

# SAFT

## Tester of measuring thermal imagers



Fig. 1. Photo of the SAFT measuring set

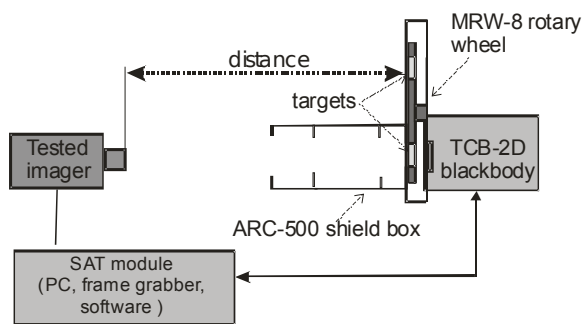


Fig.2. Block diagram of the SAFT measuring set

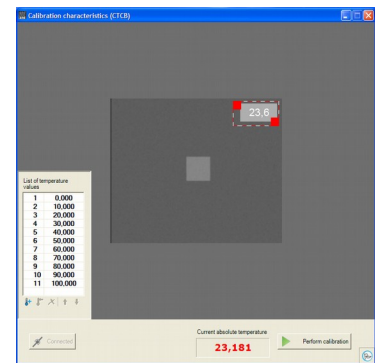


Fig. 3. Window of TAM computer program

### BASIC INFORMATION:

The SAFT measuring set is a small modular test system optimized for testing short range thermal imagers that can focus at distance no bigger than several meters. Great majority measuring (commercial) thermal imagers belong to this group. Typical SAFT measuring set does not use a collimator for image projection and the distance target-imager must be short; no more than several meters. Therefore SAFT is recommended for testing earlier mentioned group of thermal imagers built using small optics of wide FOV. If testing thermal imagers with bigger optics and narrow field of view is needed then additional collimator can be optionally delivered. Due to use of a series of targets fixed to the rotary wheel SAFT enables quick and easy measurement of a series of parameters of thermal imagers.

Typical SAFT measuring set consists of TCB-2D blackbody, a set of targets, ARC-500 shield box and PC, frame grabber, TAM software. There are also several optional modules.

SAFT system works as a variable target system that project images of the target directly to the tested thermal camera. The tested imager generates distorted copies of the projected images. Quality of the images generated by the imager is evaluated by human observer of test software and its important characteristics are measured.

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### FEATURES:

- Versatile measuring tool that can be used in both field and laboratory applications
- No limitations on optical aperture of tested thermal imagers
- Minimal distance between the SAFT measuring set and the tested imager must be higher than the minimal focusing distance of the tested imager

### VERSIONS

SAFT system is typically offered in basic version optimized for:

1. testing measurement thermal imagers measuring targets of temperatures in range from 0 °C to 100°C
2. testing imagers having analog video output
3. measurement of basic set of parameters of measurement thermal imagers: accuracy, NETD, SRF and MRTD.

Such a typical SAFT system is built using the following set of modules: TCB-2D blackbody, ARC 500 shield, set of six 4-bar targets, one square target, set of six slit targets, PC, frame grabber, TCB Control software, TAM software, SUB-T software, DC 12V power supply.

Several options are offered to expand SAFT test capabilities:

1. Upgrading TCB-2D blackbody to HT version. This option enables testing performance of thermal imagers in expanded temperature range from 0°C to 180°C.
2. Additional MTB-2D blackbody of temperature range from 50 C to 550C. This option enables to test performance of thermal imagers in temperature range from 0°C to 550°C.
3. Additional Camera Link (or GigE) frame grabber and software optimized for such image standard. This option enables to test imagers having Camera Link (or GigE) output.
4. Additional CDT660HR collimator. This option enables long distance simulation and testing medium range thermal imagers of optics up to 60 mm (bigger collimators are possible too).
5. Additional edge target, FOV target and TAS-T10 software. This option enables to measure MTF and FOV of thermal imagers.

Detail technical data of TCB/MTB blackbodies (main modules of SAFT systems) are presented at Inframet website.

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