T-RAS

Tactical Remote Activation System
Secure. Precise. Mission-Ready

MI.TEKAS

Remote Initiation & Smart Munition Systems

NATO OTAN | NATO NCAGE 025AR

The Tactical Remote Activation System (T-RAS) by Mitekas is an advanced, encrypted platform engineered to provide reliable remote initiation of explosives in complex operational environments. Designed with direct input from defense and special operations end-users, T-RAS delivers a combination of encrypted communication, rapid response, and flexible multi-receiver deployment to support complex mission scenarios.

With AES-256 encrypted digital radio links, T-RAS ensures uncompromised operational security and resilience against interception, signal manipulation, and EW threats. The system supports up to 12 Receivers, individually addressable, with instant initiation via Single Receiver mode or delay-based initiation through TIMER mode.

Compact, lightweight, and field-oriented, T-RAS enhances operator safety and effectiveness during breaching, EOD tasks, demolition missions, and special operations requiring reliable remote initiation capability.

Mitekas is a European defense technology company specializing in secure tactical electronics and remote initiation systems. All T-RAS components are engineered and manufactured in-house in Lithuania, ensuring full control over quality, reliability, and NATO compliance.

NATO NSN numbers:
TRANSMITTER TX 5820-47-001-2110
RECEIVER RX 1375-47-001-2111

MIL-STD 810H

T-RAS Unique Capabilities

· 100 ms reaction time — 3–10 × faster than LoRa-based systems
· AES-256 encrypted communication for maximum operational security
· Up to 12 Receivers per one Transmitter
· Four-mode operation:
a) Single Receiver initiation
b) Group of 4 Receivers initiation (total three groups)
c) Pre-set delayed initiation (TIMER mode set by the operator)
d) Receivers can act as a signal repeaters
· Radio spectrum scanning to detect jamming
· Compact, MOLLE-compatible design
· Internal antenna for low-profile carriage and deployment (868 MHz)
· Selectable frequency range: 358–955 MHz using external antennas
· Possibility to operate using two frequencies at once
· MIL-STD 810H and IP65 tested

T-RAS TT3x – Transmitter

T-RAS TR3x - Receiver

TECHNICAL SPECIFICATIONS

MECHANICAL

External measurements:
- Transmitter - 115x71,5x33 millimeters
- Receiver - 115x71,5x33 millimeters

Weight: transmitter - 168g., receiver - 168g.
Material: Nylon PA12
Casing color:
- Black RAL9005
- Military green: RAL 6031 F9 (Bundeswehr)
- Desert: RAL 1039-F9 (Bundeswehr)

ENVIRONMENT

Operating temperature -40°C to +71°C (compliant with A1 to C1 temperature range according to STANAG 4866 AECTP-230)
IP rating – IP65 (according to IEC60529)

ELECTRICAL

T-RAS devices are powered by a standard Li-ion 18650 3.7V battery. (>3000mAh, 4.2V max-3.0V min) – 1 cell per device
Batteries can be replaced or charged with a charger
Optionally, T-RAS devices can be charged with a USB-C cable from a standard AC socket
Battery time (3000mAh battery):
- Receiver: up to 120 hours (including energy for one initiation)
- Transmitter: backlight off – 120 hours, backlight on – 40 hours

Electric Detonator (ED) resistance measurements (0-80Ω with 1Ω resolution)

CONNECTIVITY

Typical communication distance between transmitter and receiver (868 MHz, standard antenna, no interference or jamming):
- Direct line of sight – 10000 meters
- Open terrain – 3000 meters
- Urban terrain – 2000 meters
- Sparse forest or bushes – 1500 meters
- Dense city conditions, high-rise buildings –650 meters
- Dense and wet forest – 400 meters

Maximum number of supported receivers – 12 devices
Maximum number of supported signal repeaters – 4 devices
Frequency range: 358MHz-955MHz (excluding 575MHz-583MHz and 717MHz-778 MHz ranges)
Internal antenna usage frequency range: 830 MHz – 870 MHz
In a standby mode, transmitters and receivers do not emit any signals

INITIATION

Up to 6,4J Electric Detonator (ED) initiation charge
Up to 80V Integrated electric charge voltage
Up to 10A discharge current

Mitekas, JSC | +370 619 11 388 | Zirmunu str. 139A, Vilnius, Lithuania | sales@mitekas.com | www.mitekas.com

Optional Accessories:

MOLLE compatible pouch

Carrying case (max 6 devices)

- **Universal Integration:** Optimized for MOLLE webbing attachment to vests and plate carriers, or convenient internal storage within a backpack
- **Rapid Deployment:** Designed for easy attachment and removal from the mainnvest admin panel for quick equipment access
- **Reliable Protection:** Durable textile construction safeguards your two T-RAS devices
- **Slim Profile:** Engineered to keep gear compact and secure

- **Environmental Shielding:** Rated IP67 for total protection against dust ingress
- **Shock-Absorbing Interior:** Features custom-cut foam inserts to securely house and protect sensitive electronics from impact
- **Pressure Management:** Equipped with an automatic pressure equalization valve to maintain internal balance during air transport
- **Tactical Resilience:** Heavy-duty black polypropylene construction ensures durability in extreme field conditions

Battery charger (2 x 18650 Li-ion batteries)

- **Extreme Fast Charging:** Supports 3A rapid charging in a single slot or 2A dual-slot charging to minimize downtime
- **USB-Powered Flexibility:** Features a Micro-USB input compatible with power banks and vehicle chargers for field refueling
- **Advanced Safety Suite:** Integrated protection against over-charging, short circuits, and reverse polarity for battery longevity

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