

**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	X597	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		
Conventional ASTRO	X599				
Conventional ASTRO CAI	X806				
6809 Trunking	X997				
6809 ASTRO Trunking	X992				
6809 ASTRO CAI Trunking	X900				
SmartZone 6809 ASTRO Trunking	X989				
SmartZone 6809 ASTRO CAI Trunking	X897				
SmartZone IntelliRepeater	X999				
SmartZone ASTRO IntelliRepeater	X990				
SmartZone ASTRO CAI IntelliRepeater	X898				
ASTRO P25 IntelliSite Repeater	X591				
ASTRO 25 Packet 1R QTAR	CA00117				
No. of Frequencies	1 Standard on Trunked Stations, 16 Standard on Conventional Stations			Analog Modulation	FM
Frequency Generation	Synthesized			Digital Modulation	C4FM
Analog Channel Spacing	25 kHz/12.5 kHz	Temperature Range	-30°C to +60°C		
Digital Channel Spacing	12.5 kHz	Antenna Connectors	Transmit and Receive, Type "N" Female		
Mode of Operation	Simplex/Semi-duplex/Duplex	Occupied Bandwidth	99% Power		
Input Voltage AC	90-264V AC, 47-63 Hz	Operational Battery Revert	12 VDC (25-6 Watt stations) 24V DC (110-25 Watt stations)		
Optional DC/DC Converter	Negative or Positive Ground Source 12V DC (25-6 Watt stations); 24/48/60V DC (110 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	50	40	N/A	55	55****	50	50
			Transmit	160	125	N/A	165	165****	150	150
110 W*	8.75 x 19 x 17 in.† (221 x 483 x 432 mm)	55 lbs.† (25 kg)	Standby	55	N/A	45	N/A	58	50	50
			Transmit	560	N/A	435	N/A	570	510	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
 ** 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

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

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



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Specifications subject to change without notice.