

## GENERAL

Frequency Ranges	Frequency Band
VHF	Reciter: 148-174MHz PA: 136-174MHz
Frequency stability	±0.5ppm
Channels	1,000
Dimensions DxWxH	15.8 x 19 x 7in (400 x 483 x 177mm) 4U rack space
Weight lb (kg)	Single 5/50W: 41lb (21kg) Single 100W: 47lb (22kg) Dual 5/50W: 61lb (28kg)
Frequency increment/channel step	2.5 / 3.125kHz (or multiples of)
Operating temperature	-22°F to 140°F (-30°C to 60°C)
Power supply	
DC	12V, 24V, 48V (+ve or -ve earth)
AC	88-264V (with power factor correction)
Air interface standard	DMR: ETSI TS 102 361-1
External frequency reference	10MHz/12.8MHz(auto detect)

## MILITARY STANDARDS 810C, D, E, and F

Applicable MIL-STD	
Low pressure	Altitude: 4570 meters (15000 feet): MIL-STD-810F 500.4, Proc2
High temperature	60°C (Sea level - Max temperature derated at 3°C / 1000m)
Low temperature	-30°C
Humidity	95% Relative humidity thru temp Cycle: IEC 60068-2-30
Vibration	3 Axis, Sin sweep 10-60Hz: TIA_EIA 603B, 3.3.4.3
Shock	20g, 11ms pulse width, 3 Shocks in each principal axis: TIA_EIA 603B, 3.3.5.2

## TRANSMITTER

Output Power	
5W	Programmable 1-5W
50W	Programmable 5-50W
100W	Programmable 10-100W
Tx current consumption	12VDC 24VDC 48VDC 240VAC
Tx @ 5W	2.6A(31W) 1.3A(31W) 0.61A(29W) 47VA
Tx @50W	10A(120W) 5.4A(130W) 2.6A(125W) 138VA
Tx @100W	19.2A(230W) 10.3A(247W) 4.9A(235W) 239VA
Adjacent channel power - 12.5kHz static (DMR) ETS 300-113	12.5kHz: <60dBc 20kHz: <70dBc 25kHz: <70dBc
Adjacent channel power, 12.5kHz -static (DMR) ETS 300-113	<-60dBc
Transient adjacent channel power (DMR) ETS 300-113	<-50dBc
Digital modulation fidelity	2% FSK RMS
Transmit rise time	2ms (2.5ms for 5W)
Duty cycle	100%
Spurious emissions into VSWR	< -20dBm into 5:1

## RECEIVER

Sensitivity - static (DMR) ETS300-113	-120dBm @ 5% BER
Intermodulation rejection (DMR) ETS300-113	85dB
Spurious response rejection (DMR) ETS300-113	90dB
Radiated spurious emissions EIA603	< -57dBm EIRP to 1GHz, < -47dbm EIRP above 1GHz
Conducted spurious emissions	< -90dBm to 1GHz, < -70dbm above 1GHz
Selectivity (Analog) EIA603D	85dB (Narrowband)
Selectivity (DMR) ETS300-113	60dB
Blocking	Non-blocking

# Ultra narrowband solution for mission critical networks

The Tait TB9300 is our trunked IP connected DMR digital base station, building on the leadership role that we established with our MPT-IP TB8200. The TB9300 provides 6.25kHz equivalent operation and is fully compliant with the DMR Tier 3 trunking standard. It is a truly spectrally efficient solution, and with it you can gain greater capacity or simply future proof your investment. The TB9300 not only delivers on spectral efficiency but also on deployment and operational efficiency through capabilities such as remote network management, IP connectivity and it has proven interoperability with other vendors supporting the DMR Tier 3 standard.



## KEY FEATURES

- ▶ Native trunked base station/repeater
- ▶ Future proof due to its 6.25kHz equivalent technology (2 x TDMA channels in one 12.5kHz channel)
- ▶ Adherence to the DMR Tier 3 standard with proven IOP tests
- ▶ Full IP connectivity allows efficient scaling and design of your network
- ▶ Extensive range of remote management and monitoring capabilities with a security focus
- ▶ Designed and MIL-STD tested for reliability, combined with features to mitigate network outages
- ▶ Part of the larger Tait DMR network providing managed encryption and intersystem connections
- ▶ Built from the TB8100 base station/repeater pedigree

## FEATURES AND BENEFITS

### The TB9300 is at the heart of the Tait mission critical DMR system:

- Flexible network design through IP connectivity and linking
- Individual and dynamic group calling to suit operational requirements
- Integration of a fully digital dispatch interface based on the draft AIS standard as developed by the DMR Association

### Delivers on the goals driving the DMR standards:

- Designed and tested with the DMR Tier 3 standard to provide customers with choice of vendor and equipment
- 6.25kHz TDMA capability for both voice and data
- Software upgradable to add new features and functionality
- Tested using the IOP certification program developed by the DMR Association, providing confidence of multi-vendor interoperability

### Digital communications delivering on operational needs:

- Easy migration from analog networks to DMR with extensive re-use capabilities reducing cost
- Transfer data and voice across a packet-switched infrastructure using standard IP communications
- Voice over IP (VoIP) support
- Quality of Service (QoS) assignments for voice and signaling to allow optimal network packet routing

### Resiliency to enhance safety and communication in challenging environments:

- Rugged construction with efficient heatsinks and a front-to-rear fan-forced cooling system
- Continuously rated at full output power
- Designed to exceed MIL-STD 810 F
- Continuity of operation with smart AC/DC
- Shares the same proven 4U form-factor and module packaging as the Tait TB8100
  - Re-uses the power management unit and power amplifier
- Support for up to two base station software packages giving the ability to roll-back software updates
- Failsafe to ensure ongoing communications during an outage
- Network Design services are available to ensure delivery of a robust network with the capacity and coverage that you require

### Designed to support cost effective deployment and operation:

- Compact module design minimizes rack space required
- Extensive re-use of existing analog modules when migrating from Tait MPT TB8100/TB8200
- Flexible power supply options

### Flexibility to provide options for managing risk during migration and expansion:

- Range of AC and DC power supply options – 12V, 24V, 48V DC and 85-265V AC
- Configurable as a single channel 100W or 50W unit, or a dual channel 50W unit
- Can be integrated with equipment to expand other vendor networks



## FEATURES AND BENEFITS

### Future-proofed to protect your investment:

- Modular design allows cost effective deployment, maintenance and upgrade
- Software configurable, including feature upgrades through software licenses
- Software upgrades include:
  - Tier 2 functionality
  - DMR direct mode operation
  - Simulcast and trunked simulcast operation
  - Digital input monitoring

### Efficient management with a focus on security:

- Remote network management utilizing built-in web server and SNMP support
- Alarm monitoring and management, via IP, with 12 digital inputs that can be remotely monitored
- Detailed alarm reporting allows monitoring of key base station/repeater parameters
- Inbuilt diagnostics to allow technicians to remotely confirm optimal operation
- Network diagnostic capability
- Enhanced security through password protection and access level control on web server
- Multiple user accounts
- Audit and system logs retained
- Remote fault diagnosis
- Remote software downloads
- Ability to configure up to 1,000 channels makes for efficient deployment
- The front panel includes LCD display and navigation buttons giving greater access through an on-screen menu. Note - this can be disabled to meet your organizational security policies



## TAIT DMR SOLUTION

Backed up by our proven radio network expertise, the TB9300 base station/repeater is part of our larger DMR offering. The Tait DMR solution consists of terminals, infrastructure, applications, services and integration with third party interfaces to ensure that your organization can reap all the benefits of the spectrally-efficient DMR standard in a mission critical environment.

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