Thermal 1.x Exposure Head

Firmware Version 2.01 Release Notes

Document Number
739-00364A-EN-RevA

14-Mar-07

Kodak
3700 Gilmore Way
Burnaby, BC
Canada V5G 4M1
(604) 451-2700

Copyright 2007 Kodak. All rights reserved.

Revision History

Revision	Date	Author	Comments
A	14 Mar 2007	Ken Dyck	Created for TH1.x release 2.01

Thermal 1.x Exposure Head
Firmware Version 2.01 Release Notes

CONTENTS

Revision History i

1. Host/Exposure Head Compatibility 1

2. Getting Started 1

3. Laser Safety Practices 1

4. Related Resources 2

5. New Features 2
   - 5.1 Verbosity in Figure of Merit Printout 2
   - 5.2 Hold Focus Near Leading Edge Clamp 2
     - 5.2.1 Setting the Hold Distance on an MPE (engineering only) 3
     - 5.2.2 Setting the Hold Distance on an MCE 3
     - 5.2.3 Limitations of Clamp Hold Feature 3
   - 5.3 Feature Enable Masking 3
     - 5.3.1 Modifying the Feature Mask on an MPE 3
     - 5.3.2 Modifying the Feature Mask on an MCE 4

6. Problems Fixed 4

7. Known Issues 4

8. NVS Parameter Changes 4

Glossary of Common Terms 5

1. HOST/EXPOSURE HEAD COMPATIBILITY

Thermal 1.x head firmware is distributed as part of a controlled release package or patch. This firmware has been qualified against certain versions of MPE and MCE firmware for each output device. Head firmware should only be loaded as part of a controlled release package. If you are installing a replacement head:

- See **TechPlanet > Output > All CTP Devices Home Page > Controlled releases**, to determine whether or not your head is compatible with the device control software and firmware.
  If it is compatible, you can install the head without changing any firmware.
- If your head firmware is out-of-date, upgrade the head firmware to the version supported by the controlled release.
- If the device control software and firmware are out-of-date, determine if an upgrade path exists for a newer controlled release. If an upgrade path exists, upgrade the host to the correct controlled release. Otherwise, a head downgrade may be necessary.
- To access all the features of version 2.01 thermal head 1.x firmware in the MPE or MCE, you must have the following versions of the thermal modules:

	Minimum thermal module version
MPE	4.34 or later
MCE	2.62 or later

2. GETTING STARTED

This document provides release information for thermal 1.x firmware version 2.01, which is a significant upgrade from version 2.00. If you are upgrading from a version earlier than 2.00, read the release notes for each intermediate version to see all of the firmware changes that will occur in your upgrade.

Note: This document does not provide specific information about any host platform.

Formatting conventions used in this document:

- All references to monitor commands are in `courier font`. Monitor commands are preceded by the >> prompt.
- All references to NVS parameters are in *italics*.
- All references to scripts are **bold**.

3. LASER SAFETY PRACTICES

To use this document, you *must* have attended an exposure head introductory course given by the Kodak service-training department, product specialist, or engineering support team. You must be familiar with the necessary safety precautions when working with a thermal head.

DANGER: *Never operate the host device with the write laser beam on and a door open. Do not use the service bypass jigs to bypass the door interlocks.*

4. RELATED RESOURCES

- Thermal 1.x Installation Instructions: **TechPlanet** > **Output** > **Thermal Heads** > **Thermal 1.x > Control/settings > Firmware releases** (http://techplanet.creo.com/firmware/CTP/Head/thermal/versions.htm)
- Thermal 1.x exposure head controls and settings: **TechPlanet** > **Output** > **Thermal Heads** > **Thermal 1.x > Control/settings** (http://techplanet.creo.com/output/heads/thermal/nav/control-set.htm)
- Service Shell: **TechPlanet** > **Output** > **Service Tools** > **Service Shell** (http://techplanet.creo.com/output/service_tools/service_shell/nav/v2-x/index.htm)
- Controlled Releases: **TechPlanet** > **Output** > **All CTP Devices** > **Control/settings** (http://techplanet.creo.com/output/computer_to_plate/all_ctp/nav/control-set.htm)
- Thermal 1/1.7 Upgrade Scripts, available at: **TechPlanet > Output > Heads > Thermal 1/17 > Downloads > Firmware Releases** (http://techplanet.creo.com/firmware/CTP/Head/Thermal/versions.htm)

5. NEW FEATURES

The following features were implemented or modified in thermal 1.x firmware version 2.00.

5.1 Verbosity in Figure of Merit Printout

The Figure of Merit printout has two new items. When you print out the Figure of Merit, it looks similar to the following:

```
65 16 890 973 1200 100 12 40
```

The values from left to right are:

1. Figure of merit
2. Largest focus error
3. Sample number of largest focus error
4. Total number of samples per drum rotation
5. Average focus sum
6. Surface reflectivity setting
7. First sample after LEC in focus table (New)
8. Held sample if using focus hold feature (New – See section 5.2)

5.2 Hold Focus Near Leading Edge Clamp

The Kodak Magnus 800™ platesetter images media that have already been punched. Focus artifacts are seen when the focus system of the thermal head tries to track over these holes. To prevent this, a new feature has been added to hold the focus over a specified region starting at the leading edge clamp. This feature is not intended for any other platform. When

this feature is enabled the focus system will be at a fixed position and then start tracking at the end of the hold area. The first focus sample taken after the hold region is the position that is used for the hold region.

To enable the feature, first you must set the appropriate enable bits in the feature masking NVS parameter described in section 5.3. Next, you must set the distance to hold the focus; this is described in the following sections.

5.2.1 Setting the Hold Distance on an MPE (engineering only)

This feature is designed for the Magnus 800 platesetter. Different drum sizes cause the hold distance to be inaccurate so it is not recommended to use this on other platforms. For engineering purposes the distance can be set as follows:

```
>> mask range
>> set head r7 <distance in mm>
```

5.2.2 Setting the Hold Distance on an MCE

- If the host is running EHI version 2.62 or later, type

  >> `set head chold <distance in mm>`

- This feature is not supported for hosts running an earlier version of the EHI subsystem.

5.2.3 Limitations of Clamp Hold Feature

- The system can not learn over the punched region of the plate.
- Plate curl at the clamps will not be tracked and may cause artifacts.
- Distance is only accurate for drum diameters of 333 millimeters.

5.3 Feature Enable Masking

As new features are added to the TH1.x firmware, it is useful to have a way to disable and enable individual features. To allow for this, an enable mask was added to the NVS memory in firmware version 2.00. The following table lists the features that can be controlled for version 2.01. For future firmware releases it is likely that additional bits will be defined.

TH1.x Firmware	Feature	Bit Number	Enabled	Disabled
2.00	Removing Edge Detection Error Checking	Zero	One	Zero
2.01	Focus Hold at clamps	One	One	Zero

5.3.1 Modifying the Feature Mask on an MPE

- If the host is running thermal module 4.33 or later, type

  >> `set head enblmask <mask value>`

- For hosts running an earlier version of the thermal module, type

```
>> mask range
>> set head r5 <mask value>
```

5.3.2 Modifying the Feature Mask on an MCE

- If the host is running EHI version 2.55 or later, type

```
>> set head enblmask <mask value>
```

- This feature is not supported for hosts running an earlier version of the EHI subsystem.

The following table lists all the valid mask values supported in TH1.x firmware version 2.01:

Mask Value	Features Enabled
0	None
1	Removing Edge Detect Error Checking
2	Focus Hold at clamps
3	Removing Edge Detect Error Checking, Focus Hold at clamps

6. PROBLEMS FIXED

There are no bug fixes introduced in firmware version 2.01.

7. KNOWN ISSUES

Without thermal module version 3.38, the new *hms* block and all of its parameters will not be visible. If, after upgrading the head firmware, you receive error 17672 or 17673, type the following commands:

```
>>nvs save hms cal
>>nvs save hms cfg
```

If the error persists after you type the commands above, you can safely disregard it. This error will not affect machine functionality or plot quality in any way.

See Upgrading the thermal head firmware version 2.00 triggers error 17672 or 17673 (on the Thermal 1.x TechPlanet Troubleshooting page).

8. NVS PARAMETER CHANGES

The following NVS parameters have changed in thermal firmware version 2.00:

NVS Parameter	Comment	See Section
set head chold	new	5.2, 5.3

GLOSSARY OF COMMON TERMS

Host	Generic term referring to any output device on which an exposure head is installed.
Exposure Head	Generic term referring to any Kodak exposure head.
TH1.x	The thermal 1.0 / 1.7x exposure head is a first-generation thermal exposure head manufactured by Kodak.
NVS	Non-volatile storage. Note that non-volatile storage includes battery-backed up RAM, flash, EEPROM, and so on.
NVS Parameters	NVS parameters allow the exposure head to permanently save calibration and configuration parameters.