Power Certifier
software by DEV Studio

COMPATIBLE WITH
Windows® 2000
Windows® XP
Windows Vista™

PowerCertifier

sure of what you print

module for self-certification
of color proof

by DEV studio
The global printing solution
Sw Rip made in Italy

required one of the following softwares
Power Plotter
Power Proof

CERTIFIER Power CERTIFIER

Optional Module User Guide

PowerCertifier is a software module for the self-certification of prints performed with Power Proof or Power Plotter and used as colour proofs. To this end the module includes a Fogra licence for the use of its "Media Wedge v2.X" scale, which needs to be printed on the proof to be certified and read with a spectrophotometer.

The following X-Rite models are supported:
Eye-One, Eye-One ISis, Eye-One IO, Pulse, ICColor

The user therefore needs a reading instrument (Spectrophotometer) and, naturally, a version of Power Plotter/Proof on which to install the module.

Among the particular features of this SW module are:

- the automatic checking of the print with respect to the reference profile with which it was printed;
- the possibility of certifying the proof in relation to any reference profile in the user's possession;
- the printing of a "job number" on the proof and on the measurements report, for "real certification".

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Installation procedure:

Insert the CD/DVD in the optical drive of the PC on which the RIP is installed and launch the RIP update procedure. Then proceed to register the module as described in the printed manual on page 5.

At the end of the update procedure, launching the RIP a new button will appear on the bar above from which you can launch the certification module.

Description of the types of comparison:

You can choose from among the various certification procedures:

PROFILE – PRINT:

is the usual way to check colour proofs. This method enables us to check the correspondence of our print colours to those set by the reference profile.
It is important to note that it is not necessary to possess Medienkeil Fogra reading values for any reference, as they are automatically "gathered" from the reference profile used, whichever one it is, thus giving the freedom to use and certify any reference. The data reading values will be compared with the profile's corresponding values (which must be the reference profile used for the print), then the offset values (△E) will be set and the proof's validity will be assessed in relation to the average △E value and the maximum allowed by the settings.

PRINT – PRINT:

comparison between readings of the two FOGRA control scales from the same printer at different times to monitor the offset, or between two different printers that we need to compare and align. For example you can use the scales of the **Test** and the **offset print**.

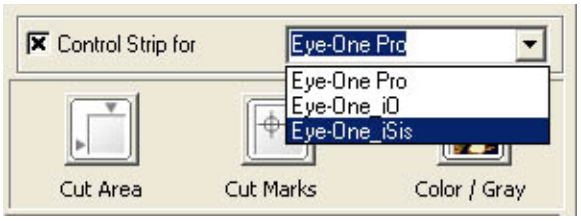
PROFILE – PROFILE:

for checking the offset between two ICC print profiles; in this case the comparison will be "theoretical" and does not require a print. The check will be made comparing the set values provided by the two profiles.

Operation of the certifier

Printing the control strip

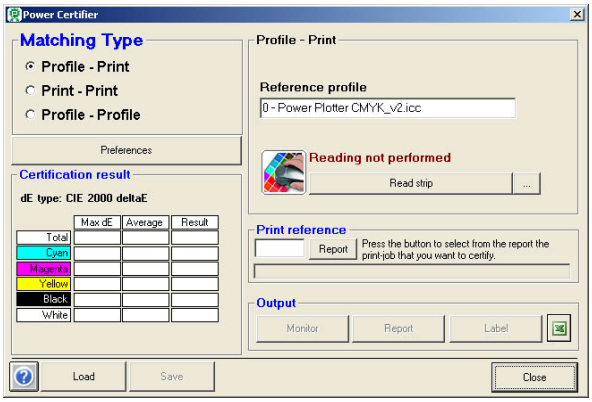
When the software module is installed it will be possible to activate the printing of the control strip on any printed page.
To this end, a new dialogue box will be visible in the print preview interface via which it is possible to decide to activate the printing of the strip and to specify the reading instrument to be used.



(Indeed each instrument requires a specific layout so it can be read).
Once the choice is made, the required control scale will also be added to the printed page.

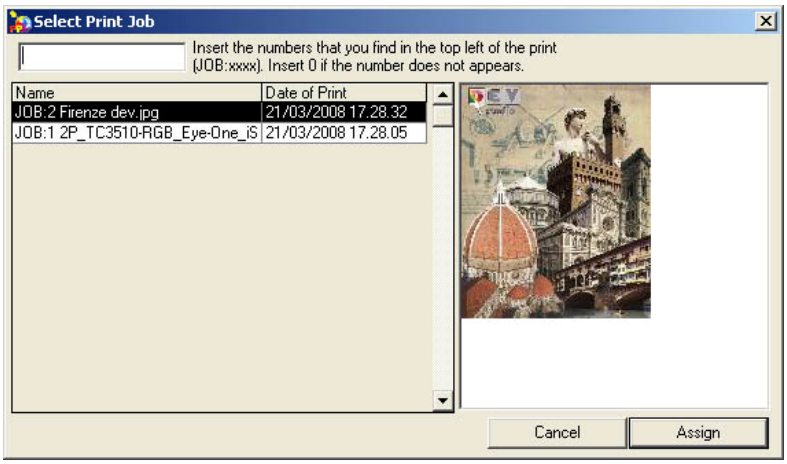
Launching the certifier's interface

Clicking on a button at the top of the icon strip, this sort of window will open:

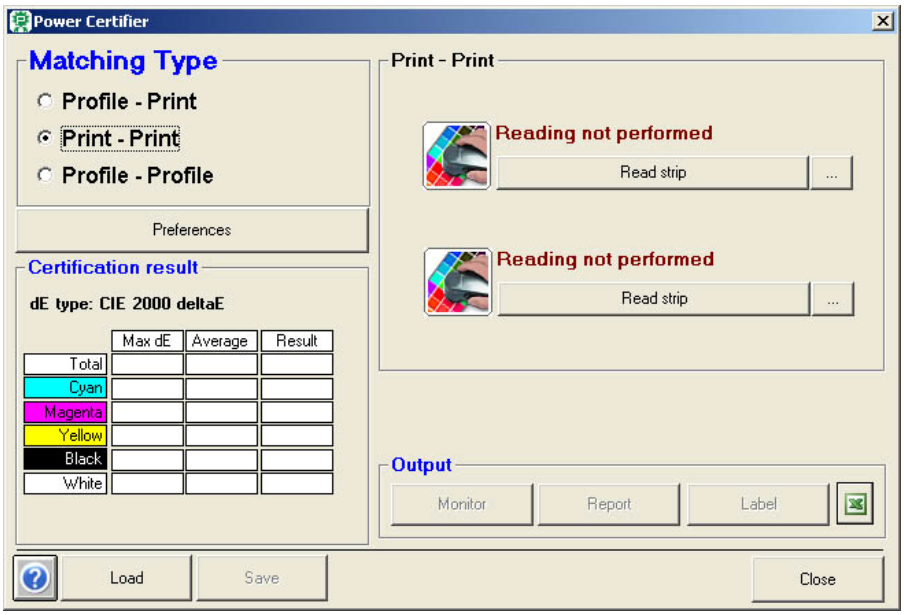


At the top left we choose the type of comparison we wish to perform, changing the comparison type also changes what is displayed on the right side of the window.

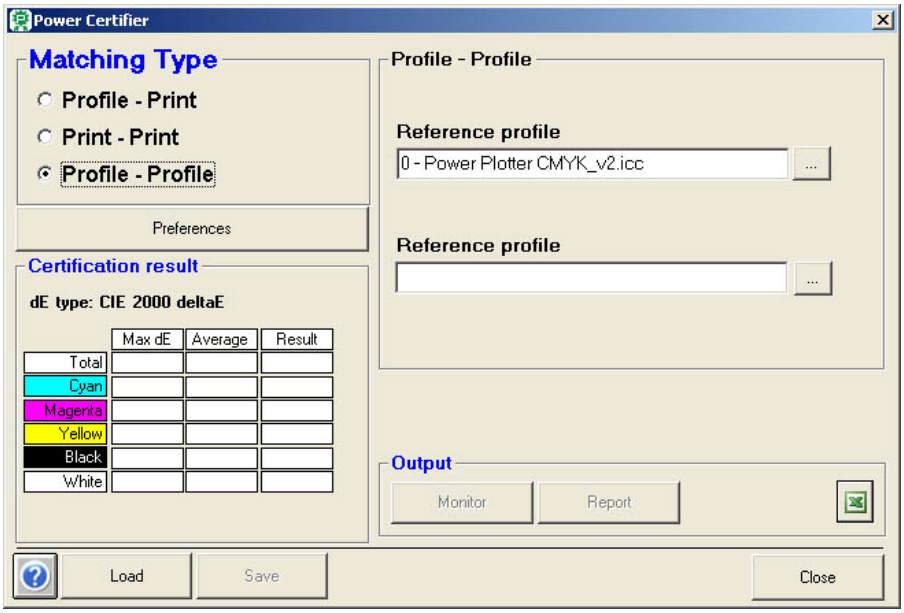
The first type of comparison is **PROFILE – PRINT:** this is the Default, which activates the comparison between the various profile sections (in this case the CMYK reference profile used for printing, which can be a standard e.g. "*ISOCoated v2*", but can also be a personal user profile) and the spectrophotometric measurements of the proof's control scale.
The interface's first window will show the name of the reference profile (CMYK) currently set and, in the window beneath, the buttons for activating the measurement of the scale or for important data already read. (Read the appendix at the end of this document for the data acquisition process using a spectrophotometer).
You can use the Power Plotter/Proof print report to select the print to certify.
Each time the scale is printed an identification number is allocated to the print. This number is of the form "**Job:XXX**" and is the number of the process performed.
You can use the Print Reference box "Report" button to access the list of prints performed and to choose the print that you wish to certify inserting the job number in the search box, or scrolling down the list and selecting it manually. At the end of the search you can press the "Assign" button to set the interface with the selected printing parameters.



The second type of comparison is **PRINT – PRINT:** which enables a comparison between two instrument readings of the printed scale. This type of comparison can be used for various purposes: for example for comparing two prints made at different times and checking that there is no colorimetric variation from the reference, that is between our proof and a reference printout, and so on. In this case it will not be possible to select the data from the print report.
The interface will only show two buttons that enable readings of the two strips, or the loading of previously saved readings data.

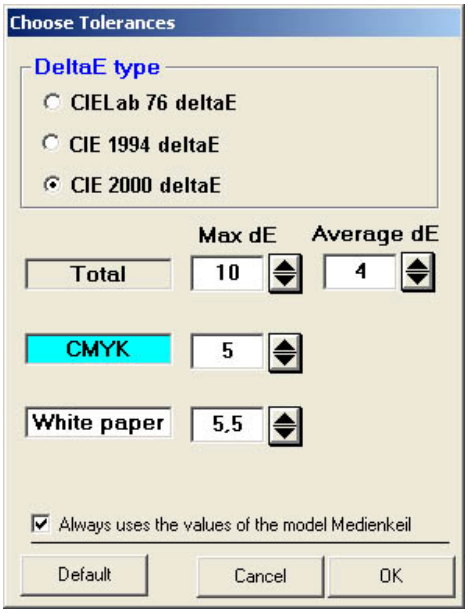


The final type of comparison is **PROFILE – PROFILE:** this enables the comparison of the currently set CMYK reference profile and any other profile in the same space-colour (CMYK).
There are two windows on the right side of the interface, the top one showing the name of the CMYK reference profile currently set in the SW and the lower one showing a button for loading the profile data that we would like to compare with the first one.



Configuring the program preferences

On the left, below the comparison type box, we find a big button for setting the programme preferences, which when we click it opens a window like this:

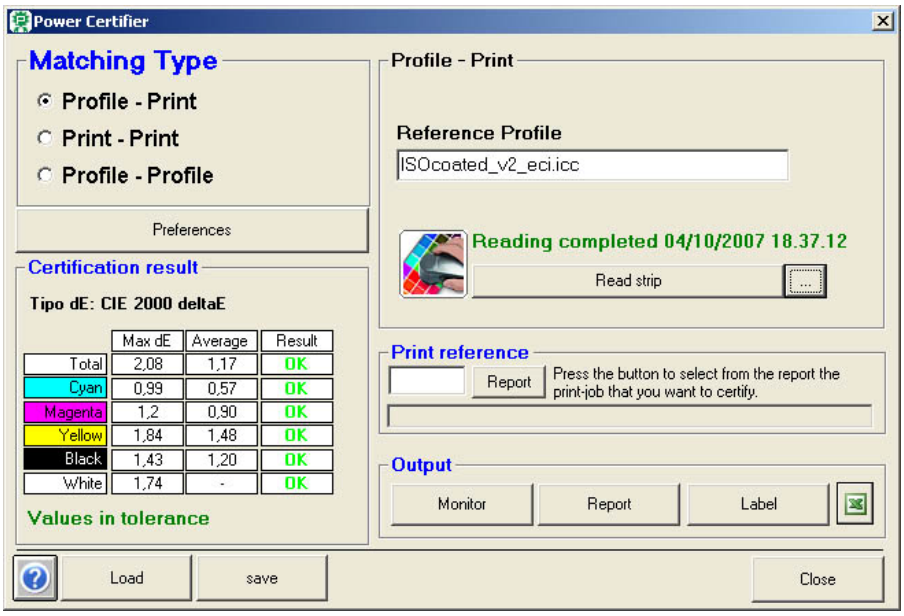


"Delta CIELab 76" is selected by default. This is still the standard system used for calculating ΔE, even though it is not the one closest to the behaviour of the human eye.
Below the ΔE type check boxes we find fields where we can set the threshold values used for evaluating the adequacy of the proof. It is possible to set a maximum value (Max ΔE) beyond which no dE should go, and an average value (Medium ΔE), under which should be the average of all the values.
Then there is space for setting the CMYK value, which represents the maximum value for pure colours (cyan, magenta, yellow and black).
The final value to set is the tolerance threshold for white paper.
The final check box lets us decide whether we always want to use MediaWedge (in which case it must be checked off) or if we want to use a target personalized on which to base our certification.

The “default” values are those currently universally accepted (in Italy) as the threshold for the certification of Offset type colour proofs. These values are subject to changes over time by official standardisation bodies (like Fogra) or by changes in practices in particular geographical areas or in particular workflows. If necessary therefore adapt the values to your own particular requirements.

Certification Result

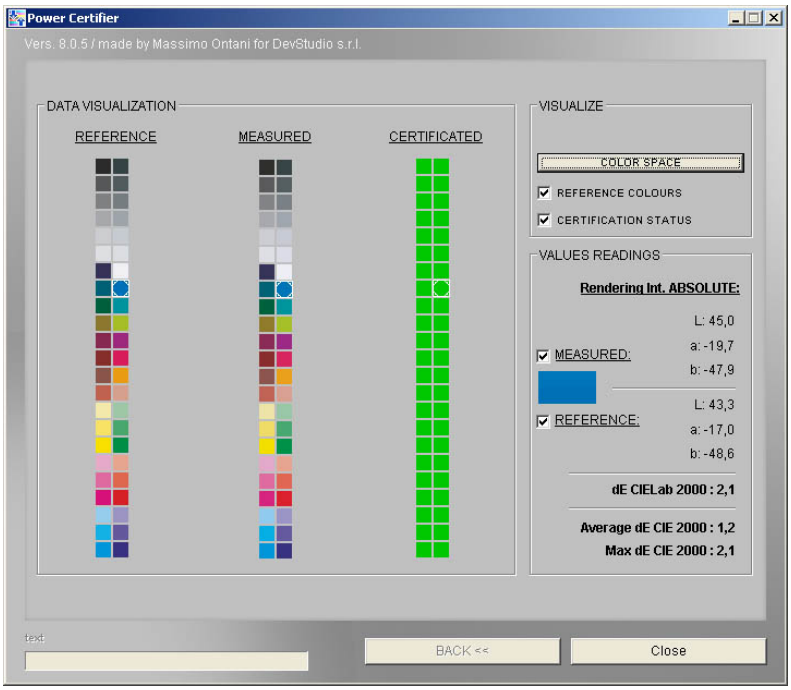
We find the “Certification Result” box below the preferences button. This gives us a first quick report as to whether our measurements are or are not within the tolerance margins (as is shown in the image below):



For greater detail in the evaluation of the certification that has just been calculated we can choose between three different types of data **“Output”**. To carry out this operation we can push the buttons in the bottom right of the **Output** box.

Monitor certification report

The first button on the left opens the evaluation of the "**monitor**" certification. When we click on it after having carried out the measurements or anyway after having selected the data to compare, a window like the one below opens:



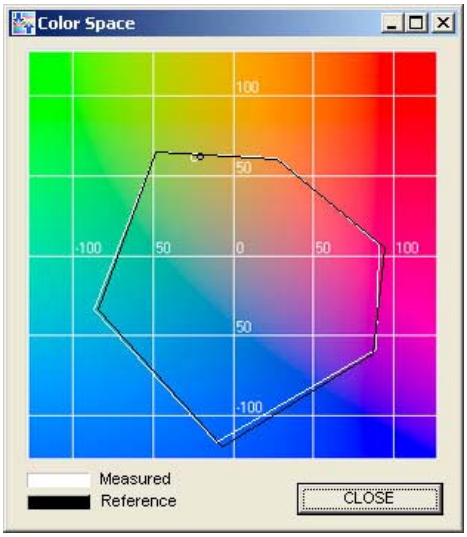
This window contains a representation of the Medienkeil scale with 44 patches on 2 lines of the Fogra (which has been printed and has been subject to the instrumental measurements) is reproduced three times to display:

1) the reference profile values;
2) the measured values (or those that we want to compare with the reference);
3) a representation of the ΔE values on each patch. The colour scale highlights the colours that are within the tolerance parameters or are not.

- **The green patches** indicate a colour with a below average ΔE value (Excellent).
- **The yellow patches** indicate those colours that are above average but below the tolerance (Good).
- **The red patches** however indicate colours that go beyond the tolerance threshold and therefore are unacceptable (Not good).

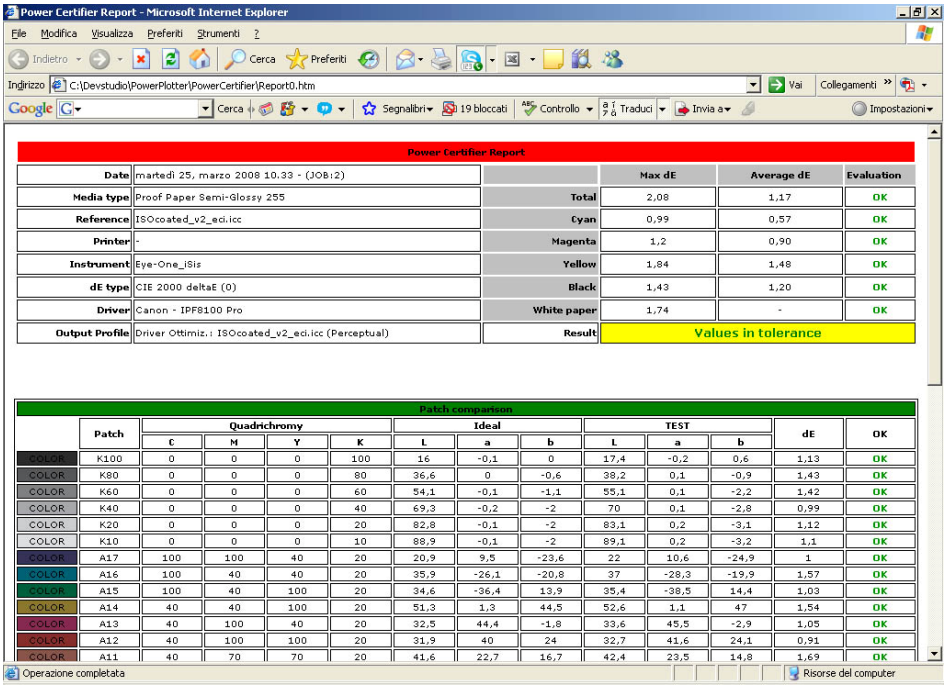
Moving the mouse onto one of the patches we will immediately see its Lab values. Also the Reference colours will be compared with those of the sample reading, so as to be able to make a visual evaluation of the colour difference.

The “Color Space” button shows a chart for comparing the “form” of the colour space of reference, with that of the proof print. An excellent result is one that sees the two lines overlap perfectly. The further apart they are the more the two prints have different colours.



Report of the detailed certification (HTML)

The second button is the one for the "**creation of a report**" (in HTML format) of the results of the measures, compared to ideal lab values, as shown in the example fig. below:



Power Certifier Report - Microsoft Internet Explorer

File Modifica Visualizza Preferiti Strumenti ?

Indirizzo C:\Devstudio\PowerPlotter\PowerCertifier\Report0.htm

Power Certifier Report

			Max dE	Average dE	Evaluation
Date	martedì 25, marzo 2008 10.33 - (JOB:2)				
Media type	Proof Paper Semi-Glossy 255	**Total**	2,08	1,17	OK
Reference	ISOcoated_v2_eci.icc	**Cyan**	0,99	0,57	OK
Printer	-	**Magenta**	1,2	0,90	OK
Instrument	Eye-One_iSis	**Yellow**	1,84	1,48	OK
dE type	CIE 2000 deltaE (0)	**Black**	1,43	1,20	OK
Driver	Canon - IPF8100 Pro	**White paper**	1,74	-	OK
Output Profile	Driver Ottimiz.: ISOcoated_v2_eci.icc (Perceptual)	**Result**	Values in tolerance		

Patch comparison

	Patch	Quadrichromy				Ideal			TEST			dE	OK
		C	M	Y	K	L	a	b	L	a	b		
COLOR	K100	0	0	0	100	16	-0,1	0	17,4	-0,2	0,6	1,13	OK
COLOR	K80	0	0	0	80	36,6	0	-0,6	38,2	0,1	-0,9	1,43	OK
COLOR	K60	0	0	0	60	54,1	-0,1	-1,1	55,1	0,1	-2,2	1,42	OK
COLOR	K40	0	0	0	40	69,3	-0,2	-2	70	0,1	-2,8	0,99	OK
COLOR	K20	0	0	0	20	82,8	-0,1	-2	83,1	0,2	-3,1	1,12	OK
COLOR	K10	0	0	0	10	88,9	-0,1	-2	89,1	0,2	-3,2	1,1	OK
COLOR	A17	100	100	40	20	20,9	9,5	-23,6	22	10,6	-24,9	1	OK
COLOR	A16	100	40	40	20	35,9	-26,1	-20,8	37	-28,3	-19,9	1,57	OK
COLOR	A15	100	40	100	20	34,6	-36,4	13,9	35,4	-38,5	14,4	1,03	OK
COLOR	A14	40	40	100	20	51,3	1,3	44,5	52,6	1,1	47	1,54	OK
COLOR	A13	40	100	40	20	32,5	44,4	-1,8	33,6	45,5	-2,9	1,05	OK
COLOR	A12	40	100	100	20	31,9	40	24	32,7	41,6	24,1	0,91	OK
COLOR	A11	40	70	70	20	41,6	22,7	16,7	42,4	23,5	14,8	1,69	OK

Operazione completata

Risorse del computer

The upper left part of the report shows the print conditions data and above at dx the basic values that determine whether a colour proof is certified.
In the part below we find all the values shown in the individual patches in comparison with the ideal values.

Printing the certification label

The third button enables the creation of a printable label with a LabelWriter Dymo to put directly onto the colour proof.

Analysis of the data with Excel

On the dx side we find a button with the Excel symbol that when pressed shows the complete report with the ΔE values as well as the "cumulative distribution of frequency" values. (This function is only active if Microsoft ™ Excel™ is installed on the PC concerned).

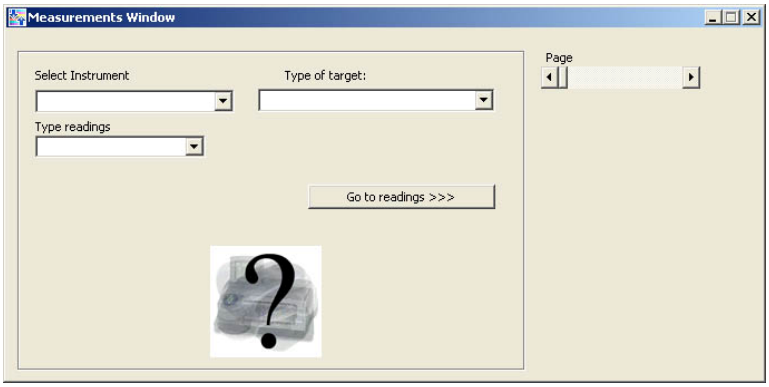
Finally at the bottom of the main window we find two buttons:

- "Load": allowing the loading of an already measured previous Job
- "Close": closes the window

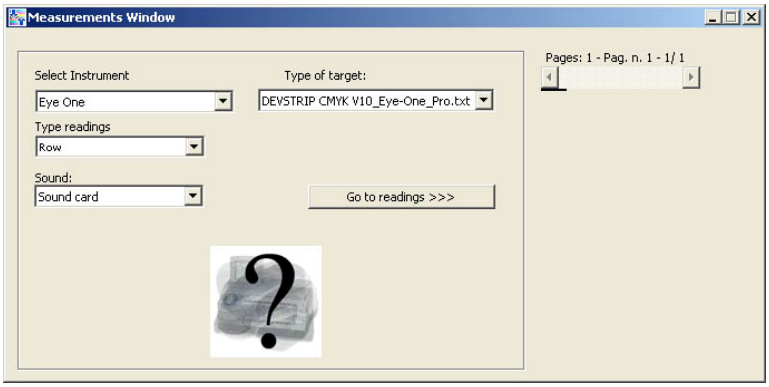
Appendix A

Use of the spectrophotometer for the readings

To read the certification strip follow these guidelines:
When we need to carry out a reading a **"READ STRIP"** button will be visible. Pressing this button opens the following interface:



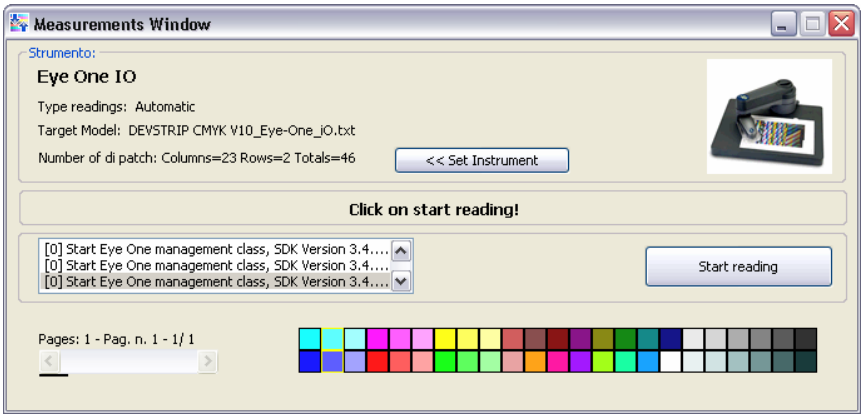
The first decision to make is the selection of the instrument (in the example we show the operations to carry out with the X-Rite's Eye-One instrument).



The programme will automatically select the reading target in relation to the instrument chosen. The user can choose a number of particular instrument options that can be:

- the type of reading (which in the case of Eye-One, can be sliding = ROW or manual “per point” – SINGLE PATCH);
- the activation or not of UV filters;
- the use of the audio card’s ‘BEEP’ or that of the “Buzzer” integrated in the motherboard (normally it should stay set on SOUND CARD, but should no sound be heard during the readings, it may be advisable to set it on “INTERNAL”)
-

After having made out the appropriate choices push the “Go to readings” button to open the following interface:



Every instrument has its own particular operative features, but in any case it is necessary to push the “Start readings” button to start reading the strip.
Depending on the particular features of each instrument, the programme will advise the ones to carry out the operations.

On completion of the readings the “Save Measures” button will appear. Pressing it the readings will be saved in a temporary folder and will be passed to the results analysis window.

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