

Intelligent • High Performance • Flexible

TB8100 base station/repeater

The Tait 8000 Series of innovative and high-performing products sets a standard of excellence for analogue radio communications technology. This software-flexible 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 using DSP
- Intuitive PC-based Programming
- Robust Design & Specifications
- Complete Remote Operation
- Expandable, Upgradeable Platform
- Energy Efficient
- Self-Monitoring
- 255 Channels



TB8100 base station/repeater

For the last 15 years the name Tait has been synonymous with high performance base stations through the dependable T800 ranges. The new TB8100 is your base station for the next 15 years.

You told us you needed a base station/repeater that is easy to use, provides reliable RF performance and saves you money. With this in mind, we've created the new TB8100.

The new Tait base station is not only easy to configure, it has also been designed with the intelligence and flexibility to automatically respond to different scenarios.

The TB8100's predecessor, the Tait T800 base station, set the industry benchmark for reliable RF performance. The new base station provides even higher RF performance, such as very fast key-up and key-down times, and with a 100% duty cycle in the most extreme temperature environments.

The TB8100 is designed to help reduce your total communications system cost. For example, due to the high temperature specifications of the TB8100, you can avoid capital expenditure on site items such as air conditioning. Also using the TB8100's remote monitoring and diagnostic features you can significantly cut your operational costs by removing the need for trips to the site.



large heatsinks to aid cooling



efficient modular design (rear view)



rugged passivated steel chassis

TB8100 features

Intelligence

The highly intelligent Service Kit software means you can diagnose and adjust the operation of the base station from the comfort of your office.

An integrated Task Manager enables the base station to automatically respond to dozens of different scenarios. For example, a sub-tone sent to the TB8100 could turn off the lights at a site, activate the security system and then respond to the sender with two pips over the air to acknowledge completion of the task.

Our comprehensive yet intuitive graphical user interface makes the TB8100 simple to program. Up to 150 operational parameters, covering every aspect of the base station's configuration can be managed. These parameters can then be saved as a user profile for the fast and accurate programming of additional base stations in the future.

High Performance

Designed with the best RF practices, the TB8100 is a high performing base station suitable for the most demanding RF environments. The large heatsinks, integrated power supplies and advanced front-to-rear cooling mean the TB8100 can be fitted into the tightest rack space. The Power Save feature means the TB8100 can be programmed to draw extremely low current in idle conditions.

Flexibility

With the ability to be configured for a wide range of applications, the TB8100 is our most flexible base station.

The Task Manager can provide many custom applications that in the past would have required expensive additional hardware or software. For example, for a hot standby application, the T800 base station required the use of the TA703 Changeover Unit. With the addition of a simple, low-cost relay board for switching the audio, hot standby functionality can be programmed into the TB8100. The new base station can be programmed to respond to external or internal alarm conditions and automatically change to the standby system. Alerts can then be sent to inform you of the change by means of over-the-air or line-connected tone pips, or even by means of detailed e-mail messages over the Internet.

The TB8100's modular design means one 4U rackframe can accommodate either a single reciter (up to 100W) or dual reciter (up to 50W) systems. The front loading modules are easily mixed and matched for different configurations, and slot into an uncluttered back panel design.

Furthermore, the TB100 is suitable for a wide range of system applications through a selection of System Interface Cards.

TB8100 advantages

Intelligence means:

- Low installation and service costs;
- The convenience of remote monitoring and operation.

High Performance means:

- Peace of mind operation and satisfied customers;
- Reduced capital expenditure;
- Low running costs.

Flexibility means:

- Stock one product to meet many needs;
- Features like Narrow Band/Wide Band switching protect your investment;
- Modular design allows changes in configuration and simplifies maintenance;
- Requires less cabinet space.



TB8100 Specifications

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

General

Basic Description	Modular Base Station/Repeater/Receiver				
System Compatibility	Conventional FM, MPT 1327 Trunked, QS Simulcast and others				
RF	Receiver/Exciter	PA			
Frequency Range	UHF: 400MHz – 440MHz 440MHz – 480MHz 470MHz – 520MHz	UHF: 400MHz – 520MHz			
	VHF: 136MHz – 156MHz 148MHz – 174MHz 174MHz – 193MHz 193MHz – 225MHz	VHF: 136MHz – 174MHz 174MHz – 225MHz			
Electronic Switching Range	≥2% of centre frequency (eg: 10MHz @ 500MHz)				
Number of Channels	255				
Channel Spacing	12.5kHz, 20kHz, 25kHz				
Programmable Channel Increment	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 (at centre of switching range)	-119dBm (0.25µV at 25°C)				
Selectivity (WB)	89dB (WB, ETSI)	50dB (NB)			
Intermodulation	85dB (WB)	80dB (NB, ETSI)			
Ultimate Signal to Noise	55dB (WB)	45dB (NB)			
FM Hum and Noise	55dB (WB)	50dB (NB, ETSI)			
Conducted Spurious Emissions	36dBm to 1GHz				
Audio	Input	Output			
Audio Interface Types	600Ω Balanced Unbalanced Microphone	600Ω Balanced Output Unbalanced Monitor Speaker			
Audio Interface Level (for nominal 60% deviation)	Balanced 20 to +10dBm Unbalanced 0.3Vpp to 3Vpp	Balanced -20 to +10dBm Unbalanced 0.3Vpp to 3Vpp			
Audio Line Distortion (@ -70dBm)	≤2% (De-emphasised)				
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) at 100% duty cycle				
	Supply Requirements				
	Mains: 85 to 264V (PFC power factor correction)				
	DC: 12V, 24V, 48V (Nominal +ve or -ve earth)				
Power Consumption (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.)		12VDC	24VDC	48VDC	240VAC
	Standby (20ms Receiver Cycling)	720mA	360mA	170mA	
	Sleep (200ms Receiver Cycling)	400mA	200mA	98mA	
	Deep Sleep (1s Receiver Cycling)	109mA	61mA	31mA	
	Tx @ 5W	2.6A	1.3A	0.61A	0.5A
	Tx @ 50W	10A	5.4A	2.6A	0.75A
	Tx @ 100W	19.2A	10.3A	4.9A	1.1A
Dimensions (WxDxH)	48cm x 39cm x 18cm (19" x 15" x 7")				
Weight	Single 5/50W: 21kg (45lb) Single 100W: 22kg (47lb) Dual 5/50W: 28kg (61lb)	Includes all Power Supplies, PAs, Receivers & Exciters			
Rack Space requirements	4RU required for 1 x 100W PA or 2 x 5/50W PAs	Includes all Power Supplies, PAs, Receivers & Exciters			

Authorised Dealer



Tait is your complete supplier of radio communications equipment, with mobile, portable and infrastructure solutions. Tait is renowned for its flexibility, responsiveness and commitment to producing innovative world-class mobile radio communications products.

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.

Tait Electronics Ltd is an ISO9001: 2000 and ISO 14001: 1996 certified supplier.