

Display-Meter

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spectral evaluation of electronic displays



THE optimized portable instrument for measurement and evaluation of the electro-optical characteristics of electronic displays (especially monitors with LCDs) versus viewing-direction.

The Display-Meter comprises the following components:

- 8-channel spectrometer MultiSpect-8,
- measuring head for angles of inclination from 0° to 70° with adjustable azimuth,
- optional: measuring head (single channel) and electronics for dynamics measurement,
- software for data-acquisition, evaluation and representation.

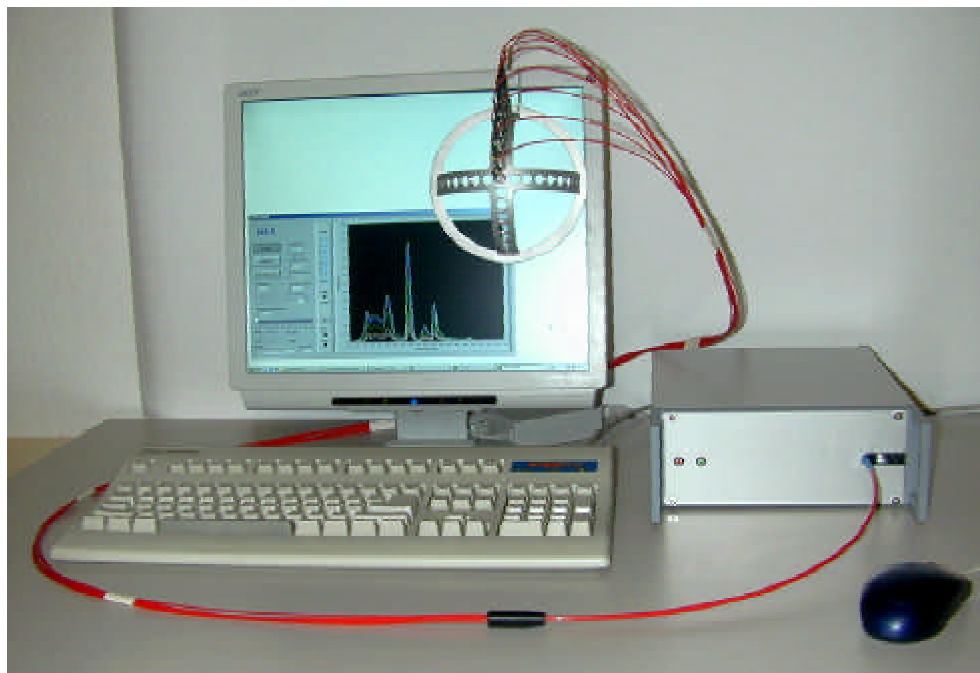
Quantities to be measured:

spectra versus viewing-direction from 0° to 70° inclination for one azimuth at a time,

optional: luminance versus time.

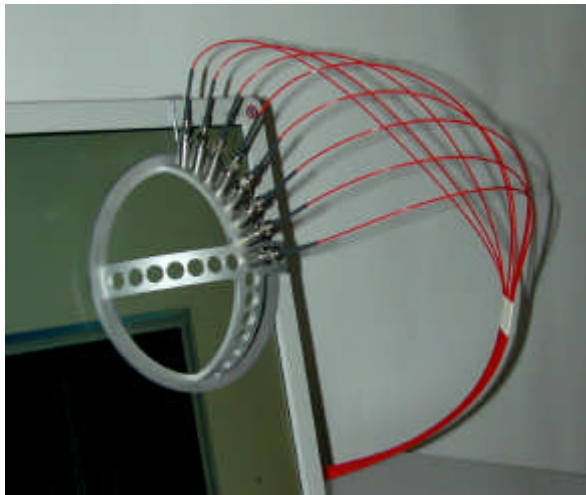
Evaluations:

luminance [cd/m^2], luminance contrast, chromaticity and color gamut versus viewing-direction, Image formation times (ISO 13406-2) and gray-level transition times.



Experimental setup for demonstration of the principle of directional analysis of the emission of an LCD-monitor vs. viewing-direction.

measurement of an LCD-monitor

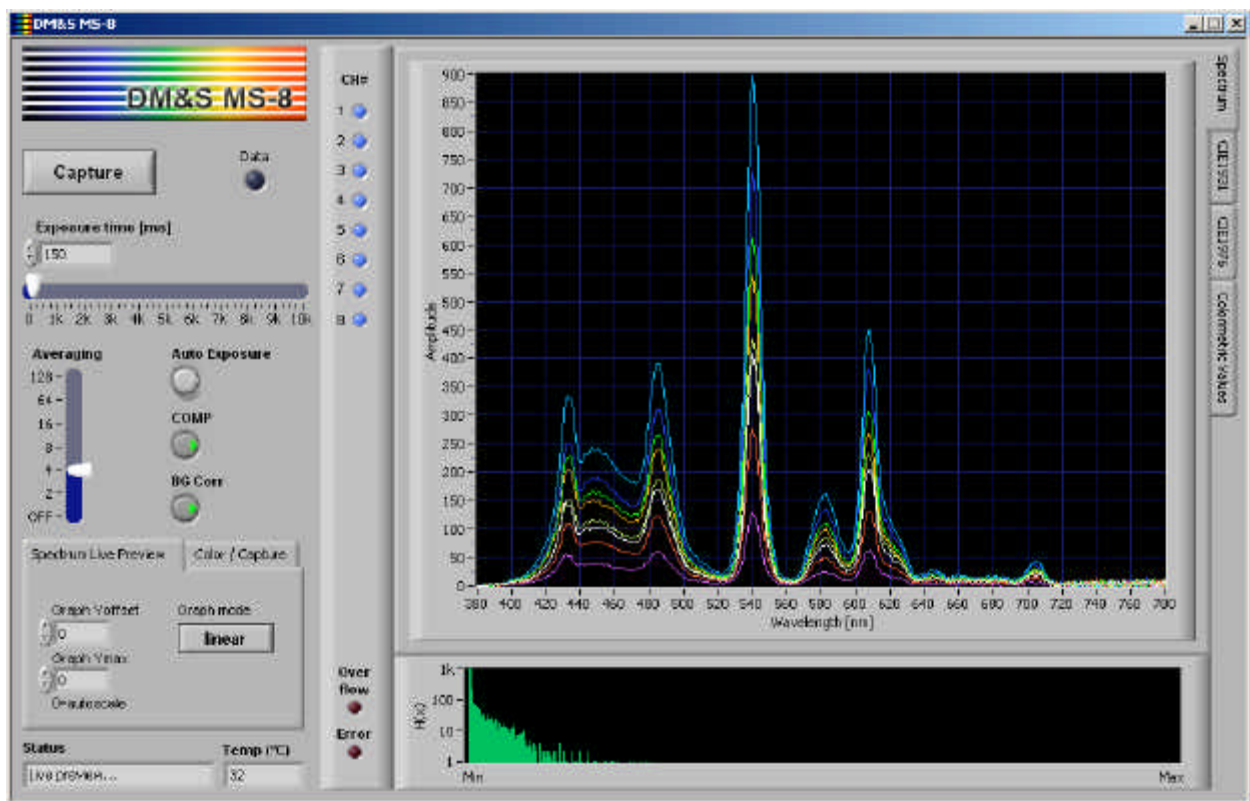


multichannel-measuring head with 8 collimators for viewing-directions from 0° to 70° inclination at constant azimuth

with only four azimuth settings, the variations with viewing-direction in the horizontal and vertical plane of observation can be measured

the diameter of the measuring spot is 2.5 mm at normal viewing-direction

Illustration of the principle of fast and convenient measurement and evaluation of the spectral distribution of emission of LCD-monitors (i.e. transmission of LCD-cell) as a function of the viewing-direction.



Control panel for setting of the parameters for the simultaneous acquisition of 8 spectra (0° - 70°) , for display of the spectra and of the colorimetric characteristics (CIE 1931, CIE 1976).

Calibration

According to quality assurance measures (e.g. ISO 9000) a re-calibration is recommended on a regular basis every 12 months. Such calibrations are available as a customer service in our lab or alternatively, the required calibration tools (hard and software) can be purchased (tungsten lamp with stabilized power supply and HgAr low-pressure discharge lamp).