



MTS4

High Performance. Low Cost of Ownership.



Uncompromised network coverage is a fundamental requirement of mission critical communications. In order to provide reliable coverage, networks must be resilient to unforeseen events, natural and man-made. When financial resources are restricted, a solution that delivers high performance while minimizing total cost of ownership becomes essential. That is why operators value the best-in-class radio performance and fully redundant design offered by Motorola's MTS4 TETRA basestation.

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

Designed for the Future

Built and designed for future communications needs, the MTS4 is TEDS Ready - software upgradable to support TETRA Enhanced Data Services (TEDS) - the platform for secure mission critical high speed data services.

Providing support for X.21, E1, IP-over-Ethernet and MPLS, the MTS4 enables operators to utilize the most efficient and cost effective transmission networking technologies available today and in the future.

Flexible Capacity and Coverage

The compact MTS4 is a high performance basestation with state of the art capacity and coverage enhancing capabilities:

- C-SCCH Ready – software upgradable to support additional control channels on the main carrier, quadrupling existing capacity.
- Best-in-class transmitter output power and receiver sensitivity, together with various diversity options, enabling a reduction in the number of sites required to achieve a given level of coverage, and increased data performance and enhanced audio quality.

- The flexibility of connecting up to 8 BR's to just one Rx/Tx antenna, easing implementation costs and reducing cycle time.

Optimised Total Cost of Ownership

The running costs of basestation sites typically account for a significant portion of the total cost of ownership of any TETRA network. MTS4 basestations are specifically designed with advanced features that help to minimise operational expenditures. Such features enable:

- Better power consumption through use of high efficiency processing and amplification platforms – delivering significant operational cost savings over the network's lifetime.
- 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 transmission.
- Reduced battery capacity requirement and low heat dissipation due to excellent power efficiency. With a strong integrated battery charger, power supply costs are kept to an absolute minimum.

Reliable and Easy to Maintain

The MTS4 offers supreme reliability plus flexible access for easy servicing. Key features include:

- Two E1 or Ethernet interfaces can be provided with the MTS4 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 site controller and base radio subsystems including support for automatic Main Control Channel switching.

Totally Secure...Day and Night

With the MTS 4, there is no need to worry about theft or vandalism. The basestation equipment includes the latest security features for total peace of mind:

- External alarm interface supports 15 alarm inputs and 2 external control outputs.
- Lockable door equipped with standard alarm contacts – an effective intrusion detection system.

Specifications

	UHF	800MHz
Frequency Bands	350 - 430 MHz, 380- 470 MHz	851 to 870 (Tx), 806 to 825 (Rx) 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 4 BR)	148 kg (est.)	150 kg (est.)
Width x Height x Depth	0.55m x 1.43 m x 0.57 m	0.55m x 1.43 m x 0.57 m
Power Consumption	Power consumption 760 Watt (Low Power BR) - Equipped with 4 Base Radios - 10 Watt transmit power (after combiner) Power consumption 1300 Watt (High Power BR) - Equipped with 4 Base Radio - 25 Watt transmit power (after combiner) Note: High Power BR Tx is 40W - bypassing combiners. TEDS available with High Power BR	Power consumption 1080 Watt (Low Power BR) - Equipped with 4 Base Radios - 10 Watt transmit power (after combiner) Power consumption 1445 Watt (High Power BR) - Equipped with 4 Base Radio - 25 Watt transmit power (after combiner) Note: High Power BR Tx is 40W - bypassing combiners. TEDS operation 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
Combiner Options	Combiner Bypass, Hybrid combiner, Auto Tune Cavity, Manual Tune Cavity	Combiner Bypass, Hybrid combiner, Auto Tune Cavity, Manual Tune Cavity
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)

