

PRESTO Delta E



Densitometer Spectro-Densitometer

Priced for EVERY Budget

Delta E • Density • Dot Gain
Gray Balance • Color Matching

LED Technology
Use 24-7-365
WITHOUT Recharging!

**LARGE EASY
TO
READ DISPLAY**

**The Most
User Friendly**

NEW *Magic Color Match*

Spot to Process Color Matching



**Precision
Easy Glide
Track Never
Touches Wet Ink**



INSTRUCTION MANUAL

BETA INDUSTRIES
The Quality Control Company



Tel: 201-939-2400/ 800-272-7336
Email: sales@betascreen.com
www.betascreen.net



ERGONOMIC DESIGN

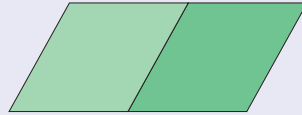
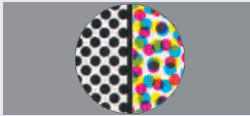


**EASY GLIDE TRACK NEVER TOUCHES WET INK
LOW PROFILE PREVENTS PRESTO FROM
ROLLING OFF THE PRESS TABLE**

MCM

MAGIC COLOR MATCH

MCM






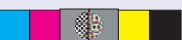

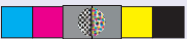










PRESTO MAGIC COLOR MATCH (MCM) makes controlling Gray Balance and Matching Colors easier and more precise than ever. Press one button to memorize a Gray Balance or color to be matched and a second button to see any deviation.

MEASURE PLATES OR PRINTS



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Display symbols....



- ▲ Absolute Density
- + Dot Gain and Dot Area
- ~ Calibration Adjustment Mode

GETTING STARTED

The PRESTO BetaColor Densitometer is a state of the art pressroom instrument designed to automatically measure **Density** and **Dot Gain** without pressing any keys.


Measurements can be made in **RELATIVE** Density where white paper measures *0.00 D* or **ABSOLUTE** mode where white paper generally measures between *0.06* and *0.09 D*.

Status T models have 3 Led's display 

Status E and dE  have 4 Led's display 

ZERO ON PAPER IN RELATIVE MODE

Position the aperture on white paper and slide the PRESTO over the aperture. The display will show Zero Density.


To Zero on any darker substrate, or to verify Zero on white paper press  key while sliding the PRESTO over the aperture to force zero on any sample regardless of Density.



MEASURE DENSITY

Position the aperture on a solid C,M,Y,K patch and measure. The density of that color will be displayed and is verified by a corresponding flashing light.

Note: If the PRESTO is in Auto Dot Gain mode when measuring Densities, the measurement may occasionally show a false Dot Gain in the display when additional measurements of that same color may be much lighter than the memorized first measurement and close to a 75% or 80% Dot Gain target. In that case, zero to paper and continue measuring any questionable Density.

Press  key to force zero if necessary.

Solid	Solid	75% Tint
1.40 D	0.95 D	0.95 D

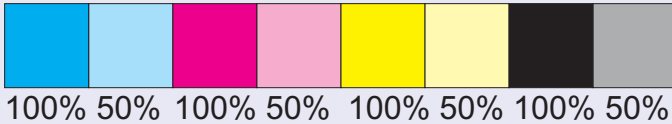
For Density only measurements, disable Auto Dot Gain (see page 10)

FLASHING LED'S



Measuring a specific process color will illuminate the corresponding flashing LED. Measuring Black, Gray Balance, Color Match or Zeroing will simultaneously flash all 3 LED's.

MEASURE DOT GAIN




Dot Gain targets from 25% to 80% can be set by the operator. Generally, the PRESTO is set at 75% and 50%.



75 % Dot Tone

Measure a solid density, then measure a 75% tint of the same color.

The display will indicate the Dot Gain.


Note: The higher position of the small 0 in the display indicates the higher tone value (75%) being measured. See  arrow.



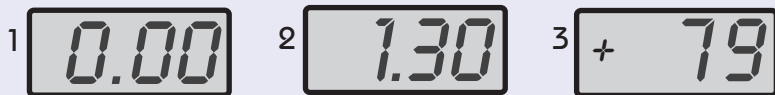
50 % Dot Tone

Measure a solid density, then measure a 50% tint of the same color.

The display will indicate the Dot Gain.

Note: The lower position of the small 0 in the display indicates the lower tone value (50%) being measured. See  arrow.

MEASURE DOT AREA ON PAPER OR PLATES



1. Zero to substrate. 2. Measure a solid patch. 3. Then press and measure any tint of the same primary color to display the Dot Area. This feature allows Dot Area measurements on paper and most plates.



MCM

GRAY BALANCE

MCM

50%
Black Tint



50% Cyan
40% Magenta
40% Yellow

Set the PRESTO to **Relative Density** Mode (see page 8)
Press and hold key to memorize a **Gray Balance standard** to zero the 50% Cyan, 40% Magenta and 40% Yellow channels. Then press and hold key and measure other Gray Balance patches. Click key in sequence to see the Density differences in other Gray Balance tint patches to the memorized **Gray Balance standard**.



Cyan



Magenta

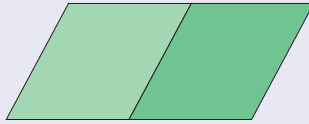


Yellow

Adjust the ink keys to Zero the Cyan, Magenta and Yellow component colors for perfect neutral Gray Balance.



One Gray Balance measurement equals three Density and three Dot Gain measurements of C,M,Y. (See page 11)



Color Matching can be achieved using the same procedure as Gray Balance. The PRESTO will show Density differences of C,M,Y,K for fast, accurate correction on press regardless of changes caused by slurring and other problems.



Black



Cyan



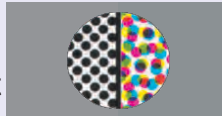
Magenta



Yellow

OPTIONAL GRAY BALANCE

50%
Black Tint





50% Cyan
40% Magenta
40% Yellow

Use a 50% Black Tint as a Neutral Gray Balance Reference

If you don't have a color bar with a **Gray Balance standard** you can measure a 50% Black Tint as a **neutral reference**.

The densities of the 100% Black patches across the sheet should be adjusted to a specific Density depending on paper stock and house standards and be equal across the sheet.

Press and hold  key to change the 50% black tint to zero.

Then press and hold  key and measure a Gray Balance.



Black





Cyan



Magenta






Yellow

Click  Key in sequence to see the Density difference between the neutral Black and the 50% Cyan, 40% Magenta and 40% Yellow tints and adjust the press accordingly to match the neutral  Black.


ADJUSTMENT MODE



Press  key for 5 seconds to open or exit the Adjust Mode. A  symbol appears in the top left corner to indicate when you are in the Adjust Mode.

Click on the  key to open the Relative or Absolute Calibration and Dot Gain functions.

RELATIVE AND ABSOLUTE DENSITY

Click  key to toggle between Relative and Absolute modes.



RELATIVE




ABSOLUTE

Relative Density allows the PRESTO to zero **0.00** on any substrate for ink density adjustment to compensate for various paper stock variations.

This feature allows an automatic visual contrast improvement for the press operator and observer.

This method is used when measuring Gray Balance and Magic Color Match.

Absolute Density with broad band response (Status T) is the accepted standard for North America and many parts of the world. Using this mode based on an absolute white reference allows printing paper to be measured for density verification. Generally, most papers range from **0.05** to **0.09 D**.

The  symbol indicates Absolute mode.

Note: To minimize errors and confusion, it is advisable not to alternate between Absolute and Relative modes when taking measurements.

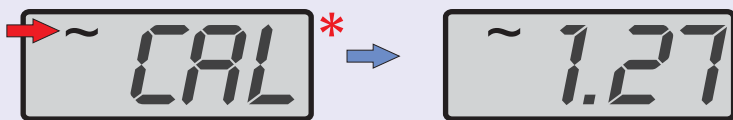
ABSOLUTE WHITE CALIBRATION



Press $\left(\rightarrow\right)$ key for 5 seconds to open the Adjust Mode. A \sim symbol appears in the top left corner to indicate when you are in the Adjust Mode. Press $\left(\downarrow\right)$ key to open program \sim ABS. To adjust the Absolute White calibration, measure the supplied white calibration reference in Absolute Mode. A Density value generally ranging from 0.05 to 0.08 will appear for a specific color as indicated by the flashing LED. Click $\left(\downarrow\right)$ key to decrease the numeric value or $\left(\uparrow\right)$ key to increase the numeric value to match the Absolute White. Click $\left(\rightarrow\right)$ key to select the next color channel for calibration and repeat the procedure for each color channel.

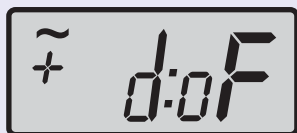
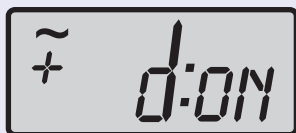
To exit slide the PRESTO over the aperture. The display will show \sim ABS. Press $\left(\rightarrow\right)$ key for 5 seconds to return to measuring functions.



INSTRUMENT CALIBRATION

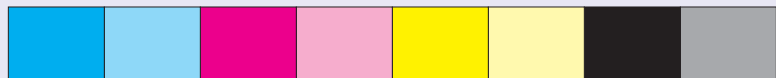


In Adjust Mode, click $\left(\rightarrow\right)$ key to enter CAL^* mode. Measure a KCMY Density on the Calibration Card. Click $\left(\downarrow\right)$ key to decrease the Density value or click $\left(\uparrow\right)$ key to increase the Density value to match the standard. Repeat for other primary colors by clicking $\left(\rightarrow\right)$ key and enter CAL^* mode for each color before calibrating. Click $\left(\rightarrow\right)$ key for 5 seconds to save the settings and exit.


DOT GAIN ON / OFF SETTINGS





In Adjust Mode, click  key for the Dot Gain program. Click  key for ON or OFF functions. Two Dot Gain set points ranging from 25% to 80% can be entered.





The PRESTO is normally set at 50% and 75% for conformity with GRACoL Gray Balance standards.

Click  key to display the existing Dot Gain setting.

Click  key to lower or  key to raise the existing Dot Gain settings.

The red  arrow pointing at the  in the bottom of the display indicates the 25% to 50% set point.

The blue  arrow pointing at the  at the top of the display indicates the 75% to 80% tone set point.

MAINTENANCE



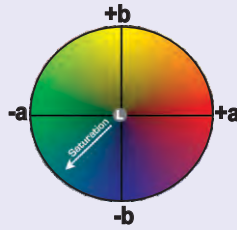
The PRESTO BetaColor Densitometer is virtually maintenance free due to the energy efficient LED illumination source and robust construction.

When the battery message appears on the display, slide the battery cover down and replace the two AA alkaline batteries.

In the event of errors, press the reset button on the bottom.

SPECTRO DELTA E

Delta E is the is the combined difference of the L*a*b* values of two color samples.



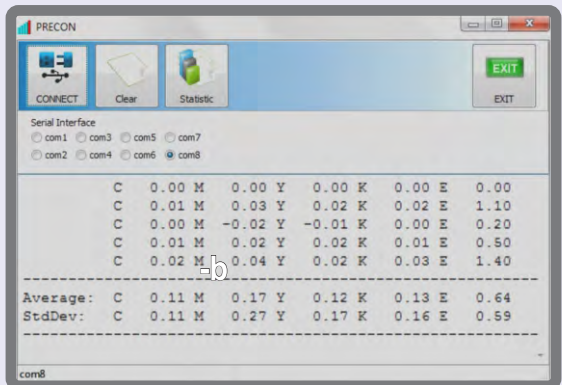
1. Press Key to enter dE mode.
2. Zero to color sample with Key.
3. Measure the next color for match with key .
4. The display shows dE difference.
5. Press Key repeatedly to show the density difference in each **CMYK** and the necessary correction to reduce dE for perfect color match. Delta E of 2.0 or less is considered the minimum perceptible difference between two colors.



PRESTO USB DATA OUTPUT

Each measurement sends the **C, M, Y, K** density and corresponding delta E value to the screen.

CLEAR removes all values, **STATISTIC** calculates the **AVERAGE** and **STANDARD DEVIATION** of a set of measurements.



Use the Windows **COPY** and **PASTE** function to drop the data into any other application such as Excel, etc.

Beta Quality Control Products

Densitometers



Spectro Densitometers

BETACOLOR LED DENSITOMETERS

Affordable, Advanced, User Friendly, LED technology.

No light bulbs to replace, chargers or cables. Seven year warranty on LED's.



Flexo Highlight Verification

BETAFLEX PRO FLEXO IMAGE ANALYZER

Measure & Control 0.5 highlights at 300 lpi & better, 3D Dot Analysis, Masks, Stain Density, Dot Area, Screen Ruling, Film, & Much



BETAFOLD CREASE & FOLD ANALYZER

Portable, hand-held analysis of crease height, width, angles, and symmetry.

Also see BetaCorr

FREE 10-Day Trial



BETA FLUO - UV INK MEASURING DENSITOMETER

Measure the unique properties of invisible UV ink in both 365nm & 254 nm for security printing



PRECISION DIGITAL ELECTRONIC RULERS

Precise, non-contact, measurement of distances on films, plates, dies, electronics & prints.



BETA OPTICS & BETAMAG 12X WITH DUAL LED'S

Optics for Every Need & Budget, microscopes, loupes, and the well known BetaColor Viewer 3

