ITS-I

Test station for evaluation of image quality of image intensifier tubes

Fig. 1. Photo of the ITS-I measuring station (basic version)

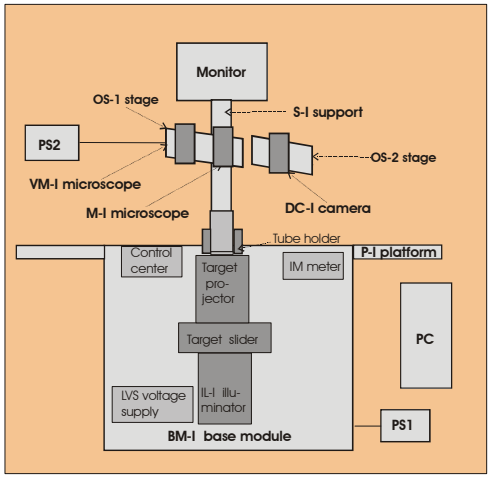

Fig.2. Block diagram of the ITS-I measuring station

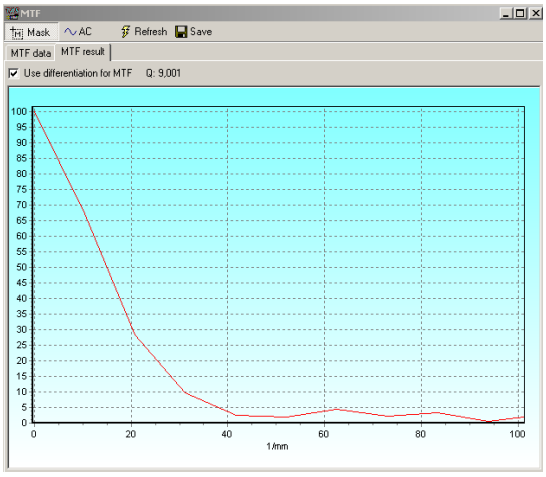

Fig.2. MTF measurement results

BASIC INFORMATION:

The ITS-I measuring station is a test system for evaluation of quality of images generated by image intensifier tubes. The ITS-I station projects images of some standard targets to tube photocathode plane and measures distortion of the output images of these targets created at the tube screen.

The test procedures used by the ITS-I station are based on recommendations of the MIL series military standards. The ITS-I measuring station belongs to a family of the test stations: ITS-P, ITS-I, ITS-T. The stations enable measurements of all important parameters of modern image intensifier tubes.

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Test station for evaluation of image quality of image intensifier tubes

FEATURES:

- Enables to carry out the following tests : Modulation Transfer Function (MTF), Limiting Resolution, Signal To Noise Ratio (S/N), Halo, Useful cathode diameter, Dark and bright spots, Output Brightness Uniformity, Alignment, Shear Distortion, Gross Distortion, Multi-Multi Pattern Noise, Multi-Boundary Pattern Noise, Ion barrier film defects
- Semi-automatic easy measurement of the above mentioned parameters
- Software support during resolution measurement
- Modern compact design (not an archaic collection of different laboratory modules to be assembled by the user on a table)
- Testing II, III and IV generation tubes
- Testing both potted and bare tubes (testing bare tubes is optional as additional special holders are needed for testing these tubes)
- Versatile measuring tool for both testing laboratory and for production line
- High resolution and stability of illuminance regulation
- ITS-I station can be offered in different versions offering different measurement capabilities

SPECIFICATIONS

Modules	BM-I base module, set of exchangeable tube holders, VM-I video microscope, DC-I digital camera, M-I microscope, OS-1 stage, OS-2 stage, PC, TAS-I program, ITS-I Converter program, P-I platform, S-I support
Light Sources	Dual: 1)polychromatic 2850K color temperature halogen source 2)monochromatic LED light source
Illuminance range	from 1 10^{-5} lx to 0.5 lx (typical)
Regulation resolution	1 µlux (at low intensity range)
Light regulation type	continuous (any value can be set within the regulation range)
Regulation stability	better than 2% of the set value
Type of tube holders	exchangeable holders for 18 mm and 25 mm tubes
Target	single multi-pattern target
Tube holders	optimized for the following tubes: MX-10160, MX-10130, MX-11620, MX-9444 (other types are also possible)
Output readout	internal digital display
Light control method	Manual knobs
Visual magnification of M-I microscope	variable from 16x to 40x (typical)
Resolution of DC-I camera	3072 x 2048
Magnification of VM-I video microscope	250 (using monitor)
Power	230 VAC 50/60 Hz
Operating temperature	10°C to 40°C
Mass	BM-I base module: 34 kg; VM-I microscope: 0.8 kg, M-I microscope: 0.4 kg, DC-I digital camera: 1 kg
Dimensions	BM-I base module: 580×270×370 mm, VM-I video microscope: 50×50×90mm, DC-I digital camera: 30×30×80mm, M-I microscope: 180×320×190 mm

*specifications are subject to change without prior notice

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