TRW

Tactical Automated Security System (TASS)

First Operational Deployment

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6/16/98

TASS Background

- 25 June 1996 - Khobar Towers bombing
- AF Chief of Staff mandates that Force Protection is an "Urgent and Compelling Need"
- Electronic Systems Center awards TASS production contract to TRW
  - 4 days from solicitation to award)

Fast Track Performance

- 100 days after award, TRW and AlliedSignal team on the ground in Southwest Asia
- 104 days after contract award, TRW ships first equipment to Kuwait
- 30 tons of equipment in-country within 125 days of contract award

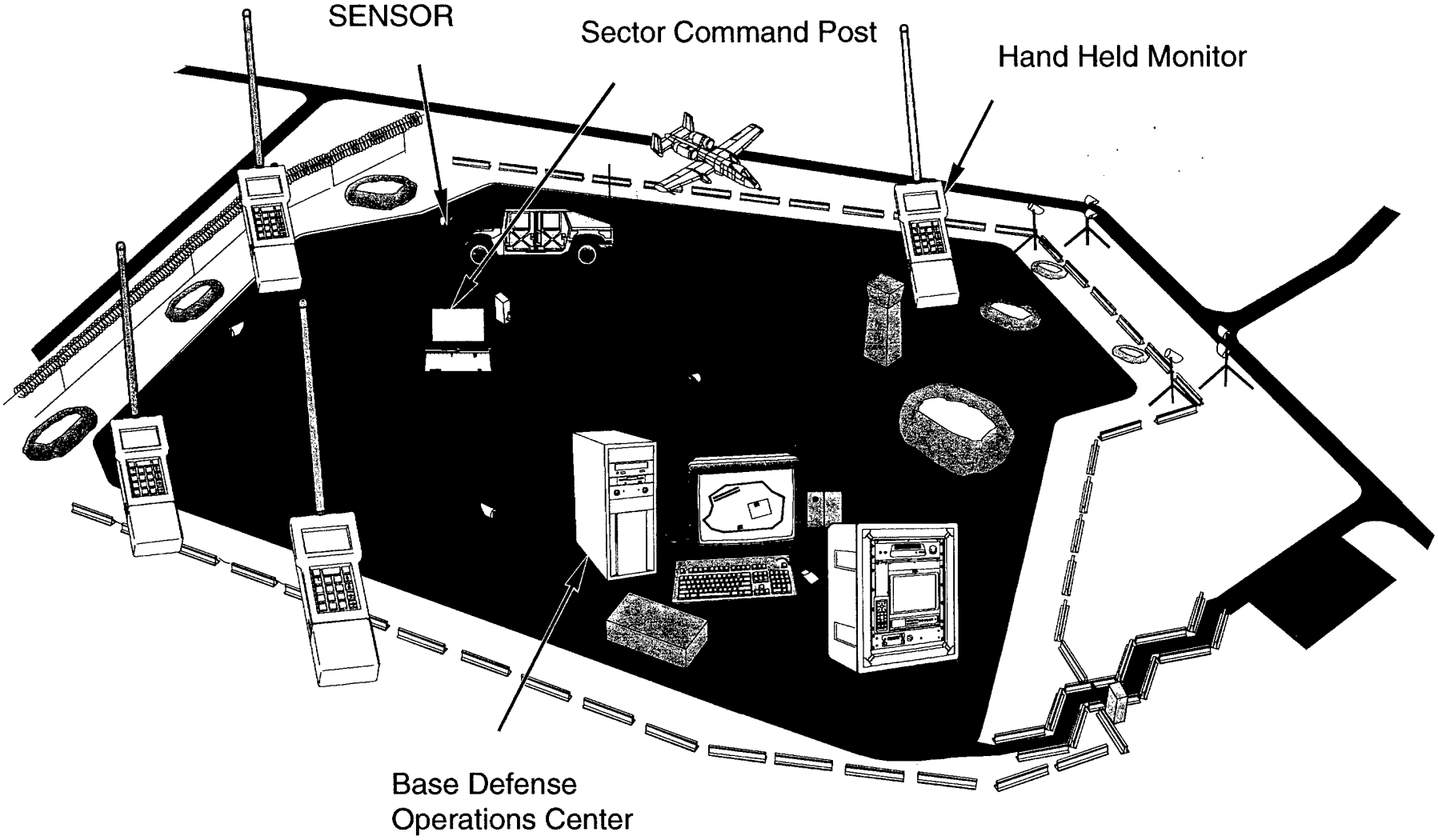
What is TASS?

- TASS is an advanced intrusion detection and assessment security system
- TASS is modular, portable, relocatable, and self powering
- Employs a variety of sensors…Microwave, Infrared, Magnetic, etc
- Alarm data is transmitted via RF or hardwire

What is TASS ? Cont.

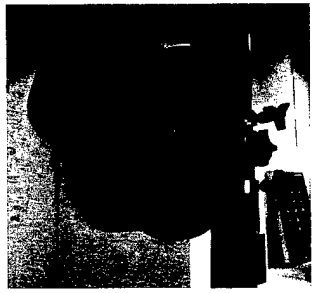
- Sensors and RF transmitters are powered by either solar panels, battery, or AC current
- Desktop & laptop computers, and hand-held monitors receive, process, and display alarms
- Map displays are geographically correct with multiple overlays possible
- Hand-Held, vehicle mounted, and wide area surveillance thermal imagers assess alarms

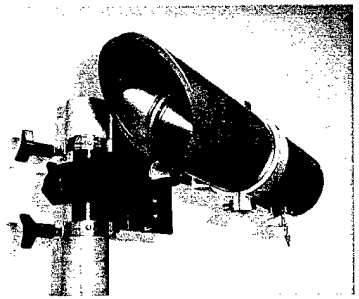
Typical Airbase Installation

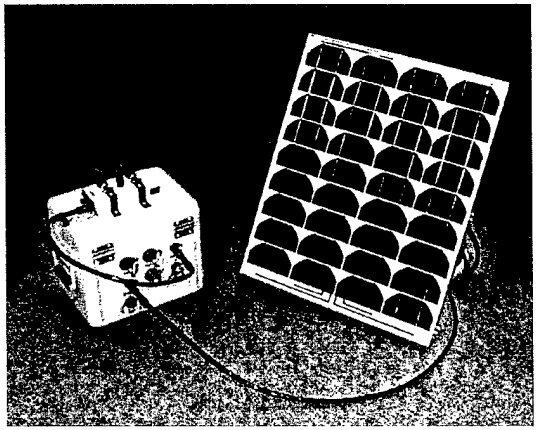


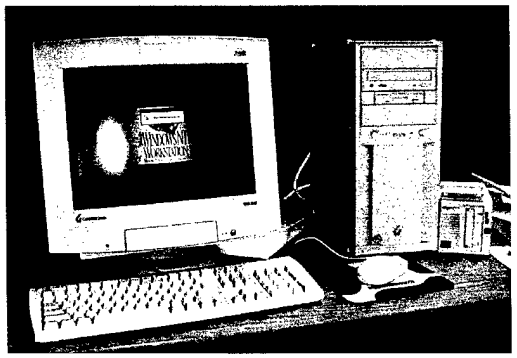
Intrusion Detection Functions

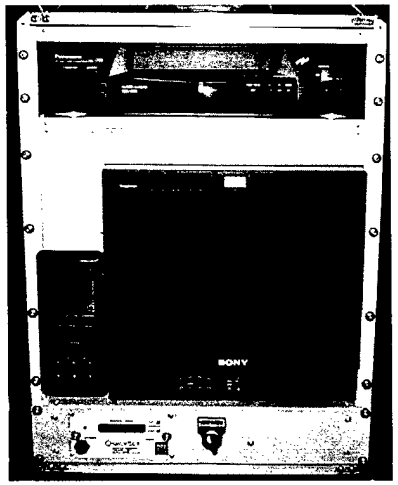
Sensors → Communication & Power → Annunciation → Assessment





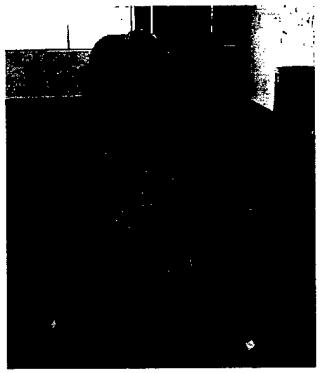


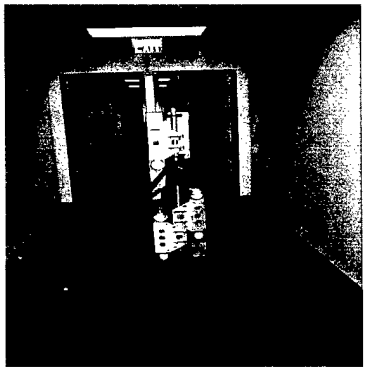


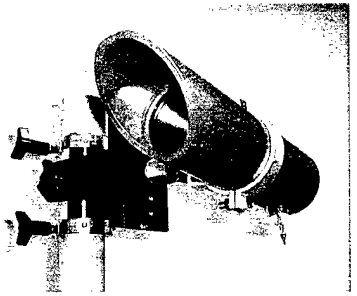


Sensors

Sensor Types	Detection	Application
Monostatic Microwave	Motion	Perimeters: base, flightline, housing, storage areas,
Bi-Static Microwave	Motion	Same
Active Infrared	Beambreak	IR Fence
Passive Infrared	Heat	Gaps, approach avenues
Tactical	Various	Avenues, trails

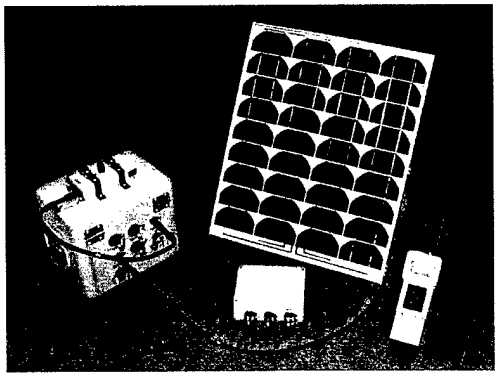


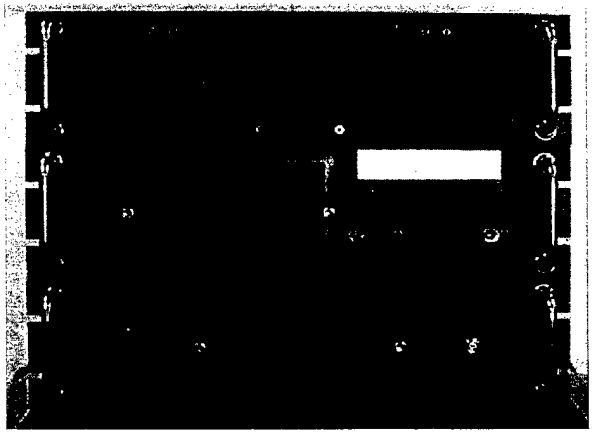


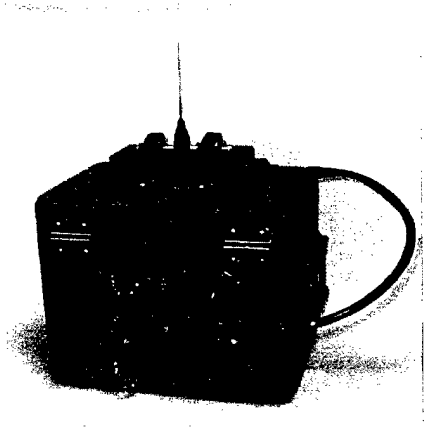


Comm & Power

Components	Function
Rechargeable Battery Module	Powers 1-2 sensors & CM, formats alarm and health messages, charges batteries (110/220v AC or solar panel)
UPS	Uninterruptible power for annunciators
Comm Module	Radios alarms & health to control center Can be polled for state-of-health

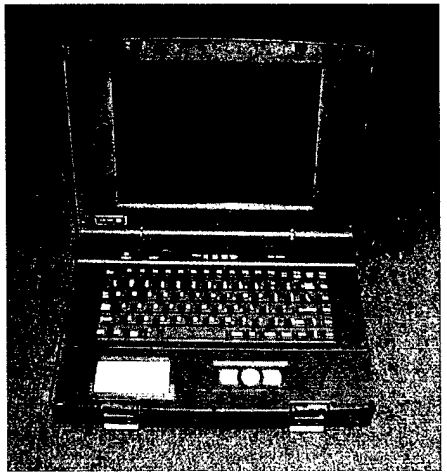


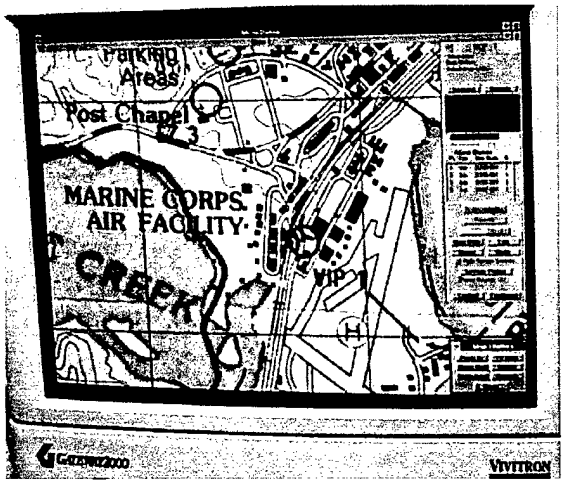


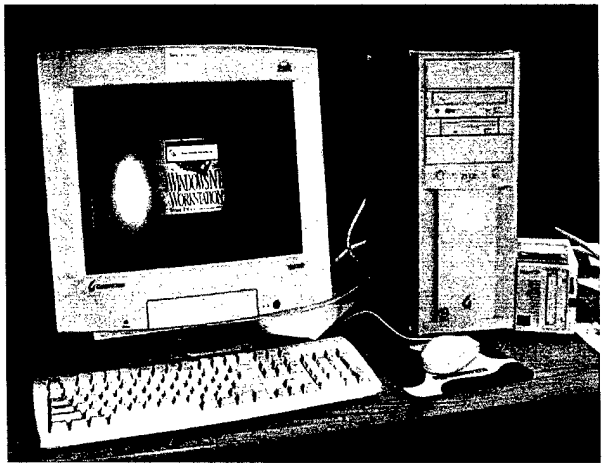


Annunciation

Components	Function
Hand-Held Monitor (HHM)	Receives/displays alarms (text only), programs Comm Modules
Laptop Annunciator Desktop Annunciator	Computers with graphical display of base map, sensor locations, alarm and health status, alarm history. Laptop is ruggedized.

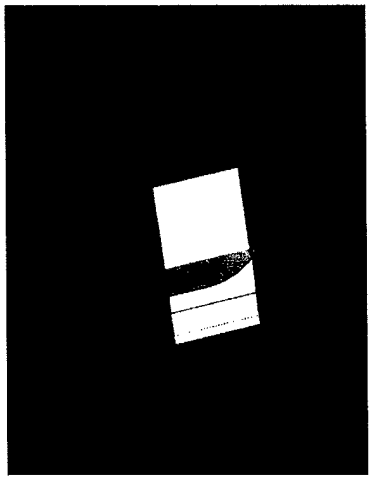






Assessment

Components	Function
Hand-Held Thermal Imager	Hand-Held, battery operated TI for use in patrols, stationary positions, etc
Short-Range Thermal Imager	Vehicle- or pole-mounted for 0.5-1 km
Wide-Area Surveillance Thermal Imager	Tower or tripod mounted TI with range to several kilometers



Southwest Asia Installations

- Saudi Arabia
  - Prince Sultan Air Base, Eskan Village, Taif
  - 370 sensor suites; 20,000 meter perimeter
- Kuwait
  - Al Jaber & Ali AL Salem Air Bases
  - 110 sensors suites; 7500 meter perimeter
- UAE
  - Al Dhafra Air Base
  - 40 sensors suites; 3000 meter perimeter

Global Installations

- Ground Based Radar Sites
- Operation Bright Star
  - Cairo West Air Base, Egypt
- Air Expeditionary Forces
  - Shaikh Isa Air Base, Bahrain

Installation Highlights

- Commercial-Off-The-Shelf (COTS) worked!
  - Temperatures exceeded manufactures specs by >25 degrees
  - Reliability proved better than advertised
- TRW & AlliedSignal worked!
  - Met critical needs of the customer under adverse conditions
  - Lived and worked side-by-side with our customers
  - Overcame challenging obstacles in real time
- Living with the customer provided instant coordination and invaluable insight
  - Teamwork, a common knowledge base

Installation Highlights, cont.

- Early site surveys substantially increase efficiency
  - Buy only what you need; bring everything that you need
  - Identify site preparation requirements
- On site support smoothes the transition period
  - Big paradigm shift: new methods, new technology, new logistics
- Training is critical
  - Train operators and trainers, of course
  - But also system managers, logisticians and command section
    - » Fundamental changes to the way you do business

Installation Highlights, cont.

- There will always be surprises
  - Customs, visas, religion, taxes, site prep, landmines
  - Bring an experienced crew, roll with the punches
- Contracts can be brought in on time and within budget

Kudos

- Electronic Systems Center
- USAF Security Forces Air Staff
- Air Combat Command
- CENTAF
- USAF Security Forces Battle Lab
- AlliedSignal Technical Services

Total Teamwork => Success

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