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 Display

TM8115: 25W, 24-Channel Conventional Radio with 2-Digit 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 •









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. The comprehensive 3DK Hardware Developer's Kit 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:

- Full Selcall Functionality
- DTMF Encoder
- Built-in CTCSS/DCS
- Voice Inversion Encryption
- 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:

- Comprehensive 3DK Hardware Developer's Kit with support documentation and boards to develop custom solutions
- Blank Control Head







TM8110 & TM8115 Specifications

General		
Frequency Range		136-174MHz
		400-470MHz
		450-530MHz
		216-266MHz
Frequency Stability		+/-1.5ppm
Channel Capacity	TM8110:	10 channels (simplex or semi-duplex)
. ,	TM8115:	24 channels (simplex or semi-duplex)
Power Supply		10.8-16VDC
Channel Spacing		12.5/20/25kHz
Dimensions (LxWxH)		175 x 160 x 50mm
Difficiations (EXVIXI)		6.88 x 6.29 x 1.97 inches
Weight		1.43kg
Weight		50.44oz
Operational Temperature		-30°C to +60°C (-22°F to +140°F)
Sealing		Passes dust and rain testing to IP54
Vibration		Meets IEC 60571
Low Pressure		MIL-STD 810C,D,E & F
High Temperature		MIL-STD 810C,D,E & F
Low Temperature		MIL-STD 810C,D,E & F
Temperature Shock		MIL-STD 810C,D,E & F
Solar Radiation		MIL-STD 810C,D,E & F
Rain		MIL-STD 810C,D,E & F
Humidity		MIL-STD 810C,D,E & F
Salt Fog		MIL-STD 810C,D,E & F
Dust		MIL-STD 810C,D,E & F
Vibration		MIL-STD 810C,D,E & F
Shock		MIL-STD 810C,D,E & F
RF Connector		50 Ohm BNC/mini UHF
Interface Connectors		3 Interface Connectors with Serial Ports
Programmable Digital I/O		
and Audio Tap Points		
and Audio Tap Points Transmitter		
		1,5,10,25W
Transmitter		1,5,10,25W <+/-2.5kHz 12.5kHz
Transmitter Output Power		
Transmitter Output Power		<+/-2.5kHz 12.5kHz
Transmitter Output Power		<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz
Transmitter Output Power Modulation Limiting		<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz
Transmitter Output Power Modulation Limiting		<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz
Transmitter Output Power Modulation Limiting	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz
Transmitter Output Power Modulation Limiting FM Hum and Noise	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz
Transmitter Output Power Modulation Limiting FM Hum and Noise	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz
Transmitter Output Power Modulation Limiting FM Hum and Noise	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz 300-3kHz
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission Audio Response	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz 300-3kHz Flat or with pre-emphasis
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission Audio Response Audio Distortion	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz 300-3kHz Flat or with pre-emphasis < 3% at 1kHz 60% mod
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission Audio Response Audio Distortion Transmit Rise Time Receiver	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz 300-3kHz Flat or with pre-emphasis < 3% at 1kHz 60% mod
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission Audio Response Audio Distortion Transmit Rise Time Receiver Sensitivity	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz 300-3kHz Flat or with pre-emphasis <3% at 1kHz 60% mod <10mS
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission Audio Response Audio Distortion Transmit Rise Time Receiver Sensitivity Intermodulation	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz 300-3kHz Flat or with pre-emphasis < 3% at 1kHz 60% mod <-118dBm for 12dB SINAD
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission Audio Response Audio Distortion Transmit Rise Time Receiver Sensitivity	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-4kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz 300-3kHz Flat or with pre-emphasis < 3% at 1kHz 60% mod <10mS <-118dBm for 12dB SINAD >66dB >65dB 12.5kHz
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission Audio Response Audio Distortion Transmit Rise Time Receiver Sensitivity Intermodulation	ons	<+/-2.5kHz 12.5kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz 300-3kHz Flat or with pre-emphasis < 3% at 1kHz 60% mod <-118dBm for 12dB SINAD >66dB
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission Audio Response Audio Distortion Transmit Rise Time Receiver Sensitivity Intermodulation Selectivity	ons	<+/-2.5kHz 12.5kHz <+/-2.5kHz 20kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz 300-3kHz Flat or with pre-emphasis < 3% at 1kHz 60% mod <10mS <-118dBm for 12dB SINAD >66dB >65dB 12.5kHz >70dB 20kHz
Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission Audio Response Audio Distortion Transmit Rise Time Receiver Sensitivity Intermodulation Selectivity Spurious Responses	ons	<+/-2.5kHz 12.5kHz <+/-2.5kHz 20kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz 300-3kHz Flat or with pre-emphasis < 3% at 1kHz 60% mod <10mS <-118dBm for 12dB SINAD >66dB >65dB 12.5kHz >70dB 20kHz >75dB 25kHz >72dB
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Transmitter Output Power Modulation Limiting FM Hum and Noise Conducted/Radiated Emission Audio Response Audio Distortion Transmit Rise Time Receiver Sensitivity Intermodulation Selectivity Spurious Responses	ons	<+/-2.5kHz 12.5kHz <+/-2.5kHz 20kHz <+/-4kHz 20kHz <+/-5kHz 25kHz >38dB 12.5kHz >41dB 20kHz >43dB 25kHz <-36dBm to 1GHz <-30dBm 1-4GHz below 500MHz <-30dBm 1-12.75GHz above 500MHz <300-3kHz Flat or with pre-emphasis <3% at 1kHz 60% mod <10mS <-118dBm for 12dB SINAD >66dB >65dB 12.5kHz >70dB 20kHz >75dB 25kHz >72dB <3% >40dB 12.5kHz
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