

# Interoperable, flexible, configurable.

With FIPS validated encryption, certified interoperability, digital audio clarity and superb build quality, the TM9155 is a tough, dependable and sophisticated mobile radio.



## KEY FEATURES

- ▶ Tested in a Department of Homeland Security-recognized P25 Compliance Assessment Program (P25 CAP) laboratory for interoperability and performance
- ▶ Radios can be used on analog, P25 conventional, trunked and simulcast networks
- ▶ FIPS 140-2 certified encryption
- ▶ Tested beyond MIL-STD-810 C, D, E and F
- ▶ A range of analog signaling features - MDC1200 encode/decode\* and Two Tone decode with the purchase of software licenses\*\*
- ▶ Comprehensive scanning features including P25 talk group, priority, dual priority and editable scanning
- ▶ High temperature display option optimizes screen visibility in hot environments.

\*MDC1200 decode includes calling identity display and inhibit/uninhibit functionality.

\*\*Software license option(s) available separately.



Standard control head



Hand-held control head (HHCH)



Dual head configuration



Remote head configuration

## FEATURES AND BENEFITS

### Secure communications

AES encryption certified by the US National Institute of Standards and Technology (NIST) or proven DES encryption can be incorporated into the TM9155 for highly secure communications.

These radios can be encrypted fast in-field with a Tait Key Fill Device (KFD) or via Over-the-air Rekeying (OTAR) with the Tait Key Management Facility (KMF).

### Interoperability assured

The TM9155 is tested on other vendors' networks as part of the P25 Compliance Assessment Program (P25 CAP). This offers Public Safety and Government agencies a multivendor environment.

### Analog mode for phased transition

Protect your current analog investment and migrate to P25 digital at your own pace. Analog mode allows communication between various partner agencies.

### Software licenses to suit your needs

Software licenses, such as Trunking, P25 CAI, encryption, location transmission/display\*, Application Programming Interfaces (APIs) and OTAR are just some of the options available that enable you to extend your solution according to your requirements.

### Flexible choices

Optional dual head configuration means the TM9155 can dynamically respond to vehicle and user needs.

### Standard control head

Tait mobiles have high and low temperature LCD options with adjustable screen contrast for optimized visibility in any environment. Our standard LCD is designed for temperatures -22°F to +140°F (-30°C to +60°C), and our high temperature LCD operates at +5°F to +185°F (-15°C to +85°C).

All TM9100s have a built-in integrated covert microphone. A mobile GPS display option integrates the location function into the radio, so there is no need for a separate "on dash" unit. Customizable options include the head and lens surrounds (color and logo) and the keymat has four custom keys available (some restrictions on colors, fonts and number of characters used).

### Hand-held control head (HHCH)

The TM9100 HHCH option is for vehicles with limited space and is perfect for covert operations in unmarked vehicles because it can be stowed out of sight in a glove compartment or under a seat.

This ideal surveillance solution has a powerful 10W external speaker, enabling remote cable kits, visor mounted microphones and gearshift PTT buttons.

**Weight:** 6.2oz (175g). **Dimensions (HxWxD):** 5.3 x 2.6 x 1.4in (135 x 66 x 35mm). **Cable Length:** 10.6in (270mm) coiled length with 15.8in (400mm) straight tail. 9.2ft (2.8m) when stretched. 5/10/20ft (1.5/3.1/6.2m) straight extensions for curly cable. **Display:** 2 lines of text/14 characters or optional large display font: 1 line/12 characters. Full TM9100 display functionality. **Function Buttons:** 6 programmable function buttons (includes emergency button). **Keypad:** 12 key alphanumeric.

### Remote head configuration

The remote-head configuration is designed for vehicles with limited space, allowing the radio body to be installed in the trunk of the car. The standard control head of the TM9100 series can be located up to 6m or 12m away with a single cable and up to 1,094 yards (1km) away with additional hardware.

### Dual head configuration: low-temp, heated LCD (std PkG)

The dual-head option has two standard heads connected to the TM9155 mobile radio, allowing for two parties to communicate in separate areas of a building or vehicle, such as an ambulance. The maximum distance between head(s) and body (cable length) is 40ft (12m). The maximum distance between heads (cable length) is 60ft (18m).

**GENERAL**

Frequency ranges	Frequency band*	Transmit Power †	Transmit current (typical)
VHF	136-174MHz	25W	<5.5A
	136-174MHz *	50W	<10.5A
	136-174MHz	110W	<30A
	350-400MHz*	40W	<8.5A
	380-420MHz*	40W	<8.5A <6.5A <8.5A <6.5A
UHF	400-470MHz	25W	<8.5A
	400-470MHz 450-530MHz	40W 25W	
	450-520MHz	40W	
700/800MHz	<b>Transmit</b> 762-776MHz	<b>Receive</b> 762-776MHz	
	792-825MHz	30W (<806MHz)	<10A
	850-870MHz 850-870MHz	35W (>806MHz)	<10A
Frequency stability	±1.5ppm (-22°F to 140°F/-30°C to 60°C)		
Channel/zones	1,000 channels/30 zones		
Talk groups	26 talk group lists comprised of up to 50 members each		
Scan groups	300 with up to 50 members each, maximum of 2,000 members total		
Power supply	10.8-16VDC		
Channel spacing	12.5/15/20/25/30kHz		
Frequency increment/channel steps	2.5/5/6.25		
Dimensions (DxWxH) control head	1.38 x 7.24 x 2.8in (35 x 184 x 71mm)		
Dimensions (DxWxH) radio body	<b>25W</b> 6.9x6.3x2.1in (175x160x52mm)	<b>30/35/40/50W</b> 7.7x6.3x2.1in (195x160x52mm)	<b>30/35/40/50W</b> 7.7x6.3x2.1in (195x160x52mm)
Weight control head	11.6oz (330g)		
Weight radio body	<b>25W</b> 42.3oz (1,200g)	<b>30/35/40/50W</b> 49.4oz (1,400g)	<b>110W</b> 296oz (8,400g)
Operating temperature	-22°F to 140°F (-30°C to 60°C)		
Sealing	IP54 dust and rain		
RF connector	50 ohm BNC or Mini UHF		
Interface connectors	3 Interface connectors with serial ports		
Analog signalling options	MDC1200 encode/decode, Two Tone decode, PL (CTCSS), DPL (DCS)		
Remoted length - Standard control head	<20ft or 40ft (6m or 12m) with a single cable <1,094 yards (<1km) with additional hardware		
Remoted length - Hand-held control head	<98ft (30m) - using multiple straight extension cables (Talk to Tait for distances beyond 30m)		
Install options - Standard control head	U-bracket, security cradle, slide-in bracket, Vehicle installation kit, 10W external speaker, BNC or mini-UHF connector		
Install options - Hand-held control head	10W external speaker		

**TRANSMITTER**

	VHF/UHF (TIA/EIA 102 AND 603A)	700/800MHz (TIA/EIA 102 and 603a) †
Output power		
25W	25W, 12W, 5W, 1W	
30W		30W, 15W, 5W, 2W
35W		35W, 15W, 5W, 2W
40W	40W, 20W, 15W, 10W	
50W	50W, 25W, 15W, 10W	
110W	110W	
Modulation limiting		
25/30kHz channel	±5kHz	±5kHz
12.5kHz channel	±2.5kHz	±2.5kHz
FM hum and noise (typical)		
25/30kHz channel	-43dB	-40dB
12.5kHz channel	-38dB	-33dB
Conducted emissions (typical)	-85dBc	-75dBc
Audio response (analog)	300-3000Hz +1/-3dB	
Audio distortion (analog)	< 3% at 1kHz 60% deviation	
Transmit attack time (TIA/EIA 102)	50mS	

† In Brazil, maximum transmit power limit available in 800MHz is 25W in accordance with regulations.

**RECEIVER (TYPICAL FIGURES SHOWN)**

	VHF/UHF	VHF 50W	VHF 110W	700/800MHz
Analog sensitivity 12dB SINAD	0.28uV (-118dBm)	0.315uV (-117dBm)	0.25uV (-119dBm)	0.28uV (-118dBm)
Digital sensitivity (TIA/EIA - 102) 5% BER	0.22uV (-120dBm)	0.233uV (-120dBm)	0.18uV (-122dBm)****	0.18uV (-122dBm)
Intermodulation rejection (TIA/EIA 102)	-75dB	-75dB	-70dB	-75dB
Adjacent channel selectivity 25/30kHz channel (TIA/EIA 603a)	-75dB	-80dB	-75dB	-75dB
12.5kHz channel (TIA/EIA 102)	-65dB	-70dB	-65dB	-65dB
Spurious response rejection	-75dB	-90dB	-70dB	-75dB
FM Hum and Noise 25/30kHz channel	-43dB	-43dB	-43dB	-43dB
12.5kHz channel	-40dB	-40dB	-40dB	-40dB
Residual audio noise ratio	45dB	45dB	45dB	45dB
Audio distortion @ rated audio (3W)	3% @ 1kHz 60% modulation			
Optional external speaker output	10W (into 4 ohm)			

**MILITARY STANDARDS 810C, D, E, F AND G**

Applicable MIL-STD Method	Method 25/30/35/50/110W	Procedure 25/30/35/50W	Procedure 110W
Low pressure	500.4	2	2
High temperature	501.4	1,2	2
Low temperature	502.4	1,2	2
Temperature shock	503.4	1	1
Solar radiation	505.4	1	-
Rain	506.4	1,3	3
Humidity	507.4	1	-
Salt fog	509.4	1	1
Dust	510.4	1	1
Vibration	514.4	1	1
Shock	516.4	1,6	6

**REGULATORY DATA**

	VHF	CFR 47 Parts 22, 74, 90, 95J, 90.210
USA	UHF	CFR 47 Parts 22, 74, 90, 95A, 90.210
	800MHz	CFR 47 Parts 22, 90
Canada		RSS-119
Europe		EN300 086, EN300 113, EN301 489, EN60950
Australia/New Zealand		AS/NZ54295
Type approval		<b>FCC</b> <b>Industrie Canada</b> <b>NTIA</b>
25W	VHF	CASTMAB1E                      737A-TMAB1E
	UHF	CASTMAH5E                      737A-TMAH5E
		CASTMAH6E                      737A-TMAH6E
30/35W	UHF	CASTMAK5F                      737A-TMAK5F
	UHF	CASTMAH5F                      n/a                      350-400MHz***
40W	UHF	CASTMAH7F                      n/a                      380-420MHz***
	VHF	CASTMAB1F                      n/a                      136-174MHz***
110W (ERFPA)	VHF	CASTMAB1Z                      n/a
Emission designators		10K0F1D, 10K0F1E, 10K0F7D, 10K0F7E, 11K0F3E, 12K7F1D, 16K0F3E, 6K60F2D, 7K70F1D, 8K10F1D, 8K10F1E, 8K10F7D, 8K10F7E, 9K60F2D

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

\*Contact your local Tait representative for more information.

For further information please check with your nearest Tait office or authorized dealer.

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Tait Limited facilities are certified for ISO9001:2008 (Quality Management System), ISO14001:2004 (Environmental Management System) and ISO18001:2007 (Occupational Health and Safety Management System) for aspects associated with the design, manufacture and distribution of radio communications and control equipment, systems and services. In addition, all our Regional Head Offices are certified to ISO9001:2008.

