

# Tait DMR, a smart investment, made to evolve.

Achieve more with your radio network. The most flexible devices and networks, with smart voice and data applications. TP9500 portables enhance the user experience with a color screen, louder, clearer audio, and more ergonomic controls, all built Tait Tough for critical communications. WiFi connectivity can be used for easy, advanced fleet management.

## KEY FEATURES

### Exceptional Audio

- DMR AMBE+2 enhanced digital vocoder
- Digital noise suppression software
- Dual-mic active noise cancellation
- Large, powerful 3W speaker

### Connectivity Options

- Conventional Analog
- MPT Trunking
- DMR Tier 2 Conventional
- DMR Tier 3 Trunking
- WiFi OTAP capability
- Bluetooth® audio

### Enhanced Worker Safety

- Programmable Emergency Key
- Man Down and Lone Worker modes
- Integrated GNSS and iBeacon options
- Location Services and GeoFencing options

### Enhanced User Experience

- Large high resolution color screen
- Ergonomic design, user friendly controls
- Fleet management software

### Built Tait Tough

- IP65 & IP68 Dust and Waterproof
- Shock absorbing corner protection
- Drop test exceeds MIL-STD-810G
- Water shedding grille



TP9555

TP9560



TP9560

TP9560

TP9560

TP9560



### FEATURES AND BENEFITS

#### Enhanced user experience

The TP9500 is designed for ease of use in tough environments

- Large, high resolution color screen for increased clarity of messaging
- Loud, powerful 3W speaker to hear over background noise
- Dual mic active noise cancellation removes background noise in analog and digital modes
- Accessory Active Noise cancellation to enhance transmit audio clarity
- Ergonomic, user friendly design and easy to use controls
- Bluetooth® connectivity for wireless voice accessories
- Four programmable function keys and three-way selector
- Tailor your experience with wide range of accessory options
- Channel Authorization for DMR Tier 2 and Tier 3 gives users confidence their call will be heard
- Proceed to Talk Tone available in all modes, for consistent operation

#### DMR smart voice and data

Benefit from the spectral efficiency, multi-vendor interoperability, security, migration and data capability of DMR open standards

- Text messaging for enhanced and unambiguous communications
- Short data messages for location, status and text
- Packet data over traffic channels for work force management and customer specific applications

- IP data in digital trunked mode
- USBD Fast Polling – capable of 2000 polls per minute on compatible DMR Tier 3 systems

#### Extensive network capabilities

- Future proof quad mode radio 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 for private discussions
- A range of call types for individual and group communication without the distraction of irrelevant traffic
- Large channel capacity with up to 1,500 channels
- Scanning modes include: priority, dual priority, zone, and background scan – groups are editable
- PSTN dialling allows a user to make phone calls on DMR systems that support telephone interconnect
- Trunked operation allows for individual and private calls within designated groups
- Pre-set status messages

#### Personalization Options

- Custom label printing tools
- Black, red, yellow, orange, and hi-visibility green color options for easy identification in the field

#### Improve workforce safety

- Programmable emergency key is easily accessible and highly visible
- Man Down and Lone Worker
- Location Services – integrated GNSS option, and iBeacon support for indoor locations
- Tait GeoFencing option for automated location based behavior
- Blast Alarms and Audible Alerts in DMR modes

#### Tait EnableFleet industry leading configuration management system

- Total visibility of your fleet from a secure, central point of control
- Wired connection or Over-the-air-programming (OTAP) to update configuration and software files
- OTAP via DMR trunked networks
- WiFi OTAP capability, independent of LMR mode (analog or digital, conventional or trunked)

#### Secure Communications

- Radio inhibit and uninhibit to allow management of misplaced or stolen radios
- DMR trunked networks authenticate all radios before they are given access
- Supports end-to-end encryption, including DES, ARC4, or AES
- Tait EnableProtect Advanced System Key ensures only authorized personnel can access radio software and configuration

### GENERAL INFORMATION

#### Conventional Mode

|                |                                |
|----------------|--------------------------------|
| Networks       | 26                             |
| Channels/zones | 1,500 channels / 100 zones     |
| Scan groups    | 300 with up to 50 members each |

#### Trunked Mode

|                       |                                |
|-----------------------|--------------------------------|
| Networks              | 4                              |
| Talk groups           | 512 talk group lists           |
| Zones and work groups | 1,000 zones, 1,000 work groups |

Bluetooth® Supported

#### Encryption

|      |                                   |
|------|-----------------------------------|
| ARC4 | Supported (DMR Tier 2 and Tier 3) |
| DES  | Supported (DMR Tier 2 and Tier 3) |
| AES  | Supported (DMR Tier 2 and Tier 3) |

OTAP\* Supported (DMR Tier 3)

#### Dimensions (DxWxH)

|   |  |
|---|--|
| With Li-Ion Slimline battery                    | 1.61 x 2.56 x 5.71in (41 x 65 x 145mm) excluding knobs |
| With Li-Ion Performance / High Capacity battery | 1.77 x 2.56 x 5.71in (45 x 65 x 145mm) excluding knobs |

#### Weight

|                                   |                             |
|-----------------------------------|-----------------------------|
| With Li-Ion Slimline battery      | 11.75oz (333g) – no antenna |
| With Li-Ion Performance battery   | 13.02oz (369g) – no antenna |
| With Li-Ion High Capacity battery | 13.42oz (382g) – no antenna |

Supported Languages English (default), German, French, Spanish, Portuguese, Czech, Russian, Polish

Water and dust protection IP68 & IP65

Channel Spacing<sup>1</sup> 6.25/12.5/15/20/25/30kHz

Frequency increment/channel step 2.5/3.125/5/6.25kHz

Frequency stability ±0.5ppm (-22°F to 140°F/-30°C to 60°C)

Radio Operating temperature -22°F to 140°F (-30°C to 60°C)

Audio Output 3W

Signaling options (Analog) MDC1200, encode and decode, Two tone decode, PL (CTCSS), DPL (DCS). Selcall

Vocoder type AMBE +2™

Packet Data ½ Rate, ¾ Rate, Full rate, Single Slot

Tait Infrastructure and Terminals are designed as per the following DMR Specifications:  
 ETSI TR 102 398 V1.5.1 General System Design.  
 ETSI TS 102 361-1 V2.6.1 DMR Air Interface (AI) protocol.  
 ETSI TS 102 361-2 V2.5.1 DMR voice and generic services and facilities  
 ETSI TS 102 361-3 V1.3.1 DMR data protocol  
 ETSI TS 102 361-4 V1.12.1 DMR trunking protocol

| TRANSMITTER                              | VHF             | UHF                                | 700/800MHZ <sup>3</sup> |
|--|-----------------|------------------------------------|-------------------------|
| Frequency range                          | 136-174MHz (B1) | 378-470MHz (HK)<br>450-520MHz (H7) | 757-870MHz (K5)         |
| Output power (nom)                       | 5W, 3W, 2W, 1W  | 4W, 2.5W, 2W, 1W                   | 3W, 2.5W, 2W, 1W        |
| FM hum and noise (Analog)                |                 |                                    |                         |
| 12.5kHz channel                          | -40dB           | -40dB                              | -40dB                   |
| 25kHz <sup>1</sup>                       | -45dB           | -45dB                              | -45dB                   |
| Conducted/radiated emissions             | -36dBm          | -36dBm                             | -36dBm                  |
| Audio response                           | +1/-3dB         | +1/-3dB                            | +1/-3dB                 |
| Audio distortion (Analog @1kHz, 60% mod) | 2%              | 2%                                 | 2%                      |
| Modulation limiting                      |                 |                                    |                         |
| 12.5/15kHz channel                       | ±2.5kHz         | ±2.5kHz                            | ±2.5kHz                 |
| 25/30kHz channel                         | ±5kHz           | ±5kHz                              | ±5kHz                   |

| RECEIVER                       | VHF              | UHF   | 700/800MHZ <sup>3</sup>      |
|--------------------------------|------------------|---|------------------------------|
| Frequency range                | 136-174MHz (B1)  | 378-470MHz <sup>2</sup> (HK)<br>450-520MHz (H7) | 757-776MHz & 850-870MHz (K5) |
| Sensitivity (typical)          |                  |   |                              |
| Analog (12dB SINAD)            | -120dBm (0.22µV) | -120dBm (0.22µV)                                | -120dBm (0.22µV)             |
| DMR (1% BER (ETS300-113))      | -119dBm (0.25µV) | -119dBm (0.25µV)                                | -119dBm (0.25µV)             |
| DMR (5% BER)                   | -123dBm (0.16µV) | -123dBm (0.16µV)                                | -123dBm (0.16µV)             |
| Audio distortion (rated audio) | 1.5%             | 1.5%  | 1.5%                         |

\* Contact Tait for advice on WiFi OTAP capability

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

<sup>2</sup> The UHF band radios are approved for use in Citizen Band in Australia and New Zealand when programmed to meet the requirements of AS/NZS4365. Radio performance may differ to published specifications when operating on CB channels

<sup>3</sup> Supports 700 A-Block frequencies (757-758MHz Tx & Rx, 787-788MHz Tx). 700MHz operation subject to regional regulations

# TP9500

## SPECIFICATIONS



| RECEIVER (CONT.)*          | VHF   | UHF   | 700/800MHZ <sup>3</sup> |
|----------------------------|-------|-------|-------------------------|
| FM hum and noise (Analog)  |       |       |                         |
| 12.5kHz channel            | -45dB | -40dB | -40dB                   |
| 25kHz channel              | -48dB | -45dB | -45dB                   |
| Intermodulation rejection  |       |       |                         |
| Analog EIA603E             | 75dB  | 75dB  | 75dB                    |
| DMR ETS 300-113            | 70dB  | 70dB  | 70dB                    |
| Adjacent channel rejection |       |       |                         |
| 12.5kHz (DMR)              | 60dB  | 60dB  | 60dB                    |
| 25kHz TIA-603 (2-tone)     | 73dB  | 70dB  | 65dB                    |

\*Rated audio (for performance testing) 0.5W

| MILITARY STANDARDS 810 G |        |           |                    |        |            |
|--------------------------|--------|-----------|--------------------|--------|------------|
| Applicable MIL-STD       | Method | Procedure | Applicable MIL-STD | 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       | Sand & Dust        | 510.5  | 1, 2       |
| 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, 4, 5, 6 |

| BATTERY <sup>4</sup>            |          |
|---------------------------------|----------|
| DMR Mode Shift Life (5/5/90)    |          |
| Li-Ion High Capacity            | 27 hours |
| Li-Ion Performance              | 20 hours |
| Li-Ion Slimline                 | 16 hours |
| Analog Mode Shift Life (5/5/90) |          |
| Li-Ion High Capacity            | 21 hours |
| Li-Ion Performance              | 15 hours |
| Li-Ion Slimline                 | 12 hours |

| REGULATORY DATA  | USA (FCC) | CANADA (ISED) | EUROPE (CE) | AUSTRALIA/NEW ZEALAND (AS/NZ) |
|------------------|-----------|---------------|-------------|-------------------------------|
| VHF (136-174MHz) | ✓         | ✓             | ✓           | ✓                             |
| UHF (378-470MHz) | ✓         | ✓             | ✓           | ✓ <sup>2</sup>                |
| UHF (450-520MHz) | ✓         | ✓             | ✓           | ✓ <sup>2</sup>                |
| 700/800MHz       | ✓         | ✓             | -           | -                             |

Contact your local Tait representative for more information.

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

<sup>2</sup> The UHF band radios are approved for use in Citizen Band in Australia and New Zealand when programmed to meet the requirements of AS/NZS4365. Radio performance may differ to published specifications when operating on CB channels

<sup>3</sup> Supports 700 A-Block frequencies (757-758MHz Tx & Rx, 787-788MHz Tx)

<sup>4</sup> Battery performance is dependent on frequency, temperature, and operational configuration

### TAIT DMR SOLUTION

Backed up by our proven radio network expertise, the TP9500 is part of our larger DMR offering. The Tait DMR solution consists of radios, 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.

Tait has taken every care in compiling this specification sheet, but we're always innovating and therefore changes to our models, designs, technical specification, visuals and other information included in this specification sheet could occur. For the most up-to-date information and for a copy of our terms and conditions please visit our website [www.taitcommunications.com](http://www.taitcommunications.com).

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Tait International Limited offices and facilities are certified for ISO 9001:2015 (Quality Management System), ISO 14001:2015 (Environmental Management System) and ISO 45001:2018 (Occupational Health and Safety Management System) for aspects associated with the design, manufacture and distribution of radio communications and control equipment, systems and services. Tait Managed Services are certified for ISO 27001:2013 (Information Security Management System).

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