



MTS2

Landmark performance for your mission critical TETRA network



When the availability of communications is mission critical, coverage quality cannot be compromised. To provide reliable coverage, your network must be resilient to unforeseen events, natural and man-made. When financial resources are constrained, a solution that delivers high performance becomes essential. That is why the best-in-class radio coverage and fully redundant design of our MTS2 TETRA base station are essential.

ADDITIONAL FEATURES

- Interference Detection and Correction
- Air Interface Encryption
- Multi-Slot Packet Data (MSPD) for enhanced data services
- Hot swappable modules
- Traffic Channel Rotation
- Dynamic Channel allocation between voice and packet data

Future Ready Design

Built and designed for your future communications needs, the MTS2 is TEDS Ready – software upgradable to support the TETRA Enhanced Data Service, a mission critical platform for secure high speed data services.

Providing support for X.21, E1, IP-Over-Ethernet and MPLS means that the MTS2 works seamlessly with the most efficient and cost effective transmission networking technologies available today and in the future.

Flexible Capacity and Coverage

A small and modular base station, the MTS2 comes equipped with advanced capacity and coverage enhancing capabilities:

- C-SCCH Ready – software upgradable to support additional control channels on the main carrier, quadrupling existing control channel capacity.
- Easily expanded to a 4-carrier system without having to change antenna installations. Key parts of the MTS2 can be reused in an MTS4 cabinet.
- Best in class transmitter output power and receiver sensitivity together with various multiple antenna diversity options, allowing more coverage with fewer sites and better data performance.

Optimised Total Cost of Ownership

Running costs of base station sites can account for a sizeable portion of your network's total cost of ownership. For this reason, the MTS2 has been designed with advanced capabilities that help to minimise annual operational expenditures. These capabilities enable:

- Low power consumption through the use of high efficiency processing and amplification platforms. These can deliver significant operational cost savings over your network's lifetime.
- Reduced battery capacity requirements and low heat dissipation due to excellent power efficiency. With a strong integrated battery charger, power supply costs are kept to an absolute minimum.
- Reduced transmission costs – native MPLS support using IP-over-Ethernet capability means that the MTS4 can enable up to 70% savings compared with non-IP based alternatives.
- Top cable entry and bottom to top cooling airflow allowing the cabinet to be placed up against a wall or neighbouring equipment, minimising costly site space requirements.
- Fits conveniently into a 19 inch cabinet, avoiding the need for disassembly, re-racking or repeat

type-approval. This allows the best possible space utilization and support for both outdoor and shock absorbing transportable enclosures.

Reliable and Easy to Maintain

The MTS2 offers supreme reliability plus flexible access for easy servicing. Key features include:

- Two E1 or Ethernet interfaces that can be provided with the MTS2 to facilitate implementing link redundancy using ring configurations. Redundant E1 and Ethernet ports can be activated in the event of link failure, ensuring continuous connectivity.
- Local Site Trunking – in the event of site link failure, the base station is able to operate independent of the mobile switching office, maintaining secure talkgroup communications throughout.

- Non-GPS operation – supports operation in the absence of a GPS signal, ideally suited to underground applications.

- Full redundancy of base radio including support for automatic Main Control Channel switching.

Totally Secure...Day and Night

With the MTS2, there is no need to worry about theft or vandalism. The basestation equipment includes the latest security features for total peace of mind:

- The alarm interface supports 15 external user input alarms and 2 external user outputs.
- Door alarming contacts – an effective intrusion detection system.

Specifications

	UHF	800MHz
Frequency Bands (TETRA)	350 - 430 MHz, 380- 470 MHz	851 to 870 (Tx), 806 to 825 (Rx) MHz
Frequency Bands (TEDS)	350 – 370 MHz, 380 – 430 MHz *	
Transmit Power at top of base station cabinet	25W (10W TEDS) 40W (with combiner bypass) (20W TEDS)	25W (10W TEDS) 40W (with combiner bypass) (20W TEDS)
Power	- Input Power 115/230V AC, 50/60Hz and - 48V DC - Equipped with integrated battery chargers	- Input Power 115/230V AC, 50/60Hz and - 48V DC - Equipped with integrated battery chargers
Sensitivity at top of base station cabinet	-120 dBm typical (static at 4% BER) -113.5 dBm typical (faded at 4% BER)	-119.5 dBm typical (static at 4% BER) -113.5 dBm typical (faded at 4% BER)
Operating Ambient Temperature	-30 to 60°C	-30 to 55°C
Weight (max, fully equipped with 2 BR)	48 kg	48 kg
Dimensions (Height x Depth x Width)	0.61m x 0.47m x 0.44 m	0.61m x 0.47m x 0.44 m
Power Consumption	Power consumption 245W (Low Power BR**): - Equipped with 2 Base Radios - with no combining and 10W TX output Power consumption 630 Watt (High Power BR) - Equipped with 2 BR's - 25 W transmit power (after hybrid combiner) Note: High Power BR Tx is 40W - bypassing combiners. TEDS available with High Power BR	Power consumption 245W (Low Power BR**): - Equipped with 2 Base Radios - with no combining and 10W TX output Power consumption 630 Watt (High Power BR) - Equipped with 2 BR's - 25 W transmit power (after hybrid combiner) Note: High Power BR Tx is 40W - bypassing combiners. TEDS available with High Power BR
Diversity Reception	Dual or triple-diversity, duplexed or non-duplexed	Dual or triple-diversity, duplexed or non-duplexed
High Speed Data	TEDS QAM modulation schemes with 25 / 50 kHz channel bandwidths	TEDS QAM modulation schemes with 25 / 50kHz channel bandwidths
Carrier Spacing	25 kHz (25 / 50 kHz for TEDS)	25 kHz (25 / 50 kHz for TEDS)
Operating Bandwidth	5 MHz	19 MHz
Transmission	• Support for satellite transmission • IP Over Ethernet, MPLS, X. 21 or fractional E1 connection • Two Ethernet or Two E1 ports with inbuilt multiplexer for either loop protection or redundancy (up to 10 base stations can be connected in loop)	• Support for satellite transmission • IP Over Ethernet, X. 21 or fractional E1 connection • Two Ethernet or Two E1 ports with inbuilt multiplexer for either loop protection or redundancy (up to 10 base stations can be connected in loop)

* For additional TEDS bands, contact your Motorola representative.

** BR – base radio



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