MTS4E

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 dual band MTS4E basestation.

ADDITIONAL FEATURES

- Preferential use of bands

- 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 MTS4E is TEDS Ready - software upgradeable 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 MTS4E 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 MTS4E is a high performance basestation with state of the art capacity and coverage enhancing capabilities:

- eTETRA: The unique capability to support base radios (BR) operating in multiple frequency bands utilising the same control channel, delivering practical solutions for those customers with access to additional spectrum and with increasing capacity needs.

- C-SCCH Ready – software upgradable to support additional control channels on the main carrier, quadrupling existing capacity.

- Support of up to 10 BR's operating at a site - to maximize intermodulation performance, it utilizes two Rx/Tx antennas.

- Best-in-class receiver sensitivity, enabling a reduction in the number of sites required to achieve a given level of coverage.

- Improved data capacity and enhanced audio quality derived from high receiver sensitivity.

Optimised Total Cost of Ownership

The running costs of basestation sites typically account for a significant proportion of the total cost of ownership of any TETRA networks. MTS4E 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 MTS 4 can enable up to 70% savings compared to 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 MTS4E offers supreme reliability plus flexible access for easy servicing. Key capabilities include:

- Two E1 or Ethernet interfaces can be provided with the MTS4E 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 MTS4E, 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

Frequency Bands	380 - 400 MHz, 410- 430 MHz
Transmit Power at top of base station cabinet	10W (5W TEDS)
Power	- 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)
Operating Ambient Temperature	-30 to 50 deg Celsius
Weight (max, fully equipped with 4 BR)	148 kg (est.)
Width x Height x Depth	0.55m x 1.43 m x 0.57 m (single cabinet)
Power Consumption	Power consumption 1300 Watt (High Power BR) - Equipped with 4 Base Radios - 10 Watt transmit power (after combiner)
Dual Band Support	Supports maximum of 10 BR per site Omni-directional and Sectorised configurations supporting various combinations of carriers from 380-400MHz and 410-430MHz bands.
Diversity Reception	Dual diversity
High Speed Data	TEDS QAM modulation schemes with 25 / 50 kHz channel bandwidths
Combiner Options	Hybrid combiner
Carrier Spacing	25 kHz (25 / 50 kHz for TEDS)
Operating Bandwidth	5 MHz
Transmission	• Support for satellite transmission • IP Over Ethernet, MPLS, X. 21 or fractional E1 connection • Two Ethernet ports or Two E1 ports with inbuilt multiplexer for either loop protection or redundancy (up to 10 base stations can be connected in loop)

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