MCS 2000™ MOBILE
MODEL I

MCS 2000
▶ *VHF/UHF*
 800/900 MHz

FLASHport ™

The MCS 2000™ Model I is Motorola's state-of-the art mobile radio solution, ergonomically designed to meet your communication demands.

The MCS 2000 mobile uses Motorola's FLASHport® technology. FLASHport gives you the ability to choose a radio that meets your needs today, then upgrade for increased flexibility and control as your needs change. You can easily add the latest features to your existing system or upgrade to new operating system packages as they become available. This helps prevent obsolescence by extending the useful life of your investment.

Model I

FEATURES/ADVANTAGES

MODEL I

▶ **APCO 16 Compliant Trunking**
  Offers standard SMARTNET features for advanced functionality.

▶ **Companion Product to the MTS 2000™ Portable**
  Permits easy transfer of operational knowledge as users alternate between mobiles and portables.

▶ **Standard 48 Modes**
  With up to 150 mode options to meet your system needs.

▶ **Data Capability**
  Expands your communications capabilities.

▶ **8 Character Alphanumeric Display with Indicators**
  For easy to read information that is illuminated for clearer visibility.

▶ **5 Programmable Buttons**
  Allows you to program your radio to meet your business needs.

▶ **Removable Control Head Buttons**
  Allows you the flexibility to locate your radio control head buttons based on your preferences.

▶ **Dual Mode Operation**
  Provides you with the flexibility of Conventional and Trunked features.

▶ **Telephone Interconnect Preprogrammed List**
  Allows you to program up to 10 telephone numbers in your mobile.

▶ **Private Call and Call Alert**
  Can be programmed for up to 10 radio IDs.

▶ **Status/Message List**
  Allows for 4 Status/8 Message programming to permit you to quickly send information to the dispatcher.

▶ **Remote or Dash Mounting**
  Permits optimal use of limited vehicle space.

▶ **NPSPAC Frequency Operation**
  Allows you to operate on 821-824 MHz frequencies.

▶ **Four Programmable One-Touch Buttons (Optional)**
  Allows you to select the trunking features you need with the touch of a button.

▶ **SECURENET Digital Encryption Capability**
  Allows confidential communications when added to your radio. (Not available in 900 MHz models)

Ⓜ **MOTOROLA**

TRANSMITTER

	800 MHz	900 MHz	VHF (1-25W)	UHFI (10-25W)	UHFII (10-20W)
Channel Spacing:	25 kHz	12.5 kHz	12.5/30 kHz	12.5/25 kHz	12.5/25 kHz
Frequency Stability (PPM) of assigned center frequency –30º to +60º degrees C ambient:	851-866 MHz: ±2.5 806-821 MHz: ±2.5 866-869 MHz: ±1.5 821-824 MHz: ±1.5	935-941 MHz: ±1.5 896-902 MHz: ±1.5	136-174 MHz: ±2.0	403-450 MHz: ±2.0	450-512 MHz: ±2.0
Modulation Limiting:	851-866 MHz: 5.0 kHz 806-821 MHz: 5.0 kHz 866-869 MHz: 4.0 kHz 821-824 MHz: 4.0 kHz	935-941 MHz: 2.5 kHz 896-902 MHz: 2.5 kHz	5/2.5 kHz	5/2.5 KHz	5/2.5 KHz
Data Mode System Deviation (kHz) SECURENET 12 KB:	800 MHz: 4.0 kHz 821-824 MHz: 2.4 kHz	N/A	4.0 kHz	4.0 kHz	4.0 kHz
Audio Distortion:	3%	3%	3%	3%	3%
Audio Response:	+1 to –3 dB	+1 to –3 dB	+1 to –3 dB	+1 to –3 dB	+1 to –3 dB
Conducted Spurious Emissions:	–70 dBc	–65 dBc	–80 dBc	–80 dBc	–80 dBc
Radiated Spurious Emissions:	–13 dBm	–13 dBm	–13 dBm	–13 dBm	–13 dBm
Output Impedance:	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Modulation:	**800 15W** 16K0F3E*, 16K0F1D*, 16K0F2D*, 15K0F2D*, 14K0F3E, 20K0F1E, 14K0F1D, 14K0F2D **800 15W** 16K0F3E*, 16K0F1D, 20K0F1E, 14K0F1D, 14K0F2D, 14K0F3E, 11K6F2D, 13K8F1D	**900 12W** 11K0F1D, 11K0F2D, 11K0F3E **900 30W** 10K0F1D, 11K0F2D, 11K0F3E	16K0F3E 11K0F3E 20K0F1E 16K0F2D 16K0F1D	16K0F3E 11K0F3E 20K0F1E 16K0F2D 16K0F1D	16K0F3 11K0F3E 20K0F1E 16K0F2D 16K0F1D
Audio Sensitivity for 60% max. dev. @ 1000 Hz:	0.080V ±3 dB	0.080V ±3 dB	0.080V ±3 dB	0.080V ±3 dB	0.080V ±3 dB
FM Hum and Noise:	–40 dB	–40 dB	12.5 kHz: –39 dB 30 kHz: –45 dB	12.5 kHz: –39 dB 25 kHz: –45 dB	12.5 kHz: –39 dB 25 kHz: –45 dB
Maximum Freq. Separation:	18 MHz	6 MHz	38 MHz	47 MHz	62 MHz

SECURITY

Encryption Type:	Digital
Coding Method:	Multi-register non-linear combiner
Synchronization:	Self synchronizing or counter addressing
Code Key Initialization:	Internally derived pseudo-random initializing vector
Code Key Generation:	External hand held microprocessor controlled key variable loader
Code Storage:	Volatile electronic memory
Analog to Digital Conversions:	Continuously variable Slope Delta Modulation
Voice Sample Rate:	12 kBit/Sec

RECEIVER

	800 MHz	900 MHz	VHF (1-25W)	UHFI (10-25W)	UHFII (10-20W)
Channel Spacing:	25 kHz	12.5 kHz	12.5/30	12.5/25	12.5/25
Sensitivity(µV): **12 dB Sinad:** **20 dB Quieting:**	 .30 .40	 .30 .40	 .30 .40	 .30 .40	 .30 .40
Adjacent Channel Selectivity:	−75 dB	−65 dB	12.5 kHz: −65 dB 30 kHz: −80 dB	12.5 kHz: −60 dB 25 kHz: −75 dB	12.5 kHz: −60 dB 25 kHz: −75 dB
Intermodulation:	−75 dB	−65 dB	−70 dB	−70/−80 dB	−70/−80 dB
Spurious & Image Rejection:	−75 dB	−70 dB	−80 dB	−80 dB	−80 dB
Rated Audio:	4W Internal Speaker 7.5W/13W External Speaker	4W Internal Speaker 7.5W/13W External Speaker	4W Internal Speaker 7.5W/13W External Speaker	4W Internal Speaker 7.5W/13W External Speaker	4W Internal Speaker 7.5W/13W External Speaker
Cond/Radiated Emissions:	FCC Part 90	FCC Part 90	FCC Part 90	FCC Part 90	FCC Part 90
Max. Freq. Separation:	18 MHz	6 MHz	38 MHz	47 MHz	62 MHz
Frequency Stability (PPM) of assigned center frequency −30° to +60° C ambient:	851-866 MHz: ±2.5 866-869 MHz: ±1.5	±1.5	±2.0	±2.0	±2.0
Input Impedance:	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Audio Output: **Optional:** **Optional:**	4W @ 3% distortion 7.5W @ 3% distortion 13W @ 5% distortion	4W @ 3% distortion 7.5W @ 3% distortion 13W @ 5% distortion	4W @ 3% distortion 7.5W @ 3% distortion 13W @ 5% distortion	4W @ 3% distortion 7.5W @ 3% distortion 13W @ 5% distortion	4W @ 3% distortion 7.5W @ 3% distortion 13W @ 5% distortion

SPEAKER (Optional) 7.5W/13W

Dimensions:	5˝ H x 5˝ W x 2.7˝ D
Weight:	20.4 ounces

FCC INFORMATION

25W	VHF	Type Acceptance Number:	AZ492FT3791
25W	UHF R1	Type Acceptance Number:	AZ492FT4819
20W	UHF R2	Type Acceptance Number:	AZ492FT4820
15W	800 MHz	Type Acceptance Number:	AZ492FT5765
35W	800 MHz	Type Acceptance Number:	AZ492FT5773
12W	900 MHz	Type Acceptance Number:	AZ492FT5766
30W	900 MHz	Type Acceptance Number:	AZ492FT5780

For additional environment specification information refer to the MIL-STD 810 document RO-1-193.

 * Emissions are not applicable for frequency band 821-824 and 866-869 MHz.

NOTE: The MCS 2000 Model I Specifications are Typical Performance Specifications

MCS 2000 Model I

STANDARD SPECIFICATIONS

	806-869 MHz 15W M01UGL6PW4_N	806-869 MHz 35W M01UJL6PW4_N	896-941 MHz 12W M01WGL4PW4_N	896-941 MHz 30W M01WJL4PW4_N	VHF: 136-174 MHz 1-25W M01KHL9PW4_N	UHFI: 403-450 MHz 1-25W M01RHL9PW4_N	UHFII: 450-512 MHz 10-20W M01SHL9PW4_N
Model I:							

GENERAL SPECIFICATIONS

Channel Capability:	Standard:	48
	Optional:	150
Weight:	1-25W:	3.89 lbs
	10-15W:	3.89 lbs
	30-35W:	4.04 lbs
Dimensions:	Transceiver VHF & UHF:	1.73˝ H x 6.61˝ W x 6.31˝ D
	Transceiver 10-15W 800 & 900:	1.73˝ H x 6.61˝ W x 6.31˝ D
	Transceiver 30-35W 800 & 900:	1.73˝ H x 6.61˝ W x 7.76˝ D
	Control Head-Dash Mt:	1.75˝ H x 6.61˝ W x 1.81˝ D
Metering:		All adjustments and alignments are performed electronically using an IBM Personal Computer, a Radio Interface Box (RIB) and Field Maintenance Software.
Standby @ 13.8 (open):		.55A
Transmit at Rated Power:		
	800 MHz 15W:	6.5A
	35W:	13.5A
	900 MHz 12W:	6.5A
	30W:	14.5A
	VHF 1-25W:	9.5A
	UHF I 10-25W:	9.5A
	UHF II 10-20W:	9.5A
Maximum Battery Drain Received		
@ 4W Rated Audio @ 13.8V:		1.5A
Operation:		12V DC Negative Ground

DURABILITY

The VHF & UHF 25W mobiles meet only those durability specs shaded in gray. The 800 and 900 MHz mobiles meet all the durability specs listed.

	US Military Spec 810C	US Military Spec 810D	US Military Spec 810E
Low Pressure	500.1 Proc I	500.2 Proc I	500.3 Proc II
High Temperature Storage	501.1 Proc I	501.2 Proc I Cat A1	501.3 Proc I Cat A1
High Temperature Operational	501.1 Proc II	501.2 Proc II Cat A1	501.3 Proc II Cat A1
Low Temperature Storage	502.1 Proc I	502.2 Proc I Cat C1	502.3 Proc I Cat C1
Low Temperature Operational	502.1 Proc II	502.2 Proc II Cat C1	502.3 Proc II Cat C1
Temperature Shock	503.1 Proc I	503.2 Proc I	503.3 Proc I
Solar Radiation	505.1 Proc I	505.2 Proc I	505.3 Proc I
Rain Blowing	506.1 Proc I	506.2 Proc I	506.3 Proc I
Rain Steady	506.1 Proc II	506.2 Proc II	506.3 Proc II
Humidity Cycling	507.1 Proc II	507.2 Proc II	507.3 Proc II
Salt Fog	509.1 Proc I	509.2 Proc I	509.3 Proc I
Dust Blowing Dust	510.1 Proc I	510.2 Proc I	510.3 Proc I
Dust Blowing Sand		510.2 Proc II	510.3 Proc II
Vibration Minimum Integrity	514.2 Proc I	514.3 Proc I Cat 10	514.4 Proc I Cat 10
Vibration Loose Cargo Transport	514.2 Proc XI	514.3 Proc II Cat 3	514.4 Proc I Cat 3
Shock Functional	516.2 Proc I	516.3 Proc I	516.4 Proc I
Shock Bench Handling	516.2 Proc V	516.3 Proc VI	516.4 Proc VI
Shock Crash Hazard	516.2 Proc III	516.3 Proc V	516.4 Proc V
Vibrational Sinusoidal	514.2 Proc VIII		

Specifications subject to change without notice.

CUSTOMER **MOTOROLA** Communications **SERVICE**

Support Services
Wherever Motorola sells, our product is backed by service. Our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations.

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