

# Tait DMR Tier 3 Express and Access Solutions

## Networks for reliable digital voice and data communications

### DMR Express

- ▶ Scalable solution from 1-6 sites
- ▶ Easily managed single node network
- ▶ Up to 24 RF channels

### DMR Access

- ▶ Single site trunking
- ▶ Up to 4 RF channels



**Tait DMR Tier 3 delivers exceptional performance and reliability, centralized network management, improved worker safety and business efficiency, information integrity and operational security, as well as flexibility and scalability to meet your future needs.**



#### **EXCEPTIONAL PERFORMANCE AND RELIABILITY**

Tait DMR networks and radios deliver excellent performance in demanding environments. Tait DMR base stations and terminals exceed military standard 810G specifications, ensuring that they will withstand the knocks and wear of real environments.



#### **CENTRALIZED NETWORK MANAGEMENT**

Tait network management system gives you full, centralized control of your DMR network as well as dashboard monitoring for system performance and network loading.



#### **IMPROVED WORKER SAFETY AND BUSINESS EFFICIENCY**

DMR provides crystal clear voice, ensuring that messages are heard the first time. With a range of channel signalling formats, DMR provides flexibility and choice to ensure that mission critical data always gets through. Integrated GPS ensures that you know the precise location of your workforce and one-touch status messaging enables quick and easy notifications from your workforce.



#### **INFORMATION INTEGRITY AND OPERATIONAL SECURITY**

Your voice and data communications are protected from eavesdroppers to ensure you only communicate with your intended audience. Devices are registered onto the network, so only authorized users can use the network and terminals.



#### **FLEXIBILITY AND SCALABILITY**

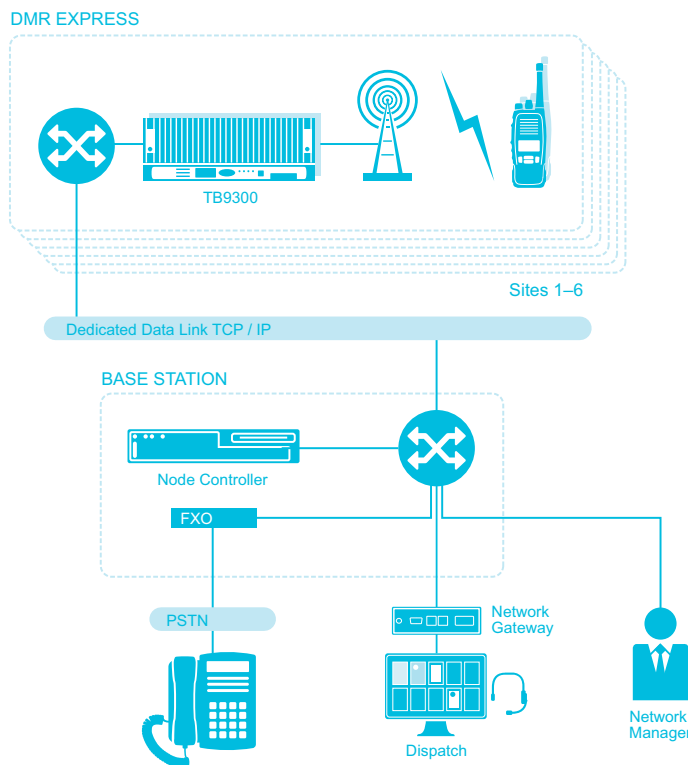
Future migration from Tait DMR Express to a larger Tait DMR network is easily managed with a simple software licence upgrade. Every Tait DMR network is scalable from a single site with one base station to a large, wide area network with up to 20 nodes and up to 1,000 RF channels. Multiple Tait DMR networks can be joined to provide even wider coverage and capacity.

## Tait DMR Express

Tait DMR Express is composed of a central node that controls the network operation.

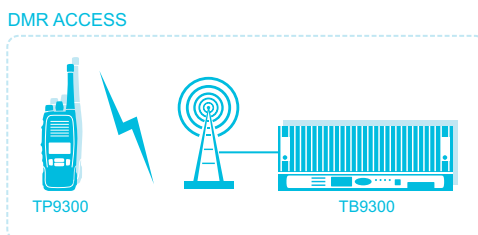
The network can scale up from one to six sites, each consisting of base stations linked over an IP backbone to form a wide area network.

Tait DMR Express operates up to a total of 24 RF channels in a six-site configuration.



## Tait DMR Access

Tait DMR Access is a single-site trunked solution that provides the key benefits of open standard DMR Tier 3. This is provided with a 4RU TB9300 base station (for 1 to 2 RF channel configurations) or up to four base stations at a site (operating up to a maximum of 4 RF channels).



### KEY NETWORK ELEMENTS

#### TAIT DMR NODE - TN9300

The node controls the call setup, generates and stores call records, and raises alarms in response to fault conditions. The control node also provides interfaces to third-party equipment and other networks via Network Gateways. The node is only required for Tait DMR Express.

#### TAIT DMR BASE STATIONS - TB9300

Base stations and antennas provide the transmitting and receiving elements of the network. Several base stations can be located at each site depending on the amount of radio traffic. The DMR system uses digital modulation and 2-slot TDMA (Time Division Multiple Access) on the radio frequency path between the base stations and mobiles.

#### TAIT DMR MOBILE RADIOS - TM9300 TAIT DMR PORTABLE RADIOS - TP9300

Tait DMR radios have simple user interfaces and flexible group configurations—as well as supporting GPS and Bluetooth—so users can maintain reliable communications. The DMR standard gives radio users the advantages of increased channel capacity, longer battery charge duration, digital voice, and privacy from casual listeners.

FEATURES	DMR ACCESS	DMR EXPRESS	DMR FULL
RF channel capacity	4	24	1000
Site capacity	1	6	250
Node capacity	0	1	20
High Availability (redundant node)	No	No	Yes
Talk-groups	Yes	Yes	Yes
Status messaging	Yes	Yes	Yes
Text messaging	Yes	Yes	Yes
Caller ID	Yes	Yes	Yes
Emergency call pre-emption	Yes	Yes	Yes
Subscriber roaming	No	Yes	Yes
Four access priority levels	No	Yes	Yes
Terminal authentication	No	Yes	Yes
Device registration protocol	Yes	Yes	Yes
Dynamic site assignment	No	Yes	Yes
Critical site assignment	No	Yes	Yes
Stun (selective radio inhibit)	No	Yes	Yes
Call queuing	No	Yes	Yes
Dynamic re-grouping	No	Yes	Yes
Automatic Vehicle Location	No <sup>(1)</sup>	Yes	Yes
Statistic records	Yes	Yes	Yes
Console connection	No <sup>(1)</sup>	Yes	Yes
DIP/AIS/SIP Licences for dispatch connection	No	Yes	Yes
VHF, UHF*, and 700-800MHz frequency bands**	Yes	Yes	Yes
DES Encryption	Yes	Yes	Yes
CALL OPTIONS			
Emergency calls	Yes	Yes	Yes
Broadcast calls	Yes	Yes	Yes
Priority calls	Yes	Yes	Yes
Divert own call	No	Yes	Yes
Status call	Yes	Yes	Yes
Group calls	Yes	Yes	Yes
Individual calls private	Yes	Yes	Yes

### DIGITAL MOBILE RADIO (DMR)

Tait DMR is a Tier 3, trunked system that shares the available radio channels among users, and provides benefits such as access control, call queuing, and efficient channel use. DMR provides two TDMA slots over a 12.5 kHz channel, for 6.25 kHz equivalence voice calls. With a constant level of voice quality over a wide range of signal levels, the system utilizes a dedicated control channel as well as status, text, and GPS/AVL messaging.

<sup>(1)</sup> Contact Tait for a customized solution.

\* UHF 450-520MHz terminals are available now, TB93 base station/repeater in the 470-520MHz band requires appropriate compliance.

\*\* 900MHz band is under development. Please check with Tait for the exact availability date.

### TAIT COMMUNICATIONS

Tait Communications has decades of experience in Private Mobile Radio systems—trunked MPT 1327 and P25 conventional, trunked and simulcast. Tait has now developed DMR networks based on the DMR standard, an open European Telecommunications Standards Institute (ETSI) standard backed by many leading radio manufacturers. These networks provide efficient digital communications and are a logical replacement for analog MPT trunked networks.

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Tait Limited facilities are certified for ISO9001:2008 (Quality Management System), ISO14001:2004 (Environmental Management System) and BS OHSAS 18001:2007 (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.