

EVX-R70

DIGITAL REPEATER

DMR Tier 2 Standard


Vertex Standard

eVerge™

SPECIFICATION SHEET

Evolve to Better Communication and Value

You can afford to enhance your communications with the digital performance of eVerge™ two-way radios. eVerge™ radios are precision-engineered to deliver value without sacrificing quality — giving you more capabilities and the flexibility you need to communicate at your best.

Better Flexible Support: Analogue, Digital and Mixed Modes

The EVX-R70 conventional repeater operates in both analogue and digital modes and can be used with any existing analogue two-way radios. Includes “mixed mode” to dynamically switch between analogue and digital for flexible support.

Better Compatibility and Efficiency

eVerge™ radios are compatible with over 74% of the digital radios deployed worldwide using TDMA protocol. eVerge™ digital radios operate with the TDMA (Time Division Multiple Access) protocol for spectrum and power efficiency providing lower total equipment cost compared to FDMA. TDMA digital radio systems support twice as many talk groups and calls without more licensing costs.

Continuous Performance

Get 100% continuous duty at 45 Watt VHF and 40 Watt UHF for easy integration into most repeater sites. Includes integrated power supply with connector for optional external DC battery backup.

Multicolored LED Status Indicator

LED indicator enables easy monitoring of repeater status. Status indicators include: power, digital/analogue mode, repeater disabled, transmit analogue/digital mode by slot, and receive analogue/digital mode by slot.



EVX-R70

132.6 x 482.6 x 296.5 mm w x h x d



Rear Panel

DMR
DIGITAL MOBILE RADIO ASSOCIATION



Additional Features

- ▶ EIA Rack mount size
- ▶ AMBE+2™ Digital vocoder
- ▶ 26-Pin accessory connector

Accessories

- ▶ MH-67A8J: Standard microphone
- ▶ MH-12A8J: Desktop microphone
- ▶ WMB-1: Wall mount kit
- ▶ E-DC-29: Battery back-up cable

EVX-R70 Specifications

General Specifications		
Frequency Range	VHF: 136 - 174 MHz	UHF: 403 - 470 MHz 450 - 527 MHz
Number of Channels and Groups	16	
Power Supply Voltage	100 - 240 V AC [13.5 V DC]	
Channel Spacing	25 kHz / 12.5 kHz	
Current Consumption	Standby: 1 A [1 A DC typical] TX Low Power: 3 A [7.5 A DC typical] TX High Power: 4 A [12 A DC typical]	
Operating Temperature Range	-30° C to +60° C	
Storage Temperature Range	-40° C to + 85° C	
Frequency Stability	±0.5 ppm	
Duty Cycle	100%	
Dimension (H x W x D)	132.6 x 482.6 x 296.5 mm	
Weight (Approx.)	14 [kg]	
Receiver Specifications measured with ETSI EN 300		
Sensitivity	Analogue 12 db SINAD: 0.3 µV 0.22 µV typical Digital 5% BER: 0.3 µV	
Adjacent Channel Selectivity	VHF: ETSI EN 300 65 dB @ 12.5 kHz, 80 dB @ 25 kHz* ETSI EN 300 50 dB @ 12.5 kHz, 80 dB @ 25 kHz*	UHF: ETSI EN 300 65 dB @ 12.5 kHz, 75 dB @ 25 kHz* ETSI EN 300 50 dB @ 12.5 kHz, 75 dB @ 25 kHz*
Intermodulation	VHF: 78 dB	UHF: 75 dB
Spurious Rejection	VHF: 80 dB	UHF: 75 dB
Audio Distortion	3% [typical]	
Hum and Noise	-40 dB @ 12.5 kHz; -45 dB @ 25 kHz*	
Conducted Spurious Emission	-57 dBm	
Transmitter Specifications measured with ETSI EN 300		
Output Power	VHF: 1 - 25 W, 25 - 45 W	UHF: 403 - 470 MHz: 1-25 W, 25-40 W 450 - 527 MHz: 1 - 40 W
Emission Designator (Analogue)	16K0F3E / 11K0F3E	
Modulation Limiting (136 - 174 MHz, 403 - 470 MHz)	± 2.5 kHz @ 12.5 kHz ; ± 5.0 kHz @ 25 kHz	
Conducted Spurious Emission (136 - 174 MHz, 403 - 470 MHz)	-36 dBm < 1 GHz ; -30 dBm > 1GHz	
FM Hum and Noise (136 - 174 MHz, 403 - 470 MHz)	-40 dB @ 12.5 kHz ; -45 dB @ 25 kHz	
Adjacent Channel Power (136 - 174 MHz, 403 - 470 MHz)	60 dB @ 12.5 KHz; 70 dB @ 25 kHz	
Audio Distortion	3%	
FM Modulation	12.5 kHz: 11K0F3E 25 kHz: 16K0F3E	
4FSK Digital Modulation	12.5 KHz Data Only: 7K60FXD 12.4 kHz Data and Voice: 7K60FXE	
Digital Protocol	ETSI TS 102 361-1, -2, -3	