

The M7300 mobile has

- Multi-Mode functionality
- Over-the-Air Programming
- Secure Communications



The M7300 mobile is a state-of-the-art radio that trunks seamlessly to meet the critical demands of its users.

### **Multiple Operating Modes**

The M7300 mobile supports multiple operating modes, including Enhanced Digital Access Communications System (EDACS<sup>®</sup>) or ProVoice<sup>™</sup> trunked modes, P25 digital trunked mode, P25 digital conventional mode, and conventional analog mode.

### **Mutual Aid Operation**

The M7300 also provides Project 25 conventional capabilities for interoperability

with other users in the UHF band.

### **Secure Communications**

The optional Advanced Encryption Standard (AES) is available for maximum communications security.

### **Over-the-Air Programming**

Features and user profiles are software-defined and can be reprogrammed with optional over-the-air programming.

### **CH-721 and HHC-731 Control Units**

The M7300 radio uses the CH-721 Control Unit which is available in two models: System and Scan. The

display is designed to maximize readability and ease of use. The CH-721 utilizes a 3-line 12-character alphanumeric display with large buttons, volume knob, and channel knob, providing a user-friendly interface.

The HHC-731 is a rugged hand held controller providing an interface similar to the CH-721 in a compact, easy-to-use design. This compact design makes the HHC-731 ideal for special applications such as covert operations. The HHC-731 was also designed for special applications such as motorcycle, marine, and ATV mountings where space is at a premium.

### General Specifications

#### Dimensions (H x W x D):

Radio Only (30W):  
2.0 x 6.9 x 9.2 in.  
(50 x 175 x 233 mm)  
RU and CU (Includes Knobs):  
2.4 x 6.9 x 12.3 in.  
(60 x 175 x 311 mm)

#### Weight:

Front Mount:  
5.9 lb (2.68 kg)  
Remote Mount:  
Transceiver only: 5.25 lb (2.38 kg)  
CH-721 CU: 1.25 lb (0.57 kg)

#### System Voltage:

10.8 to 16.6\* VDC Negative Ground  
\*Not to exceed 14.3V above +50°C for motorcycle applications.

#### DC Supply Current:

Receive (Includes CH-721 CU):  
4.0 amps maximum (with 15-Watt speaker output power)  
Transmit (at 50 Watts RF):  
15 amps maximum, 11 amps typical  
Standby:  
1.1 amps maximum

#### Ambient Temperature Range:

-22 to +140°F  
(-30 to +60°C)

#### Relative Humidity:

90% @ 122°F (50°C)

#### Altitude:

15,000 ft (4572 m)

#### Duty Cycle:

TIA/EIA-603

#### Programming:

Field PC Programmable

#### Microphone:

Weatherproof microphone with hookswitch

#### Mounting:

Front or Remote Mount available

#### Construction:

Control Unit: High Impact Plastic  
Transceiver: Cast Metal

#### Speaker:

External, 15W

#### Operation:

12 VDC Negative Ground

#### Maximum Capacity\*\*:

EDACS Systems/Groups: 800  
Conventional Channels: 255  
\*\*Channel/group capacity is actually higher than 255 but is restricted due to 255 unique aliases and 255 unique frequencies programmed in the radio. Users who can re-use the same frequencies in different systems can actually go above 255 channels/groups.

#### Signaling:

EDACS Digital Control  
P25 Trunking  
P25 Conventional  
Conventional  
Type 99  
Channel Guard (CTCSS)  
Digital Channel Guard  
G-STAR™ Emergency/ID Encode  
Two-Tone Individual Call Decode

### Options and Accessories

Remote mount kit, system and scan control units, Hand Held Controller, mobile mic, DTMF mic, noise canceling mic, desk mic, desktop control station, and motorcycle kit.

### Transmitter

	UHF
Frequency Range (MHz):	378-430, 440-512
Rated Power Output (W):	10-50
RF Output Impedance (ohm):	50
Frequency Stability (ppm):	±1.5
Modulation/Deviation (kHz):	±5
FM Hum and Noise (dB):	-50
Audio Response:	+1/-3.0 dB from 6 dB/octave pre-emphasis; 300-2500 Hz
Audio Distortion (typical):	2% @ 1000 Hz
Conducted Spurious and Harmonics (dB):	-60
Adjacent Channel Power (dBc):	
C4FM:	-67
Wideband (25 kHz):	-60

### Receiver

	UHF
Frequency Range (MHz):	378-430, 440-512
RF Input Impedance (ohm):	50
Channel Spacing (kHz):	12.5, 25
Frequency Stability (ppm):	±1.5
Sensitivity (EIA 12 dB SINAD) (dBm):	-119
Static BER Sensitivity @ 5% reference (dBm):	
@ 12.5 kHz:	-116 (P25)
Selectivity (dB):	
@ 12.5 kHz:	-70
@ 25 kHz:	-80
Intermodulation (dB):	
@ 25 kHz:	-80
Spurious Rejection (except 2 <sup>nd</sup> image) (dB):	-90
Audio Response:	+1/-3 dB of 6 dB/octave de-emphasis, 300-3000 Hz
Note: Numbers are per TIA-EIA-603 Methods.	

### Environmental Specifications

Standard	Parameter	Methods & Procedures	
MIL-STD-810F	Low Pressure	500.4, Proc. I, II	
	High Temperature	501.4, Proc. I, II	
	Low Temperature	502.4, Proc. I, II	
	Temperature Shock	503.4, Proc. I	
	Solar Radiation	505.4, Proc. II	
	Blowing Rain	506.4, Proc. I	
	Humidity	507.4	
	Salt Fog	509.4, Proc. I	
	Blowing Dust	510.4, Proc. I	
	Minimum Integrity Vibration	514.5, Proc. I, Category 24	
	Functional/Basic Shock	516.5, Proc. I	
	Transit Drop	516.5, Proc. IV	
	TIA/EIA-603	Vibration Stability	Par. 2.3.4 & 4.3.4
		Shock Stability	Par. 2.3.5 & 3.3.5
U.S. Forest Service	Vibration Stability	Par. 7.15	

### Digital Operation

Protocol:	ProVoice	Project 25	TIA/EIA-603
Vocoding Method:	AMBE+2™ Enhanced Full Rate	AMBE+2 Enhanced Full Rate & Enhanced Half Rate	Not Applicable
Signaling Rate:	9.6 kbps	9.6 kbps	Analog
Modulation:	GFSK	WCQPSK & C4FM	FM
Data Communication Mode:	Half Duplex	Half Duplex	Half Duplex

### Encryption

Encryption Technique:	Non-Linear Product/Block Transformation
Algorithm Types:	Data Encryption Standard (DES)/Advanced Encryption Standard (AES) (P25)

### Regulatory Data

Frequency Range (MHz)	RF Output (W)	Frequency Stability (ppm)	FCC Type Acceptance Number	Applicable FCC Rules	Industry Canada Certification Number	Applicable Industry Canada Rules
406-430	50	1.5	OWDTR-0061-E	90	3636B-0061	RSS-119

