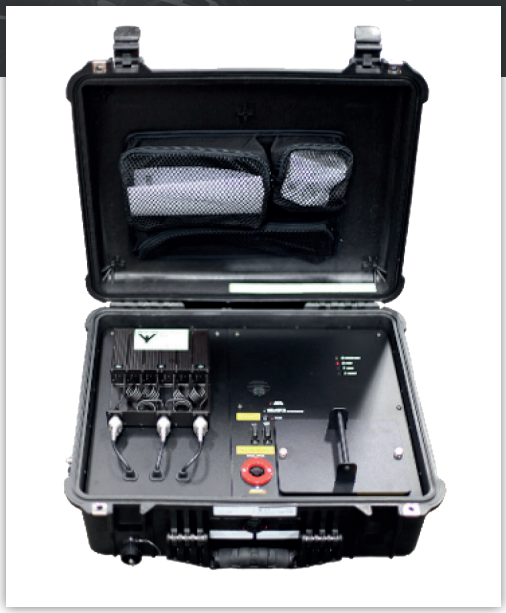
TB7300

TRANSPORTABLE REPEATER



TOUGH TRANSPORTABLE REPEATER EASY TO DEPLOY IN MISSION CRITICAL SITUATIONS.

Whether you're dealing with natural disasters, crime scenes, fire grounds, or tactical missions when safety or security is threatened, this transportable repeater allows you to have a reliable communications system deployed rapidly.

Extend your current network coverage or set up a dedicated communications network at the scene.

The Tait TB7300 Base station is a multi-mode platform: Analog conventional, DMR and P25. The TB7300 provides a 6.25kHz equivalent operation in digital mode and is fully compliant with DMR Tier 2 and Tier 3 standards.

KEY FEATURES

- Multi-mode platform supporting Analog, MPT, DMR Tier 2 & Tier 3 and P25 Conventional operations

- Simple change of mode through the web interface

- Ultra-narrow band 6.25kHz equivalent technology for DMR modes (2x TDMA channels inone 12.5kHz channel)

- Adherence to the DMR and P25 standards

- Easy and rapid deployment of single repeater operation

- Tait DMR Access and Express solution compatible

- DMR fall back into single site operation

- 12.5kHz analog repeater operation offers single site repeat

- Efficient system infrastructure scalability based on IP network connectivity

- Extensive range of remote management and monitoring capabilities with a security focus

- Built-in spectrum analyzer provides on-site diagnostics

- Design Inside arugged waterproof Pelican case

- AC/DC power supply inputs

- Internal SLA battery for rapid field deployment

- Options and accessories for better operational efficiency

FEATURES AND BENEFITS

Delivering on operational needs

- Easy and rapid deployment of transportable repeater as a single conventional RF channe

- To better manage a temporary site with RF resources constraints, this equipment can be used as a single trunked site with a control channel and a traffic channelor more with another connected transportable units

- Also available as a trunked or linked conventional base station for a quick expansion of a private network

• Flexible network design through IP connectivity and linking

• Transfer data and voice across a packet-switched infrastructure using standard IP communications

• P25/DMR Voice over IP(VoIP) support

• Quality of Service (QoS) assignments for voice and signalling to allow optimal network packet routing

• Remote software downloads with no impact to operations

- In a DMR network, the TB7300 is compatible with TB9300 bases. In analog and P25 the TB7300 is compatible with the TB9400. Also, a TB7300 Transportable version is available for incident management.

Delivering on operational needs

- In a DMR network, the TB7300 is compati-Part of the Tait DMR Express & Access solution with the TN9300 Node controller for DMR trunking networks

- Compatible with the Tait TB9300, TB9400, and TB7300 series to create mixed sites

TB7300

TRANSPORTABLE REPEATER

Developed for transportable operations
- Designed in a rugged Pelican case

- Compact base station easy to transport and deploy

- Output power selection from 2W to the maximum transmit power 25W/30W depending on the frequency band

- Power supply per default configuration :AC and DC plus an internal battery with built in charging capability

- Duplexer integrated into the Pelican case

- Optional extra battery pack

Future-proofed to protect your investment
- Software configurable, including feature upgrades through software licenses

- Software upgradeable 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

Designed to support effective deployment
- When pre-configured, just plug the repeater on site to start operating

- Compatible with analog, DMR and P25 networks

Delivers on the benefits of the DMR standards
- Designed and tested with the DMR Tier 2 Conventional and Tier 3 Trunkings tandards to provide customers with choice of vendor and Equipment

- 6.25kHz equivalent 2-slot TDMA for both voice and data offers spectral efficiency

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

- Designed to the P25 Standards

Resiliency to manage risk and enhance safety in challenging environments
- Dual software image support for fast rollback

- Integrated Web https secured application to monitor, diagnose and configure

Efficient management withafocus onsecurity
- Remote network management utilizing built-in secure https web server and SNMP V3 support

- Detailed alarm monitoring and reporting of critical base station/repeater parameters

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

- 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

- System logs to provide audit records

- Ability to configure 1,000 channels to allow single configuration across sites

FREQUENCY BANDS

Frequency range	Range	Tait Band	Configuration
VHF	148-174MHz	B3	Factory set to 15W (Max 30W* typical)
UHF	400-470MHz	H5	Factory set to 15W (Max 25W*typical)

*The output power of the transportable unit is reduced due to the duplexer loss. This improves the battery shift life. If the unit is operated in a high duty cycle environment,for example the trunking control channel, output power should be limited to 15W.

TB7300

TRANSPORTABLE REPEATER

REGULATORY

	DMR, Analog, P25
USA (CFR47)	B3,H5
Canada (RSS-119)	B3,H5
Europe(EN300-113, EN300-086, EN301-489)	B3,H5
Australia/NewZealand (AS/NZS4768)	B3,H5
Safety (EN60950)	B3,H5

GENERAL

Radio specifications

Frequency stability	+/- 0.5ppm
Channels	1,000
Channel spacing	12.5kHz in Analog, 2 channels of TDMA 6.25kHz equivalent in DMR
Frequency increment/channel step	VHF2.5/3.125kHz (or multiples of),UHF5/6.25kHz
External frequency reference	10MHz/12.8MHz (auto detect)
Packet data	1/2 Rate, 3/4 Rate, Full rate, Single Slot

Physical specifications — Pelican case1550

Dimensions (HxWxD)	440 x 530 x 215 mm
Weight	Less than 23kg (50.7lb), or less than 19kg without battery assembly (41.9lb)
Operating temperature	-22°F to +140°F (-30°C to +60°C): with External DC and AC inputs, Battery Isolated -22°F to +122°F (-30°C to +50°C): with Internal Battery connected
ESD rating	+/-4kV contact discharge and +/-8kV air discharge

Power specifications

Power Supply	AC Mains (100-240 VAC) and DC 11-15V

Battery specification

Internal battery	12V Panasonic 15Ah/12Ah SLA battery with built in charging capability (the charging works when AC supply is connected). Recommend maximum temperature is 50C. Whenever the temperature is above 50C, then were commend the unit is powered from an external DC source. For example, acar auxilary power source.
Stand alone battery life	When the power is set to 15W or the duty cycle is set to 5%, then the shift life may reach 8 hours
Battery assembly weight	4.3Kg (9.5lb)

Battery specification

Connectors	Antenna N type female (both Rx and Tx connected to duplexor) Network Ethernet Port AC Mains input External DCinput

TB7300

TRANSPORTABLE REPEATER

Supplied with the unit	Schurter waterproof AC Mains socket to make up an external AC Mains cable (must bewired by an registered electrician) External DC Input Cable with Red and Black clamps (clips) Removable 12V SLA battery (fitted inside)
Not supplied with the unit	219-03353-00: CBL Battery Eliminator with 15A Fuse & Switch & ACC Plug (Battery DC cable with car acc plug - cigarette lighter port) TA2700-03: KIT Spares x2 Battery Pack Transpb TA2700 (Two spare batteries)

	4FSK, FM, C4FM
P25 Modulation fidelity (TIA-102)	<2%
Adjacent channel power 12.5kHz static	60dB, complies with EN 300 113 v2.2.1 (DMR)
Conducted spurious emissions	
	<-36dBm 9kHz to 1GHz and <-30dBm 1GHz to 4GHz <-36dBm 30MHz to 1GHz and <-30dBm 1GHz to 4GHz/12.75GHz
	Programmable 2-15W recommended (30W max) Programmable 2-15W recommended (25W max) 100%

	4FSK, FM, C4FM
Radiated spurious emissions EIA-603-D	<-57dBm EIRP to 1GHz
Conducted spurious emissions	<-90dBm to 2GHz
	0.22µV (-120 dBm) @ 5% BER
Intermodulation response attenuation	85dB
Adjacent channel rejection	60dB
	60dB
Unfaded sensitivity ETS 300 113	
	-122dBm (0.18µV) @ 5% BER
	-120dBm (0.22µV) @ 5% BER
Selectivity ETS 300 113	
	>82dB (VHF), >79dB (UHF)
Intermodulation response attenuation	>78dB @ 1% BER unfaded
	100dB @ 1% BER

Analog

Sensitivity <- 119dBm (0.25µV) (12dB SINAD, centre of switching range) at 25°C (de-emphasized response)

Selectivity (EIA-603) 85dB (VHF & UHF)
Intermodulation 80dB (ETSI)

Spurious response attenuation
>100dB (ANSI/TIA) and >90dB (ETSI)

FM hum and noise
VHF/UHF 45dB (ANSI/TIA), 50dB (ETSI)