

# 530 Spektraldensitometer



## 530 Spectrodensitometer

The unit was purchased as X-Rite 528 and was neuertifiziert in 04.2006 and 08.2006 in upgraded to X-Rite's 530th The device is awarded to 10.2006 and can then be taken over. The customer has ordered Intellitrax system.

It is the ideal device for PSO to introduce Prozesstandard offset printing.

List Price: 8.000,00 €

Non-new

- The optional Micro-spot aperture allows you to also measure color targets that are only 1.6 mm wide, while others are not spectrophotometer measuring fields smaller than 4.0 mm can capture.
- You get accurate color and paper analysis on a clear graphical display.
- It contains all the features of the 500 series, such as density, shade, trapping, print contrast, hue error, grayness, color, match, paper and compared.
- Connect the device with X-RiteColor master, and record your measurements, or create color accurate Rezeptierungen for special inks.
- There are security functions that allow you to restrict access to features such as color and density standards and calibration

### The Next Generation Of Color Control

For Your Pressroom, Ink Lab or Testing Lab.

The 530's high-performance spectral engine provides the most precise color measurement technology available today. By combining the capabilities of a high-end densitometer, precise colorimeter, and a powerful spectrophotometer, the versatile 530 Spektraldensitometer is a color tool that works at every step in the production process.

### Color Control Where You Need It

Get ahold of the powerful X-Rite 530 and you can take command of color anywhere you go. The wide range of color measurement features and rugged, portable design combine to make this new device the best in its class. Use it at press side to measure a variety of common density functions-or take advantage of our EFS™ or News modes to speed your measurement of color control elements. In materials testing, switch to the 530's color functions and verify that special colors and paper values ??are still in line with customer or shop requirements. View the data, or look at simple graphs that can be viewed directly on the instrument display. In the ink room, use the powerful spectral data along with your ink mixing system to test, formulate or correct ink formulas quickly and accurately.

### Simple Color Comparison

For more-than-four-color printing jobs or those with multiple special colors, use our simple color compare function. Found only in the X-Rite instruments, it can save you time when evaluating color differences, making you more productive. Just identify your ideal color references using the density, color or paper functions of the 530th Unlike ordinary color measurement devices, the 530 stores the unique spectral identity of up to 24 individual reference colors. Then, during the production run, simply measure any color, in any order, and the 530 smartly shows you the comparative color or density difference, so you can make color-critical decisions and take cost-saving action.

### Match Colors Quickly

If you need to match colors against a database of your own references or industry guides examined as PANTONE®, the match feature will show you the closest match and the color difference of the closest 16 references may be stored colors. Over 1400 in the instrument at one time. Optional Color Express Mail® software Allows you to manage the databases via a PC-compatible computer.

### Spectrally Based

All of X-Rite's 500 Series models capture high-resolution spectrophotometric data, Which is used as the basis for all of our color and density values. X-Rite's spectral technology produces the highest level of inter-instrument

agreement available in densitometer today. This means you can trust X-Rite's 500 Series technology to give you the most accurate, consistent, comparable color measurements from different presses, among suppliers, between customer and the printing facility, and from two or more printing sites.

#### Large Interactive Display

The 530 boasts a large, crisp graphic display configurable for left-or right-handed operation. This same high-resolution display also features full menu commands in multiple languages, to meet the needs of most any location (including English, French, German, Italian, Portuguese, Spanish, Chinese and Japanese plus additional languages).

#### Intelligent User Interface

An intuitive key-pad uses universally understood up / down arrow keys and a select key to easily navigate menu items. For efficiency we, therefore, included a "back" key, and to "escape" key, quickly and easily Which takes users back to the main menu.

#### On Target

Another X-Rite first is our unprecedented microSPOT aperture size that is as small as 1.6mm x 3.2mm. This option makes short work of targeting special-color or density measurements. Just locate a bar code, some solid type, or a graphic element and quickly check the color.

#### Ergonomic design

All of our new hand-held instruments apply ergonomic concepts to fit naturally in your hand. The targeting shoe clearly pinpoints the measurement area so you get the right measurement every time.

#### Rugged Construction

The 500 Series instruments absorb the inevitable bumps of everyday use. The 500 Series carries the tradition of X-Rite densitometer's popular 400 Series, perhaps the most durable instruments in the industry. You will get years of accurate and reliable performance.

#### User Interface

- Sharp / reversible display
- Left-or right-hand operation
- Interactive menu and key system
- Clear recognition of function when measuring
- Auto select color
- High resolution LCD display
- Multiple language support
- Calibration Alert feature Security
- Lock out of specified functions
- Lock out of configuration menu
- Security cable (optional)

#### Density features

- Density (absolute or minus paper)
- Density Difference (16 reference values)
- Dot Area (Tone Value)
- Dot Gain with triple reference
- Print Contrast
- Apparent Trap
- Hue Error / Gray Ness
- High-precision data format feature
- Electronic Function Selection <sup>TM</sup> (EFS)
- fashion news
- Selectable User Configuration (U.S., €, news balance, News3-Color)
- Selectable Status Response (T, E, I, A, G, Tx, Ax, Ex, & Hi-Fi)

#### Color Features

- Lab (CIE or Hunter) •  $L^* u^* v^*$  •  $Y u^*$
- $L^* C^* h^\circ$  • XYZ • Yxy
- DELTA.E (ab), CMC, and tolerancing CIE'94
- High-precision data format feature
- Color Compare with up to 24 references
- On-screen graph of  $L^* a^* b^*$  (actual or difference)
- Match

#### Spectral Reflectance Features

- Spectral Reflectance Data
- Spectral Reflectance Graph

#### Material Testing

- TAPPI Brightness
- Paper Color Cast Value
- Paper Statistics Calculations (mean, sigma)

#### Accessories Provided

- Calibration Reference
- Getting Started Guide
- CD-ROM with complete documentation and training materials
- AC adapter
- Carrying Case
- RS-232 interface cable kit
- Express Mail ® Color
- PANTONE ® Digital Color Libraries
- 3 year warranty

Rating: X-Rite calibration references are traceable to the U.S. National Institute of Standards and Technology through Munsell Color Science Laboratory RIT.

#### Options

- Polarization Filter (not available on 2.0mm or microSPOT version)
- Ultraviolet filters
- 2.0mm Aperture (not available with polarized version)
- 6.0mm Aperture
- Microspot Aperture 1.6mm x 3.2mm (available as factory option only, not available with polarized version)
- Security cable
- X-Master ® RiteColor Formulation Software
- X-Master ® RiteColor Software Quality Assurance

#### Specifications

##### Measurement Geometry

45 ° / 0 ° per ANSI, DIN and ISO

##### Standards

##### Spot size at sample

3.4mm (.13 in) standard

2.0mm (.078 in) optional

6.0mm (.236 in) optional

1.6mmH (.063 in.) x 3.2mmW

Micro-spot (.125 in.)

Light Source  
Gas Pressure @ 2856 °

Spectral Range  
400nm to 700nm

Illuminant Types  
A, C, D50, D55, D65, D75,  
F2, F7, F11, F12

Standard Observers  
2 ° and 10 °

Response Types  
D, E, I, A, G, Tx, Ax, Ex, Hi-Fi

Measurement Range  
0.00d-2.5D; 0-160% R

Measurement Time  
Approx. 4.1 seconds single  
measurement  
Approx. .9 Seconds for consecutive  
measurements in Speed ??Read mode

Warm Up Time  
None

Repeatability  
± 0.005D 0.00-2.00D \*  
0.010D 2.50D ± 2.00 \*  
\* Polarized Yellow ± 0.010D 0.00-1.80D  
12:10 Max DELTA.E  
Micro-Spot ± 0.010D 0.0-1.8D

Inter-instrument agreement  
± 0.01D or 1% for typical  
printing processes  
0:40 MAX ?Ecmc  
on 12 BCRA tiles

Database  
1400 + samples

Data Interface  
RS-232 serial interface  
with baud rates from 1200 to  
57.6K communication

Power Source  
Ni-MH battery pack,  
1650mAh 4.8v rated @

Charge Time  
Approximately 3 hours

**Environmental**

+10 ° -35 ° C operating,  
30% -85% RH non-condensing

**Physical****Dimensions**

Height: 81mm (3.2in)  
Width: 76mm (3.0in)  
Length: 197mm (7.8in)

**Weight**

1050 grams (2.3lbs.)

Technical data of the X-Rite 528 (the X-Rite 530 has these features as well):

**X-Rite 528 Spectrodensitometer**

The currently most versatile portable colorimeter. Densitometer as higher accuracy, even for spot colors, spectral measurement. Thus, one can measure process colors and spot colors with the same device. Then there is the extreme ease of use. A large, high-contrast graphic display shows measurement results, graphics and interactive menus. The selection of functions is very simple, the user navigates through a self-explanatory menu, it can easily be switched between densitometric and spectral applications. Densitometerfunktionen: Density (absolute or minus paper, screen, area coverage as the total value and net pressure increase, relative print contrast, trapping, hue error / grayness, gray balance, reference values ??for differential measurement, Nonheatset function (for newsprint), EFS (electronic function selector = automatic operation) \* Graphical representation of the color space, CIE L \* a \* b and the color brightness axis, CIE L \* u \* v \* with measured values, CIE Y \* u: negative, spectral functions - printing plate measurement, automatic switching positive CIE L \* a \* b \* new \* v \*, CIE XYZ, CIE Yxy, from E, E CMC, CIE `E 94th

Material testing functions: TAPPI bright value (paper), color matching function: stored 24 colors, each individually adjustable relative, Densitometervergleich individually = colors - C, M, Y, K, R, G, B, O, 4-color, 3 color, hue error / grayness, color matching = E, L \*, a \*, b \*, L \*, C \*, h \*, L \*, u \*, v \*, HW / DW (brightness), XYZ, Yxy, Luv, user functions: automatic color selection, display the same color densities of 4, language selector, display rotation for left- and right-handed, interactive menus with buttons, all functions can be switched off or on. Security: password protection, selectable functions included: calibration standard (certified), Manual, CD-ROM, AC adapter, carrying case.

**Measurement of pressure plates manual for X-Rite 530:**

Important prerequisites: good contrast between the plate surface and layer completely clean sheets, as ungummed the measurements are repeated on the plate? i.e. several measurements have to get the same results. Settings of the instrument: all 530 units are designed for the pressure plate measurements suitable meter set change on the plate measurement or, polarizing filters remove and re-calibrate, turn on configuration, auto-area detection, change automatic color detection on the color, the densitometer at the layer color of the printing plate indicates setting in grid. Color options: auto, cyan, magenta, yellow, or visually select (black) and confirm.

The 3rd Point is not absolutely necessary, but depending on coat color can veer from the automatic color detection, the meter in specific raster values ??to another color.

Measure on the plate: grid dial, white paper, valued on the plate surface (clean place, preferably near the Volltonmessung) measure, full tone (emulsion) to measure pitch.

Important Information: Use the largest possible orifice, for 500 units, there are 6 mm lens, the direction of measurement check on the plate by rotating by 45 ° and 90 ° when densitometer asks for paper white measuring plate surface, "paper white" (equal to the plate surface) and Spot! always measure in the same place. X-Rite recommends the pressure plate to measure the Murray-Davies formula. Even after FOGRA and DIN standard should be measured with this formula. The 500 units have also installed the Yule Nielsen formula for the area calculation. The "N" factor can be entered or determined by measurement. For the determination of the "N-factor", the 50% halftone dot can be measured. Here lies the weakness of the method, how do you get the real point of 50%? The exact value of the N-factor is in each case unknown and is then determined. Thus, there is no uniform

measurement results and it is no longer linear measurement.

Frequency-modulated raster produce other values ??as "normal" grid, with finer grids as compared to coarse grids. Suitable densitometer for measuring the pressure plate are: X-Rite 530 with Spectrodensitometer-directional measurement geometry

#### Rite-530X/LP Spectrodensitometer

Measurement functions: density, density minus paper density difference (16 references), gray balance, newspaper printing function, area, dot gain (automatic); relative print contrast, trapping, hue error / grayness, automatic function selection EFS, TAPPI bright value (paper), colorimetric functions CIE  $L^* a^* b^*$ ,  $L^* C^* h^\circ$ , XYZ, Yxy,  $L^* u^* v^*$ , Yuv, color differences in  $\Delta E_{ab}^*$ ,  $\Delta E_{CMC}$ ,  $\Delta E_{94}$  (16 references), automatic compare function (24 references ) densitometry and colorimetry, spectral densities and reflection, spectral curves, connected to X-Rite X-Rite and QuickInk Rezeptionssoftware QA Lite Software for quality control. Supplied with calibration standard (certified), AC adapter, manual, pouch, CD-ROM, orifice plates with and without polarization filter.



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