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# АНАЛИЗАТОРЫ ЦВЕТНОСТИ

7123

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## ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

По вопросам продаж и поддержки обращайтесь:

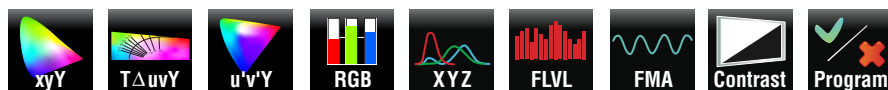
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## MODEL 7123

### Key Features:

- Luminance and chromaticity measurement of Color Display
- Support LED backlights display
- 0.005 cd/m<sup>2</sup> low luminance measurement (A712301)
- Wide luminance display range : (Option)  
0.0001 to 25,000 cd/m<sup>2</sup> (A712301)  
0.01 to 200,000 cd/m<sup>2</sup> (A712302)  
0.01 to 6,000 cd/m<sup>2</sup> (A712200)
- High accuracy measurement
- Maximum 9 display modes:  
xyY, TΔuvY, u'v'Y, RGB, XYZ, FMA(A712200), FLVL(A712200), Contrast, Program
- Support contrast, JEITA and VESA for flicker measurements (A712200)
- Able to control Video Pattern Generator and UUT (Unit Under Test)
- Built-in contrast measurement function to calculate the contrast ratio directly
- Equipped with programmable test items that can complete the planned tests with one single button
- Support USB flash disk that can copy the test procedures to other station for use
- Judgment function embedded to judge the test result automatically with one single button
- Calibration period setting and reminding function
- Memory for storing 100 channels of standard color data and calibration data
- Built-in flat display calibration data LCD-D65 & LED-D65 to be applied for chromaticity measurement instantly
- Optional display white balance alignment system can be used to integrate all optical test stations to one single station



## DISPLAY COLOR ANALYZER

### MODEL 7123

7123 Display Color Analyzer adopts the design of contact and non-contact type measurements based on the probe selected to measure the luminance and chromaticity of display panels. Developed with the most advanced digital signal processor and the technology of optoelectronic transfer as well as precision optical parts and circuit design, the 7123 Display Color Analyzer is capable of performing high speed, accurate and stable color tests.

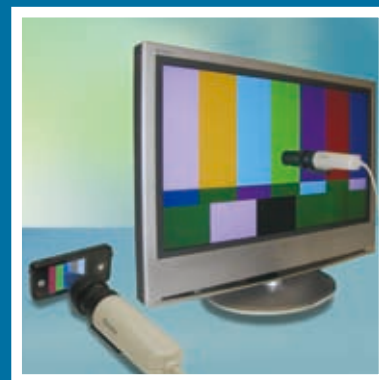
The configuration of 7123 complies with the color matching function sensor of CIE 1931 and CIE1976 UCS that can measure the luminance and chromaticity of display panel accurately. Users can switch to various types of chromaticity coordinates freely including xyY, TΔuvY, u'v'Y, RGB, XYZ, FMA (A712200), FLVL (A712200), Contrast and Program 9 modes in total. The A712301 that is designed to test the LCD characteristics with LED backlight is able to meet the low luminance test requirements of 0.005cd/m<sup>2</sup>. In addition, the A712302, designed for small size display in particular can solve the problem of color analyzer measurement area larger than the display area with its Ø5mm measurement area.

To satisfy the needs for automation, the 7123 is equipped with the function to control the video pattern generator and the UUT without using a personal computer to cut down the acquisition and management cost. The 7123 also has the functions of contrast measurement, result judgment and programmable test items that can fulfill the auto test requirements to enhance the production efficiency.

The Optical Measurement Software incorporated by 7123 is able to do chromaticity, luminance, Flicker (A712200) and Gamma measurements on PC, and then show the measured data on CIE 1931 and CIE1976 UCS chromaticity coordinate chart directly. Besides the function of drawing Gamma curve, the measured data can also be stored on PC and exported to EXCEL® for process. The example programs enclosed in optical measurement software allow users to develop the test programs that suit their needs.

7123 Display Color Analyzer has 100 channels of built-in memory for storing the value of standard colors and calibrated data. In addition, 7123 also provides many friendly user interfaces for operation such as the way test data shows, the position set for push buttons, the positioning projector, USB and RS-232C interfaces for data transmission, calibration period setting as well as reminding function and etc. to satisfy the requirements for actual measures. Using the USB flash disk, the test procedures can be copied to other stations for use and reduce the time for repeated editing considerably.

As the technology and products of flat displays have become the mainstream in the market today, every manufacturer is seeking for high value-added and low cost measurement solutions to raise its competitiveness ; 7123 Display Color Analyzer is the excellent tool to assist in achieving that purpose.



# SPECIFICATIONS

Model	7123		
Probe			
Probe Model	A712301 (Ultra Low luminance measuring probe)	A717002 (Small size high luminance measuring probe)	A712200 (Flicker measuring probe)
Measurement Area	Ø27 mm / Ø1.06 inch	Ø5 mm / Ø0.20 inch	Ø27 mm / Ø1.06 inch
Measurement Distance	30±10mm	0~10mm	30±10mm
Acceptance Angle	± 2.5°	± 5°	± 2.5°
Display Range	Luminance	0.0001 to 25,000 cd/m <sup>2</sup>	0.01 to 200,000 cd/m <sup>2</sup>
	Chromaticity	4 or 3 digits display	
Luminance unit	cd/m <sup>2</sup> or fL, selectable via button on the front panel		
Display Mode	Digital	xyY ; TΔuvY; u' v' Y ; RGB ; XYZ ; Contrast; Program	
	Analog	Δx Δy ΔY; ΔR ΔG ΔB; ΔR G/R B/R; R/G ΔG B/G	
Luminance *1	Meas. Range	0.0050 to 6,000cd/m <sup>2</sup> (0.001 to 1751fL)	0.30 to 6,000 cd/m <sup>2</sup> (0.09 to 1751fL)
	Accuracy	0.0050 to 0.0199 cd/m <sup>2</sup> : ± 0.0005 cd/m <sup>2</sup> 0.020 to 0.099 cd/m <sup>2</sup> : ±4% ±2 digits 0.100 cd/m <sup>2</sup> to 6,000cd/m <sup>2</sup> : ±2% ±1 digit	0.30 to 6,000 cd/m <sup>2</sup> : ±2% ±1 digit
	Repeatability	0.0050 to 0.0199 cd/m <sup>2</sup> : ± 0.0003 cd/m <sup>2</sup> 0.020 to 0.099 cd/m <sup>2</sup> : 1% + 2 digits(2σ) 0.100 to 0.999 cd/m <sup>2</sup> : 0.2% + 1 digit(2σ) 1.00 cd/m <sup>2</sup> to 6,000 cd/m <sup>2</sup> : 0.1% + 1 digit (2σ)	0.30 to 2.99cd/m <sup>2</sup> : 0.2% +1 digit(2σ) 3.00 to 6,000cd/m <sup>2</sup> : 0.1%+1 digit(2σ)
Chromaticity *1	Accuracy	0.100 to 2.99cd/m <sup>2</sup> : ±0.008 3.00 to 4.99cd/m <sup>2</sup> : ±0.005 5.00 to 9.99 cd/m <sup>2</sup> : ± 0.003 10.00 to 6,000 cd/m <sup>2</sup> : ± 0.002	0.30 to 14.99 cd/m <sup>2</sup> : ± 0.008 15.00 to 119.9 cd/m <sup>2</sup> : ± 0.005 120.0 to 6,000 cd/m <sup>2</sup> : ± 0.003
	Repeatability	0.100 to 0.199cd/m <sup>2</sup> : 0.015(2σ) 0.200 to 0.499cd/m <sup>2</sup> : 0.008(2σ) 0.500 to 1.99cd/m <sup>2</sup> : 0.003(2σ) 2.00 to 6,000cd/m <sup>2</sup> : 0.001(2σ)	0.30 to 0.59 cd/m <sup>2</sup> : 0.015 (2σ) 0.60 to 1.49 cd/m <sup>2</sup> : 0.008 (2σ) 1.50 to 7.99 cd/m <sup>2</sup> : 0.003 (2σ) 8.00 to 6,000 cd/m <sup>2</sup> : 0.001 (2σ)
Flicker -Contrast Method(FMA)	Range	---	5 cd/m <sup>2</sup> or higher
	Display Range	---	0.0 to 100%
	Accuracy	---	±1% (Flicker frequency:30 Hz AC/DC 10 % sine wave) ±2% (Flicker frequency:60 Hz AC/DC 10 % sine wave)
	Repeatability	---	1% (2σ) (Flicker frequency:20 to 65 Hz AC/DC 10 % sine wave)
Flicker -JEITA/ VESA Method	Range	---	5 cd/m <sup>2</sup> or higher
	Display Range	---	6~240Hz
	Accuracy	---	±0.5dB (Flicker frequency:30 Hz AC/DC 10 % sine wave)
	Repeatability	---	0.3dB (2σ) (Flicker frequency:30 Hz AC/ DC 10 % sine wave)
Measurement Speed	xyY	Y:0.0050 to 0.0199 cd/m <sup>2</sup> : 1 times/sec. (Low luminance mode) ; Y:0.020 to 1.99 cd/m <sup>2</sup> : 4 times/sec.(Auto mode) 2.00 cd/m <sup>2</sup> and above: 15 times/sec.	0.3 to 7.99 cd/m <sup>2</sup> :1 time/sec. 8.00 cd/m <sup>2</sup> : and above:15 times/sec.
	FMA	---	6 times/sec. (UNIV) ; 20 time/sec.(NTSC); 16 times/sec. (PAL)
	FLVL	---	0.5 time/sec.
Dimension	Ø 46 x 234.9(D) mm / Ø 1.81 x 9.25(D) inch	Ø 46 x 221.9(D) mm / Ø 1.81 x 8.74 (D) inch	Ø 46 x 234.9(D) mm / Ø 1.81 x 9.25(D) inch
Weight	0.5 kg / 1.1 lbs	0.5 kg / 1.1 lbs	0.5 kg / 1.1 lbs
Cord Length	2.5m / 98.43 inch		
Optical System	LED positioning function		
Main unit			
Memory Channel	100 Channels		
Sync Mode	NTSC, PAL, EXT, UNIV, INT		
Object Under Measurement	10~240 Hz		
Interface	USB(2.0), USB flash disk port, RS232C (Baud rate max. 115200)		
Input Voltage Range	AC 100~240V, 50/60 Hz, 50VA		
Operating Temperature/Humidity Range	10°C to 30°C (50°F to 86°F); less than 75% relative humidity (with no condensation)		
Storage Temperature /Humidity Range	0°C to 40°C (32°F to 104°F); less than 75% relative humidity (with no condensation)		
Dimension (H x W x D)	115x320x260 mm / 4.5x12.6x10.2 inch		
Weight	2.7 Kg / 5.95lbs		
Other Functions	Customized light source calibration, memory channel ID storage, variable analog display range, display pause, remote control, comparison, video pattern generator and UUT control, programmable test item, test result judgment, calibration period setting and reminding function, USB flash disk supported. *2		
Certification	CE		

All specifications are subject to change without prior notices. Please visit our website for the most up to date specifications.

\*Reference standards: IEC 61747-6, EIAJ ED-2522, ASTM E455-03, VESA Standard

\*1: Standard illuminant A is used for test according to Chroma's test condition.

\*2: Only the USB f ash disks certified by are supported.

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