

# Tough terminals for mission critical communications.

Tait DMR is a highly reliable, modern, digital radio solution that is designed for mission critical environments. Tait DMR offers a digital communications solution based on the DMR standard.

The TP9300 portables offer conventional and trunked DMR operation as well as full MPT 1327, and conventional FM in one device.

The portable has inbuilt GPS, *Bluetooth*® wireless technology and IP67 protection.



## KEY FEATURES

- ▶ Future proof multi-mode portables. (DMR trunked, DMR Conventional, MPT 1327 and conventional analog FM)
- ▶ Roaming between MPT and DMR Tier 3 trunked networks
- ▶ Roaming between FM Conventional and DMR Tier 2 Conventional Networks.
- ▶ Open DMR standard provides choice and interoperability
- ▶ Engineered for demanding environments with IP67 rating
- ▶ Increased voice usability with integrated *Bluetooth* wireless technology connectivity
- ▶ Encryption supported
- ▶ Integrated GPS to improve efficiency and safety
- ▶ Text messaging and status calls to enhance your communications environment
- ▶ Crystal-clear audio quality
- ▶ Available in a range of models and configurable to suit your application
- ▶ Optional colors available. Orange and Hi-Visibility Green





**FEATURES AND BENEFITS\***

**Improve workforce safety with the following TP9300 features**

- ▶ Man Down and Lone Worker as standard
- ▶ Integrated GPS will ensure that you always know where your workforce is
- ▶ Wireless audio accessories utilizing *Bluetooth* technology
- ▶ Crystal-clear voice ensuring the operator and user will understand the message
- ▶ Emergency calls have priority access to the network

**Improve your organizations efficiency**

- ▶ GPS location allows efficient allocation of resources to events
- ▶ Text messaging for enhanced and unambiguous communications
- ▶ Pre-defined status messages for fast notification and response in common situations

**Privacy feature**

- ▶ Trunked operation allows for individual and private calls within designated groups
- ▶ Optional 56bit DES encryption, or ARC4 when operating in DMR Tier 2 mode, ensures privacy of conversations

**Designed to perform in demanding environments**

- ▶ Water shedding grille assists voice clarity and high audio volume is maintained in wet environments
- ▶ IP67 water and dust protection

- ▶ 4 programmable function keys including emergency key
- ▶ Programmable orange emergency key at base of antenna for ease of location in dark or restrictive environments
- ▶ 4 and 16 keypad options
- ▶ Recessed lens provides screen protection
- ▶ Impact protected corners provide shock absorbing protection

**Voice communications delivering on operational needs**

- ▶ Quad mode terminal offering Trunked DMR, Conventional DMR, MPT 1327 and analog conventional FM in one device
- ▶ Roaming between MPT 1327 and DMR Tier 3 trunked networks
- ▶ Roaming between Conventional FM and DMR Tier 2 Conventional networks
- ▶ Individual calls provide privacy between individuals
- ▶ Group calls allow separate teams to communicate amongst themselves without having to listen to irrelevant traffic
- ▶ Increased channel capacity with support of up to 2,000 channels
- ▶ Analog capability includes Priority and Dual Priority, Editable, Zone and Background Scan
- ▶ PSTN dialling allows a user to make phone calls on DMR systems that support telephone interconnect
- ▶ Crystal-clear voice quality
- ▶ Optional continuous channel control knob
- ▶ Shared menu structure between all 9300 terminals

**Facilities to improve network security**

- ▶ In DMR trunked mode all terminals must be authenticated on the network before they are given access
- ▶ Stun and Revive are implemented to temporarily deny a specific portable access to the network

**Complete package with accessories portfolio**

- ▶ Audio accessories including speaker-microphones, headsets and earpieces
- ▶ Choice of chargers, including in-vehicle, single fast chargers, and 6 way multi-chargers
- ▶ Standard and high capacity Li-Ion batteries available
- ▶ Wide selection of carry cases and accessories

**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

**Color Options**

- ▶ Tait 9300 portables are available in black, orange and high visibility green
- ▶ These color options make it easier for workgroups to identify their equipment in the field

## GENERAL

Frequency stability	±0.5ppm (-22°F to 140°F/-30°C to 60°C)
Channels/zones	1,000 – 2,000 channels/50 – 100 zones
Talk groups	26 talk group lists comprised of up to 1,000 – 2,000 members each
Scan groups	300 with up to 50 members each, maximum of 2,000 members total
Dimensions (DxWxH)	
With Li-Ion standard battery	1.61 x 2.56 x 5.35in (41 x 65 x 136mm) excluding knobs
With Li-Ion high-capacity battery	1.77 x 2.56 x 5.35in (45 x 65 x 136mm) excluding knobs
Weight	
With Li-Ion standard battery	11.46oz (325g) – no antenna
With Li-Ion high-capacity batter	13.12oz (372g) – no antenna
Options	Black keypad, 3-way zone selector
Channel spacing	6.25/12.5/15/20/25/30kHz
Frequency increment/channel step	2.5/3.125/5/6.25kHz
Operating temperature	-22°F to 140°F (-30°C to 60°C)
Water and dust protection	IP67
ESD rating	+/-4kV contact discharge and +/-8kV air discharge
Rated audio	0.5W
Speaker rating	2W
Air interface standard	DMR: ETSI TS 102 361
Signalling options (Analog)	MDC1200, encode and decode, Two tone decode, PL (CTCSS), DPL (DCS). Selcall
Vocoder type	AMBE +2™
Packet Data	½ Rate, ¼ Rate, Full rate, Single Slot

## TRANSMITTER

	VHF	UHF	700/800MHz	900Mhz
Transmit frequency range	136-174MHz	400-470MHz 450-520MHz	762-870MHz	896 - 941MHz
Output power	5W, 3W, 2W, 1W	4W, 2.5W, 2W, 1W	3W, 2.5W, 2W, 1W	3W, 2.5W, 2W, 1W
FM hum and noise (Analog) 25kHz <sup>1</sup> 12.5kHz channel	-45dB -40dB	-45dB -40dB	-45dB -40dB	NA -40dB
Conducted/radiated emissions	-36dBm	-36dBm	-36dBm	-36dBm
Audio response	+1/-3dB	+1/-3dB	+1/-3dB	+1/-3dB
Audio distortion (Analog)	2.5%@1kHz, 60% deviation	2.5% @1kHz, 60% Deviation	2.5%@1kHz, 60% deviation	2.5%@1kHz, 60% deviation

## RECEIVER\*\*

	VHF	UHF	700/800MHz	900Mhz
Transmit frequency range	136-174MHz	400-470MHz (H5 models) 450-520MHz (H7 models)	762-776MHz and 851-870MHz	935 – 941MHz
Sensitivity (analog) 12dB SINAD	-120dBm (0.22µV)	-120dBm (0.22µV)	-120dBm (0.22µV)	-120dBm (0.22µV)
Sensitivity (PDMR) 5% BER	-119dBm (0.25µV)	-119dBm (0.25µV)	-119dBm (0.25µV)	-119dBm (0.25µV)
Intermodulation rejection				
EIA603D	75dB	75dB	75dB	75dB
ETS 300-113	70dB	70dB	70dB	70dB
FM hum and noise (Analog)	12.5kHz: -40dB 25kHz: -45db	12.5kHz: -40dB 25kHz: -45dB	12.5kHz: -40dB 25kHz: -45dB	12.5kHz: -40dB NA
Selectivity (Analog)				
EIA603D (2 Tone)	12.5kHz: 52dB 25kHz: 73dB	12.5kHz: 50dB 25kHz: 70dB	12.5kHz: 50dB 25kHz: 70dB	12.5kHz: 50dB NA
ETS 300-086	12.5kHz: 62dB 25kHz: 73dB	12.5kHz: 62dB 25kHz: 73dB	12.5kHz: 60dB 25kHz: 70dB	12.5kHz: 60dB NA
Optional external speaker output	0.5W (into 16ohm balanced speaker)	0.5W (into 16ohm balanced speaker)	0.5W (into 16ohm balanced speaker)	0.5W (into 16ohm balanced speaker)
Audio distortion (rated audio)	2%	2%	2%	2%

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

Applicable MIL-STD Method	Method	Procedure	Applicable MIL-STD Method	Method	Procedure
Low pressure	500.5	2	Humidity	507.5	2
High temperature	501.5	1,2	Salt fog	509.5	1
Low temperature	502.5	1,2	Dust	510.5	1
Temperature shock	503.5	1	Immersion	512.5	1
Solar radiation	505.5	1	Vibration	514.6	1
Rain	506.5	1,3	Shock	516.6	1,5,6

**BATTERY**

Charger options (Li-Ion) Fast desktop single charger, 6-way multi chargers, vehicle charger

Battery	Li-ion premium	Li-ion standard
DMR Mode Shift Life (5/5/90)	15 hours	11.5 hours
Analog Mode Shift Life (5/5/90)	12 hours	9 hours

**REGULATORY DATA**

	USA	Canada	Europe	Australia/New Zealand
VHF (136-174MHz)	CFR 47	RSS-119	EN300-086, EN300-113, EN300-219 EN301-489, EN60950	AS/NZS4295
UHF (400-470MHz)	CFR 47	RSS-119	EN300-086, EN300-113, EN300-219 EN301-489, EN60950	AS/NZS4295 AS/NZS4365 <sup>2</sup>
UHF (450-520Mhz)	CFR 47	RSS-119	EN300-086, EN300-113, EN300-219 EN301-489, EN60950	AS/NZS4295 AS/NZS4365
700/800MHz	CFR 47	RSS-119	NA vv	NA
900MHz	CFR 47	RSS-119	NA	NA
Emissions Designators	11K0F3E, 16K0F3E <sup>1</sup> , 6K60F2D, 7K80F2D, 9K60F2D <sup>1</sup> , 10K8F2D <sup>1</sup> , 7K60FXW, 7K60FXD,			

<sup>1</sup>Wideband operation is not available in the USA

<sup>2</sup>The UHF band radios are approved for use in Citizen Band in Australia and New Zealand when programed to meet the requirements of AS/NZS4365. Tait cannot guarantee full performance to the published specifications when the 400-470MHz radio is operating at the CB frequencies.

**TAIT DMR SOLUTION**

Backed up by our proven radio network expertise, the TP9300 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.

\* Not all features are supported in all modes of operation. Feature comparison tables are available in the full product catalog

\*\*Contact your local Tait representative for more information.

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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

