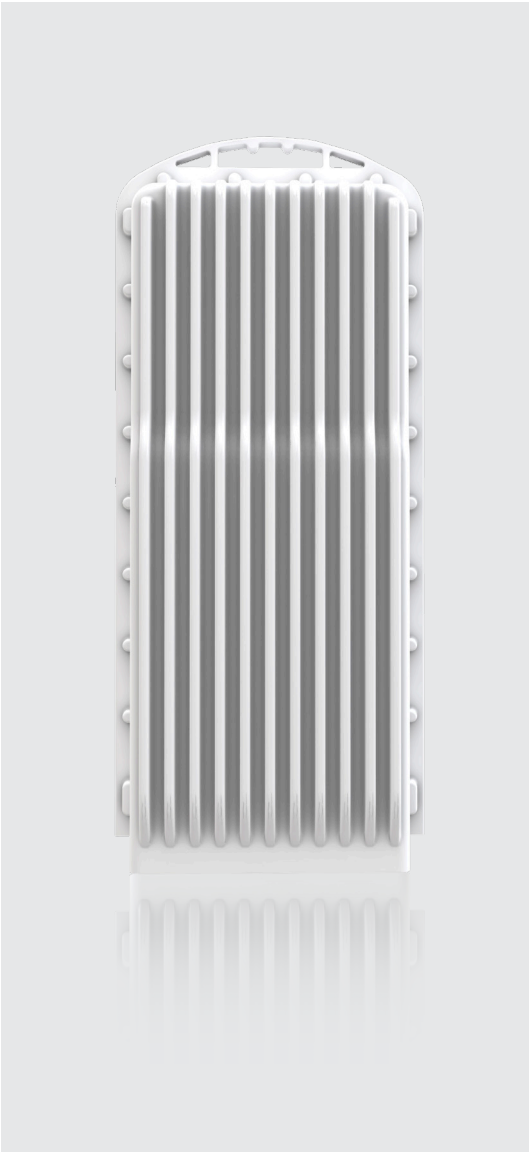
MTS1 TETRA BASE STATION

A SMALL, RUGGED AND EASILY DEPLOYABLE SOLUTION



The MTS1 TETRA base station is a small, rugged and easily deployable solution for indoor and outdoor coverage applications. Based on a new high performance hardware platform, the MTS1 not only enables diverse and rapid deployments, but also ensures that operational costs and kept to an absolute minimum.

VERSATILE APPLICATIONS

The MTS1 base station offers network operators a versatile coverage solution that is both inexpensive and simple to install and commission, coupled with low running costs. Its simplicity of design lends itself to a variety of new applications, such as rapid deployment and indoor coverage, enabling network operators to provide a seamless "TETRA everywhere" experience to users. With its IP66 weather resistant enclosure, lightweight and ergonomic design, the MTS1 offers a wide variety of implementation options. Whether it be for specialized indoor, sheltered, vehicle or rapid deployment, or outdoor wide area coverage applications, the MTS1 provides complete flexibility, offering tower, wall and pole mounted installation options.

DESIGNED FOR THE FUTURE

The MTS1 is TEDS Ready - software upgradable to support TETRA Enhanced Data Services (TEDS) - the next generation platform for secure mission critical high speed data services.

Providing support for E1, IP-over-Ethernet and MPLS, the MTS1 allows the use of the most efficient and cost effective transmission networking technologies available today and in the future.

BETTER COVERAGE, GREATER CAPACITY

Without the need to acquire more spectrum, MTS1 enables network operators to progressively expand network capacity through deployment of low powered micro cells, re-using frequencies from more distant wider area cells, without risk of causing unwanted interference.

Based on a high performance platform, the MTS1 leverages advanced capacity and coverage enhancing features found on Motorola's market proven MTS base station range. Key capabilities include:

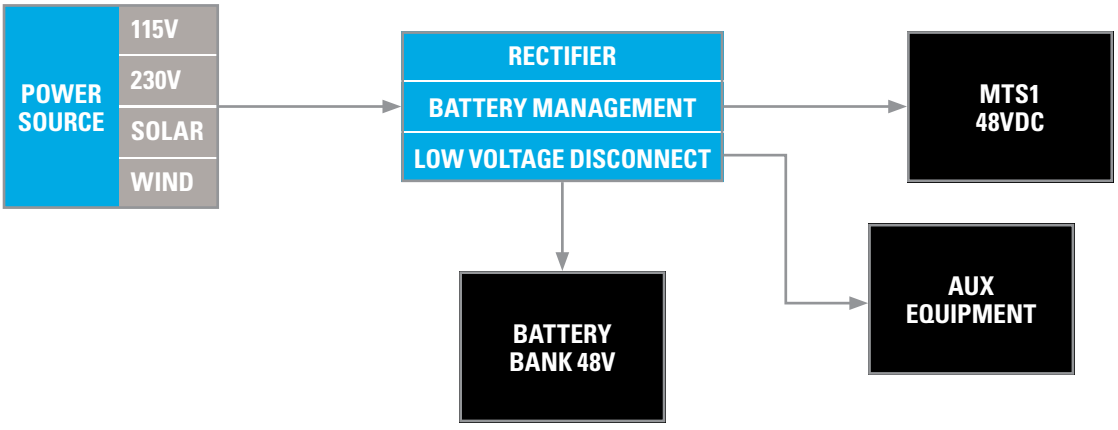
- High power efficiency – with its compact and fit for purpose design, the MTS1 may be situated in preferred locations, close to RF antennas, to maximise RF performance and coverage whilst minimizing power consumption.
- Capacity management – the ability to intelligently managed traffic between micro cells and wide area cells through the use of features such as Neighbour Cell Broadcast, Preferred Subscriber Class and Valid Sites to name but a few. Resulting in improved trunking efficiency and the avoidance of congestion.
- C-SCCH Ready – software upgradable to support additional control channels on the main carrier, quadrupling existing capacity.
- Efficient indoor coverage – by simply connecting the MTS1 to a localized antenna or leaky feeder system, focused RF coverage can be ensured for indoor environments that are hard to penetrate with wide area cells.
- Tower Mountable – MTS1 base stations can be installed close to RF antennas, ensuring that cable losses are minimised and thus coverage performance maximised.
- Best-in-class receiver sensitivity, enabling a reduction in the number of sites required to achieve a given level of coverage.

KEEPING COSTS DOWN

The running costs of base station sites typically account for a significant portion of the total cost of ownership of any TETRA network. MTS1 base stations incorporate advanced features that help to minimise operational expenditures. Such features enable:

- Better power consumption through the use of high efficiency processing and amplification platforms – delivering significant operational cost savings over the network's lifetime.
- Support for mains power removes the need for rectifiers, reducing complexity as well as installation costs.
- Reduced transmission costs – native MPLS support using IP-over-Ethernet capability means that up to 70% savings can be realized compared to non-IP based transmission.
- In remote locations the use of solar and/or wind power may be the only cost effective means of powering the site. DC power will be provided by these systems into a battery array which can then directly power the DC powered version of the MTS1 transceivers. There are efficiencies to be had by eliminating the need for DC to AC converters in these situations.

DC POWER SOLUTION



RELIABLE AND EASY TO MAINTAIN

The MTS1 offers supreme reliability, ensuring that site visit costs are minimised.

Key capabilities include:

- Redundant Configurations – two MTS1 base stations can be connected to enable full redundancy of site controller and base radio subsystems including support for automatic Control Channel switching.
- Two E1 or Ethernet interfaces can be provided with the MTS1 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.
- Operational Status Indication – allowing localized maintenance and support staff to quickly and easily identify and diagnose any faults with the equipment which may impact the availability of network services.

SPECIFICATIONS

Frequency Bands	380 - 400 MHz, 410- 430 MHz, 450-470 MHz
Transmit Power at top of base station cabinet	10 W (4 W TEDS)
Power	- Input Power 115/230 V AC, 50/60 Hz and 48V DC
Rx Sensitivity at top of base station cabinet	Static 4% BER: - 119.5 dBm typical, -117.5 dBm guaranteed Typical Dynamic TU50 4% BER: -113 dBm typical, -111 dBm guaranteed
Operating Ambient Temperature	-30 to 55 °C
Weight	20.5 kg (Excluding mounting bracket)
Width x Height x Depth	263mm x 597mm x 206mm
Power Consumption	Power consumption - 100 W (at 10 W Tx) - 75 W (at 1 W Tx)
Diversity Reception	Dual diversity**
High Speed Data	TEDS QAM modulation schemes with 25 / 50 kHz channel bandwidths [Requires installation of 2 MTS1 base stations]
Carrier Spacing	25 kHz (25 / 50 kHz for TEDS)
Operating Bandwidth	5 MHz
Transmission	• Support for satellite transmission • IP Over Ethernet, MPLS or fractional E1 connection • Two Ethernet ports or Two E1 ports with inbuilt multiplexer for either loop protection or redundancy

** A dual MTS1 base station configuration operates in a dual antenna setup.

ADDITIONAL FEATURES

- Interference Detection and Correction
- Air Interface Encryption and Authentication
- End-to-End Encryption
- Multi-Slot Packet Data (MSPD) for enhanced data services*
- Traffic Channel Rotation
- Dynamic Channel allocation between voice and packet data

*Use of TEDS and MSPD requires two (combined) MTS1 base station deployments.

For more information on the MTS1 TETRA based station, visit motorolasolutions.com or find your closest Motorola representative or authorised Partner at motorolasolutions.com/contactus

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