

# SAFT

## Mobile measuring set for testing thermal imagers



Fig. 1. Photo of the SAFT measuring set

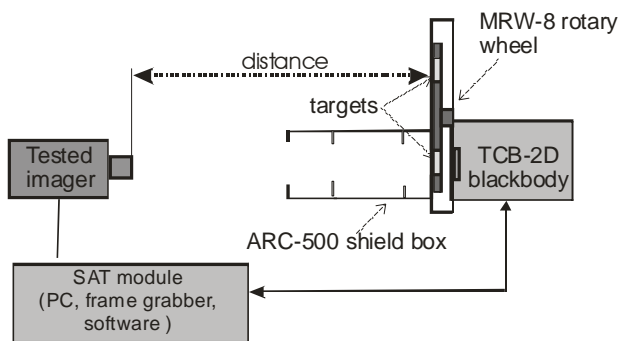


Fig.2. Block diagram of the SAFT measuring set

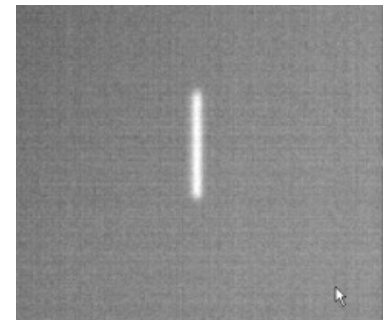


Fig. 1. Image of a slit r target (generated by a tested imager during SRF measurement)

### BASIC INFORMATION:

The SAFT measuring set is a mobile variable target measuring 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 and its important characteristics are measured.

The SAFT measuring set consists of TCB-2D blackbody, CTCB controller, a set of targets, ARC-500 shield box and SAT module (PC, frame grabber, software).

The 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 commercial thermal imagers designed for very short focus distance. It can be also used for testing surveillance thermal imagers that can work in such conditions.

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.

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## Mobile measuring set for testing thermal imagers

### FEATURES:

- Versatile measuring tool that can be used in both field and laboratory applications
- Small size test set suitable for field/depot 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
- Test capabilities:
  - Version SAFT-A: accuracy, NETD, SRF and MRTD – for testing commercial measurement imagers
  - Version SAFT-B: MRTD, MTF, SiTF, NETD, FPN, non-uniformity, FOV – for testing short range surveillance imagers (minimal focus distance is expected to be below 2 m)
  - Version SAFT-C: combined measurement capabilities of version A and version B
  - Test capabilities can be optionally increased in all versions to enable measurement of more parameters.
- Structure:
  - SAFT-A: TCB-2D blackbody (limited resolution to 10 mK), ARC 500 shield, set of 6 four bar targets, one square target, set of six slit targets, PC, frame grabber, TCB Control software, TAM software, DC 12V power supply
  - SAFT-B: TCB-2D blackbody (ultra resolution 1 mK), ARC 500 shield, set of 8 four bar targets, edge target, distortion/FOV target, PC, frame grabber, TCB Control software, TAS-T software, DC 12V power supply

### SPECIFICATIONS

#### Rotary wheel

Model	MRW-8
Number of holes for targets	8
Control type	motorized, digital
Wheel emissivity	0.97±0.01
Dimensions	380×350×100 mm
Mass	5 kg

#### Targets

Model	M44
Active area	44 mm diameter
Emissivity	0.97±0.01
Type	4-bar, pinhole, slit, pinhole, edge

#### Shield box

Model	ARC500
Length	500 mm
Aperture	80 mm

\*TAS-T– specifications in a separate document

\*TAM program - specifications in a separate document

#### Legend:

HE - ultra high emissivity, EXT - extended temperature range  
LT - low temperature range US- ultra high stability

#### Blackbody

Model	TCB-2D
Aperture	50×50 mm
Differential temperature range	-25°C ÷ +75°C options: EXT -40°C ÷ +75°C
Absolute temperature range	0°C ÷ +100°C options: EXT: -15°C ÷ +100°C
Set point and resolution	0.01°C – for version A 0.001°C – for version B
Emissivity	0.97±0.01 (0.99 at HE option)
Temperature uniformity	< 0.01 °C at ΔT < 5° C
Response time	10°C step – 60s
Regulation stability	±0.003°C for ΔT=10°C (±0.001°C for US option)
Computer control	RS-232
Power supply	220VAC 50/60Hz (option: 110VAC)
Operating temperature	+5°C ÷ +45 °C
Dimensions	head: 120×270×190 mm; controller: 300×270×190 mm
Mass	10.9 kg

\*specifications are subject to change without prior notice

### CONTACT:

Tel: +48 604061817

Fax: +48 22 3987244

Email: [info@inframet.com](mailto:info@inframet.com)

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