

MTR2000
VHF / UHF
STATION / REPEATER
RECEIVER



MTR2000
Station/Repeater
available in:

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

FEATURES / BENEFITS

Provides Unmatched Flexibility in a Compact Design

- Analog operation in conventional systems
- Software based design allows for future system applications
- 100-25 Watt, 40-1Watt, and 30-1 Watt variable power models (VHF)
- 100-25 Watt, 40-2 Watt, and 30-2 Watt variable power models (UHF)
- Compact dimensions, 3 Rack Units (5.25" or 13.3cm), utilise expensive site space efficiently
- 12.5 or 25/30 kHz programmable channel spacing
- Standard EIA 19" rack mount configuration
- Lightweight (40 lbs./19 kg.)

Shortens Installation and Maintenance Time

- Programming and diagnostic testing performed through a personal computer
- Functionally separate modules:
Field Replaced Units (FRU)
- Software-based design simplifies upgrades
- Easy access to station ports

Contributes to Maximising System Up Time

- Microprocessor based design with integrated DSP capability
- Switching power supply functions over a wide range of voltages and frequencies
- RSS diagnostics and metering
- Functionally separate modules: Field Replaceable Units (FRU)

MTR2000

MTR2000 STATION / REPEATER SPECIFICATIONS

| GENERAL SPECIFICATIONS | | | | | | | |
|--------------------------------|--|---|-----------------|----------------------|---------------------------------|-----------------|----------------------|
| Model Number | | T5544, T5731 | | | | | |
| | | VHF | | | UHF | | |
| Application | System Software Option | Power/Band Option | RF Power Output | Receiver Band Option | Power/Band Option | RF Power Output | Receiver Band Option |
| Conventional Analog | X597 | X345 (132-174 MHz) | 30-1 | X319 (132-174 MHz) | X341 (403-470 MHz) | 30-2 | X320 (403-470 MHz) |
| SMARTNET 6809 Analog Trunking | X997 | X330 (132-174 MHz) | 40-1 | | X340 (403-470 MHz) | 40-2 | |
| SmartZone 6809 Analog Trunking | X51 | X530 (132-154 MHz, 150-174 MHz) | 100-25 | | X540 (403-435 MHz, 435-470 MHz) | 100-25 | |
| No. of Frequencies | Up to 32 | Modulation: FM | | | | | |
| Frequency Generation | Synthesised | Temperature Range: -30°C to +60°C | | | | | |
| Channel Spacing | 12.5 KHz/25 KHz/30 KHz (VHF) 12.5 KHz/25 KHz (UHF) | 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 | 14.2 VDC (40/30 Watt Station) 28.6 VDC (100 Watt Station) | | | | | | |

| | Dimensions | Weight |
|--------------------------------|---|-----------------------------|
| All Stations and Receivers | 5.25 x 19 x 18.5 in. ¹ (133 x 483 x 419mm) | 40 lbs ¹ (19 kg) |
| Alternative Cabinet Enclosures | | |
| 30" indoor Cabinet | 30 x 22 x 20 in. (762 x 559 x 508 mm) | 66 lbs** (30 kg) |
| 46" 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 508mm) | 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 | 45 x 22 x 20 in. (1143 x 559 x 508 mm) | 59 lbs** (27 kg) |
| 52" Modular Rack | 52 x 22 x 20 in. (1321 x 559 x 508 mm) | 61 lbs** (28 kg) |

¹Applies to standard station configuration. *Temperature specification applies to one station per cabinet only. See product planner for details. **Enclosure only

| VHF INPUT POWER (VARIES WITH OPTIONS) | | |
|---------------------------------------|-----------------------|-------------------------------------|
| | AC Line | DC Only Operation (Negative Ground) |
| | 117 Volts / 220 Volts | 28 VDC (X121 Option) |
| 100W - Standby | 0.6A / 0.4A | 1.0A |
| 100W - Transmit | 4.5A / 2.5A | 11.5A |
| | | 14 VDC (X121 Option) |
| 40/30 W - Standby | 0.5A / 0.3A | 1.7A |
| 40/30 W - Transmit | 2.3A / 1.3A | 11.5A |

| UHF INPUT POWER (VARIES WITH OPTIONS) | | |
|---------------------------------------|-----------------------|-------------------------------------|
| | AC line | DC Only Operation (Negative Ground) |
| | 117 Volts / 220 Volts | 28 VDC (X121 Option) |
| 100W - Standby | 0.6A / 0.4A | 1.0A |
| 100W - Transmit | 5.4A / 2.9A | 13A |
| | | 14 VDC (X121 Option) |
| 40/30 W - Standby | 0.5A / 0.3A | 1.7A |
| 40/30 W - Transmit | 2.4A / 1.3A | 8.5A |

| TRANSMITTER | | |
|---|---|---|
| | VHF | UHF |
| Frequency - 30 Watt | 132-174 MHz | 403-470 MHz |
| Frequency - 40 Watt | 132-174 MHz | 403-470 MHz |
| Frequency - 100 Watt | 132-154 MHz, 150-174 MHz | 403-435 MHz, 435-470 MHz |
| Electronic (Transmit) Bandwidth | Full Sub-band (reduced with the addition of a duplexer/external circulator option) | Full Sub-band (reduced with the addition of a duplexer, circulator covers entire band) |
| Output Impedance | 50 Ohms | 50 Ohms |
| Frequency Stability (for Temperature and Voltage Variation) | 1.5 PPM/External Ref | 1.5 PPM/External Ref |
| Intermodulation Attenuation | 40 dB for 40W, 100W 70 dB for 30W | 40 dB for 40W, 100W 70 dB for 30W |
| Maximum Deviation (RSD) | | |
| 30 (VHF)/25 kHz | ±5 kHz | ±5 kHz |
| 12.5kHz | ±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 | -85 dBc | -85 dBc |
| FM Hum and Noise (750µs de-emphasis) | 300 to 3000 Hz bandwidth 60% RSD | 300 to 3000 Hz bandwidth 60% RSD |
| 30 (VHF)/25 kHz | 50 dB nominal | 50 dB nominal |
| 12.5kHz | 45 dB nominal | 45 dB nominal |
| Audio Response | +1,-3 dB from 6 dB per octave pre-emphasis; 300-3000 Hz referenced to 1000 Hz at line input | +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 | Less than 3% at 1000 Hz ; 60% RSD |
| Emission Designators | | |
| 25 kHz | 16K0F3E, 13K6F1D | 16K0F3E, 13K6F1D |
| 12.5kHz | 11K0F3E, 8K60F1D | 11K0F3E, 8K60F1D |

| RECEIVER | | |
|--|---|---|
| | VHF | UHF |
| Frequency - Wideband | 132-174 MHz | 403-470 MHz |
| Frequency - High Performance Preselector | 132-154 MHz, 150-174 MHz | 403-433 MHz, 433-470 MHz |
| High Performance Preselector Bandwidth (Receiver Bandwidth) | 4.0 MHz | 4.0 MHz |
| Selectivity: 25/30 kHz | 80 dB | 80 dB |
| 12.5kHz | 75 dB | 75 dB |
| Sensitivity 12 db SINAD | 0.35µV | 0.35µV |
| Signal Displacement Bandwidth (Off Channel Acceptance 12.5/2.5kHz) | 2kHz | 2kHz |
| Frequency Stability (for Temperature and Voltage Variation) | 1.5 PPM/External Ref | 1.5 PPM/External Ref |
| Intermodulation Rejection (Intermodulation) (12.5 and 25/30 kHz) | 85 dB / 85 dB | 85 dB / 85 dB |
| Spurious and Image Response Rejection | 85 dB | 85 dB |
| Optional High Performance Preselector | 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 output | +1,-3 dB from 6 dB per octave de-emphasis; 300-3000 Hz referenced to 1000 Hz at line output |
| 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 @100% RSD @1 kHz | -20 dBm to 7 dBm @100% RSD @1 kHz |
| FM Hum and Noise (750µs de-emphasis) | 1000 Hz tone @ 60% RSD 50 dB nominal | 1000 Hz tone @ 60% RSD 50 dB nominal |
| 25/30 kHz | 50 dB nominal | 50 dB nominal |
| 12.5kHz | 45 dB nominal | 45 dB nominal |
| RF Input Impedance | 50 Ohms | 50 Ohms |

| FCC TYPE ACCEPTANCE (VHF) | | | | |
|---------------------------|-------------|-----------------------|------|-------------------|
| Frequency Range in MHz | Type | Power Output in Watts | Type | Acceptance Number |
| 132-174 | Transmitter | 30-1 | | ABZ89FC3785 |
| 132-174 | Transmitter | 40-1 | | ABZ89FC3785 |
| 132-154 | Transmitter | 100-25 | | ABZ89FC3786 |
| 150-174 | Transmitter | 100-25 | | ABZ89FC3786 |
| 132-174 | Receiver | N/A | | ABZ89FR3787 |

| FCC TYPE ACCEPTANCE (UHF) | | | | |
|---------------------------|-------------|-----------------------|------|-------------------|
| Frequency Range in MHz | Type | Power Output in Watts | Type | Acceptance Number |
| 403-470 | Transmitter | 30-2 | | ABZ89FC4811 |
| 403-470 | Transmitter | 40-2 | | ABZ89FC4811 |
| 403-435 | Transmitter | 100-25 | | ABZ89FC4812 |
| 435-470 | Transmitter | 100-25 | | ABZ89FC4812 |
| 403-470 | Receiver | N/A | | ABZ89FR4813 |

*All specifications are subject to change without notice.



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