



**MOTOROLA**

# MTR3000

## BASE STATION/REPEATER

MTR3000 is a MOTOTRBO™ integrated voice and data base station/repeater designed to meet the requirements of small public safety, utilities and professional organizations.

The MTR3000 operates in digital mode in MOTOTRBO Conventional, IP Site Connect, and Capacity Plus systems delivering increased capacity, spectral efficiency, integrated data applications and enhanced voice communications.

In addition the MTR3000 can also operate in analog mode for conventional and LTR/Passport Trunking systems providing a flexible high power base station/repeater.

For systems currently using the high power MTR2000 base station/repeater a simple MTR3000 upgrade kit is available so the station can operate in a MOTOTRBO system and allow the user to leverage their current investment.



### **MTR3000 STANDARD FEATURES:**

Operates in analog or MOTOTRBO digital mode with a LED indicating mode of operation.

Reliable 100W Continuous Duty Cycle Operation.

12.5 or 25 kHz programmable channel spacing.

Analog and digital conventional are all standard in one base station without the cost of additional software or hardware.

Power supply functions over a wide range of voltages.

RoHS (Restriction of Hazardous Substances) compliant.

### **MTR3000 PROGRAMMED IN MOTOTRBO MODE PROVIDES:**

Supports two simultaneous voice paths in digital 12.5 kHz TDMA.

Divides existing channel into two timeslots delivering twice the capacity through a single repeater.

Supports MOTOTRBO IP Site Connect for increased wide area coverage.

Supports MOTOTRBO Capacity Plus single site trunking without a separate hardware controller.

### **MTR3000 SERVICEABILITY:**

Repeater diagnostic and control software provides remote or local site monitoring.

Easy to replace components with functionally separate Field Replaceable Units (FRU).

Software based design simplifies feature upgrades.

Easy access to station ports (no need to remove the front panel) shortening installation and maintenance time.

For ease of installation, minimal station alignment is needed.

Backed by Motorola's Standard 1-year Warranty.

**SPECIFICATION SHEET**

MTR3000 Base Station/Repeater

General Specifications		
Model Number	T3000A T2003A - Upgrade kit for MTR2000 stations	
Number of Frequencies	Up to 16	
Modulation	FM & 4FSK	
Frequency Generation	Synthesized	
Channel Spacing	12.5 kHz, 25 kHz	
Mode of Operation	Semi-duplex / Duplex	
Temperature Range	-30°C to +60°C*	
Antenna Connectors	Transmit and Receive, Type "N" Female	
Input Voltage AC	85-264 VAC, 47-63 Hz	
Optional DC Only Operation	28.6 VDC, 25.7-31.4VDC (Full rated output power)	
	<b>Dimensions</b>	<b>Weight</b>
Base Station Repeater	5.25 x 19 x 16.5 in. (133 x 483 x 419 mm)	40 lbs (19 kg)

UHF Input Power Neg. Gnd. or Battery Revert		
	AC Line 117 Volts / 220 Volts	28 VDC
100 W Standby	0.6A / 0.4A	1.0A
100 W Transmit	4.5A / 2.5A	11.5A

Transmitter (UHF)		
	Model T3000A	Model T2003A
Frequency	403-470, 470-524 MHz	403-435, 435-470 MHz
Power Output	8-100 watts	25-100 watts
Bandwidth		Full Band
Output Impedance		50 Ohms
Intermodulation Attenuation		40 dB
Maximum Deviation (RSD)	25 kHz 12.5 kHz	±5 kHz ±2.5 kHz
Audio Sensitivity		60% RSD @ 80 mV RMS
Spurious and Harmonic Emissions Attenuation		85 dB
FM Hum and Noise (750 µs de-emphasis)	25 kHz 12.5 kHz	50 dB nominal 45 dB nominal
Frequency Stability (for temperature and aging variation)		1.5 PPM/External Ref (optional)
Audio Response		+1,-3 dB from 6 dB per octave pre-emphasis; 300-3000 Hz referenced to 1000 Hz at line input
Audio Distortion		Less than 3% at 1000 Hz; 60% RSD
Emission Designators		FM Modulation: 12.5 kHz: 11K0F3E; 25 kHz: 16K0F3E 4FSK Modulation: 12.5 kHz - Data Only: 7K60FXD; 12.5 kHz - Data & Voice: 7K60FXE

Receiver (UHF)		
	Model T3000A	Model T2003A
Frequency	403-470, 450-524 MHz	403-470 MHz
Selectivity (TIA603)	25 kHz 12.5 kHz	80 dB 70 dB
Selectivity (TIA603D)	25 kHz 12.5 kHz	75 dB 45 dB
Sensitivity 12 dB SINAD		0.30 µV
Digital Sensitivity 5% BER		0.30 µV
Signal Displacement Bandwidth	12.5 / 25 kHz	1 kHz / 2 kHz
Intermodulation Rejection	12.5 and 25 kHz	85 dB
Spurious and Image Response Rejection		85 dB
Audio Response		+1,-3 dB from 6 dB per octave de-emphasis; 300-3000 Hz referenced to 1000 Hz at line input
Audio Distortion		Less than 3% at 1000 Hz; 60% RSD
Line Output		330 mV (RMS) @ 60% RSD
FM Hum and Noise (750µs de-emphasis)	Receive signal 25 kHz 12.5 kHz	50 dB nominal 45 dB nominal
RF Input Impedance		50 Ohms

FCC Type Acceptance			
Frequency Range in MHz	Type	Power Output in Watts	US Type Acceptance Number
403-470	Transmitter	8-100	Pending
403-470	Receiver	N/A	Pending
470-524	Transmitter	8-100	Pending
450-524	Receiver	N/A	Pending

MTR3000 product specifications are preliminary and subject to FCC approval. This product cannot be sold until authorization is obtained.  
Note: Specifications per TIA/EIA 603.

Specifications subject to change without notice.



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