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Create Custom Reference Data for ColorChecker SG and 24

This is a step-by-step instruction on how to create custom Reference Files for a ColorChecker SG or ColorChecker 24 chart, and how to apply them for Scanner Profile creation in i1Profiler (V 1.6).

- 1. Measure your ColorChecker Chart
 - Connect your measurement device (i1Pro or i1Pro 2)
 - Launch i1Profiler, select Advanced User Mode
 - Select workflow option Measure Chart
 - In step Define Chart select your type of measurement instrument
 - Then set number of rows and columns; for CCSG use 10 x 14, for CC 24 use 4 x 6



- Go to next step Measurement and select measurement mode Spot (M0, M1, M2 and OBC)
- Calibrate your instrument; click on Calibrate in the measurement preview area
- Measure your chart carefully; use the spot measurement position accessory for your device



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Once finished, save your measurement data first in i1Profiler's .cmxf format (contains all three sets of spectral measurement data M0, M1, M2), apply a meaningful file name, e.g. include the production edition date of your chart.

🗃 i1Profiler								
Assets C			Measurement					
Measure Chart CCSG Edition January 2014	CCSG_EditionJanuary2014	1		Page 1/0				
Saved Workflows	Measurement Instrument		`					
		Device ready		Measuring row 1 col	lumn A on page 1			
	i pro cal 🖂	M0/1/2 🚸 XRGA 1/0						
	Measurement Mode: 🕥	Spot (M0,M1,M2 and OBC)						
	•	Single scan (M0)						
	۲	Dual scan (M0,M1,M2 and OBC)						
	Moncurrement Data Darameters							
	Device calibration standard: XRGA - X-Rite							
	Measurement geometry: 45							
	Measurement conditions: M) (UV Induded) 🗸 🗸						
		🙀 Save measurement				×		
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		Save as type:	leasurement-only Files ((*.cmxf)		•		
		M	leasurement-only Files (*.cmxf)				
		T	ab Delimited Text files (1	TDT) (*.txt)				
		Hide Folders	Profiler CGATS Custom	(*.txt)		Jave Cancer		

- Now save your measurement data again, select the option **i1Profiler CGATS Custom (.txt)**; in appearing window select following export settings:

CGATS file format options					<u>? ×</u>				
Custom CGATS Options									
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Data field: :		SampleID							
		SampleName			Location Info 🛛 👻				
					Generate Target Colors				
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		Reflectance Spectrum							
		L*a*b*			L*C*h				
CIE Standard Illuminan		CIE Illuminant D50	-						
CIE Standard Observer		2°							
·		Charless T							
Density:		Status I	•		Minus Paper				
Decimal separator:	0	Period [.]		۲	Comma [,]				
Output scale:	0	0.0 - 1.0		۲	0.0 - 100.0				
Spectral range:	0	380 to 730 nm		0	400 to 700 nm				
					OK Cancel				

Note: Neither the used substrates nor the used pigments for the ColorChecker Charts contain optical brightners, so you can export and continue with MO measurement data.

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- 2. Apply your custom Reference File for Scanner Profiling
 - On Windows go to C:\ProgramData\X-Rite\i1Profiler\ScannerReferenceFiles
 - On Mac go to MacHD>Library>ApplicationSupport>X-Rite>i1Profiler> ScannerReferenceFiles
 - Depending on type of chart go further to the folder Color Checker SG or Color Checker 24
 - Create a backup copy from the contained default Reference File (e.g. rename the copy file as ColorChecker..._Default.txt)
 - Open the original Reference File (with unchanged name) in a TextEditor tool
 - Now open your custom measurement file in the TextEditor
 - Copy the LAB values area of your custom file (as indicated in the screenshot) and replace them in the appropriate area of the default Reference File



*Note: for particular identification you might want to add an entry in the header of the file, which specifies the type of reference file (e.g. add a string like ColorChecker SG Edition 2014). This will not damage the usage of the reference file for profile creation.

- Save the modified file with it's original name in it's original folder (i1Profiler identifies the Reference File by this name)
- Close and re-launch i1Profiler and create your Scanner Profile with your ColorChecker Chart and your custom Reference File