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**it**  
POWERED



## HIGH-PERFORMING, ROBUST AND EFFICIENT NETWORKING

### KEY FEATURES

Operation in VHF, 220 MHz, UHF,  
700/800 MHz and 900 MHz  
frequency bands

Scalable network design with  
IP connectivity

Adheres to DMR Tier 2 and  
Tier 3 standards

Extensive remote management and  
monitoring options with a focus  
on security

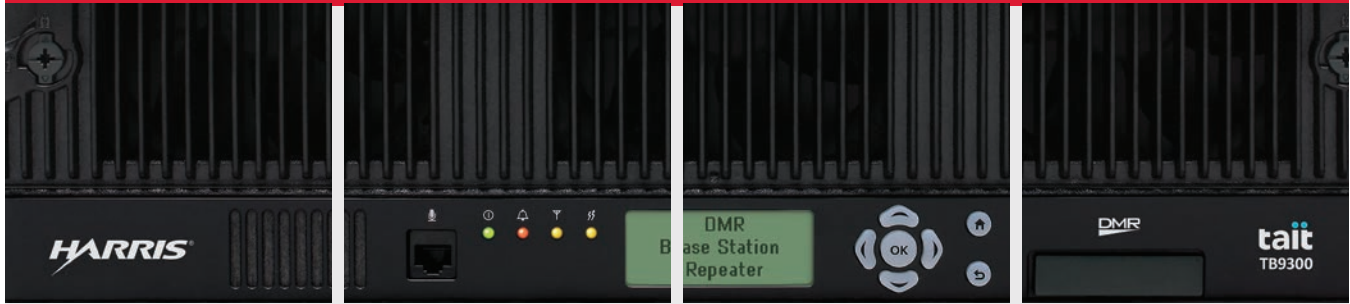
Designed and MIL-STD-810G tested  
for network reliability

# TB9300 BASE STATION DMR CAPABLE REPEATER

The Harris TB9300 Base Station supports a variety of digital and analog air interfaces and system types, with expanded functionality for flexible network design and an easy migration path from analog to Digital Mobile Radio (DMR).

The TB9300 Base Station provides a 6.25 kHz equivalent operation in digital mode and is proven compliant with DMR Tier 2 and Tier 3 standards. This spectrally-efficient solution delivers expanded capacity and rugged, MIL-STD reliable performance. The base station also enhances operational efficiencies and security with an extensive range of remote network management, monitoring and IP capabilities.

Modular by design, the base station supports cost effective deployment and maintenance. Plus, new features and capabilities can be added through software upgrades, ensuring this technology keeps pace with ever-changing market needs.



## 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 reuse capabilities reducing cost
- Transfer data and voice across a packet-switched infrastructure using standard IP communications
- DMR 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
- Extensive reuse of existing analog modules when migrating from TB8100 and TB8200 equipment
- Analog line (supporting 4 wire E&M) in analog mode for RF linking connection and local console support
- Runs in MPT-IP mode for smooth migration

### Delivers on the goals driving the DMR standards

- Designed and tested for DMR Tier 2 and Tier 3 standards to provide customers with a choice of vendors 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 heat-sinks and front-to-rear fan-forced cooling system
- Rated for continuous full output power
- Designed to exceed MIL-STD-810G
- Continuity of operation with smart AC/DC management
- Shares the same proven 4U form-factor and module packaging as the TB8100
- Reuses the power management unit and power amplifier
- Support for up to two base station software releases providing 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 and 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 as 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 for workforce management, telemetry, SCADA and customer specific applications

### Efficient management with a focus on security

- Remote network management utilizing built-in secure 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 for efficient deployment
- The front panel includes LCD display and navigation buttons providing greater access through an on-screen menu

NOTE: Can be disabled to meet your organizational security policies

SPECIFICATIONS FOR: TB9300 BASE STATION - DIGITAL MOBILE RADIO (DMR) CAPABLE REPEATER

GENERAL					
Frequency Bands	VHF	UHF	700/800 MHz	700 MHz A-Block	900 MHz
Frequency Ranges (MHz)	136-174 217-225 (100 W only)	320-380 (50 W only) 400-440 440-480 470-520	Tx: 762-870 Rx: 794-824	Tx: 757-758 Rx: 787-788	Tx: 927-941 Rx: 898-902 (100 W only)
Frequency Band (MHz):	<b>Digital</b>	<b>Analog conventional or MPT Trunking</b>			
136-174	Yes	Yes			
217-225	Yes	Yes			
400-440 / 440-480	Yes	Yes			
470-520	Yes	Yes			
762-870	Yes	No			
850-941	Yes	No			
Frequency Stability	±0.5 ppm				
Channels/Zones	1,000				
Dimensions (W x H x D)	19 x 7 x 15.8 in (483 x 177 x 400 mm) 4U rack space				
Weight - lb (kg)	<b>Single 50 W</b> 47.4 lb (21.5 kg)		<b>Single 100 W</b> 50.3 lb (22.8 kg)		<b>Dual 50 W</b> 63.1 lb (28.6 kg)
Channel Spacing	12.5kHz analog, DMR, 2 channels of TDMA 6.25kHz equivalent				
Frequency Increment (kHz)	<b>VHF</b> -2.5/3.125	<b>UHF</b> -5/6.25	<b>700/800 MHz</b> -5/6.25	<b>700 MHz A-Block</b> -5/6.25	<b>900 MHz</b> -5/6.25
Operating Temperature	-22°F to 140°F (-30°C to 60°C)				
Power Supply	DC: 12 V, 24 V, 48 V (+ve or -ve earth), AC: 88-264 V (with power factor correction)				
ESD Rating (kV)	+/-4 contact discharge and +/-8 air discharge				
External Frequency Reference (MHz)	10/12.8 (auto detect)				
Packet Data	DMR: ½ rate, ¾ rate, full rate, single slot				

TRANSMITTER*	
DMR Adjacent Channel Power (12.5 kHz static)	60 dB, ETS 300-113
DMR Transient Adjacent Channel Power	ETS 300-113 (complies with EV 300-113 v1.7.1 and EN 300-113-2 v.1.5.1)
Transmit Power Rating	100 W: Programmable 10-100 W (in 1 W steps) 50 W: Programmable 5-50 W (in 1 W steps)
Duty Cycle	100%

TX POWER CONSUMPTION*					
Power Source:	120 VAC	230 VAC	12 VDC	24 VDC	48 VDC
Tx Standby @ 50 W and 100 W	0.355 A (27 W)	0.5 A (28 W)	1.8 A (22 W)	0.91 A (22 W)	0.438 A (21 W)
Tx @ 50 W	1.6 A (187 W)	0.95 A (179 W)	14.5 A (174 W)	7.1 A (171 W)	3.5 A (168 W)
Tx @ 100 W	2.8 A (341 W)	1.6 A (336 W)	28.5 A (342 W)	13.3 A (319 W)	6.6 A (315 W)

\*UHF Tx current power consumption.

RECEIVER				
Frequency Bands	VHF	UHF	700/800 MHz	900 MHz
Sensitivity <sup>3</sup> (DMR) ETS 300-113 @ 5% BER				
Typical dBm (µV)	-122 (0.18)	-122 (0.18)	-122 (0.18)	-122 (0.18)
Guaranteed dBm (µV)	-120 (0.22)	-120 (0.22)	-120 (0.22)	-120 (0.22)
Inter-modulation Rejection (dB):				
(DMR) ETS 300-113 @ 5% BER	80	80	80	80
(DMR) ETS 300-113 @ 1% BER	78	78	78	78
Spurious Response Rejection (dB):				
(DMR) EIA603D	90	90	90	90
Radiated Spurious Emissions (dBm):				
(DMR) EIA603D (EIRP to 1 GHz)	<-57	<-57	<-57	<-57
Conducted Spurious Emissions (dBm):				
(EIRP to 1 GHz)	<-90	<-90	<-90	<-90
Selectivity (dB):				
(DMR) ETS 300-113 @ 5% BER	>=85	>=85	>=80	>=80
Blocking (dB)	>113	>113	>110	>110

MILITARY STANDARD 810G			
Applicable MIL-STD Method	Parameters	Method	Procedure
Altitude (Low Pressure)	15,000 feet (4,570 meters)	500.5	2
Humidity	95% relative humidity through temperature cycle	507.5	2
Vibration	3 axis, random vibration	514.6	1
Shock	3 axis, 40 g shock pulse	516.6	1

## REGULATORY DATA

	USA	Canada	Europe <sup>2</sup>	Australia/New Zealand <sup>2</sup>
VHF (136-174) (217-225 MHz)	CFR 47 <sup>1</sup>	RSS-119	EN300-113, EN301-489, EN60950 <sup>2</sup>	AS/NZS4768 <sup>1</sup>
UHF (330-380 MHz)	ETSI <sup>3</sup>	ETSI <sup>3</sup>	EN300-113, EN301-489, EN60950 <sup>1</sup>	ETSI <sup>3</sup>
UHF (400-440 MHz)	CFR 47 <sup>2</sup>	CFR 47 <sup>2</sup>	EN300-113, EN301-489, EN60950 <sup>1</sup>	AS/NZS4768 <sup>1</sup>
UHF (440-480 MHz)	CFR 47 <sup>2</sup>	CFR 47 <sup>2</sup>	EN300-113, EN301-489, EN60950 <sup>1</sup>	AS/NZS4768 <sup>1</sup>
UHF (470-520 MHz)	NA	NA	EN300-113, EN301-489, EN60950 <sup>1</sup>	AS/NZS4768 <sup>1</sup>
700/800 MHz	CFR 47	RSS-119	NA	NA
900 MHz	CFR 47	RSS-119	NA	NA

<sup>1</sup> Analog FM operation

<sup>2</sup> MPT operation

<sup>3</sup>330-380MHz conforms to ETSI compliance, not for commercial use in the EU states or in other regions.

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.

### About Harris Corporation

Harris Corporation is a leading technology innovator, solving customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports government and commercial customers around the world.

Learn more at [harris.com](http://harris.com)

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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.