

# MTS 2000™

## PORTABLE RADIOS

*For Secure and Advanced  
Conventional and  
Trunked Systems*

- ▶ VHF 136-178 MHz
- ▶ UHF 405-470 MHz
- 450-520 MHz
- 806-825 MHz
- 851-870 MHz
- 896-902 MHz
- 935-941 MHz



The MTS 2000™ radio uses Motorola's revolutionary FLASHport® technology. FLASHport allows you to add software to the radio to meet your specific needs at the time of purchase and upgrade the radio with new software packages or features as your needs change.\*

### Standard MTS 2000 Features:

- ▶ Companion product to the MCS 2000™ Mobile allows operational knowledge to be transferred across products
- ▶ On/Off Volume Rotary Select Switch
- ▶ 16-Position Mode Select Rotary Switch
- ▶ Programmable Top (1) & Side (3) Mounted Buttons
- ▶ Programmable Three-Position Toggle Switch
- ▶ Coded/Clear Programmable Two-Position Concentric Switch
- ▶ Display Annunciators
- ▶ Time-Out Timer
- ▶ Weather Sealed Universal Connector
- ▶ Detachable Belt Clip and Antenna
- ▶ Quick Disconnect Accessory Capable
- ▶ Internal Noise Cancelling Microphone
- ▶ Ultra-High Capacity Nickel-Cadmium Battery
- ▶ SECURENET Digital Voice Encryption Capable
- ▶ Audible Status Tones
- ▶ Low Battery Alert
- ▶ Button Press Acknowledgement Tone
- ▶ Native Language Displays (English, French, Portuguese, Italian, German, Spanish)



### MTS 2000 I

- ▶ 48 Modes
- ▶ Response & Initiation of Dispatch Radio Calls
- ▶ Toggle Controlled Zone Operation
- ▶ Response Capability to Special Calls
- ▶ Top Mounted 6-Character Display
- ▶ Non-Keypad

### MTS 2000 II

- ▶ 160 Modes
- ▶ Dialing from Prestored Lists
- ▶ Programmable Soft Keys for Easy Access to Radio Functions
- ▶ 14-Character Alphanumeric Display
- ▶ 3 x 2 Button Keypad

### MTS 2000 III

- ▶ 160 Modes
- ▶ Dialing from Prestored Lists
- ▶ Direct Dialing from Keypad
- ▶ Programmable Soft Keys for Easy Access to Functions
- ▶ 14-Character Alphanumeric Display
- ▶ 3 x 5 Button Keypad

\* Dependent on radio memory capacity

## GENERAL PERFORMANCE SPECIFICATIONS

<b>Power Supply</b>		<b>Nickel-Cadmium Battery</b>		<b>FM APPROVAL INFORMATION (Optional):</b>					
<b>Battery Voltage:</b>	<b>Nominal Range:</b>	7.5 Volts 6 to 9 Volts		INTRINSICALLY SAFE: Class I, III, Division I, Groups D, F, G. Batteries NTN7146 (high capacity) and NTN7147 (ultra-high capacity).					
<b>Temperature Range:</b>	<b>Operating Storage:</b>	-30°C to +60°C -40°C to +85°C		NON-INCENDIVE: Class I, Division 2, Groups A, B, C, D. Batteries NTN7341, NTN7146, NTN7143, NTN7147 and NTN7144.					
<b>Physical Characteristics:</b>		<b>HxWxD Dimensions*:</b>			<b>Model Weights:</b>			<b>Battery Part Numbers</b>	<b>FM Battery Part Numbers</b>
		<b>MTS I, II, III</b>			<b>MTS I</b>	<b>MTS II</b>	<b>MTS III</b>		
<b>Less Battery:</b>		6.30" x 2.34" x 1.49" 16.0 cm x 5.9 cm x 3.8 cm			10.3 oz. 292 gm	10.9 oz. 309 gm	10.9 oz. 309 gm	N/A	N/A
<b>With Ultra-High Capacity Battery:</b>		6.30" x 2.34" x 1.54" 16.0 cm x 5.9 cm x 3.9 cm			20.1 oz. 570 gm	20.1 oz. 570 gm	20.1 oz. 570 gm	NTN7144 (Standard)	NTN7147 (Optional)

\* Note: Dimensions reflect measurements taken at the widest points on the radio unit. They do not reflect every width and depth point on the radio. Typical Performance Specifications (all specifications are per EIA 316B unless otherwise noted). Specs listed are based on channel spacing of 30 kHz for VHF; 25 kHz for UHF/800 MHz; 12.5 kHz for 900 MHz. Noise cancellation better than 10 dB (or one-half the amount of background noise).

<b>Band Split:</b>			<b>136 MHz Band 136-178 MHz</b>	<b>403 MHz Band 403-470 MHz</b>	<b>450 MHz Band 450-520 MHz</b>	<b>800 MHz Band 806-870 MHz</b>	<b>900 MHz Band** 896-941 MHz</b>
	<b>Display</b>	<b>Keypad</b>	<b>Model Numbers:</b>	<b>Model Numbers:</b>	<b>Model Numbers:</b>	<b>Model Numbers:</b>	<b>Model Numbers:</b>
<b>MTS 2000 I</b>	6-Character (Top)	No Keypad	H01KDD9PW1_N	H01RDD9PW1_N	H01SDD9PW1_N	H01UCD6PW1_N	H01WCD4PW1_N
<b>MTS 2000 II</b>	14-Character (Front)	3x2 Button	H01KDF9PW1_N	H01RDF9PW1_N	H01SDF9PW1_N	H01UCF6PW1_N	H01WCF4PW1_N
<b>MTS 2000 III</b>	14-Character (Front)	3x5 Button	H01KDH9PW1_N	H01RDH9PW1_N	H01SDH9PW1_N	H01UCH6PW1_N	H01WCH4PW1_N
<b>FCC ID:</b>	<b>Standard: NPS PAC (± 1.5PPM):</b>		AZ489FT3768 N/A	AZ489FT4781 N/A	AZ489FT4780 N/A	AZ489FT5747 N/A	AZ489FT5748 N/A
<b>Emission Designators:</b>	<b>25 kHz:</b>		16K0F3E  20K0F2D 20K0F1E	16K0F3E  16K0F1D 15K0F2D 20K0F1E	16K0F3E  20K0F2D 20K0F1E	16K0F3E 16K0F1E 20K0F1E 15K0F2D 16K0F1D 14K0F3E 14K0F1D	N/A
	<b>12.5 kHz:</b>		11K0F3E 11K0F2D	11K0F3E 11K0F2D	11K0F3E	N/A	11K0F3E 11K0F2D 10K0F1D
<b>Battery Life (5/5/90 Duty Cycle):</b>			@ 5W @ 1W	@ 4W @ 1W	@ 4W @ 1W	@ 3W	@ 2W
<b>Hours of Operation, Ultra-High Capacity Battery:</b>			8.0 11.0	8.0 11.0	8.0 11.0	8.0	8.0

## TRANSMITTER

	<b>136-178 MHz</b>	<b>403-470 MHz</b>	<b>450-520 MHz</b>	<b>806-825 MHz 851-870 MHz</b>	<b>896-902 MHz 935-941 MHz</b>
<b>Frequency Range:</b>	136-178 MHz	403-470 MHz	450-520 MHz	806-825 MHz 851-870 MHz	896-902 MHz 935-941 MHz
<b>Channel Spacing:</b>	12.5/20/25/30 kHz	12.5/20/25 kHz	12.5/20/25 kHz	25 kHz	12.5 kHz
<b>RF Power (@ 7.5V):</b>	1 to 5 Watts (174-178 MHz - 4 Watts)	1 to 4 Watts	1 to 4 Watts (512-520 MHz - 3 Watts)	3 Watts	2.5 Watts (Max 2.9 Watts)
<b>Frequency Stability: (-30°C to +60°C; +25° Ref.)</b>	±0.00020%	±0.00020%	±0.00020%	±0.00010% (NPS PAC)	±0.00010%
<b>Emission: (Conducted &amp; Radiated)</b>	<b>.001-1.0 GHz 1.0-4.0 GHz</b>	-66 dBW -60 dBW	-66 dBW -60 dBW	-66 dBW -60 dBW	-48 dBW -48 dBW
<b>FM Hum &amp; Noise: (Companion Receiver)</b>	<b>20/25/30 kHz 12.5 kHz</b>	-45 dB -40 dB	-45 dB -40 dB	-45 dB -40 dB	-45 dB (HearClear)
<b>Modulation Limiting:</b>	±2.5/4/5 kHz	±2.5/4/5 kHz	±2.5/4/5 kHz	5.0 kHz	±2.5 kHz ±4.0 kHz (NPS PAC)
<b>Distortion:</b>	3%	3%	3%	3%	3%
<b>Audio Response: (6 dB/Octave Pre-emphasis from 300 to 3000 Hz)</b>	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB

	<b>136-174 MHz</b>	<b>403-470 MHz</b>	<b>450-512 MHz</b>	<b>851-870 MHz</b>	<b>935-941 MHz</b>
<b>Frequency Range:</b>	136-174 MHz	403-470 MHz	450-512 MHz	851-870 MHz	935-941 MHz
<b>Channel Spacing:</b>	N/A	N/A	N/A	866-869 MHz	N/A
<b>Frequency Separation:</b>	12.5/20/25/30 kHz	12.5/20/25 kHz	12.5/20/25 kHz	25 kHz	12.5 kHz
<b>Sensitivity (12 dB SINAD / -20 dB Quieting):</b>	N/A	N/A	N/A	12.5 kHz	N/A
<b>Intermodulation:</b>	42 MHz	67 MHz	70 MHz	19 MHz	6 MHz
<b>Adjacent Channel Selectivity:</b>	28 µV / .40 µV	28 µV / .40 µV	28 µV / .40 µV	28 µV / .41 µV	28 µV / .41 µV
<b>Image Rejection:</b>	<b>20/25/30 kHz 12.5 kHz</b>	-75 dB -65 dB	-73 dB -63 dB	-73 dB -63 dB	-72 dB
<b>Spurious Response Rejection:</b>	<b>20/25/30 kHz 12.5 kHz</b>	-75 dB -65 dB	-73 dB -63 dB	-73 dB -63 dB	-72 dB
<b>Frequency Stability: (-30°C to +60°C; +25°C Ref.)</b>	-74 dB	-73 dB	-73 dB	-78 dB	-69 dB
<b>Rated Audio:</b>	-75 dB	-73 dB	-73 dB	-78 dB	-69 dB
<b>Audio Distortion (At Rated Audio):</b>	±0.00025%	±0.00020%	±0.00020%	+0.00025% (821-824 MHz - ±0.00015%)	+0.00015%
	500 mW	500 mW	500 mW	500 mW	500 mW
	3%	3%	3%	3%	3.5%

The MTS 2000 Series portables were designed for ruggedness:	<b>U.S. Military Spec 810C</b>	<b>U.S. Military Spec 810D</b>	<b>U.S. Military Spec 810E</b>	<b>EIA Spec</b>
Standard	<b>Method (Procedure)</b>	<b>Method (Procedure)</b>	<b>Method (Procedure)</b>	<b>Method</b>
<b>Low Pressure</b>	500.1 (I)	500.2 (II)	500.3 (II)	N/A
<b>High Temperature</b>	501.1 (I, II)	501.2 (I Cat. A1, II)	501.3 (I Cat. A1, II)	RS5316B 204 C/D, 152C
<b>Low Temperature</b>	502.1 (I)	502.2 (I Cat. C1, II)	502.3 (I Cat. C1, II)	RS5316B 204 C/D, 152C
<b>Temperature Shock</b>	503.1 (I)	503.2 (I Cat. A1, C1)	502.3 (I Cat. A1, C1)	N/A
<b>Solar Radiation</b>	505.1 (I)	505.2 (I)	505.3 (I)	N/A
<b>Rain</b>	506.1 (I, II)	506.2 (I, II)	506.3 (I, II)	N/A
<b>Humidity</b>	507.1 (II)	507.2 (II, III)	507.3 (II, III)	RS5316B 204 C/D, 152C
<b>Salt Fog</b>	509.1 (I)	509.2 (I)	509.3 (I)	N/A
<b>Dust</b>	510.1 (I)	510.2 (I)	510.3 (I)	N/A
<b>Vibration</b>	514.2 (VI, VIII, X)	514.3 (I Cat. 8)	514.4 (I Cat. 8)	RS5316B 204 C/D, 152C
<b>Shock</b>	516.2 (I, II, V)	516.3 (I, IV, VI)	516.4 (I, IV, VI)	RS5316B 204 C/D, 162C

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