
MANPORTABLE SURVEILLANCE AND TARGET ACQUISITION (MSTAR V6)



MSTAR - THE MOST WIDELY USED GROUND SURVEILLANCE RADAR IN THE WORLD

The Manportable Surveillance and Target Acquisition Radar (MSTAR V6) is a versatile, high-performance ground surveillance radar that is the latest addition to the highly successful MSTAR GSR series. It is specifically designed to meet the demanding needs of integrated surveillance systems applications where mission requirements today often call for continuous, reliable, 24/7 operation. The MSTAR V6 provides Best-in-Class performance out to 27km, day or night and in all weather conditions.

The MSTAR GSR series has demonstrated operational success in a number of applications such as border interdiction, surveillance, and force protection missions in Iraq and Afghanistan. Testifying to its proven performance and reliability, today there are more than 1,500 MSTAR units deployed worldwide.

The MSTAR V6 is designed for emerging applications and as a drop in replacement for existing MSTAR integrations. Used as the wide area, long range sensor, the MSTAR V6 is easily integrated into more complex security systems providing superior detection of moving targets. Once a target is detected accurate position information is provided to queue optical sensors to assess the target. The MSTAR V6 uniquely classifies target reports as personnel, tracked or wheeled vehicles, rotary wing, or unknown.

MANPORTABLE SURVEILLANCE AND TARGET ACQUISITION RADAR (MSTAR)V6



V6 BENEFITS

- The MSTAR V6 has specifically been designed for integrated applications in harsh environments
 - 24/7 continuous operation
 - Single mode of operation - SURVEILLANCE
 - 2x target update rate with continuous surveillance from 100m to 27 Km, the highest rate in this class system
 - Reduced operator controls through more automation
 - IP enabled for ease of integration
 - New digital radio technology
- State of the art signal processing capability
 - New algorithms provide significant (10X) improvement in nuisance alarm rejection.
 - Allows scan to scan management of nuisance alarm rate.
- Compatible with all current integrated MSTAR applications
 - TASS variants
 - G-BOSS variants
 - BETSS-C systems
 - – FPS
 - – RAID
 - – Cerberus variants
 - SBInet
 - MSS, MSC
- Proven reliability of the microwave and gimbal sections
 - Expanded frequency selection (6)
 - Compatible with existing JF12 and FCC licenses
- Retention of key MSTAR characteristics
 - Power consumption, interface protocol
 - Mounting interface, swept volume, weight
- Logistics support unchanged
 - Training, Depot maintenance, operator's manuals

TYPICAL MOVING TARGET DETECTION PERFORMANCE

| | |
|---------------------------------|---|
| Target type | |
| Walking person | >13 km |
| Light vehicle | >25 km |
| Aircraft (gliders, ultra-light) | >13 km |
| Minimum target radial velocity | 0.85 m/s |
| Target location accuracy | |
| Range | ±10 m |
| Azimuth | ± 10 mils |
| Surveillance | |
| Range | 100 m to 27 km |
| continuous | |
| Azimuth | Multiple sectors 200 to 6,400 mils or continuous rotation |

Electrical Specifications

| | |
|--------------------------------------|------------------------------------|
| Frequency | Ku band (6 selectable frequencies) |
| Transmit power | 5 W peak |
| Input power | <75 W |
| MIL-STD-1275 vehicle power 18-33 VDC | |

SYSTEM WEIGHT

| | |
|----------------------------|------------------|
| V6 Radar Sensor Unit (RSU) | <20 Kgs (43 lbs) |
|----------------------------|------------------|

FULLY QUALIFIED

| | |
|------------------------------|--|
| Environmental | -40° to 55°C (-40° to 131°F), MIL-STD-810F, rain, sand, dust, vibration, shock, humidity, ice, thermal and wash down |
| Electromagnetic Interference | A3 Tactical Vehicle MIL-STD-416F CE-03, RE-02, RS-03 |
| Fixed site reliability | Based on demonstrated MSTAR performance > 12,000 hours between repairs |

SYSTEM INTERFACE

| | |
|---------------|---|
| Communication | Cat 5, Ethernet (autosense 10/100base-T) |
| Protocol | With companion Radar Sensor Unit Communications (RSUC) application XML ICD-0100 compliant |

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