

## Rugged • High Speed Data • Integrator Friendly

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

- 25W, 24-Channel Conventional Data Radio
- Digital Controller Design
- Expansive Internal Options Area
- Comprehensive 3DK Hardware Developer's Kit
- 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

## TM8105 data radio

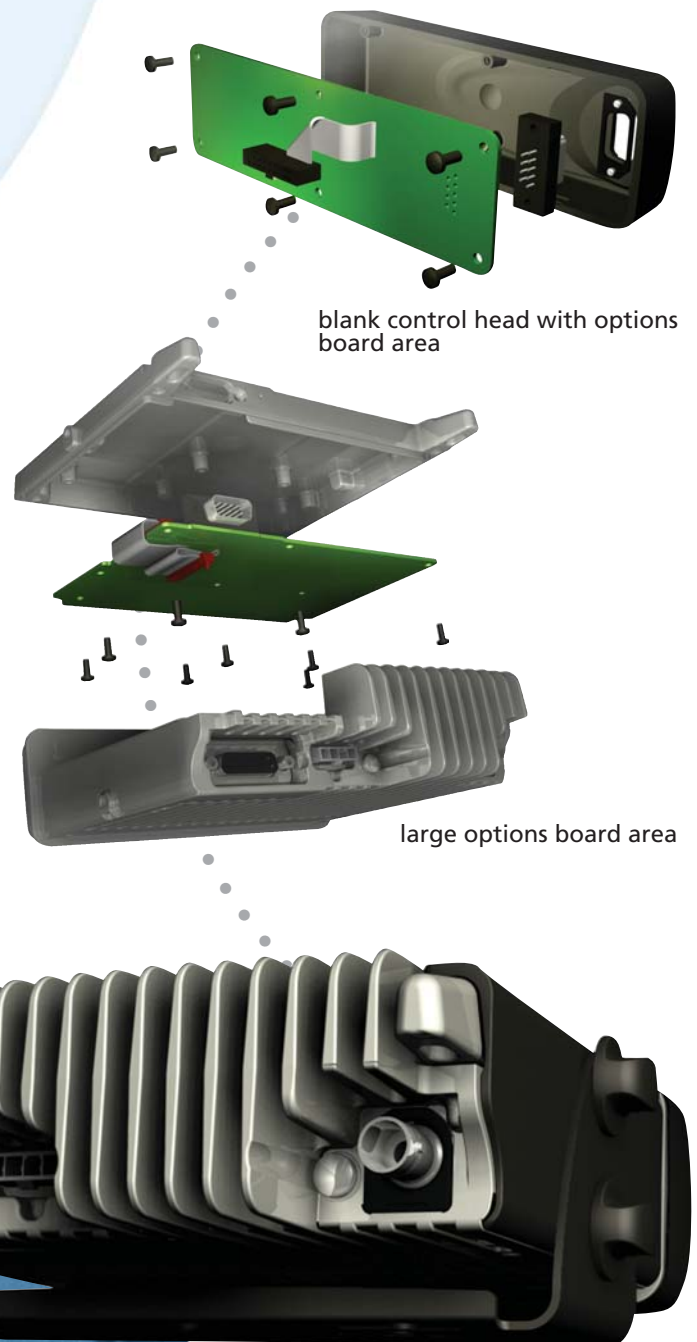


## TM8105 data radio

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 customisable 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 complete developer's kit.

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 optimises 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 customisable mobile radios on the market, the TM8105 is available with multiple connector options and a complete developer's kit.

## Comprehensive 3DK Hardware Developer's Kit Available

This third-party developer's kit provides all the right tools for system integrators, and has 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 optimises 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:

- Full 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 Specifications

<b>Frequency Range</b>	136-174MHz 400-470MHz 450-530MHz 216-266MHz
<b>Frequency Stability</b>	+/-1.5ppm
<b>Channel Capacity</b>	24 channels (simplex or semi-duplex)
<b>Power Supply</b>	10.8-16VDC
<b>Channel Spacing</b>	12.5/20/25kHz
<b>Dimensions (LxWxH)</b>	175 x 160 x 50mm 6.88 x 6.29 x 1.97 inches
<b>Weight</b>	1.12kg 39.51oz
<b>Operational Temperature</b>	-30° to +60° C (-22°F to +140°F)
<b>Sealing</b>	Passes dust and rain testing to IP54
<b>Vibration</b>	Meets IEC 60571
<b>Low Pressure</b>	MIL-STD 810 C, D, E and F
<b>High Temperature</b>	MIL-STD 810 C, D, E and F
<b>Low Temperature</b>	MIL-STD 810 C, D, E and F
<b>Temperature Shock</b>	MIL-STD 810 C, D, E and F
<b>Solar Radiation</b>	MIL-STD 810 C, D, E and F
<b>Rain</b>	MIL-STD 810 C, D, E and F
<b>Humidity</b>	MIL-STD 810 C, D, E and F
<b>Salt Fog</b>	MIL-STD 810 C, D, E and F
<b>Dust</b>	MIL-STD 810 C, D, E and F
<b>Vibration</b>	MIL-STD 810 C, D, E and F
<b>Shock</b>	MIL-STD 810 C, D, E and F
<b>RF Connector</b>	50 Ohm BNC/mini UHF
<b>Interface Connectors</b>	3 interface connectors with serial ports
<b>Programmable Digital I/O and Audio Tap Points</b>	
<b>Transmitter</b>	
<b>Output Power</b>	1, 5, 10, 25W
<b>Modulation Limiting</b>	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz
<b>FM Hum and Noise</b>	>38dB 12.5kHz >41dB 20kHz >43dB 25kHz
<b>Conducted/Radiated Emissions</b>	<-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz
<b>Audio Response</b>	300-3kHz Flat or Pre-emphasised
<b>Audio Distortion</b>	< 3% at 1kHz 60% mod
<b>Transmit Rise Time</b>	< 10mS
<b>Receiver</b>	
<b>Sensitivity</b>	< -118dBm for 12dB SINAD
<b>Intermodulation</b>	>66dB
<b>Selectivity</b>	>65dB 12.5kHz >70dB 20kHz >75dB 25kHz
<b>Spurious Responses</b>	>72dB
<b>Audio Distortion</b>	<3%
<b>Hum and Noise</b>	>40dB 12.5kHz >41dB 20kHz >43dB 25kHz
<b>Audio Response</b>	300-3kHz Flat or De-emphasised
<b>Receive Detect Time</b>	< 3mS

Authorised Dealer



Specifications are subject to change without notice and shall not form part of any contract. They are issued for guidance purposes only. For further information please check with your nearest Tait office or authorised dealer.

FCC Rule 2.803 (c)(e)(iii) applies: This device has not been authorised as required by the rules of the Federal Communications Commission. This device is not, and may not be offered for sale or lease, or sold or leased, until authorisation is obtained.

[www.taitworld.com](http://www.taitworld.com)