

**COMPACT TETRA BASE
STATION FAMILY
CTS100/200/300**



- Small, compact design with scalable solutions to fit a range of communication requirements from local work teams to large regional organisations.
- Flexible, stand-alone, single or multi site operation with capacity for up to 8 sites, 128 logical channels (32 carriers) and up to 10,000 subscriber units.
- Robust, resilient, infrastructure with redundancy options and a distributed switching architecture ensuring high system availability.
- Integrated voice and data services combining traditional PMR features, with packet data or short message based applications and digital telephony.
- Application Partnership Programme offers a wide and growing range of tailored solutions.
- Optimised to work with Motorola's portables and mobiles.
- Built and tested to meet Motorola's proven high quality standards.
- Fully TETRA ETSI standard compliant.

Motorola's Compact TETRA system provides a quality, efficient and flexible solution for small to medium size operations seeking to combine the benefits of digital TETRA technology with a cost-effective, highly reliable communications system.

COMPACT TETRA BASE STATION FAMILY CTS100/200/300

GENERAL SPECIFICATIONS

		CTS100	CTS200	CTS300
Dimensions (19" Rack-mount)	mm	477 x 542 x 520	1010 x 542 x 520	1588 x 542 x 520
Weight	kg	47 (fully equipped)	93 (fully equipped)	143 (fully equipped)
Power Supply requirements (simultaneous charging of external battery)	V ac	115/230	115/230	115/230
	V dc	-48/-60	-48/-60	-48/-60
Power Consumption	Watts	280 (fully equipped)	512 (fully equipped)	975 (fully equipped)
Operating Temperature	°C	-20 to +55	-20 to +55	-20 to +55
Receiver Diversity	-	Dual as standard	Dual as standard	Dual as standard
Receiver sensitivity	-	Per ETSI TETRA standard	Per ETSI TETRA standard	Per ETSI TETRA standard
Combiner System	-	Hybrid (2 carriers)	Auto tuned cavity combiner (4 carriers)	Auto tuned cavity combiner (2x4 carriers)

RF SPECIFICATIONS

		CTS100/200/300
Frequency Bands	MHz	380-400, 410-430, 805-870
Operating Transceiver Bandwidth	MHz	10 (20 for 805-870 MHz band)
Transmitter/Receiver (Duplex) separation	MHz	10 (45)
Filter Bandwidth	MHz	5 (14)
Carrier Separation	kHz	25 (min. 175kHz needed when Cavity combiners used)
Synthesiser frequency steps	kHz	12,5
Frequency and Time accuracy		via built-in GPS receiver, with fallback to E1 or local clocks
RF power (before combiner)	Watts	2,5 – 25 maximum
RF power (after combiner)	Watts	1 – 10 maximum
Receiver Diversity	-	Dual as standard
Combiner System	-	CTS100 = Hybrid for 2 carriers CTS200 = Single cavity combiner, motor tuning CTS300 = Maximum 2 cavity combiner, motor tuning for each of 4 carriers

System features

- Full duplex/ half duplex for telephony, mobile and dispatch calling.
- Individual and Group Calls.
- Calling party and Talking Party Identification.
- Gateway PC facilitates connection between base sites, dispatcher stations, PABX/PSTN and application data servers.
- SDS – Short Data Services.
- Status messaging.
- Packet Data.
- Remote "Health monitoring", data logging and software configuration maintenance.
- 1-8 dispatcher PCs with integrated subscriber management, network management and monitoring functions.
- Up to 8 ISDN based PABX/PSTN connections.

Flexible System to suit all needs

All Base Stations can operate as a "stand-alone" system or, with the addition of a Gateway PC, can become a fully functioning, single-site system with external data and telephone network connections and dispatch capabilities. Future software upgrades will provide a multi-site option (maximum of 8 sites), which will enable a maximum of 128 logical channels (32 carriers) and up to 10,000 handsets.

There are three options of Base Stations:

- The small CTS100 supports 1 or 2 transceivers, a hybrid combiner and optional internal battery backup. It is 477mm high (8HU) and weighs approximately 47 kilograms.
- The CTS200 supports up to 4 transceivers, is 1010 mm high and weighs 93 kilograms.
- The CTS300 sustains up to 8 transceivers and is housed in a 35HU. This Base Station also combines two motor tuned cavity combiners.

Redundant Base Station Controller (BSC), Transceiver and Power Supply options are available on all models and can be integrated ready to come on-line in the rare event of a fault in the original unit. The BSC is housed in a sub-rack together with the transceiver units and power supplies.

State-of-the-Art design delivers quality and reliability

Quality and reliability have been built in to the CTS family design. The dual connecting site network design offers a range of ground based network options including 'daisy chain', star and ring. This means the system can continue to function even if one site or network link fails. The Distributed Architecture approach, rather than a single central switch, allows the basic functions of the system to be performed by any of the Base Station sites in case of any failures. The Base Station has been built to withstand a wide extreme of temperature. A built-in Global Positioning System (GPS) ensures the utmost timing and synchronization accuracy. A tower mounted amplifier is available to reduce downlink feeder costs and dual receiver diversity to improve range coverage performance.

Easy to install, operate and maintain

The management of all functions and testing is software based and can be done either locally or remotely due to high levels of microprocessor integration and extensive use of Flash PROM for configuration and calibration. All sub-racks and components are accessible from the front making engineering support and maintenance access very easy.

Enables Data and Application solutions

Using either short or packet data capability, the CTS range can create a powerful data network, either using software and hardware applications from Motorola's own ISD (Integrated Solutions Division) or its Application Partner Programme.



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