

# DIMETRA MTS4L TETRA / LTE BASE STATION

## FLEXIBLE MIGRATION TO CRITICAL BROADBAND COMMUNICATION.

The DIMETRA™ MTS4L TETRA/LTE Base Station provides a flexible path for the addition of LTE to complement a TETRA system. By allowing for the addition of an eNodeB into the TETRA Base Station cabinet, Motorola Solutions is offering a highly flexible collaboration solution for TETRA and LTE.

### DESIGNED FOR THE FUTURE

The MTS4L can be installed as a TETRA only base station, but it can include the services for the eNodeB such as shared backhaul, common power supply and battery backup. These services can be installed at the start or they can be upgraded at a later time when needed by customers. Most importantly the MTS4L footprint is unchanged when the eNodeB is installed and so the upgrade is very simple and fast.

### FLEXIBLE CAPACITY AND COVERAGE

The MTS4L is a high performance base station with state-of-the-art capacity and coverage enhancing capabilities:

- Common Secondary Control Channel (C-SCCH) – additional control channels on the main carrier, quadrupling existing capacity.
- ‘Best-in-class’ transmitter output power and receiver sensitivity, together with various diversity options, enables a reduction in the number of sites required to achieve a given level of coverage, with increased data performance and enhanced audio quality.
- The flexibility of connecting up to 8 base radios to one Receiving/Transmitting antenna, easing implementation costs and reducing cycle time.

### OPTIMISED TOTAL COST OF OWNERSHIP

The running costs of base station sites typically account for a significant portion of the total cost of ownership of any TETRA network. MTS4L base stations are specifically designed with advanced features that help to minimise operational expenditures. Such features enable:

- Optimized 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 support using IP-over-Ethernet capability means that the MTS4L 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 a minimum.



## RELIABLE AND EASY TO MAINTAIN

The MTS4L offers supreme reliability plus flexible access for easy servicing. Key features include:

- Two E1 or Ethernet interfaces can be provided with the MTS4L 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-GNSS operation – supports operation in the absence of a GNSS signal, ideally suited to underground applications.
- Full redundancy of site controller and base radio subsystems including support for automatic main control channel switching.

## SECURE DAY AND NIGHT

With the MTS4L, 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.
- The MTS4L supports site link encryption from release 8.1, and air interface encryption with TEA1, TEA2 and TEA3.
- Lockable door equipped with standard alarm contacts – an effective intrusion detection system.

## ADDITIONAL FEATURES

- Provision for eNode B in the same cabinet as a future upgrade with minimum cost and disruption
- Migration flexibility—choose frequency and roll-out when appropriate
- Interference detection and correction
- Air Interface Encryption
- Multi-Slot Packet Data (MSPD) for enhanced data services
- TETRA Enhanced Data Service (TEDS) for high speed data services.
- Hot swappable modules
- Traffic channel rotation
- Dynamic channel allocation between voice and packet data

## SPECIFICATIONS

	UHF	800MHz
<b>Frequency Bands</b>	350 - 430 MHz, 380 - 470 MHz	851 to 870 MHz (Tx), 806 to 825 MHz (Rx)
<b>Operating Bandwidth</b>	5 MHz	19 MHz
<b>Base Radios</b>	Up to 4 base radios (16 time slots)	
<b>Carrier Spacing</b>	25 kHz (25 / 50 kHz for TEDS)	
<b>Transmit Power at top of base station cabinet</b>	25 Watt (10 Watt TEDS) 40 Watt (with combiner bypass) (20 Watt TEDS)	
<b>Receiver Sensitivity at top of base station cabinet / input connector</b>	-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)
<b>Diversity Reception</b>	Single, dual or triple diversity, duplexed or non-duplexed	
<b>Combiner Options</b>	Combiner Bypass, Hybrid combiner, Auto Tune Cavity, Manual Tune Cavity	
<b>Transmission</b>	Ethernet Two Ethernet ports Support for satellite transmission	
<b>High Speed Data</b>	TEDS QAM modulation schemes with 25 / 50 kHz channel bandwidths	
<b>Input Power</b>	Input Power 48 V DC Equipped with integrated battery chargers	
<b>Power Consumption (fully equipped with 4 base radios)</b>	1300 Watt	1445 Watt
<b>Operating Ambient Temperature</b>	-30 to 60 °C (5 to 50 °C when eNodeB fitted)	-30 to 55 °C (5 to 50 °C when eNodeB fitted)
<b>Width x Height x Depth</b>	60cm x 183cm x 65cm (60cm x 186cm x 65cm Seismic Rack)	
<b>Weight</b>	Full TETRA equipment (no RBS6202 and no Brocade switch): 213 Kg (Seismic Rack 231 Kg) Full TETRA equipment, RBS6202 and Brocade switch: 307 Kg (Seismic Rack 325 Kg)	

For more information, please visit us on the web at: [motorolasolutions.com/DIMETRA](http://motorolasolutions.com/DIMETRA)

