TM8250

SPECIFICATIONS

TM8250 CONVENTIONAL MOBILE RADIO

The robust, high performance TM8250 mobile radio is the ideal choice for fast-moving mobile teams who rely on instant voice and data communications.

Intuitive interface

- Large LCD display – 14 characters and four lines of alphanumeric text
- User-friendly menu structure for easy navigation
- Four programmable function keys
- Optional keypad microphone for enhanced dialing capability

Flexible communications

- 1500 conventional channels with built-in CTCSS and DCS
- Data capable – supports 1200/2400 baud FFSK data as standard
- Internal high speed data modem (12 kbps on NB channels/19.2 kbps on WB channels) (software option)
- 300 scanning/voting groups and 26 channel zones
- Full Selcall functionality
- Displays and supports short data messages via CCDI (Computer Controlled Data Interface)
- Voice inversion scrambling
- MDC 1200 encode (software option)
- Type 99 (2-tone) decode
- Lone Worker function to improve worker safety

Advanced system integration capabilities

- Multiple auxiliary ports and expansive internal options area
- Direct connect GPS and GPS display option

Control head options

The remote head option allows the user to mount the TM8250 control head away from the radio body, allowing greater vehicle installation flexibility. The TM8250 also supports a dual control head configuration, allowing the radio to be shared with other users.

Engineered to be tough

The TM8250 exceeds stringent reliability specifications, including MIL-STD 810 C, D, E, F and IP54.
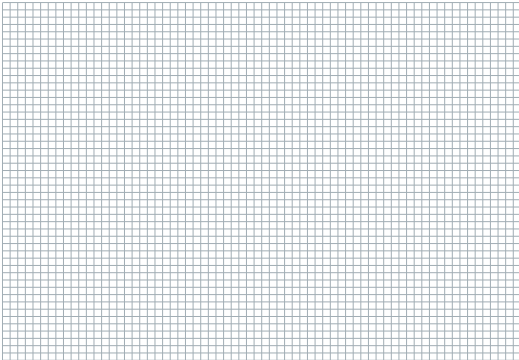
Software feature upgrades

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.

Regulatory Data

	Frequency	FCC Description	IC Description
25W	136-174	CASTMAB1C	737A-TMAB1C
	216-266	CASTMAD1C	
	400-470	CASTMAH5C	737A-TMAH5C
	450-530	CASTMAH6C	737A-TMAH6C
35W	806-869	CASTMAK5D	737A-TMAK5D
40W	400-470	CASTMAH5D	
	450-520	CASTMAH7D	
50W	136-174	CASTMAB1D	

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).

All values quoted are typical. Tait is your complete supplier of radio communications equipment offering mobile, portable and infrastructure solutions. Tait is renowned for its flexibility, responsiveness and commitment to producing innovative world-class mobile radio communications products.

Specifications are subject to change without notice and shall not form part of any contract. They are issued for guidance purposes only.

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TM8250 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	G2	350–400MHz		40W
	H5	400–470MHz		25W
	H5	400–470MHz		40W
	H6	450–530MHz		25W
	H7	450–520MHz		40W

	Band	Transmit	Receive	Transmit Power
700/800MHz	K5	762–776MHz	762–776MHz	30W (<806MHz)
		792–825MHz		35W (>806MHz)
		850–870MHz	850–870MHz	
900MHz	L3	896–941MHz	935–941MHz	30W

Frequency Stability	±1.5ppm
Channel/Network Capacity	1500 Conventional Channels
	300 Scan/Vote Groups
Power Supply	10.8–16VDC
Channel Spacing	12.5/20/25kHz
Channel Increment	7.5/12.5/15/20/25/30kHz
Dimensions (DxWxH)	
25W	7.3 x 7.2 x 2.8in (185 x 182 x 70mm)
30/35/40/50W	8.1 x 7.2 x 2.8in (205 x 182 x 70mm)
Weight	
25W	49.4oz (1.4kg)
30/35/40/50W	56.4oz (1.6kg)
Operational Temperature	-22ºF to +140ºF (-30ºC to +60ºC)
Sealing	IP54
RF Connecter	50 ohm BNC or Mini UHF
Interface Connecters	3 Interface Connecters 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	1, 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	25W, 12W, 5W, 1W	
30W		30W, 15W, 5W, 2W
35W		35W, 15W, 5W, 2W
40W UHF	40W, 20W, 15W, 10W	
50W VHF	50W, 25W, 15W, 10W	
Modulation Limiting		
12.5kHz	±2.5kHz	±2.5kHz
20kHz	±4kHz	±4kHz
25kHz	±5kHz	±5kHz
FM Hum and Noise		
12.5kHz	-38dB	-33dB
20kHz	-41dB	-38dB
25kHz	-43dB	-40dB
Conducted/Radiated Emissions	-36dBm to 1GHz	< -30dBm to 8GHz
	-30dBm above 1GHz	
Audio Response Bandwidth	300Hz–3kHz	300Hz–3kHz
Audio Response	Flat or pre-emphazised	Flat or pre-emphazised
Audio Distortion	< 3% at 1kHz 60% deviation	< 3% at 1kHz 60% deviation
Transmit Rise Time	20ms	20ms
Duty Cycle		
25W	33%	
30/35W		20%
40/50W	20%	

Receiver**

	VHF/UHF (TIA/EIA)	700/800MHz (TIA/EIA)
Sensitivity	0.28 µV (<-118dBm) for 12dB SINAD	0.22µV (-120dBm) for 12dB SINAD
		0.35µV (<-116dBm) for 20dB SINAD
Intermodulation	75dB	82dB
Selectivity		
12.5kHz	65dB	67dB
20kHz	70dB	75dB
25kHz	75dB	79dB
Spurious Responses	75dB	> 90dB***
Hum and Noise		
12.5kHz	-40dB	-44dB
20kHz	-41dB	-47dB
25kHz	-43dB	-48dB
Audio Response Bandwidth	300Hz–3kHz	300Hz–3kHz
Audio Response	Flat or de-emphazised	Flat or de-emphazised
Audio Distortion	< 3% at 1kHz 60% deviation	< 3% at 1kHz 60% deviation