

PRESTO BetaColorLED Densitometer



**LARGE EASY TO
READ DISPLAY**

**THE MOST
USER FRIENDLY**

**LED TECHNOLOGY
use 24-7-365
WITHOUT Recharging!**

NEW

Magic Color Match

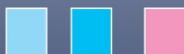
**Spot to Process
Color Matching**



**EASY GLIDE TRACK
NEVER TOUCHES WET INK**



DENSITY



DOT GAIN DOT AREA



GRAY BALANCE



COLOR MATCHING

**FLASHING LED'S
FOR ACCURACY**



LARGE DISPLAY

INSTRUCTION MANUAL

BETA INDUSTRIES
The Quality Control Company



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www.betascreen.net

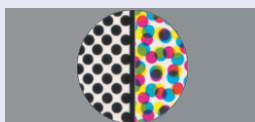


ERGONOMIC DESIGN



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

MCM FINGER TIP 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.

TABLE OF CONTENTS

Zero on paper in Relative Mode		.....Page 4
Measure Density		.....Page 4
Flashing LED's		.....Page 5
Measure Dot Gain		.....Page 5
Measure Dot Area		.....Page 6
Density Difference and Gray Balance		..Page 6
Color Matching with MCM		.....Page 6
Gray Balance Color Bars		...Page 7
Finger Tip Gray Balance with MCM		.....Page 7
Adjustment Mode		.....Page 8
Absolute and Relative Density		.....Page 8
Absolute White Calibration		.....Page 9
Color Calibration		.....Page 9
Dot Gain On / Off Settings		.....Page 10
Battery Maintenance		.....Page 10

INTRODUCTION

The PRESTO BetaColor Densitometer is a state of the art pressroom instrument designed to measure Density, Dot Gain, Dot Area, Gray Balance and Color Matching.

The Easy Glide Track speeds measuring with greater accuracy than standard methods.


Two AA alkaline batteries power the PRESTO LED's for more than 500,000 measurements with instant results.

Measurements can be made in RELATIVE Density where white paper measures *0.00* D or ABSOLUTE mode where white paper generally measures between *0.05* and *0.09* D.

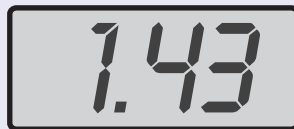
ZERO ON PAPER IN RELATIVE MODE






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

Press  key while sliding the PRESTO over the aperture to force zeroing on any sample regardless of Density.

MEASURE DENSITY



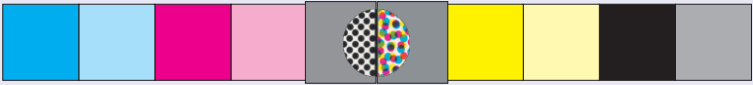
Position the aperture on a solid CMYK patch and slide the PRESTO over the aperture. The density of that color will be displayed. Measure the other primary colors the same way. Click  key in sequence to display the other primary color densities in the measured sample.

Note: If the PRESTO is in auto Dot Gain mode when measuring Density the measurement may show a false Dot Gain. In that case press  key while measuring Density or zero to paper  before measuring Density.

FLASHING LED'S



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



MEASURE DOT GAIN


Dot Gain targets from 25% to 80% can be set by the operator. Usually, 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 according to the Murray/Davies equation.


Note: The upper 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 according to the Murray/Davies equation.

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

MEASURE DOT AREA



Measure a solid patch, then measure any tint of the same primary color and press the  key to display the Dot Area according to the Murray/Davies equation.

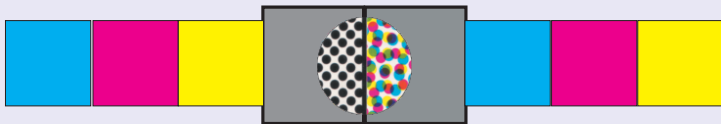
This feature allows Dot Area measurement from 1% to 99%.





MCM

GRAY BALANCE

MCM

Perfect Gray Balance and Color Matching with MCM



Press and hold  key to set a Gray Balance standard to zero  the Cyan, Magenta and Yellow channels. Then press and hold  key and measure other Gray Balance patches. Click  key in sequence to see the Density differences in the Gray Balance patches of the Cyan, Magenta and Yellow component colors.



Cyan



Magenta



Yellow

MCM

MAGIC COLOR MATCHING

MCM



Color Matching can be achieved using the same procedure as Gray Balance. The PRESTO will show Density differences of 4 colors for fast, accurate correction on press regardless of changes caused by slurring and other problems.



Black



Cyan

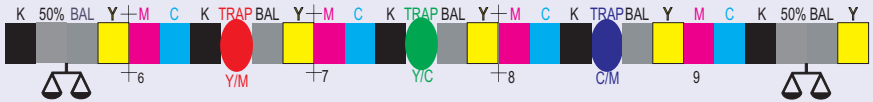


Magenta



Yellow

GRAY BALANCE COLOR BARS



BETA GRAY BALANCE EYE SCAN COLOR BAR SYSTEM

is designed for faster make ready, precise press monitoring and quicker turn around using a densitometer for objective measurements and optical tools for subjective evaluation. The heart of the system is a customized color bar designed to match the size of your press and numbered ink keys in exact alignment to the press ink keys for faster corrections. Every ink zone has Gray Balance and CMYK targets. To best utilize the advantages of the PRESTO and the Gray Balance Color Bar, print the Black component across the sheet to a flat profile. The PRESTO can either measure each density or the first measurement can be nulled to zero and subsequent measurements of the black profile will show as a plus or minus deviation to the desired density.

MCM





FINGER TIP MAGIC MATCH

MCM

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

Measure Gray Balance as shown on page 6 or optionally measure a 50% Black Tint as a **neutral reference**.

The densities of the black patches across the sheet should be adjusted to a proper density depending on paper stock and house standards.

Press and hold  key to change the 50% black tint to zero  as well as the Cyan, Magenta, and Yellow channels. Then press and hold  key and measure a Gray Balance. Click  Key in sequence to see the Density difference between the neutral Black and the Cyan, Magenta and Yellow and adjust the press accordingly.



Black




Cyan



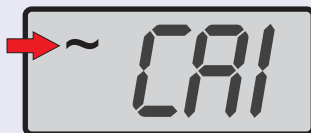
Magenta






Yellow


Adjust CMY Densities to match the Black zero. 

ADJUSTMENT MODE

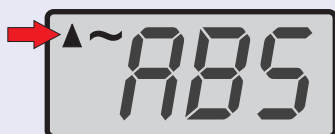


Press  key for 5 seconds to open or exit the Adjust Mode. A  symbol appears in the top left corner to indicate when you are in the Adjust Mode.

Click on the  key to open the Adjust, Calibration and Dot Gain Settings functions as outlined below.

Click  key to toggle between Absolute and Relative modes.

ABSOLUTE AND RELATIVE DENSITY




ABSOLUTE



RELATIVE

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 **0.06** to **0.09 D**.

The  symbol indicates Absolute mode.

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

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

This method is preferred for simplicity and speed.

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

ABSOLUTE WHITE CALIBRATION



Press key for 5 seconds to open the Adjust Mode. A symbol appears in the top left corner to indicate when you are in the Adjust Mode. Press key to open program. . To adjust the Absolute White calibration, measure a certified White Reference in Absolute Mode.

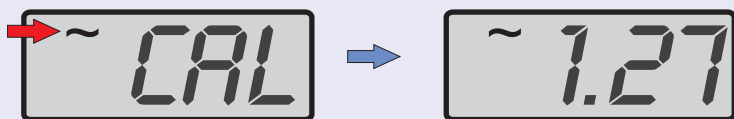
An Absolute Density value similar to 0.06 will appear for a specific color as indicated by the flashing LED.

Click key to decrease the numeric value or key to increase the numeric value to match the Absolute White.

Click 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 . Press key for 5 seconds to return to measuring functions.

COLOR CALIBRATION

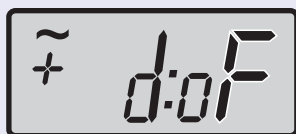
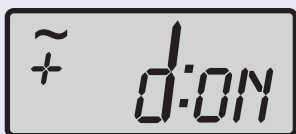




In Adjust Mode, click key to Calibrate CMYK Density values. Measure any primary color and the corresponding LED for CMY will flash and all 3 LED's will flash for black. Click key to decrease the Density value or click key to increase the Density value to match the standard.

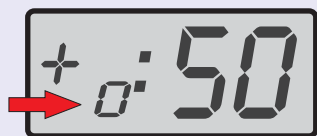
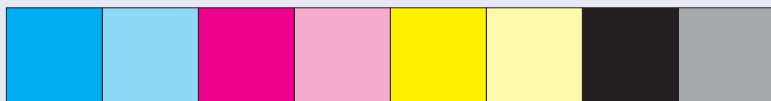
Repeat for other primary colors by clicking key each color before calibrating .

Click key for 5 seconds to save the setting 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.

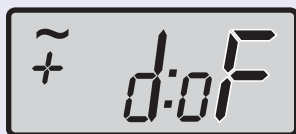
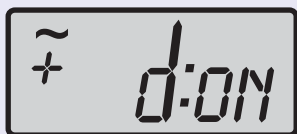
MAINTENANCE





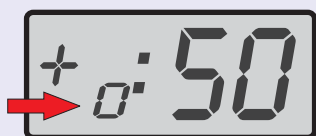
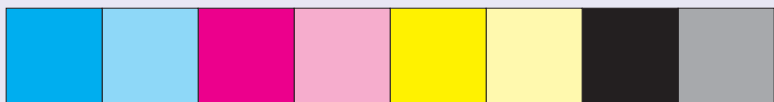
The PRESTO BetaColor Densitometer is virtually maintenance free due the energy efficient LED illumination source and robust construction.

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




DOT GAIN ON / OFF SETTINGS





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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 *d* in the bottom of the display indicates the 25% to 50% set point.

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


MAINTENANCE

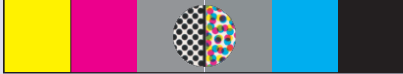


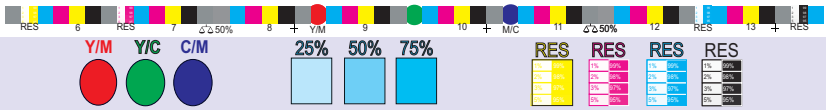
The PRESTO BetaColor Densitometer is virtually maintenance free due the energy efficient LED illumination source and robust construction.

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

COMPANION PRODUCTS FOR THE PRESS

BETA EYE  **SCAN CUSTOM GRAY BALANCE COLOR BAR**

**FASTER MAKE READY
SEE IT - MEASURE IT**  **CUSTOMIZED TO
MATCH YOUR PRESS**



RES 6 RES 7 Δ 50% 8 + Y/M 9 10 + M/C 11 Δ 50% 12 RES 13 + RES

Y/M Y/C C/M


25% 50% 75%

RES RES RES RES

RES 25% RES 25% RES 25% RES 25%


RES 50% RES 50% RES 50% RES 50%

RES 75% RES 75% RES 75% RES 75%

The **BETA EYE**  **SCAN CUSTOM GRAY BALANCE COLOR BAR SYSTEM** is designed for faster make ready, precise press monitoring and quicker turn around using a densitometer for objective measurements and optical tools for subjective evaluation. This **SEE IT** and **MEASURE IT** system is a precise, cost effective control system guaranteed to produce the highest quality printing. The heart of the system is a customized color bar designed to match the size of your press and numbered ink keys in exact alignment to the ink keys thereby making faster and more accurate corrections.

The World Standard For Viewing Color **BETA COLOR VIEWER III** **See The Nearly Invisible Yellow**


REGISTRATION INK/WATER BAL. SEE YELLOW FLUORESCENCE SLUR DOUBLING



STOCHASTIC RESOLUTION

FILM PLATES

SEE IT
MEASURE IT
CONTROL IT



RES 7 Δ 50% 8 + Y/M 9 10 + M/C 11 Δ 50% 12 RES

See the nearly invisible yellow and other colors with contrasting LED illumination. Measure and correct films, plates, color proofs and press sheets.

See Fluorescence in various inks, papers, and coatings.

See Metamerism under standard and ultra violet light.

Available with 10X or 20X magnification or microscopes with 25X, 50X, 75X and 100X with inch or metric measuring scales. All optics are mounted on magnetic plates for fast changing and maintaining focus.

Beta Quality Control Products

Densitometers



Spectro Densitometers

BETACOLOR LED DENSITOMETERS

Affordable, Advanced, User Friendly, LED technology.

No expensive light bulbs to replace, chargers or cables.



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, &



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

