

Trendsetter VLF

Kodak Sword Excel Media Upgrade Procedure

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Revision History

Revision	Date	Author	Comments
1	2 Jun 04	Marek Zgrych/Andre Blignaut	First draft
2	3 Jun 2004	MZ/AB	Second draft
3	4 Jun 2004	MZ/AB	Third draft
4	21 Jun 2004	MZ/AB	Fourth draft
A	19 July 2004	MZ/AB	First release
B	21 Sep 2005	MZ/AB	Heat exchanger information added
C	18 Jan 2006	M.Prentice/AB	Procedure simplified

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1. OVERVIEW

On devices B80 to B199, ensure that the latest version SIO key switch assembly (11-0804B) is installed prior to replacing the thermal head. This assembly was installed at the factory on devices B200 and later.

- This upgrade is intended to accommodate the specific imaging requirements of Kodak Sword Excel media with the 20W thermal head architecture.
- This is not a speed upgrade.
- This upgrade can be applied to all Trendsetter VLF devices equipped with an air-cooled 20W/24V Thermal Head 1.0 or 0.7. This upgrade is only valid on devices with serial numbers B80 and newer.
- No upgrade is necessary for TH1.7 equipped devices.

2. SAFETY

Several procedures in this upgrade involve working with the high voltage circuit. In these situations, or whenever you feel safer by doing so, unplug the device from the main power.

When working on the device you must be grounded to the device with a static wrist strap, and the device must always be grounded to earth.

- When plugged into a power receptacle, the device is grounded to earth automatically.
- When the device is not plugged into a power receptacle, both you and the device are free to float at a higher potential than earth. Discharge could occur if you touch an object at earth potential and this may damage ESD sensitive components. For this reason, a separate ground wire must be connected between the device (power-box) and some other item at earth potential such as a screw attached to a metal electrical outlet box. The site engineer is required to devise a suitable method to ground the device to earth potential when it is unplugged from the main power source.

3. REFERENCE DOCUMENTS

- Thermal Exposure Head Installation Procedure (77-0038)
- VLF Platesetter/Trendsetter VLF UDRC-B Installation/Upgrade Procedure (72-3428)
- TEH1.x Dehumidifier Unit (DHU) Install Procedure (77-0225).
- Trendsetter VLF Power Wiring Diagram (73-3316)
- Key Switch Upgrade Procedure (See FCO C216)

Most document numbers are shown without the version letter. Please use the most current released version.

4. INSTALLATION PROCEDURES

4.1 Planning the Project

Allow two days for this upgrade procedure.

	Task	Reference	Time needed	Completion status
1	Prepare the device (remove panels, turn safety key)	-	0.25 Hrs	
2	Backup old firmware and parameters	See reference docs (77-0038)	0.25 Hrs	
3	Install FCO kit C216 (key switch SIO) on devices B80 to B199	See the FCOs page (11-0804)	1.0 Hrs	
4	Replace 20W head and related hoses	See reference docs (77-0038)	0.75 Hrs	
5	Install the Debris Removal System	See section 4.2	1.75 Hrs	
6	Install the Dehumidifier Unit	See section 4.3	1.0 Hrs	
7	Install the new firmware and set NVS firmware parameters	See reference docs (77-0038)	1.0 Hrs	
8	Integration and testing		5.0 Hrs	

4.2 Installing the Debris Removal System

Some ablative media requires the use a debris removal system. The debris removal system also improves the reliability of the 20W head. Applicable to devices B80 to B765.

To install the debris removal system, refer to *VLF Platesetter/Trendsetter VLF UDRC-B Installation/Upgrade Procedure (72-3428A)*.

4.3 Installing the Dehumidifier Unit (DHU)

The dehumidifier unit reduces the moisture level in the head and improves the head reliability. Applicable to devices B80 to B565.

To install the dehumidifier unit, refer to *TEH1.x Dehumidifier Unit (DHU) Install Procedure (77-0225A)*.

4.4 Replacing the Thermal Head

To replace the 20W thermal head, refer to *Thermal Exposure Head, Installation Procedure (77-0038)*.

4.5 Starting Up the Device

Before you turn the Trendsetter VLF power on:

- Check that all ground connections are securely attached.
- Check that the power connector to the head is **not** connected.
- Check that the safety interlock override key switch is in the Laser Hazard position.
- Check that the head power cable and power loss brake cable are correctly installed in the power box.

1. Turn on the Trendsetter VLF power.
2. Check the voltages on the cables supplying power to the head.
   Depending on the device number, this may be a single yellow ribbon cable (10-4149A) or two cables consisting of multi-colored twisted wires (10-3516A and 10-3517A). In either case the cable(s) is terminated at the head by two six-pin connectors—a 1X6 Molex connector and a 2X3 Molex connector. The voltages measured on these connectors should be:

1X6 connector -	+25 VDC between pin 2 (gnd) and pin 1
	+25 VDC between pin 4 (gnd) and pin 3
	+25 VDC between pin 6 (gnd) and pin 5
2X3 connector -	+12 VDC between pin 2 (gnd) and pin 1
	-12 VDC between pin 4 (gnd) and pin 3
	+5 VDC between pin 5 (gnd) and pin 6

   On both connectors, pin 1 is marked by a small flange at the corner of the connector (on the wire entry half of the connector). On the 2X3 connector, pins 1,2, and 3 are on one side of the connector and pins 4, 5, and 6 are on the other side. Pin 6 is diagonal to pin 1.
3. Turn off the Trendsetter VLF power.
4. Connect the cables to the head.
5. Turn on the Trendsetter VLF power.
6. Check the UDRC connections and check for the green light on top of the UDRC.
   Type `>>dr on`.
   If the green light is not on, then check the voltages on cable 10-3852B (DB-15) at the bulkhead connector pins. They should be:

   Between pin 10 (gnd) and pin 2 – 24V (reserved for chiller)

   Between pin 11 (gnd) and pin 2 – 24V (reserved for chiller)

   Between pin 13 (gnd) and pin 2 – 24V (reserved for UDRC relay 15-3249 located inside the UDRC cabinet)

5. LOADING MPE FIRMWARE

Obtain latest firmware from the Controlled Release (version 2.0 or higher) on TechPlanet: http://techplanet.creo.com/output/computer_to_plate/vlf_trendsetter/nav/control-set.htm (for Trendsetter VLF) and http://techplanet.creo.com/output/computer_to_plate/vlf_trendsetter_al/nav/control-set.htm (for Trendsetter VLF Autoloader)

1. Load the MPE firmware hex file using the commands `<<reset boot>>` and `<<fload bank 0>>`. See the firmware release notes for more details.
2. Type `<<autoloader startup>>` and `<<set val pbin 0 or 1>>` (pbin 0 for TSVLF and pbin 1 for TSVLF AL)
3. Type: `<<nvs upgrade X.XX>>`. Use the actual version number you are upgrading from. See the firmware release notes for exact details.

5.1 Loading Firmware on Quantum Devices

Check configuration codes based on the model and speed of the device. Refer to CPT imaging database for exact wpower and OS settings.

Table 1: Configuration Codes for Drum Speed Limit

Configuration code	**Model (max plate size)**	**Speed factor**	**Standard swidth**[1]
TV110	4557	1.0 (F)	192
TV107	4557	0.7 (S)	128
TV210	5067	1.0 (F)	192
TV207	5067	0.7 (S)	128
TV310	5080	1.0 (F)	192
TV307	5080	0.7 (S)	128
TV410	5467	1.0 (F)	192
TV407	5467	0.7 (S)	128
TV510	5880	1.0 (F)	192
TV507	5880	0.7 (S)	128

*maxmsz values increased by 26 mm to allow for exceptions

[1] Set head swidth

1. After a system reset, enter <<config “password” “TVxxx”>> (including the quotation marks). “TVxxx” is the configuration code selected from Table 1 and “password” is the password provided by the Response Center.
   If an error message displays, see Table 2 for the possible cause.

   Table 2:Configuration Command Error Messages

Error Message	**Cause**	**Corrective Action**
invalid parameter	Command entered too late	Reset the device and try again
password incorrect	Password not recognized	Check the password with the Response Center
not a valid device type	Configuration code not recognized	Check that you used the correct code from Table 1.

2. Set the drum encoder NVS parameters to work with the encoder. A reset is required to activate the new settings.
   set drum tpr 9000 [use 5000 if a Heidenhain digital shaft encoder is installed)
   set drum ted 0
   nvs save drum
   reset

3. Increase the speed tolerance between the hall sensors and the servo.
   set drum maxdiff 1000
   nvs save drum

4. Check that carriage psteps is set to 68 and change if necessary.
   set carriage psteps 68
   nvs save carriage

5. Set the drum speed as shown in Table 3, then save the drum speed with <<nvs save hdm>>.

6. Check that the other media and hdm parameters are set the same as they were before the upgrade.

7. Enable debris removal:
   set sys dbin 1
   nvs save sys
   set media # abl 1 (use valid media number for # and repeat for all media)
   nvs save media #