



TM8110/TM8115

SPECIFICATIONS



TM8110/TM8115 CONVENTIONAL MOBILE RADIOS

The TM8110 and TM8115 are robust, software-flexible radios which are ideal for a wide range of voice and data applications. The TM8110 comes with 10 conventional channels and one-digit display. The TM8115 comes with 100 conventional channels and two-digit display.

Intuitive interface

- Easy-to-read display for fast channel selection
- Four programmable function keys
- Heavy duty microphone and built-in loudspeaker

Flexible communications

- Data capable - supports 1200/2400 baud FFSK as standard
- Internal high speed data modem (12 kbps on NB channels/19.2 kbps on WB channels) (software option)
- Type 99 (2-tone) decode
- Four RF power levels
- Full Selcall functionality
- DTMF encoder
- Low standby power consumption
- MDC 1200 encode (software option)

Advanced system integration capabilities

- Multiple auxiliary ports
- Expansive internal options area
- Direct connect GPS

Engineered to be tough

The TM8110 and TM8115 exceeds stringent reliability specifications, including MIL-STD 810 C, D, E, F and IP54.

Software feature upgrades

The Software Feature Enabler (SFE) allows system operators to upgrade with additional functionality at any stage by simply purchasing the appropriate software license key.

Improved data integrity

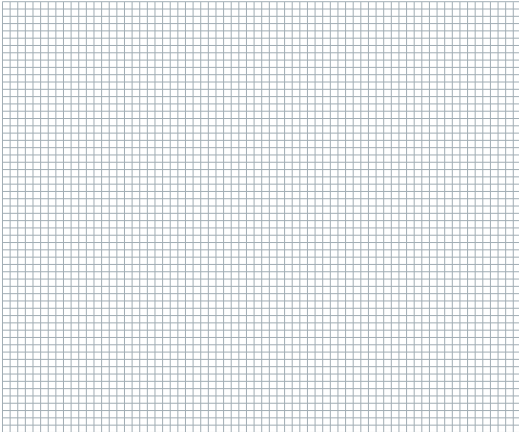
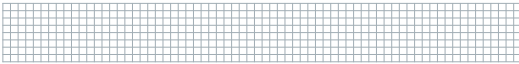
The application of Digital Signal Processor (DSP) technology optimizes RF performance and ensures fast and reliable data processing.

Ease of integration

The system integrator has maximum design flexibility with multiple ports for auxiliary connectors and a large options board area. The comprehensive third party developer's kit provides integrators with hardware and software tools to facilitate customization.

AVL support

The TM8110/TM8115 support a standard polling vehicle location format and a direct connect port for an external GPS receiver, allowing for the development of a complete AVL solution.



Regulatory Data

	Frequency	FCC Description	IC Description
25W	136-174	CASTMAB1A	737A-TMAB1A
	216-266	CASTMAD1A	
	400-470	CASTMAH5A	737A-TMAH5A
	450-530	CASTMAH6A	737A-TMAH6A
35W	806-869	CASTMAK5B	737A-TMAK5B
40W	400-470	CASTMAH5B	
	450-520	CASTMAH7B	
50W	136-174	CASTMAB1B	



ISO 9001
ISO 14001

* Also meets equivalent superseded MIL-STD 810 C, D & E.

** Meets class A except where indicated.

*** Meets class A except 1/2 IF at bottom 4MHz of 700MHz sub-band (69dB) and top 4MHz of 800MHz sub-band (66dB).

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AUTHORIZED DEALER

TM8110 & TM8115 Specifications

General

	Band	Operational Frequency	Transmit Power
VHF	A4	66-88MHz	25W
	B1	136-174MHz	25W
	B1	136-174MHz	50W
	D1	216-266MHz	25W
UHF	H5	400-470MHz	25W
	H5	400-470MHz	40W
	H6	450-530MHz	25W
	H7	450-520MHz	40W
700/800MHz	K5	762-776MHz	30W (<806MHz)
		792-825MHz	35W (>806MHz)
		850-870MHz	
900MHz	L3	896-941MHz	30W
Frequency Stability	±1.5ppm		
Channel/Network Capacity	TM8110: 10 Channels (simplex or semi-duplex) TM8115: 100 Channels (simplex or semi-duplex)		
Power Supply	10.8-16VDC		
Channel Spacing	12.5/20/25kHz		
Channel Increment	7.5/12.5/15/20/25/30kHz		
Dimensions (DxWxH)	25W 30/35/40/50W		
Weight	25W 30/35/40/50W		
Operational Temperature	-22°F to +140°F (-30°C to +60°C)		
Sealing	IP54		
RF Connector	50 ohm BNC or Mini UHF		
Interface Connectors	3 Interface Connectors with Serial Ports		
Internal Speaker Output	>3W		

Military Standards 810 F*

Applicable MIL-STD	Method	Procedure
Low Pressure	500.4	2
High Temperature	501.4	1, 2
Low Temperature	502.4	1, 2
Temperature Shock	503.4	1
Solar Radiation	505.4	1
Rain	506.4	3
Humidity	507.4	1
Salt Fog	509.4	1
Dust	510.4	1
Vibration	514.5	1
Shock	516.5	1, 6

Transmitter

	VHF/UHF (TIA/EIA)	700/800MHz (TIA/EIA)
Output Power	25W, 12W, 5W, 1W	30W, 15W, 5W, 2W 35W, 15W, 5W, 2W
Modulation Limiting	12.5kHz ±4kHz 20kHz 25kHz	±2.5kHz ±4kHz ±5kHz
FM Hum and Noise	12.5kHz 20kHz 25kHz	-38dB -41dB -43dB
Conducted/Radiated Emissions	-36dBm < 1GHz -30dBm > 1GHz	< -30dBm to 8GHz
Audio Response Bandwidth	300Hz-3kHz	300Hz-3kHz
Audio Response	Flat or pre-emphasized	Flat or pre-emphasized
Audio Distortion	< 3% at 1kHz 60% deviation	< 3% at 1kHz 60% deviation
Transmit Rise Time	10ms	10ms
Duty Cycle	25W 30/35W 40/50W	33% 20%

Receiver**

	VHF/UHF (TIA/EIA)	700/800MHz (TIA/EIA)
Sensitivity	0.28µV (<-118dBm) for 12dB SINAD	0.22µV (-120dBm) for 12dB SINAD 0.35µV (<-116dBm) for 20dB SINAD
Intermodulation	75dB	82dB
Selectivity	12.5kHz 20kHz 25kHz	65dB 70dB 75dB
Spurious Responses	75dB	>90dB***
Hum and Noise	12.5kHz 20kHz 25kHz	-40dB -41dB -43dB
Audio Response Bandwidth	300Hz - 3kHz	300Hz - 3kHz
Audio Response	Flat or de-emphasized	Flat or de-emphasized
Audio Distortion	< 3% at 1kHz 60% deviation	< 3% at 1kHz 60% deviation