

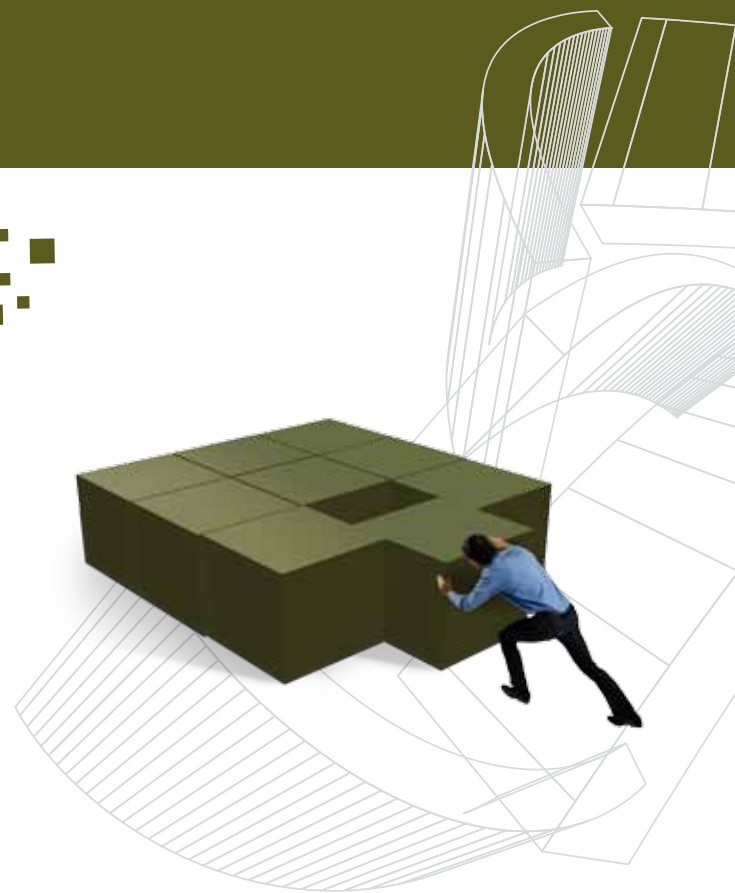


Transportable Spectrum Surveillance



LS OBSERVER

Transportable Monitoring Unit



Enhanced Spectrum Surveillance Potential with the LS OBSERVER

The Transportable Monitoring Unit (TMU) is highly flexible in its use and easily transportable for temporary, short term or long time surveillance. The system has the same surveillance functionality as LS telcom's Fixed Monitoring Unit (FMU) and can be used as such. Everything from the FMU to GPS receiver, GSM router, safety switch and batteries are pre-installed in a single rack enabling the TMU to be rapidly deployed.

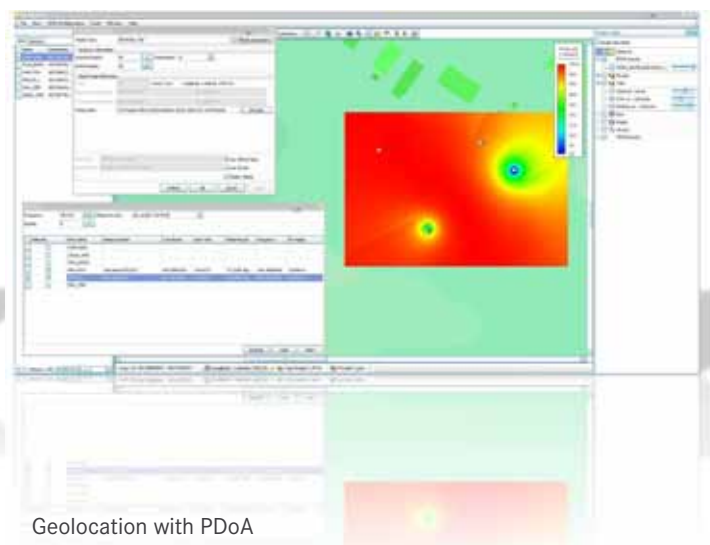
The rack is robust and easily manoeuvrable using the integrated 'grab-handles'. The TMU can be con-

nected to any AC/DC Power Supply Unit which in turn can power a connected laptop. The built in battery pack can allow up to four hours standalone operational surveillance.

The TMU small form factor enables the system to be rapidly fitted to any vehicle for mobile operations as part of a rapid response capability. Antennas for wideband surveillance and GPS are pre installed in a unit with a magnetic base for easy set-up on and vehicle roof, mast or directly on the TMU itself (see pictures opposite).

Use LS OBSERVER for the following Surveillance Applications

- Continuous Surveillance
- Network coverage data
- Geo-location of threat emitters
- Electronic Surveillance as part of VIP protection
- Border control or high value area protection
- Monitoring of critical communications
- Electronic mapping of threat areas
- White space detection
- Tunnel Measurements
- Signals reconnaissance



A family of 6 different types of Remote Monitoring Units (RMU) is available with LS OBSERVER de

LS OBSERVER PMU Portable Monitoring Unit

Ideal for handheld, portable and mobile applications; for ad-hoc measurements.



LS OBSERVER FMU Fixed Monitoring Unit

Ideal for continuous measurement of the operational electromagnetic environment. It provides large area and frequency coverage and geo-location (TDOA) capability.



LS OBSERVER MMU Mobile Monitoring Unit

Integration of LS OBSERVER offers a 'Rapid Reaction' capability including off-road terrain positioning of sensor





Why the LS OBSERVER TMU?

- Real or near-real time indications and warnings (I&W)
- Real, near-real time or post mission measurement analysis of data
- Tactical to strategic system capability
- Enables comparison of live and archived data for electromagnetic 'trend analysis'
- Scalable capability - individual networked or part of a strategic system



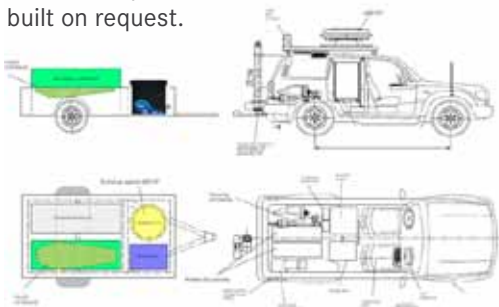
Photo: Department of Defense

depending on your needs - for flexible use and a wide range of applications



LS OBSERVER System Integration

Customer specific solutions, built on request.



Airborne Measurement Service Using Remotely Piloted Aircraft (RPA)

RF & antenna pattern measurement, site inspection and very mobile monitoring.



Service offered by **Colibrex**
Member of the LS telcom Group

Technical Details LS OBSERVER TMU

		TMU 100
RF Characteristics		
RF Characteristics	Frequency range	9 kHz to 6 GHz**
	Scanning speed	up to 24 GHz/s
	Input level (min. / max.)	-152 dBm / +20 dBm, 0 VDC
	IQ bandwidth	up to 27 MHz
	Frequency accuracy	1 ppm
Connectivity		
Connectivity	RF antenna inputs	1x N-Type
	External GPS antenna input	yes
	Wired networking	1 x Gigabit-Ethernet
	Wireless networking	opt. UMTS, opt. WiMax
	Wireless local networking	opt. WiFi (802.11 b/g)
Geolocation		
Geo-location	Direction Finding (DF)	available on a project basis
	Power Difference of Arrival (PDoA)	yes
	Time Difference of Arrival (TDoA)	yes
	GPS receiver	yes
	Integrated GPS antenna	yes
Storage		
Storage	Storage time of raw data	up to 30 days
	Storage time of statistic data	up to 2 years
Environmental Parameters		
Environmental Parameters	Ruggedised	yes
	Temperature range	-30°C up to +60°C
	Power supply	+15 VDC, 19A 100-240 VAC 50Hz, 3.5A with AC/DC adapter (PSU100)
	Power consumption	typ. 60W charged, max. 300W while charging
	Battery runtime	typical 8 hours at 25°C
	Weight	system unit: 65.5 kg, antennas: 6.5 kg, covers: 10.5 kg
	Dimensions in mm (W/H/D)	system unit: 600x700x750 system unit + covers: 600x700x900 system unit + covers + antennas: 600x1300x900
	Humidity (non condensing)	0% up to 100%
	Shock / Vibration	40g shock spectrum / 5 Hz to 150 Hz (sinus), 10 Hz to 500 Hz (random)
	Protection	IP 54 to IP 67*
Colour	white, custom military colour on request	

*: IP 54 with ventilated covers (standard), IP 67 for storage with non ventilated covers (on request)

***: the standard antennas set delivered with TMU 100 is optimised for 20 MHz to 6 GHz. Additional antenna configurations available on request