



# PODUNK HOLLOW NEWS

The Official Newsletter of the Egyptian Radio Club, Inc.

## SPECIAL ANNOUNCEMENT SEPTEMBER 2019

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(N9OQK)

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(WA0JCO)

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(AA9FQ)

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(KB9LBC)

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Jason Cato  
(KB9LBC)

Egyptianfest 2020 Chair:  
Jason Cato  
(KB9LBC)

Our website is;

[www.w9aiu.org](http://www.w9aiu.org)

Our Facebook Page is;

<https://www.facebook.com/W9AIU>

Our Facebook Group is ;

<https://www.facebook.com/groups/765454553468182/>

are:

146.760 – PL 141.3 in downtown St. Louis,  
MO with an EchoLink Node #541608

443.325 + PL 141.3 in downtown St. Louis,  
MO FUSION CAPABLE

146.790 – PL 127.3 in Edwardsville,  
IL

224.060 – No PL in Edwardsville, IL

442.400 + PL 127.3 in Edwardsville,  
IL

**[Search for Special Events Stations.](#)**

## Great News Concerning the 76 and 79 Repeaters!!

September 9<sup>th</sup>, at the monthly board meeting, a resolution brought to the board by member Justin Garbe WA9JTG was passed unanimously by those board members present. It was agreed to purchase two new-to-us VHF repeaters to replace our aging GE MASTR II machines on 146.76 and 146.79. By “New-to-us”, I do mean USED, but in great shape. The repeaters are Motorola Quantar machines, they are ready to be installed once we receive the jumpers that Jason Cato KB9LBC ordered for Justin.

It is hoped that the issues, with both 76 and 79, will be alleviated with the new machines. 76 has been taken down, to allow Justin to utilize the CAT 250 controller with the new machine. 76 is currently running on a Yaesu DRX1 machine TEMPORARILY until the Quantar can be installed.

I have attached the data sheet for the new repeaters below. If you have any questions, you can contact me at [KB9LBC@gmail.com](mailto:KB9LBC@gmail.com). (Jason Cato) If I don't know the answer, I will bust my behind to get it for you.

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# QUANTAR™

## Station/Repeater

**ASTRO™**  
DIGITAL SOLUTIONS

**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 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



**MOTOROLA**  
*intelligence everywhere™*

## GENERAL SPECIFICATIONS

		Model Number: C99ED/001C Factory ID: T5365	
<b>Application</b>	<b>System Family Option</b>	<b>Power/Band Option</b>	<b>RF Power Output</b>
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 Secure Transparent SmartZone IntelliRepeater SmartZone ASTRO IntelliRepeater SmartZone ASTRO CAI IntelliRepeater ASTRO 25 Site Repeater	X597 X599 X806 X997 X992 X900 X989 X897 X999 X998 X990 X898 X591	X330 X530	25-6 Watts 125-25 Watts
<b>No. of Frequencies:</b>	1 Standard on Trunked Stations, 16 Standard on Conventional Stations	<b>Analog Modulation:</b>	FM
<b>Frequency Generation:</b>	Synthesized	<b>Digital Modulation:</b>	C4FM
<b>Analog Channel Spacing:</b>	30 kHz/25 kHz/12.5 kHz	<b>Temperature Range:</b>	-30°C to +60°C
<b>Digital Channel Spacing:</b>	12.5 kHz	<b>Antenna Connectors:</b>	Transmit and Receive, Type "N" Female
<b>Mode of Operation:</b>	Simplex/Semi-duplex/Duplex	<b>Occupied Bandwidth:</b>	99% Power
<b>Input Voltage AC:</b>	90-264 VAC, 47-63 Hz	<b>Operational Battery Revert:</b>	12 VDC (25-6 Watt stations) 24 VDC (125-25 Watt stations)
<b>Optional DC/DC Converter:</b>	Negative or Positive Ground Source: 12 VDC (25-6 Watt stations) 24/48/60 VDC		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)	24V DC (X112 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	60 160	46 95	N/A N/A	N/A N/A	N/A N/A	N/A N/A
125 W	8.75 x 19 x 17 in.† (221 x 483 x 432 mm)	55 lbs.† (25 kg)	Standby Transmit	70 500	N/A N/A	55 385	75 505	65 445	65 445
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 Ornit 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.

## 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:</b>	±4 kHz
<b>Clear 12.5 kHz:</b>	±2.5 kHz
<b>ASTRO Conventional 12.5 kHz:</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
	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.

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## RECEIVER

<b>Frequency:</b>	132-154 MHz; 150-174 MHz
<b>IF Frequencies (1st, 2nd): (Frequency)</b>	21.45 MHz/450 kHz
<b>Adjacent Channel Rejection: (12.5/25/30 kHz) (Selectivity)</b>	Analog 80 dB/85 dB/90 dB Digital (12.5 kHz) 60 dB
<b>Preselector Bandwidth: (Receiver Bandwidth)</b>	4.0 MHz
<b>Sensitivity 12 dB SINAD:</b>	0.25 μV
<b>Sensitivity Static Bit Error Rate (BER) 5%:</b>	0.25 μV
<b>Bit Error Rate Floor:</b>	0.01%
<b>Signal Displacement Bandwidth: (12.5/25/30 kHz)</b>	≥ 1 kHz/2 kHz/2 kHz
<b>Frequency Stability: (for Temperature and Voltage Variation)</b>	1 PPM/External Ref. (Optional)
<b>Intermodulation Rejection:</b>	85 dB
<b>Spurious and Image Response Rejection:</b>	100 dB
<b>Audio Response: (Analog)</b>	+1, -3 dB from 6 dB per octave de-emphasis from 300 Hz to 3000 Hz reference to 1000 Hz
<b>Audio Distortion: (Analog) (12.5/25/30 kHz)</b>	5%/3%, ≤ 1000 Hz @ 60% RSD
<b>Line Output:</b>	-20 dBm to 0 dBm @ 60% RSD, 1 kHz
<b>FM Hum and Noise: 30/25 kHz:</b>	1000 Hz tone @ 60% RSD
<b>12.5 kHz:</b>	50 dB nominal
	45 dB nominal
<b>RF Input Impedance:</b>	50 Ohms

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