

MTR2000

800/900 MHz Station/Repeater/Receiver

MTR2000
Station/Repeater
available in:

- ▶ **Conventional:**
 - Local Operation
 - Tone Remote Control
 - Spectra-TAC Voting
- ▶ **Trunking:**
 - SMARTNET and SmartZone
- ▶ **Continuous Duty**



MTR2000 75 Watt Station/Repeater
Enhanced Features in an Economical Package

FEATURES/BENEFITS

Provides Unmatched Flexibility in a Compact Design

- ▶ Analog operation in conventional systems
- ▶ Analog operation in SMARTNET or SmartZone trunking systems
- ▶ Software based design allows for future system applications
- ▶ 75-20 Watt variable power models
- ▶ Compact dimensions, 3 rack units (5.25" or 13.3 cm), utilize expensive site space efficiently
- ▶ 12.5 or 25 kHz programmable channel spacing (800 MHz)
- ▶ 12.5 kHz channel spacing (900 MHz)

Shortens Installation and Maintenance Time

- ▶ Programming and diagnostic testing performed through a personal computer
- ▶ Standard EIA 19" rack mount configuration
- ▶ Lightweight (40 lbs/19 kg)
- ▶ Functionally separate modules:
 - Field Replaceable Units (FRU)
- ▶ Software based design simplifies upgrades

Contributes to Maximizing System Up-Time

- ▶ Microprocessor based design with integrated DSP capability
- ▶ Continuous duty cycle operation
- ▶ Self testing monitors station performance
- ▶ Switching power supply functions over a wide range of voltages and frequencies

MTR2000 Station/Repeater

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model Number:	T5544, T5731			
Application	System Software Option	Power/Band Option	RF Power Output	Receiver Band Option
Conventional Analog SMARTNET 6809 Analog Trunking SmartZone 6809 Analog Trunking	X597	X450 (851-870 MHz)	75-20	X600 (806-825 MHz)
	X997	X460 (935-940 MHz)	75-20	X663 (896-901 MHz)
	X51			
No. of Frequencies:	Up to 32	Modulation:	FM	
Frequency Generation:	Synthesized	Temperature Range:	-30°C to +60°C*	
Channel Spacing:	12.5 kHz/25 kHz 800 MHz 12.5 kHz 900 MHz	Antenna Connectors:	Transmit and Receive, Type "N" Female	
Mode of Operation:	Simplex / Semi-duplex / Duplex			
Input Voltage AC:	85-264VAC, 47-63 Hz			
Optional DC Only Operation	28.6 VDC (75 Watt station)			
Operational Battery Revert:	24 VDC (75-20 Watt stations) Output power may be reduced up to 3 dB in battery revert mode to conserve battery life.			
Dimensions		Weight		
All Stations and Receivers	5.25 x 19 x 16.5 in. † (133 x 483 x 419 mm)		40 lbs † (19 kg)	
Alternative Cabinet Enclosures				
30" Indoor Cabinet	30 x 22 x 20 in. (762 x 559 x 508 mm)		66 lbs** (30 kg)	
48" Indoor Cabinet	46 x 22 x 20 in. (1168 x 559 x 508 mm)		75 lbs** (34 kg)	
60" Indoor Cabinet	60 x 22 x 20 in. (1524 x 559 x 508 mm)		102 lbs** (46 kg)	
30" Modular Rack	30 x 22 x 20 in. (762 x 559 x 508 mm)		52 lbs** (24 kg)	
45" Modular Rack	46 x 22 x 20 in. (1168 x 559 x 508 mm)		59 lbs** (27 kg)	
52" Modular Rack	60 x 22 x 20 in. (1524 x 559 x 508 mm)		61 lbs** (28 kg)	

† Applies to standard station configuration

*Temperature specification applies to one station per cabinet only. See Product Planner for details.

** Enclosure Only

800/900 MHz INPUT POWER (VARIES WITH OPTIONS)

	AC Line 117 Volts / 220 Volts	DC Only Operation (x121 Option) Neg. Gnd. or Battery Revert	28 VDC
Standby	0.7A / 0.4A		1A
75 W - Transmit	4.5A / 2.5A		800 MHz: 10A / 900 MHz: 11A

TRANSMITTER

	800 MHz	900 MHz
Frequency - 75 Watt:	851-870 MHz	935-940 MHz
Bandwidth:	Full Band	Full Band
Output Impedance:	50 Ohms	50 Ohms
Frequency Stability: (for temperature and voltage variation)	1.0 PPM/External Ref (optional)	External Reference Required
Intermodulation Attenuation:	50 dB	50 dB
Maximum Deviation (RSD):		
25 kHz:	±5 kHz	NA
12.5 kHz:	±2.5 kHz	±2.5 kHz
Audio Sensitivity:	-20 dBm to 0 dBm variable	-20 dBm to 0 dBm variable
Spurious and Harmonic Emissions Attenuation:	80 dBc	80 dBc
FM Hum and Noise: (750µs de-emphasis)		
25 kHz:	300 to 3000 Hz bandwidth, 60% RSD	300 to 3000 Hz bandwidth, 60% RSD
12.5 kHz:	50 dB nominal	NA
Audio response:	+1,-3 dB from 6 dB per octave preemphasis; 300-3000 Hz referenced to 1000 Hz at line input	+1,-3 dB from 6 dB per octave preemphasis; 300-3000 Hz referenced to 1000 Hz at line input
Audio distortion:	Less than 3% at 1000 Hz; 60% RSD	Less than 3% at 1000 Hz; 60% RSD
Emission Designators*:	16K0F3E, 13K6F1D*	11K0F3E, 8K60F1D*

*New FCC emission designators are the result of recent FCC policy changes.

RECEIVER

	800 MHz	900 MHz
Frequency - Wideband:	806-825 MHz	896-901 MHz
Bandwidth:	Full Band	Full Band
Selectivity:		
25 kHz:	80 dB	NA
12.5 kHz:	70 dB	70 dB
Sensitivity 12 dB SINAD	0.35µV	0.35µV
Signal displacement Bandwidth: (Off Channel Acceptance) (12.5/25 kHz)	1 kHz / 2 kHz	1 kHz / NA
Frequency Stability: (for temperature and voltage variation)	1.0 PPM/External Ref (optional)	External Reference Required
Intermodulation Rejection: (Intermodulation) (12.5 and 25 kHz)	85 dB	85 dB
Spurious and Image Response Rejection:	90 dB	90 dB
Audio Response:	+1,-3 dB from 6 dB per octave de-emphasis; 300-3000 Hz referenced to 1000 Hz at line input	+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	Less than 3% at 1000 Hz; 60% RSD
Line output:	-20 dBm to 7 dBm, @ full system deviation @ 1 kHz	-20 dBm to 7 dBm, @ full system deviation @ 1 kHz
FM Hum and Noise: (750µs de-emphasis)		
25 kHz:	1000 Hz tone @ 60% RSD	1000 Hz tone @ 60% RSD
12.5 kHz:	50 dB nominal	NA
12.5 kHz:	45 dB nominal	45 dB nominal
RF Input Impedance:	50 Ohms	50 Ohms

FCC TYPE ACCEPTANCE

Frequency Range in MHz	Type	Power Output in Watts	Type Acceptance Number
851-870	Transmitter	75-20	ABZ89FC5785
806-825	Receiver	NA	ABZ89FR5786
935-940	Transmitter	75-20	ABZ89FC5788
896-901	Receiver	NA	ABZ89FR5789

Industry Canada Approval: Type T554X 109195112

Note: Specifications per TIA/EIA 603.

Specifications subject to change without notice.



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