

RANGR™ Mobile Radios**High Band
UHF Band****APPLICATION**

RANGR mobile radios are fully solid state and incorporate the latest manufacturing technology for high quality and long life. The rugged die cast construction, compact size, and top performance make RANGR radios suitable for use in a wide range of mobile applications. The clean, uncluttered modular construction allows quick and easy servicing. All printed wire boards are high quality, double-sided epoxy glass construction with "plated through" holes. Field programmability permits easy transfer between various vehicles and systems. **Further, RANGR radios are fully compatible with all DELTA-S/SX mobile accessories.**

FREQUENCY RANGE (MHz):	136-174	403-512
RF POWER RATINGS (WATTS):	40 and 110	35 and 100*
CHANNEL CAPACITY:	16, 64	16, 64

*30 and 80 above 470 MHz

PRODUCT FEATURES**MAJOR BENEFITS**

● RF Channel Synthesizer	Eliminates individual channel elements and allows easy programming of frequencies.
● Microcomputer Control	Provides internal system management for selection of frequencies, tones, codes, timing and self diagnostics.
● Electrically Programmable	Allows optimum operational flexibility with minimum down time. Re-programmable from outside the radio.
● Designed to MIL-STD-810D	Added protection from adverse mobile environments.
● Gold Plated Board Interconnections	Plug-in flex circuits and board connectors are gold plated to provide superior resistance to oxidation and corrosion.
● Wide Band	No field tuning of transmitter or receiver is necessary over specified maximum frequency separation.



RANGR™ Mobile Radio Specifications

GENERAL

SYSTEM VOLTAGE:	10.8 to 16.6 VDC (Negative Ground)	TEMP RANGE:	-30°C to 60°C (-22°F to +140°F) (Performance specified per EIA)
DUTY CYCLE:	Receiver 100%, Transmitter 20%	ALTITUDE:	5 km (16,500 ft)
DIMENSIONS (HxWxD):	6.7x24x33.9 cm (2.64x9.45x13.35 ins) 6.4x9.2x14.4 cm (2.5x3.6x5.7 ins)	HUMIDITY:	90% RH @ 50°C
Mobile Radio		SHOCK:	EIA & MIL-STD-810D*
Speaker		VIBRATION:	EIA, IEC, USFS & MIL-STD-810D*
WEIGHT		WEATHER PROTECTION:	MIL-STD-810D*
Mobile Radio	4.37 kg (9.6 lbs)	MICROPHONE:	Transistorized Electret
Radio & Accessories	7.55 kg (16.6 lbs)	SPEAKER:	4 ohms
CHANNEL RESOLUTION:	136-174 MHz Multiples of 5.0 or 6.25 kHz 403-512 Multiples of 12.5 kHz	MOUNTING:	Hardware and cables supplied for trunk installation of radio and "up front" mounting of control unit.
CHANNEL GUARD:	33 EIA Tones, 83 Digital Codes		
PROGRAMMING:	Externally programmable using General Electric Universal Radio Programmer (TQ2310)		

*MIL-STD-810D applicable to radio unit only.

RECEIVER

FREQUENCY RANGE:	136-174 MHz	403-512 MHz
RF INPUT IMPEDANCE:	50 ohms	50 ohms
CHANNEL SPACING:	25/30 kHz	25 kHz
SENSITIVITY		
EIA 12-dB SINAD:	0.35 μ V	0.35 μ V
Noise Squelch:	6 dB SINAD	6 dB SINAD
Channel Guard (EIA):	8 dB SINAD	8 dB SINAD
SELECTIVITY (EIA 2-signal):	-90 dB	-80 dB
FREQUENCY STABILITY:	\pm 2PPM†	\pm 2PPM†
INTERMODULATION:	-80 dB	-80 dB
SPURIOUS & IMAGE REJECTION:	-85 dB Δ	-85 dB
AUDIO RESPONSE:	Within +2 and -8 dB of 6 DB/octave de-emphasis, 300-3000 Hz per EIA	
AUDIO OUTPUT:	10 W @ less than 3% dist. @ 1000 Hz	
FREQUENCY SEPARATION (Full Performance):	17 MHz (136-153) 24 MHz (150-174)	20 MHz (403-470) 18 MHz (470-512)

†5 PPM available in some models.

Δ except one spurious at -80 dB

TRANSMITTER

FREQUENCY RANGE:	136-174 MHz	403-512 MHz
RATED POWER OUTPUT:	40 & 110 W	35 & 100W (403-470) 30 & 80W (470-512)
RF OUTPUT IMPEDANCE:	50 ohms	50 ohms
CONDUCTED SPURIOUS:	-80 dB	-80 dB
FREQUENCY STABILITY:	\pm 2PPM†	\pm 2PPM†
MODULATION DEVIATION:	0 to \pm 5 kHz	0 to \pm 5 kHz
AUDIO DISTORTION:	2% @ 1000 Hz	2% @ 1000 Hz
FM NOISE (Companion Receiver)	-60 dB	-50 dB
AUDIO RESPONSE:	Within +1 and -3 dB of 6 dB/octave pre-emphasis, 300 to 3000 Hz per EIA RS-152-B	
FREQUENCY SEPARATION:	17 MHz (136-153) 24 MHz (150-174)	20 MHz (403-470) 18 MHz (470-512)

FCC FILING DATA

RADIO TYPE	FREQUENCY BAND (MHz)	RF POWER OUTPUT RANGE (Watts)	MAXIMUM BATTERY DRAIN (AMPS)			TYPE ACCEPTANCE NUMBER		FCC RULES PART NUMBER
			Rx Standby	Unsquelled	Transmit	5 PPM Stab.	2 PPM Stab.	
RANGR	136-153	20-40 55-110	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC 29.5 @ 13.4 VDC	AXA9HHTR-140-A AXA9HHTR-141-A	AXA9HHTR-140-A2 AXA9HHTR-141-A2	22 & 90
	150-174	20-40 55-110	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC 29.5 @ 13.4 VDC	AXA9HHTR-140-B AXA9HHTR-141-B	AXA9HHTR-140-B2 AXA9HHTR-141-B2	22, 80 & 90
	420-440	17.5-35 50-100	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC 29.5 @ 13.4 VDC	AXA9HHTR-142-A AXA9HHTR-143-A	AXA9HHTR-142-A2 AXA9HHTR-143-A2	90
	450-470	17.5-35 50-100	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC 29.5 @ 13.4 VDC	AXA9HHTR-142-B AXA9HHTR-143-B	AXA9HHTR-142-B2 AXA9HHTR-143-B2	22, 74, 90 & 95
	470-488	15-30 40-80	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC 24 @ 13.4 VDC	AXA9HHTR-142-C AXA9HHTR-143-C	AXA9HHTR-142-C2 AXA9HHTR-143-C2	22 & 90
	482-500	15-30 40-80	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC 24 @ 13.4 VDC	AXA9HHTR-142-D AXA9HHTR-143-D	AXA9HHTR-142-D2 AXA9HHTR-143-D2	22 & 90
	494-512	15-30 40-80	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC 24 @ 13.4 VDC	AXA9HHTR-142-E AXA9HHTR-143-E	AXA9HHTR-142-E2 AXA9HHTR-143-E2	22 & 90

OPTIONS AND ACCESSORIES

- Choice of Control Units
S-500, S-550, S-600 & S-990
- Electrically Programmable Channel Guard (Tone & Digital)
- Carrier Control Timer (Electrically Programmed)
- Busy Light
- Handset & Noise Cancelling Microphone
- Key Lock
- Tone Adapter Cables
- Extra long or short power and control cables
- Public Address
- Int/Ext Speaker (switchable)
- Unity & Gain Antennas
- Noise Filter

 **GE Mobile Communications**

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