TB**9300**

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Ultra-narrowband solutions for mission critical networks

The Tait TB9300 is our trunked IP connected DMR digital base station, building on our proven TB8100 and MPT network platforms. The TB9300 provides a 6.25kHz equivalent operation and is fully compliant with the DMR Tier 3 trunking standard.

The TB9300 is a spectrally efficient solution, allowing you to gain greater capacity, and future proof your investment. It also provides operational efficiencies through capabilities such as remote network management and IP connectivity.

KEY FEATURES

▸ Ultra-narrowband 6.25kHz equivalent technology (2 x TDMA channels in one 12.5kHz channel)

▸ Adherence to the DMR Tier 3 standard with proven interoperability 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

▸ Built from the proven TB8100 base station/repeater pedigree

DMR
DIGITAL MOBILE RADIO ASSOCIATION

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FEATURES AND BENEFITS

Digital communications delivering on operational needs

▶ Flexible network design through IP connectivity and linking

▶ Individual and group call to suit operational requirements

▶ Migration paths 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

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 TB8100/TB8200 equipment

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 equivalent 2-slot TDMA capability for both voice and data

▶ Tested using the IOP certification program developed by the DMR Association, providing confidence of multi-vendor interoperability

Resiliency to manage risk and enhance safety in challenging environments

▶ Rugged construction with efficient heatsinks and front-to-rear fan-forced cooling system

▶ Rated for continuous full output power

▶ Designed to exceed MIL-STD-810 F

▶ Continuity of operation with smart AC/DC management

▶ 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 releases giving the ability to roll-back software updates

▶ Network Design services are available to ensure delivery of a robust network with the capacity and coverage that you require

Future-proofed to protect your investment

▶ Modular design allows cost effective deployment, maintenance and upgrade

▶ Software configurable, including feature upgrades through software licenses

▶ Software upgradable to add new features and functionality to ensure that your DMR solution is maintained and updated with the ever-changing needs of your market and environment.

Wide range of configuration options available

▶ Configurable as a single channel 100W or 50W unit, or a dual channel 50W unit, with a range of DC and AC power supply options

Data Services

▶ Embedded data for location

▶ Short data messages for location, status and text

▶ Packet data over traffic channels for work force Management, Telemetry, SCADA and customer specific applications

Efficient management with a focus on security

▶ Remote network management utilizing built-in secure https web server and SNMP V3 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 and identify network faults

▶ Enhanced security through password protection and access level control on web server

▶ Multiple user accounts

▶ Audit and system logs retained

▶ 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

TB**9300**
SPECIFICATIONS

GENERAL

Frequency Range	**Frequency Band**
VHF	148-174MHz
UHF	400-440MHz, 440-480MHz
700/800MHz	Tx: 762-870MHz Rx: 794-824MHz
Frequency stability	±0.5ppm
Channels/zones	1,000
Dimensions (DxWxH)	15.8 x 19 x 17in (400 x 483 x 177mm) 4U rack space
Weight lb (kg)	Single 50W: 41lb (21kg)
	Single 100W: 47lb (22kg)
	Dual 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	110-240V (with power factor correction)
ESD rating	+/-4kV contact discharge and +/-8kV air discharge
External frequency reference	10mHz/12.8MHz (auto detect)
Packet Data	½ Rate, ¾ Rate, Full rate, Single Slot

TRANSMITTER

Output power				
50W	Programmable 5-50W			
100W	Programmable 10-100W			
Tx current consumption	12VDC	24VDC	48VDC	110-240VAC
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	60dB			
Transient adjacent channel power (DMR)				
ETS 300-113	50dB			
Transmit rise time	2ms			
Duty cycle	100%			

RECEIVER*

	VHF	**UHF**	**700/800MHz**
Sensitivity - static			
(DMR) ETS 300-113	-122dBm @ 5% BER	-122dBm @ 5% BER	-122dBm @ 5% BER
Intermodulation rejection	80dB @ 5% BER	80dB @ 5% BER	80dB @ 5% BER
(DMR) ETS 300-113	78dB @ 1% BER	78dB @ 1% BER	78dB @ 1% BER
Spurious response rejection			
(DMR) EIA603D	90dB	90dB	90dB
Radiated spurious emissions			
EIA603D	<-57dBm EIRP to 1GHz	< -57dBm EIRP to 1GHz	<-57dBm EIRP to 1GHz
Conducted spurious emissions			
	<-90dBm to 1GHz	< -90dBm to 1GHz	<-90dBm to 1GHz
Selectivity			
(DMR) ETS 300-113	> = 85dB @ 5% BER	> = 85dB @ 5% BER	> = 80dB @ 5% BER
Blocking	> 113dB	> 113dB	> 110dB

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MILITARY STANDARDS 810C, D, E, F AND G

Applicable MIL-STD Method	Method
Low pressure	Altitude: 4570 meters (150000 feet): MIL-STD-810F 500.4, Proc2
High temperature	86°F (60°C) (Sea level) – Max temperature derated at 5.4°F (3°C)/1000m
Low temperature	-22°F (-30°C)
Humidity	95% Relative humidity thru temp Cycle: IEC 60068-2-30
Vibration	3 Axis, Sine 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

REGULATORY DATA

	USA	Canada	Europe	Australia/New Zealand
VHF (136-174MHz)	CFR 47	RSS-119	EN300-086, EN300-113, EN301-489, EN60950	AS/NZS4295
UHF (400-440MHz. 440-480MHz)	Pending	Pending	EN300-086, EN300-113, EN301-489 (currently testing, due Mid October), EN60950	AS/NZS4295
700/800MHz	CFR 47	RSS-119	NA	NA

Tait DMR solution

Backed up by our proven radio network expertise, the TB9300 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.

Specifications are subject to change without notice and shall not form part of any contract. They are issued for guidance purposes only. All specifications shown are typical.

*Contact your local Tait representative for more information.

For further information please check with your nearest Tait office or authorized dealer.

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Tait Limited facilities are certified for ISO9001:2008 (Quality Management System), ISO14001:2004 (Environmental Management System) and ISO18001:2007 (Occupational Health and Safety Management System) for aspects associated with the design, manufacture and distribution of radio communications and control equipment, systems and services. In addition, all our Regional Head Offices are certified to ISO9001:2008

DMR
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TELARC
REGISTERED ™
Quality
ISO 9001

TELARC
REGISTERED ™
Environment
ISO 14001

HEALTH & SAFETY verification
BS 18001
Certified

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