

Color iQC and Color iMatch How to Guide

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Calibration

How can I calibrate the UV?



UV Calibra	tion Procedure	0	At the end of the Calibration procedure the
-White fluorescent standard — Absolute Ganz Whiteness CIE Whiteness Index	Calibrated Whiteness Value 134.7	Tint Value 0.00	Current UV Filter Position, the Current UV Whiteness and the Automatic UV Calibration Difference is reported.
	Less UV Energy		Typically result will be within 0.2
Current UV Filter Position	60.7 + More UV Energy		Accept the UV calibration and repeat a regular calibration procedure.
Current CIE Whiteness	134.6 1.38 WI Tint		
Automatic UV Calibration -0.	is complete, difference = .08.		
Check White		Accept	
Auto Calibrate		Cancel	

How can exclude the complete UV?

In order to exclude the UV completely a calibration mode will have to be set up

	C	hoose Calibration	Mode				0
Defined Modes			[1] - C	olor i5_150573			i
ID Name of Mode	NextStdz Avera	age R/T Mode	Specu	AreaView	UV Energy	Glass	Lens/Port
0 0-Default 1 R/T 2 Total Transmittance 3 Direct Transmittance 4 Haze 5 SCI/SCE 6 Over Light/Over Dark 7 Filter in / UV excluded	Expired 2 Expired 2 Expired 2 Expired 2 Expired 2 Expired 2 Expired 2 Expired 2 O0:49 2	RFL R/T TTRAN RTRAN RFL RFL OL/OD RFL	SPI SPI SPI SPI SPI/SPE SPI SPI	25.00 mm 25.00 mm * 25.00 mm * 25.00 mm * 25.00 mm 25.00 mm 25.00 mm	UV Cal UV Cal UV Cal UV Cal UV Cal UV Cal UV Cal UV Cal	No No No No No No	Lens=P Lens=P Lens=P Lens=P Lens=P Lens=P Lens=P
Add New Delete Mo	dify Calibra	ate UV Calib	rate			(Close
Calibration Mode Properties Calibration Mode Properties R/T Mode R/T Mode R/T Mode VV Filter Pos / VV Filter Pos / UV Filter Pos / UV Filter Pos / VV Filter P	ter / UV Energy Out / UV Inc Cal / UV Cal Cal / UV Cal In / UV Exc enture / Lens AV (25 mm) Correction Applied? Correction Applied? Avg 0.00 deCMC Limit Calibration Interval (minutes) / UV excluded			Within setting l be selec Once t instrum be made	the calibr Filter In / U ted this has ent calibra e.	ation i V Exc w been tion wi	mode the /ill have to done an Il have to

How can include the complete UV?

Color iQC does not offer the option include complete UV. Whenever this option is selected the instrument will automatically use UV cal. There is a reason for it.

The UV content of a Xenon lamp has an impact on the reflectance data, if samples such as textiles or paper contain optical brighteners.

If the instrument works without the UV filer (or calibrated UV) the UV content of the Xenon Lamp will depend on the age of the lamp. Since UV content has an impact on the reflectance data, different reflectance data would be achieved depending on the age of the lamp. It would be nearly impossible to achieve a good inter instrument agreement.

	1.	Main menu, select spectro, and install or configure.
Spectro Manager Installed Spectros: [1] - Fake Sensor [1] - Color i5 J50573 [1] - SP64_002381 [1] - NM61_000103 [1] - My Spectro_0060766 [2] - 964_000609 [1] - 7_J70390 [1] - Color i7_I71087 [1] - SF600_SF11769 Make Default Clear Default Set Calibration Modes Default Spectro: [1] - Color i5 I50573	2.	Select your spectro, eg color i5; and then click "set Comm Port and check tile" button.
[1] - Color i5_150573 About Sensor Close Image: Spectrophotometer Properties Image: Spectrophotometer Properties	3.	Select which mode you need to do green tile check. Mode 0, means only the first cal. Mode, which mode ID is 0. All modes, means all cal. Mode ID need to do green diagnostic test.

How can I activate a green tile test after the calibration?

Help Image: Im	 Open a new job, go to "Select Mode" and select a cal. mode that you want to set green tile diagnostic test. (Make sure you had done calibration on each mode before you come to this step, if not, switch off the check tile and go calibrate your spectrophotometer first.)
Elie Settings Spectro Account Macro New e-Job Ctrl+N New from Template Ctrl+T Open e-Job Ctrl+O Open CheckTile Job Edit Default e-Job Settings	 Then close job Go to File, and select "Open Check Tile Job".
Color iControl Color_iControl\System\Color i5_150573_0.jb5 was not found. OK	 Color iQC and Color iMatch realizes, that the proper job is not yet available and places the warning on the screen. It will automatically create a Green Tile test job.
Measure Standard (mode=0-Default) ID Info Fullname: Green Tile Enter name, then press <next> when ready to read. Group1: Group2: Group3: Save current standard in data section Next Reset Groups Close</next>	 Enter the name and go through the measurement sequence Uncheck the "Save current standard in the data segment"
Color iControl	 At the end confirm, that the standard should be saved.

Green Tile	10. It is recommended to enter Pass/Fail Tolerance
Properties	to the standard. Mark the tile in the data
Properties	Selection Windows
Name Data Condition Spectral Data Image Security ID Recipe/Formula Editor Stored Tolerances Used	selects the properties.
P/F DEcmc	In the standard
Calculate from CMC P/F Tolerance 0.3 0.00 Reset % Margin:	properties select Stored Tolerances and enter a tolerance of 0.3

Standardize mode 0-Default	Standardize	mode 0-Default	Color iControl
Read White Tile.	Read	black trap.	Calibration is completed.
OK Cancel	ОК	Cancel	ОК
White Calibration	Black Calibrati	on	Calibration is finished
Read CheckTile (mode=0-Defau	lt)		11. Once the calibration is
ID Info 29.09.2011 13:32:58 Press <next> to accept reading, or <reset></reset></next>	to discard.		finished the check tile test will come up. Place the green tile in front of the spectro and
Group1: Group2: Group3:	Auto Avg Reads 0		start a normal measurement routine.
Next Reset Groups B	egin Avg) Close		
Standard Name I* a*	h* C*	h°	12. Once the calibration is
Green Tile 58.35 -26.60	13.70 29.92	152.76	finished the results will
Trial Name DL* Da*	Db* DC*	DH* DEcm	tolerance the calibration
29.09.2011 13:32:58 0.01 0.02 R	0.01 -0.01	-0.02 Y 0.02	will be rejected.
Green Tile		The results will	be saved in the job.
⊡ Data			
29.09.2011 13:53:42 29.09.2011 13:32:58			
Green Tile			

Color iControl	
File Settings Spectro Acco	ount <u>M</u> acro Ctrl+N
New from Template	Ctrl+T
(ᅼ Open e-Job	Ctrl+O
Open <u>C</u> heckTile Job	

How can I set the calibration time control?

Most customers like a automatic reminder to calibrate the instrument when it's reqired

hoose	Calibration Mode		0.40.0			40.0			
Define	ed Modes				[1]-0	Color i5_150573			
ID	Name of Mode	NextStdz	Average	R/T Mode	Specular	AreaView	UV Energy	Glass	Lens/Port
0	0-Default	03:28	2	RFL	SPI	25.00 mm	UV Cal	No	Lens=P
1	R/T	Expired	2	R/T	SPI	25.00 mm *	UV Cal	No	Lens=P
2	Total Transmittance	Expired	2	TTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P
3	Direct Transmittance	Expired	2	RTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P
4	(4) Haze	Expired	2	RFL	SPI	25.00 mm *	UV Cal	No	Lens=P

For each of the calibration modes there is a timer for the next calibration. This can be changed using the modify option



In the Calibration Mode Properties the calibration Interval can be set. The typical recommendation is 240 Minutes.

Attention: if the time is set to "0" there will be **NO** time control.

This can be useful, if you do want to do long term measurements and do not want to have any interruption by the calibration.

This can be useful, if you use self calibrating instruments portable spectrophotometers like the Spectro Eye or other portable devices like the SP or 900 series, which do have their own internal time control.

Measurement

How can I measure Gloss with my instrument?

Color iQC | Color iMatch Gloss and SRR Gloss

Gloss in Color iQC and Color iMatch applies to measurements made on a sphere instrument where SPI and SPE are possible, and uses an equation developed by X-Rite for each instrument that is correlated to a 60 degree gloss meter for paint samples on paper. It is generally pretty close to an actual gloss meter within the normal ranges of 20-80 but may be different somewhat at the low or high ends of the range. Every spectro has a different form of the equation to account for differences in sphere size, number of holes, size of specular port, etc. X-Rite has a specific equation for CE7000, Color i5/i7, XTH, and SP62/64. All other sphere spectrophotometers use a general equation and may not agree as well. The ASTM method that applies to this is D523. However the type of equipment required by D523 does NOT include sphere instruments. Therefore the equation gives us a "correlated gloss" value rather than a "60 degree gloss" value.

SRR Gloss in Color iQC and Color iMatch is "Specular Reflectance Ratio" and is defined as ASTM method E429 (not E463). This method is titled "Measurement and Calculation of Reflecting Characteristics of Metallic Surfaces Using Integrating Sphere Instruments", and in general is useful for describing the specular reflectance from surfaces that are somewhat glossy. An inverse value called "diffuse reflectance ratio" is normally calculated for comparing metallic surfaces which are matte however the DRR value is NOT contained in color iQC or Color iMatch.

The methods will give similar relative comparative results between several samples – but the values themselves will be different.

Additional Notes: RFW 2Dec2010

- GLOSS60 calculation can be performed in the Color i5 (if it has firmware 2.0 or higher) and transferred to the software during any measurement – otherwise the GLOSS60 value can ONLY be calculated if the measurement is extended SCI/SCE.
- SRR Gloss can only be calculated from an extended SCI/SCE measurement.
- Gloss60 is a "correlated" equation using an instrument model specific equation developed by X-Rite to correlate a sphere measurement to a 60 degree gloss meter. The equation has been improved in version 6.2 for most sphere instrument models.
- SRR_Gloss is an ISO method of calculating gloss (Specular Reflectance Ratio) that is typically used when measuring materials that are highly glossy (such as metals).

• First step - prepare the calibration mode for the gloss measurement



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• Next the data output has to be prepared to include gloss

X-Rite Gloss Chart 6

25.25

0.07

-1,13

1,13

273.32

92.62

How can I measure SCI and SCE?

This measurement option is available with the Color-Eye XTH, Color i5, and Color i7, 7000-instruments SP-Series.

For SP-Series Instruments all measurements must be made with SCI/SCE to be able to use the automatic standard defininition in the instrument.

• First step - prepare the calibration mode for the gloss measurement

Optimized Node (1) Cake 8, 15677 mode for SCI/SCE 1 PT Science V/ Energy No Leard-P 2 Ford Texamitance Exceed 2 RT SS 300me V/ Cal No Leard-P 3 Dotes Texamitance Exceed 2 RT SS 300me V/ Cal No Leard-P 3 Dotes Texamitance Exceed 2 RTPAH SP 200me V/ Cal No Leard-P 3 Dotes Texamitance Exceed 2 RTPAH SP 200me V/ Cal No Leard-P 3 Dotes Texamitance Exceed 2 RTPAH SP 200me V/ Cal No Leard-P 4d8 New Delee Mody Obtes Texamitance Exceed No Leard-P 4d8 New Delee Mody Obtes Texamitance IV Filer Pos / VV Energy No Leard-P Fil Mode UV Filer Pos / VV Cal No Leard-P No Leard-P Regular One UV Filer Pos / VV Cal No Leard-P No Leard-P Ref	(Choose Calibration Mode	A.A. 100	1.00	-	-			×		Select a calibration
0 New of Mode New of Mode Second Mode Second Note		Defined Modes			[1]-(Color i5_150573					mode for SCI/SCE
I 0.00drad Expected 2 RPL SP 2500me ⁻ V/Cal No Lense ⁰ No Lense ⁰ No Vecta No Lense ⁰ Lense ¹ No Lense ¹ No Lense ¹ Lense ¹ Lense ¹		ID Name of Mode	NextStdz Average	R/T Mode	Specular	AreaView	UV Energy	Glass	Lens/Port		measurement. If it is
2 Tool Transmittance Expert 2 Thread SPI 2500 meV UVCal No Expert 1 Deve Deve 1 Deve D		0 0-Default 1 B/T	Expired 2 Expired 2	RFL B/T	SPI	25.00 mm 25.00 mm *	UV Cal	No	Lens=P		not yet available to you
2 PRLAN SPI 2500mm UV Cd No Lens-P 4 Mox Expeed 2 PRL SPI/SFE 2500mm UV Cd No Lens-P 5C/SCE Expeed 2 PRL SPI/SFE 2500mm UV Cd No Lens-P Mot Expeed 2 PRL SPI/SFE 2500mm UV Cd No Lens-P Mot Expeed 2 PRL SPI/SFE 2500mm UV Cd No Lens-P Mot Expeed 2 PRL SPI/SFE 2500mm UV Cd No Lens-P Mot Expeed 2 PRL SPI/SFE 2500mm UV Cd No Lens-P Mot Exped 2 PRL SPI/SFE 2500mm UV Cd No Lens-P Mot Expediation Motify Calibration PC/Calibration Expediation Spi/SFE 2500mm Expediation Spi/SFE 2500mm Expediation Spi/SFE 2500mm Expediation E		2 Total Transmittance	Expired 2	TTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P		have to create one.
Here Expeed 2 BFL SPI 2200mm* UVCal No LenseP SD/SCE Expeed 2 BFL SPI/SPE 2500mm* UVCal No LenseP Mo LenseP No LenseP No LenseP Mo Mo LenseP No LenseP Mode Modu/Line LenseP LenseP Calibration Mode Properties Select the following settings: Remove the check next to "Enable auto configuration by spectrophotometer" R/T Mode Regular [Direct] Out /UV Inc Select the following settings: Regular [Direct] Select larged regular [Direct] Port /UV Cal No Britamentiance Port Port Plate Apertuer /Lens Port /UV Cal Enter a name for this calibration mode Incloaded Ignore port plate errors Lense Portimint Ente		3 Direct Transmittance	Expired 2	RTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P		
Solidation Upped to the short booth of the short The short booth of the short Image: Solidation of the short booth of the short			Expired 2 Expired 2	RFL BFI	SPI SPI/SPF	25.00 mm * 25.00 mm	UV Cal UV Cal	No No	Lens=P Lens=P		
Calibration Mode Properties X Select the following settings: Remove the check next to "Enable auto configuration by spectrophotometer" R/T Mode UV Filer Pos / UV Energy Specular Condition UV Filer Pos / UV Cal Reflectance UVD65 Included Pot Plate Aperture / Lens Pot LAV (25 mm) Included Included Lens Included Calibration Applied? Binst NetProfiler® Glass Correction Applied? Sci / SCE VX Globarion Interval Jour name for this mode: SCI/SCE - with Gloss Jour name for this mode: SCI/SCE - with Gloss		Add New Delete	Modify Calibrate	III L	rate				Close		
Calibration Mode Properties Select the following settings: Reflectance W Filter Pos / UV Energy Rode W Filter Pos / UV Energy Reflectance Select the following settings: Repear (Direct) Select the following settings: Rode W Filter Pos / UV Energy Rode W Filter Pos / UV Energy Rode W Filter Pos / UV Cal Rode Reflectance Rode Reflectance Post I a Dut / UV Exc Port Post Plate Aperture / Lens Port LAV (25 mm) Ignore post plate errors Lens Lens Lens Rest Calibration Interval Winhown Glass Correction Applied? Enter a name for this calibration mode Press [OK] to leave the Calibration Mode Properties Window.											
<pre>Image: Contiguration by spectrophotometer B/T Mode B</pre>	í	Calibration Mode Proper	ties			×)		Selec	t the fore the	ollo e ch	owing settings: neck next to "Enable
B/T Mode UV Filter Pos / UV Energy B Reflectance Specular (Direct) Transmittance UVD65 I VD65 In / UV Exc Pot Plate Aperture / Lens Pot Plate Aperture / Lens Pot Pot LAV (25 mm) I gnore pot plate errors Lens Lens Unknown Glass Correction Applied? Enable NetProfiler® 2 Avg 0.00 deCMC (minutes) your name for this mode: SCI/SCE - with Gloss UV Calibration. UV Calibration.		📃 Enable auto configura	tion by spectrophotomete	:r				auto	configu	ura	tion by
 Reflectance Regular (Direct) Transmittance Total Transmittance Haze (Transmittance) Specular Condition Included Included Ingnore port plate errors Lens Lens Port Glass Correction Applied? Calibration Interval gour name for this mode: SCI/SCE - with Gloss UV Calibration. 		R/T Mode	UV Filter Pos / I	JV Energy –				spect	trophot	on	neter"
Regular (Direct) Transmittance Im / UV Exc Total Transmittance Im / UV Exc Pott Plate Aperture / Lens Pott Plate Aperture / Lens Pott Plate Aperture / Lens Pott Plate Aperture / Lens Pott I uv (25 mm) Im / UV Exc Pott Plate Aperture / Lens Pott Plate Aperture / Lens Pott I uv (25 mm) Im / UV Exc Pott I uv (25 mm) Im / Uv Exc Pott I uv (25 mm) Im / Uv Exc Pott I uv (25 mm) Im / Uv Exc Included Ingnore pott plate errors Lens Lens = Pott Inscience Im / Uv Exc Inscience Im / Uv Exc Inscience Im / Uv Exc Inscience Pott I uv (25 mm) Inscience Im / Uv Exc Inscinter Im / Uv Exc <tr< td=""><td></td><td>Reflectance</td><td>50 011 ×</td><td>© Out⊄l</td><td>JV Inc</td><td></td><td></td><td>R/T №</td><td>1ode =</td><td>Re</td><td>eflectance</td></tr<>		Reflectance	50 011 ×	© Out⊄l	JV Inc			R/T №	1ode =	Re	eflectance
Transmittance UVD65 In / UV Exc Total Transmittance Pott Plate Aperture / Lens Extended Measurements = SCI/SCE Specular Condition Pott IdV (25 mm) UVD65/Cal/UVCal Specular Condition Included Included Included Ingnore port plate errors UVD65/Cal/UVCal Enable NetProfiler® Inscretion Applied? Enter a name for this calibration mode Press [OK] to leave the Calibration Press [OK] to leave the Calibration Mode Properties Window. SCI/SCE With Gloss UV Calibration.		Regular (Direct)	30.011 %	🔘 Cal / L	JV Cal			Spec	ular Co	nd	ition = Included
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Haze (Transmittance) Port Plate Aperture / Lens Specular Condition Port Included Ignore port plate errors Lens Lens = Port Glass Correction Applied? Enable NetProfiler® Quart Normanne for this mode: SCI / SCE OK		Total Transmittance		0				UV Fi	ler Pos		/ Energy =
Specular Condition Port LAV (25 mm) Ignore port plate errors Ignore port plate errors Lens Lens Port Unknown Glass Correction Applied? Enable NetProfiler® 2 Avg 0.00 Lens 240 Calibration Interval your name for this mode: SCI/SCE - with Gloss UV Calibration.		🔘 Haze (Transmittance	e) Port Plate Apert	ure / Lens-					55/Cal/	ίν	Cal
 Included Ignore port plate errors Lens Lens = Port Glass Correction Applied? Enable NetProfiler® Glass Correction Applied? Avg 0.00 deCMC Limit Z Avg 0.00 deCMC Limit Z40 Calibration Interval (minutes) your name for this mode: SCI/SCE - with Gloss UV Calibration. 		Specular Condition	Port L4	V (25 mm) •	-		0.12	55, 64.,	•••	
 Excluded Unknown Glass Correction Applied? Glass Correction Applied? Cancel UV Calibration. Enter a name for this calibration mode Press [OK] to leave the Calibration Mode Properties Window.		Included	📃 Ignore por	plate errors	;						
Unknown Glass Correction Applied? Glass Correction Applied? Cancel Press [OK] to leave the Calibration Mode Properties Window. Press [OK] to leave the Calibration Mode Properties Window.		Excluded	Lens [Le	ns = Port		-		Enter	r a nam	ne i	for this calibration mode
Cancel UV Calibration.		🔘 Unknown	Lono					_			
email 2 Avg 0.00 deCMC Limit Extended measurements 240 Calibration Interval (minutes) SCI / SCE vour name for this mode: SCI/SCE - with Gloss OK Cancel UV Calibration.		Enable NetProfiler®	🔲 Glass Co	rrection App	blied?			Press Mode	s [OK] t e Prope	o l rtie	eave the Calibration es Window.
Extended measurements 240 Calibration Interval (minutes) SCI / SCE vour name for this mode: SCI/SCE - with Gloss OK Cancel UV Calibration.		9	2 A	vg 0.00	deCM Limit	C			·		
your name for this mode: SCI/SCE - with Gloss OK Cancel UV Calibration.		Extended measurement	s 240	Calibration (minutes)	Interval						
OK Cancel UV Calibration.		your name f	or this mode: SCI/SCE	- with Glos	s						
		OK Car	icel	UV C	alibration.						

efined Modes			[1] - C	olor i5_150573						and calibr	ate it
ID Name of Mode	NextStdz Avera	ae R/TMode	Specular	- AreaView	UV Energy	Glass	Lens/Port			with the n	orma
0 0-Default	Expired 2	RFL	SPI	25.00 mm	UV Cal	No	Lens=P			calibratio	ר ר
R/T	Expired 2	R/T	SPI	25.00 mm *	UV Cal	No	Lens=P			brocodure	•
2 Total Transmittance	Expired 2	TTBAN	SPI	25.00 mm *	UV Cal	No	Lens=P			procedure	
Direct Transmittance	Expired 2	RTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P				
Haze	Expired 2 Evolved 2	RFL	SPI SPI/SPE	25.00 mm * 25.00 mm	UV Cal UV Cal	No	Lens=P			The calibr	ation
SCIVECE - WILL CHOSS	Expiled 2	1112	51 // 51 E	23.00 mm	0v ca	140	EGHS-I				
										will includ	e sci
										and SCE	
(•				
										Click [Clos	el to
Add New Delete	Modify Calibra	te UV Calibr	ate				Close			loovo tho	boy
										leave the	DOX
asure Trial (mode=SCI	I/SCE)					Take	measu	rem	ents iı	n the known	way.
											-
121111											
ID Info						The	Moscur	a Tri	al Win	dowe will be	va th
ID Info Fullname:			1			The I	Measure	e Tri	al Win	ndows will ha	ve th
ID Info Fullname:	nen nress ⟨Next> wh	en readu to rea	he			The I infor	Measure mation	e Tri moo	al Win de (SC	ndows will ha CI/SCE) in the	ve th
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ID Info Fullname: I Enter name, th Group1: Group2:	nen press <next> wh</next>	en ready to rea Au	ad. Ito Avg R	eads		The I infor head	Measure mation ler.	e Tri moo	al Win de (SC	ndows will ha CI/SCE) in the	ve th
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ID Info Fullname: Enter name, th Group1: Group2: Group3:	nen press <next> wh</next>	en ready to rea Au	ad. Ito Avg R 0	eads		The I infor head	Measure mation ler.	e Tri moo	al Win de (SC	ndows will ha CI/SCE) in the	ve th
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ID Info Fullname: Enter name, th Group1: Group2: Group3: Reset	nen press <next> whi Group</next>	en ready to rea Au s Begin Av	ad. to Avg R 0	eads		The I inforn head	Measure mation ler.	e Tri moo	al Win de (SC	ndows will ha CI/SCE) in the	ve th
ID Info Fullname: Enter name, th Group1: Group2: Group3: Next Reset	nen press <next> who Group Da* tol Db* tol</next>	en ready to rea Au s Begin Av	ad. to Avg R 0	eads lose	to) Ma	The I inform head	Measure mation ler.	e Tri moo	al Win de (SC	ndows will ha CI/SCE) in the ta will be sho	ve th wn ir
ID Info Fullname: Enter name, th Group1: Group2: Group3: Next Reset lerances: DL* tol 35-10 1.25	nen press <next> who Group Da* tol Db* tol 0.60 0.65</next>	en ready to rea Au s Begin Av DC* tol	ad. to Avg R 0	eads lose	tol Ma 20 0.	The I inform head	Measure mation ler.	e Tri moo	al Win de (SC he dat ne mu	ta will be sho lti-trial data	ve th wn ir view.
ID Info Fullname: Enter name, th Group1: Group2: Group3: Next Reset lerances: DL* tol 35-10 1.25	nen press <next> who Group Da* tol Db* tol 0.60 0.65</next>	en ready to rea Au s Begin Ar DC* tol 0.65	ad. to Avg R 0	eads lose	tol Ma 20 0.	The I inform head	Measure mation ler.	e Tri moo	al Win de (SC he dat ne mu o prov	ta will be sho lti-trial data v	ve th wn ir view.
ID Info Fullname: Fullname: Fullnam	nen press <next> who Group Da* tol Db* tol 0.60 0.65 as</next>	en ready to rea Au s Begin Av DC* tol 0.65 L*	ad. to Avg R 0 vg C DH* 0.60 a*	eads lose	tol Ma 20 0.	The I inform head	Measure mation ler.	e Tri moo	al Win de (SC he dat ne mu o prov learan	ta will be sho lti-trial data ide more	ve th wn ir ⁄iew.
ID Info Fullname: Enter name, th Group1: Group2: Group3: Next Reset lerances: DL* tol 35-10 1.25 andard Name Mea	nen press <next> who Group Da* tol Db* tol 0.60 0.65 as LAV SCI UVC Color i5</next>	en ready to rea Au s Begin Av DC* tol 0.65 L* 25.25	ad. to Avg R 0 vg C DH* 0.60 a* -0.06	eads lose tol P/F) 1. b*	tol Ma 00 0. .09	The I inform head	Measure mation er.	e Tri moo	al Win de (SC he dat he mu o prov learan	ta will be sho lti-trial data ide more ce the	ve th wn ir view.
ID Info Fullname: Enter name, th Group1: Group2: Group3: Next Reset lerances: DL* tol 35-10 1.25 andard Name Mea oh Gloss %R ial Name Mea	nen press <next> who Group Da* tol Db* tol 0.60 0.65 as LLAV SCI UVC Color i5 as</next>	en ready to rea Au s Begin Av DC* tol 0.65 L* 25.25 L*	ad. to Avg R 0 vg C DH* 0.60 a* -0.06	eads	tol Ma 00 0. .09 C*	The I inform head	Measure mation er.	e Tri moo tł Tc	al Win de (SC he dat he mu o prov learan heasur	ta will be sho lti-trial data ide more rement condi	ve th wn ir view. tion

High Gloss	High Gloss High Gloss High Gloss High Gloss High Gloss High Gloss Low Gloss Associate Trials with current Standard.						In orde SCE me the dat	er to cha ode, do ta sectio	nge the a right i n of tre	display of data to mouse key click into e view.
Associate	Trials wit	h current Star	ndard.				Select	"Use ext	tended	data for calculation"
Use extend	led data f	or calculation	ns.		_					
Properties.										
Tolerances:	DI * tol	Da* tol	Db* tol	DC* tol	DH* tol	P/E tol	Margin	te.		This will display
D65-10	0.90	0.65	0.65	0.65	0.65	1.00	0.10	2.00		the results for SCE
Standard Name		Meas		L*	a*	b*	C*	h°		condition.
High Gloss		%R LAV SCE U	VC Color i5	5.33	0.02	-1.42	1.42	270.83		
Trial Name		Meas		DL*	Da*	Db*	DC*	DH*	DEcmc	
Low Gloss		%R LAV SCE U	VC Color i5	19,34 L	0,13 R	0,42 Y	-0,41 D	0,16 R	18,93	

How to measure the contrast ratio from OL/OD measurements?

Within iQC the contrast ratio can be calculated from over light and over dark measurements

 First step - prepare the calibration mode for the OverLight and OverDark measurements



Choose Calibration Mode								x		Select mode 6			
Defined Modes				[1] - Co	olor i5_150573					with the normal			
ID Name of Mode	NextStdz	Average	R/T Mode	Specu	AreaView	UV Energy	Glas	s Lens/Port					
0 0-Default	Expired	2	RFL	SPI	25.00 mm	UV Cal	No	Lens=P		calibration			
1 B/T	Expired	2	R/T	SPI	25.00 mm *	UV Cal	No	Lens=P		procedure.			
2 Total Transmittance	Expired	2	TTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P					
3 Direct Transmittance	Expired	2	RTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P					
4 Haze	Expired	2	RFL	SPI	25.00 mm *	UV Cal	No	Lens=P					
5 SCI/SCE	Expired	2	RFL	SPI/SPE	25.00 mm	UV Cal	No	Lens=P		Click [Close] to			
6 Over Light/Over Dark	Expired	2	OL/OD	SPI	25.00 mm	UV Cal	No	Lens=P		leave the box			
4													
Add New Delete	Modify	Calibrate	UV Calibre	ate				Close					
Massura Trial (mode=Over Light/Ove	r Dark)		Color iContro	d			X	Color iControl		x			
measure rinar (mode=over Light/ove	i Daik)			1				Color IControl					
Fullname: Red								A					
Enter name, then press <next> v</next>	vhen ready to read.		🔥 м	easuring sar	mple over Ligh	t Background		A Now m	leasure sam	pple over Dark Background			
Group1: Group2:	Auto Avg Reads												
Group3:	0									OK			
Automatic Storage to Database is ON						OK							
								~					
Next Reset Gro	ups Begin Avg Close												
The measuremen	at windowo		Mithin	tha m		mont		and ave	vr bla	al hadraraund			
The measurement	nt windows	.	within	the m	neasure	ement		and ove	er bla	ack background			
will show in the h	header whic	ch s	sequer	nce yo	ou will l	pe aske	d to						
measurement m	ode is used		oresen	t the	samle	over wł	nite						
								The	4-+-	for the over light			
Tolerances: DL* tol	Da* tol Db* to	DC*	tol DH* t	tol P/I	F tol Mar	rgin I:c		me	uald				
D65-10 1.90	2.20 1.75	2.55	1.35	1.	.00 0.1	0 2.00		mea	surer	ments will be			
Standard Name	* a*	h*	C*		hº			show	n in	the multi-trial			
Ded 4	9 51 57 76	32.25	66.1	6	20.17			data	view	1			
	5.51 51.10	52.25	00.1		22.11			To pr	ovid	a tha Opacity CP			
Trial Name D)L* Da*	Db*	DC*	DH*	* DEc	mc		io pr	ovia				
Red 1	6.79 L -6.03 G	-14.26 E	-11.38 [D -10.4	49 R 8.4	3		infor	mati	on the opacity			
	inform												
								adde	nd to	the view			
In order to choose	a tha infar	m a ti a	n in th	o 1991 u	lti trial			uuuu	.u to				
in order to chang	je the infor	natio	n in th	e mu	iu-trial		Ch	ange view					
data view – do a	right mous	e clic	k into t	the m	ultitria		Dee	portion					
data view and se	elect the pro	perti	es fr	om th	ne men	u –	PTC	per ues					
							Ma	ximize					

Std/Multiple Trial View Setup Recall Format Standard display Trial display Show dat Possible Attributes: L* Tint-CIE	Remote Output Setup Automatic sw Ø Display icons ta for 1 Illuminant Selected Attributes DL*	itching on color for passing sar	r space nples		In the Pro Multi-tria and pres right. This shou	operties Windows for the I setup select Opacity_CR s the key facing to the uld be done for standard
a* Single V b* Color Va C* Color Va A° Color Va X Minimun Y Date/Ti Z Commer x Haze y Opacity L Berger a Stensby b Taube_ Whiteness Index-ASTM Tappi_4 Whiteness Index-ASTM Tappi_5 Whiteness Index-ASTM Tappi_5 Magnetic tappi_5 Whiteness Index-ASTM Tappi_5 Magnetic tappi_5 Whiteness Index-ASTM Tappi_5 Magnetic	Vave Da* alue- alue- alue- alue- bC* DC* DH* DEcmc WI V WI V WI V 20 OK	Cancel	Apply	Up Dn Help	and trial	
Tolerances: DL* tol Da* t D65-10 1.90 2.20 Standard Name L* Red 49.51	tol Db* tol DC* tol 1.75 2.55 a* b* 57.76 32.25	DH* tol 1.35 C* 66.16	P/F tol 1.00 h° 29.17	Margin 0.10 Opacity_ 69.03 cr	1:c 2.00 _CR	Now the data mutitrial data view will include the Opacity_CR information along with
Trial Name DL*	Da* Db*	DC*	DH*	DEcmc	Opacity_CR	with the Over Light
Red 1 6.79 L	-6.03 G -14.26 B	-11.38 D	-10.49 R	8.43	88.19 cr	data. If the Over Dark data are desired the output must be changed
Red			Mark	the stan	dard or sar	nple in the tree view and
Data Data Data Data Colorants Data Data Red Data Colorants			press	the righ	t mouse ke	ε y .
Associate Trials with current	nt Standard.		Select	t to use t	the extend	ed data for calculation
Use extended data for calc	ulations.					
Properties						

High Gloss											In order to change the display of data to SCE mode, do a right mouse key click into the data section of tree view.
	Associate T	rials with	current Stan	dard.				Select	"Use ext	tended	data for calculation"
	Use extende	d data f	or calculation	s.							
	Properties										
											This will display
Tol	lerances:	DL* tol	Da* tol	Db* tol	DC* tol	DH* tol	P/F tol	Margin	lic		the results for SCE
D6	5-10	0.90	0.65	0.65	0.65	0.65	1.00	0.10	2.00		the results for SCE
Sta	andard Name		Meas		L*	a*	b*	C*	h°		condition.
Hic	oh Gloss		%R LAV SCE UV	C Color i5	5.33	0.02	-1.42	1.42	270.83		
Tri	ial Name		Meas		DL*	Da*	Db*	DC*	DH*	DEcmc	
	Low Gloss		%R LAV SCE UV	/C Color i5	19,34 L	0,13 R	0,42 Y	-0,41 D	0,16 R	18,93	

How can I start a timed measurement to take automatic readings?

For some application, there is need to measure the changes of samples with the time. Also, when long time performance tests of the instruments have to be done, an automatic measurement is very useful. There is a function build into the program which allows to perform these measurements automatically

- Step 1 open a new job
- Step 2 Select the desired calibration mode for the spectro
- Step 3 Calibrate if required
- Step 4 measure the standard if trial measurements in relation to a standard need to be made
- Step 5 Setup the timed measurement in the following way



Attention: To avoid, that the time frame for the total number of measurements exceeds the calibration time – either adapt the timer there or enter a 0 to exclude the calibration timer control.

How can I enter a new standard with color metric data only?

Sometimes customers provide standard specification in terms of $L^*a^*b^*$ - data only. The question is – how can these be entered into the system?

- Step 1 Choose the job in which you want to store the new standard
- Step 2 Do a right mouse click into the Tree-View Data section (alternately press the [insert] button on your keyboard

Create a Measurement Create AutoPrompt List for these trial names. Insert Clipboard contents Manage Buttons Display all trials on same level. Expand all Standards Suppress Recalc/Refresh	The right mouse menu will provide you a list of options Select the Create a Measurement
Maximize	
Restore	
Trial Properties Name Data Condition Spectral Data Image Security ID Stored Tolerances Colorimetric Data Full name: Lab - Data only Unique ID: Created: Operator ID Unique ID: Created: Formatted: Data Type PERCENT 0.000000 User Trial 0.000000 Group 3: Comment Comment Using Tagging.fmt Data Using Tagging.fmt Trial OK	 Step 3 CoduP:PI0177b432[0] CoduP:PI0177b432[0]<

Trial Properties	Step 4
Name Data Condition Spectral Data Image Security ID Stored Tolerances Colorimetric Data Image CIE L*a*b* Image Image	Select the type of color metric data Select the illuminant observer condition of the color metric data Enter the color metric data Press [Apply] Press [OK]
Lab - Data only Lab - Data only	This standard is now available for comparison like any other standard Attention – It always has to be kept in mind that this standard is only valid for those data entered.

Transmission Measurement

The color or the transmission spectrum of colored liquids or colored solid materials such as foils can be measured with the Color_i7 or Color_i5.

Principally the user can measure the <u>direct</u> (for clear samples) or the <u>total</u> (for turbid sample) <u>Transmission</u>. Measuring the direct transmission only the direct light beam transmitted by the sample will be considered. Since there is lot of scattering in turbid samples the recommendation is to collect all light transmitted through the sample.

How to prepare for Transmission measurement and how to calibrate

White Standard

The sphere has to be closed with the Calibration White Standard (i5) or with TX-cover (i7).

- The Tx-Cover (see picture) is made from steel and will fixed to the front through the magnetic behavior. It is needed to complete the Ulbricht sphere and it needs to be kept all the time in front of the sphere..
- If the transmission white standard is used this should stay all the time in the position.



Tx-Cover with integrated white (i7)



Transmission White Standard for Calibration

Sample Holder

- The thin-film-sample holder or the liquid cell holder can be mounted in the transmission part of the instrument, prior to the calibration. This is decision of the user.
- In case of measurement of liquids, we would recommend to include the empty and cleaned cuvette (quartz) into the calibration process.

For Total Transmittance the measurement will be done at the sphere

Thin-film sample holder





Cuvette holder for measurement of liquids on the base plane.

Calibration Mode

In order to do any measurement in iQC a proper measurement mode has to be selected. If it is not yet available it has to be created.

Calibration Mode Properties	X						
Enable auto configuration by	v spectrophotometer						
R/T Mode Reflectance Regular (Direct) Transmittance Transmittance	UV Filter Pos / UV Energy 56.011 % Out / UV Inc 8 Oct / UV Cal UVD65 On / UV Exc						
🔘 Haze (Transmittance)	Port Plate Aperture / Lens						
Specular Condition	Port LAV (25 mm) 👻						
Included	Ignore port plate errors						
 Excluded Unknown 	Lens = Port						
Enable NetProfiler®	Glass Correction Applied?						
	2 Avg 0.00 deCMC Limit						
Extended measurements Normal (Single mode)	240 Calibration Interval (minutes)						
your name for this	mode: Total Transmittance						
OK Cancel	UV Calibration						

R/T Mode Reflectance Regular (Direct) Transmittance Total Transmittance	UV Filter Pos / UV Energy 56.011 % Out / UV Inc UVD65 ♥ Otal / UV Cal UVD65 ♥ O In / UV Exc
 Haze (Transmittance) 	Port Plate Aperture / Lens
Specular Condition	Port LAV (25 mm) -
Included	Ignore port plate errors
 Excluded Unknown 	Lens = Port 👻
Enable NetProfiler®	Glass Correction Applied?
	2 Avg 0.00 deCMC Limit
Extended measurements Normal (Single mode)	 Calibration Interval (minutes)

ID	Name of Mode	NextStdz	Average	R/T Mode	Specular	AreaView	UV Energy	Glass	Lens/Port
0	0-Default	Expired	2	RFL	SPI	25.00 mm	UV Cal	No	Lens=P
1	R/T	Expired	2	R/T	SPI	10.00 mm *	UV Cal	No	Lens=P
2	Total Transmittance	Expired	2	TTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P
3	Direct Transmittance	Expired	2	RTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P
4	(4) Haze	Expired	2	HAZE	SPI	25.00 mm	UV Cal	No	Lens=P

Calibration

Once all preparation have been made and the desired calibration mode has to be selected and the calibration has to be started. (press F4 or the proper icon \blacksquare)

• The calibration will be guided by the Color iQC.

• Step1 – White calibration

In the first step the white calibration has to be made. Either the TX sphere cover with integrated white or the White Transmission Standard has to be placed in front of the instrument. It has to be kept all the time in this position.

• Step 2 – Black calibrations

In the second step the black standard (black plastic chip) – has to be placed next to the sphere opening. The easiest will be to fix the sample between thin-film-holder and the sphere. The sphere opening should be completely covered.



A black standard (is provided as part of the Transmission Package) will be placed in the cell holder



How to do Color Measurement in Transmission mode – Total Transmittance

- To do a color measurement in transmission mode the following a job has to be opened/created
- The correct type of calibration mode for the transmission measurement has to be selected

ID	Name of Mode	NextStdz	Average	R/T Mode	Specular	AreaView	UV Energy	Glass	Lens/Port
0	0-Default	Expired	2	RFL	SPI	25.00 mm	UV Cal	No	Lens=P
1	R/T	Expired	2	R/T	SPI	10.00 mm *	UV Cal	No	Lens=P
2	Total Transmittance	Expired	2	TTBAN	SPI	25.00 mm *	UV Cal	No	Lens=P
3	Direct Transmittance	Expired	2	RTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P
4	(4) Haze	Expired	2	HAZE	SPI	25.00 mm	UV Cal	No	Lens=P

• If calibration expired – calibration has to be made



Transparent liquid samples

- For liquid samples the cell holder has to be mounted to the base panel. This will fix direct into the wholes on the ground of the instrument. The cell holder should be placed very close to the sphere whole.
- The liquid sample will be entered into the cuvette and this will be placed into the cell holder.



Transparent plastic chips

- The thin-foils-sample-holder will be mounted to the base panel. This will fix directly into the wholes on the ground of the instrument. The sample holder should be placed very close to the sphere whole.
- The liquid sample will be entered into the sample holder.



- Once the sample has been presented correctly the measurement can be activated (F6) or within the iQC program.
- The iQC program works for transmission samples in the same way as it would with opaque samples – standards and trials can be measured, evaluations can be done afterwards and reports can be generated

How to do Color Measurement in Transmission mode – Direct Transmittance

- To do a color measurement in transmission mode the following a job has to be opened/created
- The correct type of calibration mode for the transmission measurement has to be selected

ID	Name of Mode	NextStdz	Average	R/T Mode	Specular	AreaView	UV Energy	Glass	Lens/Port
0	0-Default	Expired	2	RFL	SPI	25.00 mm	UV Cal	No	Lens=P
1	R/T	Expired	2	R/T	SPI	10.00 mm *	UV Cal	No	Lens=P
2	Total Transmittance	Expired	2	TTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P
3	Direct Transmittance	Expired	2	RTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P
4	(4) Haze	Expired	2	HAZE	SPI	25.00 mm	UV Cal	No	Lens=P

• If calibration expired – calibration has to be made

Transparent plastic chips

- The thin-foils-sample-holder will be mounted to the base panel. The base panel will fix directly into the wholes on the ground of the instrument. The sample holder should be placed very close to the lens.
- The plastic chip sample will be entered into the thin-foils-sampleholder
 - Once the sample has been presented correctly the

measurement can be activated (F6) 🏧 within the iQC program.

• The iQC program works for transmission samples in the same way as it would with opaque samples – standards and trials can be measured, evaluations can be done afterwards and reports can be generated



Color Measurement in Transmission mode - Haze

With the i5 or i7 instrument the haze of samples can be measured. To measure haze two single measurements have to be made one with a white calibration standard in place and one with a black (Black Standard) in place. Only those samples with a good dispersion and good resistance of sedimentation should be measured.

How to prepare for Haze Calibration?

• First of all the sphere has to be closed with the Calibration White Standard or with TX-cover.

- The Tx-Cover (see picture) is made from steel and will fixed to the front through the magnetic behavior. It is needed to complete the Ulbricht sphere.
- If the other option is to use the white standard



• The thin-film-sample holder or the liquid cell holder can be mounted in the transmission part of the instrument, prior to the calibration. This is decision of the user.

• In case of measurement of liquids, we would recommend to include the empty and cleaned cuvette (quartz) into the calibration process.

Calibration Mode Properties	ID	Name of Mode	NextStdz	Average	R/T Mode	Specular	AreaView	UV Energy	Glass	Lens/Port
Enable sufo corriguration by spectrophotometer If A / TRA / HAse mode) Jour and for this mode: If A / TRA / HAse mode) Jour and for this mode: (4) Hase OK Cancel	10 1 2 3 4	Name of Mode 0-Default R/T Total Transmittance Direct Transmittance (4) Haze	Next5tdz Expired Expired Expired Expired Expired	Average 2 2 2 2 2 2	R/I Mode RFL R/T TTRAN RTRAN HAZE	Specular SPI SPI SPI SPI SPI	Areaview 25.00 mm 10.00 mm * 25.00 mm * 25.00 mm *	UV Energy UV Cal UV Cal UV Cal UV Cal	Lilass No No No No No	Lens/Port Lens=P Lens=P Lens=P Lens=P Lens=P

- Once the preparation has been made the desired calibration mode has to be selected and the calibration has to be started. (press F4 or the proper icon **I**)
- The calibration will be guided by the Color iQC.
 - Step1 White calibration

In the first step the white calibration has to be made. Either the TX sphere cover with integrated white or the white transmission standard has to be placed in front of the instrument.

Step 2 – Black calibration with the black trap

In the second step the black trap will be requested. Place it in front of the spectro and do a measurement.

How to do Haze Measurement?

- To do a haze measurement a job has to be opened/created
- The correct type of calibration mode for the transmission measurement has to be selected

ID	Name of Mode	NextStdz	Average	R/T Mode	Specular	AreaView	UV Energy	Glass	Lens/Port
0	0-Default	Expired	2	RFL	SPI	25.00 mm	UV Cal	No	Lens=P
1	R/T	Expired	2	R/T	SPI	10.00 mm *	UV Cal	No	Lens=P
2	Total Transmittance	Expired	2	TTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P
3	Direct Transmittance	Expired	2	RTRAN	SPI	25.00 mm *	UV Cal	No	Lens=P
4	(4) Haze	Expired	2	HAZE	SPI	25.00 mm *	UV Cal	No	Lens=P

• If calibration expired – calibration has to be made

 For liquid samples For liquid samples the cell holder has to be mounted to the base panel. This will fix direct into the wholes on the ground of the instrument. The cell holder should be placed very close to the sphere whole. The liquid sample will be entered into the cuvette and this will be placed into the cell holder. The measurement will be done in two steps over the white transmission standard over the black trap Once the measurement has been done evaluations can be done and reports can be generated 			
 Plastic chips and foils The thin-foils-sample-holder will be mounted to the base panel. This will fix directly into the wholes on the ground of the instrument. The sample holder should be placed very close to the sphere whole. The liquid sample will be entered into the sample holder. The measurement will be done in two steps over the white transmission standard 			

o over the black trap

Once the measurement has been done evaluations can be done and reports can be generated

How to set up the Multi Trial view to see the Haze Data?

td/Multiple Irial View Setup Reca	I Format Remote C	Output Setup	
Standard display		Automatic switching on color space	
Inal display		Usplay icons for passing samples	
	Show data for 1 Illu	minant 👻	
Possible Attributes:		Selected Attributes:	
L•	Tint-CIE	DL*	
a*	Single Wave	Da*	
C*	Color Value-		
hº	Color Value-	DH*	
x	Minimum Wa	DEcmc	
Y	Date/Time	Haze	
Z	Comment >>		Up
x	Opacity_CR		
y 1	Stensby WI <<		Dn
a	Taube WI		
b	Tappi_452		
Whiteness Index-ASTM	Tappi_525		
Whiteness Index-CIE	OJ_Index		
Whiteness Index-GANZ	Munsell HVC		
Tellowness Index-ASTM ES13-00	Shn Gloss (
<	•		
Width of name column in prin	ntout 20]	

In order to show the measured haze data the haze information has to be added to the multi trial view.

You can do this by clicking into the multi trial and press the right mouse key. Then select properties and the Multi Trial View Windows will open.

Select the Haze information in the box of possible attributes and press the double arrow key facing to the right. This will move the haze to the right box.

How to measure correlated Haze on a 7000A instrument

Also with the 7000A instrument the haze of samples can be measured. However there is the little difference to the above information on the i5 and i7 instrument. Due to the fact, that the 7000A instrument doesn't require a black calibration in the transmission mode, the Haze function cannot be done in this mode. For the 7000A instrument you will have to use the correlated haze.

Calibration Mode Properties	×	On the 7000A instrument a correlated haze measurement
 Enable auto configuration b R/T Mode Reflectance Regular (Direct) Transmittance Total Transmittance Haze (Transmittance) Specular Condition Included Excluded Unknown 	uv spectrophotometer UV Filter Pos / UV Energy Out / UV Inc 50.000 % Out / UV Inc UVD65 • Out / UV Cal UVD65 • In / UV Exc Port Plate Aperture / Lens Port LAV (1.00 in) • Ignore port plate errors Lens Lens = Port •	can be done, when in the R/T Mode with the activated Reflectance the option correlated haze is selected
Enable NetProfiler® Extended measurements	Glass Correction Applied?	
Normal (Single mode) Over Light/Over Dark n/a BFL / TRA Correlated Haze	node: D-Default UV Calibration	

Calibrate the instrument in the Reflectance Mode.

Place the samples within transmission chamber – place them close to the sphere and follow the instruction to place the black and white standard for the measurement.
Haze Correlation

Even a sphere based spectrophotometer can be used to measure a correlated Haze – it is not really build up like a Haze Meter. Therefore it might well be, that the results achieved by the sphere based spectrophotometer do not agree to those of the Haze meter. If a series of samples with a haze value available – the results from the spectrophotometer might be adjustable to the target results. Within the user settings (F2 if no job is loaded) of the iQC program – there are two sets data, which can be used to influence the results. The Haze factor is a linear factor (default value = 0)

The Haze and Opacity Black Offset factor is an offset from 0.

System User Settings eSubmit Tag Format		
Calculations		
Enable CIE94 as '00' equation	False	
Enable DIN99 as '00' equation	False	
White Backing Y Value	90.00	
Haze Factor	0.00	
Haze and Opacity Black Offset	0.25	=

Tolerances

Program workflow for tolerance settings

Color iQC and Color iMatch supports 3 different types of general tolerance handling.

- Individual standard settings
- The same tolerances for all standards
- Automatic CMC tolerancing

This general tolerance setting is defined in the QC-Setting

or iQC Job Settings	QC QC Desid	n Template Job Options	Autoname	In the Color iQC Job settings - on the tab QC - the user can
Stored in this JOB's settings				decide which type of tolerance
Pass/Fail		Get Tolerance Fr	om	nandling ne wants to use.
[DEcmc] 🗸	DL*	 Standard System [Calculate 	d Default ad using CMC	In case the option "Get Tolerance From" Standard is activated - the program
Test under all 3 illuminants	Db*	DEcmc 2.0(:1	L:C Ratio DE2000/94/99 2.00	workflow will check first at the selected standard, whether individual tolerances are store along with the standard. If thi
Number of Visual Steps (affects tolerancing, sorting, and trend plots)	×	Strength Method Adjusted S Use Saun	y Weighted Sum	is not the case the program workflow will use the system default settings as defined in this window
		Density Method	M ANSI	In case the system default is
System Default Tolerances	DL*	Da* Db* DC*	DH*	activated the program logic w
Pass/Fail 1.00	Upper 0.000	0.000 0.000 0.000	0.000	use the tolerance settings as
Margin (%) 0.10	Lower 0.000	0.000 0.000 0.000	0.000	defined in this screen
L		OK Car	ncel Apply Help	

When and how to use system tolerances?

For companies, which do not yet have any experience with individual tolerances and do not have specific customers with individual tolerances for individual standards the use of system tolerance is very often used. Only at one location 1 tolerance setting has to be defined and this will work for all standards

em eSubmit Tag Format General	QC QC Design T	emplate Job Options Autoname	program workflow in such way, that no
Stored in this JOB's settings			individual tolerances
			should be considered
Pass/Fail		Get Tolerance From	the "Get Tolerance Fr
DEcmo	also test	Standard	System Default" has
	DL*	System Default	be activated
	Da*	Calculated using CMC	De activateu.
			In this same the
	Db-	L-C Botto	In this case the
Test under all 3 illuminants	DC*	DE DE2000/04/00	tolerance data as
	DH*	DEcmc DE2000/94/99	defined in this screen
		2.00 :1 2.00	will be used.
Uses CMC weighted va	ilues for test		
		Strength Method Weighted Sum	
Number of Visual Steps			
(affects tolerancing, sorting,	1	Adjusted Strength Target 100.00 %	
and trend plots)		Illes Szundaman Corrections	
		Density Method M ANSI	
System Default Tolerances			
D (C (100	DL" Da		
Pass/Fail 1.00	Upper 0.000 0.00	0 0.000 0.000 0.000	
Margin (%) 0.10	Lower 0.000 0.00	0 0.000 0.000 0.000	
	[OK Cancel Apply Help	
	i í Th	nere is a choice of 6 different	tolerance systems.
mc 🔻	Tł	nis includes	
me	h ''	• DE*	
000			
1000		 DEcmc 	
tangular (DL , DC , DH")		• DE2000	
tangular (DL00, DC00, DH00	c	 Bectangular (DI * DC* I 	NH*)
12.1g.2.2 (0200, 0000, 01100	2		
		 Kectangular (DL*,Da*,D) 	D^)

System Del Pass/ Margin	fault Toleran Fail 1.00 (%) 0.10	ces			In th selec warn	n the System Default Tolerances the Pass/Fail-Value for selected tolerance system is defined with a margin valu warning information.			
Upper Lower	DL* 1	Da* 0.5 0.5	Db* .5 0.5	DC* 0.000 0.000	DH 0.00	• 0	If either the Rectangular (DL*,Da*,Db*) system or the Rectangular (DL*, DC*, DH*) is selected individual tolerances can be defined for each parameter.		
Number (affects and tree	r of Visua tolerancii nd plots)	al Steps ng, sorting	1	¥		Atter centr num	ntion: For the above tolerance setting with de- tral tolerances data is only available – if the nber of visual sorting steps has been set to 1.		
▼ Test u	under all	3 illuminan	S		luminant luminant luminant	1 2 3	If the function Test under all 3 illuminants (as defined on the Color iQC-Setting Tab General) – for each of the 3 illuminants tolerances can be provided.		

When and how to use individual tolerances for each standard?

The use of individual tolerances for each standard is recommended, if you are working with customers which have individual tolerances for each standard. IQC provides a lot of flexibility to handle such cases. For each standard individual tolerance systems (DE*, DE_{CMC}, DE₀₀, ...) as well as individual tolerance values can be used.

Color iQC Job Settings System e Submit Tag Format General QC QC Design Stored in this JOB's settings Pass/Fail DEconc IDEconc Da* Db* Dc* DH* Uses CMC weighted values for test Number of Visual Steps (affects tolerancing sorting	Template Job Options Autoname Get Tolerance From Standard System Default Calculated using CMC L:C Ratio DEcmc DE2000/94/99 2.0(:1 2.00 Strength Method Weighted Sum Adjusted Strength Target 100.00 % 	In order to allow individual tolerances for each standard, the selection "Get Tolerance From" Standard has to be activated. In this case the program workflow will check first at the selected standard, whether individual tolerances are stored along with the standard. If this is not
and trend plots)	Use Saunderson Corrections Density Method M ANSI ▼ a* Db* DC* DH* 00 0.000 0.000 0.000 00 0.000 0.000 0.000 00 0.000 0.000 Maximum Analysis OK Cancel Apply Help	the case the program workflow will use the system default settings as defined in this window. In case the system default is activated the program logic will use the tolerance settings as defined in this screen.
Image: Second	Associate Trials with current Standard. Use extended data for calculations. Properties	In order to provide individual tolerances to a standard the standard will be have to be marked in the tree view windows and the right mouse key has to be used. From the option menu the "Properties" function option has to be selected.

LC Ratio Number Visual Steps (Block Range) DEcmc DE2000/94/99 1 0.00 1 0 Colerances DL* Da* Db* DC* DH* Upper 0.786 0.00 0.054 Imminant 1 Lower 0.786 0.00 0.054 Imminant 2 Imminant 3 Compute tolerances based on statistical limits Compute tolerances based on utern history All HIGHLIGHTED trials in treeview are considered faling.	ne Data Con	dition Spectral Data	Spectral Data P/F DEc	Image mc	Security ID	Stored	Tolerances	Tolerar	nces U	ed	the tab "Stored
Tolerances DL* Da* Db* DC* DH* Illuminant 1 Calculate 0.00 0.786 0.451 0.328 0.401 0.654 Illuminant 2 Reset % Margin: Image: Compute tolerances based on statistical limits Image: Compute tolerances based on current history Illuminant 3 Individual tolerances' Compute tolerances based on statistical limits Compute tolerances based on current history Individual tolerances' Sigma Limit 2.0 Compute Statistical Compute tolerances based on current history Compute Logical	DEcmc	L:C Ratio DE2000/94/9 0.00	9	Nu	mber Visual	Steps (Blo	ock Range	:)			Standard" the tolerances for the standard can be set.
Calculate from CMC 0.00 Lower 0.786 0.451 0.328 0.401 0.654 • Illuminant 2 Lower 0.786 0.451 0.328 0.401 0.654 • Illuminant 2 Compute tolerances based on statistical limits Compute tolerances based on statistical limits Compute tolerances based on current history All HIGHLIGHTED trials in treeview are considered falling. Compute Logical	Tolerances	P/F Tolerance		DL*	Da*	Db*	DC*	DH*		Illuminant 1	DE _{CMC}
Individual tolerances Compute tolerances based on statistical limits Sigma Limit Compute Statistical Compute tolerances based on current history All HIGHLIGHTED trials in treeview are considered failing. Compute Logical	Calculate	1.17	Upper	0.786	0.451	0.328	0.401	0.654	۲		Rectangular
Reset % Margin: Image: Compute tolerances Image: Compute tolerances based on current history Compute tolerances based on statistical limits Compute tolerances based on current history Individual tolerances Sigma Limit 2.0 Compute Statistical Compute tolerances based on current history Individual tolerances	from CIVIC	0.00	Lower	-0.786	-0.451	-0.328	-0.401	-0.654	0	Illuminant 2	DI *Da*Db*DC*DH
Compute tolerances based on statistical limits Sigma Limit 2.0 Compute Statistical Compute Statistical Compute tolerances based on current history All HIGHLIGHTED trials in treeview are considered failing. Compute Logical for different illuminant	Reset	% Margin:		🔽 As	symmetrical	Tolerance	s			Illuminant 3	• DE2000/94/99
	Compute tolerar Sigma Limit	2.0 Cor	al limits mpute Statistical		All HIG	oute tolera GHLIGHTE	nces base ED trials in nsidered fa	d on curre iling.	ent histo	ny ute Logical	Individual tolerances for different illuminar

Special functions can be used to calculate tolerances based on existing trail data.

LC-Ratio	If a different ratio of L:C than defined in the system setting should be used it can be set at this point
Number of steps for sorting	In this box the number of sorting steps within the 555 sorting can be defined here
Tolerances	Within this section the tolerances can be defined
Calculate from CMC	The Tolerances DL*, Da* as shown can be calculated from the manual entered P/F-Tolerance value

How to calculate individual standard tolerances based on statistical data?

Get Tolerance From Standard System Default Calculated using CMC		In order to allow use i each standard, the se From" Standard has to case the program wor the selected standard tolerances are stored If this is not the case will use the system de in this window. In case the system de program logic will use as defined in this scree	individual tolerances for election "Get Tolerance o be activated. In this rkflow will check first at d, whether individual along with the standard. the program workflow efault settings as defined efault is activated the e the tolerance settings een.
Bone 1.5B Bone 1.5D Bone 1.5G Bone 1.5L Bone 1.5R Bone 1.5R Bone 1.5Y Bone 1.5Y BONE 1B		Minimum 10 acceptal associated with the st difference whether th marked/selected or ne	ole trials have to be tandard. There is no le sample have been ot marked/selected.
Data Data O Bone 1 Bone 1.5B Bone 1.5D Bone 1.5G Bone 1.5G Bone 1.5L Bone 1.5R Bone 1.5R Bone 1.5R Done 1.5Y	Associate T Use extende Properties	rials with current Standard. ed data for calculations.	In order to provide individual tolerances to a standard the standard will be have to be marked in the tree view windows and the right mouse key has to be used. From the option menu the "Properties" function option has to be selected

me Data Condition Spectral Data	P/F DEcmc	Security ID Stored Tolerances 106	rances Used	"Standard Tolerance
L:C Ratio DEcmc DE2000/94/9 0.00 :1 0.00	19 Nu	imber Visual Steps (Block Range)		has to be selected. Once a sigma limit h been entered the
Tolerances Calculate from CMC Reset P/F Tolerance 0.00 0.00 % Margin:	DL* Upper 1.867 Lower -1.867	Da* Db* DC* DH 1.243 2.046 1.940 1.30 -1.243 -2.046 -1.940 -1.30 symmetrical Tolerances	3 (a) 3 (b) 3 (c) 1 Iluminant 2 Illuminant 3	button "Compute Statistical Tolerance has to be clicked. A of DL*, Da*, Db*, DC and DH* will be provided
Compute tolerances based on statistic Sigma Limit 1 Co	al limits mpute Statistical Tolerance	Compute tolerances based on c All HIGHLIGHTED trials in treeview are considered failing.	Compute Logical Tolerance	provided.

How to calculate logical CMC tolerances for a standard?

Get Tolerance From Standard System Default Calculated using CMC Bone 1.5B Bone 1.5D Bone 1.5G		In order to allow using individual tolerances for each standard, the selection "Get Tolerance From" Standard has to be activated. In this case the program workflow will check first at the selected standard, whether individual tolerances are stored along with the standard. If this is not the case the program workflow will use the system default settings as defined in this window. In case the system default is activated the program logic will use the tolerance settings as defined in this screen.
		A minimum of 10 samples/trials and at least one selected (fail) in order to compute logical
Bone 1.5G		tolerances for a standard. The more samples
		the better the tolerance generation.
👗 BONE 1B		

⊡- Data ⊟- ⊡ ⊗ Bone 1	Associate Trials with current Standard.	In order to provide
Bone 1.5B	Use extended data for calculations.	a standard the
🚶 Bone 1.5D		standard will be have
Bone 1.5G	Properties	to be marked in the
	-	tree view windows and
🔒 Bone 1.5R		the right mouse key
🔒 Bone 1.5Y		has to be used.
		From the option menu
		the "Properties"
		function option has to
		be selected.



How to transfer tolerances from one standard to another standard?

Sometime it is useful to transfer the tolerances from one standard to another standard. This can easily be done.



Which tolerances are shown and used?

As indicated earlier iQC a very complex and flexible way to handle tolerances. Which tolerances are shown and used for Pass/Fail – depends on the several settings in the System Defaults and in the standard properties.

Information about System settings you will find here: <u>When and how to use system</u> tolerances?

Information about Standard properties: <u>When and how to use individual tolerances for each</u><u>standard?</u>

In the iQC program tolerances and Pass/Fail-Decisions will be shown in the Standard/Multi Trial View.

Toleranzen:	DL* tol	Da* tol	Db* tol	DC* tol	DH* tol	P/F tol	Margin	lic
D65-10	0.77	0.53	0.72	0.70	0.55	0.50	0.00	2.00
Trial Nama	DI *	De*	Db*	DC*	DH*	DEemo	D/E DE	
That wallie	DL	Da	00	00	DII	DECINC	F/I DL	
X BONE 1G	-0.34 D	-1.06 G	-0.26 B	-0.05 D	1.09 G	1.44	Failed	
K BONE 1D	-1.25 D	0.21 R	-0.20 B	-0.21 D	-0.20 R	0.56	Failed	
BONE 1Y	-0.67 D	0.03 R	0.97 Y	0.96 B	-0.10 R	1.09	Failed	
BONE 1R	-0.72 D	0.91 R	-0.15 B	-0.13 D	-0.92 R	1.24	Failed	

Tolerances are shown in the Standard/Multi Trial View, if the option is activated.

Decisions about P/F are based on the displayed tolerances and the system settings.

Tolerances – P/F on Total difference only

Tolerances: DL*	tol Da* tol	Db* tol	DC* tol	DH* tol	P/F tol	Margin	lic
D65-10 1.24	4 0.34	0.40	0.41	0.34	0.50	0.00	2.00
Get Tolerance From Standard System Default Calculated using Cl ystem Settings	MC	System Defa Pass/F Margin (System D	ail 0.50 %) 0.00 efault Tol	es— erances	Stand	alculate om CMC Reset dard Toler	/F Tolerance 0.5 0.00 % Margin:
 In the System Additional th The Tolerance Whats shown following decomposition 0 1 0 2 0 3 4 5 	nsettings (F2 e System To e for the stan in the toler cision flow. "Get Tolerar P/F-value fo Show: P/F to "Get Tolerar P/F-value fo Show: P/F or "Get Tolerar P/F-value fo Show: 0 • Atten "Get Tolerar P/F-value fo Show: 0 • Atten "Get Tolerar Show: P/F or "Get Tolerar Show: P/F or "Get Tolerar	2-Tab:QC) it lerance is o ndard is de ance displa nce From" = r the Stand olerances fr nce From" = r the stand r System D f System D f System D tion: A Pass nce From" = r System D f System D tion: A Pass nce From" =	is define lefined at fined for ay in the i = Standar ard = ava om Stand = Standar ard = 0 efault Tole = Standar ard = 0 efault Tole = Standar ard = 0 efault Tole = Systems efault Tole = Calculat	d where to the this lo each stand QC depen d ailable lard d erances = erances d erances = sion is stil standard erances = erances ced using (ision is stil	o get the ocation dard in it ds on the available 0 Il done or available CMC ill done o	tolerance s properti e settings e n CMC=1 e n CMC=1	es according to

Tolerances:	DL* tol	Da* to		Db* tol	DC* to	DH*	tol 🗡 P	/F tol	Margin	lic
D65-10	1.24	0.34	_	0.40	0.41	0.3	4	0.50	0.00	2.00
Get Tolerar	nce From			Sy	stem Default	Tolerance	s		olerances	0.071
State	andard							ſ	Calculate	0.5
🔘 Sy	stem Default				Pass/Fail	0.50			from CMC	0.00
🔘 Ca	lculated using C	:MC			Margin (%)	0.00		ſ		0.00
System	Finctallun	200			_			l	Reset	% Margin:
System-	EINSLEIIUN	gen			Systems	tandard			Standar	rd Toleranz
							D	I* D-*	D6* [ус• DU•
Upper	DL* Da*	D6*	DC*	DH*			Upper 1.2	40 0.340	0.400 0.	410 0.340
		0.000	0.000	0.000			Lower -12	40 -0 340		410 -0.340
Lower	0.000 0.000	0.000	0.000	0.000				Ammetrical		
System	standard /	Attribu	te lo	leranz	zen		Standa	ard Attr	ibute Tol	eranzen
	Standard Attribute idlefallzen									
 The To What' accord o o o 	allerance for s shown i ding to the 1 • Ge • Sta • Sho 2 • Ge • Sta • Sho 3 • Ge • Sta • Sho 4 • Ge • Sta • Sho 4 • Ge • Sta • Sho 5	t Tolera andard ow: Att t Tolera andard ow: Att t Tolera andard ow: Att t Tolera andard stem D ow: Att t Tolera andard stem D ow: Att	ance Attri ribut ance Attri ribut ance Attri P/F-T efau ance Attri P/F-T efau ance Attri P/F-T efau ance	lard is bar Db decision From bute - te Tole From bute - toleran te Tole From bute - toleran t Attr te Tole From bute - toleran t Attr te Tole From bute - toleran t Attr te Tole From bute - toleran t Attr te Tole	defined f v tolerance on flow. = Standa Folerances rance fro = Standa Folerances nce = ava rances ca = Standa Folerances nce = 0 ibute Tole rances fro = Standa Folerances nce = 0 ibute Tole rances fro = Standa	rd s (dL* da m Stanc rd s (dL* da ilable alculated rd s (dL* da erances om Syst rd s (dL* da erances s = ava ased on	standar ay in the a* db" d lard a* db" d d based a* db" d (dL* da* em a* db" d (dL* da* ilable calculat	c" DH* C" DH* C" DH* on P/F- C" DH* db" dC C" DH*	properti epends o) = avail) = 0 value fro) = 0 C" DH*) =) = 0 C" DH*) = P/F-Tolera	es n the settings able m Standard = available = 0 nces from System

- Get Tolerance From = Standard
- Standard Attribute Tolerances (dL* da* db" dC" DH*) = 0
- Standard P/F-Tolerance = 0
- System Default Attribute Tolerances (dL* da* db" dC" DH*) = 0
- System Default P/F-Tolerances = 0
- Show: Attribute Tolerances based on calculation of Default Tolerance of 1
- o **6**
- Get Tolerance From = System Default
- System Default Attribute Tolerances (dL* da* db" dC" DH*) = available
- Show: Attribute Tolerances from System Default
- o **7**
- Get Tolerance From = System Default
- System Default Attribute Tolerances (dL* da* db" dC" DH*) = 0
- System Default P/F-Tolerance = available
- Show: Attribute Tolerances calculated from System P/F-Default

o **8**

- Get Tolerance From = System Default
- System Default Attribute Tolerances (dL* da* db" dC" DH*) = 0
- System Default P/F-Tolerance = 0
- Show: Attribute Tolerances calculated from Default Tolerance of 1

o 9

- Get Tolerance From = Calculated from CMC
- Show: Attribute Tolerances calculated from Default Tolerance of 1

Which decision will be taken?

M	Pass/Fail 0 1argin (%) 0	.50			also tes DL* Da* Db* DC* DH*	t V V V		Pass/l or Sys wheth shoul P/F w Pass/l	Fail-va stem) ner or d be c ill influ Fail de	lue and not ons ienc cisio	(Standard the attributes dered for e on
Tolerances:	DL* tol	Da	a* tol	Db* tol	DC* tol	DH* to	P/F t	ol	Margin		lic
D65-10	1.24	0	.34	0.40	0.41	0.34	0.5	0	0.00		2.00
Trial Name	DI *	De*	Db*	DC*	DH*	DEcmo	D/E DE		also tes	t	
PONE 10	0.24 D	1.06.0	0.00 P	0.05 D	1.00.0	1.44	Fridd			_	
BONE 1G	-0.34 D	-1.06 G	-0.20 D	-0.05 D	1.09 G	1.44	Failed		DL*		
BONE 10	-1.20 D	0.02 R	-0.20 D	-0.21D	-0.20 R	1.00	Failed		Da*		
BONE 10	-0.07 D	0.03 R	0.97 1	0.30 D	-0.10 R	1.09	Failed		04		
BONE 1	-0.72 D	0.26 D	0.10 0	-0.13 D	-0.32 K	0.57	Failed		Db*		
In this case a are not check failed. All fail	P/F will ced. All s s will be	be dor ample shown	e on the s, which in red c	e P/F-valu exceed a color	ie only - a DEcmo	since 0.5 w	attribute ill be be	es	DC* DH*		
Trial Name	DL*	Da*	Db*	DC*	DH*	DEcmc	P/F DE		also tes	t	
K BONE 1G	-0.34 D	-1.06 0	-0.26 B	-0.05 D	1.09 G	1.44	Failed		DI *	1	
BONE 1D	-1.25 D	0.21 R	-0.20 B	-0.21 D	-0.20 R	0.56	Failed		02		
BONE 1Y	-0.67 D	0.03 R	0.97 Y	0.96 B	-0.10 R	1.09	Failed		Da*	1	
BONE 1R	-0.72 D	0.91 R	-0.15 B	-0.13 D	-0.92 R	1.24	Failed				
BONE 1L	0.89 L	0.26 R	0.29 Y	0.27 B	-0.28 R	0.57	Failed		DP-	v	
In this case a	lso the c	olor at	tributes	will be u	sed for	P/F. All	trials,		DC*	V	
failed. All fail	s will be	shown	in red c	olor.	nerance	windo	w will de		DH	V	

QC Tree View - operation

How to change the association of trial to a standard?

Within the operation it can happen, that a trial will by mistake linked to the wrong standard



How to remove the association of trial to a standard?

Within the operation it sometimes can be required to completely remove a association to a standard



How to copy a series of measurements from one job to another job?

Within the operation it sometimes can be necessary to copy a series of samples from one job to another job.



The same functionality can be reached by masking all samples to be copied – then use [Ctrl] + [C] – then go to the target job and use [Ctrl] + [V]

How can I edit a standard or trial?

Sometimes it is required to do some changes to the record of a standard or sample. F.e. change the name or change the type of record or

Bone 1 Bone 1	Example: The trial 501010 has been measured like a trail – it needs to become a standard and a different name has to be applied Click the trial – then press the right mouse key Select the properties function
Properties	
Trial Properties Name Data Condition Spectral Data Image Security ID Stored Tolerances Colorimetric Data Full name: If S01010 Unique ID: 0 Ocreated: 01. Formatted: Data Type PERCENT User Defined Group Designation Group 1: Group 2: Group 3: Comment Visual Using Tagging.fmt Data Using Tagging.fmt	First we select the Tab Name and do the modification to the Full-Name
Data Type Trial Substrate Primary Synth Correction	Next click on the arrow underneath the Data Type and we select the Standard
OK Cancel Apply Help	Finally we press apply and ok

Bone 1 · M · M · M · M · M · M · M · M	The previous trail T501010 is now a standard with the name STD501010
Bone 1 ▲ Data STD501010	

These changes will be made to the data in the job only. If you want to make them apply to the data in the database as well, please proceed as follows

Bone 1 Image: Control 7	4	Click the desired sample
Data		
STD501010		
Delete from job		Select save to database
Save to Database		
Delete from database		

e-Job's

How can I make sure, that changes, which have been made to a job will still be the same, if I start the job the next time again?

Situation:

I have modified a job to give me very specific display of data and I experience, that anytime i start the job again, that I am back to the old settings.

Solution:

Your job is linked to a setting file which contains a different data display. Anytime you start the job – it will use the settings as defined in this setting. If you want, that the job will keep use your modified settings, you will have disconnect the job from the setting file.

Color rQC Job Settings System eSubmit Tag Format General QC QC Design Template Job Dottons Autoname Sored in this JOB's settings Database Name Image: Cell's"b" Image: Cell's" Cell's"b" Image: Cell's"b" Image: Cell's"b" Image: Cell's"b" Image: Cell's" Image: Cell's"b' Image: Cell's"b' Image: Cell's"b'	 If you want to disconnect the e- job from the default setting - do the following: Go to the Color iQC Settings [F2]. Choose the TAB General Here you will find which settings file your job is connected to. Click the button [Disconnect e-job from settings file].
Settings Filename Disconnect e-Job from settings file (Note: If no settings file, settings will be stored inside the job file)	Now the job has been disconnected all settings will be stored within the job now.

How can I make sure, that changes will apply to new jobs?

Situation:

Changes have been made to the jobs for example – a new logo is used - or a new selection of illuminants has been applied - or a change in the job options has applied. How can these changes be applied to new jobs?

Solution:

All new jobs, which are started from the default job \square will use the default job setting. In order to make changes to the appearance of new jobs – the default job has to be edited. Please proceed in the following way.

• Close any open job (this will give a access to the default job



How can I easily get a different view of data for the same standard and trial

Situation:

A customer desired a solution, which does allow to easily switch between an LabCH* display of data and and isplay of XYZxy - data

Trial N		1.		L+	C*	L0	Situation – customer has already an L*a*b* display and
Triat N	ame	L^	a^	D*	C*	n°	wants to change to an XYZxy
Bo	ne 1.5D	85,23	-0,79	4,38	4,45	100,22	display
Bo	ne 1.5L	87,95	-0,08	4,87	4,87	90,95	uispiay
Bo	ne 1.5G	86,19	-1,86	4,37	4,74	113,02	
Bo	ne 1.5Y	85,88	-0,22	6,04	6,05	92,11	
Bo	ne 1.5R	85,84	0,54	5,06	5,09	83,86	
BO	ne 1.58	86,17	-0,54	3,42	3,46	99,03	
Col	or iContro D Data <u>N</u> ew e-Jo New e-Jo <u>O</u> pen Exis <u>C</u> lose Cui <u>Q</u> uit Curr <u>S</u> ave Save <u>A</u> s	I - [Demo Nation Application b b from <u>T</u> emplate sting e-Job rrent e-Job ent e-Job withou	nal Coil Coa View Spe e ut saving	ectro <u>A</u> cc Ctrl+N Ctrl+T Ctrl+O Ctrl+F4 Ctrl+Q Ctrl+S Ctrl+R	With	n the func Jal setting	tion Save As ([CTRL]+[R]) the s can be saved
File n Save	ame: as type:	Set_Lab.st5 Color iControl e-Jobs	s (*.jb5;*.st5;*.jt	5)	S Ca	ave	We save this as Set_Lab.st5 (st5 stands for settings_type 5)
~	Include thi Change Vi	is view in Full Pri ew	ntout.		Ne mi Pro	ext with th ulti_data_v operties	e right mouse key in the view and select the option
	Properties.						



30 July 2012 Version 2.0

1	Col	or iControl -	[Demo Natio	nal Coil	Coaters [d	latak		With the function Save As			
	e-Jo	b <u>D</u> ata	Application	<u>V</u> iew	<u>S</u> pectro	Ace		([CTRL]+[R]) we save now the actual settings			
		<u>N</u> ew e-Job			Ctrl+N	l I		the actual settings.			
	<u> </u>	New e-Job	from <u>T</u> emplat	te	Ctrl+1						
	(<u> </u>	<u>O</u> pen Existi	ng e-Job		Ctrl+C)					
Ī		Close Curre	ent e-Job		Ctrl+F4						
		Quit Currer	nt e-Job witho	ut savin	ig Ctrl+Q	2					
	L.	<u>S</u> ave			Ctrl+S						
		Save <u>A</u> s			Ctrl+F	t					
	File name: Set_XYZ.st5						✓ Save	We save this as Set_XYZ.st5 (st5 stands for settings type			
	Save	e as type:	Color iControl	e-Jobs (*	'.jb5;*.st5;*.jt	5)	▼ Cancel	5)			
	9	Save Settings	;				In the future you ca	an easily select the function			
	I	Recall Setting	js				Change Settings File reference from the e-job				
	(Change Setti	ngs File refere	nce			menu				
	Nam	e					Select the desired setting and your Multi-Trial				
	🔳 S	et_XYZ						ige infinediatery.			
	🧟 🖉	et_Lab									

Color Search

How can I do a color search in the database?

• Step 1 – Decide what you want to search for? Standard or trial?

Select new standard	Have the Standard Selection box "Select New Standard" - If a standard is selected, this will be sample which is used in the color search Mark the sample for which you want to get the closest match. Press [Shift] + [F5] - or the proper icon on the lcon bar
Retrieve from database C:\Color_iControl\Jobs\iControl7.mdb Full name:	 This will open up the "Retrieve from Database" window. If you want to search the Trials instead of standards you can change the Data Type Activate the Search on Color Function The L*a*b*-data of the current sample have been transferred into this box already. Define the DEcmc or DE* and the limit. Press [Search] to start the Search Process

Full Name DEcmc DL* DH*				or primaries are in Percent	Table: S1 Concentration		ınd: 1	ose 1 tches Fou	Name: * Target: Woodr Number of Ma
	a job.	Region Local	: UID R	Group2:	e Group	* Date	DH*	me DL'	ull Name DEc
Woodrose 1 0.00 0.00 0.00		0 0	E\c0M7 <x09d0232f 0<="" td=""><td>CoilCoaters Original Data</td><td>)9.2010 13:54:00 Nation</td><td>00 24.09</td><td>0.0</td><td>)0 0.1</td><td>Voodrose 1 0.0</td></x09d0232f>	CoilCoaters Original Data)9.2010 13:54:00 Nation	00 24.09	0.0)0 0.1	Voodrose 1 0.0
OK (Betrieve) Select &		Cancel	Print Beport	Verifu Database			Select A		OK (Betrieve)
Possible Matches Found								-	
Search Criteria	even more samples within tolerances have		L* 67.6848		Group 1:			es Found	Search Criteria
Search Criteria Name: * Target: Woodrose 1	even more samples within tolerances have		L* 67.6848 a* 8.9909		Group 1: Group 2:			es Found	Search Criteria Name: *
Search Criteria Name: * Target: Woodrose 1	even more samples within tolerances have been found.		L* 67.6848 a* 8.9909 b* 6.4033		Group 1: Group 2: Group 3:			ose 1	ossible Matche Search Criteria Name: * Target: Woodr
Search Criteria Name: * Target: Woodrose 1 Number of Matches Found: 3	even more samples within tolerances have been found. Select either		L* 67.6848 a* 8.9909 b* 6.4033 DEcme 1.00	IAL	Group 1: Group 2: Group 3: Table:		ind: 3	ose 1 ches Fou	Search Criteria Name: * Target: Woodm Number of Mat
Search Criteria Name: * Target: Woodrose 1 Number of Matches Found: 3	even more samples within tolerances have been found. Select either individually or [Select		L* 67.6848 a* 8.9909 b* 6.4033 DEcmc 1.00	IAL for primaries are in Percen	Group 1: Group 2: Group 3: Table: Concentratio		ind: 3	ose 1 ches Fou	Search Criteria Name: * Target: Woodr Number of Mat
Search Criteria Name: * Target: Woodrose 1 Number of Matches Found: 3 Full Name DEcmc DL*	even more samples within tolerances have been found. Select either individually or [Select All] and press [ok] to	Region Local	L* 67.6848 a* 8.9909 b* 6.4033 DEcmc 1.00	IAL for primaries are in Percen roup1: Group	Group 1: Group 2: Group 3: Table: Concentratie	DH×	nd: 3 DL*	ose 1 ches Fou	Search Criteria Name: * Target: Woodr Number of Mat
Search Criteria Name: * Target: Woodrose 1 Number of Matches Found: 3 Full Name DEcmc DL* WOODROSE 1L 0.43 1.09	 even more samples within tolerances have been found. Select either individually or [Select All] and press [ok] to transfer them into the 	Region Local le762 0 0	L* 67.6848 a* 8.9903 b* 6.4033 DEcme 1.00 pup3: UID m E\cDM7 <yc88de7< td=""><td>IAL for primaries are in Percen roup1: Group ational CoilCoaters</td><td>Group 1: Group 2: Group 3: Table: Concentratio Date 24.09.2010 14:17:00</td><td>DH* 0.03</td><td>nd: 3 DL* 1.09</td><td>es Found ose 1 ches Fou DEcmc 0.43</td><td>Search Criteria Name: * Target: Woodn Number of Mat II Name OODROSE 1L</td></yc88de7<>	IAL for primaries are in Percen roup1: Group ational CoilCoaters	Group 1: Group 2: Group 3: Table: Concentratio Date 24.09.2010 14:17:00	DH* 0.03	nd: 3 DL* 1.09	es Found ose 1 ches Fou DEcmc 0.43	Search Criteria Name: * Target: Woodn Number of Mat II Name OODROSE 1L

Naming options

Being able to give the right name to standard and sample is sometimes a challenge since there are customers who desire maximum flexibility and others have a very restricted concept. X-Rite iQC can support almost all these wishes by different methods.

How to use a flexible name?

Measure Standard (mode=0-Default)	Up to 50 characters can be used to describe the standard.
ID Into Fullname: This is my white standard Enter name, then press <next> when ready to read. Group1: Group2: Group3: Automatic Storage to Database is ON Save current standard in data section Next Reset Groups Close</next>	There is no automatism except – as long you stay in the Measure Standard Window the entry box will default with the last Fullname
Measure Trial (mode=0-Default)	Up to 50 characters can be used to describe the standard.
ID Info Fullname: This is my white sample Enter name, then press <next> when ready to read. Group1: Auto Avg Reads Group2: 0</next>	There is no automatism except – as long you stay in the Measure Trial Window the entry box will default with the last Fullname
Automatic Storage to Database is ON Next Reset Groups Begin Avg Close	

How to use automatically a standard name with a sequence number?

Color iQC Job Settings x System eSubmit Tag Format General QC QC Design Template Job Options Autoname Group Labels Group 1 Group 1:	To activate the automatic Sample counting - the option Autoname trial using Standard Name – Sequence Number has to be activated in the Color iQC setting on the tab Autoname.
Group 2 Group2: Group 3 Group3:	This will write the following text into the "Auto name Trials" Entry box
Auto naming of Trials Auto name Trials using this base and an automatic sequence number. <stdname>-<seq> Autoname trial using Standard Name - Sequence number. Autoname trial using data from a text file. OK Cancel Apply Help</seq></stdname>	You can replace the <stdname> with a fixed text which would be used for all samples</stdname>
Measure Trial (mode=0-Default) ID Info Fullname: White - 0001 Enter name, then press <next> when ready to read.</next>	IQC will automatically suggest in the Measure Trial Windows the Name of the standard – with the sequence Number.
Group1: Auto Avg Reads Group2: 0	will automatically suggest the next number
Automatic Storage to Database is ON	For the trial in a sequence you can overwrite this number.
Next Reset Groups Begin Avg Close	Start the measurement process with next

How to work with predefined trial names from a list?

In some application hundreds of measurements have be made, which all follow the same concept. Instead of entering the name with any sample a list can be provided and the program will automatically take names from the list – exactly in the order.

Trial Serie A - Notepad File Edit Format View Help White 10 White 15 White 20 White 25 White 30 White 40 White 55 White 60 White 65 White 70	With the notepad program a list of sample name as to be used by iQC has to be generated. This list can be long as you want
White 10 White 15 White 20 White 20 White 25 White 30 White 35 White 40 White 50 White 60 White 65 White 70	iQC allows to generate such a list directly out of the program if a series of samples with the target name has been measured already, mark the series of samples and press the right mouse key.
Create a Measurement Create AutoPrompt List for these trial names. Associate Trials with current Standard.	Select the option to "Create AutoPrompt List for these trial names"
Color iControl × Autoprompt List created in C:\Color_iControl\Jobs\White [database=iControl7.txt OK	A new list will be AutoPrompt List will be generated in the Jobs Directory

Color IQC Job Settings System eSubmit Tag Format General QC QC Design T Stored in this JOB's settings Group Labels Group 1 Group 1: Group 2 Group 2: Group 3 Group 3: Auto n Select List File of Names Trial Serie A.txt Tapr.txt Ind-Demo 01.txt OK Autoname trial using data from	System eSubnit Tag Format General QC QC Design Template Job Options Autoname Stored in this JOB's settings Group 1 Group 1 Group 1: Group 2 Group 2: Group 3 Group 3: Auto of Select List File of Names Inial Serie A.tkt Tag.t.tkt Tag.t.tkt Ind-Demo 01.tkt Ind-Demo 01.tkt Ind-Demo 01.tkt Ind-Demo 11.tkt Ind-Demo I1.tkt Ind-Demo II.tkt Ind-Demo II.tkt Ind-Demo II.tkt Ind-Demo II.tkt Ind-Demo II.tkt III.tkt IIIIIIIIIIIIIIIIIIIIIIIII				
	OK Cancel Apply Help				
Measure Trial (mode=0-Default) ID Info Fullname: White 10 Enter name, then press (Next> when ready to read Group1: Group2: Auto Avg Reads Group3: 0 Automatic Storage to Database is ON Next Reset Groups Begin Avg Close	Measure Trial (mode=0-Default) ID Info Full Name Enter name, then press <next> when ready to read. Group1: Group2: Auto Avg f Group3: 0 Automatic Storage to Database is ON Next Reset Groups: Begin Avg 1</next>	Measure Trial (mode=0-Default) ID Info Full Name White 20 Enter name, then press <next> when ready to read. Group1: Group2: Auto Avg Reads 0 Automatic Storage to Database is ON Close Next</next>			

How to use a Formatted Name Setup?

Formatted	Name Setup ame format (these are system	settings that apply to all	jobs)	In this example the standard name is an addition of 3 different information the product line (3 digits), the material code (5 digits)
- Standar Chars	d Format Prompt or Field Name	Fill Separator		and the color name (10) digits
3	Product-Line		Right Justify	The Trial has an additional Lot
5	Material	· ·	🔲 Right Justify	Number information with 10 digits
10	Color Name		🔲 Right Justify	Once the setup has been finalized
			🔲 Right Justify	the IQC will call for the input item
			🔲 Right Justify	by item.
Trial For Chars 3 5 10 10 10	mat Prompt or Field Name Product-Line Material Color Name Lot Number se { <date>, <time>, <dat note!!!="" number="" of<="" th="" the="" total=""><th>Fill Separator</th><th> Right Justify Right Justify Right Justify Right Justify Right Justify Right Justify </th><th></th></dat></time></date>	Fill Separator	 Right Justify Right Justify Right Justify Right Justify Right Justify Right Justify 	
	Save		Cancel	

Color iQC Job Settings System eSubmit Tag Format General QC QC Design Template Job Opting Stored in this JOB's settings Auto-accept standards Auto-accept standards on trial reading Auto save refersh colorants to database Auto save/refresh colorants to database Auto Clear Views on Read Dialog Auto Clear Views on Read Dialog Auto Show Only Associated Trials Cose Read Dialog after measurement Use name formatting Use QuickRead for measure Ask for Comment on measure Prompt for Group Data on measure Prompt for Group Data on measure (Standard/Trial only). Default to Transmittance mode Label points on Color Plots based on : None	X Ors Autoname T 1.50 Tolerance Factor Cancel Apply Heb	Activate the Use name formatting
Measure Standard (mode=0-Default) ID Info Product-Line ABC Enter name, then press Group1: Group2: Group2: Group3: Automatic Storage to Database is DN Save current standard in data section Next Reset Groups Close	Measure Standard (mode=0-Default) ID Info Material PESAA Enter name, then press <next> will Group1: Group2: Group3: Autometic Storage to Database is ON ✓ Save current standard in data section Next Reset</next>	Measure Standard (mode=0-Default) ID Info Color Name While 200 Enter name, then press <next> when ready to read. Group 1: Group 2: Group 3: Automatic Storage to Database is DN Save current standard in data section Save current standard in data pups Close</next>
Input Product Line	Input Material ID	Input Color Name
Measure Standard (mode=0-Default) ID Info Full Name ABC -PESAA-White 200 Reading 1 of 2; Press <next> to read. Group1: Group2: Group3: Automatic Storage to Database is ON Save current standard in data section Section Next Reset Groups</next>	Close	easurement Windows with the complete



Printer Output

How to start a printout?

Ē			A printout can be started on different ways
A	Print	Ctrl+P	or
<u> </u>		Garm	Open the e-job menu and select
	Print Setup	Ctrl+Shift+W	"Print"
	Print Provinu	CHLIM	
	Philit Preview	Cultw	Or
	Single View Print Setup	Ctrl+Shift+P	Enter [CTRL]+[P]

How	to	define	the	header	of the	printout?
	LO.	ucinic	CIIC	ncaaci	or the	princouci

System	eSubmit	Tag Format	General		ion Template	Job Or	ations Autoname
oyatom	Codbinic	rag roma.		40 40 000	ign rempiate	000.01	
Store	ed in this JOI	B's settings -					
Se	lected Color	System	Job	abase Name (ove Default Database	mdes System I	Default	setting)
	CIEL*a*b*			Name			
0	FMC-II	0			Co	nnect T	emporary Database
	minants —			Printing -		N Da	
1	: D65-10)	•		Print Header:	X-Rite	
2	: A -10		\$		Sub Header:	<job t<="" td=""><td>ìtle></td></job>	ìtle>
3:	F02-10	(CWF)	\$		Logo Bitmap:	XRite_	Logo.bmp
						_	
				Logo start (0-100) 0		Logo width (0-100) 20
N	lumber reads	to average					
	(override	e cal mode):	0		Dyn	amic Tra	ansform None
De	efault Measu	rement No		rent selected)		Gloss	
		Mode Mode	ne (use cui	ieni selecieu)	Comper	nsation	Use Colorant Gloss
	Constant		Descent		•		
	Concentrat	ion Units:	Fercent		_		
	ttings Filenar		iControl\.	ohs\Set_Lah.st5			Disconnect e-Job from
Se	aango mona		_1001110110	003 1001_000.310			settings file
Se				stored inside the	ioh file)		
Se (No	ote: If no sett	ings file, setti	ngs will be	atorea maide trie	job nie)		
Se (No	ote: If no sett	ings file, setti	ngs will be		ob niej		
Se (No	ote: If no sett	ings file, setti	ngs will be	atorea inside trie,	ob nej		
Se (No	ote: If no sett	ings file, setti	ngs will be	atorea maide trie;	ob ne)		
Se (No	ote: If no sett	ings file, setti	ngs will be		ub ne)		
Se (No	ote: If no sett	ings file, setti	ngs will be				Carrier Charles Child

The header of the printout will be defined in the Color iQC Job settings. (Press the button [F2] to enter the Color iQC Job setting)

In the area Printing you can define the Print Header, the Sub Header and can enter a Logo Bitmap with position and size

The Print Header can be defined in each job differently. Print Headers should be saved in the Job-Templates to make sure, that all new jobs created from them will have the correct header.

If all jobs should have the same printer header, the changes should be made in the systems settings (your can enter system settings with [F2] if no job is open.

Print Header	Most people enter the company name into the print header	
Sub Header	The choices are: Job Title Name of Standard Comment of Standard Blank	
Logo	A bmp-file can be positioned in the printer header. JPG and other not be used.	formats can
Logo-start	A value between 0 and 100 for the location of the left edge of the being the left margin and 100 being the right margin.	e bitmap, 0
Logo- width	Requires a value between 0 and 100 as well, representing the size in percent.	e of the image
	09.08.2011 16:30:44	Result of above settings
How to define the items of the printout?

Color iQC and Color iMatch allows you to define which items (color data, CIELab-Plot, Trend, Reflectances) should be placed into the printout. The content of printed information is defined by the information in the views.

						Each of the views has it
Standard Name	L*	a*	b*	C*	h°	<i>´s</i> properties
Bone 1	86.51	-0.35	4.58	4.59	94.40	
Trial Name	L*	a*	b*	C*	h°	• "MultiTrialData",
Bone 1.5B	86.17	-0.54	3.42	3.46	99.03	"Trandplat"
Bone 1.5D Bone 1.5G	85.23 86.19	-0.79	4.38	4.45	100.22	• Irenapiot ,
Bone 1.5L	87.95	-0.08	4.87	4.87	90.95	e "Lab Graph
Bone 1.5R	85.84	0.54	5.06	5.09	83.86	• Lab-Graph,
BONE 1B	85.88	-0.22	3.98	4.01	92.11	"Beflectance-Graph"
BONE 1D	85.27	-0.14	4.38	4.38	91.86	A nenectance or april
BONE 1G	86.18	-1.42	4.32	4.55	108.16	With a right mouse click in any
				dCIE	Lab: D65-10 - Bor	me 1
11.09	•			*-+ + +-		of the view areas you can oper
-11.09						the right mouse menue
-11.09	* * * * *			* * * *	• • • • •	the fight mouse menue
0.00	* * * * *	****		* * * •	• • • • •	connected to it. There you can
						also define wheter the item
	dCIELab: D65-	10				should be included in the
	1 L		<u>.</u>	100		siduld be included in the
2003	• /	•1.0				Printout.
10.2		20.9				
0.0 <u>8</u> · · · · · ·		2 ao	:	ja		
-10.2	•	-20.9	.0	22 40 %		
			•	20		
-20.3	⇒ ∓ Blat	-418	8	360	400	<u>600 600 700 76</u> 0
-15.2	0.0 15.2					WaveLength (nm)
 Eorce 	e New Pa	noe on P	Printout			If the checkmark in front of "Include this in Full Printout"
		igo on i	antoat			is set this item will be included
A la stude this view is Full Dristant					is set, this item will be included.	
	de this vie	ew in F	uii Printe	out.		
Char						
Chan	ge view					



Remote Output

How to set up for Remote Output?

Color iQC and Color iMatch have the option of sending data to a serial communication port or to an ASCII text file. This "Remote Output" is generally used to export colorimetric data to a file which is then sent to a serial printer or imported into other programs such as inventory tracking systems or Excel for custom analysis.



Change View			Select Propert	ies	
Properties					
Maximize					
Std-Multi Trial View Propert Std/Multiple Trial View Setup Automatic on read from instrument. Automatic Aux Output on close Job. Standard format Trialname= <name> < Add Inset N Possible Attributes: L[*] a[*] b[*] C[*] h⁹ X Y Z X Y</name>	ies Recall Format Remote Output Setup Output to: File Trial format L*>, <a*>, <b*><crlf><comment %r="" color="" e313-0="" index-astm="" multimess="" ok<="" single="" th="" trint-cie="" value-wsum="" wavelength="" whiteness=""><th>Output file n c:\Color_iControl\Remot Append to file on New Clear file on New Star Clear file on New Star t><dl*>, <da*>, <db at Standard Data Color Value-SUM Color Value-SUM Color Value-SWL Minimum Waveler Date/Time Comment Haze D0 Opacity_CR Berger_WI Stensby_WI Taube_WI Cancel</db </da*></dl*></th><th>ame: e.bd / Standard adard *>, <dc*>, <dh*><c Defined Combinations: Add OperID Control Characters: Add CRLF Convert Ctrl Chars Save This Format Apply Help</c </dh*></dc*></th><th></th><th>Within the Std Multi Trial View Properties there is a tab for Remote Output Setup. There is a setup for the Standard and the Trial output. Use this tool to setup the output for each section.</th></comment></crlf></b*></a*>	Output file n c:\Color_iControl\Remot Append to file on New Clear file on New Star Clear file on New Star t> <dl*>, <da*>, <db at Standard Data Color Value-SUM Color Value-SUM Color Value-SWL Minimum Waveler Date/Time Comment Haze D0 Opacity_CR Berger_WI Stensby_WI Taube_WI Cancel</db </da*></dl*>	ame: e.bd / Standard adard *>, <dc*>, <dh*><c Defined Combinations: Add OperID Control Characters: Add CRLF Convert Ctrl Chars Save This Format Apply Help</c </dh*></dc*>		Within the Std Multi Trial View Properties there is a tab for Remote Output Setup. There is a setup for the Standard and the Trial output. Use this tool to setup the output for each section.

Output To:	You have the option to direct the ASCII data to a serial communication port (COM1, COM2 etc.) or to a File.
Output File Name:	If outputting to a file you can specify the name of the file and location. You can use mapped drive letters or UNC (network Universal Naming Convention) to specify a location. (example <u>\\server\foldername\remote.txt</u>).
Setup Remote Comm Port:	If using the COM port you should select Setup Remote Comm Port to set Baud rate, data bits, stop bits and parity.
Automatic on Read from Instrument:	This option will send out the selected data to the com port or file as soon as it is measured from the instrument. Other option is to manually select Remote Output or Aux Output which is discussed later.
Append to file on New Standard or Clear file on New Standard:	These options give you the ability to add to an existing file even when the standard is changed or to clear out any existing data in a file when the standard is changed.
Output Format:	This area is where you will construct the output of data for your

	standard , trial or both.			
Insert Name:	This will add " <name>" to the output format section. This will output the name of the trial or standard depending on if you are working in the Standard Output or Trial output.</name>			
Insert Standard Data:	This is used when setting up the Trail output and will add < <stdinfo>> to the output format section. When changing or adding a new standard the standard data is output only once then the trail data will follow. If multiple system or multiple standards are being added to a single output file you may want some standard information on each line with the trail information. Any data such as the name and L*, a*, b* setup for the Standard Output will then be inserted for each trial data.</stdinfo>			
Add:	This button will become active when an attribute is selected from the Possible Attributes section. You can add any of the data available in the Standard/ Multi Trial view such as DL*, Da* and Db*.			
Defined Combinations:	 You have a drop down list of additional data available to export that is not in the Standard Multi Trial view. OperID: ID entered when starting Color iQC or iMatch. This is tagged on each measurement. FileName: Name of the e-job being used during remote output. Path: The computer location / path of the e-job. Group 1, Group 2, Group 3: Data from Group 1, 2 or 3. PFtol: Pass/Fail Tolerance. L:C Ratio, P/F and Margin (2.00:1;P/F=1.00;10.00) MeasCond: Condition of measurement such as reflectance, large area view, Specular included. Signature: Digital signature of measurement. SerialNum: Serial number of spectrophotometer used to measure. Model: Type of spectrophotometer used to measure SWL-EWL: Starting wavelength and ending wavelength of measurement SpectralData: Extended spectral data such as over dark. IllObs1, IllObs2, IllObs3: Illuminant and observer 1, 2 and 3. BlockRange: 555 sort block Range LABtol: L*C*h tolerances (0.25; 0.19; 0.26) LCHtol: L*C*h tolerances (0.25; 0.19; 0.26) OperID: ID entered when starting Color iQC or iMatch. This is tagged on each measurement. FileName: Name of the e-job being used during remote output. Path: The computer location / path of the e-job. Group 1, Group 2, Group 3: Data from Group 1, 2 or 3. 			

	 PFtol: Pass/Fail Tolerance. L:C Ratio, P/F and Margin (2.00:1;P/F=1.00;10.00) MeasCond: Condition of measurement such as reflectance, large area view, Specular included. Signature: Digital signature of measurement. SerialNum: Serial number of spectrophotometer used to measure. Model: Type of spectrophotometer used to measure SWL-EWL: Starting wavelength and ending wavelength of measurement SpectralData: Spectral data ExtSpectralData: Extended spectral data such as over dark. IIIObs1, IIIObs2, IIIObs3: IIIuminant and observer 1, 2 and 3. BlockRange: 555 sort block range LABtol: L*a*b* tolerances (0.25; 0.19; 0.26) LCHtol: L*C*h tolerances (0.25; 0.19; 0.26) TaperTol: Taper tolerances, Standard, average, roll and range (1.00 1.00 0.50 5.00) idL*, ida*, idb*: Integer(no decimal points) DL*, Da*, Db* (-0.13 D, 0.12 R, 0.05 Y, would be -013, 012, 005) TagLabel_xx: Tag label 01 through 30 TagData_xx: Tag data 01 through 30.
Control Characters:	 These can help format the data. CRLF: Carriage return and line feed CR: Carriage return LF: Line feed TAB: Tab FF: Form Feed ETX: End of Transmission EOT: End of Tape Bell: Bell ACK: Acknowledge
Convert Ctrl Chars:	This will convert the control characters text into the ASCII codes. Unchecked the control characters such as <crlf> will be passed through for the end device like a serial printer to interpret.</crlf>
Save This Format:	You can save the setups for the remote output to an external file. This allows you to have multiple remote output setups and the ability to send this remote output setup to another Color iQC or Color iMatch system for them to use. In the Output Format area you can add to this directly from your keyboard by clicking in box at the position you want to add something then type. Items between brackets < > will be decoded by the software at the time of export. Anything not in brackets will

be passed directly out the export.	Some examples follow.

Examples	
Example 1: Exported:	
Blue Batch 1 -0.13 D 0.12 R 0.0	5 Y 0.16
Output Format: Blue Batch 2 -1.21 D 1.93 R -0.3	81 B 2.18
<pre><name><dl*><da*b<db*><decmc><crlf> Blue Batch 3 0.23 L -0.19 G -0.0</crlf></decmc></da*b<db*></dl*></name></pre>	5 B 0.25

The above export will include the trail name, the DL*, Da*, Db*, DEcmc and return to the beginning of the next line for the next trial output. No user typing was added.

Example 2: Output Format: <name>,<dl*>,<da*>,<db*>,<decmc><crlf></crlf></decmc></db*></da*></dl*></name>	Exported: Blue Batch 1 Blue Batch 2 Blue Batch 3	, -0.13 D, 0.12 R, 0.05 Y, 0.16 , -1.21 D, 1.93 R, -0.31 B, 2.18 , 0.23 L, -0.19 G, -0.05 B, 0.25
	Dide Datch 5	, 0.25 L, -0.19 G, -0.05 B, 0.25

The above export will include the trial name, the DL*, Da*, Db*, DEcmc and return to the beginning of the next line for the next trial output. Commas were added to have a delimited file for easy import into Excel.

Example 3			
Output Format:		· .	
Name: <name>,De</name>	elta L*: <dl<sup>*</dl<sup>	L*>,Delta a*: <da*>,Delta b*:<db*>,Delta Ecmc:<decmc></decmc></db*></da*>	
Exported:			
Name:Blue Ba 0.16	itch 1	,Delta L*: -0.13 D,Delta a*: 0.12 R,Delta b*: 0.05 Y,Delt	ta Ecmc:
Name:Blue Ba 2.18	tch 2	,Delta L*: -1.21 D,Delta a*: 1.93 R,Delta b*: -0.31 B,Del	ta Ecmc:
Name:Blue Ba 0.25	tch 3	,Delta L*: 0.23 L,Delta a*: -0.19 G,Delta b*: -0.05 B,Delt	a Ecmc:

The following will export the name of the trail, the DL*, Da*, Db*, DEcmc and return to the beginning of the next line for the next trial output. Commas were added to have a delimited file for easy import into Excel. And text was added to describe the output.

Example 4	
● Standard format ○ Trial format	Trial-Name, L*,a*,b*,DL*,Da*,Db*,DE*
Trail-Name,L*,a*,b*,DL*,Da*,Db*,DE* <crlf></crlf>	G, -0.20 B, 1.37
Standard format 💿 Trial format	Bone 1.5L, 87.95 , -0.08 , 4.87 , 1.43 L, 0.27
<name>, <l*>, <a*>, <b*>, <dl*>, <da*>, <db*>, <de*><crlf></crlf></de*></db*></da*></dl*></b*></a*></l*></name>	R, 0.29 Y, 1.49

In this example a header has been added (instead of the standard name) and comma separated information have been provided

Std-Multi Trial View Properties	Attention:
Std/Multiple Trial View Setup Recall Format Remote Output Setup	The name of standards and trials can be up
Standard display Automatic switching on color space Trial display Image: Color space Trial display Image: Color space Show data for Illuminant	to 55 characters in length. The software defaults to exporting only the first 20 characters. If needed you can increase this
Possible Attributes: Selected Attributes: L* T b* C C* C C* C H* C X M Y D Z C B a S B A M Y D C C Values C Values D Velowness Index-ASTM T Velowness Index-GAIZ O Velowness Index-ASTM E31300 M Velowness Index-ASTM E31300 M Width of name column in printout Image: East Section C	to the maximum of 55 by going to the settings of the Standard Multi-Trial view and on the setup tab you can change the Width of name column on Printout.
OK Cancel Apply Help	

The remote output setup is saved with the e-Job or settings file.

How to utilize a Remote Output in Color iQC?



How to export from Color iQC directly into an Excel Application?

Another way to export is to use the Aux Output feature. Under the Tools menu is Aux. Output. This stands for Auxiliary output. It will use the remote output setup defined in the Standard Multi-Trial view but you have the option of having a separate file name and location along with a launching program. You can also customize your toolbar and add the Aux. Output button to make this a one click feature.

ools Mac <u>r</u> o <u>H</u> elp		Within the Men	u item Tools - there is the function
Aux. Output	Ctrl+Shift+A	Aux. Output. It defined in the S combine this w Excel started au provided.	will use the remote output as it is standard Multi-Trial view. You ith an automatic action – f.e. has utomatically with the data
Change	system settings		In order to prepare the
ystem User Settings eSubmit Tag Format			Aux.Output and combine with
Spectro Poll Timer	2000		an application - you will have to
▼ Import/Export			change the system Settings. (No
Auxiliary output program	"C:\Program Files\Microso	oft Office\Office12\EXCEL.E	- Job opened - press [F2])
Auxiliary outputfFile	C:\Color_iControl\Remote	.txt	Job opened press [12]/
Auxiliary output label			
Aux output append	False		Go to the Tab "User Settings"
Taper input filename	Tapr.dat		5
Export 20nm 400-700 in QTX	False		Colta tha Stans Associtions Oute
Taper DErollroll position	36		Go to the item Auxiliary Output
Dispenser name size	20		Program and enter the path of
Import comment into visual comment	False		the application program
Export generic CxF	False		the application program
Enable CxF Encryption	None		"C:\Program
Industrial Formulation/Correction			Files/Microsoft / FXF"
Configuration	Color iQC		
Dispenser	0 - Configurable (using RF	O file)	
AutoCorrect after setup	True		Attention: It is important to have
Correction iterations in Add mode (2-10)	20		the nath it in quotes
Reduce Opacity Lch Weighting	Normal		the path it in quotes.
Autoload IFS_Collection	Allow only if Collection is	in Job.	
Maximum number formulas to display	1000		Go to the item Auxiliary output
Force Correction Mode	Default mode.		file and enter the name which
Force Batch Thickness	0.0		me and enter the name which
		Ŧ	corresponds to the Remote
			Output file
			Output life.
	OK Cancel	Apply Help	Press [Apply] Press [Ok]

Color iControl - [e-Job1.jb5 [database=Demo Database.mdb]] ie-Job Data Application View Spectro Account Window Icols Macro Help Select new standard ie-Die Die Die Die Die Die Die Die Die Die	a ⁴ b ⁴ D	Activate the Remote Output with the correct Remote Output File Right mouse key into the Multi Trial Data View	
Change View	Select Prope	rties	
Properties			
Maximize			
		Within the properties select the	
		desired Remote Output Format	
Std/Multiple Trial View Setup Recall Format Remote Output Setup RO_Lab_DLab_DE_TAB Remote Output Format RO_Lab_DLab_DE_TAB Image: Comparison of the setup of t		In this case the RO_LAB_DLab_DE with tabbed separation has been selected, with the output file C:\Color_icontro\Remote.txt has been selected	
Tools Macro Help	In the IQC app been selected	blication the Aux. Output has I	
Color iControl	Directly the message comes up, that Remote output has finished Press [OK] to continue		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Directly the ex the content of	xcel program starts up to with f the Remote Text – File	

Attention: There is only one Aux. Output Program – but it can work with different jobs. Since each job can have its own Remote-Output-Format (ROF) – to refer to at the same standard Remote output file (f.e. REMOTE.TEXT) – this tool can be used for different exports.

Data Import

Semi-Automatic QTX-Data-Import

For some our customers it is important to automatically import data from a customer or supplier. If f.e. data are retrieved by mail they will (after double click on the data file) automatically find their way into the iQC-software.

The behavior of the qtx-import and the settings within the job will be controlled by a QTX.JT5 – Job-Template file. The QTX.JT5 can be created/modified in the known way.

Color iMatch Job Settings System eSubmit Tag Format General QC QC Design Template Job Options Autoname IFS Colorant Stored in this JOB's settings Image: Auto-accept standards Image: Auto-accept standards Image: Auto save measurements to database	t Collection	If the data should be stored in the database upon closing, the option "Auto save" should be selected.
Color iMatch Job Settings System eSubmit Tag Format General QC QC Design Template Job Options Autoname IFS Colorant Image: System eSubmit Tag Format General QC QC Design Template Job Options Autoname IFS Colorant Image: System eSubmit Tag Format General QC QC Design Template Job Options Autoname IFS Colorant Image: System eSubmit Tag Format General QC QC Design Template Job Options Autoname IFS Colorant Image: System eSubmit Tag Format General QC QC Design Template Job Options Autoname IFS Colorant Image: System eSubmit Tag Format General QC QC Design Template Job Options Autoname IFS Colorant Image: System eSubmit Tag Format General QC QC Design Template Job Options Autoname IFS Colorant Image: System eSubmit Image: System Image: System Image: System Image: System Image: System	Collection	To avoid multiple standards with the same name this option should be selected
<pre>[STANDARD_DATA 0] STD_NAME=H64850136, STD_GUID= STD_DATETIME=1152031721, STD_REFLPOINTS=38, STD_REFLINTERVAL=10, STD_REFLIOW=360, STD_VIEWING=%R LAV SCI UV CAL, STD_R=5.11,5.96,7.43,10.14,13.04,14.33,15.11,16.17 [BATCH_DATA 0] STD_NAME=H64850136, BAT_NAME=100182382-D.36/596-Fi-Pr-(M)-3 BAT_GUID= BAT_DATETIME=1322711781, BAT_REFLPOINTS=38, BAT_REFLPOINTS=38, BAT_REFLINTERVAL=10, B</pre>	It is impo Standard Batch_Da Data.QTX If only BA with the S available correctly	rtant, that both the _ Data and the ta are defined in the c-file. TCH_DATA defined (even STD_Name=Standard is it will not be saved into the database