

Synthesized Microcomputer Controlled **RANGR** Mobile Radios

Specifications
Low Band
800 MHz 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):	29-50	806-870
RF POWER RATINGS (WATTS):	60 and 110	35
CHANNEL CAPACITY:	16, 64	16, 64

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

(PC N9)

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):		HUMIDITY:	90% RH @ 50°C
Mobile Radio	6.7x24x33.9 cm (2.64x9.45x13.35 ins)	SHOCK:	EIA & MIL-STD-810D
Speaker	6.4x9.2x14.4 cm (2.5x3.6x5.7 ins)	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:	29-50 MHz Multiples of 5.0 kHz 800 MHz 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)		

RECEIVER

FREQUENCY RANGE:	29-50 MHz	851-870 MHz
RF INPUT IMPEDANCE:	50 ohms	50 ohms
CHANNEL SPACING:	20 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	-75 dB
FREQUENCY STABILITY:	\pm 5PPM	\pm 2PPM
INTERMODULATION:	-80 dB	-75 dB
SPURIOUS & IMAGE REJECTION:	-85 dB†	-75 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):	13 MHz (29-42) 15 MHz (35-50)	19 MHz

†except one spurious at -80 dB

TRANSMITTER

FREQUENCY RANGE:	29-50 MHz	806-825 MHz 851-870 MHz*
RATED POWER OUTPUT:	60 & 110 W	35 W
RF OUTPUT IMPEDANCE:	50 ohms	50 ohms
CONDUCTED SPURIOUS (CEPT):	2.5 nW -73 dB (60W) -76 dB (110W)	2.5 nW -70 dB
FREQUENCY STABILITY:	\pm 5PPM	\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	-45 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:	13 MHz (29-42) 15 MHz (35-50)	19 MHz

*Repeater Talk around is standard with 800 MHz RANGR mobile.

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	29-42	30-60 55-110	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	20 @ 13.4 VDC 29.5 @ 13.4 VDC	AXA9HHTR-138-A AXA9HHTR-139-A	Not Applicable	22 & 90
	35-50	30-60 55-110	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	20 @ 13.4 VDC 29.5 @ 13.4 VDC	AXA9HHTR-138-B AXA9HHTR-139-B	Not Applicable	22 & 90
	RX: 851-870 TX: 806-825 851-870	17.5-35 17.5-35	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC	Not Applicable	AXA9HHTR-144-A2	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)
- Noise Blanker (LB)
- 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

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