

TFX Head

Head Firmware Version 1.33 Release Notes

Document Number
739-00290A-EN

2006-04-19

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

Copyright 2006 Kodak. All rights reserved.

Revision History

Revision	Date	Author	Comments
A	4/19/06	Ken Dyck	First draft.

creo

TFX Head
Head Firmware Version 1.33 Release Notes

CONTENTS

1. Scope and Introduction (Please Read) 1
2. Laser Safety Practices 1
3. Related Documents 1
4. Common Acronyms 2
5. Preliminary Checklist (complete before you begin) 2
6. Upgrade Procedure 3
7. Bug Fixes 3
8. New Functionality 3
   - 8.1 Warning messages when accessing Stroke Tables 3
9. Appendix A: Service Shell Setup 5
10. Appendix B: Backing up and Restoring NVS Parameters 5
    - 10.1 What is the NVS? 5
    - 10.2 Backing up the NVS Parameters 5
    - 10.3 Restoring the NVS Parameters 5
11. Appendix C: Loading TFX Head Firmware 6
    - 11.1 Manually Loading Firmware using Service Shell 6
    - 11.2 Loading Firmware using FirmwareUpgrade.spt 6
    - 11.3 Recovering From Firmware Load Error 7
12. Appendix D: TFX Head Version Information 7

1. SCOPE AND INTRODUCTION (PLEASE READ)

This document :

- describes important changes to the TFX Head firmware in version 1.33.
- outlines procedures for upgrading head firmware.

Kodak Thermoflex platesetters use both MPE and MCE. The words MPE or MCE are used when listed commands apply to only one type of device. The generic word host is used when listed commands and procedures apply to both the MPE and the MCE.

The appendices provide a reference guide for backing up and restoring NVS parameters as well as the procedure for loading TFX Head Firmware.

This document uses the following formatting conventions:

- TFX commands that are to be typed (in a procedures) are in `Courier font` and are preceded by `TFX >`. Commands contained in an explanation of a new feature are in **bold**.
- Host commands that are to be typed (in a procedure) are in `Courier font` and are preceded by >>. Commands contained in an explanation of a new feature are in **bold**.
- All nvs parameters are in *italics.*

2. LASER SAFETY PRACTICES

To use this document you *must* have attended a Thermal introductory course given by the service training department, the product specialist, or the engineering support team. You must be familiar with the safety precautions when working with a *Thermoflex* platesetter.

DANGER! Never operate the *Thermoflex* platesetter with the write laser beam on and a door open. Do not use the service bypass jigs to bypass the door interlocks.

3. RELATED DOCUMENTS

- Firmware Commands and NVS Parameters, available at: **TechPlanet** > **Output** > **Heads** > **TFX Head** > **Control/settings** (http://techplanet.creo.com/output/heads/tfx/nav/control-set.htm)
- TFX Errors, available on: **TechPlanet** > **Output** > **Heads** > **TFX Head** > **Troubleshooting** (http://techplanet.creo.com/output/heads/tfx/nav/troubles.htm)
- Service Shell program, available on: **TechPlanet** > **Output** > **Service Tools** > **Service Shell** > **Downloads** (http://techplanet.creo.com/output/service_tools/service_shell/nav/v2-x/downloads.htm)
- TFX Head homepage, available on: **TechPlanet** > **Output** > **Heads** > **TFX Head** (http://techplanet.creo.com/output/heads/tfx/nav/index.htm)
- Controlled Releases, available on: **TechPlanet** > **Output** > **All CTP Devices** > **Control/settings** (http://techplanet.creo.com/output/computer_to_plate/all_ctp/nav/control-set.htm)

- TFX Firmware Releases, available on: **TechPlanet** > **Output** > **Heads** > **TFX Head** > **Downloads** > **Firmware Releases** (http://techplanet.creo.com/firmware/ctp/Head/TFX/versions.htm)

4. COMMON ACRONYMS

MPE	Master Processor Electronics
MCE	Master Control Electronics
CEH	Creo Exposure Head
CTP	Computer to Plate
NVS	Non-Volatile-Storage
PRM	Head Non-Volatile Parameters
VPC	Power Velocity Curve

5. PRELIMINARY CHECKLIST (COMPLETE BEFORE YOU BEGIN)

☐ Have a terminal program running, with direct access to the diagnostic port on the TFX head. For information on configuring the Service Shell terminal program, see Appendix A.

CAUTION: You cannot upgrade the TFX firmware using the redirect enable/disable feature.

☐ Type the following command in the host window:

```
>> list version
```

On MPE devices, record the following:

MPE Firmware version: _____

On MCE devices, record the following:

Version: _____

☐ Type the following command in the TFX window:

```
TFX > ver
```

Then record the following:

Firmware: _____

Build: _____

Xilinx: _____

☐ **If you are performing a field upgrade of the TFX head firmware:** It is mandatory that the head firmware and the host firmware be synchronized. Upgrade the host code first, and then upgrade the TFX head firmware to a version compatible with the host firmware. To determine which firmware versions are compatible, refer to the controlled releases page (for details see Related Documents).

The upgrade procedure is:

1. Upgrade the host firmware (read all firmware release notes between versions to ensure you perform all the necessary steps).
2. Restart the device and ensure the system is functioning correctly.
3. Upgrade TFX head firmware using this document.

☐ **If you are installing a new or replacement head:** It is mandatory that the TFX head firmware and the host firmware be synchronized. before you install the head, upgrade the host firmware to a version that is compatible with the replacement head firmware. To determine which firmware versions are compatible, refer to the controlled releases page (for details see Related Documents).

☐ Have the TFX Head firmware version 1.32.bin file available (HT132R2591.BIN).

☐ Ensure *Kodak Allegro*, PrintConsole, or *Prinergy* software is not running.

6. UPGRADE PROCEDURE

1. **If a field upgrade is required**, upgrade the host firmware.
2. Back up the head NVS. For the procedure see Appendix B.
3. Load the new firmware. For the procedure see Appendix C.
4. Generate some test plots to ensure that plot quality has not noticeably degraded because of the upgrade.

7. BUG FIXES

- In previous versions of TFX head firmware the media thickness table would be set back to the default values when the head was reset. This version allows the table to retain its values.
- Fixed the `TFX> dps raw range` command to work in Service Shell.

8. NEW FUNCTIONALITY

8.1 Warning messages when accessing Stroke Tables

On the *Thermoflex* Wide II platesetter, the write laser power is determined by reading the VPC tables. In the past, with the *Thermoflex* I platesetter, the write laser power was determined by reading the media stoke tables. In an effort to remind the user that the VPC tables are used a system warning is raised and an informational printout is displayed when connected to a *Thermoflex* Wide II platesetter.

The stroke table is accessed in four scenarios. Each scenario and the corresponding message are shown below.

1. Reading the stroke table with the set med command

```
WARNING:  The ‘set med’ command references the
stroke table which is not enabled on this device.
The velocity power curve (VPC) is used to set the operating power.

[03121] Parameter: Accessing disabled stroke table
```

2. Writing the stroke table with the set med command

```
WARNING:  The ‘set med’ command references the
stroke table which is not enabled on this device.
The velocity power curve (VPC) is used to set the operating power.

[03121] Parameter: Accessing disabled stroke table
```

3. Using the `TFX> cal` command.

```
WARNING:  The ‘cal’ command references the
stroke table which is not enabled on this device.
The velocity power curve (VPC) is used to set the operating power.

[00823] Parameter: Accessing disabled stroke table
```

4. Using the `TFX> analyze` command.

```
WARNING:  The ‘analyze’ command references the
stroke table which is not enabled on this device.
The velocity power curve (VPC) is used to set the operating power.

[00823] Parameter: Accessing disabled stroke table
```

9. APPENDIX A: SERVICE SHELL SETUP

ServiceShell version 2.5 or higher is required for the TFX head. ServiceShell is the preferred terminal utility for most applications on the TFX head.

Information on ServiceShell, including downloads, is available on the ServiceShell page on TechPlanet (for details see Related Documents).

10. APPENDIX B: BACKING UP AND RESTORING NVS PARAMETERS

Before upgrading the firmware of any machine, it is important to back up the current head parameters in case you need to revert to the previously installed version of firmware.

10.1 What is the NVS?

The NVS provides storage for machine-dependent parameters that must remain intact between power cycles.

Saving individual NVS parameters is automatic in the TFX Head. Whenever a parameter is changed, it is updated in the head parameter subsystem.

10.2 Backing up the NVS Parameters

Back up NVS parameters by creating a baseline in the head. Later, you can compare the NVS settings and, if required, restore the baseline settings. To create a baseline, type:

```
TFX > prm save
```

It is also helpful to have a readable copy of the head parameters archived. To display all of the parameters on the monitor, type:

```
TFX > prm dump
```

The parameter dump can be saved from the terminal window to a text file, for future reference.

10.3 Restoring the NVS Parameters

If the head NVS parameters are corrupted, it may be necessary to restore them. To restore the parameters, complete the following steps.

1. Type:

   ```
   TFX > prm diff
   ```

   This will display the changes made in the NVS since the baseline was established. Look closely at the differences and see if you can spot the problem. If you can, make the necessary changes.

2. If many parameters are corrupted, or if you cannot spot the problem, you may wish to restore all of the parameters. To restore all parameters to their baseline settings, type:

   ```
   TFX > prm restore
   ```

11. APPENDIX C: LOADING TFX HEAD FIRMWARE

WARNING: Do *not* load head firmware via the host using `redirect enable`. This will cause the machine to crash and the firmware will not load successfully.

You can load TFX firmware using ServiceShell. See Appendix A for information on how to set up these utilities.

11.1 Manually Loading Firmware using Service Shell

To load TFX firmware you must have Service Shell version 2.5 or higher. When using ServiceShell, the ht133.bin file *must* be on a local drive, and the name *must not* be changed. Follow these steps to load TFX firmware using Service Shell:

1. Ensure that you have access to the diagnostic port on the TFX head and that the terminal program is running correctly. For more detailed instructions on the terminal program, see the ServiceShell page on TechPlanet (see Related Documents).
2. Back up the head NVS parameters using the procedure in Appendix B.
3. Load the firmware bundle by typing:

```
TFX > download <filename>
```

Note: `<filename>` must contain the full path and filename of the .bin file.

11.2 Loading Firmware using FirmwareUpgrade.spt

Automatically upgrade all firmware components at once using the FirmwareUpgrade.spt script. This script performs all necessary backups, providing a simple downgrade path if that becomes necessary.

For detailed information on FirmwareUpgrade.spt, right-click on the script name in Service Shell (as below), or refer to the d:\ServiceShell\scripts\device folder on your computer. To upgrade TFX firmware, you need FirmwareUpgrade.spt version 3.45 or higher.



Follow these steps to load TFX firmware using FirmwareUpgrade.spt:

1. In Service Shell, select the Device tab and load FirmwareUpgrade.spt.
2. Execute the script. The script upgrades all device code to the latest version, including head firmware, as the user chooses.

11.3 Recovering From Firmware Load Error

If a problem occurs during a firmware load and the head stops communicating through the serial port, the firmware will need to be reloaded using the head bootstrap. To load the firmware using the bootstrap, follow these steps:

1. Open a host terminal window using the procedure in Appendix A.
3. On an MPE device, ensure that *head type* is set to 2. On an MCE device, ensure that *hmgr type* is set to 2.
2. Prepare to load the head firmware by typing:

   ```
   >> head program
   ```

   Wait for the host to respond with:

   ```
   Head Data link: exposure head coming online
   ```

   This will take roughly 30 seconds.
3. Enable the bootstrap by typing:

   ```
   >> head boot
   ```

   Wait for the host to respond with:

   ```
   EH Boot Command Complete
   ```

   This will take several minutes.
4. Ensure that the bootstrap is functioning in the head window. Check for the '`SBT>`' prompt to make sure.
5. Once the bootstrap is functioning, load the firmware using the standard procedure outlined in the previous section.
6. After the load has successfully completed, reset the head from the host by typing:

   ```
   >> head end
   >> reset
   ```

12. APPENDIX D: TFX HEAD VERSION INFORMATION

The following table lists the TFX Head firmware versions, along with any relevant data. Version entries displayed in **bold** are the supported releases.

TFX Head Firmware Version	Build Number	Notes
0.50	1477	Pre-release version.
1.04	1568	First release of TFX Head Firmware.

TFX Head Firmware Version	Build Number	Notes
1.14	1901	Updated API, support for high-power and gapless imaging.
1.23	2299	Updated to CEH, support for staggered seams and imaging on sleeves.
1.24	2299	Patch fix for bug in V1.23.
1.32	2951	Support for blank-skipping.
1.33		Stroke table warnings