

Intelligent • Flexible • High Performance

The Tait 8000 Series of innovative and high-performing products sets a standard of excellence for analogue radio communications technology. This software-enabled product range is built on a foundation of intelligence, flexibility for system integration, modularity and robustness. With advanced and intuitive features, 8000 Series products lead their class.

- Advanced Signalling with DSP
- Intuitive PC-based Programming
- Robust Design & Specifications
- Complete Remote Operation
- Expandable, Upgradeable Platform
- Energy Efficient
- Self-Monitoring
- 255 Channels

TB8100 repeater



TB8100 repeater

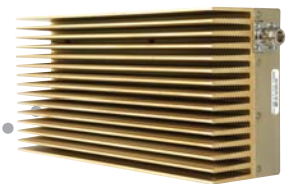
You have a choice. Make it the right one.
Tait 8000 Series repeaters.

Combining ground-breaking DSP Digital Design and proven
RF Analogue hardware technology, the Tait TB8100 shows
that you can have the best of both worlds.

With flexible, modular design, practical features and value
for money that Tait is renowned for, the TB8100 raises the
bar for analogue repeaters with 28V technology for superior
performance and beyond-standard robustness for reliability
— whatever the conditions.

What's more, we've made it even easier to use.
Flexible software with an intuitive user interface is
at the heart of the TB8100, making it very integrator
friendly and expandable.

Its practical easy-to-use features coupled with impressive
RF performance help make the 8000 series the next
generation analogue repeater.



large heatsinks to aid cooling



efficient modular design (rear view)



rugged passivated steel chassis

Features

Digital Controller Design

Designed from the ground up, the TB8100 features a state-of-the-art RISC processor and DSP, providing very fast, reliable data processing through the latest in digital technology.

28V Technology

More powerful than most repeaters in its class, the TB8100's 28V technology promises more efficient use of both energy and frequency bandwidth. Tait tests the TB8100 to transmit continuously at full power with ambient air temperatures as high as +60°C (140°F) at 4572m (15,000 feet). In addition, 28V technology allows PA use across the 400-520MHz band.

Advanced Programming Capabilities

The TB8100's intuitive yet comprehensive programming software with Graphical User Interface (GUI) lets you manage and program over 150 critical parameters, including all monitoring, configuration management and power management features.

User Specific Applications

Additional customized programming is made easy with the TB8100 Task Manager - there's no need for intrusive hardware add-ons. The TB8100 can readily accommodate your specific signalling, notification or alert needs. Program the unit to automatically switch to a backup repeater if the self-monitor determines a problem, and choose from the wide range of alarm notification options to suit your specific solution needs.

Self-Monitor Capability

The TB8100 manages self-monitoring parameters in its non-volatile memory, requiring no external costly monitor units, saving money, time and hassles. The advanced monitoring system will read the repeater's current status, determine the appropriate required action, and perform that action while alerting central control.

Power Management Unit

The comprehensive power management unit provides the ability to automatically switch between AC and DC power, to move to battery operation in the case of power failure, and to provide auxiliary battery charging and management.

Complete Remote Accessibility

The advanced intuitive interface of the TB8100 Service Kit Software makes remote management of your system simple. The self-monitoring application has dial-out capability so you are immediately notified of potential issues. Any parameter that you can manage on the system can be managed remotely with the TB8100 Service Kit Software.

Robust Specifications

Built to exceed standard specifications, the TB8100 is designed to withstand extreme temperature conditions. Engineered for maximum reliability, the TB8100 has large heatsinks, advanced cooling, and the intelligence to maintain the highest possible levels of service in adverse environments.

Peak RF Performance

With outstanding specifications for selectivity, adjacent channel interference and fast key-up times, the TB8100 repeater was designed using the best RF practices. You can depend on the RF performance of this repeater even in the most extreme temperature conditions.

Convenient Modular Design

Designed for ease of hook-up and adaptation in the field, the TB8100 is configured with front-loading modules that can be mixed and matched to meet your system needs. Whether expanding from 50 to 100 Watts, replacing the PA or system interface board, the TB8100 gives you the flexibility to make changes in the field. A clean back-panel design hides the usual rear unit wiring clutter displaying only the connections required to link to your external radio system.

Additional Features

- Interoperability with virtually any existing system
- Compact 4U Rack Profile
- Built-in CTCSS/DCS Tone Panel
- Dynamic Power Control System for various Sleep Modes
- Dual Audio Paths on Tx and Rx
- Dial-Out Alarm Service and Email Status Messages



TB8100 Specifications

All performance parameters measured in accordance with TIA/EIA-603 procedures

General

Basic Description	Modular Base Station/Repeater/Receiver	
System Compatibility	Conventional FM, MPT 1327 Trunked, Quasi-Sync and others	
RF	PA	Receiver/Exciter
Frequency Range	UHF: 400MHz – 520MHz	UHF: 400MHz – 440MHz 440MHz – 480MHz 470MHz – 520MHz
Electronic Tuning Range	2% of centre frequency (8MHz @ 400MHz, 10MHz @ 500MHz)	
Number of Channels	255	255
Channel Spacing	12.5kHz, 20kHz, 25kHz	12.5kHz, 20kHz, 25kHz
Programmable Channel Increment	0.125kHz	0.125kHz
Internal Reference	1.0ppm	
External Reference	10MHz or 12.8MHz (auto changeover from internal reference)	
Transmitter Power Rating	100W Continuous (programmable from 10W to 100W) 50W Continuous (programmable from 5W to 50W) 5W Continuous (programmable from 1W to 5W)	
Sensitivity		-119dBm (0.25µV)
Selectivity (WB)		90dB
Intermodulation		85dB
Ultimate Signal to Noise		55dB
FM Hum and Noise	-55dB	
Conducted Spurious Emissions	<-36dBm to 1GHz	
Audio	Exciter	Receiver
Audio Interface Types	600Ω Balanced Input Unbalanced Input Microphone	600Ω Balanced Output Unbalanced Output Monitor Speaker
Audio Interface Level (for nominal 60% deviation)	Balanced Input -20 to +10dBm Unbalanced Input 0.3Vpp to 3Vpp	Balanced Output -20 to +10dBm Unbalanced Output 0.3Vpp to 3Vpp
Audio Line Distortion	2%	2%
Audio Filtering Characteristics	<ul style="list-style-type: none"> Flat or Pre-emphasised Full band or Speech band Subaudible band only Filters can be applied independently to each of the input sources	<ul style="list-style-type: none"> Flat or de-emphasised Full band or Speech band Subaudible band only Filters can be applied independently to each of the output sources

Environmental

Operating Temperature	-30°C to +60°C (-22°F to +140°F)	
Supply Requirements	Mains: 85 to 264 Volts (PFC power factor correction)	
	DC: 10.5V-15.5V (+ve or -ve earth)	
Power Consumption includes 12V DC power supply, receiver, exciter, user interface, and selected PA.	Rx Standby 930mA (1.0ms fast keyup)	All at a nominal 13.8V input. Power Consumption is dependent on the status of the licensed power save software features and the selected settings for Tx key time, Rx cycling. Transmit tests without fans operating.
	Rx Standby 510mA (Standard)	
	Rx Standby <200mA (typ. sleep mode)	
	Tx @ 5W 2.3A	
	Tx @ 50W 11.2A	
	Tx @ 100W 23.6A	

Dimensions

Width	48cm (19 inches)
Depth	39cm (15 inches)
Height	17.5cm (6.9 inches)
Weight	Single 50W 20.5kg (45lb)
	Single 100W 21.5kg (47.5lb)
	Dual 50W 28.5kg (62lb)

Rack Space requirements

4RU required for 1 x 100W PA or 2 x 50W PAs

Authorised Dealer



Specifications are subject to change without notice and shall not form part of any contract. They are issued for guidance purposes only. For further information please check with your nearest Tait office or authorised dealer.

FCC Rule 2.803 (c)(e)(iii) applies: This device has not been authorised as required by the rules of the Federal Communications Commission. This device is not, and may not be offered for sale or lease, or sold or leased, until authorisation is obtained.

Key Features

Software Defined Radio Architecture
Remote Accessible Monitoring and Alarm System
Remote Controllable Diagnostics
Modular IO System
Fully programmable System behaviour (Task Manager)
Software Defined Backplane
External Reference Input

Software Licensed Features

Built in CTCSS/DCS Tone Panel
Dynamic Power Control System for Sleep and Deep Sleep modes
Dual Audio Paths on Tx and Rx
Dial-Out Alarms service to Alarm Center (PC package)
Dial-Out & Email Status Messages
Expanded Task Manager

Options & Ancillaries

Microphone
Standby Power Supply, for deep sleep modes
Auxiliary Power Supply, floating output
Calibration Test Unit