

# QUANTAR™

## Station/Repeater



QUANTAR™  
Station/Repeater  
available in:

- ▶ **Conventional:**  
Local and Wide Area
- ▶ **Trunking:**  
SmartNet and SmartZone
- ▶ **VHF**  
132-174 MHz



QUANTAR 125-25 Watt Station/Repeater

## FEATURES

### Provides Unmatched Flexibility in a Compact Design

- ▶ The software inherent in the product design allows features and system configurations to be specified through your choice of the appropriate software options
- ▶ Software intensive design allows for system migration and feature upgrades via **FLASHport™**
- ▶ Conventional Project 25 compliant (optional)
- ▶ Trunked Voice CAI compliant (optional)
- ▶ Analog, SECURENET or ASTRO operation in conventional systems
- ▶ Analog, SECURENET or ASTRO operation in SmartNet or SmartZone trunking systems
- ▶ IntelliRepeater™ operation in trunked QUANTAR eliminates need for a central site controller
- ▶ 125-25 Watt or 25-6 Watt variable power models
- ▶ Standard EIA 19" rack mount configuration
- ▶ Compact dimensions utilize expensive site space efficiently
- ▶ 12.5, 25 or 30 kHz programmable channel spacing

### Shortens Installation and Maintenance Time

- ▶ Functionally separate modules: Field Replaceable Units (FRU)
- ▶ Software intensive design speeds upgrades
- ▶ Programming and diagnostic testing performed through a personal computer
- ▶ Lightweight

### Contributes to Maximizing System Up Time

- ▶ Reliable solid state performance
- ▶ Continuous duty cycle operation
- ▶ Battery reverting available in event of a site power failure
- ▶ Self-testing eases regular maintenance
- ▶ Switching power supply functions over a wide range of voltages and frequencies



### GENERAL SPECIFICATIONS

|   |  | Model Number: C99ED/001C<br>Factory ID: T5365  |   |
|---|--|--|---|
| Application   | System Family Option   | Power/Band Option  | RF Power Output   |
| Conventional Analog<br>Secure Transparent<br>Conventional ASTRO<br>Conventional ASTRO CAI<br>6809 Trunking<br>6809 Secure Transparent Trunking<br>6809 ASTRO Trunking<br>6809 ASTRO CAI Trunking<br>SmartZone 6809 ASTRO Trunking<br>SmartZone 6809 ASTRO CAI Trunking<br>SmartZone IntelliRepeater<br>Secure Transparent SmartZone IntelliRepeater<br>SmartZone ASTRO IntelliRepeater<br>SmartZone ASTRO CAI IntelliRepeater | X597<br>X598<br>X599<br>X806<br>X997<br>X996<br>X992<br>X900<br>X989<br>X897<br>X999<br>X998<br>X990<br>X898   | X330<br>X530   | 25-6 Watts<br>125-25 Watts  |
| <b>No. of Frequencies:</b><br><b>Frequency Generation:</b><br><b>Analog Channel Spacing:</b><br><b>Digital Channel Spacing:</b><br><b>Mode of Operation:</b>  | 1 Standard on Trunked Stations,<br>16 Standard on Conventional Stations<br>Synthesized<br>30 kHz/25 kHz/12.5 kHz<br>12.5 kHz<br>Simplex/Semi-duplex/Duplex | <b>Analog Modulation:</b><br><b>Digital Modulation:</b><br><b>Temperature Range:</b><br><b>Antenna Connectors:</b><br><b>Occupied Bandwidth:</b> | FM<br>C4FM<br>-30°C to +60°C<br>Transmit and Receive, Type "N" Female<br>99% Power  |
| <b>Input Voltage AC:</b><br><b>Optional DC/DC Converter:</b>  | 90-264 VAC, 47-63 Hz<br>Negative or Positive Ground Source:<br>12 VDC (25-6 Watt stations) 24/48/60 VDC  | <b>Operational Battery Revert:</b>   | 12 VDC (25-6 Watt stations) 24 VDC (125-25 Watt stations)<br>Output power may be reduced up to 3 dB in battery revert mode to conserve battery life |

### INPUT POWER IN WATTS (VARIES WITH OPTIONS)

| Power Output                                 | Dimensions (H x W x D)                      | Weight               | Operation State     | AC Line   | Battery Revert                |                               | DC/DC Converter (Positive or Negative Ground) |                              |                      |                      |
|--|---|----------------------|---------------------|-----------|-------------------------------|-------------------------------|---|------------------------------|----------------------|----------------------|
|  |   |                      |                     |           | 12V DC Nominal** (X30 Option) | 24V DC Nominal** (X30 Option) | 12V DC (X121 Option)                          | 24V DC (X112/X121*** Option) | 48V DC (X113 Option) | 60V DC (X113 Option) |
| 25 W   | 8.75 x 19 x 17 in.†<br>(221 x 483 x 432 mm) | 55 lbs.†<br>(25 kg)  | Standby<br>Transmit | 60<br>160 | 46<br>95                      | N/A<br>N/A                    | 55<br>145                                     | 55***<br>145***              | 55<br>145            | 55<br>145            |
| 125 W  | 8.75 x 19 x 17 in.†<br>(221 x 483 x 432 mm) | 55 lbs.†<br>(25 kg)  | Standby<br>Transmit | 70<br>500 | N/A<br>N/A                    | 55<br>385                     | N/A<br>N/A                                    | 75<br>505                    | 65<br>445            | 65<br>445            |
| Alternative Cabinet Enclosure Specifications | 12 x 22 x 20 in.<br>(305 x 559 x 508 mm)    | 30 lbs.*<br>(14 kg)  |                     |           |                               |                               |   |                              |                      |                      |
|  | 30 x 22 x 20 in.<br>(762 x 559 x 508 mm)    | 66 lbs.*<br>(30 kg)  |                     |           |                               |                               |   |                              |                      |                      |
|  | 46 x 22 x 20 in.<br>1168 x 559 x 508 mm)    | 75 lbs.*<br>(34 kg)  |                     |           |                               |                               |   |                              |                      |                      |
|  | 60 x 22 x 20 in.<br>(1524 x 559 x 508 mm)   | 102 lbs.*<br>(46 kg) |                     |           |                               |                               |   |                              |                      |                      |

†Applies to station with option X87 Omit Cabinet without triple circulator option

\*Enclosure only

\*\* Output power may be reduced up to 3 dB in battery revert mode to conserve battery life. Full rated RF power is only available for terminal voltages of 13.5 to 15V (12V DC: X30 option) and 27 to 30V (24V DC: X30 option) at the station DC input connector.

\*\*\* Transmit and standby input power in watts applies to 25W output power stations only.

### TRANSMITTER

|   |   |
|---|---|
| <b>Frequency:</b>   | 132-154 MHz, 150-174 MHz  |
| <b>Electronic Bandwidth: (Transmit Bandwidth):</b>                  | Full Sub-band (reduced with the addition of a duplexer option)                              |
| <b>Output Impedance:</b>  | 50 Ohms   |
| <b>Frequency Stability: (for Temperature and Voltage Variation)</b> | 1 PPM/External Ref. (Optional)  |
| <b>Intermodulation Attenuation:</b>                                 | 50 dB   |
| <b>Maximum Deviation Clear 30/25 kHz:</b>                           | ±5 kHz  |
| <b>SECURENET Coded: Clear 12.5 kHz:</b>                             | ±4 kHz  |
| <b>ASTRO Conventional 12.5 kHz:</b>                                 | ±2.5 kHz  |
| <b>Audio Sensitivity:</b>   | ±3.6 kHz  |
| <b>Audio Sensitivity:</b>   | -35 dBm to 0 dBm variable   |
| <b>Spurious and Harmonic Emissions Attenuation:</b>                 | 90 dB   |
| <b>Symbol Rate Accuracy:</b>  | 10 PPM  |
| <b>FM Hum and Noise: 30/25 kHz:</b>                                 | 300 to 3000 Hz bandwidth, 60% RSD, 750 µs de-emphasis                                       |
| <b>12.5 kHz:</b>  | 50 dB nominal   |
| <b>Audio Response (Analog):</b>                                     | 45 dB nominal   |
| <b>Audio Response (Analog):</b>                                     | +1, -3 dB from 6 dB per octave preemphasis: 300-3000 Hz referenced to 1000 Hz at line input |
| <b>Audio Distortion (Analog):</b>                                   | 2% 1000 Hz @ 60% RSD  |
| <b>Emission Designators:</b>  | 25 kHz: 16K0F3E, 16K0F1D, 20K0F1E, 12.5 kHz: 11K0F3E, 8K10F1E, 10K0F1D                      |

### FCC TYPE ACCEPTANCE

| FCC Designation: | Frequency Range in MHz | Type        | Power Output in Watts | Type Acceptance Number |
|------------------|------------------------|-------------|-----------------------|------------------------|
|                  | 132-174                | Transmitter | 125-25                | ABZ89FC3773            |
|                  | 132-174                | Transmitter | 25-6                  | ABZ89FC3774            |
|                  | 132-174                | Receiver    | N/A                   | ABZ89FR3776            |

Specifications subject to change without notice.



#### Support Services

Wherever Motorola sells, our product is backed by service. Our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations.

Motorola is an Equal Employment Opportunity/Affirmative Action Employer



## MOTOROLA

MOTOROLA U.S.A.  
1301 E. Algonquin Road  
Schaumburg, Illinois 60196  
In the U.S. call: 1-800-247-2346

Motorola Canada Limited  
3900 Victoria Park Avenue  
North York, Ontario M2H 3H7  
In Canada call: 1-800-268-5758

Outside the U.S. and Canada call: (847) 538-6602

■ Motorola, SECURENET, ASTRO, SmartNet, SmartZone, IntelliRepeater, and QUANTAR are trademarks of Motorola Inc. ■ ©1997 by Motorola Inc. ■ Printed in U.S.A. ■ (9808) Merit ■ Produced by Customer Communications.