TOSHIBA B-EX6
How to calibrate the media sensors

Summary

Paper jams are a common issue that can be caused by numerous things such as a miss-aligned media sensor or dirt on the sensor itself. A common scenario is that a particular label causes a paper jam when other labels work fine. This guide will help you adjust the settings on the media sensor on a Toshiba B-EX6.

Background

The media sensor is used to detect a start position for each label which is determined by measuring the difference in voltage between the print area (the label itself) and either the backing paper (sticky labels), or a black registration mark (card), then setting a threshold value between these two voltages.

Media Sensors

Also referred to as the paper sensors or label sensors the Toshiba B-EX6 actually has two both positioned next to each other on an arm in between the print head and pinch belt roller (where the thermal ribbon is fed through).

Which Sensor To Use?

Reflective Sensor ■ is typically used for continuous media such as card. It is also the black mark sensor.
Transmissive Sensor ● is typically used for labels. It is also known as the gap or feed
Exceptions Certain media may use the opposite sensor such as wine-glass tags are a card stock) use the transmissive and clear bag labels which use the reflective sensor.
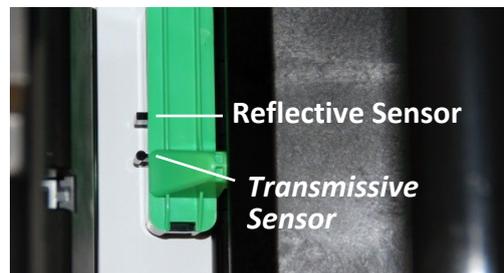
known as sticky sensor.

(which sensor,

PAUSE

Figure 1. Select Sensor

SELECT MEDIA SENSOR
1)REFL. (PRE-PRINT)
2)TRANS. (PRE-PRINT)
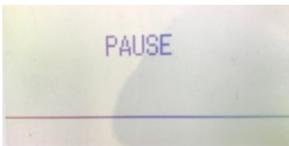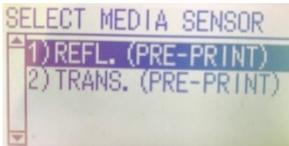
Figure 2. Calibrate Sensor

1)REFL. (PRE-PRINT)
THRESHOLD MODE
Load the media.
Press the PAUSE Key
to start the
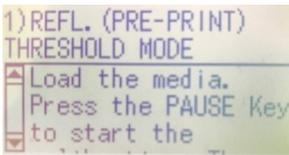
Figure 3. Calibration Results

2)TRANS. (PRE-PRINT)
Result: OK (Mid.)
---A---A--Threshold.
                    Baseline
Retry FEED   Detail▶
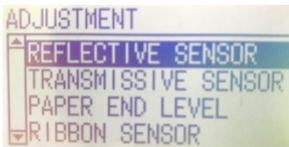
How To Adjust The Threshold Voltage
(Pause-Pause Method)

1. Load the media to be used and ensure the media sensor is in a suitable position. If printer has paper jammed please clear the error message.
2. Press the pause key once, then press and hold the pause key until the display asks to select the reflective or transmissive sensor (Threshold Setting Mode). Choose the correct sensor for the loaded media, then press the enter key. Figure 1.
3. Hold down the pause key until 5-10 labels have fed. The media will continue to be fed until the pause key is released. Figure 2.
4. The threshold voltage has now been automatically set for the selected sensor and the display will show the result.
5. Press the right key to see the details of the sensor type, peak voltage, threshold voltage and baseline voltage. Figure 4.
6. To return to the previous display, press the left key. To manually adjust the threshold, press the right key. The threshold fine adjustment screen in adjust set menu appears. Set a value and press the enter key. Figure 5.
7. The display will show the adjusted result after manually setting the threshold is displayed. Press the restart key to return to online mode.

Figure 1. Choose Sensor

SYSTEM MODE   V1.0B
<2>SET PARAMETERS
<3>TEST PRINT
<4>SENSOR
<5>RAM CLEAR

Figure 2. Adjustment menu

<4>SENSOR
TEMPERATURE
ADJUSTMENT
THRESHOLD SELECT
THRESHOLD LEVEL

Figure 3. Choose Sensor Type

ADJUSTMENT
REFLECTIVE SENSOR
TRANSMISSIVE SENSOR
PAPER END LEVEL
RIBBON SENSOR

SENSOR ADJUST METHOD

If the setting the threshold voltage results in a fail or the printer continues to paper jam another process to try is to register the voltage of the media itself. This requires to enter a different mode on the printer so it has to be done separately from the setting the threshold.

How To Register The Media Voltage

1. Turn the printer off then turn on while holding the pause key and feed key this will enter System Mode. System mode can also be selected by holding the mode key instead of pause and feed.
2. Scroll down to item **<4> Sensor** and press enter.
3. Select **'Adjustment'** and press enter
4. Choose your media-sensor type (sticky-transmissive/card-reflective) and press enter
5. Follow instructions; **Reflective=Put a blank card white label above the sensor and close head / Transmissive=Take a label or two off from the backing paper and position gap above sensor.**
6. Press and hold the enter key for three seconds. The display will state Adjust Complete.

Which Sensor To Adjust?

Reflect is used to register the voltage of the continuous media with the reflective sensor.

Trans is used to register the voltage of the backing paper with the transmissive sensor. Ensure labels are removed from the backing paper underneath the media sensor.

PE Refl./Trans. is used register the voltage with no media at all (this is sometimes used to help print wine-glass tags). Remove the media from underneath the sensor.

WHAT IS A GOOD THRESHOLD VOLTAGE?

The threshold should be halfway between the peak voltage (representing the label) and the baseline voltage (representing the gap between labels). If the threshold is near to either the peak or baseline it should be manually adjusted to be closer to the middle. If the threshold is on or below the baseline this means the selected sensor cannot determine the print position at all.

Result OK (**Mid**) this is the ideal threshold value between the peak and baseline values.
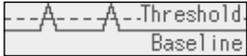
Result OK (**Low**) the threshold is low so may not work with some
labels. Recommend to fine adjust the threshold.

Result OK (**High**) the threshold is high so may not work with some labels. Recommend to fine adjust the threshold.
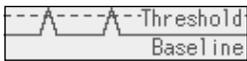
Result Fail the media sensor may register a threshold value but it is insignificant and the sensor cannot detect the difference between media. Recommend to perform a Sensor Adjust.

Result Fail detection by the media sensor is disabled. Recommend to perform a Sensor Adjust