

Printware Technical Bulletin



Calibrating the PlateStream for the Most Demanding Screens

Applicable Products: All PlateStream® Platesetters with ZAPrip®HQ (Harlequin) RIPs

This bulletin provides tips for calibrating the PlateStream for the most demanding jobs, such as those with highlight (<5%) and dark shadow dots (>95%). Calibration has two major steps:

- I. Setting maximum density (D_{max}) in solid black areas by adjusting the laser power.
- II. Linearization of the dot percentage transfer curve by calibrating the RIP.

PlateStream users doing critical screens have found it helpful to calibrate the platesetter weekly and replace the processing chemistry every two weeks.

I. Setting Maximum Density

Before calibrating dot density, maximum density (D_{max}) is set by adjusting laser power on the PlateStream operator panel as follows:

- a. Run a calibration target or a test plate and measure the density of a solid black area.
- b. Set the D_{max} according to the media manufacturer's recommendations (refer to manufacturer's documentation or see the table below):

Media	Optimal D_{max}
Film	3.50 ± 0.20
Mitsubishi Silver DigiPlate	1.32 ± 0.02
Agfa SetPrint/Multi Quicksilver	1.20 ± 0.02

- c. If the density reading is *less* than optimal D_{max} , *increase* the laser power. If the reading is *greater* than optimal, *reduce* the laser power. (**Tip:** as a rough rule of thumb, change the laser power by 1% for each .01 density change needed). We've found that D_{max} at 900 dpi is best set about .05 higher than the "optimal."

- d. Repeat procedure for each resolution and media type. You may prefer to calibrate only higher resolutions used for critical work.

II. Calibrating the ZAPrip HQ (Harlequin) RIP

The goal of calibrating the RIP is to linearize the transfer curve. Figure 1a shows a calibrated transfer curve, and Figure 1b shows a non-linear (uncalibrated) transfer curve.

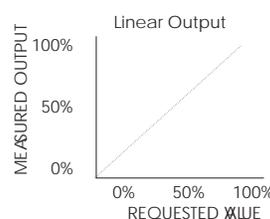


Figure 1a

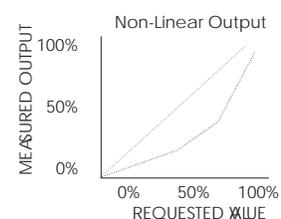


Figure 1b

The *ZAPrip HQ* (Harlequin) RIP **Print Calibration** menu allows you to print test strips (calibration targets). **Calibration Manager** allows you to create and edit calibration sets, and to enable or disable particular sets.



Calibration (Dot Gain) Manager displays calibration sets grouped by device. When you select from the **Device** drop-down list, all of the existing calibration sets for that device are displayed. The basic calibration steps are as follows (see the RIP manual for detailed procedures):

1. Select **Print Calibration** to print an uncalibrated target (see Figure 2).

2. Measure the density of each square of the target with the densitometer. Note that the densities marked on the target are reversed, e.g., the 10% square will be marked “90%.” (**Tip:** Some densitometers require special procedures to measure densities of less than 10%; consult your densitometer manual).

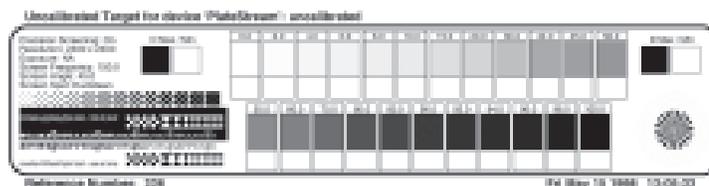


Figure 2: Calibration Target

3. Click **New** to create a new calibration set for the first time. The RIP manual describes how to use all the items in the Edit Calibration dialog box, but the essential items are as follows:

- a. Set the PlateStream for “negative right-reading.”
- b. Set **Measurements** as “negative % dot.”
- c. Check **Negative media** for film (plate material is positive media)
- d. Check **Force solid colors**, indicating that the PlateStream is a halftone device.
- e. Enter the dot percentages from the densitometer readings.
- f. In the **Warning criteria** panel, enter the settings used to create the target: resolution, dot shape, and the range of screen frequencies for which this calibration set can be used.

4. Save the set by clicking the **OK** button in the Calibration Manager dialog. If you click the **Cancel** button in the Calibration Manager dialog, you lose the changes.

5. Select a calibration set from the **Calibration** drop-down list in the Page Setup dialog box in order to associate it with a page set up.

6. Print a calibrated target to check calibration. A single-pass new calibration should be accurate to within about 2%. For greater accuracy, you can do a second calibration iteration by editing the values in the calibration set with the densitometer readings from the calibrated target (**Edit from calibrated target**).

7. Repeat this process for each resolution, screen, and media combination to be calibrated. You may need to calibrate only those combinations you use for critical work.