

MANPACK RECCE SYSTEM (LIGHTWEIGHT SURVEILLANCE PACKAGE)

Infantry, Airborne and Special Forces as well as Border Guards may still have to deploy their assets on foot over substantial distances or need to use very small vehicles (quads, snowmobiles etc.) for transport. The very same users do, however, more and more require sophisticated surveillance systems as part of their mission to enable various operations as well as protecting borders or the forces themselves.

Thales is offering the Manpack Recce System (MRS) as an integrated, modular and scalable solution where Ground Surveillance Radars, E/O-Systems, Unattended Ground Sensors (UGS) and other sensors are integrated via a one-workstation control system (MUSEC²). All sensors/components are man-pack (divided into 1 or 2 man-packs each) and self-sustaining including positioning/alignment, power supply by batteries and communication means.

GO12 GSR, MUSEC² Sensor C² SW , PIDS (UGS) MARGOT 3000 E/O System

MANPACK RECCE SYSTEM





Manpack Recce System Lightweight Surveillance Package

KEY PARAMETERS GO12

- Ku-band (≥ 440 MHz bandwidth)
- Coverage (up to 27 km)
 - 12 km range swath (24 km growth)
 - 70 m minimum range
 - $\approx 4^\circ$ elevation beam ($+20^\circ/-15^\circ$ positioning)
 - $> 360^\circ$ azimuth
 - 1.5 km/h to 400 km/h radial speed
- Scan speeds: $12^\circ/s$ to $32^\circ/s$
- Detection ranges (PD=90 %, Pfa=10-6)

| | Basic | Extended |
|--------------------------------------|----------------|----------------|
| • person (0.5 m ²): | $\geq 7,1$ km | $\geq 8,4$ km |
| • light vehicle (2 m ²): | $\geq 9,8$ km | $\geq 11,6$ km |
| • vehicle (10 m ²): | $\geq 14,3$ km | $\geq 16,8$ km |
| • helicopter (5 m ²): | $\geq 13,3$ km | $\geq 15,6$ km |
| • rubber boat (1 m ²): | $\geq 8,3$ km | $\geq 9,9$ km |
- Weight (sensor about 16 kg): approx. 30 kg for full stand-alone (2) pack including tripod, MMI, batteries (6 h operation), cables and carrying harness.
- MTBF > 4000 h (full pack, tactical field use); sensor (fixed site) > 20000 h.

KEY PARAMETERS PIDS

- Detection radius
 - up to 100 m (person)
 - up to 200 m (vehicle)
- Number of sensors per network: up to 40
- UHF (433 MHz) frequency band
- Typical communication ranges:
 - 1500 m range (short antenna)
 - 2 km (long antenna)
- Dimensions basic module:
 - 120mm x 70mm (\varnothing xH)
- Weight
 - 630 g (sensor)
 - 750 g (battery)
- Battery life: > 1 year operation under normal conditions
- Operating temperature range:
 - 40°C to $+ 55^\circ\text{C}$
- Watertight (IP 68)

KEY PARAMETERS MUSEC²

- Integration Capacities

| | |
|---------------------------|-----------|
| Number of Radars | up to 16 |
| Number of E/O sensors | up to 16 |
| Plot Processing Capacity | > 1.000 |
| Track Processing Capacity | 320 |
- Map Formats
 - Raster Maps TIFF, GeoTIFF, DTED, etc.
 - Vector Maps ESRI shape, etc.
- Operational Features
 - Multi Sensor Operation Display and superposition of radar, UGS, E/O and other sensor data, full control of sensors
 - Cueing Function Cameras to other sensors (GSRs, UGS) or position on map
 - Blue Force Tracking
 - Operator support Alarm zones, Markers, Pre-programmable views Track/Plot lists
 - Recording

KEY PARAMETERS MARGOT 3000

- IR Channel
 - Wide FOV: $8^\circ \times 6^\circ$
 - Narrow FOV: $3.2^\circ \times 2.4^\circ$ (1.5 km ID range, person)
 - Electronic zoom (x2)
- Day Channel
 - Color Daylight TV Camera
 - FOV: $3.7^\circ \times 2.8^\circ$
- Eye safe Laser Rangefinder
 - 10km, single pulse
- Magnetic Compass and GPS (integrated)
 - PLGR external connection
- Laser pointer
 - Option
- Pan-and-Tilt platform
 - Accurate positioning
 - 360° in azimuth
 - $\pm 30^\circ$ in elevation
- Hand-held operation also possible

THALES ELECTRONIC SYSTEMS GMBH

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