

The M7300 mobile has

- Multi-Mode functionality
- Secure Communications
- Optional GPS Capability



The M7300 mobile is a state-of-the-art radio designed 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 VHF frequency band.

### **GPS Capability**

The optional Global Positioning System (GPS) receiver module can provide standard GPS formatted data

over the air on OpenSky systems for vehicle tracking systems.

### **Secure Communications**

Encryption affords confidential and secure communications. DES and AES encryption options are available for increased communications security.

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

M7300 radios benefit from a flexible, software-based digital radio design. Features and user profiles are software-defined and can be reprogrammed over the air. The optional over-the-air programming feature allows communications protocols to be changed easily and added at any time.

### **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)  
CU (Remote):  
2.4 x 7.0 x 4.0 in.  
(60 x 175 x 100 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 (4,572 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

#### 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

	VHF
Frequency Range (MHz):	136-174
Rated Power Output (W):	8-50
RF Output Impedance (ohm):	50
Frequency Stability (ppm):	±2.0
Modulation/Deviation (kHz):	±5
FM Hum and Noise (Wideband/Narrowband) (dB):	52/46
Audio Response:	+1/-3.0 dB from 6 dB/octave pre-emphasis; 300-2500 Hz
Audio Distortion (typical):	<2.5% @ 1 kHz, <5.0% @ 2.5 kHz
Spurious and Harmonics Emissions (dBm):	<-20
Adjacent Channel Power (dBc):	
C4FM (6 kHz bw):	>67
Wideband:	>70

### Receiver

	VHF
Frequency Range (MHz):	136-174
RF Input Impedance (ohm):	50
Channel Spacing (kHz):	12.5, 25
Frequency Stability (ppm):	±2.0
Reference Sensitivity (12 dB SINAD) (µV/dBm):	0.3/-117.5 (no pre-amp), 0.2/-121.0 (with pre-amp)
P25 Reference Sensitivity (dBm):	<-116
Adjacent Channel Selectivity (dB):	
@ Narrowband (15 kHz):	>70 (no pre-amp), >65 (with pre-amp)
@ Wideband (30 kHz):	>86.5 (no pre-amp), >81.5 (with pre-amp)
Intermodulation Rejection (dB):	>80 (no pre-amp), >75 (with pre-amp)
Spurious Rejection (dB):	>90
Audio Response:	+1/-3 dB of 6 dB/octave de-emphasis, 300-3000 Hz
Audio Output (W):	15W at speaker in front-mount applications 12W at speaker in remote-mount applications
Adjacent Channel Interference Power Ratio (dB):	
C4FM:	>60

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

	ProVoice	Project 25
Vocoding Method:	AMBE+2™ Enhanced Full Rate	AMBE+2 Enhanced Full Rate & Enhanced Half Rate
Signaling Rate (kbps):	9.6	9.6
Modulation:	GFSK	WCQPSK & C4FM

### Encryption

Encryption Technique:	Non-Linear Product/Block Transformation
Algorithm Types:	Data Encryption Standard (DES) OFB Advanced Encryption Standard (AES) (P25 Trunking, P25 Conventional, and ProVoice Trunking)

### 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
136-174	50	2.0	OWDTR-0055-E	80*, 90	3636B-0055	RSS-119
136-174	110	2.0	OWDTR-0056-E	90	3636B-0056	RSS-119

\*FCC Part 80 approval is for 156-162 MHz only.

