

TSi is the only company to have provided a mobile LUT-MCC configuration. The system, called the “Operations Support Equipment (OSE),” was designed and developed for the US Government.

Delivered in 1992, the OSE has been used by the US for SAR exercises, demonstrations at air shows, and related activities. When not deployed in the field, the OSE functions as one of the US Government’s COSPAS-SARSAT Local User Terminals.



US OSE at US NOAA headquarters

QUALIFICATIONS OF THE TSi MOBILE LUT-MCC

- ▶ The OSE shall include a vehicle with “4x4” off-road capability and a trailer to carry the LUT antenna and associated equipment needed for “standalone” operation in the field. Various vehicle configurations are available.
- ▶ The OSE vehicle shall provide adequate interior space for the LUT and MCC electronics, together with space for 2 system operators and space for the vehicle driver and one (1) passenger.
- ▶ Stand-alone (field) operation without external power or communication links during deployment under field operating conditions (“field deployment mode”). Field operating conditions include: maximum temperature 50°C, minimum temperature 0°C; maximum wind (operating) 100Km/hr; maximum wind (survive) 150Km/hr; humidity 0% to 100%; operation in rain.
- ▶ The OSE standalone power source shall be a gasoline-powered generator contained within the OSE system.
- ▶ The OSE shall be capable of deployment in moderate level difficulty off-road locations. It shall have a 4 wheel drive capability.
- ▶ The OSE vehicle shall provide adequate space for 2 LUT/MCC operators, in addition to the normal space for the vehicle driver.
- ▶ The OSE shall be capable of being transported in a transport aircraft. It shall be capable of being loaded into the transport aircraft within 30 minutes or less.
- ▶ When not deployed for specialized SAR operations, the OSE shall operate as a Local User Terminal in the Thai COSPAS-SARSAT Ground Segment (“fixed deployment mode”). In this operational mode, the OSE shall meet all specifications for LEOLUTs published by the COSPAS-SARSAT Council.
- ▶ Training shall be provided for use of the OSE in both field and fixed deployment modes.



QUALIFICATIONS OF THE TSi MOBILE LUT-MCC

Item	Model	Description
Main Vehicle	4x4 station wagon—Land Rover Defender (Standard Vehicle). General Motors Hummer H1 or H2 available as options.	Crew Cab with enclosed bed, custom interior to accommodate driver, passenger, and two system operators, greater than 5000 lb trailer towing capacity.
Trailer	Custom design	Trailer for LUT antenna, power generator, UPS, and miscellaneous tools and equipment, 1500 lb payload capacity.
Local User Terminal	TSi LEOLUT 2003	TSi COSPAS-SARSAT 3-band (121.5, 243, and 406 MHz) LUT configured to vehicle dimensions, including Microdyne 700 RF Receiver, multi-card processor cage, 4 Intel Pentium processors, DSP cards, hard disk, communications interfaces, flat panel, active matrix display (15 inches), keyboard and mouse.
Mission Control Center	TSi MCC 2003	TSi COSPAS-SARSAT MCC configured to vehicle dimensions, including Intel Pentium processor of at least 1 GHz, Microsoft NT 4.0 or later operating system, communications interfaces to the LUT, geographical information (mapping) system, flat panel, active matrix display (15 inches), keyboard and mouse.
LUT Antenna	Sea Tel	Parabolic reflector (1 meter dish) tracking antenna with cable wrap, manual or fully automatic program track, gain greater than 23 dB, fiberglass radome, sealed design. System will survive in winds of 65 m/sec.
Uninterrupted Power Supply (UPS)	APC SU700XLNET	450 Watts UPS, 4 hrs backup time at 100 MA.
Portable electric power generator	Honda EB2500XK	Gasoline powered generator, 2500 W capacity, 8 hour operation on 2.9 gallon fuel tank.
Trailer	Custom design	Overall length: 6.6 meters Bed length: 5.5 meters Bed width: 2.1 meters Overall width: 2.6 meters Payload capacity: 680 Kg.