

DELTA-S™ AND-SX Mobile Radios

(Shown with S-990 Control Unit)

APPLICATION

DELTA-S and DELTA-SX mobile radios are fully solid state and incorporate the latest manufacturing technology for high quality and long life. The wireless design, rugged die cast construction, compact size, and top performance make DELTA-S and -SX suitable for use in a wide range of mobile radio applications. The radio's field programmability permits easy transfer between various vehicles and systems.

	DELTA-S	DELTA-S AND -SX	
FREQUENCY RANGE (MHz):	29.7 - 50	136 - 174	403 - 440, 450 - 512
RF POWER RATINGS (WATTS):*	60 and 110	40 and 110	35, 40, 50 and 100
CHANNEL CAPACITY:	8, 16, 32, 128	8, 16, 32, 128	8, 16, 32, 128

*See transmitter specification for RF power ratings of various frequency splits.

PRODUCT FEATURES

- RF Channel Synthesizer
- Microcomputer Control
- Electrically Programmable
- Designed to MIL-STD-810D
- Adjustable Transmit Power
- Wide Band (SX)

MAJOR BENEFITS

- Eliminates individual channel elements and allows easy programming of frequencies.
- Provides internal system management for selection of frequencies, tones, codes, timing & self diagnostics.
- Allows optimum operational flexibility with minimum down time. Re-programmable from outside the radio.
- Radio has optimum protection from adverse mobile environments.
- Enables RF power to be tailored to system needs and avoids excess battery drain.
- No field tuning of transmitter or receiver is necessary over specified maximum frequency separation.



SPECIFICATIONS

GENERAL (MICROCOMPUTER CONTROLLED SYSTEM)

SYSTEM VOLTAGE:	10.8 to 16.6 VDC, neg ground (Optional pos. ground operation)	TEMPERATURE RANGE:	-30°C to +60°C (-22°F to +140°F) (Performance specified per EIA)
DUTY CYCLE (EIA):	Receiver 100%, Transmitter 20%	ALTITUDE:	5 km (16,500 ft)
DIMENSIONS (HxWxD)		HUMIDITY:	95% RH @ 50°C
Mobile Radio		SHOCK:	EIA & MIL-STD-810D
40 W Model:	6.5x26x32.5 cm (2.5x10.2x12.8 ins.)	VIBRATION:	EIA, IEC, USFS & MIL-STD-810D
All others:	6.5x29x32.5 cm (2.5x11.4x12.8 ins.)	WEATHER PROTECTION:	MIL-STD-810D
Control Head (S600):	4.8x14.1x9.9 cm (1.9x5.6x3.9 ins.)	MICROPHONE:	Transistorized Electret
Control Head (S500):	5.6x17.0x12.7 cm (2.2x6.7x5.0 ins.)	SPEAKER:	4 Ohms
Speaker:	6.4x9.2x14.4 cm (2.5x3.6x5.7 ins.)	MOUNTING:	Hardware and cables supplies for trunk installation of radio and "up front" mounting of control unit
WEIGHT	40 W Model All Others		
Mobile Radio:	5.9 kg (13 lbs) 6.5 kg (14.5 lbs)		
Radio & Accessories:	9.0 kg (20 lbs) 9.5 kg (21.1 lbs)		
CHANNEL RESOLUTION:	29.7-50 Multiples of 5.0 kHz 136-174, Multiples of 5.0 or 6.25 kHz 403-512, Multiples of 12.5 kHz		
CHANNEL GUARD	Any tone between 67-210 Hz, 83 Digital Codes		
PROGRAMMING:	Externally programmable using General Electric Universal Radio Programmer (TQ2310).		

RECEIVER

	LOW BAND DELTA-S	HIGH BAND		UHF BAND	
		DELTA-S	DELTA-SX	DELTA-S	DELTA-SX
FREQUENCY RANGE (MHz) (RECEIVER TYPE)	29.7 - 50	136 - 174		403 - 430 & 450 - 512	
RF INPUT IMPEDANCE:	50 Ohms	50 Ohms		50 Ohms	
CHANNEL SPACING:	20 KHz	25/30 kHz		25 kHz	
SENSITIVITY:					
EIA 12 dB SINAD:	0.25 μ V	0.35 μ V	0.2 μ V	0.35 μ V	0.2 μ V
20 dB Quietling:	0.35 μ V	0.5 μ V	0.25 μ V	0.5 μ V	0.25 μ V
Noise Squelch:	6 dB SINAD	6 dB SINAD	6 dB SINAD	6 dB SINAD	6 dB SINAD
Channel Guard (EIA):	8 dB SINAD	8 dB SINAD	8 dB SINAD	8 dB SINAD	8 dB SINAD
SELECTIVITY (EIA 2 SIGNAL)	-100 dB @ 20 kHz	-100 dB @ 30 kHz -95 dB @ 25 kHz	-95 dB @ 30 kHz -85 dB @ 25 kHz	-90 dB @ 25 kHz —	-83 dB @ 25 kHz —
FREQUENCY STABILITY:	\pm 0.0005%	\pm 0.0005%*		\pm 0.0005%*	
MODULATION ACCEPTANCE:	\pm 6.5 kHz	\pm 7 kHz		\pm 7 kHz	
INTERMODULATION	-85 dB (@ 20 kHz)	-85 dB -80 dB (@25/30 kHz)	-85 dB -80 dB (@ 25/30 kHz)	-85 dB -80 dB (@ 25 kHz)	-80dB -75dB (@ 25 kHz)
SPURIOUS & IMAGE REJECTION:	-100 dB	-100 dB -100 dB	-90 dB -90 dB	-100 dB -90 dB	-90 dB -80 dB
MAXIMUM FREQUENCY SEPARATION:					
Full Performance:	1 MHz (29.7 - 36) 1.25 MHz (36 - 42) 1.5 MHz (42 - 50)	2 MHz 2 MHz	17 MHz (136 - 153) 24 MHz (150 - 174)	2 MHz 2 MHz	20 MHz
1 dB Degradation:	1.5 MHz (29.7 - 36) 1.75 MHz (36 - 42) 2.0 MHz (42 - 50)	2.5 MHz 2.5 MHz	—	2.5 MHz 2.5 MHz	—
3 dB Degradation:	1.75 MHz (29.7-36) 2.0 MHz (36-42) 2.5 MHz (42-50)	2.75 MHz 2.75 MHz	—	2.75 MHz 2.75 MHz	—
AUDIO RESPONSE:	Within +2 and -8 dB of 6 dB/octave deemphasis, 300 to 3000 Hz per EIA.				
AUDIO OUTPUT:	12 Watts with less than 3% distortion @ 1000 Hz.				
	* \pm 0.0002% Frequency Stability Optional				

DELTA-S AND-SX

FCC DATA

RADIO TYPE	FREQUENCY BAND (MHz)	RF POWER OUTPUT RANGE (Watts)	MAXIMUM BATTERY DRAIN (Amps)			TYPE ACCEPTANCE NUMBER		FCC RULES PART NUMBER	RECEIVER MODEL NUMBER
			Rx Standby	Unsquelled	Transmit	5 PPM STAB.	2 PPM STAB.		
DELTA-S	29.7-36	30 - 60 55 - 110	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC 30 @ 13.4 VDC	KT-211-A KT-212-A	NOT APPLICABLE	22 & 90	ER-137-A
	36 - 42	30 - 60 55 - 110	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC 22 @ 13.4 VDC	KT-211-B KT-212-B		22 & 90	ER-137-B
	42 - 50	30 - 60 55 - 110	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC 25 @ 13.4 VDC	KT-211-C KT-212-C		22 & 90	ER-137-C
	136 - 174	20 - 40	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	12 @ 13.6 VDC	KT-215-B	KT-215-B2	22, 81 & 90	ER-139-B
	150 - 174	55 - 110			27 @ 13.4 VDC	KT-217-B			
	403 - 430	25-50	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	14 @ 13.6 VDC	N/A	N/A	N/A	N/A
	450 - 470	20 - 40 50 - 100			13 @ 13.6 VDC	KT-218-B	KT-218-B2	22, 90 & 95	ER-140-B
	470 - 494	18 - 35	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	28 @ 13.4 VDC	KT-220-B	KT-220-B2	22 & 90	ER-140-C
					13 @ 13.6 VDC	KT-221-B	KT-221-B2		
		26 @ 13.4 VDC			KT-223-B	KT-223-B2			
13 @ 13.6 VDC		KT-221-C			KT-221-C2				
494-512	18 - 35	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	13 @ 13.6 VDC	KT-221-C	KT-221-C2	22 & 90	ER-140-D	
	40 - 80			25 @ 13.4 VDC	KT-223-C	KT-223-C2			
DELTA-SX	136 - 174	20 - 40	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	12 @ 13.6 VDC	KT-242-A	KT-242-A2	22, 81 & 90	ER-151-A
	150 - 174	55 - 110			27 @ 13.4 VDC	KT-244-A	KT-244-A2		
	403 - 440	25 - 50	0.7 @ 13.8 VDC	2.2 @ 13.8 VDC	14 @ 13.6 VDC	N/A	N/A	N/A	ER-156-A
	440 - 470	20 - 40			13 @ 13.6 VDC	KT-245-A	KT-245-A2	22 & 90	
50 - 100		28 @ 13.4 VDC	KT-247-A	KT-247-A2					

TRANSMITTER

	LOW BAND DELTA-S	HIGH BAND		UHF BAND	
		DELTA-S	DELTA-SX	DELTA-S	DELTA-SX
FREQUENCY RANGE (MHz):	<u>29.7 - 50</u>	<u>136 - 174</u>	<u>136 - 174</u>	<u>403 - 430 & 450 - 512</u>	<u>403 - 470</u>
RF Power:	60 & 110W	136-153; 40W 150-174; 40W, & 110W	136-153; 40W 150-174; 40W & 110W	403-430; 50W 450-470; 40W, & 100W 470-494; 35W, & 90W 494-512; 35W, & 80W	403-440; 50W 440-470; 40W & 100W
RF OUTPUT IMPEDANCE:	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
CONDUCTED SPURIOUS & HARMONIC EMISSION:	-85 dB	-85 dB	-85 dB	-85 dB	-85 dB
FREQUENCY STABILITY:	±0.0005%	±0.0005%*	±0.0005%*	±0.0005%*	±0.0005%*
MODULATION DEVIATION:	0 to ±5 kHz	0 to ±5 kHz	0 to ±5 kHz	0 to ±5 kHz	0 to ±5 kHz
FM NOISE:	-65 dB	-65 dB	-65 dB	-55 dB	-55 dB
MAXIMUM FREQUENCY SEPARATION:	2 MHz	5.5 MHz	17 MHz (136-153) 24 MHz (150-174)	12 MHz 10 MHz (403-430)	20 MHz
AUDIO RESPONSE:	Within +1 and -3 dB of 6 dB/octave pre-emphasis, 300 to 3000 Hz per EIA, RS-152-B.				
AUDIO DISTORTION:	2% @ 1000 Hz				

*±0.0002% Frequency Stability Optional

DELTA-S™ AND DELTA-SX™

OTHER OPTIONS & ACCESSORIES

- Electrically Programmable Channel Guard
 - Tone & Digital
- Carrier Control Timer
 - Electrically Programmed
- Noise Blanker (LB)
- Ultra High Sensitivity Receiver (UHS)
 - $\pm 0.0002\%$ Frequency Stability
 - Unity & Gain Antennas
 - Positive Ground Cable Kit
- Choice of Control Units S-500, S-550, S-600 & S-990 (Following options apply to Control Units)
 - Busy Light
 - Handset & Noise Cancelling Microphone
 - Tone Adapter Cables
 - Extra Long or Short Power & Control Cables
- Public Address
- Internal/External Speaker
 - Switchable

All DELTA-S and DELTA-SX mobiles are shipped standard with Channel Guard (Tone & Digital), Carrier Control Timer and Variable Squelch Control.



GE Mobile Communications

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