).



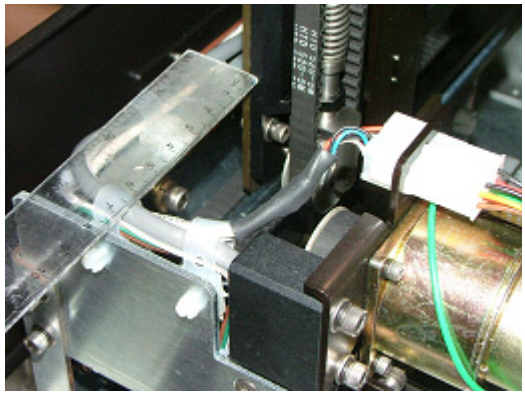


Figure 12: Old main frame





Figure 13: New main frame

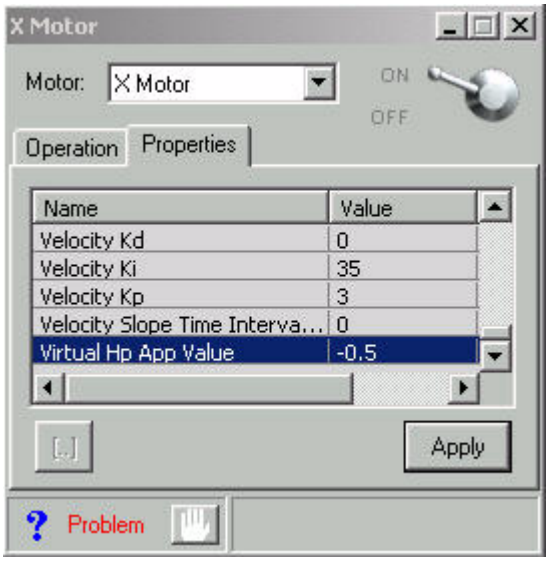
- Move the **X motor** back to the **home position detector** or peform X-Y init.
- Repeat step 1 five times and then calculate the average measurement.

2. **Y motor**
   - Move the X motor to position 170 at a speed of 10.
   - Move the Y motor to the bar flag detector at a speed of 10.
   - In Lotem Controller, white down the **Pos. value** (encoder measurement) displayed at the bottomof the window.
   - Move the **Y motor** back to the **home position detector** or peform X-Y init.
   - Repeat step 2 five times and then calculate the average measurement.

3. After upgrading to software version 3.80.16, repeat step 1, and then do the following:

   Navigate to the **X** and **Y Motor** dialog boxes. In the Properties tab, scroll down to the **Virtual HP App Value** and in the **Value** column, enter the delta value of the measurements before and after the upgrade (refer to **Example** below to calculate delta value).
   The final number will usually be a negative number, as shown in the example below:

   Example:
   Average value before upgrade: **A** = 65 mm
   Average value after upgrade: **B** = 64.5 mm
   Delta: **B - A** = (64.5 - 65) = -0.5 mm
   Virtual Hp App Value=-0.5



4. In order for the enhancement to work correctly, it is necessary to adjust the **Virtual Hp App Value** (virtual home position application detector value) of the centering system:

   For more information, see **Adjusting the Centering System Factor Parameter in the Registry**

   - Attach a plate to the punch beam's short pins (as described in the procedure **Centering home position virtual value adjustment**).
   - Send the centering motor to **EP Det (cent/Pch)** at a speed of **3**.
   - From within Lotem Controller, read the **Pos**. value (encoder measurement).
   - Add/subtract the delta value to/from the actual plate size value entered into the Pos. field (in the Virtual App. Det. dialog box).
   - Make sure that the amended Pos. value reflects the actual size of the plate.

Note: The centering measurement tolerance is ±3 mm, between the plate's actual size and the measurement.

5. Adjusting the X after gripper parameter.
   Path: **IO OBJECTS\Loading System\Load Plate\From drum entry to drum stage**
   Parameter: **X after gripper**

   While the XY system moves to **X = 352** to pick a new plate, we need to verify that the **paper plate on disposal detector** is on **OFF** status.

   – Move the XY system to **Y = 0** and X to the value of the **X after gripper** (between 350 and 354). Check the status of the **paper plate on disposal detector** and make sure that the status is **OFF.** If the status is **ON**, change value of X, making sure that the status changes to **OFF** and update**X after gripper** with this new value.

   – Move the XY system ±2 mm, from the **X after gripper value**, Y **= 0**. Make sure the **paper plate on disposal detector** is **ON**. If the detector's status is not **ON**, then change the value in the registry as described above.