

# Proven performance and reliability.

The TB7100 is a compact cost-effective base station/repeater for use as a line controlled base, talk through repeater, RF modem, data repeater or with TaitNet MPT 1327 trunked systems.



## KEY FEATURES

- ▶ 100 channels with CTCSS and DCS sub-audible signaling
- ▶ Covers five key frequency bands from 66-80MHz
- ▶ Two digit LCD display
- ▶ Four programmable function keys
- ▶ Continuous duty at 25W, 40W (UHF) and 50W (VHF) power output
- ▶ Full duplex operation (when fitted with optional duplexer)
- ▶ Tone on idle and CWID
- ▶ Capable of operation at ambient temperatures of up to 140°F (60°C) and lowest -22°F (-30°C)
- ▶ Fans and heatsink designed to give 100 per cent transmit duty cycle
- ▶ Programmable fan operation
- ▶ Integral monitor speaker for audio testing
- ▶ 9-way RS232 serial data port
- ▶ 25-way system interface for connecting external equipment
- ▶ Low standby power consumption (140mA in economy mode, 25W)
- ▶ Rack or wall mounted



## FEATURES AND BENEFITS

### Conveniently compact

The only repeater on the market with optional internal power supply and internal duplexer in a slimline 1U format. This makes the TB7100 easy to transport and install; an ideal choice when space for your RF equipment is limited.

### Ideal for single site coverage

A cost-effective repeater for single site applications such as industrial or campus sites, shopping malls, hotels, small taxi or bus fleets.

### Variety of applications

Ideal for mine or industrial applications, ports and railway stations, building sites, security and maintenance services.

### Data support

Supports both 12/19.2kbps Tait High Speed Data and 1200/2400 baud FFSK as standard. The TB7100 can be configured as a data repeater or RF modem and is fully compatible with the TM8000 range of mobile radio equipment.

**GENERAL**

	<b>Band</b>	<b>Operational Frequency</b>	<b>Transmit Power</b>
VHF	A4	66-88MHz	25W
	B1	136-174MHz	25W, 50W
	D1	216-266MHz	25W
UHF	H5	400-470MHz	25W, 40W
	H6	450-530MHz	25W
	H7	450-520MHz	40W
Frequency Stability	±1.5ppm		
Channel/Network Capacity	100		
Channel Spacing	12.5/20/25kHz		
Channel Increment	7.5/12.5/15/20/25/30kHz		
Dimensions (WxDxH)	19 x 15.7 x 1.8in (483 x 400 x 43.5mm) 1U Rack Space		
Weight	13.2lb (6kg)		
Operational Temperature	-22° to 140°F (-30° to 60°C)		
25W	-22° to 122°F (-30° to 50°C)		
40/50W			
System Types	Full Duplex Voice TTR & LCR		
Data Types	1200 FFSK, 12K NB, 19K2 WB, THSD		
Operational Data Modes	FFSK, Tait High Speed Data		
	Transparent Mode		
	<b>25W TB7100</b>	<b>40W TB7100</b>	
DC Current	3.1A (5W)	4.9A (15W)	
	6.3A (25W)	8.2A (40W)	
	540mA	540mA	
	280mA	280mA	
	<b>Input</b>	<b>Output</b>	
Audio Input Types	600Ω Balanced	600Ω Balanced	
	Unbalanced	Unbalanced	
	Microphone	Monitor Speaker	
Audio Interface Level (for nominal 60% deviation)	Balanced -20 to +6dBm	Balanced -20 to +3dBm	
Audio Response Bandwidth	Unbalanced 220 <sub>u</sub> V-3Vpp	Unbalanced 220 <sub>u</sub> V-3Vpp	
Audio Response	300Hz – 3kHz		
Audio Distortion	Flat or de-emphasized		
	< 3% at 1kHz 60% deviation		

**TRANSMITTER**

Output Power	
25W	25W, 12W, 5W, 1W
40W UHF	40W, 20W, 15W, 10W
50W VHF	50W, 25W, 15W, 10W
Modulation Limiting	
12.5kHz	±2.5kHz
20kHz	±4kHz
25kHz	±5kHz
FM Hum and Noise	
12.5kHz	-35dB
20kHz	-39dB
25kHz	-41dB
Conducted/Radiated Emissions	-36dBm < 1GHz
	-30dBm > 1GHz
Transmit Rise Time	10ms

**RECEIVER**

Sensitivity	0.35 $\mu$ V (-116dBm) for 12dB SINAD
Intermodulation	25W: 70dB 40/50W: 75dB (typical)
Selectivity	
12.5kHz	68dB
20kHz	73dB
25kHz	75dB
Spurious Response	$\leq$ 73dB
Ultimate Signal to Noise	36dB/38dB/40dB (NB/MB/WB)
Hum and Noise	
12.5kHz	-40dB
20kHz	-41dB
25kHz	-43dB

**FCC AND IC ID**

Frequency Range	FCC Acceptance Number	FCC Part Number CRF47	IC Acceptance Number
66-88MHz	CASTBBA4A	22, 90	
136-174MHz	CASTBBB1A	22, 90	737A-TBBB1A
	CASTBBB1B	15, 22, 74, 90, 90.210	737A-TBBB1B
216-266MHz	CASTBBD1A	80, 90, 90T	
	CASTBBH5A	22, 90	737A-TBBH5A
400-470MHz	CASTBBH5B	22, 74, 90, 90.210, 95A	737A-TBBH5B
450-520MHz	CASTBBH7B	22, 74, 90, 90.210, 95A	
450-530MHz	CASTBBH6A	22, 90	737A-TBBH6A

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Specifications are subject to change without notice and shall not form part of any contract. They are issued for guidance purposes only. All specifications shown are typical.

\*Contact your local Tait representative for more information.

For further information please check with your nearest Tait office or authorized dealer.

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Tait Limited facilities are certified for ISO9001:2008 (Quality Management System), ISO14001:2004 (Environmental Management System) and ISO18001:2007 (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.

