

TV-COLOR ANALYZER II

Minolta's TV-Color Analyzer II combines the latest in electronic technology with years of experience in photometry and colorimetry. It is ideal for objective white-balance measurement and color adjustment of television sets, computer monitors, and video projectors, and also for prototype testing of new products. Luminance and chromaticity can be measured in addition to primary beam intensities.

In chroma mode, any white standard or reference color can be input directly in Yxy units ($Y_u'v'$ units on model TV-2120), thus eliminating the need for white masters or comparators. In analyzer mode, primary beam measurements simplify setting white balance by allowing the user to individually adjust the red, blue, and green intensities of any CRT. Microcomputer processing of data and both analog and digital displays further increase the ease of operation.

Features

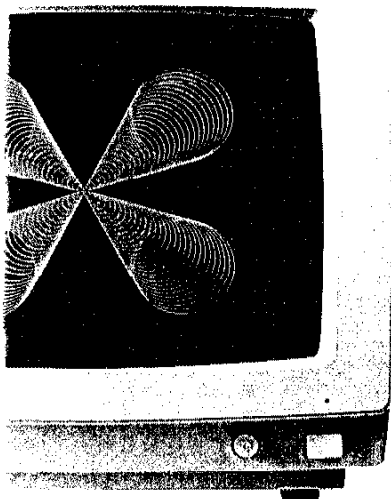
- Two modes of operation:
 1. Chroma mode can be used to measure luminance and chromaticity in terms of Yxy ($Y_u'v'$ on model TV-2120).
 2. Analyzer mode can be used to measure primary beam intensities with respect to any user-selected white standard or reference color.
- Two types of display:
 1. Three 3-figure digital displays allow precise measurements.
 2. Three 10-segment analog bar graphs clearly show deviation from a white standard or reference color.
- Two types of memory:
 1. Four color channels (sixteen on models TV-2140, TV-2160, and TV-2240) for storing white standards and reference colors.
 2. Four CRT channels for storing monitor phosphor characteristics.
- Luminance can be measured in either cd/m^2 (nt) or ft-L.
- Zero calibration is easy, and meter reminds user when to calibrate.
- Meter automatically checks itself when turned on and indicates any problems.
- Battery back-up and key-lock switch prevent memory loss.

- Additional features include a chart of CIE Standard Illuminant values on top of meter; an RS-232C data output terminal for connection to a separate data processor; and, on models TV-2140, TV-2160, and TV-2240, remote control is possible.

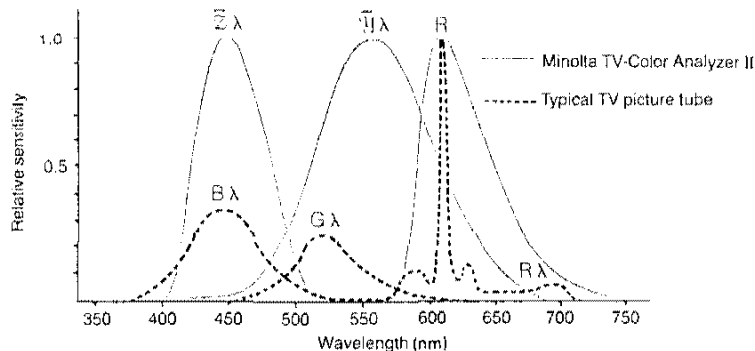
Applications

- Measurement of chromaticity and white balance of television sets, computer monitors, and video projectors.
- Determination of color differences between CRTs.
- Adjustment of chromaticity and white balance of television sets and monitors to industry standard or user reference.

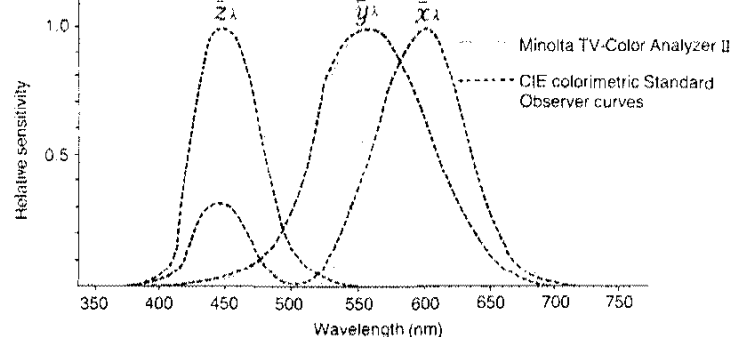
Spectral response



Analyzer mode



Chroma mode



Choice of different models

The various models in this line of TV-Color Analyzers are listed at right. A choice of two luminance ranges, four or sixteen color memory channels, plus Yxy or Yu'v' color space systems allows users to select the features that best suit their needs. In addition, different models are available to provide color-balance values based on either red- or green-beam output of a monitor.

Model	Luminance range	Color memory	Beam standard	Color space
TV-2120	3—999 cd/m ² (1—290 ft-L)	4 channels	green	Yu'v'
TV-2130	3—999 cd/m ² (1—290 ft-L)	4 channels	green	Yxy
TV-2140	3—999 cd/m ² (1—290 ft-L)	16 channels	green	Yxy
TV-2150	0.6—200 cd/m ² (0.2—58 ft-L)	4 channels	green	Yxy
TV-2160	0.6—200 cd/m ² (0.2—58 ft-L)	16 channels	green	Yxy
TV-2230	3—999 cd/m ² (1—290 ft-L)	4 channels	red	Yxy
TV-2240	3—999 cd/m ² (1—290 ft-L)	16 channels	red	Yxy
TV-2250	0.6—200 cd/m ² (0.2—58 ft-L)	4 channels	red	Yxy

TECHNICAL DETAILS

Type: Color-TV white-balance analyzer and chromaticity meter with digital/analog display

Measurement modes: Analyzer: primary color intensities (R, B, G) based on reference memory; Chroma: chromaticity coordinates x, y (u' and v' values in Model 2120) and luminance Y

Chromaticity error: ± 0.005 or less (under Illuminant C conditions at 999 cd/m²)

Repeatability: Y: ± 0.1% (± 1 digit) at full scale, xy: ± 0.002 (under Illuminant C conditions at 25 cd/m²)

Operating temperature range: 0°C to 40°C

Display: Digital: R, B, G, or x, y, Y (u', v', Y) in three figures; analog: three 10-LED deviation arrays giving ΔR/G, ΔB/G, ΔG (for models TV-2120—2160), ΔG/R, ΔB/R, ΔR (for models TV-2230—2250) or Δx, Δy, ΔY (Δu', Δv', ΔY)

Luminance unit: cd/m² or ft-L (selectable by switch on bottom panel)

Response time: Approx. 0.5 sec.

Memory: "COLOR": four (sixteen) white-standard/reference-color channels; "CRT": four phosphor-characteristic channels

Memory life: 1500 hours (approx. 2 months), provided unit used at least 7 hours per week

Data output: RS-232C standard; transmission rate: 4800 BPS (adjustable from 300 to 9600 BPS by service station)

Power source: AC 100, 115, 200, 220, 240v (selectable on rear panel), 50—60Hz, 10vA

Dimensions: 120 × 300 × 200mm (4-3/4 × 11-13/16 × 7-7/8 in.)

Weight: Approx. 4 kg (8 lb. 13 oz.) including probe

Accessories: Probe, calibration cap, power cord, tripod-socket screw

Optional accessories: Hard case, soft case

Specifications subject to change without notice