

Rugged • High Speed Data • Integrator Friendly

## TM8110 & TM8115 mobiles

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.

**TM8110: 25W, 10-Channel Conventional Radio with 1-Digit Channel Display**

**TM8115: 25W, 100-Channel Conventional Radio with 2-Digit Channel Display**

- Intuitive Interface
- Digital Controller Design
- Optional Internal High Speed Data Modem
- Rugged Construction
- Robust RF Performance
- Ultimate Flexibility for System Integration
- Internal AVL Software Support
- Windows-based Programming Application
- Programmable Digital I/O and Audio Tap Points

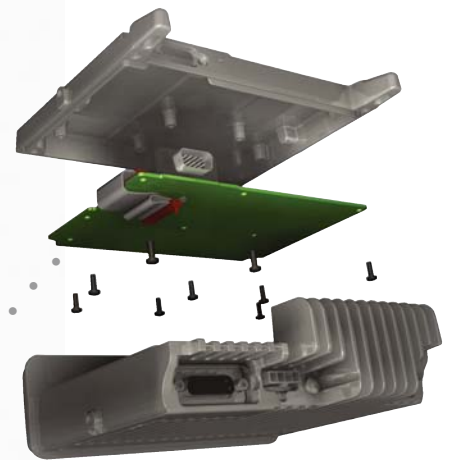


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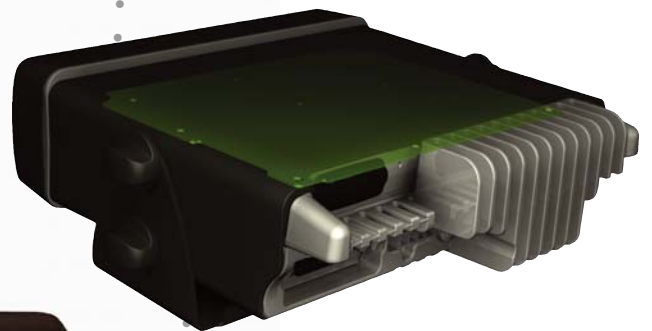
Leading their class, the new TM8110 and TM8115 are robust, software-flexible radios, ideal for a wide range of voice and data applications.

Based on Digital Signal Processor (DSP) technology and capable of transmitting high speed data through an internal software modem, these new radios offer everything you need for reliable voice and data communications — and have been designed with ultimate flexibility for system integration.

The TM8110 and TM8115 offer high performing, innovative and proven technology at a competitive price.



large options board area



multiple D-range and serial ports



TM8110, with 1-digit channel display



# Features

## Digital Controller Design

The TM8110 and TM8115 feature 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.

## Data Ready

Suited to the latest mobile data applications, the TM8110 and TM8115 support 1200 baud FFSK data out-of-the-box. System integrators can also connect external high speed modems via a robust D-range. A transmitter rise time under 10ms and very low group delay make the TM8110 and TM8115 the perfect platforms for data applications.

## Internal High Speed Data Modem — Software Option

This optional software-based modem supports over 12kbps (12.5kHz channel) and 19.2kbps (25kHz channel)\* and is activated with a software key. Digital processing optimises RF performance gains for both built-in and external modems, improving the integrity of your data.

## Rugged Construction

Engineered with a strong diecast metal chassis and almost entirely constructed using Surface Mount Technology (SMT), the TM8110 and TM8115 meet stringent specifications for reliability including the MIL-STD 810 C, D, E & F specs and IP54.

## Robust RF Performance

The TM8110 and TM8115 have 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.

## Advanced System Integration Capabilities

Featuring industry-leading integration capabilities, the TM8110 and TM8115 have been designed with customisation in mind. The built-in modems, serial control, AVL engine support and high speed data make the TM8110 and TM8115 market leaders. The integrator has maximum design flexibility with multiple ports for auxiliary connectors and a large options board area. A comprehensive range of 3DK Developer's Kits provides support documentation and boards to develop custom solutions.

## Application-Ready Software

The TM8110 and TM8115 feature many formats and hooks for application development. An AVL application can be easily integrated with the supported polling vehicle location format and direct connect GPS receiver port. Mobile alarm monitoring, asset tracking, and public address features are also simple additions with the TM8110 and TM8115 software interfaces.

## Standard Features:

- Comprehensive Selcall Functionality
- DTMF Encoder
- Built-in CTCSS/DCS
- Voice Inversion Encryption
- TM8110: 1 Scanning/Voting Group
- TM8115: 10 Scanning/Voting Groups
- Multiple Scanning and Voting Formats Supported
- Emergency Mode, Stun and Revive
- Low Stand-by Power Consumption
- Three Control Signal Outputs
- Four RF Power Levels
- Three Mute Settings
- Handset Audio
- Remote Volume Control
- AVL Software Support
- Third Party Control Head Capable

## Optional Features:

- A comprehensive range of 3DK Developer's Kits including application target board and development software examples
- Blank Control Head



TM8105 data radio also available



\* 19.2kbps not available in Europe

## TM8110 & TM8115 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	TM8110: 10 channels (simplex or semi-duplex)
	TM8115: 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	1.4kg
	(51oz)
Operational Temperature	-30°C to +60°C (-22°F to +140°F)
Sealing	Passes dust and rain testing to IP54

### 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 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	>67dB
Selectivity	>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

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