



Color Sensor CS -1

Color Management Tool

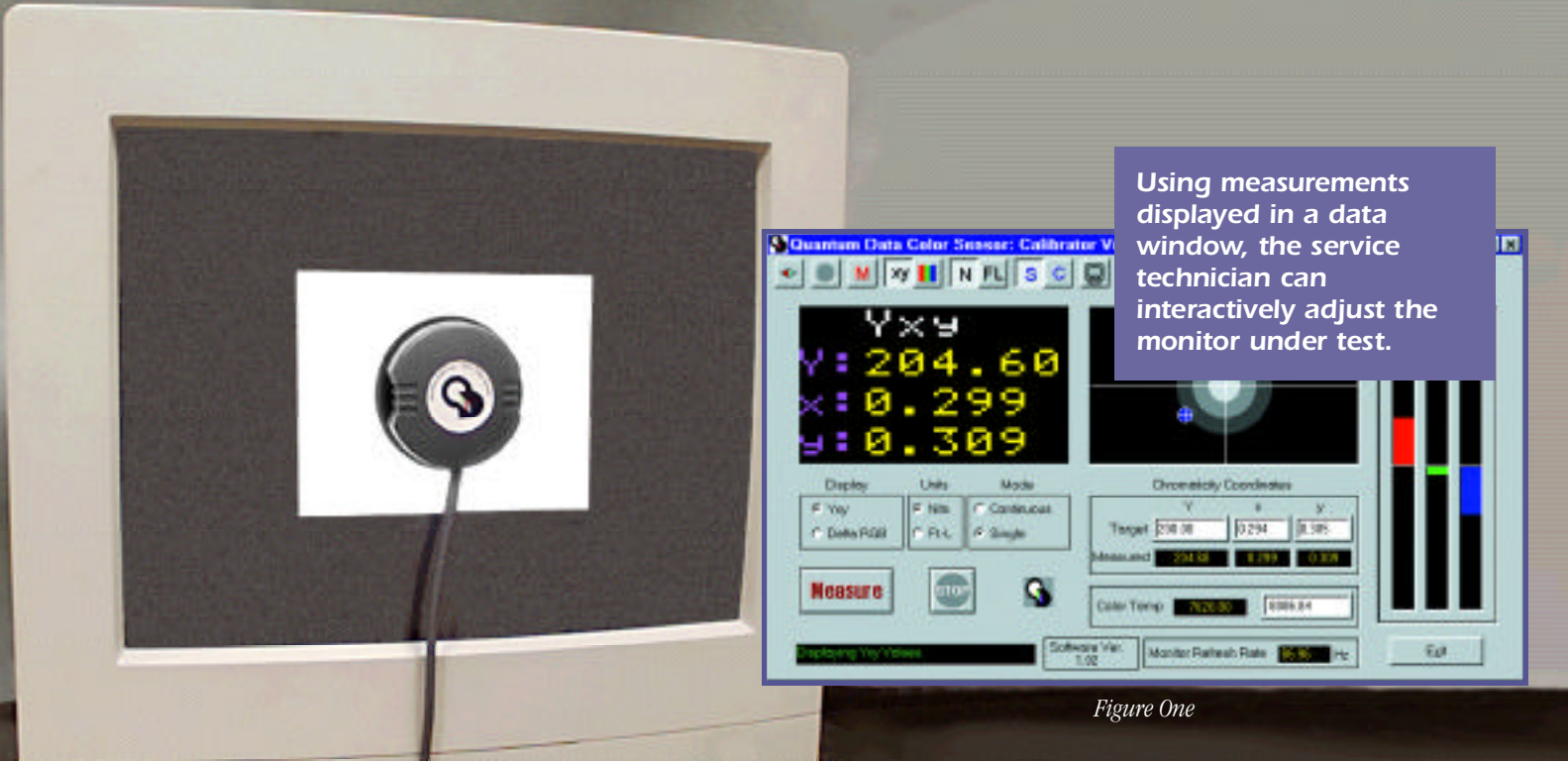


Figure One

Measure the color and light output of a monitor to do a white balance alignment by using the CS-1 Color Sensor in conjunction with Quantum Data's VGM color measurement software (included).

The RGB sensor provides interactive adjustment of the object monitor. The sensor package, called a "pod," attaches to the monitor by means of a suction cup, and connects to your PC via a serial port.

- **Color and light** output of a color monitor are measured to do a white balance alignment. (Figure One)
- **Color measurements** may be displayed in C.I.E. Yxy chromaticity values or RGB offset (Delta RGB). (Figure Two)
- **Color temperature** is continually updated for comparison to target value.
- **Monitor refresh rate** is also measured and displayed.
- **Color sensor** measures and compares, allowing the operator to interactively adjust. (Figure Three)
- **Measurements** and adjustments are viewed on a single screen display.
- **A monochrome mode** provides adjustment on single color monitors. (Figure Four on reverse side)
- **The sensor pod** attaches to the monitor for measurement by means of an integral suction cup.
- **The sensor pod** connects to the serial port of the computer while the monitor under test is connected to Quantum Data's video card via the video connector.
- **A MS-Windows® 95/98, NT User Interface** for operation and programming uses a virtual control panel and your mouse in conjunction with the current version 2.11 release of the 32 bit VGM software (included).
- **DOS library** is available.



Figure Two:
Measurements taken by the sensor pod are displayed in the data display area according to preferences selected in the Settings panel.

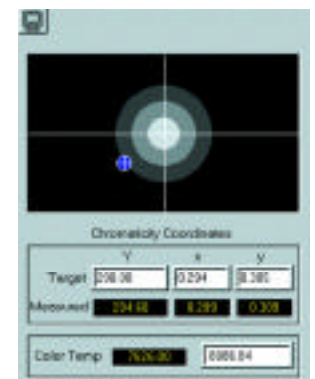


Figure Three:
The Target Value fields allow the operator to enter the final values desired for the unit and then interactively adjust until the cursor is centered in the target.



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Software supplied with the CS-1 Color Sensor presents screens shown in Figures Four and Five below. Each screen consists of a measurement display area, a CIE plot, a settings panel, and a target value panel. These panels provide the following functions and operations:

1. Data Display

Measurements taken by the Sensor pod are displayed in the data display area according to preferences selected in the Settings panel. The display consists of Yxy, or RGB offsets (Delta RGB), or monochrome. Color temperature is displayed below the target and measurement area. (Figure Four) The Delta RGB mode (Figure Five) displays three lines of data where each line represents the difference of the actual monitor display from the red/green/blue values entered in the **Target Value** data.



Figure Four



Figure Five

2. Target Value

The **Target Value** fields allow the operator to enter the final values desired for adjustment. These values serve two purposes:

- a. the values are used to display the target point on the CIE plot, and
- b. in "Delta RGB" mode, the values are used to calculate the difference of the actual measurement from the desired adjustment value. (Figure Six)

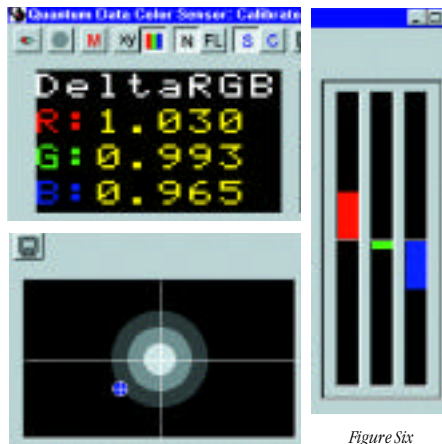


Figure Six

3. CIE Plot

The CIE plot provides a unique way to view the process of the monitor adjustment. The data from the **Target Value** field is used to plot the coordinates (noted by the solid dot) of the values to which the monitor is being adjusted. As monitor adjustments are made, the measured value shown by the solid dot moves into the target area. (Figure Six)

4. Settings Panel

The Settings Panel (underneath the data display – Figure Seven) allows selection of preferences for the measurements as follows:

- a. Display - Select display of measurement data in Yxy units or in Delta RGB units.
- b. Mode - Select continuous measurement or single reading.
- c. Units - Select units for display of luminance measurements, either "nits" (candela/m²) or foot lamberts.

The selections of the Settings panel are tested prior to making the next measurement and are effective for the next measurement.



Figure Seven

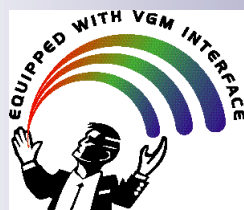
5. Specifications

	RGB pod
Color	x,y: ± .002
Repeatability	± .3% ± 1 digit
Luminance	.05-150 ft-lamberts
Screen Refresh	30hz-120hz
Speed	250 ms for three channels of data

6. System Requirements

PC compatible computer with 486 or better, running MS DOS, Windows 95/98, or NT.

1.0M 12/98 Barnaby



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