Operating Manual

Spectro *Swing*

automatic
reflection and transmission spectrophotometer

Edition E7

barbieri ®

Contents

Chapter 1: Introduction

May we congratulate you on your choice!
We from BARBIERI electronic are proud of presenting to you the spectrophotometer Spectro Swing. This instrument features most precise optics, state-of-the-art electronics and software. It is especially created for use in color management for the digital imaging market.

May we suggest you read the operating manual first for fully enjoying the capabilities of this instrument; thus you will be able to get familiar with its functions step by step. This operating manual covers the installation, basic operation and maintenance of the instrument .

As always, BARBIERI electronic supports you with a one year warranty through its service organisation. Please get in touch with us in case of need. May we also thank you for the confidence you have put in us by purchasing this instrument.

Siegfried Barbieri
Company founder

1.1 What you can do with this instrument

Most precise color measurement
Spectro Swing enables you to exactly determine the colors of both transmission and reflection copy. Thanks to a highly sophisticated diffraction grating and state-of-the-art electronics using best components this revolutionary spectrophotometer warrants utmost precision in determining color values, as required today for numerous applications.

Main features
• Easy to use thanks to its "no-button operation"
• Avoiding handling errors
• For transparent and reflective media
• Supported by most RIP-software
• Extremely high measuring precision and repeatability

Target markets
• Digital photo and inkjet printing
• Proofing
• Fine Art Printing

Application fields
• Creation of ICC profiles for digital output devices for different media (both reflective and transparent)
• For linearization of digital output devices
• Use as a densitometer to determine density values for films and papers

1.2 Unpacking the instrument

The Spectro Swing package includes the following components:

• Spectrophotometer Spectro Swing
• Media support to be fixed on the rear side of instrument
• USB connecting cable
• CD with USB driver and measuring software for Mac and PC
• power supply adapter
• this operating manual
• package (keep it for possible shipments in future)

Please check that all these components are included.

1.3 Placing the instrument

It is recommended to locate the Spectro Swing on the left next to your computer. Check that there is enough free space both in front and behind the instrument allowing the target move freely during the measuring.
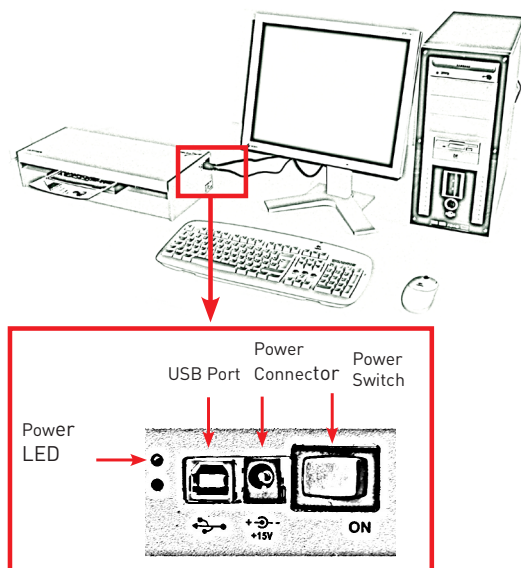
1.4 Optional components:

• UV cut filter for reflection (Code: C050F00-1)

To be used when measuring samples with optical brighteners.

• Set of 5 transmission sample holders (code: C041H50-S1)

Chapter 2: Installation

2.1 Installing the USB driver software

If you use the USB connection, you need to install the USB driver on your computer before connecting the instrument to the computer.

2.1.1 Installing on a Mac computer under OS X

Switch off the Spectro Swing.

Insert the supplied CD-Rom/USB Stick into your computer, run the "Barbieri Gateway software installer" or the "USB Driver Installer program" and follow the instructions.

Check if driver is correctly installed

- Switch on instrument
- Open "System Information" (About this Mac/ More info...)
- Show the "System Report" and check "Hardware/ USB". The instrument "Spectro Swing" must be listed

2.1.2 Installing on a PC with Microsoft Windows XP or newer

There are two drivers to be installed for the connection between your computer and Spectro LFP:

A.   High speed USB to serial converter

B.   USB virtual serial port driver

Switch off the Spectro Swing.

Insert the supplied CD-Rom/USB Stick into your computer, run the "Barbieri Gateway software installer" or the "USB Driver Setup program" and follow the instructions.

The installation procedures are guided automatically by an installation wizard.

Check if driver is correctly installed
  • Switch on instrument
  • Open "Control Panel", "System"
  • Select "Hardware" and click "Device Manager".
  • Look into "Ports" and "Universal Serial Bus controllers".
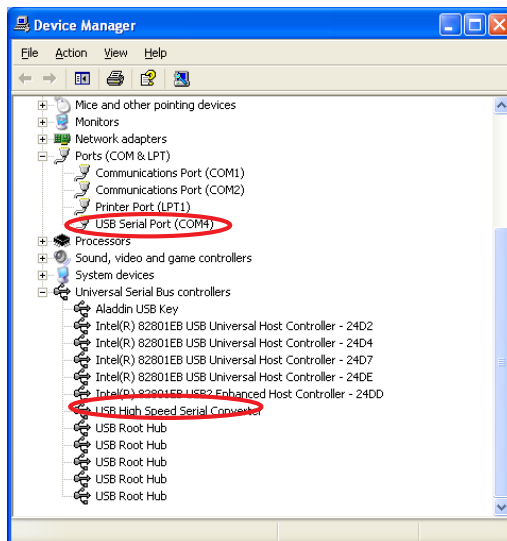
2.2 Installing the hardware

Installing the connecting cables:

• The power supply for the spectrophotometer is connected to the plug placed on the right side of the instrument near the On/OFF switch

• Connecting the instrument to the computer with the supplied USB cable

2.3 Product registration

It is recommended to register your instrument with Barbieri electronic in order to get access to privileged information like access to download area, product information/ firmware updates etc.

Registration can be done through the Barbieri Gateway measuring software or manually by registering on the Barbieri web site:
www.barbierielectronic.com

Chapter 3: Putting into operation

The instrument is switched on in the following sequence:
• Switch on your computer
• Switch on Spectro Swing (The switch is situated on the right side of the instrument)
The power LED near the ON/OFF switch of Spectro Swing will light.

The instrument performs the following movements:
• the transport tray moves to the right and to the left

The instrument is now ready for operation and you can now start the measuring software on your computer.

3.1 Calibration

The instrument is self-calibrating, thus there is no need of calibration by the user.

3.2 The auto-position feature

The instrument is capable of automatically finding the position of the sample to be measured.

When you insert a target for measurement, the instrument needs to know where the patches are located. This is automatically determined by scanning some special border lines (auto-position lines):

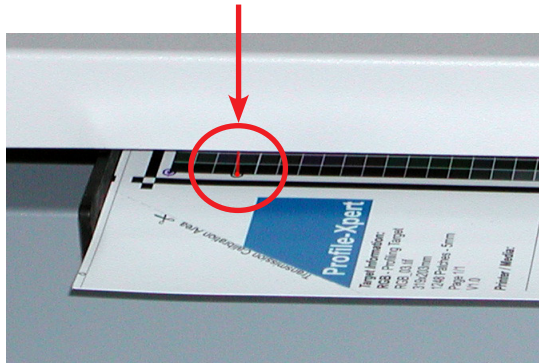min. 5mm white area before black auto-position line
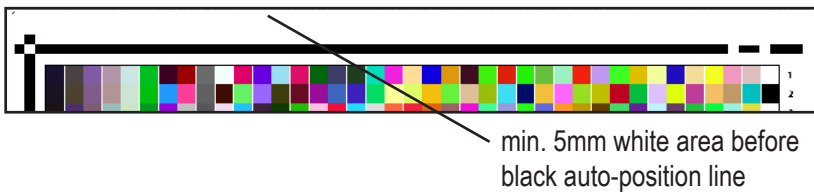
3.3 Manual positioning

Should it not be possible to take advantage of the auto-position feature, you can position your target for measuring manually with the aid of the red laser pointer. For this uncheck in your software the option „auto-position"
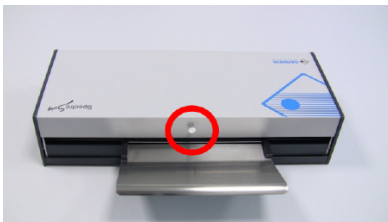
Laser pointer

Chapter 4: Instrument Maintenance

Thanks to its closed construction this instrument requires very little maintenance.

4.1 Opening the instrument

For replacing the measuring lamps or clearing a paper jam it is necessary to open the upper cover of the instrument. It is also recommended to open the cover for cleaning the optics every now and then. To open he instrument follow the instructions:

1. Switch off the instrument and disconnect the power supply from the instrument.
2. To release the upper cover of the instrument unscrew the screw situated on the rear of the instrument.
4. Then remove the upper cover.
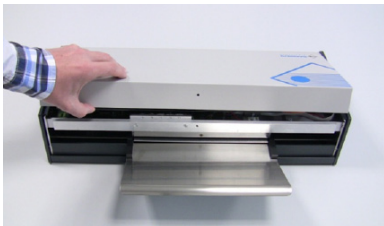
4.2 Cleaning

The external surfaces of the Spectro Swing should be cleaned whenever required. Use a soft cloth dampened with water or a mild cleaner.
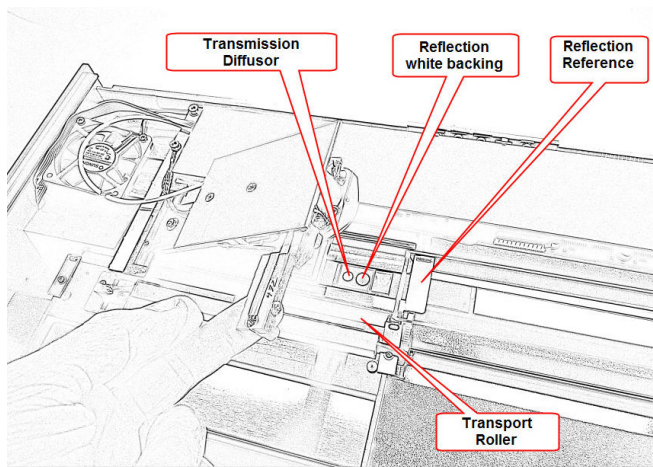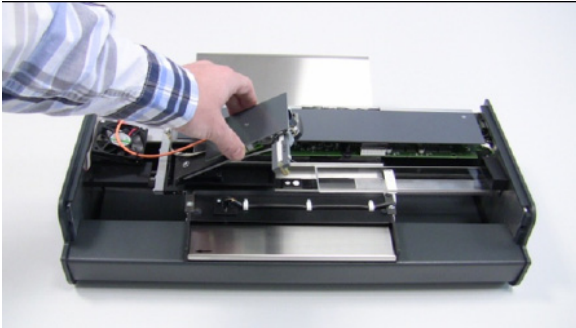
Optics
Please bear in mind that the high-quality reflection optics in particular are very sensitive to scratches! To remove dust or lint from the optics use only compressed moisture free air.

Feed rollers
Check the feed rollers and remove any dust or lint with a appropriate cleaner.

4.3 Changing white calibration standard

Replace the reference white of the Spectro Swing if it is no more valid or it is somehow damaged. Any scratches, dust or dirt on the surface of the reference white may affect the accuracy of the instrument.
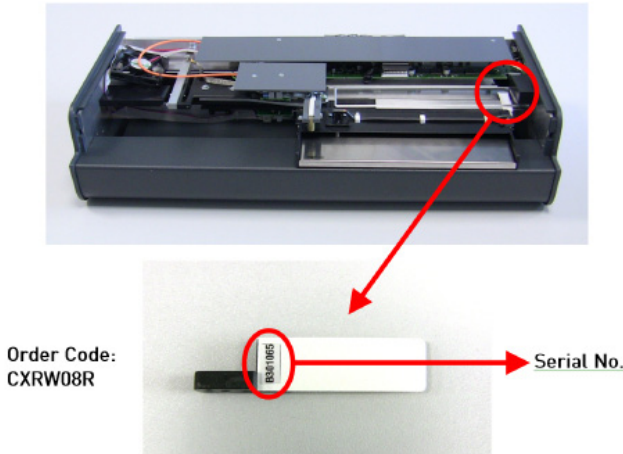

The validity of the reference white

The validity of the reference white is 24 months from the production date. See the serial number on the reference white, or if not present, the serial number of your instrument. The first four characters indicate the year and the month of production. For example a calibration strip with a serial number A603198 indicates: Year: A6= 2006, Month: 03= March. This reference white is valid until March, 2008.

4.4 Changing a measuring lamp

The Spectro Swing is equipped with 3 reflection measuring lamps and one transmission measuring lamp.   All the lamps can be replaced separately.

When replacement is needed?

A measuring lamp of Spectro Swing lasts normally over many years and thousands of measurements. In some cases, though, the life span of a lamp can be shortenend.

It is recommended to replace a measuring lamp of Spectro Swing if it is obvious that a lamp is broken.

4.5 Installing UV cut filter

The optionally available UV cut filter for reflection measurements can be exchanged by opening the cover of the instrument as described in chapter 4.1, and lifting the reflection measuring head.
Remove the optic cover which is holded by a magnet and replacing it with the UV filter cover:

The UV cut filter is used to avoid wrong measurements when measuring samples with optical brighteners.

4.7 Spectro Swing with Barbieri Gateway software

The function of this software is to allow you to drive a BARBIERI measuring device if your particular software (RIP etc.) does not support the device directly. This software will measure any type of targets and save a measuring file in text format. The software runs under either Windows or Mac OSX and delivers measurement data either spectral, CIELab or density.

The software is available for download at the following web-site:

<div align="center">http://www.barbierielectronic.com</div>

4.8 Spectro Swing with other color management software

When using color management software from a different manufacturer than Barbieri, please see the operating manual of your software on how to use the Spectro Swing with your software or use the above applications with file import.

Specifications

Instrument	
Measuring apertures:	reflection 2mm transmission 2mm
Geometry:	reflection 45°:0° transmission d:0
Calibration:	automatic with internal white reference
Physical illumination:	type A
Measurement time:	< 0.3 seconds
Measuring speed:	approx. 16 min for 1248 fields
Repeatability:	< 0.2 ΔEab 94 on white or ±0.005 D (up to 1.000 D)
Inter-instrument agreement:	typ 1.0 ΔEab 94
Measuring sensor:	diffraction grating with diode array
Spectral resolution:	3.5 nm
Spectral range:	380 ... 780 nm
Density measuring range:	0 ... 2.5 D
Target thickness	max 0.7mm
Maximum measuring area:	220 x 600mm
Smallest measuring step:	0.2mm
Interface:	USB for PC, Mac and Linux
Dimensions:	500 x 240 x 110mm (LxWxH)
Weight:	4 kg net (8.8 lbs)

Order codes:	
C041B50	Spectro Swing RT
C050L01	Measuring lamp for Spectro Swing Reflection
C041L02	Measuring lamp for Spectro Swing Transmission
CXRW08R	Reference White Spectro Swing
C050F00-1	UV Cut Filter (optional)

System requirements

• Personal Computer running Microsoft Windows XP or higher
• Apple Mac OS X version 10.5 or higher (Power PC and Intel)

Specifications are subject to change without notice

EG-Konformitätserklärung

Für das folgend bezeichnete Erzeugnis

Spectro Swing

wird hiermit bestätigt, daß es den wesentlichen Schutzanforderungen entspricht, die in der Richtlinie des Rates zur Angleichung der Rechtsvorschriften der Mitgliedsstaaten über die elektromagnetische Verträglichkeit (89/336/EWG) festgelegt sind.

Diese Erklärung wird verantwortlich für den Hersteller:

BARBIERI electronic OHG

I. Seidner Str. 35

I-39042 Brixen (BZ)

Italien

abgegeben durch den gesetzlichen Vertreter: Barbieri Markus.

Federal Communication Commission Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION: Operational hazard exists if AC adaptor other than original is used.

NOTE: Shielded interface cables must be used in order to maintain compliance with the desired FCC and European emission requirements.

For Italy:
INFORMAZIONE AGLI UTENTI

Ai sensi dell'art. 13 del Decreto Legislativo 25 luglio 2005, n.151 "Attuazione delle Direttive 2002/95/CE, 2002/96/CE e 2003/108/CE, relative alla riduzione dell'uso di sostanze pericolose nelle apparecchiature elettriche ed elettroniche, nonché allo smaltimento dei rifiuti".

Il simbolo del cassonetto barrato riportato sull'apparecchiatura o sulla sua confezione indica che il prodotto alla fine della propria vita utile deve essere raccolto separatamente dagli altri rifiuti.

La raccolta differenziata delle presente apparecchiatura giunta a fine vita e'organizzata e gestita dal produttore. L'utente che vorrà disfarsi della presente apparecchiatura dovrà quindi contattare il produttore e seguire il sistema che questo ha adottato per consentire la raccolta separate dell'apparecchiatura giunta a fine vita.

L'adeguata raccolta differenziata per l'avvio successivo dell'apparecchiatura dimessa al riciclaggio, al trattamento e allo smaltimento ambientalmente compatibile contribuisce ad evitare possibili effetti negativi sull'ambiente e sulla salute e favorisce il reimpiego e/o riciclo dei materiali di cui è composta l'apparecchiatura. Lo smaltimento abusivo del prodotto da parte del detentore comporta l'applicazione delle sanzioni amministrative previste dalla normative vigente.

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