Kodak

Calibrating Error and Sum Using Z-stage on a Magnus 400 Quantum Platesetter

Calibration Procedure
English

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Product

- Kodak® Magnus™ 400 Quantum platesetter

Background

This procedure describes how to calibrate the thermal 2 head (TH2) sum and error parameters on a Magnus 400 Quantum platesetter.

Procedure

Before You Begin

1. In the Kodak Magnus 400 Controller software, open the rear door of the platesetter.
2. Remove the unloading tray from the rear door.
3. Verify that the interlock motors and interlock laser (defeater) are activated.
4. In the Magnus 400 Controller software, load a 622×750×0.3 mm (24.49×29.53×.012 in.) plate.
5. Move the carriage to the middle of the plate, approximately to position 500 mm.

   Note: Alternatively, in Service Shell, to move the thermal imaging head to position 500 mm (19.69 in.), at the `Quantum>>` command prompt, type `Carriage moveto 500`.

Selecting Media

1. In Service Shell, at the `Quantum>>` command prompt, type `media`.

   A list of the available media defined on the turbo master control electronics (TMCE) board appears on the Service Shell monitor.
2. Verify that the name of the desired media is also defined (the numbering sequence starts at 0):
   a. At the `Th2 >>` command prompt, type `Set med X`.
   b. At the `Quantum>>` command prompt, type `Set media X + 1`.
3. To select the desired media, at the `Quantum>>` command prompt, type `media x+1`.
4. Verify that the command was successfully transmitted to the TMCE board. If an interlock is open, the command will not be accepted.

5. Using the following values, define the size of the plate with which you are working. At the `Quantum>>` command prompt, type `Load X Y Z W N`, where

   X = plate/receiver main scan size
   Y = plate/receiver subscan size
   Z = plate/receiver thickness
   W = media type: plate=9, proof media=12
   N = media name index: Thermal Gold =1/ CreoPTP=2

   For example, to load a Thermal Gold 622×750×0.3 mm plate, at the `Quantum>>` command prompt, type `Load 622 750 300 9 1`.

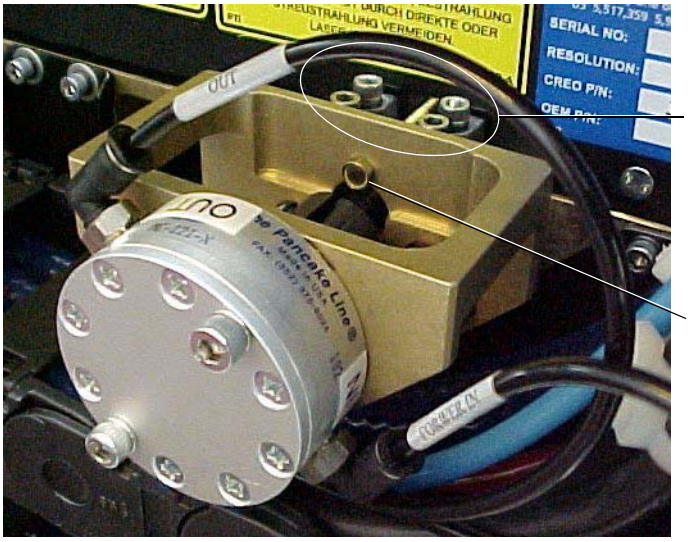
   Note: Alternatively, you can use the `Loaded` command to define a plate that is already loaded. At the `Quantum>>` command prompt, type `Load 622 750 300> Loaded`.

6. Verify that the following table appears on the Service Shell monitor:

Media on Drum Status		
Drum is LOADED with the following:		
Media Type	: plate (9)	
Load Method	: Manual	
MainScan length	622 mm	[330 mm ... 1030 mm]
SubScan length	750mm	[381 mm ... 1150 mm]
Thickness	: 300 microns	[microns – range undefined]
Media Index	: 3 (KpgmHDCyan)	
Image Side	: 0	
Unload Scheduled	: False	
*** Command Complete		

Releasing the Z-stage Mechanism

1. Slightly loosen the four octagonal screws that secure the Z-stage mechanism to the carriage.



2. At the `Quantum>>` command prompt, type the following commands:
   ```
   Head install on
   Zstage forward
   ```
   A table with state, sum, and error parameters appears on the Service Shell monitor.

Calibrating Error

Using a hex key that is a quarter open, adjust the right or left hex screw to set the mechanical focus for error.

1. Adjust the error to **–130**.
2. When the thermal imaging head is near the drum (Z-stage forward) and a 0.3 mm (.01 in.) plate is loaded on the drum, tighten the four octagonal screws in the Z-stage mechanism.
3. During the error adjustment process, verify that sum is neither saturated (not at 2047) nor close to 0. If sum returns these values, you must adjust it. See *Calibrating Sum* on page 4.
4. At the `Quantum>>` command prompt, type `Zstage back`.
5. The returned error should be **0**. If the error is greater than 10 microns and you cannot adjust it, ensure that:
   - The TH2 head is properly assembled.
   - The Z-stage mechanism assembly is properly assembled.
   - The correct-size spacers are in the Z-stage mechanism.
   - The four octagonal screws are securely tightened.

6. Rotate the drum to a new point and verify that the error and sum values are correct.
7. At Z-stage forward, adjust error to **–130**.

Calibrating Sum

The sum parameter should be between 1300 and 1400. To adjust sum, you need to reduce reflectivity (SR) and increase Rcvrgain. In most cases, unless you are using special media, do not change the Rcvrgain parameter.

1. At the `Quantum>>` command prompt, type `head install on`.
2. Verify that the returned sum value is approximately 1300.

   If the value returned is lower or higher than 1300, at the `Th2>>` command prompt, type `set med X sr Y` and update the value using incremental steps of 0.01 mm.
3. To activate the changes, at the `Quantum>>` command prompt, type `media X`.

   The ratio between SR and sum is proportionately inverted. When you increase the SR value, the sum value decreases, and when you decrease the SR value, the sum value increases. The SR working area is between 0.01 and 0.011.
4. If you cannot reach the desired value with the defined reflectivity, you can change the Rcvrgain parameter. The ratio between Rcvrgain and sum is directly proportionate. This means that when you increase Rcvrgain, sum increases, and when you decrease Rcvrgain, sum decreases.

   To change the Rcvrgain parameter, at the `Th2>>` command prompt, type `set med X Rcvrgain Y` and change the step size to **0.5 mm**.

   The Rcvrgain working area is between 0 and 20.
5. Because the red laser causes the plate to expose and display an incorrect sum reading, after you finish the adjustment, rotate the drum to a new position and to a fresh plate point.
6. At the `Quantum>>` command prompt, type `Zstage back`.

   The following output should appear on the Service Shell monitor:

	State	SUM	Error
Within range	Good range	~1300÷1400	~0

7. From thermal imaging head version 1.03 and later, two SR parameters are available: **SR** for imaging and **edgesr** for edge.

   For Spectratech plates where the edgesr = 0.011 value is determined without calibration, the maximum SR value is required. For all remaining plate types, the SR value must be reduced by 20% (edgesr = sr plot / 1.20).

   When performing `head install on`, the sum returned is the SR value (sr plot and not edgesr).

8. Change the SR value for all plate types.

   Attention: The sum value changes according to the type of plate (negative or positive) only. The error value is fixed and does not change.

Technical Contact(s)

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See the Escalation page for escalation contacts.

Date Submitted

30 Jan 2007

Last updated