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National high-tech enterprises

# Professional spectrophotometer

## ST-700d Plus



Multi aperture switching



Camera observation and positioning



Dual optical path system



Mobile phone connection

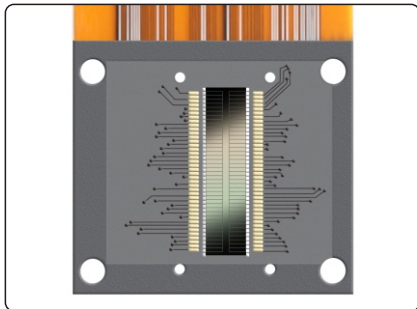
### Product introduction

ST-700d Plus is an array spectrophotometer developed by using the independent light splitting core technology. It uses built-in large-area silicon photodiode array (double row 40 groups) sensors and industrial grade MCU. Its powerful data processing capability ensures the stability and accuracy of the measurement data. It can be used for accurate color measurement in various occasions. Large size touch screen is more convenient to view the measurement results. The measurement data of the instrument is similar to that of Japan, the United States Other competitive products in Europe have good consistency.

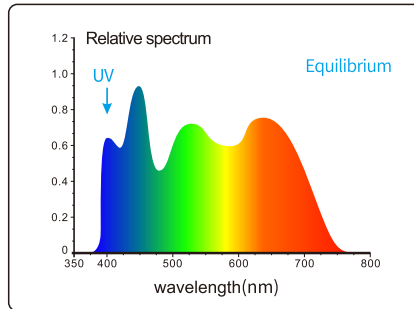
# ST-700d Plus

## Array spectrophotometer

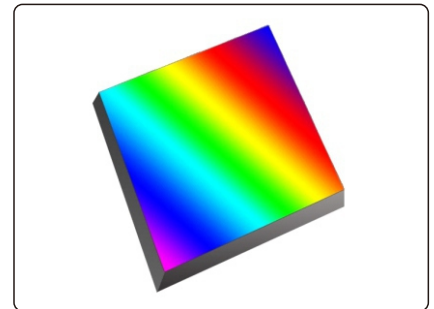
### Main features



1. Silicon photodiode array (double 40 array) sensor ensures the accuracy of measurement



2. Full band balanced LED light source+UV light source



3. Grating light splitting technology  
The plane grating light splitting technology is adopted, which has higher resolution and makes the color measurement more accurate.



4. Non contact automatic whiteboard calibration (automatic lifting patent)



5. New and fashionable appearance design based on ergonomics



6. Equipped with five measuring calibers to meet the measurement requirements of large and small samples



7. Camera location can clearly observe the measured area



8. The error between instruments is small, ensuring the consistency of measurement data of multiple equipment, which can be used for color matching and accurate color transfer.



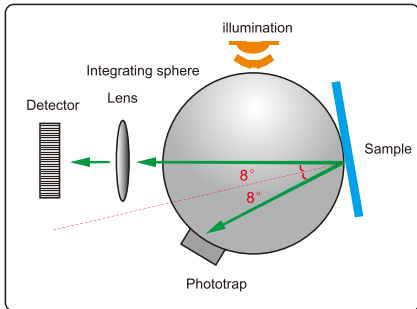
9. It provides 30+ color spaces and 40+ observation light sources, which can meet the special measurement requirements under different measurement conditions.

# Model: ST-700d Plus

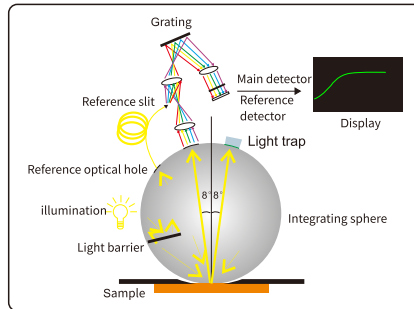


## Compliance with standards:

CIE No.15, GB/T 3978, GB 2893,  
GB/T 18833, IS07724-1,  
ASTM E1164, DIN5033 Teil7



10. Adopt international D/8 SCI/SCE synthesis technology



11. The dual optical path system ensures more stable and accurate measurement data when the measurement environment changes.



12. The array spectrophotometer ST-700d Plus supports Android, IOS, Windows, WeChat applet and Hongmeng system, and is suitable for quality monitoring and color data management in various industries.



Rotate to remove

### ST-700d Plus 5 Aperture:

MAV:  $\Phi$ 8mm/ $\Phi$ 10mm (Flat+Tip Measuring aperture);

SAV:  $\Phi$ 4mm/ $\Phi$ 5mm (Flat+Tip Measuring aperture);

SSAV: 1x3mm;



4mm Flat



4mm Tip



8mm Flat



8mm Tip

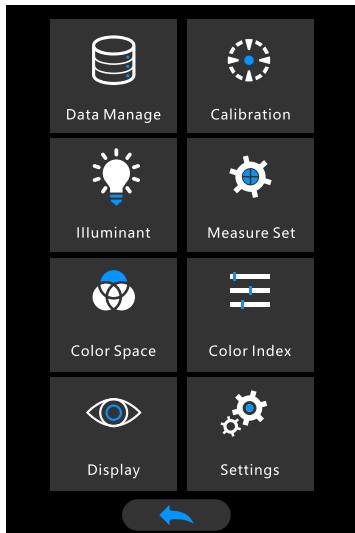


1x3mm Tip

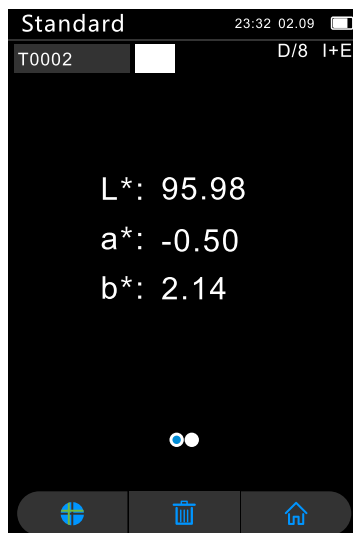
# ST-700d Plus

Array spectrophotometer

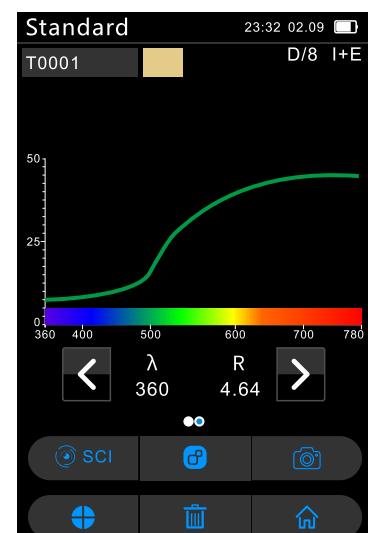
Function interface display



Main Menu



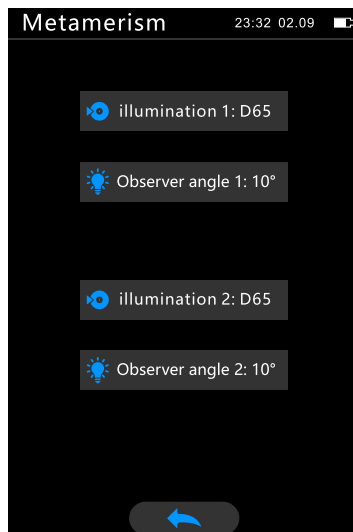
Standard sample measurement



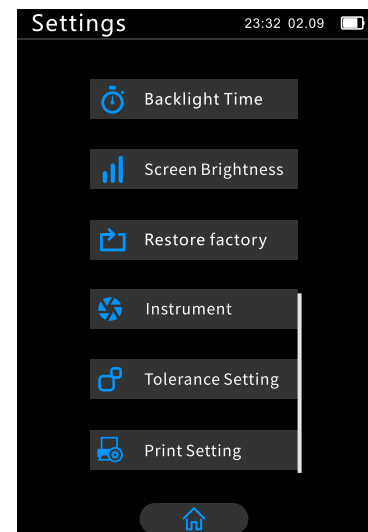
Standard sample measurement and color difference



illumination setting



Metamerism



System settings



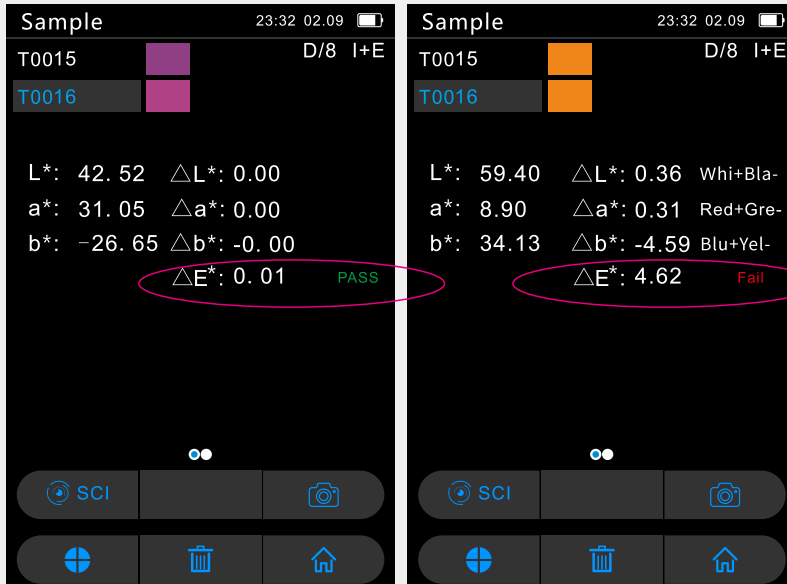
## Multi functional intelligent charging base

The multi-functional intelligent charging base is a smart base that we independently developed and integrates charging and automatic calibration. It uses the self-developed 3.0 fast charging technology and is equipped with an imported standard white board. The white board automatically rises and falls (national patent) when starting automatic calibration to ensure that the white board is not easy to get dirty and is stable and accurate for a long time.

# ST-700d Plus

## Array spectrophotometer

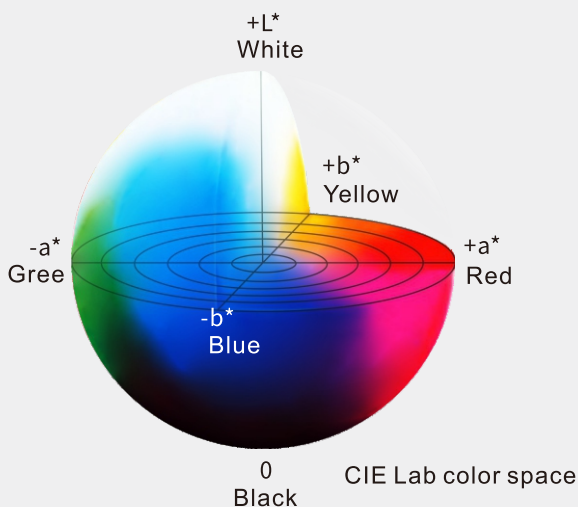
### Evaluation of test results



Comply with ISO7724-1 and ASTM E1164 standards. By setting the color values of the standard sample and sample obtained under the light source, the system will automatically calculate the formula to obtain the color difference value and color deviation. Within the set tolerance range, the system will display "qualified"; when it exceeds the set range, the system will display "unqualified".

The difference of color difference is distinguished by NBS unit, which is derived based on the unit of color difference calculation formula established by Judd Hunter. When the value of NBS unit is larger, the color difference is more obvious, and vice versa.

NBS Range	Perception
0.00-0.50	trace
0.50-1.50	slight
1.5-3	noticeable
3-6	appreciable
6+	much



CIE LAB, XYZ, Yxy, LCh, CIE LUV, s-RGB, HunterLab, βXy, DIN Lab99 and other color spaces are available, such as the common CIE Lab color space:

L \* means black and white. The larger the value of L \*, the higher the brightness;  
 A \* represents red and green,+a \* represents red, and - a \* represents green;  
 B \* represents yellow blue,+b \* represents yellow, and - b \* represents blue.

Through the color bias display, we can easily adjust the color ratio.

\*The above test results have been corrected in black and white after startup, and are within the validity period of correction.

# ST-700d Plus

Array spectrophotometer

## SQCX

Connect devices for powerful function expansion

Create instant reports using SQCX

SQCX can connect the spectrophotometer through USB cable and Bluetooth (only for instruments supporting Bluetooth), control the instrument to measure, change the instrument configuration, and operate the instrument data. At the same time, it also greatly expands the functions of the instrument, supports a variety of color systems, light sources, more complex data management, color detection, report generation, etc., and is a powerful assistant for color quality management.



## SQCA

### Connect

Via Bluetooth® Connect the instrument to the mobile phone to see the real-time readings directly, and save them to the historical record.

### Review

Visually view historical measurement records for easy comparison.

### Management and printing

You can copy, delete and upload data to the cloud, or print the data by connecting to a Bluetooth printer.

### Rename and change

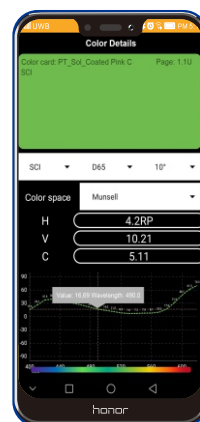
You can name data records to facilitate data modification while recording.

### Color check and color formula

The APP is built with massive color data. Through the analysis of measured colors, the software automatically finds similar color cards and obtains color formulas.

### Transmission

Transfer detection data from mobile devices to computers for further analysis, create reports or upload to the cloud.



Android



iOS Mobile/PC

HarmonyOS



WeChat applet



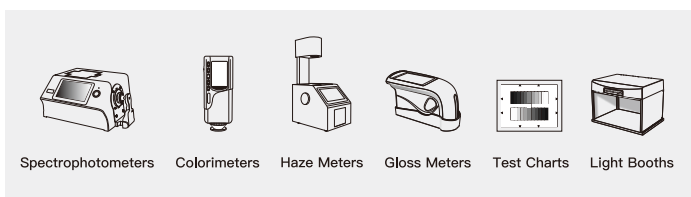
Windows

Color matching cloud

## Technical parameter

<b>Model</b>	ST-700d Plus	ST-700d
<b>Optical Geometry</b>	D/8 (diffused illumination, 8-degree viewing angle) SCI & SCE; Include UV & Exclude UV.	
<b>Conform to Standards</b>	CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724-1, ASTM E1164, DIN5033 Teil7	
<b>Light Source</b>	Combined Full Spectrum LED Lamp, UV Lamp	
<b>Integrating Sphere Size</b>	Φ40mm	
<b>Spectroscopic Method</b>	Plane Grating	
<b>Sensor</b>	Large-area silicon photodiode array (40 pairs of dual columns)	
<b>Wavelength Range</b>	360~780nm	400~700nm
<b>Wavelength Interval</b>	10nm	
<b>Reflectance Range</b>	0~200%	
<b>Measuring Apertures</b>	Five Apertures: 8mm Platform + 8mm Tip + 4mm Platform + 4mm Tip + 1*3mm	Three Apertures: 8mm Platform + 4mm Platform + 1*3mm
<b>Locating Method</b>	Cross Locating + Camera Locating	
<b>Whiteboard Calibration</b>	Non-contact automatic whiteboard Calibration	
<b>Color Spaces</b>	CIE LAB, XYZ, Yxy, LCh, CIE LUV, s-RGB, HunterLab, βxy, DIN Lab99 Munsell (C/2)	
<b>Color Difference Formula</b>	$\Delta E^*ab, \Delta E^*uv, \Delta E^*94, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*00$ , DIN $\Delta E99, \Delta E$ (Hunter)	
<b>Other Colorimetric Index</b>	Spectrum Reflectance Rate, WI (ASTM E313-00, ASTM E313-73, CIE/ISO, AATCC, Hunter, TaubeBergerStensby), YI (ASTM D1925, ASTM E313-00, ASTM E313-73), Metamerism Index Mt, Staining Fastness, Color Fastness, Strength (dye strength, tinting strength), Opacity 8-degree Gloss, 555 Index, Blackness (My, dM), Color Density CMYK (A, T, E, M), Tint (ASTM E313-00), Munsell (Some functions are realized through the computer)	
<b>Observer Angle</b>	2°/10°	
<b>Illuminants</b>	D65, A, C, D50, D55, D75, F1, F2 (CWF), F3, F4, F5, F6, F7 (DLF), F8, F9, F10 (TPL5), F11 (TL84), F12 (TL83/U30), B, U35, NBF, ID50, ID65, LED-B1, LED-B2, LED-B3, LED-B4, LED-B5, LED-BH1, LED-RGB1, LED-V1, LED-V2, LED-C2, LED-C3, LED-C5, Light source can be customized (a total of 41 kinds of light sources, some of which are realized through the host computer/APP)	
<b>Displayed Data</b>	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Simulation, Color Offset	
<b>Measuring Time</b>	About 1.5s	
<b>Repeatability</b>	Chromaticity Value: MAV/SCI, within $\Delta E^*ab$ 0.02 Spectral reflectance: MAV/SCI, standard deviation within 0.07% (400~700nm)	Chromaticity Value: MAV/SCI, within $\Delta E^*ab$ 0.022 Spectral reflectance: MAV/SCI, standard deviation within 0.07% (400~700nm)
<b>Inter-instrument Error</b>	MAV/SCI, $\Delta E^*ab$ within 0.18	MAV/SCI, $\Delta E^*ab$ within 0.2
<b>Display Accuracy</b>	0.01	
<b>Measurement Mode</b>	Single measurement, average measurement (2~99 times)	
<b>Data Storage</b>	APP mass storage	
<b>Accuracy Guarantee</b>	Guarantee passing the Grade 1 metrology	
<b>Dimension</b>	Length X Width X Height=114X70X208mm	
<b>Weight</b>	About 435g (Calibration Base not included)	
<b>Battery</b>	Lithium battery, 3.7V, 5000mAh, 8500 times measurements within 8 hours	
<b>Illuminant Life Span</b>	More than 1.5 million measurements in 10 years	
<b>Display</b>	TFT True Color 3.5inch, Capacitive Touch Screen	
<b>Data Port</b>	USB, Bluetooth®	
<b>Data Storage</b>	500 pcs standard samples, 20,000 pcs samples (one piece of data can include SCI+SCE at the same time), APP/PC mass storage	
<b>Software Support</b>	Andriod, IOS, Windows, Wechat APplet, Harmony OS.	
<b>Language</b>	Simplified Chinese, Traditional Chinese, English	
<b>Standard Accessory</b>	Power adapter, USB cable, Manual, Quality Management Software (official website download), Calibration Box, Protective Cover, Wrist Strap, Measuring Apertures	
<b>Optional Accessory</b>	Micro-printer, Powder Test Box	

**GUANGDONG THREENH TECHNOLOGY CO., LTD.**



### ★ CONTACT US

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