

Rugged • High Speed Data • Integrator Friendly

The Tait 8000 Series of innovative and high-performing products sets a standard of excellence for analog radio communications technology. With advanced software-flexible features, 8000 Series products lead their class.

- 100-Channel\* Conventional Data Radio
- Digital Controller Design
- Expansive Internal Options Area
- Range of 3DK Developer's Kits
- Internal AVL Software Support
- Optional Internal High Speed Data Modem
- Multiple Auxiliary Ports
- Programmable I/O and Audio Tap Points
- Rugged Construction
- Robust RF Performance

\* Up to 100 channels available via CCDI

TM8105 data radio



**NEW HIGH  
POWER OPTIONS  
40W UHF & 50W VHF**

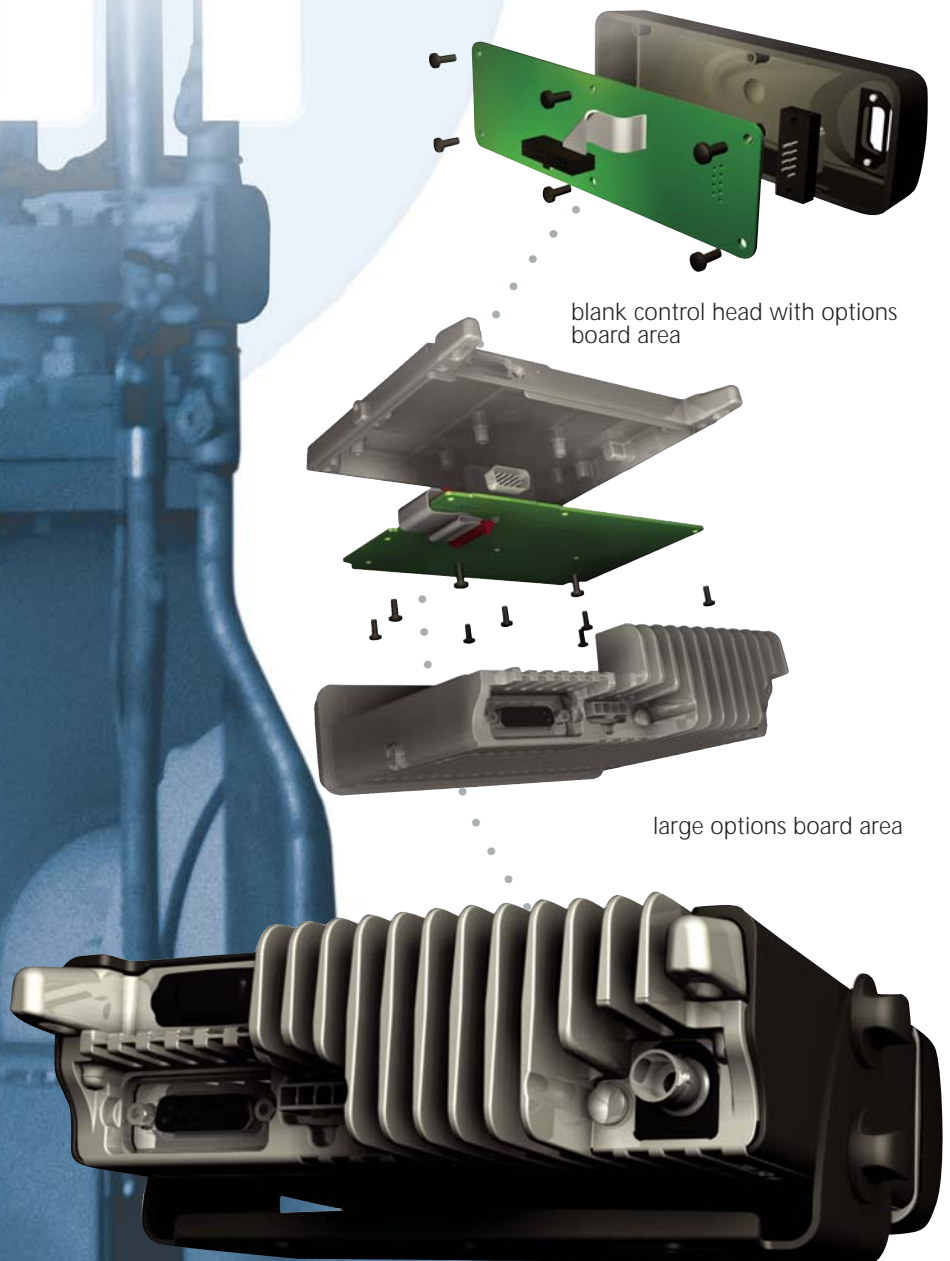


## TM8105 data radio

The TM8105 has been designed with ultimate flexibility for system integration – with an expansive internal options area this data radio is one of the most customizable mobile radios on the market.

Based on Digital Signal Processor (DSP) technology and capable of transmitting high speed data through an internal software modem, the TM8105 includes multiple connector options and a comprehensive range of developer's kits.

The TM8105 offers high-performing, innovative and proven technology at a competitive price.



# Features

## Digital Controller Design

The TM8105 features a state-of-the-art DSP, providing exceptionally fast and reliable data processing. This optimizes performance of IF filtering, FM demodulation, and transceiver and receiver audio processing.

## Expansive Internal Options Area

The TM8105 offers a large options board space protected beneath a rugged diecast chassis. Arguably one of the most customizable mobile radios on the market, the TM8105 is available with multiple connector options and complete developer's kits.

## Comprehensive 3DK Developer's Kits Available

These third-party developer's kits provide all the right tools for system integrators, and have also been created with the value-added reseller in mind.

## Internal AVL Software Support

The TM8105 supports a conventional polling vehicle location format and a direct connect port for an external GPS receiver, allowing for simple development of your AVL solution.

## Internal High Speed Data Modem – Software Option

This optional software-based modem supports over 9600 bits per second and is activated with a software key. Digital processing optimizes RF performance gains for both the built-in and external modems, improving the integrity of your data.

## Multiple Auxiliary Ports

The TM8105 comes standard with a robust 15-way "D" connector, as well as two additional connector options. The internal options port can be routed into a 15-way high density "D" connector at the back of the radio chassis. The front of the radio contains a third convenient programming/options port, which uses a 9-way "D" connector.

## Programmable I/O and Audio Tap Points

A wide range of feature-related inputs and outputs can be provided by configuring 15 programmable digital I/O signals in the programming software. Audio Tap In and Tap Out points allow the integrator to channel into various points on the DSP. Benefits include significant flexibility, time savings on repeat operations, more predictable signal levels and improved reproduction.

## Rugged Construction

Engineered with a strong diecast metal chassis and almost entirely constructed using Surface Mount Technology (SMT), the TM8105 meets stringent specifications for reliability including many MIL-STD 810 C, D, E & F specs and IP54.

## Robust RF Performance

The TM8105 has been built using innovative RF design. When the radio detects unusually high transmitter temperatures it reduces power output so it can continue to operate effectively.

## Standard Features:

- Comprehensive Selcall Functionality
- DTMF Encoder
- Emergency Mode, Stun and Revive
- Low Stand-by Power Consumption
- Three Control Signal Outputs
- 1200 Baud FFSK Data Modem
- Four RF Power Levels
- Three Mute Settings
- Handset Audio
- Remote Volume Control
- Third Party Control Head Capable
- AVL Software Support

## Optional Features:

- 600 ohm Line Option Board
- Public Address System Board
- Mobile Alarm Monitoring
- System or Channel Activity Monitoring



TM8115 mobile radio also available



# TM8105 Specifications

## General

	High Power	Standard
Frequency Range	136-174MHz	136-174MHz 216-266MHz
Frequency Stability	+/-1.5ppm	
Channel Capacity	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 (LxWxH)	High Power 7.7 x 6.3 x 2.0in (195 x 160 x 51mm)	Standard 6.9 x 6.3 x 2.0in (175 x 160 x 50mm)
Weight	47oz (1.3kg)	40oz (1.1kg)
Operational Temperature	-22°F to +140°F (-30°C to +60°C)	
Sealing	Passes dust and rain testing to IP54	
Vibration	Meets IEC 60571	
RF Connector	50 Ohm BNC/Mini UHF	
Interface Connectors	3 Interface Connectors with Serial Ports	

## 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 & 5

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

## Transmitter

Output Power	50W VHF Model: 50W, 25W, 15W, 10W 40W UHF Model: 40W, 20W, 15W, 10W 25W Model: 25W, 10W, 5W, 1W
Modulation Limiting	+/-2.5kHz 12.5kHz +/-4kHz 20kHz +/-5kHz 25kHz
FM Hum and Noise	-38dB 12.5kHz -43dB 25kHz
Conducted/Radiated Emissions	-36dBm to 1GHz -30dBm above 1GHz
Audio Response	300Hz-3kHz Flat or pre-emphasized
Audio Distortion	3% at 1kHz 60% modulation (typical)
Transmit Rise Time	10ms
Duty Cycle	20% at 40/50W – 33% at 25W

## Receiver

Sensitivity (EIA)	0.28µV for 12dB SINAD (<-118dBm)
Intermodulation	75dB
Selectivity	65dB 12.5kHz 70dB 20kHz 75dB 25kHz
Spurious Responses	72dB
Audio Distortion	3% at 1kHz 60% modulation (typical)
Hum and Noise	-40dB 12.5kHz -43dB 25kHz
Audio Response	300Hz-3kHz Flat or de-emphasized
Receive Detect Time	3ms

\*\* Up to 100 channels available via CCDI

Authorized Dealer



Tait is your complete supplier of radio communications equipment, with 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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