

**QUANTAR™
STATION/REPEATER**



QUANTAR 110-10 Watt Station/Repeater



**QUANTAR™
Station/Repeater
available in:**

- **Conventional:
Local and Wide
Area**
- **Trunking:
SmartNet and
SmartZone**
- **UHF**

**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 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 or ASTRO operation in conventional systems
- Analog or ASTRO operation in SmartNet or SmartZone trunking systems
- 110-10 Watt, 110-25 Watt or 25-6 Watt variable power models
- Standard EIA 19" rack mount configuration
- Compact dimensions utilize expensive site space efficiently
- 12.5 or 25 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				
Application		System Family Option	Model Number: C99ED/001C Factory ID: T5365	
		Conventional Analog Conventional ASTRO Conventional ASTRO CAI 6809 Trunking 6809 ASTRO Trunking 6809 ASTRO CAI Trunking SmartZone 6809 ASTRO Trunking SmartZone 6809 ASTRO CAI Trunking SmartZone IntelliRepeater SmartZone ASTRO IntelliRepeater SmartZone ASTRO CAI IntelliRepeater ASTRO P25 IntelliSite Repeater ASTRO 25 Packet 1R QTAR	X597 X599 X806 X997 X992 X900 X989 X897 X999 X990 X898 X591 CA00117	Power/Band Option X240 (403-433 MHz) X240 (438-470 MHz) X640 (380-433 MHz) X640 (438-470 MHz) X640 (470-494 MHz) X640 (494-520 MHz) RF Power Output/ Low Power Options 25-6 Watts 25-6 Watts 110-10 Watts 110-25 Watts 110-25 Watts 100-25 Watts
No. of Frequencies	1 Standard on Trunked Stations, 16 Standard on Conventional Stations	Analog Modulation Digital Modulation Temperature Range Antenna Connectors Occupied Bandwidth	FM C4FM -30°C to +60°C Transmit and Receive, Type "N" Female 99% Power	
Frequency Generation Analog Channel Spacing Digital Channel Spacing Mode of Operation	Synthesized 25 kHz/12.5 kHz 12.5 kHz Simplex/Semi-duplex/Duplex			
Input Voltage AC Optional DC/DC Convertor	90-264V AC, 47-63 Hz Negative or Positive Ground Source 12V DC (25-6 Watt stations); 24/48/60V DC (110 Watt stations)	Operational Battery Revert	12 VDC (25-6 Watt stations) 24V DC (110-25 Watt stations) Output power may be reduced up to 6 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.† (221 x 483 x 432 mm)	55 lbs.† (25 kg)	Standby Transmit	50 160	40 125	N/A N/A	55 165	55**** 165****	50 150	50 150
110 W*	8.75 x 19 x 17 in.† (221 x 483 x 432 mm)	55 lbs.† (25 kg)	Standby Transmit	55 560	N/A N/A	45 435	N/A N/A	58 570	50 510	50 510
Alternative Cabinet Enclosure Specifications	12 x 22 x 20 in. (305 x 559 x 508 mm)	30 lbs.** (14 kg)								
	30 x 22 x 20 in. (762 x 559 x 508 mm)	66 lbs.** (30 kg)								
	46 x 22 x 20 in. 1168 x 559 x 508 mm)	75 lbs.** (34 kg)								
	60 x 22 x 20 in. (1524 x 559 x 508 mm)	102 lbs.** (46 kg)								

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

* 100 watts at UHF range 4 (494-520 MHz)
** Enclosure Only

*** Output power may be reduced up to 3dB in the 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	
Frequency	380-433 MHz 438-470 MHz 470-494 MHz 494-520 MHz
Electronic Bandwidth (Transmit Bandwidth)	Full Sub-band (reduced with the addition of a duplexer option)
Output Impedance	50 Ohms
Frequency Stability (for Temperature and Voltage Variation)	1 PPM/External Ref. (Optional)
Intermodulation Attenuation	50 dB
Maximum Deviation	
Clear 25 kHz	±5 kHz
Clear 12.5 kHz	±2.5 kHz
ASTRO Conventional 12.5 kHz	±3.6 kHz
Audio Sensitivity	-35 dBm to 0 dBm variable
Spurious and Harmonic Emissions Attenuation	90 dB
Symbol Rate Accuracy	10 PPM
FM Hum and Noise 25 kHz 12.5 kHz	300 to 3000 Hz bandwidth, 60% RSD, 750 µs de-emphasis 50 dB nominal 45 dB nominal
Audio Response (Analog)	+1, -3 dB from 6 dB per octave preemphasis;300-3000 Hz referenced to 1000 Hz at line input
Audio Distortion (Analog)	≤ 2% 1000 Hz @ 60% RSD
Emission Designators	16K0F3E, 16K0F1D, 20K0F1D, 11K0F3E, 8K10F1E, 10K0F1D

FCC TYPE ACCEPTANCE				
FCC Designation	Frequency Range in MHz	Type	Power Output in Watts	Type Acceptance Number
	(380-433) (438-470)	Transmitter	25-6	ABZ89FC4797
	(438-470) (470-494)	Transmitter	110-25	ABZ89FC4798
	(380-433)	Transmitter	110-10	ABZ89FC4798A
	494-520	Transmitter	100-25	ABZ89FC4798
	380-520	Receiver	N/A	ABZ89FR4796

RECEIVER	
Frequency	380-433 MHz, 438-470 MHz, 470-494 MHz, 494-520 MHz
IF Frequencies (1st, 2nd) (Frequency)	73.35 MHz/450 kHz
Adjacent Channel Rejection (12.5/25 kHz) (Selectivity)	Analog 75 dB/85 dB Digital (12.5 kHz) 60 dB
Preselector Bandwidth (Receiver Bandwidth)	4.0 MHz
Sensitivity 12 dB SINAD	0.35 µV
Sensitivity Static Bit Error Rate (BER) 5%	0.35 µV
Bit Error Rate Floor	0.01%
Signal Displacement Bandwidth (Off Channel Acceptance) (12.5/25 kHz)	≥1 kHz/2 kHz
Frequency Stability (for Temperature and Voltage Variation)	1 PPM/External Ref. (Optional)
Intermodulation Rejection	85 dB
Spurious and Image Response Rejection	100 dB
Audio Response (Analog)	+1, -3 dB from 6 dB per octave de-emphasis from 300 Hz to 3000 Hz reference to 1000 Hz
Audio Distortion (Analog) (12.5/25 kHz)	≤ 5%/3%,1000 Hz @ 60% RSD
Line Output	-20 dBm to 0 dBm @ 60% RSD, 1 kHz
FM Hum and Noise 25 kHz 12.5 kHz	1000 Hz tone @ 60% RSD 50 dB nominal 45 dB nominal
RF Input Impedance	50 Ohms TIA/EIA 603

Note Digital Specifications per TSB-102 CAAB. Analog Specifications per TIA/EIA 603



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