



## TM8255 DUAL MODE MOBILE RADIO

The TM8255 is a dual mode MPT 1327 trunked radio with full conventional feature set: ideal for a wide range of voice and data applications where comprehensive trunked services are required.

### Intuitive interface

- Large LCD display - 14 characters x 4 lines of alphanumeric text
- User-friendly menu structure for easy navigation
- Four programmable function keys
- Optional keypad microphone for enhanced dialing capability

### Flexible communications

- 1,500 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 kbps on WB channels) - software option
- All MPT 1327 call types
- Multiple network capability - up to four different trunked networks
- Voice inversion scrambling
- Built-in MAP 27 interface as standard
- Supports short data messages and ANI
- Incoming calls can be queued for future reference and call back

### Advanced system integration capabilities

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

# TM8255

## SPECIFICATIONS

### Fast switch between modes

Because the automated switch between trunked and conventional modes takes place in 1.5 seconds, precious time is saved in possible emergency situations.

### Control head options

The remote head option allows the user to mount the TM8255 control head away from the radio body, allowing greater vehicle installation flexibility. The TM8255 also supports a dual control head configuration, allowing the radio to be shared with other users.

### Engineered to be tough

The TM8255 exceeds stringent reliability specifications, including MIL-STD 810 C, D, E, F and IP54.

### Software feature upgrades

The Software Feature Enabler (SFE) allows users 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.

### AVL support

The TM8255 supports 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.



# TM8255 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	
	700/800MHz	K5	762-776MHz	30W (<806MHz)
			792-825MHz	35W (>806MHz)
850-870MHz			35W (>806MHz)	
900MHz <sup>+</sup>	L3	896-941MHz	935-941MHz	30W
Frequency Stability	±1.5ppm			
Channel/Network Capacity	1500 Conventional Channels 300 Scan/Vote Groups 4 MPT 1327 Trunked Networks			
Power Supply	10.8-16VDC			
Channel Spacing	12.5/20/25kHz			
Channel Increment	7.5/12.5/15/20/25/30kHz			
Dimensions (DxWxH)	7.3 x 7.2 x 2.8in (185 x 182 x 70mm) 8.1 x 7.2 x 2.8in (205 x 182 x 70mm)			
Weight	49.4oz (1.4kg) 56.4oz (1.6kg)			
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			

## Military Standards 810 F<sup>+</sup>

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, 12W, 5W, 1W	30W, 15W, 5W, 2W 35W, 15W, 5W, 2W
Modulation Limiting	±2.5kHz ±4kHz ±5kHz	±2.5kHz ±4kHz ±5kHz
FM Hum and Noise	-38dB -41dB -43dB	-33dB -38dB -40dB
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	20ms	20ms
Duty Cycle	25W 30/35W 40/50W	33% 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	65dB 70dB 75dB	67dB 75dB 79dB
Spurious Responses	75dB	> 90dB***
Hum and Noise	-40dB -41dB -43dB	-44dB -47dB -48dB
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

## 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	



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1-800-890-8248 CAN

\* 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).

+ Pending approval. Please contact Tait for further information.

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.

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