



When image experience matters.

Color Sensor Calibration Tool

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Introducing Color Sensor Calibration Tool

- Optimally calibrates the Auto Color Balance sensors in a Planar DLP video wall
- Fine-tunes for the particular video wall, the calibrations that were done in the factory
- Should be used as a final installation step for any new Planar video wall in order to get the best Auto Color Balance performance
- Should also be used on a wall following an engine replacement
- Should be used to measure color balance when a customer suspects that their ACB is not adequately calibrated

What is the Color Sensor Calibration Tool?

- Combination of light meter and software for the Measurement and Color Sensor Calibration of Planar rear projection display walls.



What is the Color Sensor Calibration Tool?

- MEASUREMENT function
 - The program leads the user through measurements of each defined display using the provided light meter
 - Either predetermined or user-defined color sequences
 - Records the measurements to file
 - Analysis performed and provided for White, Red, Green and Blue

What is the Color Sensor Calibration Tool?

- COLOR SENSOR CALIBRATION
 - Leads the user through measurement and calibration steps for units in a Planar display wall
 - Can be applied to RX, RP, SP and Margay II series products
 - Records all calibration details to file for future reference, or for reverting to the previous calibration.

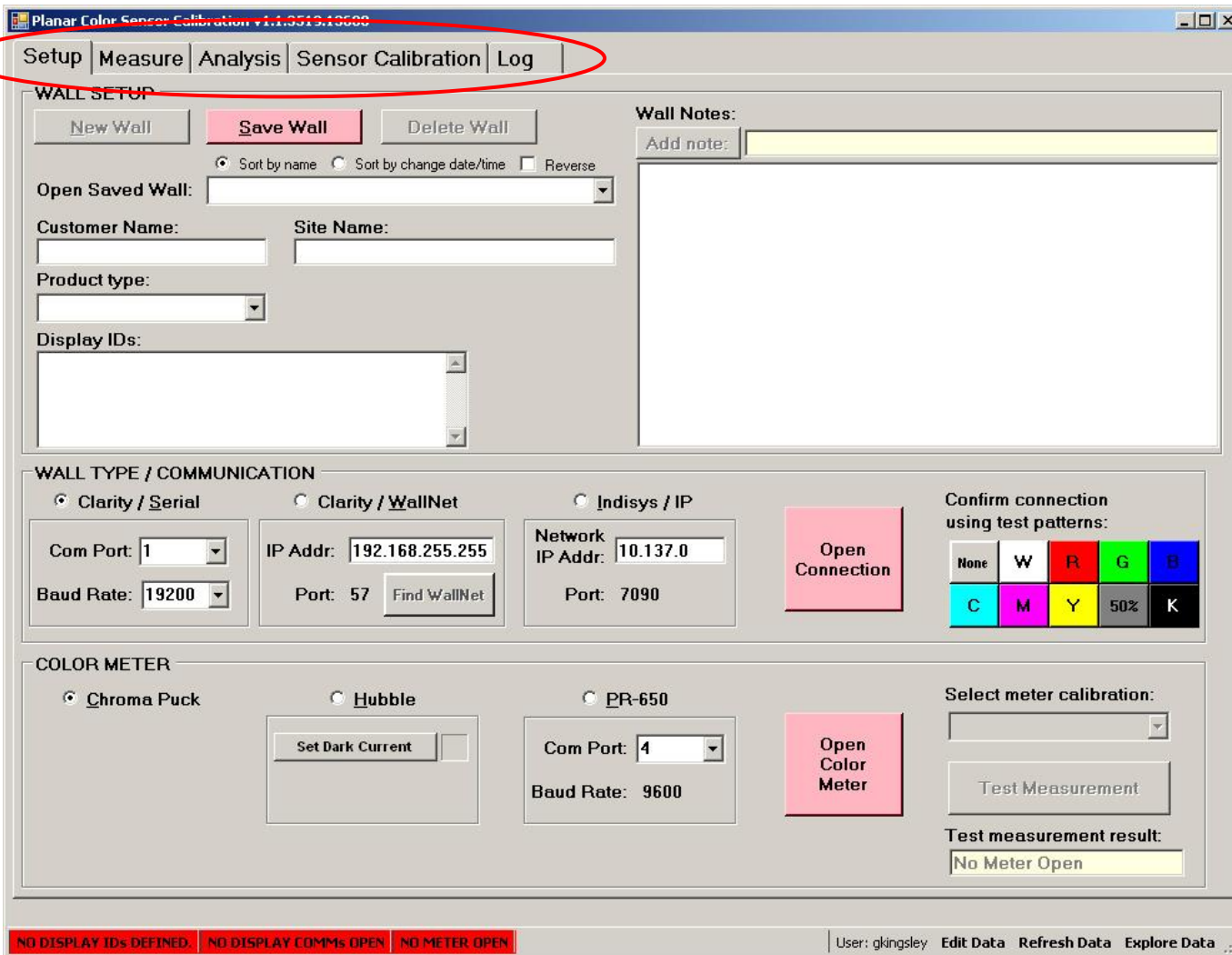
What is the Color Sensor Calibration Tool?

- Included in the kit:
 - USB Light meter (“reference meter”)
 - Presentation controller (for measurement start without needing to be next to computer)
 - USB extension cable
 - USB flash drive with software, drivers, and ReadMe.txt
 - Manual (also in PDF on the flash drive)



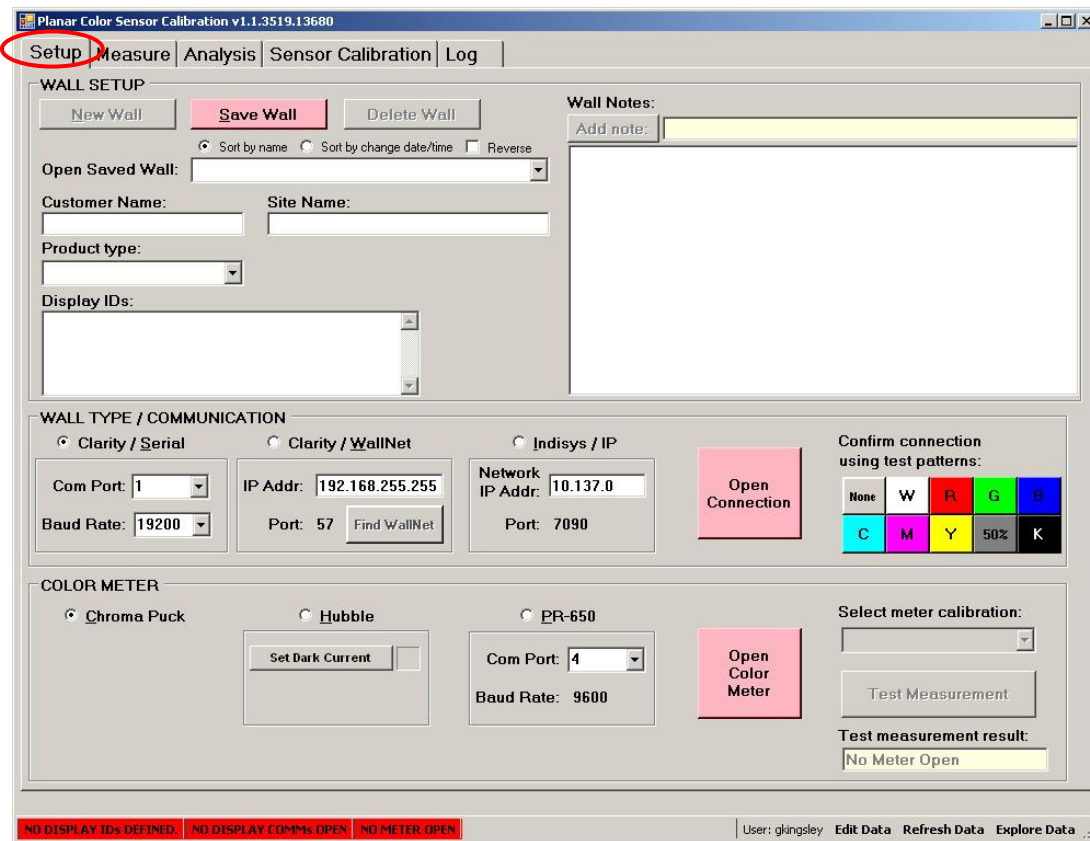
A Quick Overview

Five program tabs, five distinct functions



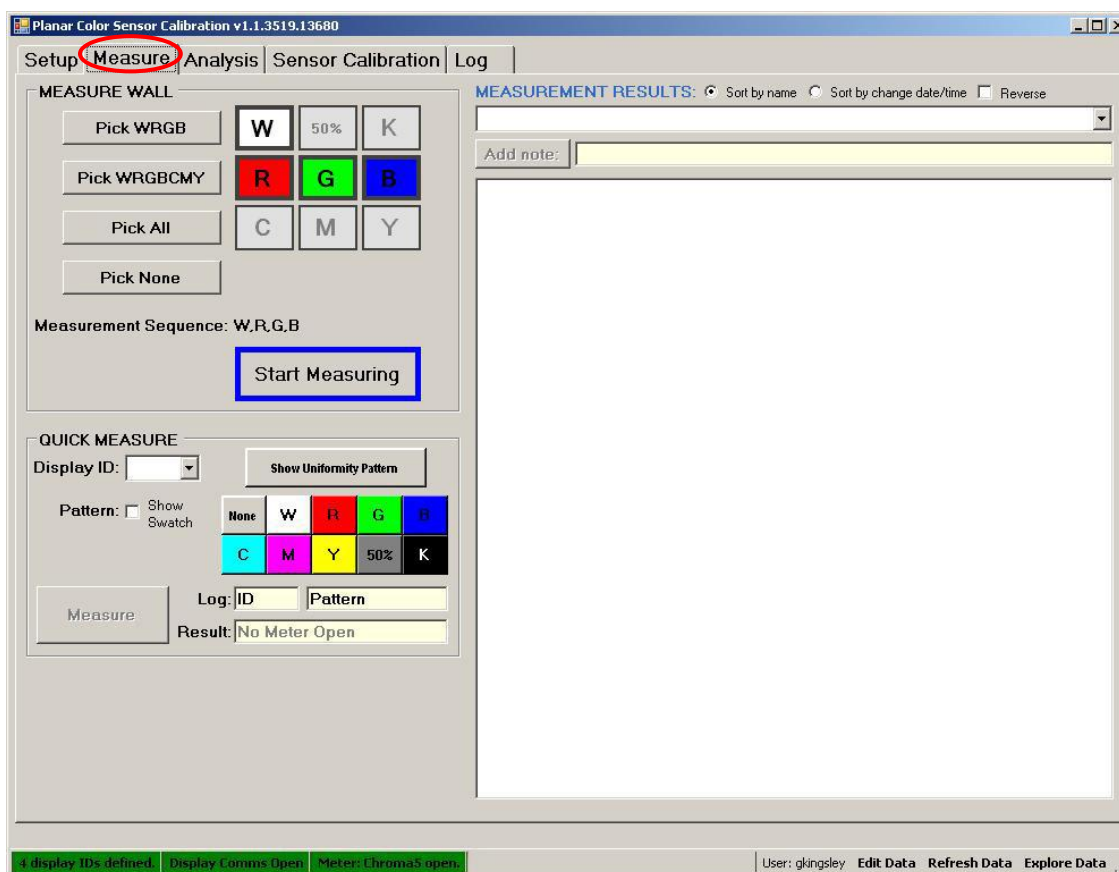
Setup tab

- Configures and connects the program to the Planar display wall, and to the light meter



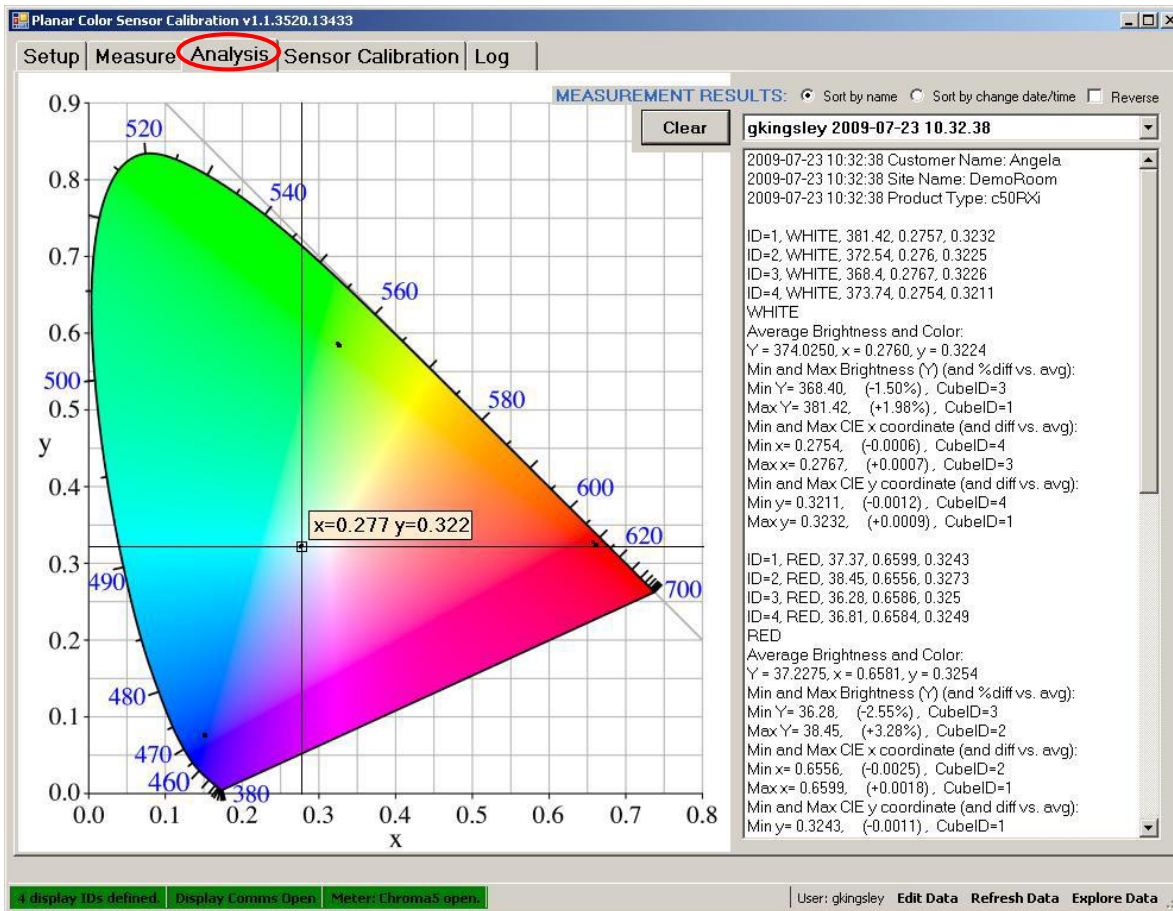
Measure tab

- Measures color on each display and records results to file.
- Color sequence is configurable. WRGB (default) is most common.



Analysis tab

- Chart shows measurements graphically, text gives min/max/average analysis of WRGB.



Sensor Calibration

- Leads a calibration sequence for color sensors in the defined displays.

Planar Color Sensor Calibration v1.1.3520.13433

Setup | Measure | Analysis | **Sensor Calibration** | Log

Display ID: All

Start Sensor Calibration

Revert Sensor Calibration

CALIBRATION RESULTS: Sort by name Sort by change date/time Reverse

- Angela DemoRoom gkingsley 2009-07-23 10.14.01
- test test1 gkingsley 2009-07-28 10.31.58
- Angela DemoRoom gkingsley 2009-07-23 10.18.55
- Angela DemoRoom gkingsley 2009-07-23 10.17.52
- Angela DemoRoom gkingsley 2009-07-23 10.17.29
- Angela DemoRoom gkingsley 2009-07-23 10.14.01
- Angela DemoRoom gkingsley 2009-07-23 10.13.19
- Angela DemoRoom gkingsley 2009-07-23 10.10.59
- Angela DemoRoom gkingsley 2009-07-23 09.58.09

2009-07-23 10:14:01 CSB RGB Matrix ID= 2 Rainier 0.04034068 -0.001270883 -0.001893534 0.002080094 0.0172

2009-07-23 10:14:01 CSB RGB Matrix ID= 1 Rainier 0.03403348 -0.0009827021 -0.002690474 0.001750841 0.0156

2009-07-23 10:14:08 REF COLOR MEAS ID= 4 WHITE Yxy= 482.67 0.2805 0.3329

2009-07-23 10:14:13 REF COLOR MEAS ID= 4 RED Yxy= 52.74 0.6602 0.3244

2009-07-23 10:14:19 REF COLOR MEAS ID= 4 GREEN Yxy= 315.13 0.3215 0.6112

2009-07-23 10:14:23 REF COLOR MEAS ID= 4 BLUE Yxy= 35.96 0.1431 0.0683

2009-07-23 10:14:30 CSB FREQ MEAS ID= 4 WHITE 10232 1799 28078 9221

2009-07-23 10:14:38 CSB FREQ MEAS ID= 4 RED 3528 29 3161 47

2009-07-23 10:14:46 CSB FREQ MEAS ID= 4 GREEN 6254 45 22035 650

2009-07-23 10:14:54 CSB FREQ MEAS ID= 4 BLUE 460 1728 2897 8519

2009-07-23 10:14:54 Calculated RGB Matrix ID= 4 Rainier 0.03125842 -0.001369488 -0.002935153 0.002798527

2009-07-23 10:15:01 Final Color MEAS ID= 4 WHITE Yxy= 403.41 0.2891 0.3350

2009-07-23 10:15:09 Final Color MEAS ID= 4 RED Yxy= 52.71 0.6604 0.3245

REFERENCE COLORS:

	Y	x	y
White			
Red			
Green			
Blue			

CSB RAW DATA:

	x1	x2	y	z
W				
R				
G				
B				

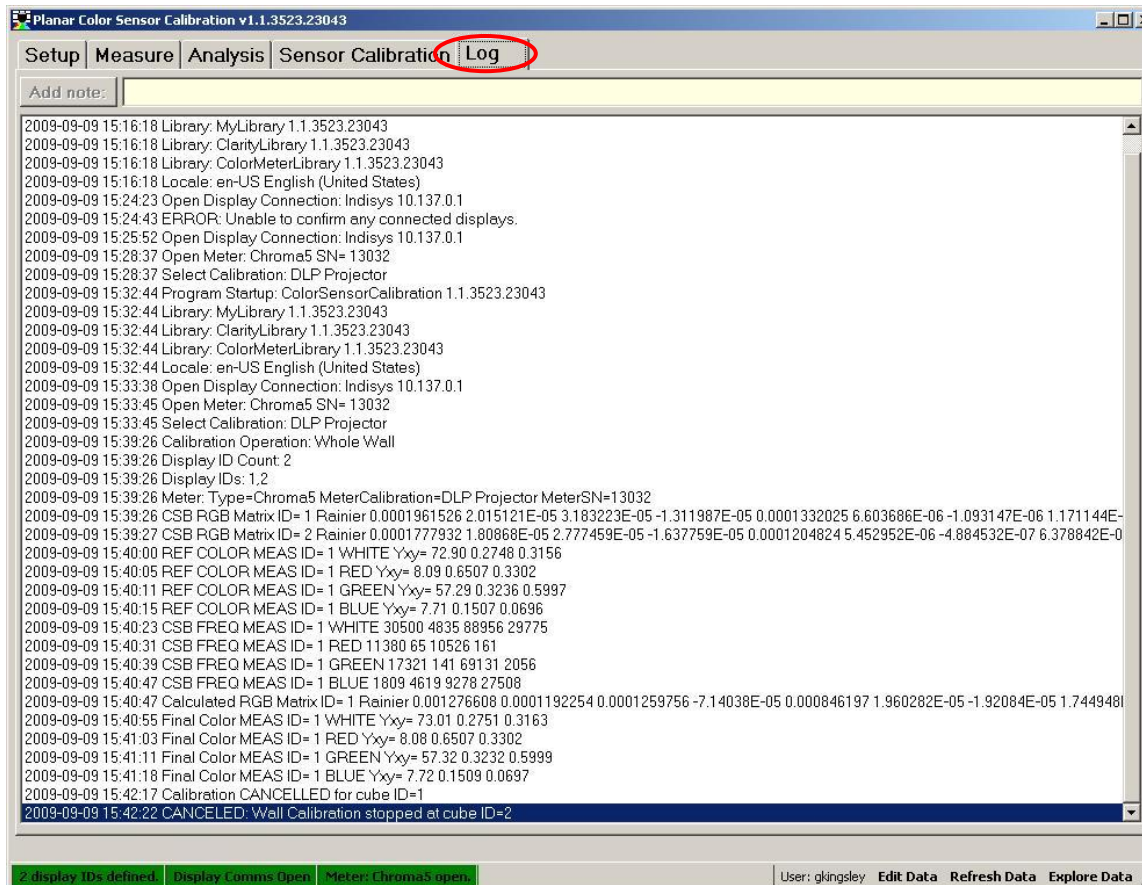
CSB FINAL COLORS:

	Y	x	y
W			
R			
G			
B			

3 display IDs defined | Display Comms Open | Meter: ChromaS open | User: gkingsley | Edit Data | Refresh Data | Explore Data

Log tab

- Displays a record of every action taken by the program on the current day. (For diagnostic purposes)



DATA folder, created at program startup

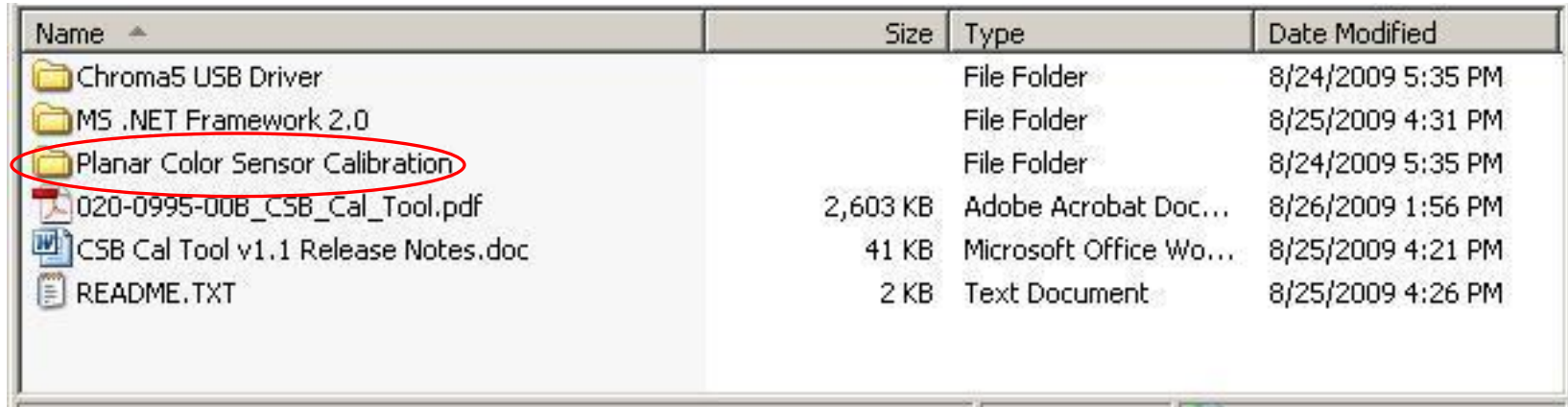
- Sub-folder of the program .EXE location (=> program folder must be writeable)
- All setup, measurement, calibration, and log files are stored here
- File names are made to be able to copy files to other users with no “collisions”.
- File format is CSV text – generally readable/editable if necessary.
- If we ask you to send data, just zip up the whole Data folder.



Installing the software

Installing the software –(also found in README.TXT)

- Contents of the USB flash drive:

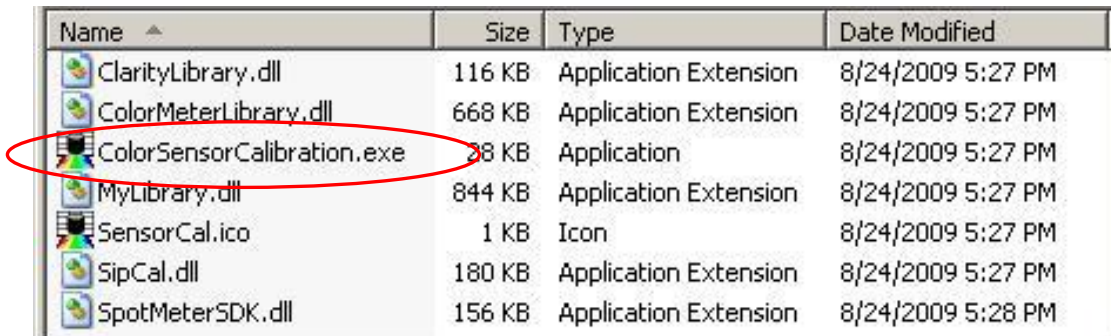


Name	Size	Type	Date Modified
Chroma5 USB Driver		File Folder	8/24/2009 5:35 PM
MS .NET Framework 2.0		File Folder	8/25/2009 4:31 PM
Planar Color Sensor Calibration		File Folder	8/24/2009 5:35 PM
020-0995-00B_CSB_Cal_Tool.pdf	2,603 KB	Adobe Acrobat Doc...	8/26/2009 1:56 PM
CSB Cal Tool v1.1 Release Notes.doc	41 KB	Microsoft Office Wo...	8/25/2009 4:21 PM
README.TXT	2 KB	Text Document	8/25/2009 4:26 PM

1. Copy the “Planar Color Sensor Calibration” folder to your C:\Program Files\ folder (or D:\Program Files\, or whatever drive and folder your programs are normally installed on).

Installing the software

2. Double click the C:\Program Files\Planar Color Sensor Calibration\ColorSensorCalibration.exe application program file.



Name	Size	Type	Date Modified
ClarityLibrary.dll	116 KB	Application Extension	8/24/2009 5:27 PM
ColorMeterLibrary.dll	668 KB	Application Extension	8/24/2009 5:27 PM
ColorSensorCalibration.exe	28 KB	Application	8/24/2009 5:27 PM
MyLibrary.dll	844 KB	Application Extension	8/24/2009 5:27 PM
SensorCal.ico	1 KB	Icon	8/24/2009 5:27 PM
SipCal.dll	180 KB	Application Extension	8/24/2009 5:27 PM
SpotMeterSDK.dll	156 KB	Application Extension	8/24/2009 5:28 PM

Installing the software

3. Planar Color Sensor Calibration requires Microsoft .NET Framework 2.0. If the Planar Color Sensor Calibration program does not launch, then use the included installer to install the .NET Framework 2.0, or download and install the .NET Framework 2.0 according to your organization's IT policies.
4. When you first plug in the USB reference color meter, you must install the drivers by directing the Found New Hardware Wizard to search in a specific location, and browse to include the "Chroma5 USB Driver" folder in the search.

A note on operating systems

- Windows XP 32-bit is the only validated operating system for the Planar Color Sensor Calibration program.
- Other Windows versions (NT, Vista, Windows 7) may be compatible provided the .NET Framework 2.0 is installed, but these have not been validated. 64-bit versions of Windows are not supported in this release.



Using the tool -- Setup

Using the tool--Setup

- Run the program, navigate to the Setup tab
- Enter the Customer Name, Site Name, Product type, and the Display IDs for the display wall to be measured or calibrated.

- Click "Save Wall"

Note:

Display IDs can be entered in any order.

(e.g. 1, 5, 9, 2, 6, 10...)

This order will then be followed by the Measure and Sensor Calibration routines.

Planar Color Sensor Calibration v1.1.3519.13680

Setup | Measure | Analysis | Sensor Calibration | Log

WALL SETUP

New Wall Save Wall Delete Wall

Sort by name Sort by change date/time Reverse

Open Saved Wall: [Dropdown]

Customer Name: [Text] Site Name: [Text]

Product type: [Dropdown]

Display IDs: [List Box]

WALL TYPE / COMMUNICATION

Clarity / Serial Clarity / WallNet Indisys / IP

Com Port: 1 IP Addr: 192.168.255.255 Network IP Addr: 10.137.0

Baud Rate: 19200 Port: 57 Find WallNet Port: 7090

Open Connection

Confirm connection using test patterns:

None	W	R	G	B
C	M	Y	50%	K

COLOR METER

Chroma Puck Hubble PR-650

Set Dark Current [Checkbox]

Com Port: 4 Baud Rate: 9600

Open Color Meter

Select meter calibration: [Dropdown]

Test Measurement [Button]

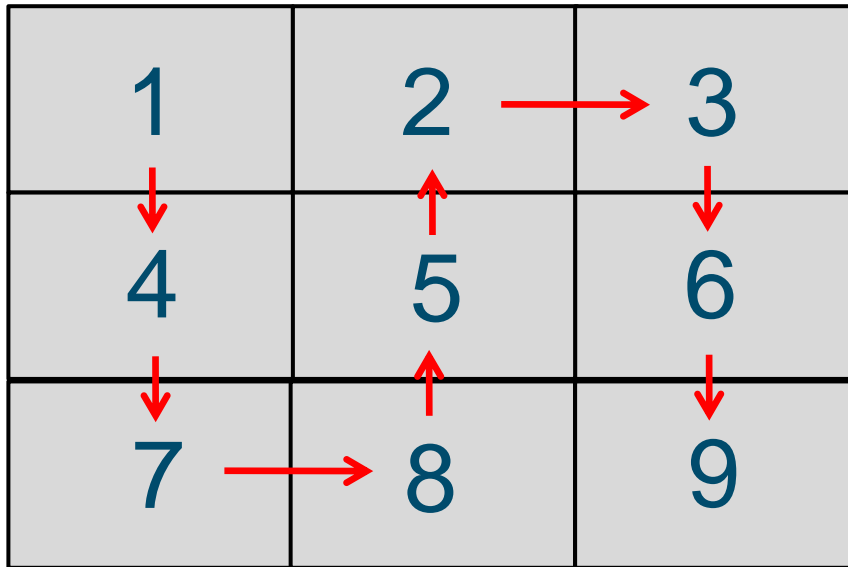
Test measurement result: No Meter Open

NO DISPLAY IDs DEFINED NO DISPLAY COMMS OPEN NO METER OPEN

User: gkingstey Edit Data Refresh Data Explore Data

Using the tool--Setup

- The order that Display IDs are entered can assist the process flow for taking measurements

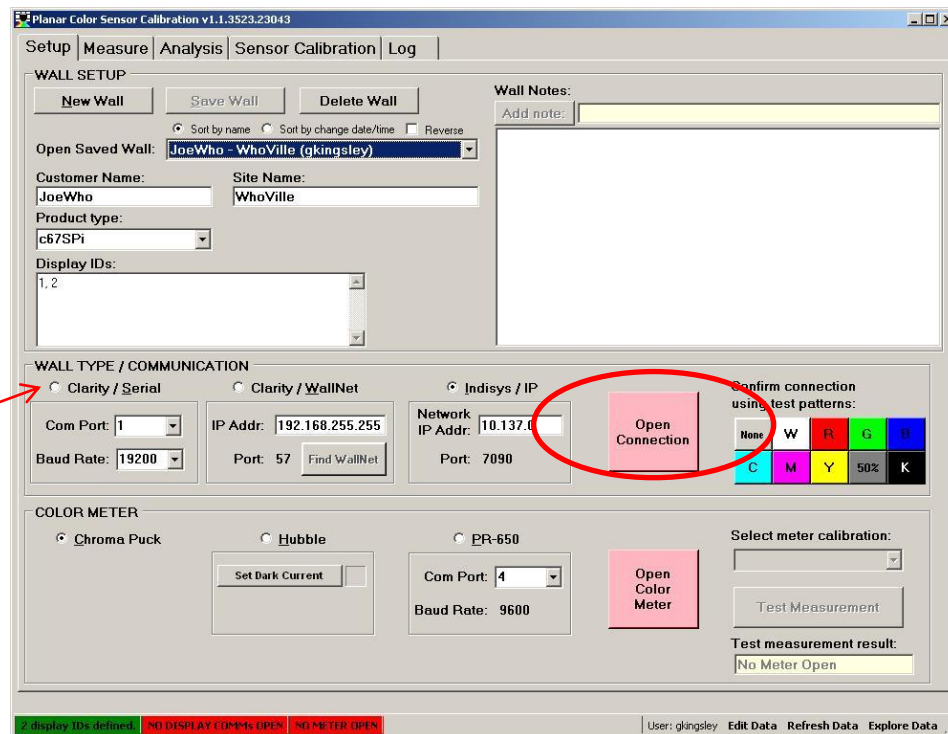


e.g. 3x3 display wall

As an example, if the measurement or calibration order shown at the left is desired, the Display IDs could be entered in the order:
1, 4, 7, 8, 5, 2, 3, 6, 9

Using the tool--Setup

- Choose which connection type is appropriate for the display wall. (Clarity/Serial, Clarity/Wallnet, or Indisys/IP)
- Click “Open Connection”



Using the tool -- Setup

- Note: The Clarity/Wallnet connection is only functional for Measurement. It will not work for Sensor Calibration

WALL TYPE / COMMUNICATION

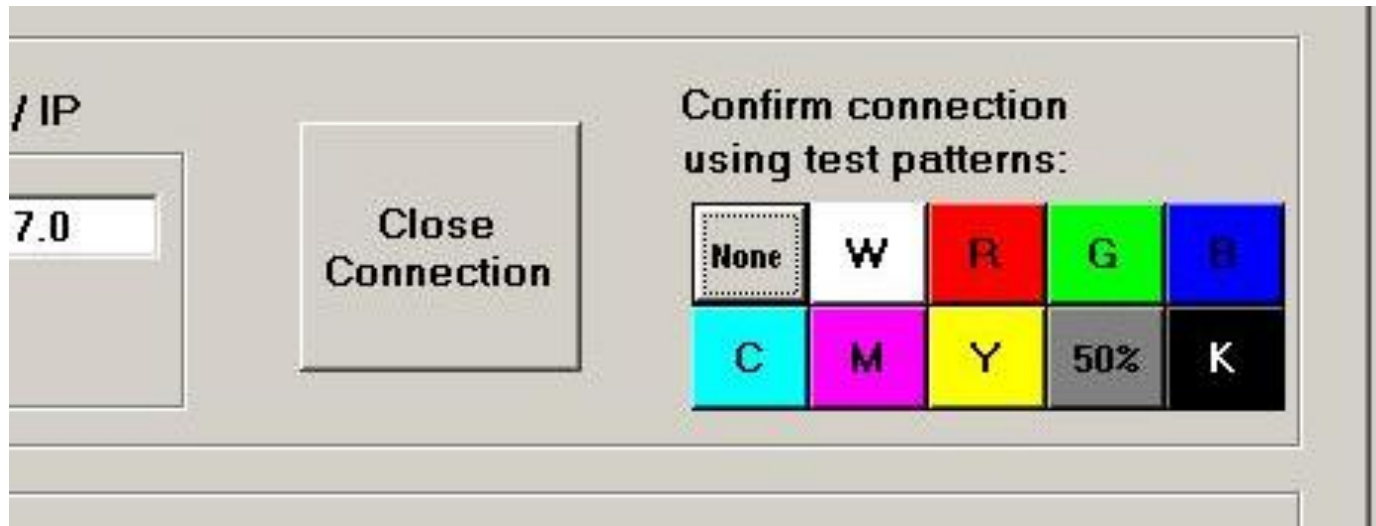
Clarity / Serial Clarity / WallNet Indisys / IP

Com Port: 1 IP Addr: 192.168.255.255 Network IP Addr: 10.137.0

Baud Rate: 19200 Port: 57 Find WallNet Port: 7090

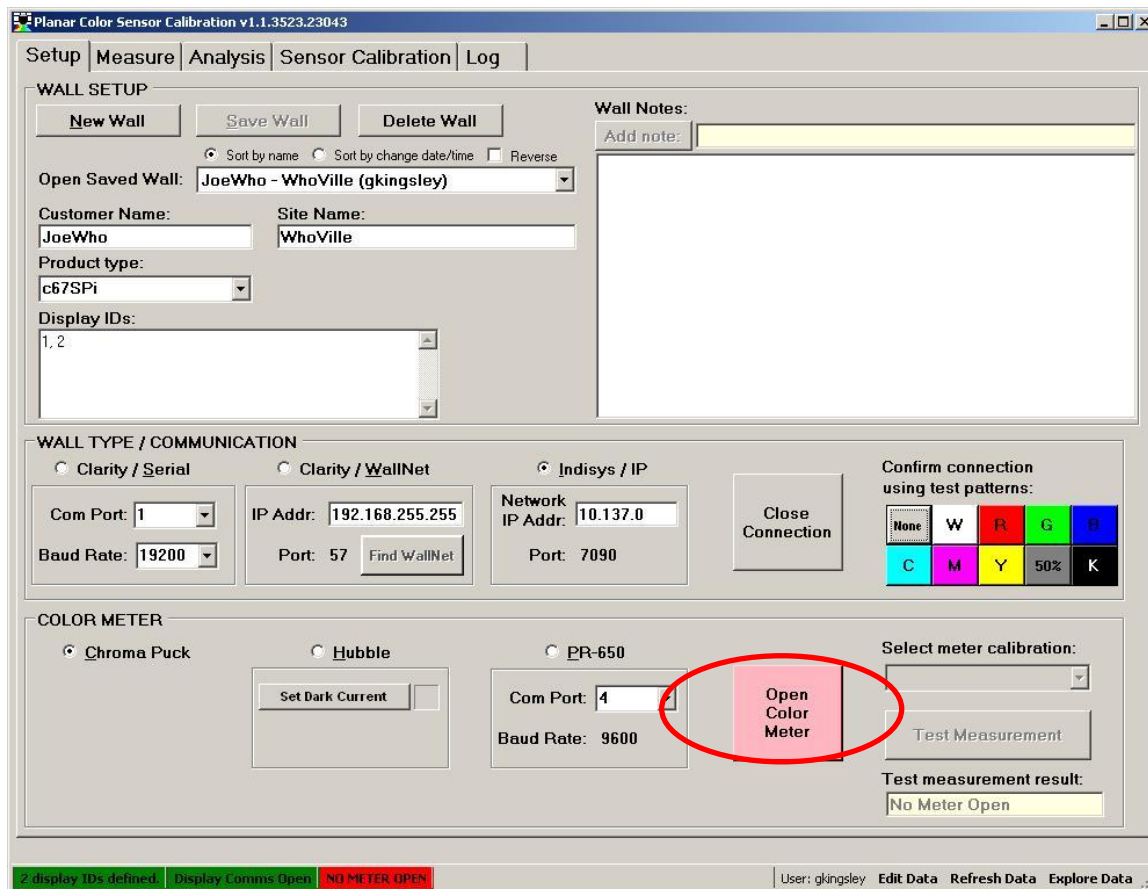
Using the tool -- Setup

- Notice the colored buttons at the right. These can be used to test the opened connections by bringing up test patterns on the displays listed under Display IDs.



Using the tool -- Setup

- With light meter attached to USB connection, click "Open Color Meter" The provided light meter is a "Chroma puck"



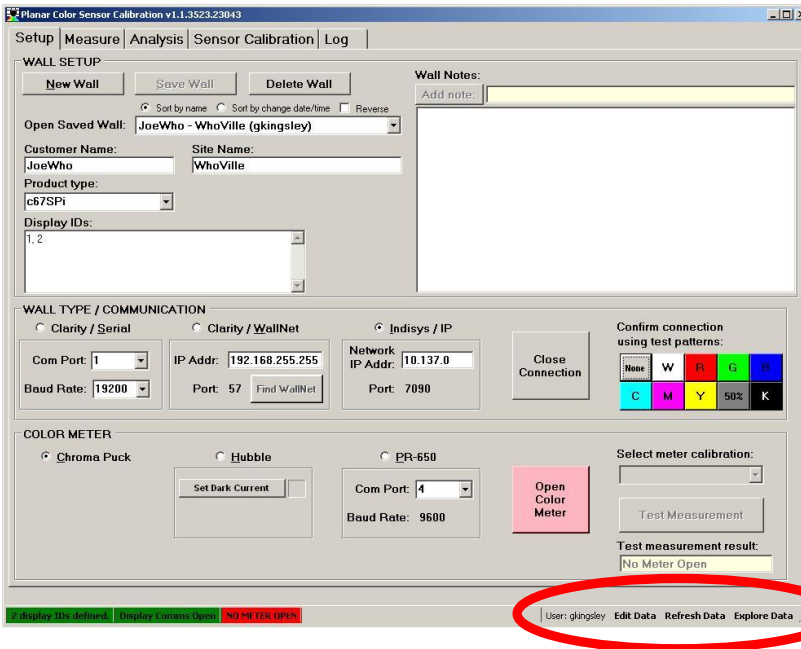
Using the tool -- Setup

- Status indicators (at bottom left of all program windows) run green when IDs, comms, and meter are good to go.
- Comms and meter indicators can be double-clicked to open/close the connection from any program tab.



Using the tool--Edit, Refresh, and Explore Data buttons

- The Edit Data, Refresh Data, and Explore Data fields at the bottom right corner of the program window are not labels, but buttons that operate on the file listed in the dropdown box above.



Using the tool--Edit, Refresh, and Explore Data buttons

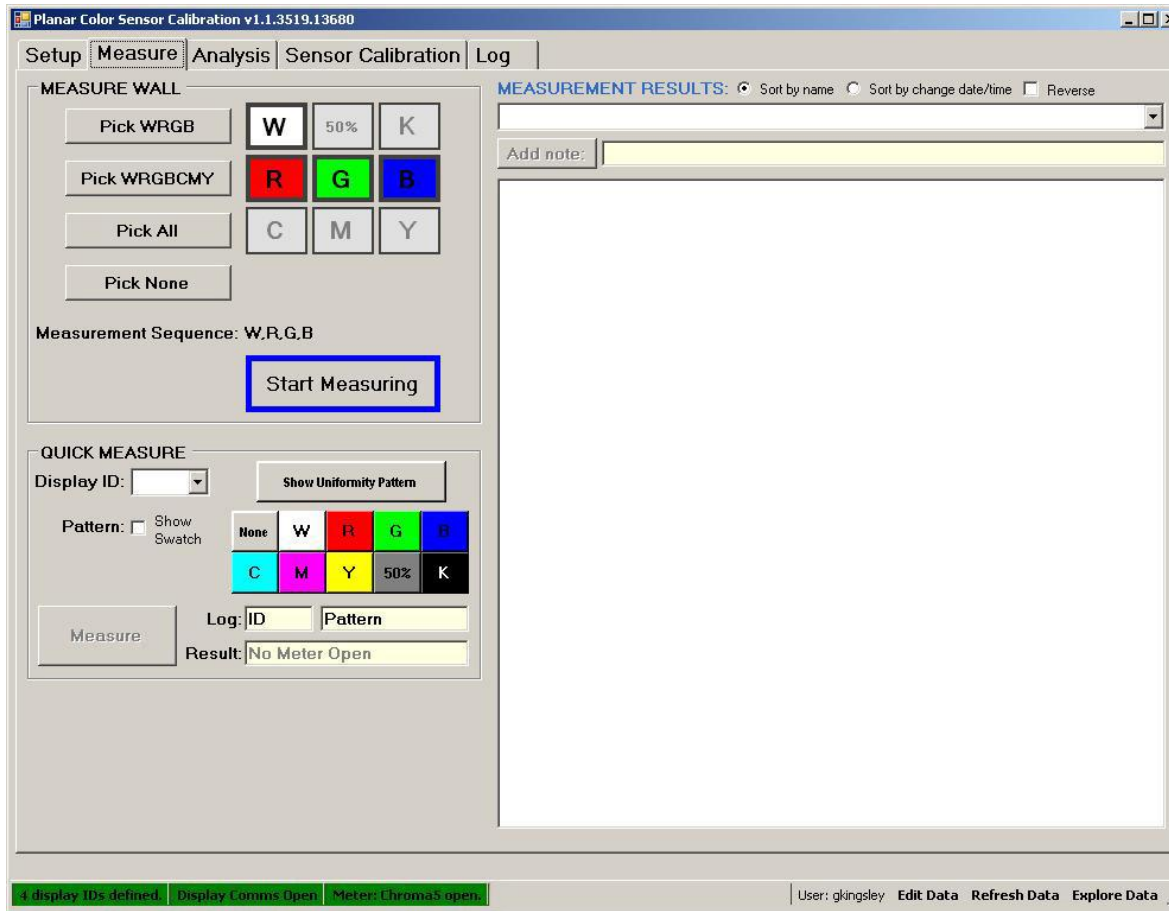
- On each program tab (Setup, Measure, Analysis and Sensor Calibration) the currently selected file in the dropdown box will be effected in the following way:
 - “Edit Data” will open the associated file in an Excel window
 - “Refresh Data” refreshes the dropdown list with the latest file info from the Data folder
 - “Explore Data” opens a Windows Explorer window of the Data folder

Edit Data Refresh Data Explore Data



Using the tool, Wall Measurement

Using the tool – Wall Measurement



Using the tool – Wall Measurement

MEASURE WALL

Pick WRGB W 50% K

Pick WRGBCMY R G B

Pick All C M Y

Pick None

Measurement Sequence: W,R,G,B

Start Measuring

QUICK MEASURE

Display ID:

Show Uniformity Pattern

Pattern: Show Swatch

None	W	R	G	B
C	M	Y	50%	K

Log: ID Pattern

Result: No Meter Open

Measure

- The “Quick Measure” section allows a single measurement using the light meter. Display ID selection and test pattern buttons are provided for convenience

Using the tool – Wall Measurement

MEASURE WALL

Pick WRGB

Pick WRGBCMY

Pick All

Pick None

Measurement Sequence: W,R,G,B

Start Measuring

QUICK MEASURE

Display ID:

Show Uniformity Pattern

Pattern: Show Switch

None W R G B

C M Y 50% K

Log: ID Pattern

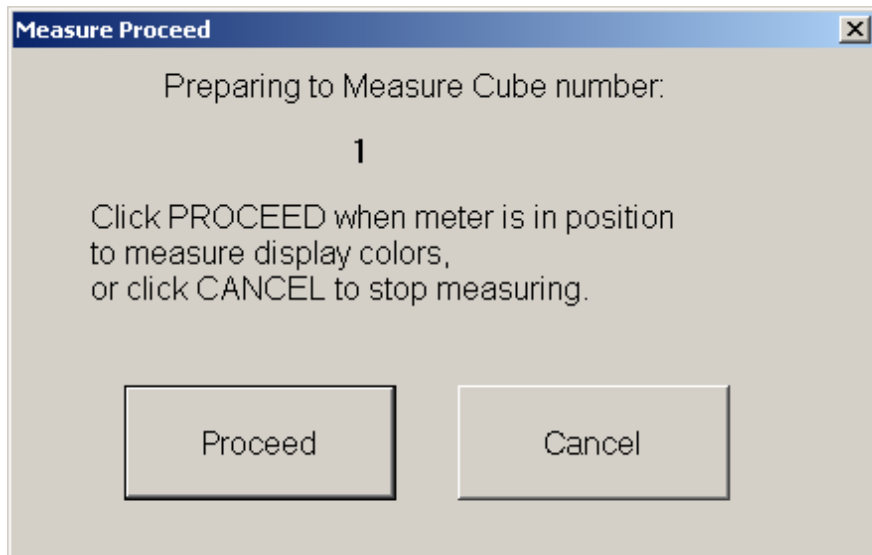
Result: No Meter Open

Measure

- The “Measure Wall” section leads a sequence that measures the selected colors on every display, in the order they are defined on the Setup page.
- Preset color combinations are provided by clicking the buttons on the left. User defined combinations can be chosen by clicking the color buttons directly.
- Click “Start Measuring” to measure the displays.

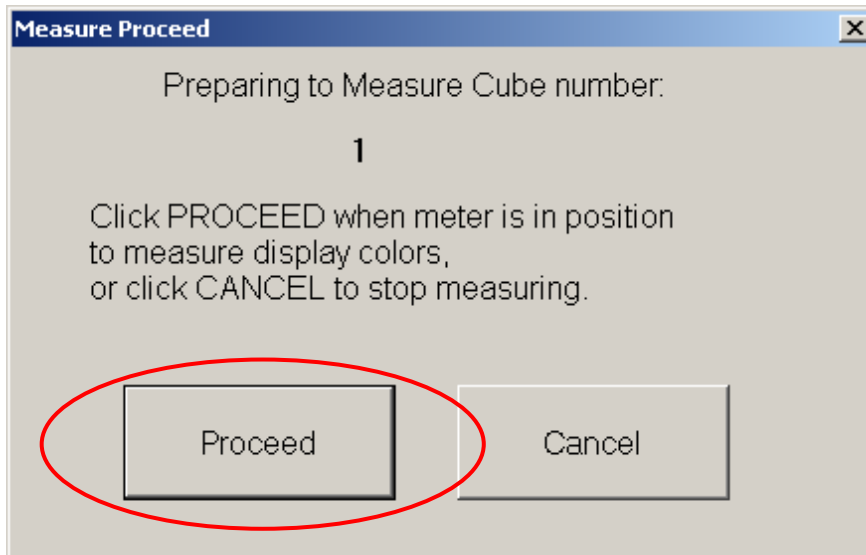
Using the tool—Wall Measurement

- A popup window appears, and the first display to be measured will display a cross pattern (Integrated) or a uniformity test pattern (Open systems). This is meant to help locate the center of the screen for measurement.



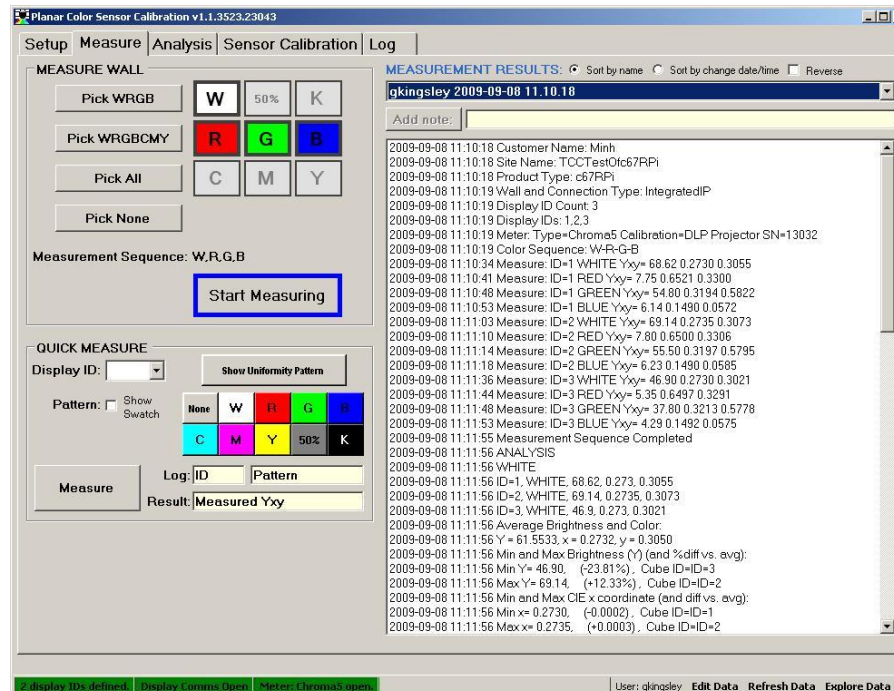
Using the tool—Wall Measurement

- Either click the Proceed button, or use the right arrow on the provided presentation controller to start the measurement. (See User's Manual for presentation controller installation instructions.)



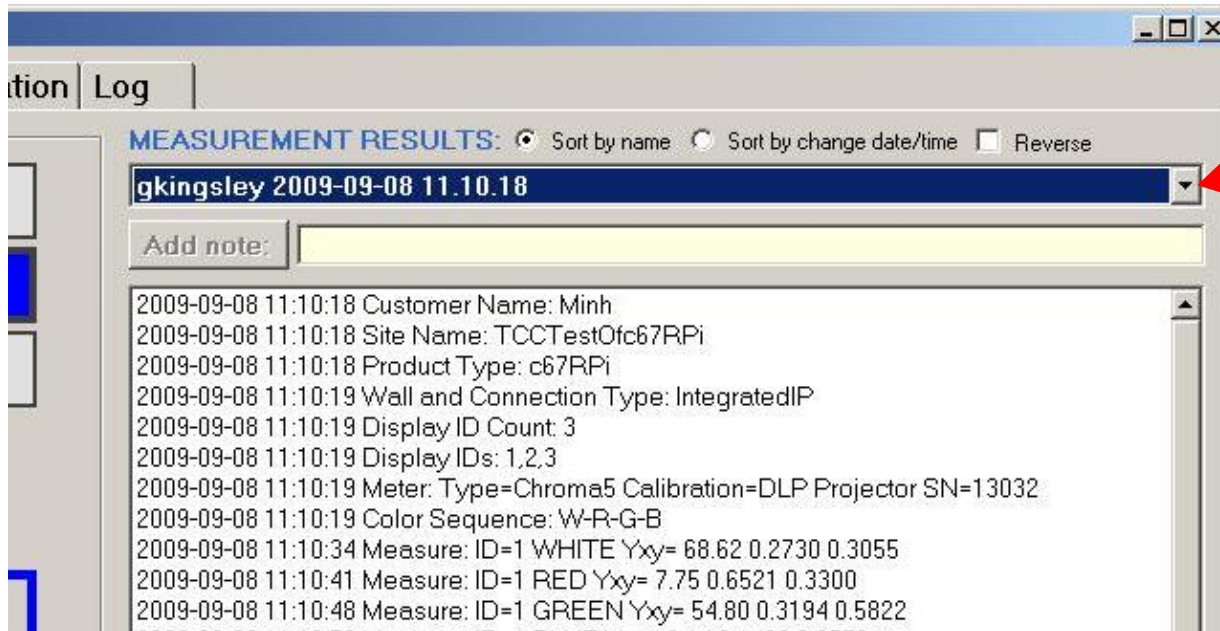
Using the tool—Wall Measurement

- The display cycles through the colors, the light meter measures, and its colors record to a WallMeasurement file, also listed in the right of the program window. Analysis of W, R, G, and B computes and is added to the bottom of the file.



Using the tool—Wall Measurement

- To view data from a previously stored WallMeasurement file, use the dropdown list at upper right

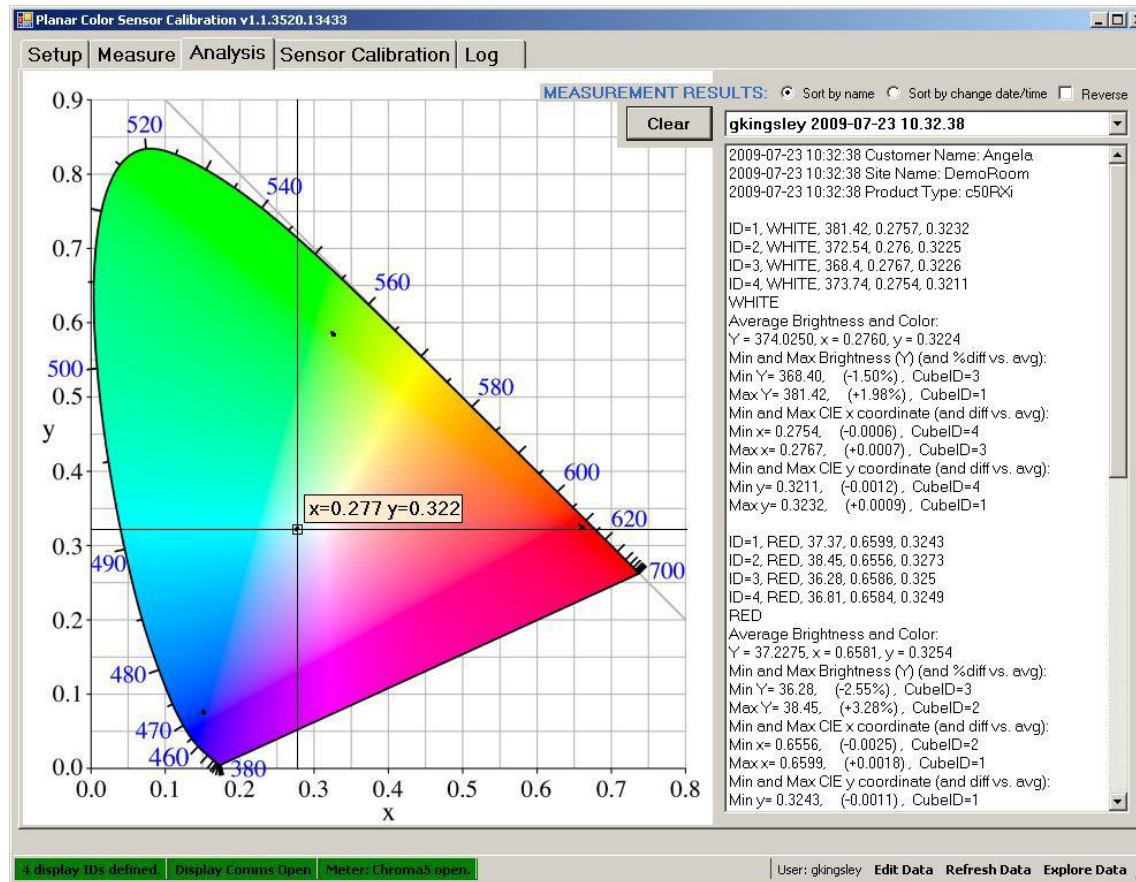




Using the tool, Wall Measurement Analysis

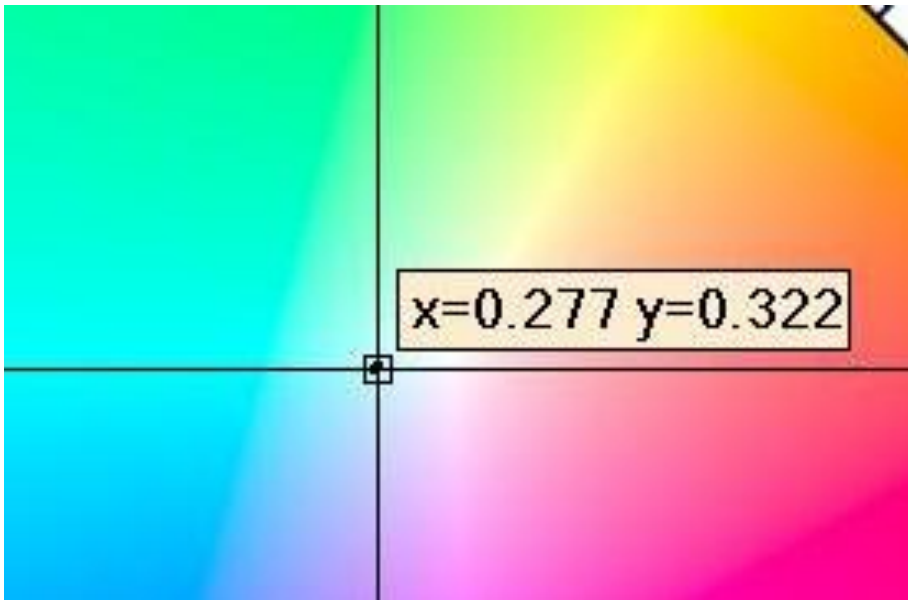
Using the tool—Wall Measurement, Analysis

- The W, R, G & B analysis for a WallMeasurement file can be viewed graphically on the Analysis tab.



Using the tool—Wall Measurement, Analysis

- The mouse pointer box gives a quick guide for how well colors are balanced. (Hover the mouse over measured points on the graph)



This mouse pointer box is 0.010 in size in x & y and represents +/- 0.005 from the center of the pointer. This matches Planar's guidelines for adequate ACB performance, which is that all units in a display wall will be within +/- 0.005 from the averages for white, red, green and blue

Using the tool—Wall Measurement, Analysis

- Files of previous measurements can be chosen from the dropdown list at the top right. Analysis numbers can be viewed on in the window on the right.

MEASUREMENT RESULTS: Sort by name Sort by change date/time Reverse

Clear **gkingsley 2009-07-23 10.32.38**

2009-07-23 10:32:38 Customer Name: Angela
2009-07-23 10:32:38 Site Name: DemoRoom
2009-07-23 10:32:38 Product Type: c50PXi

ID=1, WHITE, 381.42, 0.2757, 0.3232
ID=2, WHITE, 372.54, 0.276, 0.3225
ID=3, WHITE, 368.4, 0.2767, 0.3226
ID=4, WHITE, 373.74, 0.2754, 0.3211
WHITE
Average Brightness and Color:
Y = 374.0250, x = 0.2760, y = 0.3224
Min and Max Brightness (Y) (and %diff vs. avg):
Min Y= 368.40, (-1.50%), CubelID=3
Max Y= 381.42, (+1.98%), CubelID=1
Min and Max CIE x coordinate (and diff vs. avg):
Min x= 0.2754, (-0.0006), CubelID=4
Max x= 0.2767, (+0.0007), CubelID=3
Min and Max CIE y coordinate (and diff vs. avg):
Min y= 0.3211, (-0.0012), CubelID=4
Max y= 0.3232, (+0.0009), CubelID=1

ID=1, RED, 37.37, 0.6599, 0.3243
ID=2, RED, 38.45, 0.6556, 0.3273
ID=3, RED, 36.28, 0.6586, 0.325
ID=4, RED, 36.81, 0.6584, 0.3249

Dropdown list of WallMeasurement files

Analysis information



Using the tool, Sensor Calibration

Using the tool—Sensor Calibration

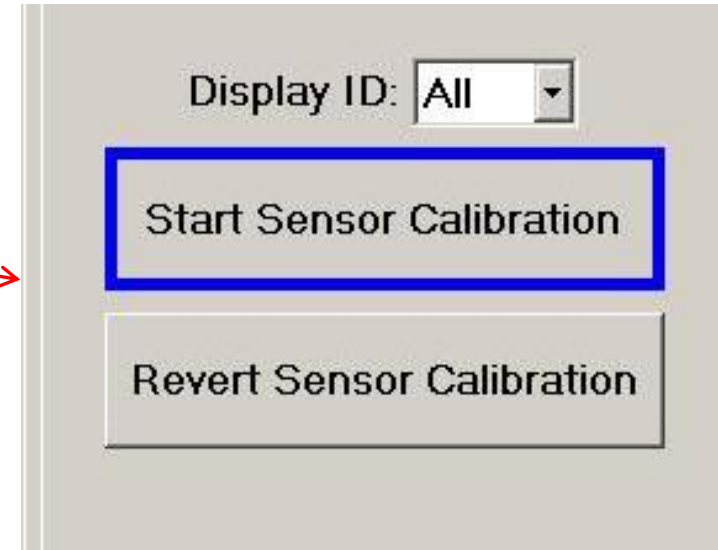
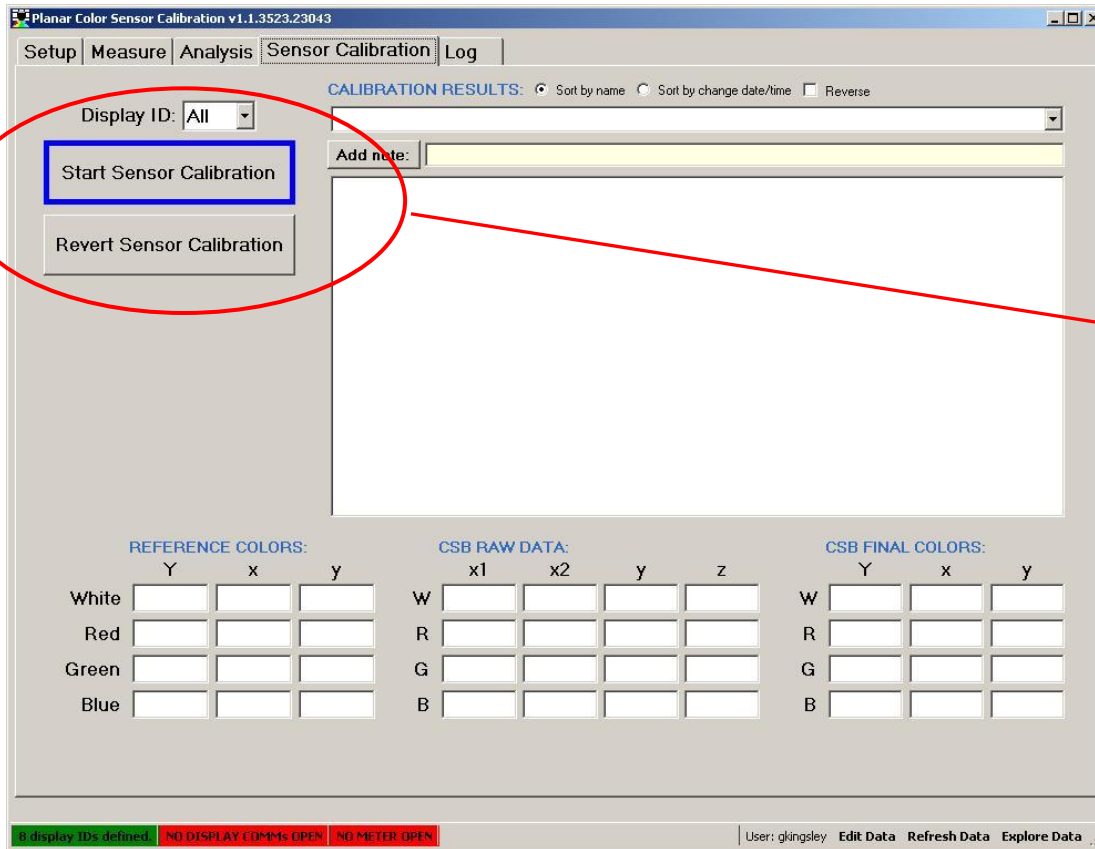
- When to calibrate color sensors:
 - First time field installations of display walls
 - New components are swapped into a previously installed wall
 - When the wall is shown to need recalibration
 - ACB has been run
 - The wall has been measured using the Cal Tool “Wall Measure” function
 - The measurements show the wall to be out of color balance

Using the tool—Sensor Calibration

- Follow all Planar service bulletins regarding proper setup for ACB components. Some examples:
 - Alignment of ACB mirror when actuated
 - Latest revision of controller firmware (especially in Open systems)
 - Latest revision of Wallnet firmware.
 - Confirm Light shield is fully closed
 - All back covers on

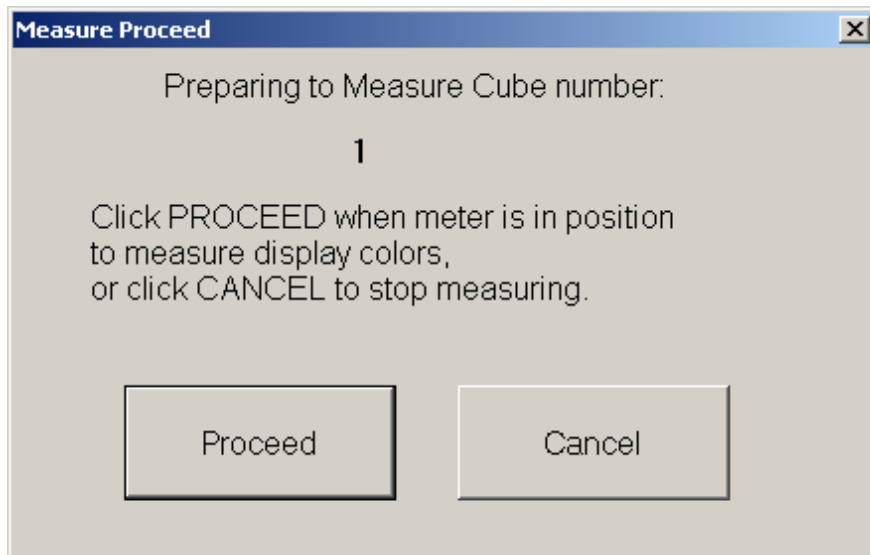
Using the tool—Sensor Calibration

- Choose a single Display ID from the dropdown list, or “All”. “All” is chosen by default. Click “Start Sensor Calibration”



Using the tool—Sensor Calibration

- A popup window appears, and the first display to be calibrated will display a cross pattern (Integrated) or a uniformity test pattern (Open systems). This is meant to help locate the center of the screen for measurement.

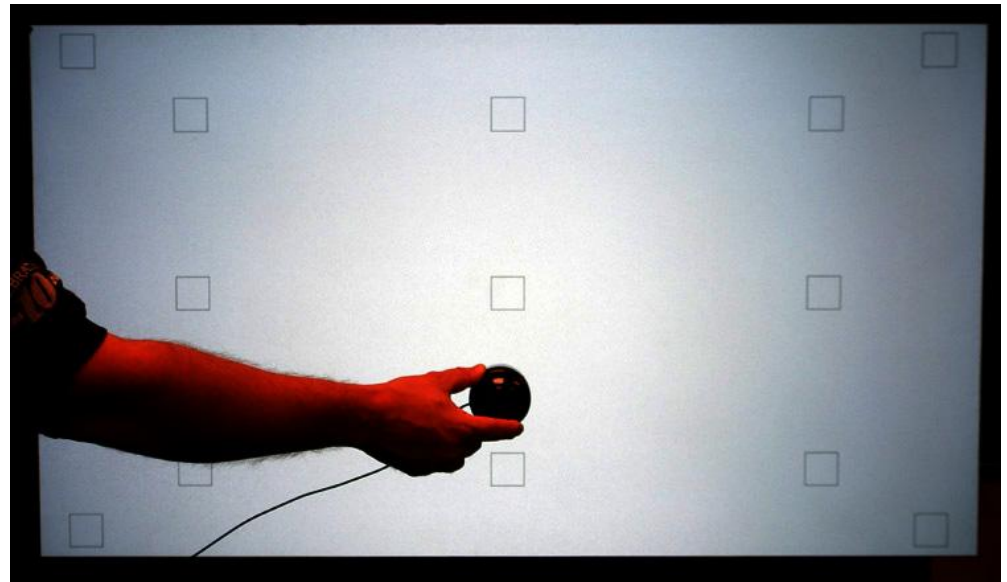


Using the tool—Sensor Calibration

- A Note on measurement positions for Sensor Calibration
 - SP, RX and RP series displays should be calibrated at center
 - Margay II series should be calibrated at a location just above the bottom center square of the Uniformity pattern



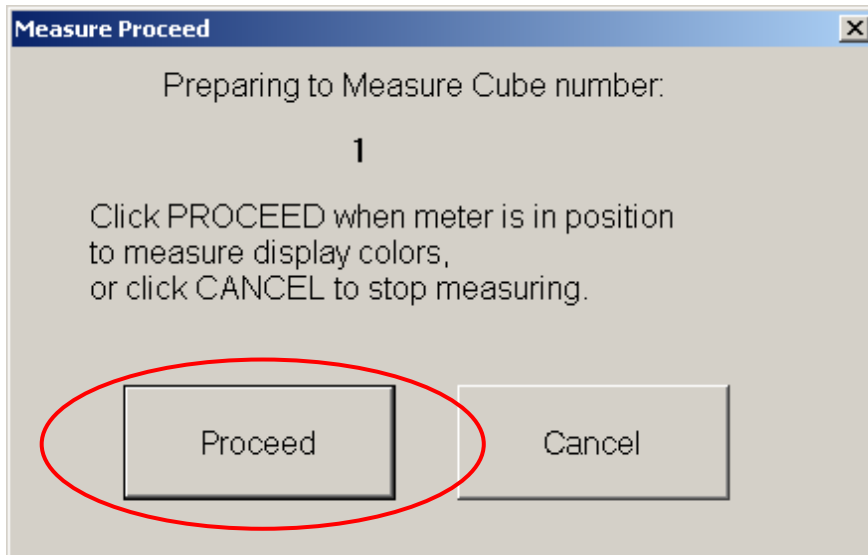
SP, RX and RP



Margay II

Using the tool—Sensor Calibration

- Either click the Proceed button, or use the right arrow on the provided presentation controller to start the measurement. (See User's Manual for presentation controller use instructions.)



Using the tool—Sensor Calibration

- The display will cycle through predefined colors, the light meter will measure, and the readings will be recorded in a WallCalibration file, also listed in the right of the program window.

Planar Color Sensor Calibration v1.1.3523.23043

Setup | Measure | Analysis | Sensor Calibration | Log

Display ID: All

Start Sensor Calibration

Revert Sensor Calibration

Color Sensor Calibration status for cube ID=1

CONFIRMING CALIBRATION QUALITY

Cancel Cube 1 Calibration

CALIBRATION RESULTS: Sort by name Sort by change date/time Reverse

JoeWho WhoVille gkingsley 2009-09-09 15.39.26

Add note:

2009-09-09 15:39:26 Calibration Operation: Whole Wall
2009-09-09 15:39:26 Customer Name: JoeWho
2009-09-09 15:39:26 Site Name: WhoVille
2009-09-09 15:39:26 Display ID Count: 2
2009-09-09 15:39:26 Display IDs: 1,2
2009-09-09 15:39:26 Meter: Type=Chroma5 MeterCalibration=DLP Projector MeterSN=13032
2009-09-09 15:39:26 CSB RGB Matrix ID= 1 Rainier 0.0001961526 2.015121E-05 3.183223E-05 -1.311987E-05 0.000
2009-09-09 15:39:27 CSB RGB Matrix ID= 2 Rainier 0.000177932 1.80869E-05 2.777459E-05 -1.637759E-05 0.000
2009-09-09 15:40:00 REF COLOR MEAS ID= 1 WHITE Yxy= 72.90 0.2748 0.3156
2009-09-09 15:40:05 REF COLOR MEAS ID= 1 RED Yxy= 8.09 0.6507 0.3302
2009-09-09 15:40:11 REF COLOR MEAS ID= 1 GREEN Yxy= 57.29 0.3236 0.5997
2009-09-09 15:40:15 REF COLOR MEAS ID= 1 BLUE Yxy= 7.71 0.1507 0.0696
2009-09-09 15:40:23 CSB FREQ MEAS ID= 1 WHITE 30500 4835 88956 29775
2009-09-09 15:40:31 CSB FREQ MEAS ID= 1 RED 11380 65 10526 161
2009-09-09 15:40:39 CSB FREQ MEAS ID= 1 GREEN 17321 141 69131 2056
2009-09-09 15:40:47 CSB FREQ MEAS ID= 1 BLUE 1809 4619 9278 27508
2009-09-09 15:40:47 Calculated RGB Matrix ID= 1 Rainier 0.001276608 0.0001192254 0.0001259756 -7.14038E-05
2009-09-09 15:40:55 Final Color MEAS ID= 1 WHITE Yxy= 73.01 0.2751 0.3163
2009-09-09 15:41:03 Final Color MEAS ID= 1 RED Yxy= 8.08 0.6507 0.3302

REFERENCE COLORS:				CSB RAW DATA:				CSB FINAL COLORS:				
	Y	x	y	x1	x2	y	z	Y	x	y		
White	72.9	0.275	0.316	W	30500	4835	88956	29775	W	73.0	0.275	0.316
Red	8.1	0.651	0.330	R	11380	65	10526	161	R	8.1	0.651	0.330
Green	57.3	0.324	0.600	G	17321	141	69131	2056	G	0.0	0.000	0.000
Blue	7.7	0.151	0.070	B	1809	4619	9278	27508	B	0.0	0.000	0.000

2 display IDs defined | Display Commis Open | Meter: Chroma5 open

User: gkingsley | Edit Data | Refresh Data | Explore Data

Note:

When the internal sensor actuates and its shadow appears under your reference meter, you can lower your meter. (It's done measuring for this display.)

Using the tool—Sensor Calibration

- After the internal measurements are made, a new popup will appear. If results are good, click “Save Calibration”

Cube Calibration Results

Save Calibration Matrix to CSB in unit #

4 ?

	% delta Y	delta x	delta y	
White	0.20	0.0003	0.0002	PASS
Red	-0.19	-0.0001	-0.0003	PASS
Green	-0.21	0.0009	-0.0009	PASS
Blue	-0.08	0.0001	0.0000	PASS

ALL COLORS PASSED.

Click SAVE CALIBRATION to save

SAVE CALIBRATION REDO CAL MEASUREMENTS CANCEL CALIBRATION FOR THIS UNIT

Using the tool—Sensor Calibration

- A “Marginal” result will still allow a save of the calibration, but gives a warning. A “Poor” result will NOT allow a save.

	% delta Y	delta x	delta y	
White	-3.89	-0.0176	0.0005	FAIL
Red	-0.30	0.0012	-0.0006	PASS
Green	0.04	-0.0001	0.0001	PASS
Blue	0.01	0.0002	0.0000	PASS

ONE OR MORE COLORS FAILED

Would you like to REDO this calibration, or CANCEL?

SAVE CALIBRATION REDO CAL MEASUREMENTS CANCEL CALIBRATION FOR THIS UNIT

Using the tool—Sensor Calibration

- Possible causes for poor calibration results:
 - **Moving the light meter during measurement**
 - Be sure to keep the light meter as stable as possible
 - **Flickering lamps**
 - A badly flickering lamp makes accurate measurement impossible
 - This can also cause poor ACB results, even with a good calibration.
 - Bottom line: replace badly flickering lamps, and watch out for flicker during calibration.

Using the tool—Sensor Calibration

- After calibrating:
 - For Integrated systems, reboot all displays after calibration (the program prompts you to do this).
 - For all systems, you must run ACB after calibration (also after reverting calibrations).
- In other words, calibration changes do not affect the image until the next ACB run.



Using the tool, Reverting Sensor Calibration

Using the tool—Reverting Sensor Calibration

- At the start of each calibration procedure, the wall's current calibrations get stored at the top of the WallCalibration file

The screenshot displays the 'Planar Color Sensor Calibration v1.1.3523.23043' application. The 'Sensor Calibration' tab is active, showing a list of calibration results. A red circle highlights the top two entries in the results list, which are CSB RGB Matrix ID=1 and CSB RGB Matrix ID=2. Below the results list, there are three tables: 'REFERENCE COLORS', 'CSB RAW DATA', and 'CSB FINAL COLORS'. The 'REFERENCE COLORS' table shows Y, x, and y values for White, Red, Green, and Blue. The 'CSB RAW DATA' table shows x1, x2, y, and z values for White, Red, Green, and Blue. The 'CSB FINAL COLORS' table shows Y, x, and y values for White, Red, Green, and Blue. The status bar at the bottom indicates '2 display IDs defined', 'Display Comms Open', and 'Meter: Chroma5 open'.

Planar Color Sensor Calibration v1.1.3523.23043

Setup Measure Analysis Sensor Calibration Log

Display ID: All

Start Sensor Calibration

Revert Sensor Calibration

Color Sensor Calibration status for cube ID=1

CONFIRMING CALIBRATION QUALITY

Cancel Cube 1 Calibration

CALIBRATION RESULTS: Sort by name Sort by change date/time Reverse

JoeWho WhoVille gkingsley 2009-09-09 15:39:26

Add note:

2009-09-09 15:39:26 Calibration Operation: Whole Wall
2009-09-09 15:39:26 Customer Name: JoeWho
2009-09-09 15:39:26 Site Name: WhoVille
2009-09-09 15:39:26 Display ID Count: 2
2009-09-09 15:39:26 Display IDs: 1,2
2009-09-09 15:39:26 Meter: Type=Chromas Meter Calibration=DLP Projector Meters N=13032
2009-09-09 15:39:26 CSB RGB Matrix ID= 1 Rainier 0.0001961526 2.015121E-05 3.183223E-05 -1.311987E-05 0.001
2009-09-09 15:39:27 CSB RGB Matrix ID= 2 Rainier 0.0001777932 1.80868E-05 2.777459E-05 -1.637759E-05 0.000
2009-09-09 15:40:00 REF COLOR MEAS ID= 1 WHITE Yxy= 72.98 0.2746 0.3156
2009-09-09 15:40:05 REF COLOR MEAS ID= 1 RED Yxy= 8.09 0.6507 0.3302
2009-09-09 15:40:11 REF COLOR MEAS ID= 1 GREEN Yxy= 57.29 0.3236 0.5997
2009-09-09 15:40:15 REF COLOR MEAS ID= 1 BLUE Yxy= 7.71 0.1507 0.0696
2009-09-09 15:40:23 CSB FREQ MEAS ID= 1 WHITE 30500 4835 88956 29775
2009-09-09 15:40:31 CSB FREQ MEAS ID= 1 RED 11380 65 10526 161
2009-09-09 15:40:39 CSB FREQ MEAS ID= 1 GREEN 17321 141 69131 2056
2009-09-09 15:40:47 CSB FREQ MEAS ID= 1 BLUE 1809 4619 9278 27508
2009-09-09 15:40:47 Calculated RGB Matrix ID= 1 Rainier 0.001276608 0.0001192254 0.0001259756 -7.14038E-05
2009-09-09 15:40:55 Final Color MEAS ID= 1 WHITE Yxy= 73.01 0.2751 0.3163
2009-09-09 15:41:03 Final Color MEAS ID= 1 RED Yxy= 8.08 0.6507 0.3302

REFERENCE COLORS:

	Y	x	y
White	72.9	0.275	0.316
Red	8.1	0.651	0.330
Green	57.3	0.324	0.600
Blue	7.7	0.151	0.070

CSB RAW DATA:

	x1	x2	y	z
W	30500	4835	88956	29775
R	11380	65	10526	161
G	17321	141	69131	2056
B	1809	4619	9278	27508

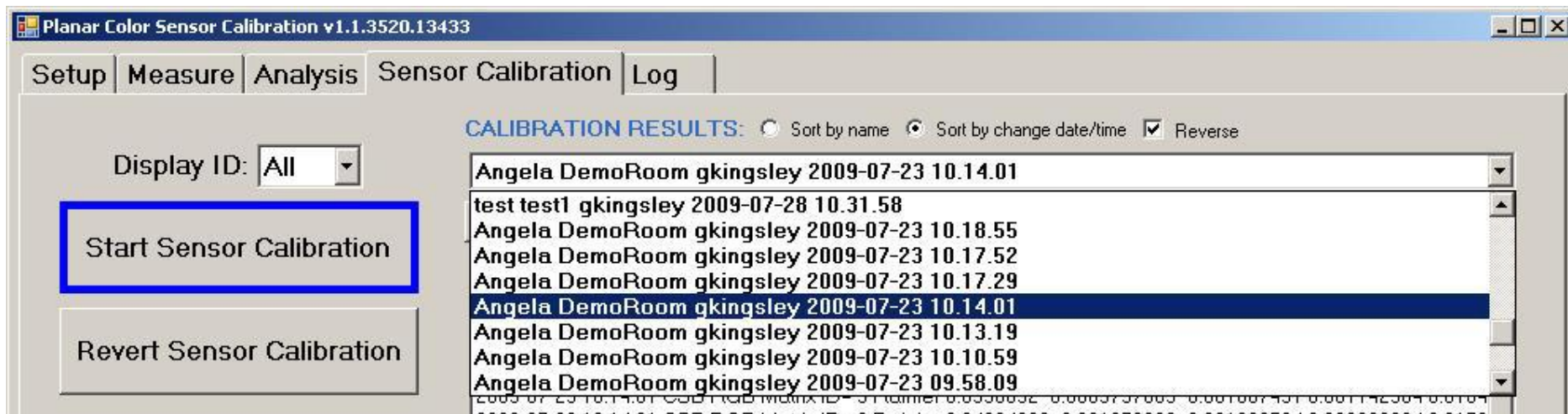
CSB FINAL COLORS:

	Y	x	y
W	73.0	0.275	0.316
R	8.1	0.651	0.330
G	0.0	0.000	0.000
B	0.0	0.000	0.000

2 display IDs defined Display Comms Open Meter: Chroma5 open User: gkingsley Edit Data Refresh Data Explore Data

Using the tool—Reverting Sensor Calibration

- By selecting a WallCalibration file from the pulldown menu, you can revert to the calibrations stored at the top of the file.
 - You will not revert to the calibrations detailed in the procedure results lower in the file. You are reverting to the calibrations that were stored in the display wall before this file was created.



Using the tool—Reverting Sensor Calibration

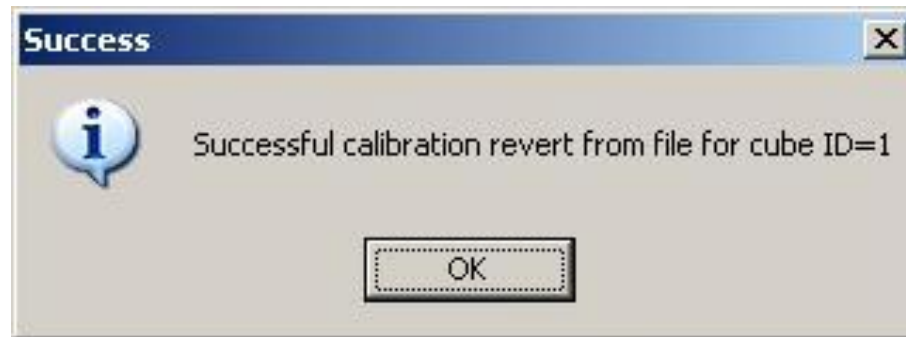
- After selecting a file, click “Revert Sensor Calibration”
- The program has several checks to make sure the chosen file matches the current display wall. If the items don't match, warning windows are presented. Items checked between the file and the currently selected WallSetup:
 - Display type
 - Customer and site names
 - The number of displays in the wall
 - The Display IDs in the file vs. currently entered in program Setup

Using the tool—Reverting Sensor Calibration

- The program steps through each Display ID, in the order they are listed on the Setup tab. This window will pop up:



- And after clicking OK....



Using the tool—Reverting Sensor Calibration

- After reverting, ACB must be run to change the display appearance. (On integrated systems, a system reset is necessary before ACB)
- A record of calibration revert operations is available in the Log file.

```
2009-09-11 11:27:19 CANCELED: wait Calibration stopped at cube ID=1
2009-09-11 11:29:27 Calibration REVERT SUCCEEDED for cube ID=1 From file = TrainingClass Der
2009-09-11 11:29:27 RGB Matrix on CSB before revert ID= 1 Rainier 0.03245621 -0.001022892 -0.0027
2009-09-11 11:29:27 RGB Matrix on CSB AFTER revert ID= 1 Rainier 0.03408122 -0.001099681 -0.002
2009-09-11 11:29:32 Calibration REVERT SUCCEEDED for cube ID=2 From file = TrainingClass Der
2009-09-11 11:29:32 RGB Matrix on CSB before revert ID= 2 Rainier 0.03835409 -0.001284717 -0.0021
2009-09-11 11:29:32 RGB Matrix on CSB AFTER revert ID= 2 Rainier 0.03991365 -0.001251257 -0.001
2009-09-11 11:29:40 Calibration REVERT SUCCEEDED for cube ID=3 From file = TrainingClass Der
2009-09-11 11:29:40 RGB Matrix on CSB before revert ID= 3 Rainier 0.0315492 -0.0004420689 -0.0017
2009-09-11 11:29:40 RGB Matrix on CSB AFTER revert ID= 3 Rainier 0.03333952 -0.0004590477 -0.00
2009-09-11 11:29:48 Calibration REVERT SUCCEEDED for cube ID=4 From file = TrainingClass Der
2009-09-11 11:29:48 RGB Matrix on CSB before revert ID= 4 Rainier 0.02777331 0.0008688007 -0.0011
2009-09-11 11:29:48 RGB Matrix on CSB AFTER revert ID= 4 Rainier 0.02884711 0.00107535 -0.00071
```