

MCS 2000 MOBILE

MODELS II & III

MCS 2000

▶ 800/900 MHz

 FLASHport™

The MCS 2000™ Models II and III are Motorola's enhanced, dual mode mobile radios, ergonomically designed to meet your communication demands. Software packages include: Conventional, StartSite™, SMARTNET™ and SmartZone™.

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 II



MODEL III

FEATURES/ADVANTAGES

MODELS II / III:

- ▶ **APCO 16 Trunking Features**
Meets all APCO 16 requirements for advanced functionality.
- ▶ **Data Capability**
Enhances your growing communication needs.
- ▶ **Unlimited Private Call / Call Alert and Telephone Interconnect**
(Standard on Model III /Optional with Model II using a keypad mic.) Provides greater communication flexibility.
- ▶ **Programmable Control Head Buttons**
Allows you to program your radio to meet your business needs.
- ▶ **Companion Product to the MTS 2000 Portable**
Permits easy transfer of operational knowledge across products.
- ▶ **Standard 160 Modes**
With up to 250 mode option to meet your system needs.
- ▶ **19 Number Preprogramming List in Private Call/Call Alert/Telephone Interconnect**
Provides immediate telephone access.
- ▶ **Emergency with Voice to Follow**
Allows voice transmission to be sent after emergency call is made in trunked mode.
- ▶ **800 MHz Features**
NPSPAC frequency operation (821-824 MHz) and SECURENET digital encryption.
- ▶ **4 Programmable One-Touch Buttons (Optional)**
Allows you to select the trunking features you need with the touch of a button.

MODEL III ONLY:

- ▶ **Built-In Keypad**
3 x 4 buttons allow direct dialing from the control head.
- ▶ **2 Line x 14 Character Display With Annunciators**
Easy to read, illuminated information.



MOTOROLA

MCS 2000 Models II & III

SPECIFICATIONS

HIGH SPECIFICATIONS 800 MHz / 900 MHz			
Band:		806-869 MHz	896-941 MHz
		Model Numbers	Model Numbers
Model II:	10-15W	M01UJG6PW6_N (15W)	M01WGM4PW6_N (12W)
	35W (30W T.A.)	M01UJM6PW6_N (35W)	M01WJM4PW6_N (30W)
Model III:	10-15W	M01UJGN6PW6_N (15W)	M01WGN4PW6_N (12W)
	35W (30W T.A.)	M01UJN6PW6_N (35W)	M01WJN4PW6_N (30W)

GENERAL SPECIFICATIONS			
Channel Capability:	Standard:	160	
	Optional:	250	
Weight:	10-15W	3.89 lbs	
	30-35W	4.04 lbs	
Dimensions*:	Transceiver 10-15W	1.73" H x 6.61" W x 6.31" D	
	Transceiver 30-35W	1.97" H x 6.61" W x 7.76" D	
	Control Head-Dash Mt	2.35" H x 7.33" W x 1.83" D	
	Control Head-Remote Mt	2.35" H x 7.33" W x 2.78" 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):	.45A		
Transmit at Rated Power:	800 MHz 15W	6.5A	
	35W	13.5A	
	900 MHz 12W	6.5A	
	30W	14.5A	
Maximum Battery Drain Received:			
	@ 7.5W Rated Audio @ 13.8V:	1.7A	
	@ 13W Rated Audio @ 13.8V:	2.5A	
Operation:	12 VDC Negative Ground		

TRANSMITTER			
	Except Data Mode:	800 MHz	900 MHz
Frequency Stability (ppm) of assigned center frequency -30 to +60 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
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
Data Mode System Deviation (KHz)			
—MDC-4800		2.5	2
—MMP-4800		4	2.5
—SECURENET 12 KB	800 MHz: 4 / 821-824 MHz: 2.4		N/A
Audio Distortion:		2%	2%
Audio Response:		+1 to -3dB	+1 to -3dB
Spurious and Harmonics:		-70 dBc	-70 dBc
Radiated Spurs		-13 dBm	-13 dBm
Output Impedance		50 Ohms	50 Ohms
Modulation (12-15W):	16K0F3E*, 16K0F1D*, 16K0F2D*, 15K0F2D* 14K0F3E, 20K0F1E, 14K0F1D, 14K0F2D		11K0F1D, 11K0F2D, 11K0F3E
(30-35W):	16K0F3E*, 16K0F2D*, 20K0F1E*, 14K0F1D, 14K0F2D, 14K0F3E, 11K6F2D, 13K8F1D		
Audio Sensitivity for 60% max. dev. @ 1000 Hz:		0.080V ±3 dB	0.080V ±3 dB
FM Hum and Noise:		-40dB	-40dB
Maximum Freq. Separation:		63 MHz	45 MHz

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

DURABILITY			
	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 Curve W	514.2 Proc VIII		

For additional environment specifications information refer to the MIL-STD 810 document R0-1-193.
NOTE: The MCS 2000 Model II and III are Typical Performance Specifications.

RECEIVER		
PER EIA/TIA-603 Procedures Except Data Mode:	800 MHz	900 MHz
Channel Spacing	25 KHz	12.5 KHz
Sensitivity (µV) 12 dB SINAD 20 dB Quieting	.30 .40	.30 .40
Data Sensitivity @ 1% BER (dBm)		
—MDC-4800	-115	-115
—MMP-4800	-115	
Adjacent Channel Selectivity	-80 dB	-70 dB
Intermodulation	-80 dB	-65 dB
Spurious & Image Rejection	-90 dB	-90 dB*
Rated Audio	7.5W / 13W External Spkr	7.5W / 13W External Spkr
Cond/Radiated Emissions	FCC Part 90	FCC Part 90
Audio Response	+1 to -3 dB	+1 to -3 dB
Max. Frequency Separation	18 MHz	6 MHz
Frequency Stability (ppm) of assigned center frequency -30 to +60 degrees C ambient	851-866 MHz: ±2.5 866-869 MHz: ±1.5	±1.5
Input Impedance	50 Ohms	50 Ohms
Audio Output optional:	7.5 w at 3% distortion 13 w @ 5% distortion	7.5 w at 3% distortion 13 w @ 5% distortion

* -90 dB is not applicable to all spurious frequencies.

SPEAKER 7.5W / Optional 13W	
Dimensions:	5" H x 5" W x 2.7" D
Weight:	20.4 Ounces

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
Code Key Conversion	Continuously Variable Slope Delta Modulation
Voice Sample Rate	12 kBit/Sec

FCC INFORMATION
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:
The 900 MHz 30W mobile has not been approved by the FCC. This device is not, and may not be offered for sale or lease, or sold or leased until the approval of the FCC has been obtained.

Specifications subject to change without notice.



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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