

Rugged • High Speed Data • Integrator Friendly

TM8105 data radio

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, 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

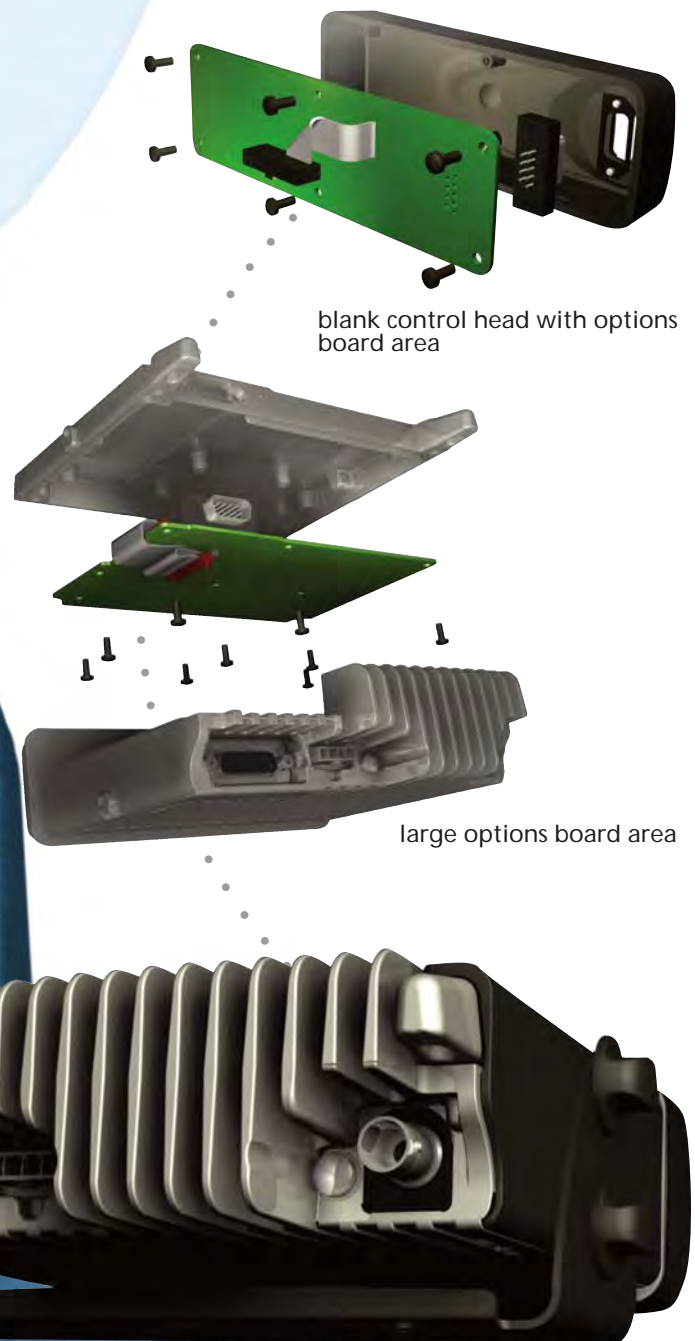


TM8105 data radio

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 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 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.

A Range of 3DK Developer's Kits Available

These third-party developer's kits provide a range of hardware and software tools for all types of system integrators. They also provide customisation opportunities for value-added resellers.

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:

- 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

Frequency Range	66-88MHz 136-174MHz 216-266MHz 400-470MHz 450-530MHz
Frequency Stability	+/-1.5ppm above 100MHz +/-2.5ppm below 100MHz
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)	175 x 160 x 50mm (6.9 x 6.3 x 2.0in)
Weight	1.2kg (40oz)
Operational Temperature	-30°C to +60°C (-22°F to +140°F)
Sealing	Passes dust and rain testing to IP54

Military Standards 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 MIL-STD C, D & E standards.

RF Connector	50 Ohm BNC/mini UHF
Interface Connectors	3 Interface Connectors with Serial Ports

Transmitter

Output Power	25W, 10W, 5W, 1W
Modulation Limiting	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz
FM Hum and Noise	>38dB 12.5kHz >41dB 20kHz >43dB 25kHz
Conducted/Radiated Emissions	<-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz
Audio Response	300Hz-3kHz Flat or pre-emphasised
Audio Distortion	< 3% at 1kHz 60% modulation
Transmit Rise Time	<10ms
Duty Cycle	33% at 25W

Receiver

Sensitivity	< -118dBm for 12dB SINAD
Intermodulation Selectivity	>67dB >65dB 12.5kHz >70dB 20kHz >75dB 25kHz
Spurious Responses	>72dB
Audio Distortion	<3% at 1kHz 60% modulation
Hum and Noise	>40dB 12.5kHz >41dB 20kHz >43dB 25kHz
Audio Response	300Hz-3kHz Flat or de-emphasised

* Up to 100 channels available via CCDI

Authorised 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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Tait Electronics Ltd is an ISO9001: 2000 and ISO 14001: 1996 certified supplier.

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