

# BetaColor S4 XPress

High Performance Densitometer



Instruction Manual

Ver 1.02k



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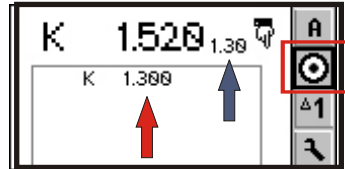
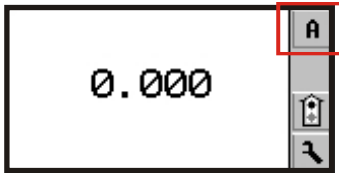
# Components and Controls



## Getting Started With “Touchmatic Memory”

The S4 XPress is always ready to use. There is no need to charge it, plug it in, or connect cables. It will produce more than 500,000 measurements with 2-AA alkaline batteries, and turn itself off after the last measurement.

The top Icon in the **Vertical Tool Bar** indicates you can automatically perform the following functions.



- 1.Zero to the paper.
- 2.Measure **Density** of the primary colors, yellow, magenta, cyan, and black.
- 3.Measure up to 3 **Dot Gain** values in each primary color.
- 4.Measure **Gray Balance** composed of C, M, Y.
- 5.Measure **Trapping** efficiency and color sequence.



2.Density




3. Dot Gain



4. Gray Balance




5. Trapping

**Density, Dot Gain and Gray Balance** targets can be readily memorized for each new print run from the opening screen by measuring a target, then framing the **Bulls Eye**  with the up or down keys and storing it in the “**Touchmatic Memory**” by pressing **ENTER** with the middle key. For example, the first Black [K] ink 1.30 Density was measured and memorized. The next black measurement 1.520 Density is indicated by the large numbers. The **BLUE** pointer indicates that the first Black 1.30 Density will serve as a reminder for all subsequent Black measurements until it is changed if necessary. Up to 4 previous measurement appear in the history stack as indicated by the **RED** pointer. The down pointing icon indicates the 1.520 Density is high.

## Getting Started



Flashing **Red** or **Green Traffic Lights** can be activated to indicate when the **Density, Dot Gains, and Gray Balance** are in or out of tolerance. This feature allows the fastest and most accurate measurements possible without the need to constantly look at the numerical display.

To activate, frame the **Traffic Light** icon  with Up or Down Keys and press **Enter**.

The **Traffic Lights** can be turned off if desired by framing the icon and measuring without pressing **Enter**. If the **Traffic Light** icon is not visible, frame position 3 on the **Vertical Tool Bar** and press **Enter**.

**Note: A color bar with targets of Density, Dot Gain, Gray Balance, and Trap Colors is essential.**

We highly recommend the Beta Custom Gray Balance Color Bar for accuracy, speed and features.



Zero to Paper in **RELATIVE** or **ABSOLUTE** Density  
Place the aperture on white paper and press the head down. Rezero on paper any time if in doubt of the zero value or when changing paper.

Measurements can be done in **RELATIVE DENSITY** that produces a 0.000D with paper for any density up to 0.14D, or in **ABSOLUTE DENSITY** that will show an average white paper range between 0.04 to 0.09D. For example, the display shows a Black Density of 0.053. On the left side is the Abs symbol as a reminder.



## Getting Started

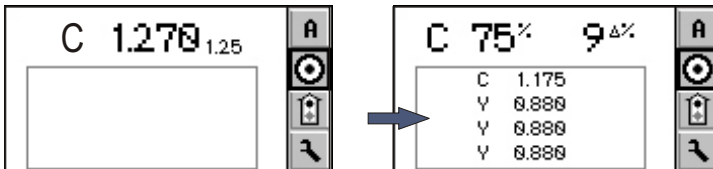


### Measure Density

Place the aperture on a solid color of cyan, magenta, yellow, or black and press the head down. The large **M** in this example shows you've measured a magenta target. Continue with the other colors in any order.

Up to 4 previous measurements are saved in a **history stack** beneath the current measurement. (Blue Arrow)  
The last measurement as illustrated was the magenta target.

After measuring any solid color patch the DOT GAIN targets of the same color can be automatically measured. The S4 XPress is pre loaded with Dot Gain Targets of **75%, 50%, and 25%** to correlate with the **Beta Custom Color Bar**. The Dot Gain targets can be changed to other values if needed.




### Measure Dot Gain Targets



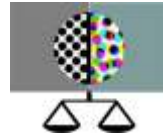
If the last solid color measurement is **Cyan**, we can now measure **Cyan Dot Gain Targets**. Place the aperture on the Dot Gain Target and press the head down. In this example the C indicates you've measured the **Cyan Dot Gain Target**. The 75% indicates which of the three Dot Gain Targets you've measured. The 9Δ% is the result of the Dot Gain Calculation. [Murray/Davies equation, which calculates the actual dot size plus optical dot gain]

Δ% means **CHANGE IN PERCENT**. The 75% Target is actually 84% total Dot Area. In this example the Cyan Dot Gain Target has 9 points of dot gain. Continue measuring the 2 other Cyan Dot Gain Targets.

The Dot Gain values can be memorized by framing the Target  icon and pressing **Enter**.


## Getting Started

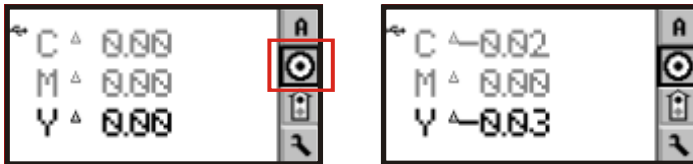
### Measure Gray Balance



Gray Balance Targets are composed of **Yellow, Magenta, and Cyan tints**. They produce a neutral gray tone when the press and the rest of the process are in control. Because **Gray Balance** is directly proportional to solid ink densities and their respective **Dot Gains**, one measurement is all that is necessary instead of 6 or 8 measurements without Gray Balance Targets. The **S4 XPress with Gray Balance** control can detect and compensate for **Slur, Doubling, Trapping, Hue Error**, and other printing problems.

The **S4 XPress** has the ability to automatically differentiate a black tint from a 3-color Gray Balance target due to an internal infrared sensor.

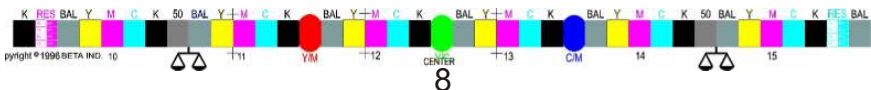
When measuring Gray Balance, the display changes to a large three-line view representing the 3 density values of cyan, magenta, and yellow tints. These three values can be Nulled to 0.00 simultaneously and memorized by placing the frame around the Bulls Eye  and pressing the **ENTER** key.



Any subsequent measurement of Gray Balance will show + or – deviation from the memorized Nulled 0.00.

The Beta Custom Gray Balance Color Bar and S4 XPress will show which color is going out of control, by how much, and in which ink zone. **Beta Custom Gray Balance Color Bars and Beta Color Viewers** are the ideal companions for the S4 XPress for total quality control.

**“SEE IT, MEASURE IT, CONTROL IT”**



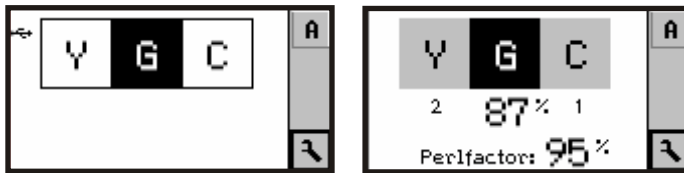
## Getting Started

### Measure Trapping Efficiency and Color Sequence



Printing wet ink films on top of each other requires that the inks “TRAP” to each other. **TRAPPING EFFICIENCY** is a measure of how well the second ink is accepted by the first ink in relation to how well the first ink transfers to dry paper. Low Trapping Efficiency causes red, green, or blue overprint colors to reproduce poorly.

For example, measure a **GREEN TRAP** target. A group of three large color icons appear. The center icon is the color of the green target just measured. The left and right icons are the components of that color. Measure the Cyan and Yellow colors shown on the left and right in any sequence.



The display shows the **TRAPPING** efficiency is 87% and the first printed color [1] and the second printed color [2]. Cyan was printed before Yellow, 87% of the Yellow trapped to the Cyan ink compared to the paper. **Repeating this procedure for the Red and Blue targets will determine the color sequence of the print.** **Pearl Factor** exists in 2 color Trap combinations. In this example the total ink coverage for the first color is 95% and the white paper voids of 5% are overprinted with the second color. Changing the color sequence also changes the **Pearl Factor** and influences **Gray Balance**.

Note: Laminate layer proofs similar to Matchprint or Cromalin will show no Pearl Factor, while press sheets, ink jet and laser proofs will show varying degrees of Pearl Factor.



**Note:** To restore Factory Settings, press the **RED** button on the bottom of the S4 XPress. Select the Factory Tool [blue pointer] on the top of the **Vertical Tool Bar** and press **ENTER** to restore the original Factory Settings.

**Caution: Restoring Factory Settings will remove your custom settings.**



To return to programs without making any changes, frame the **Go Back** symbol and press Enter or Zero to paper.

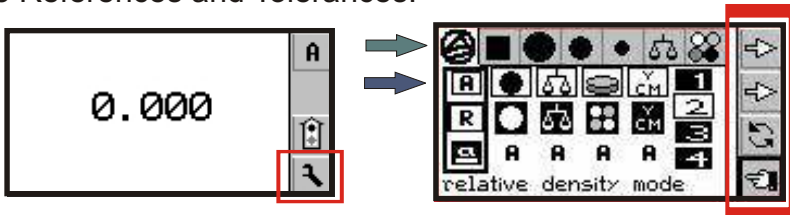
References are accessed by framing any Reference icon and then **Framing** the Change Tool and pressing **ENTER**. Each **Reference** can memorize its own set of **DENSITY, DOT GAINS, TOLERANCES, and GRAY BALANCE** values.

## Customizing the Settings

The BetaColor S4 XPress is extremely flexible and easily adapted to your shop standards.


Icons are used to navigate through the groups of setting and adjustments.

Frame the **Tool Icon** on the **VERTICAL TOOL BAR** to open the References and Tolerances.





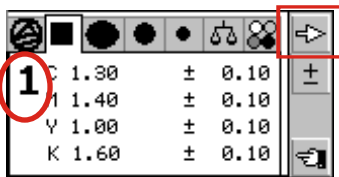
1. Vertical Tool Bar Settings. [In red rectangle]
2. References and Tolerances Settings. [Green arrow]
3. Automatic Mode Settings. [Blue arrow]











# Edit Density and Tolerances

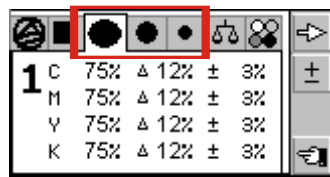
Press the up or down Keys to frame the top arrow . Press **ENTER** to open the **Solid Density Reference and Tolerance field**. The **DENSITY** values displayed will be either the installed pre loaded values, or new values that were measured and memorized using the **BULLS EYE**  function. Framing the top arrow and pressing **ENTER** will open the edit program for **DENSITY** values and the +/- tolerances. To change any other **Density** values and **Tolerances**, frame the top arrow and press **ENTER** to proceed to each value and repeat as necessary.











The **red oval** indicates you are in **REFERENCE 1**.

Note: The **DENSITY** values will change each time you enter new values in any of the 4 References using the **BULLS EYE**  function. To proceed to the next editable values it is necessary to exit the program by framing the **RETURN**  **KEY** and press **ENTER**.




								
<b>1</b>	C	1.30	±	0.10	±			
	M	1.40	±	0.10	±			
	Y	1.00	±	0.10	±			
	K	1.60	±	0.10	±			



								
<b>1</b>	C	75%	Δ	12%	±	3%	±	
	M	75%	Δ	12%	±	3%	±	
	Y	75%	Δ	12%	±	3%	±	
	K	75%	Δ	12%	±	3%	±	

# Edit the Dot Gain and Tolerances

Press the up or down Keys to frame the top arrow and press **ENTER**. The **DOT GAIN EDIT** screen will appear. There are 3 DOT GAIN values that can be programmed. The **S4 XPress** is generally set at 75%, 50%, and 25%, to agree with the **Beta Custom Color Bar**.

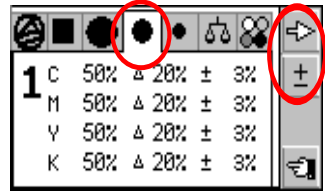
In the example above, the first Dot percent is 75%. The Dot Gain increase is set at 12% or can be actually measured and memorized with the Bulls Eye.  The **+/- Tolerance** is set at 3%. Measurements within Tolerance will flash **GREEN**.

# Edit Dot %, Dot Gain Targets & Tolerances

**DOT PERCENTAGES** from 80% to 25%, plus **DOT GAINS** and **TOLERANCES** can be changed by framing the top arrow on the vertical tool bar and pressing ENTER. Press ENTER again to frame the appropriate DOT icon for adjusting. Frame the  $\pm$  and press ENTER. The DOT % for CYAN will enlarge and a separate + and - symbol will show.

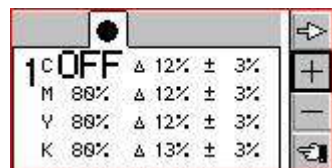
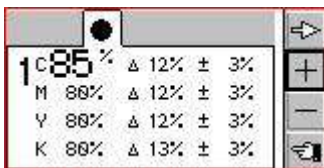
Frame the + or - symbol to change the **DOT %** value if necessary.

To continue editing, frame the top arrow and adjust the **DOT GAIN** if necessary. Repeat the procedure for the **TOLERANCE +/-** values.




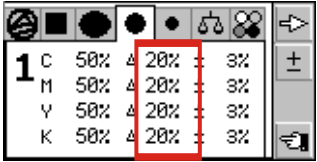
The magenta, yellow and black values can be similarly adjusted. To proceed to the next set of editable values it is necessary to frame the **RETURN KEY** and press **ENTER**.

**NOTE:** The automatic **DOT GAIN** function relies on the principle that measuring a solid ink patch results in a density measurement which then can compare it to a 3/4, 1/2 or 1/4 tone tint value. Under ordinary press conditions a logical **DOT GAIN** value displayed. If an illogical result is displayed, it is the result of the solid or tint values beyond normal tolerance values. This may happen when the first measured solid density patch is significantly higher in density than subsequent measurements causing a false 3/4 tone **DOT GAIN** result in error. In this event, re-zero to paper and measure the solid again. All **DOT GAIN** measurements should be made as close as possible to a solid of the same color to minimize errors. To change the 3/4 tone value to **OFF** press the  $\pm$  icon beyond 85% to show Density only.



## Automatically Enter Dot Gains

Dot Gains for 3/4tone, midtone, and 1/4 tone can be entered automatically by measuring a solid and then a tint value of the same color. The Dot Gain can be memorized by framing the BULLS  EYE then press ENTER.



1	C	50%	Δ	20%	Δ	3%	➡
	M	50%	Δ	20%	Δ	3%	±
	Y	50%	Δ	20%	Δ	3%	
	K	50%	Δ	20%	Δ	3%	⬅

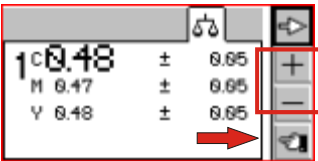
The new Dot Gain values will replace the previous ones.

## Edit Gray Balance



The S4 XPress has a unique **Gray Balance** feature.

Note: The **Gray Balance** values are stored from the OK sheet by measuring an acceptable **GRAY BALANCE** patch and entering it into memory by framing the **BULLS EYE**. Then press **ENTER** to **NULL [0.00]** the 3 density values. Every subsequent measurement will show a **+/- deviation** from the memorized NULL.




1	C	0.48	±	0.05	➡
	M	0.47	±	0.05	±
	Y	0.48	±	0.05	⬅

To manually edit the **Tolerances** in **Gray Balance** and their effect on the Traffic Lights, press the up

or down Keys to frame the top arrow and press **ENTER**.

Proceed to **Gray Balance**. The **Gray Balance** values and the tolerances can be changed by framing the + or - icons

and pressing **ENTER**. The right column contains your preferred tolerances on the **Gray Balance** values. Use the + or - icons to raise or lower any value. Highlight the **GO BACK**  icon and click on the UP and DOWN buttons and activate it by clicking the **ENTER** button.

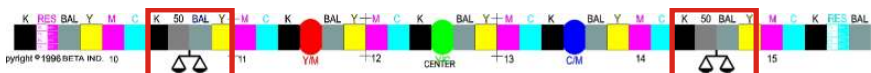
**Color Match** values can be stored in a similar manner



An accurately printed three-color **Gray Balance target** has the same visual appearance as a black tint of the same value. When the **GRAY BALANCE** tool is enabled in **AUTOMATIC** mode, these three-color gray balance targets are automatically identified, measured, and checked against the stored values and tolerances. No operator intervention is required.

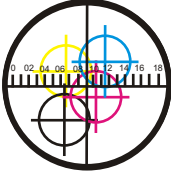
Because **Density, Dot Gain, Trapping, and Pearl Factor** affect Gray Balance targets, they are a good early warning sign for detecting changes in print conditions. When **Gray Balance** targets are located adjacent to a **black tint**, very accurate visual judgments can be made with just a glance. **Beta Eye Scan Custom Gray Balance Color Bars** have Gray Balance targets in every ink key zone, and black tints adjacent to them in every fourth zone, allowing both visual and densitometer press control. The **Balance Symbol** below the Beta Color Bar quickly identifies the 50% black tint and adjacent 3-color Gray Balance target.

**Note:** To best utilize the benefits of the **Beta Custom Gray Balance Color Bar System**, the black ink profile should be printed across the sheet with a minimum deviation for more accurate agreement with the 3- Color Gray Balance Targets.

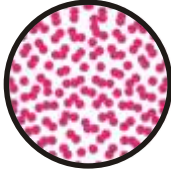


# SEE IT MEASURE IT CONTROL IT

REGISTRATION



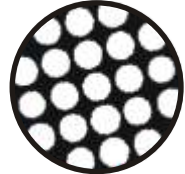
STOCHASTIC



SLUR



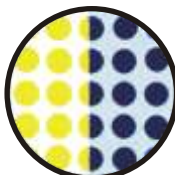
FILM



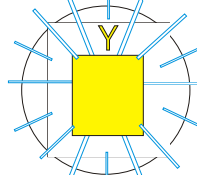
INK/WATER BAL.



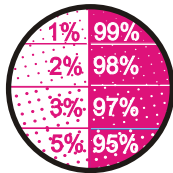
SEE YELLOW



FLUORESCENCE

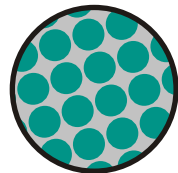


DOUBLING



RESOLUTION

See UV  
Influence I On  
Ink and Paper



PLATES



The Beta Color Viewer III is the ideal companion to the S4 XPress and Beta Custom Color Bar

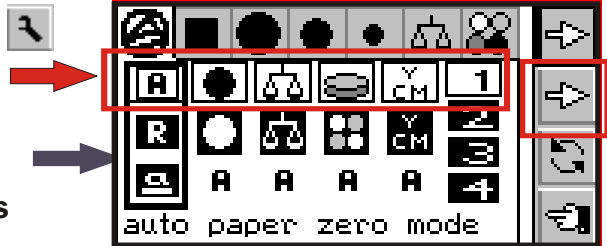
See the nearly invisible yellow and defects on plates, proofs, and print.

**Slur and Doubling** will affect Dot Gains and Gray Balance without having any change in Density measurements.

Similarly, when viewing a printed sheet under a different lighting condition the Gray Balance will also change. Inks and paper have varying amounts of U.V. brighteners that will also change Gray Balance and the appearance of a printed sheet. The Beta Color Viewer III is a useful tool that features a **U.V. light source** that will visually detect the **fluorescence** and **metameric** influence.

# Automatic Mode Settings


To access, go to settings display and press Enter.



All Automatic Function Details Are Displayed:

1 2 3 4 5 6

The screen shows 5 icons in row 2 framed in **RED**, (red arrow) Each individual icon that is framed in black indicates that it is active and has an **A** underneath.

The other 9 icons are reversed on a black field and are not active. A black frame outlines the column that is active (blue arrow) and moves by framing the arrow  then **Enter**

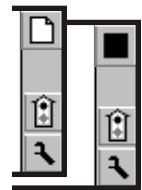
## 1 Auto Paper Zero Mode

Automatically zeros [0.00] to any paper density up to 0.14 Density. This is the preferred setting for most measurements

## Relative Density Mode

Allows zeroing [0.00] on tinted paper or to any density for **null** comparison measurements.

Frame the Relative Density Mode and activate the Go Back icon.  to return to the Starting Screen. On top of the Vertical Tool Bat there



will be a Density icon and then a Relative Paper icon

Frame the Paper icon and measure any Density to (0.00).

Then measure another density for +/- deviations.

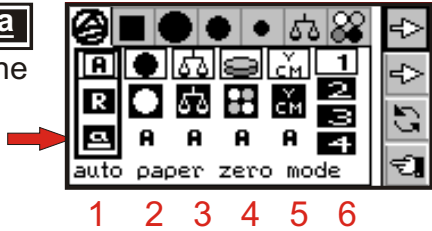
The mode will automatically change to **Density**.


Subsequent measurements will show +/- differences to the **Zeroed or NULLED** value. This is useful for measuring densities across the width of a sheet without having to remember the original density.


# Automatic Mode Settings


## Absolute Density Mode


**1** Allows measurements in the **Status T mode**. Measuring white paper generally produces a value between 0.04 and 0.09 Density.



**2 Dot Gain.**  The S4 XPress is programmed to automatically measure 3 dot gain percentages, generally 75%, 50%, and 25%. Measure a solid 100% of a K,C,M,Y and then measure a tint percentage on the color bar of the same color. Adding the dot gain to the starting percent is the equivalent of dot area.

**3 Gray Balance.**  Framing the Gray Balance icon allows automatic recognition of the three-color gray balance target.

**4 Trapping**  The result of solid yellow, magenta, and cyan inks printed in two color combinations to produce red, green and blue solids. Trapping efficiency is the ability of the second color to be accepted or trapped by the first printed color.

**5 Color Select**  Allows the S4 XPress to automatically recognize a process color.


**6 Reference Selection.** As many as 4 separate programs can be stored. These can consist of different type of paper stock, Densities, Dot Gains, and Gray Balance conditions.



# Manual Mode Settings

## Measure Dot Area 1% to 99%

1. Move the black frame to column 2.


Frame the **Change Tool**  and press **Enter** to change to **Manual Dot Area**. The **Relative Density Mode** will automatically frame.

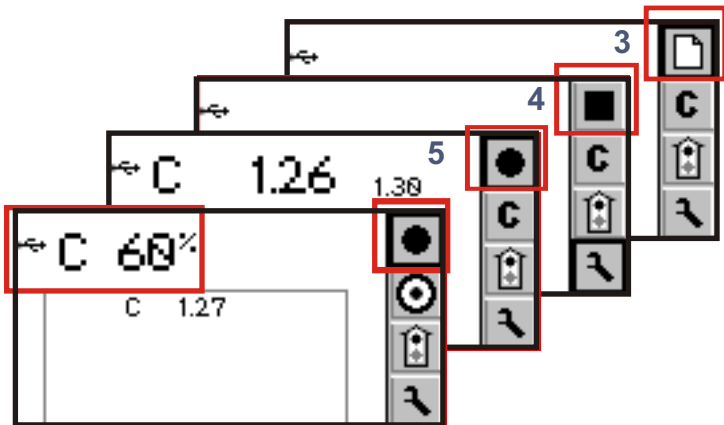


2. Frame the go back  icon and press **Enter**.

3. Frame the paper  icon and zero to paper.

4. Frame the **Density** icon  and measure a solid primary.


5. Frame the **Dot** icon  and measure dot areas of that primary color.



# Manual Mode Settings

## Manual Gray Balance

1. Move the black frame to column 3.

2. Frame the Change  icon and press Enter for Manual Gray Balance.

3. Frame the Go Back  icon and press Enter.

4. Frame the Balance icon on the top of vertical Tool Bar.


5. Zero to paper by framing the Bulls  Eye and press Enter.

6. Measure a Gray Balance. A 3 color CMY density analysis will appear in the display.



## Color Matching

1. Move the black frame to column 4.

2. Frame the Change  icon and press Enter for Auto Color Match.

3. Frame the Go Back  icon and press Enter.






4. Frame the Matching icon on the top of vertical Tool Bar.

5. Measure a Pantone, Special Color etc. and frame the Bulls  Eye to zero all 4 colors C,M,Y,K

6. Then measure a color to be matched and see the +/- difference.

7. The screen shows the difference from the zeroed C,M,Y,K desired color to the reproduced color. In the example All four colors must be reduced in order to match the first color.




C <sup>Δ</sup>	0.18		
M <sup>Δ</sup>	0.04		
Y <sup>Δ</sup>	0.03		
K <sup>Δ</sup>	0.10		


# Manual Mode Settings

## Manual Color Select




1. Move the black frame to column 5.

2. Frame the Change  icon and press **Enter** for Manual Color Select.

3. Frame the Go Back  icon and press Enter.

4. Frame a C,M,Y, or K icon on the vertical Tool Bar.


5. Zero to paper by framing the Bulls  Eye and press Enter.

6. Measure any color and the display will show the density of that specific color in the sample being measured. For example, if Magenta is selected, then the Magenta component in any CMYK or special color can be measured without the influence of other colors.

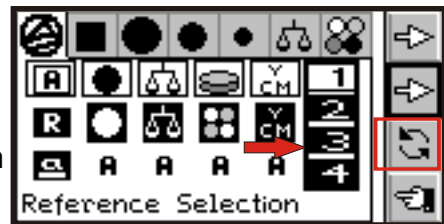


## Reference Selection

1. Move the black frame to column 6.

2. Frame the Change  icon and press Enter to change a Reference.




Each of the 4 References can be pre loaded with **Touchmatic Memory** for separate Density, Dot Gain, and Gray Balance numbers e.g. SWOP, Gracol, coated or uncoated stock, house colors, etc. These memorized values can be changed at any time according to new conditions.

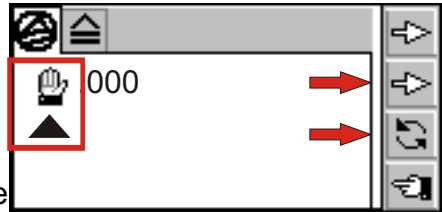


## Special Functions


### Right Hand / Left Hand


functions can be activated by pressing the **RED BUTTON** on the underside.

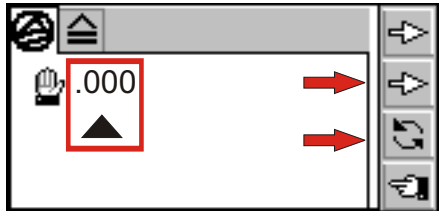
Frame the Change Tool  and press ENTER. Frame the pointer on row 2  and press Enter. Then frame the Change Tool  and press ENTER. The display will invert for left handed users.




### Numerical Resolution

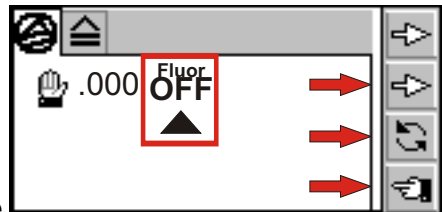
To change the numerical display to either two 0.00 or three 0.000 places after the decimal point, Frame the pointer on row 2  and

press Enter to move the triangle icon ▲ to below the numerical display. Then Frame the Change Tool  and press Enter.



### Fluorescence

The presence of fluorescence in inks can be detected by changing the normally **OFF** to **ON**. The influence of Fluorescence is generally greater in yellow ink and Hexachrome. Return to the opening screen 



## Slope Control


Changing the SLOPE value allows the S4 Xpress to agree with densitometers using other standards for density values.

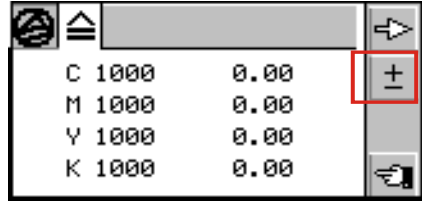
Press the **RED BUTTON** on the underside.

Frame the Settings Display  and press ENTER to open SLOPE CONTROL.




# Slope Control Calibrations

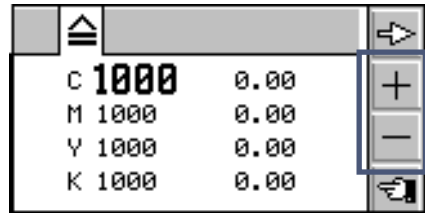
Then frame the Top Arrow  and press ENTER for C M Y K adjustments. The S4 XPress is pre set with C M Y K SLOPE values of 1000 for each color and the Densities in the right column are set at 0.00 for **Paper Relative Density**.



C	1000	0.00	+
M	1000	0.00	
Y	1000	0.00	
K	1000	0.00	

In **Absolute Density**, other minimum Density values are shown. These values generally range from 0.05 to 0.10. The **SLOPE** adjustment range is 750 to 1250.

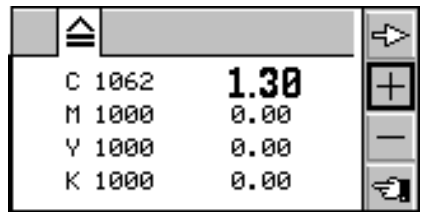
In the left column are Density Slope values for C, M, Y, K. Frame the  icon on the opening screen and press ENTER. For example, the Cyan slope value can be raised or lowered.



C	1000	0.00	+
M	1000	0.00	-
Y	1000	0.00	
K	1000	0.00	

Use the PLUS + or MINUS - icons framed in BLUE to raise or lower the slope values for each channel as needed.

**NOTE:** The slope values can also be adjusted interactively by measuring a sample with a known density for each color. The samples can be measured in any order and the corresponding values will be updated automatically.



C	1062	1.30	+
M	1000	0.00	-
Y	1000	0.00	
K	1000	0.00	



Pressing the **RED BUTTON** on the underside will reset to original 0.00 values and the change Slope will remain.

# Setting Absolute Zero

Press the **RED BUTTON** on the underside. Frame the ABS Icon and press ENTER to open the screen.

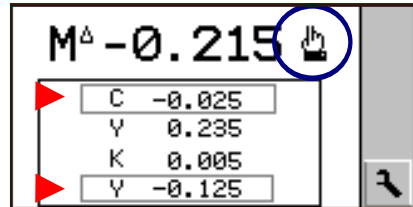


Measure white paper to display CMYK and corresponding minimum density values.

Measure the supplied **White Calibration Cap**. Frame the top arrow  and press ENTER to enlarge any minimum density number to be changed to agree with the values as marked. Press the **+ or -** Icon accordingly. Press the RETURN  icon and continue to the next function.

# Special Features


The Guide Pointer marked by a blue circle indicates that the density of the last measurement must be increased.



The operator must increase the ink feed to that zone. Subsequent density measurements are placed in the history stack as shown below.

Out of tolerance density values in the stack are surrounded by a gray rectangle as marked by red pointers. Dot gain measurements are marked in the same manner during measurement and when they are placed in the history stack. Gray balance measurements are not entered in the history stack but are displayed with the same technique.

# Changing Batteries

The S4 XPress is powered by 2- alkaline AA batteries. There are no cables or chargers or Ni-Cad batteries. As the batteries approach the end of their usable life span a low battery warning  will appear.

The S4 XPress will continue produce many accurate measurements, but the batteries should be replaced when convenient. Remove the bottom plate to access the battery compartment.

Note: Notice the polarity and replace as indicated. The customized settings will be unchanged.

## Technical Specifications

Illumination	Light Emitting Diodes, 45°/0° geometry
Aperture	3 mm (Optional 2 mm or 1mm)
Density Range	D 0.00 – 2.50
Percent	% 0 – 100
Measuring time	0.5 seconds
Graphical Display	160x80 Pixel, 4 gray scales
Repeatability D	+/- 0.01D, 0.2 E
Linearity %	+/- 1 %
Serial Interface	USB
Measurements per battery set	Over 500,000
Batteries	2 AA Alkaline 1.5 V
Filters	Status T [Status I/E/T Special Order]
Polarization filter	Optional
Dimensions	6.75x3x1.75in. 175x75x47mm
Operating condition	10°C to 40°C 10% to 80% relative humidity non-condensing
Storage conditions	-20°C to 60°C 10% to 90% relative humidity non-condensing

# Warranty and Contact Information

## Warranty

The complete instrument is covered for **THREE YEARS** against manufacturing defects for Parts and Labor.

The light source and filters are covered for **SEVEN YEARS** against failure and fading.

Warranty repairs or replacement will be performed on instruments shipped freight prepaid to our office.

Unlimited technical support is provided for the life of the instrument. Support calls are toll-free in the US and parts of Canada.

## Contact Information

Beta Industries  
707 Commercial Ave.,  
Carlstadt, NJ 07072 USA

Toll Free 800-272-7336

Tel 201-939-2400

Fax 201-939-7656

Email [info@betacreen.com](mailto:info@betacreen.com)

[www.betascreen.com](http://www.betascreen.com)



# “SEE IT, MEASURE IT, CONTROL IT”

**Beta Press Kits**, consisting of a **S4 XPress**, **Beta Color Viewer**, and a **Custom Color Bar** are designed to match your press specifications and offer a holistic solution for the control of printing problems.

The Beta Color Viewer is the world standard for viewing printing colors including seeing the nearly invisible yellow dots as small as  $\frac{1}{2}$  1% and 10-micron stochastic pixels. It also features a U.V. light source to detect the effects of fluorescence in inks and papers.

The heart of the Press Kit is a unique color bar that allows you to take full advantage of the advanced features of the S4 XPress due to the ability to automatically measure Density, Dot Gain, Trapping, and especially Gray Balance without changing programs or pressing buttons. This is the optimum combination of speed and precision.

If your S4 XPress was not ordered as a Press Kit, you can do so by calling Beta for details and a money saving offer.

**CUSTOMIZED EYE**  **SCAN COLOR BARS**

**FASTER MAKE READY**  **FASTER TURN AROUND**

**PRESS KITS**

**Densitometry for Objective Evaluation**

**Beta Press Kits**

**Beta Color Viewers for Subjective Evaluation**

# BetaStat QC04

Easy to use software program shows Density, Gray Balance, and Color Match on a colorful screen with unmistakable accuracy. Customer name, job info, measured data and statistical data are saved and recalled for future re-runs.

## NEW EYE SCAN Xpress



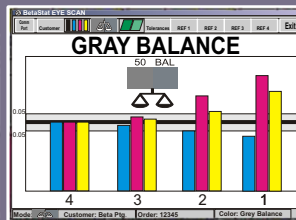
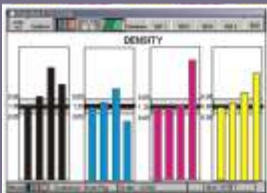
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MEASUREMENTS AT THE SPEED OF SIGHT  
Featuring Eye Scan Gray Balance and Your Eyes

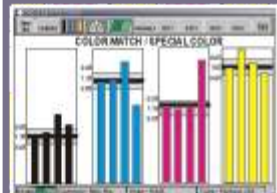


THE SPEED OF A SCANNER - THE COST OF A DENSITOMETER

DENSITY



COLOR MATCH



# PRINT CHARACTERIZATION CHART

Information generated from SNAP, GRACOL, SWOP and other industry groups.

## SUGGESTED Input Variables

## Output Print Characteristics

Paper/ Substrate	LPI= Line Screen	TAC= Total Area Coverage	SID= Solid Ink Density			PC= Print Contrast			TVI= Total Dot Gain at 50%					
			K	C	M	Y	K	C	M	Y	K	C	M	Y
Grades 1 and 2 premium gloss/dullcoated	175	320%	1.70	1.40	1.50	1.05	40-45	35-40	35-40	30-35	22	20	20	18
Grades 1 and 2 premium matte coated	150-175	300-320%	1.60	1.30	1.40	1.00	40-45	35-40	35-40	30-35	24	22	22	20
Premium text and cover (smooth)	150	260%	1.30	1.15	1.15	0.90	35-45	30-40	30-40	25-35	26	22	22	20
Grade #3 coated	150	310%	1.65	1.35	1.45	1.02	45	40	40	35	22	21	22	18
Grade #5 coated (SWOP)	133	300%	1.60	1.30	1.40	1.00	40	35	35	30	24	22	22	20
Supercal SCA	133	240-260%	1.50	1.25	1.35	0.98	23	21	21	20	28	26	26	24
Supercal SCB/SCC	120	240-260%	1.35	1.10	1.15	0.95	20	19	19	18	28	26	26	24
Uncoated offset	110	240-260%	1.25	1.00	1.12	0.95	20	17	16	17	28	26	26	24
Newsprint (SNAP offset)	85	240%	1.05	0.90	0.90	0.85	16	13	12	15	30	30	30	30
Newsprint (heat set)	100	240%	1.20	1.08	1.15	0.95	16	13	12	15	35	32	32	30

