# Lotem 800 Quantum with Spectrum version 3.7 Release Notes

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Lotem 800 Version: 3.60.09



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# Overview

This document describes the changes made to the Lotem 800 Quantum with Spectrum software in version 3.7 relative to version 3.50.07 (Quantum). It also includes all the relevant procedures required in the new version.
In version 3.7 the Lotem 800 Quantum with Spectrum machine supports a dual-loading cassette (DLC) or multi cassette unit (MCU) configuration.

**Note**: This software version supports Quantum machines **only**.

Complimentary reading for these release notes include:

1. Brisque version 4.1 Release Notes, 399Z3R430A
2. Lotem 800 version 3.6 Release Notes.

## Highlights

**New Features**

- Mcu support
- 4 up support for proofing media
- DLC upper tray button
- Spot handling

**Note**: For more details on the above new features, see New Features on page 4.

## Prerequisites

1. Brisque version 4.05.
2. The following firmware versions to be loaded in the TMCE board and Thermal Head 2 (TH2). The corresponding file name is in parenthesis:
   - **TMCE firmware: 1.20-03** (QuantumFmw120-03.bin, or mcefirmware.bin)
   - **Xilinx firmware: 1.37** (mcelca0137.bin, or mcelca.bin)
   - **Head firmware: 1.01F** (th2h101F.bin, or th2firmware.bin)
   - **Boot Code: 1.09** (mceboot.bin)
   - **Post Code: 1.03** (mcepost.bin)
   - **Pattern Data: 1.01** (mcedata.bin)
   - Information about firmware versions loaded in the TMCE and TH2 can be obtained by typing the following commands in SPlot or Service Shell:

     QUANTUM>> fw dir (or: list version all)

     QUANTUM>> th2 “ver”

After loading the correct firmware versions, the following appears:

```
QUANTUM>> fw dir
Name            Version  Start     Length    Checksum
--------------- -------  --------  --------  --------
MCE BBR Code     1.03    00000000  00001AB0  Passed
MCE BOOT Code    1.09    00060000  00019E12  Passed
MCE MAIN Code    1.20    000C0000  0011573A
Passed
MCE Xilinx       1.37    00340000  00035760  Passed
MCE OVWR Data    1.01    002C0000  0000C220  Passed
*** Command Complete
```

```
QUANTUM>> th2 "ver"
*** Command Complete
TH2 > ver
Project:         Thermal II
Firmware:        1.01f Release
Build:           1780
Date:            Mar 20 2002 15:00:59
Control board:   3
Xilinx:          24
*** Command Success ***
```

### Note

When you install the new software version, the existing version is saved in the **OldVer** folder and the new version, including the following, is saved to **C:\Lotem:**

- Database
- Log files
- Splot scripts (under C:\Tii\Splot\Scripts) (Quantum only)
- New Firmware files (under C:\th2\tools) (Quantum only)

## Fixed Bugs

1. Version 3.50.06 (Lotem 800 Quantum with Spectrum) has the following bug:
   If the carrier is already on the drum when you load a plate, the plate is brought to drum entry and then the carrier should unload. However, the carrier unloading occurs only if two conditions are met:

a. the Expose/Unload plate in exposure failure is **TRUE**, and

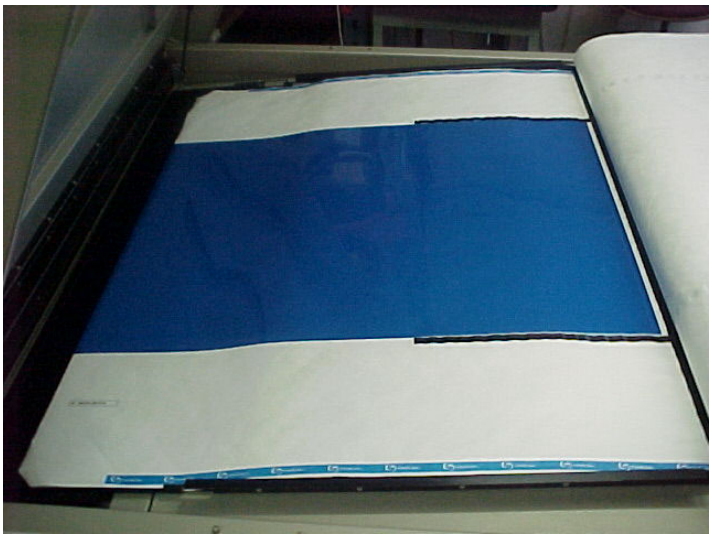
b. the unload flag of the *plate* expose job is **TRUE**.
If one of these flags is **FALSE**, then the carrier is not unloaded and the plate load would fail with an error of Illegal loading system state: '**Proofing media is on the drum**'.

2. Drum vacuum shut down.
3. The display of cassette, doors and plate films for a DLC-equipped machine is fixed.

# New Features

**1. 4up support**

- The machine supports now 4up plate size.
- To use the 4 up option, you must load the correct 4 up carrier onto the drum and the correct media in the proofing tray. The same proofing tray is used for 4up and 8up media, but with different separators.
- The 4up media is arranged vertically in the tray, and not horizontally like the 8up.



- To support 4up media, the following new parameters were added to the registry:

Loading System\Load Proof\Proof From Drum Entry To Drum Stage\Drum Motor

*- Drum Motor Pos Ready For 4Up Donor (mm)*

*- Drum Motor Pos Ready For 4Up Receiver (mm)*

*- Drum Motor Pos Before Wrapping 4Up Receiver (mm)*

*- Drum Motor Pos Before Wrapping 4Up Donor (mm)*

*- Drum Motor Pos After Wrapping 4Up (mm)*

*- Drum Motor Pos To Start Ironing 4Up (mm)*

*- Drum Motor Pos To End Ironing 4Up For Unload Roller (mm)*

*- Drum Motor Distance For Ironing 4Up For Unload Roller (mm, Relative)*

Loading System\Unload Proof\Drum Motor

*- Drum Motor Pos Ready To Peel 4Up Donor (mm)*

*- Drum Motor Pos Ready To Peel 4Up Receiver (mm)*

*- Drum Motor Pos To Complete Peeling 4Up Media (mm)*

*- Drum Motor Pos To Complete Unload 4Up Donor (mm)*

*- Drum Motor Pos To Complete Unload 4Up Receiver (mm)*

**Note**: New parameters have been added to support the vacuum check for the 4up media. Refer to *section 8 ("Improved Vacuum Checking")* for more details.

## 2. MCU support

- The machine supports multi cassette unit (MCU) configuration.
- To use the MCU, it you must set which cassette will serve as the proofing cassette. This cassette can be used for plates as well, however it is the only one that can be used for proofing. The default cassette is cassette number. 5. To change the default cassette, open **Cassette System** and set the value of '**Proofing Tray Index**' to the preferred number.
- After setting which cassette is the proofing cassette, you can install the proofing tray with proofing media. If the carrier is not already loaded onto the drum, place it on top of the proofing tray inside the cassette and define it in the **Current Cassette** dialog box. The carrier and media are automatically loaded when a job is sent to proof from Brisque.
- If a carrier is on the drum and you send a job will to plate expose from Brisque, the carrier is unloaded automatically. However a request to remove it from the conveyor appears.
- To support MCU configuration, the following new parameters have been added to the registry:

  - Cassette System

  - Proofing Tray Index

  - Is Carrier In Proofing Tray (0=No , 1=Yes)

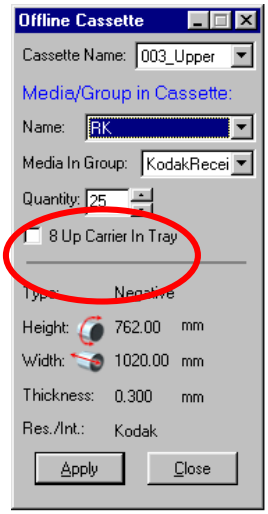
### 3. Improved Messages to User

When using the DLC, the user is prompted by messages how to proceed. The current messages have been changed so that it is clearer how to proceed and some were completely removed, thus enabling a more fluent and efficient workflow.

### 4. GUI changes:

## A) Offline/Current cassette dialog:

Since 4up plates are now supported, correct carrier size must be selected. Therefore, a new check box has been added to the **Offline/Current Cassette** dialog box. When defining what group is installed on the proofing tray, the user is asked to define if there is a matching carrier in the upper tray/proofing cassette. If the matching carrier already exists on the drum, there is no need to define it.




## B) Reset for Resubmit

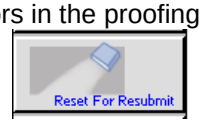
The Resubmit option can be used in the following cases:

- In the middle of the job if *loading* of the donor failed.
- In the middle of the job if *unloading* of the donor failed.

The Resubmit option *cannot* be used in the following cases:

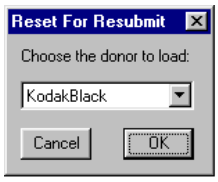
- If the receiver fell off the drum.
- If the expose was stopped in the middle of a separation (in this case, the receiver will be loaded automatically).

After donor loading/unloading failure the machine is in **Attention** status.

You must rearrange the donors in the proofing tray to continue. A **Reset for resubmit** button and dialog box have been added. 


**To reset the device after a loading failure:**

1. Open the front door.
2. Remove the failed donor and place it on the proofing tray.
3. Click the **Reset for Resubmit** button. The following window appears:



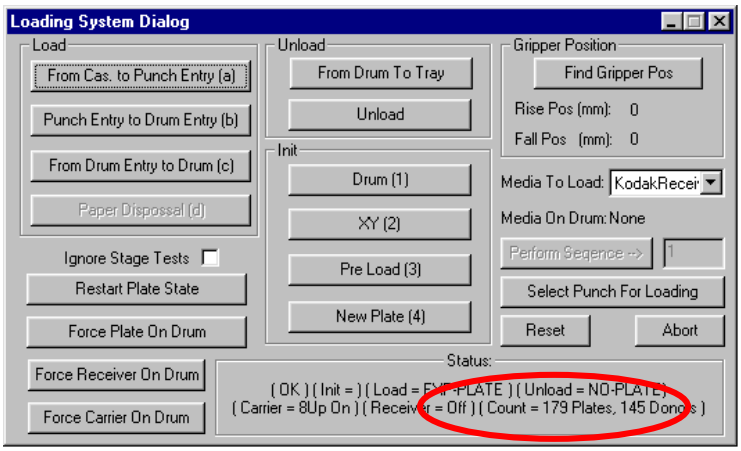

4. From the drop-down menu, select the next donor you want to load.
   The machine is automatically set to the correct settings:
   Carrier = On
   Receiver = On
   Media to Load= the selected donor
5. You are prompted to reset the machine.
6. On the Brisque workstation open the Lotem Spectrum dialog, set it correctly by selecting the next donor to be loaded and resubmit the job.

**To reset the device after an unloading failure:**

1. Open the rear door.
2. Remove the failed donor.
3. Continue from step 3 in the ‘reset the device after a loading failure’ procedure.

## C) Counter for donors

To inform the user and service engineers how many proofs have already been exposed, a counter has been added to the loading system. If the user is working in a CMYK workflow then 145 donors=~36 proofs.

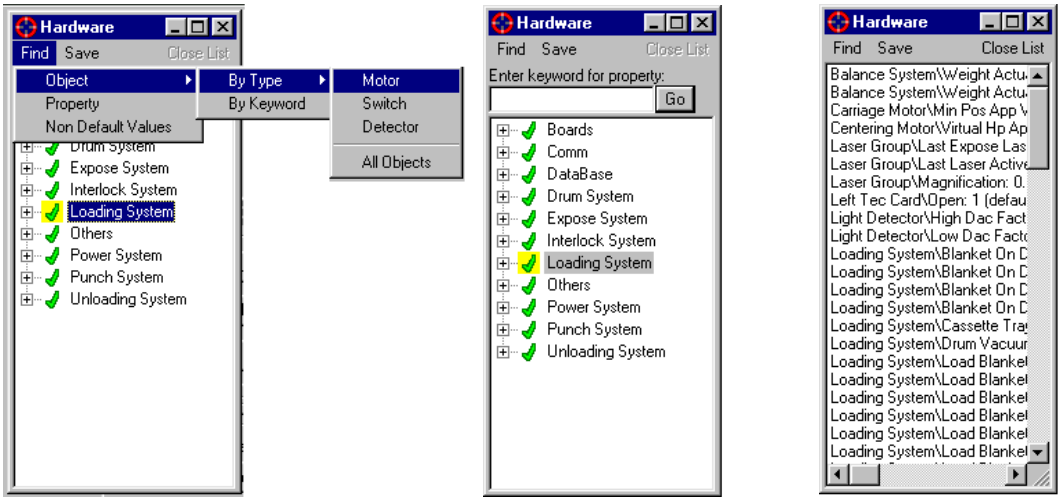



## D) New options in the HW tree (Find, Save etc.)

New options were added to the HW tree:

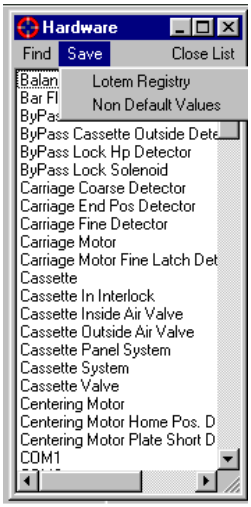
### 1. Find

- Object
    1. By type: motor/ switch/ detector/ all objects
    2. By Keyword
- Property – such as the loading system.
- Non-Default values

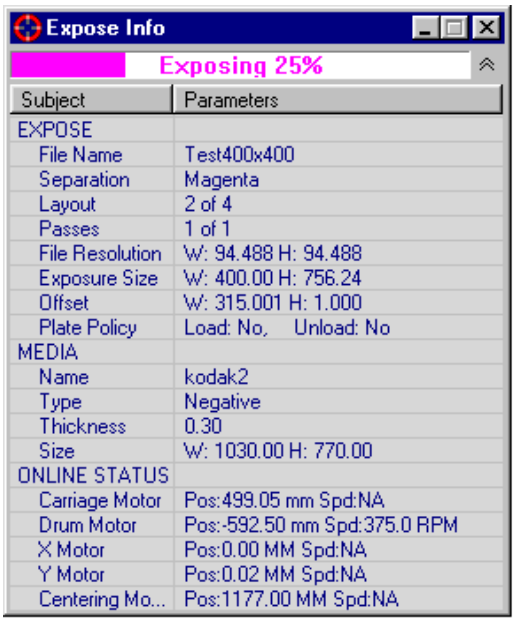


**2. Save**

- Lotem registry
- Non-default values




Expose progress indicator is colored according the separation color (plates & proof). Spot colors is the default dark blue.




**3. Full Group Support (Group Name)**

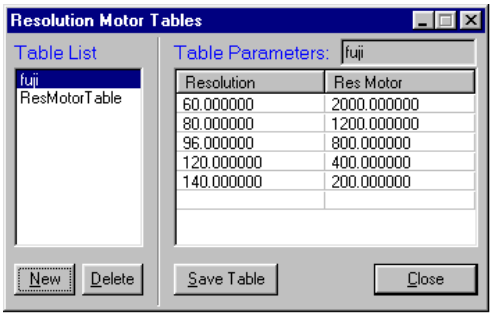
- Full group support to PC controller software was added.

- In Spectrum machines, all proofing media are being via Group database.
  The Brisque sends the requested group name together with other expose parameters. The controller software performs several different operations on this group name (is exist, is installed etc.).
- In version 3.70.02 there is full compatibility of the name of the group andthe media inside the group between the Brisque & the PC controller. The Group Name determines if the installed group matches the loading request from Brisque. In earlier versions, the PC controller software only took into acount the first media in this group (i.e the reciever. For example, there could be 2 groups with different names, different donor order, but the same receiver name. When a job was sent to expose, the first group loaded in to the upper tray, but the expose failed soon after the receiver was already loaded because only then did the PC Controller realize the donor was different.

## 4. DLC upper tray button

To simplify the workflow, a button has been added to the DLC. It enables the user to insert or release the upper tray from the cassette and not via PC controller.






## 5. DLC protectors

The upper tray is safer. When asked to insert or release the upper tray, 'XY Init' operation is performed to protect the XY system.

## 6. Improved Vacuum Checking

When you load proofing media (Carrier, Receiver and Donor), several vacuum checks are performed to ensure that the media is loaded properly. In version 3.7, the vacuum check system is improved and it is based on minimum and maximum vacuum values which are referenced to "**empty drum vacuum**" value (drum vacuum value when vacuum pump is working and no media on the drum).

The new improved system enables the Lotem software to detect vacuum problems (caused by vacuum pump, barometric pressure etc.) It is also more flexible than the previous system.

**To support 4up media, the following parameters were added to the registry:**

Loading System

- *Drum Vacuum Pressure Value Before Blanket Loading (mBar)*

Loading System\Load Blanket

- *Minimum Drum Vacuum Pressure Before Blanket Loading (mBar)*
- *Maximum Drum Vacuum Pressure Before Blanket Loading (mBar)*
- *Drum Vacuum Difference For 8Up Blanket (mBar)*
- *Drum Vacuum Difference For 4Up Blanket (mBar)*

Loading System\Load Proof

- *Drum Vacuum Difference For 8Up Receiver (mBar)*
- *Drum Vacuum Difference For 4Up Receiver (mBar)*
- *Drum Vacuum Difference For 8Up Donor (mBar)*
- *Drum Vacuum Difference For 4Up Donor (mBar)*
- *Delta For Minimum Maximum Drum Vacuum Range (mBar)*

Vacuum Calibration Procedure

## 7. Opening drum vacuum release valve before exposing:

Until now, the drum vacuum release valve is opened at the end of the donor loading sequence, this can cause problems in vacuum calibration.
Now, it is opened only before the expose starts.

## 8. Improved machine behavior whenever receiver unloading is in question

In some cases the expose seems to have started, but in actuality, it did not (focus learning failure, abort after donor was already loaded). Now, the receiver can not be unloaded and the user can resubmit the job.

**9. New protectors for proofing elements**

New protectors were added to the proof loading bar and the proof unloading bar. Rotating the drum when one of these elements is activated is impossible. Activating one of them when the drum is rotating is also not possible.

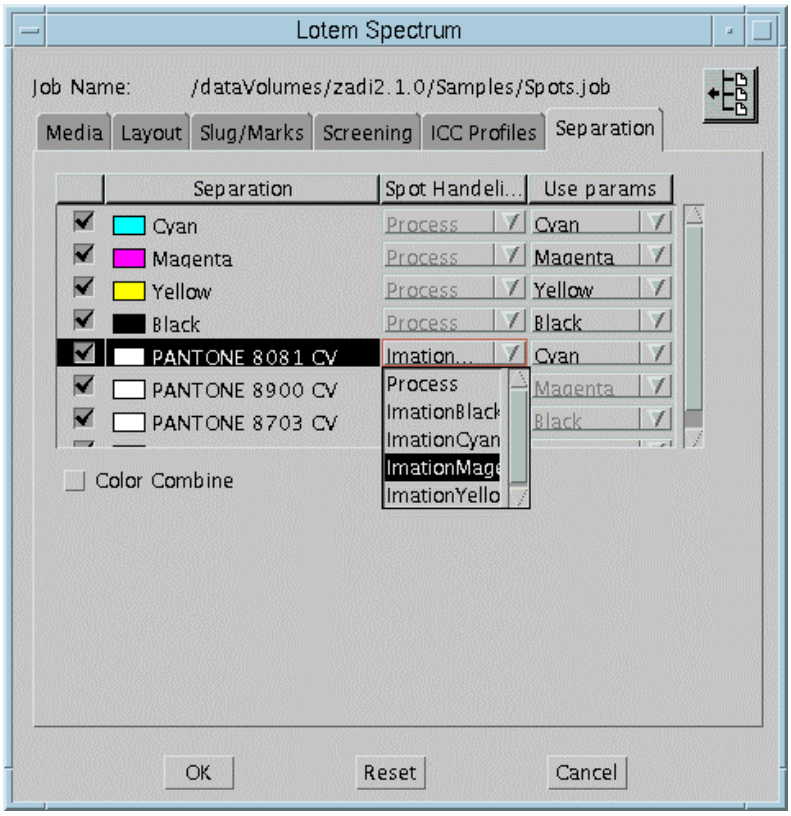
## Brisque 4.0.5 new features for Lotem Spectrum

For ICC Profiles support click here.

## Spot handling

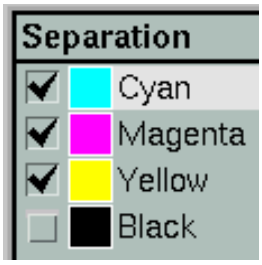
### Separations Tab

Use the **Separations** tab to select/deselect separations to be exposed, define spot color handling and screen angle screening parameters between separations.



### To deselect/select separations to be exposed:

1. In the **Separation** column, do one of the following:
   a. Clear the box next to each separation that should not be exposed.




   b. Check the box next to each separation you want to be exposed.

### To handle spot colors:

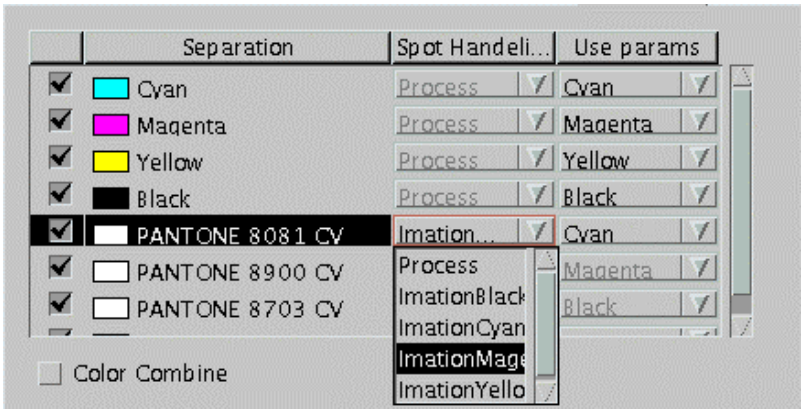
1. Select the row of the special color (for example, **PANTONE 8081 CV**).

   The color box on the bottom left corner shows the selected color.

2. Click the button located below the **Spot Handling** column.

   Select one of the following:

   a. Select **Process** to distribute the special color to its CMYK values; in this way, the relevant values will be exposed on each corresponding donor.
   b. The **Spot Handling** column of the selected special color indicates Process.
   c. Select the corresponding special donor on which you wish to expose the special color (for example, **SpotRed**).




   The **Spot Handling** column of the selected special color indicates the selected special donor (in this example, **SpotRed**).

d. If a special donor does not exist, select a **Cyan, Magenta, Yellow**, or **Black** donor on which you wish to expose the special color; in this way, all the values will be exposed the selected donor.

   The **Spot Handling** column of the selected special color indicates the selected donor.

## Color combiner

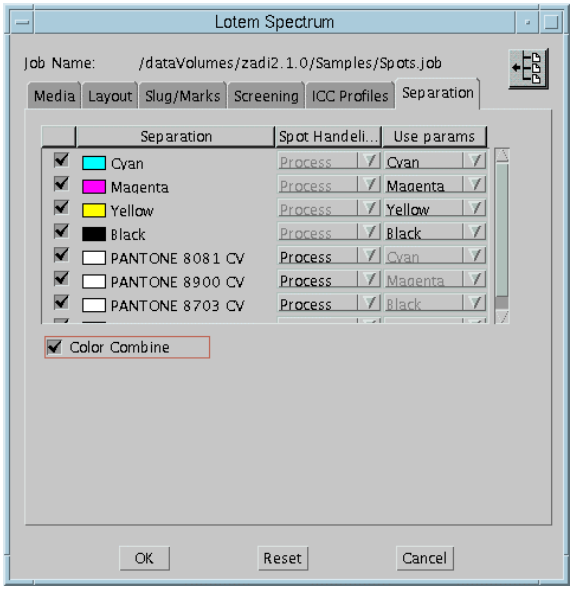
The Creo Color Combiner allows users to simulate spot colors including traps, knockouts, and overprints, in a proof using only the standard four-process colorants: cyan, magenta, yellow, and black. Brisque Color Combiner works equally well on all types of Brisque jobs including composite or separated.

When used with the Lotem Spectrum halftone-proofing device, Creo Color Combiner allows you to simulate the hue and halftone dot structure of the spot colors. This allows you to predict moiré in duotones, for example, as well as gives a truer picture of what your final printed piece will look like, without using any more donor material than for a regular four-color job.

No additional steps are required in the job to use the Color Combiner, other than selecting a checkbox on the separation tab of the job ticket.

Color Combiner allows you to simulate many spot colors, subject to a few limitations:

- Colors can be simulated exactly, provided they are within the color gamut of the proofing device. You cannot get a brighter red, for example, than what you would be able to produce otherwise with the output device. For colors outside the color gamut of the proofer, you can only get at best an approximation.
- For the best quality, use Color Combiner effectively for AM spot color screens up to and including 175 lpi on the Lotem Spectrum.
- In areas where you have many overprints in the same area, you may run out of donor pigment. For example, if a solid CMYK 10-60-80-10 spot simulation overprints a solid CMYK 10-80-10-5 spot, then you will have an area where the magenta maxes out at 100, instead of 140. This is the tradeoff for only using one set of media.




## Known Bugs

1. Software deadlock while working with the Drum Motor Dialog.

   **Description:**

   When using the Drum Motor Dialog for different operations (GoSpeed, GoPos etc.), a very slight possibility exists that the PC controller will get stuck. If the motor operation fails, for example, trying to rotate the drum while the Load Roller is active is an illegal operation and the user receives an error message. Such a scenario can cause software deadlock and the PC controller will stop responding.

   **Solution:**

   Restart the Lotem application.

2. Debug message appears during shut down of the Diagnostics application.

   **Description & Solution:**

   When closing the Diagnostics application, several 'Assert' messages appear. The user should click **Ignore** to complete shut down.

3. Using diagnostic monitor (Splot) configured to Foc7 mode while exposing proof.

   **Description:**

   If the diagnostic monitor is set to Foc7 mode (“TH2 “vbs enable Foc7”” command), proofing job will fail due to timeout.