# TB**7100**

SPECIFICATIONS

# 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
- 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

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## SPECIFICATIONS

| GENERAL | | |
|---|---|---|
| Frequency range | Frequency Band | |
|   VHF | 66-88MHz (A4), 25W<br>136-174MHz (B1), 25W & 50W<br>216-266MHz (D1) 25W | |
|   UHF | 400-470MHz (H5), 25W & 40W<br>450-530MHz (H6), 25W<br>450-520MHz (H7), 40W | |
| Frequency stability | ±1.5ppm | |
| Channels/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 | | |
|   25W | -22°F to 140°F (-30°C to 60°C) | |
|   40/50W | -22° to 122°F (-30° to 50°C) | |
| System Types | Full Duplex Voice TTR & LCR<br>1200 FFSK, 12K NB, 19K2 WB, THSD | |
| Data Types | FFSK, Tait High Speed Data | |
| Operational Data Modes | Transparent mode | |
| DC Current | **25W TB7100** | **40W TB7100** |
| | 3.1A (5W)<br>6.3A (25W)<br>540mA - RECEIVE<br>280mA - STANDBY<br>140mA - Economy | 4.9A (15W)<br>8.2A (40W)<br>540mA<br>280mA |
| Audio Input Types | **Input** | **Output** |
| | 600Ω Balanced<br>Unbalanced<br>Microphone | 600Ω Balanced<br>Unbalanced<br>Monitor Speaker |
| Audio Interface Level<br>(for nominal 60% deviation) | Balanced -20 to +6dBm<br>Unbalanced 220µV-3Vpp | Balanced -20 to +3dBm<br>Unbalanced 220µV-3Vpp |
| Audio Response Bandwidth | 300Hz – 3kHz | |
| Audio Response | Flat or de-emphasized | |
| Audio Distortion | < 3% at 1kHz 60% deviation | |

| TRANSMITTER | |
|---|---|
| Output power | |
|   25W | 25W, 12W, 5W, 1W |
|   40W | 40W, 20W, 15W, 10W |
|   50W VHF | 50W, 25W, 15W, 10W |
| Modulation Limiting | |
|   12.5kHz | ±2.5kHz |
|   20kHz | ±4kHz |
|   25kHz | ±5kHz |
| FM Hum and Noise (300Hz to 3kHz [ANSI/TIA]) | |
|   12.5kHz | -35dBm |
|   20kHz | -39dBm |
|   25kHz | -41dBm |
| Conducted/Radiated Spurious Emissions | |
| | -36dBm < 1GHz<br>-30dBm > 1GHz |
| Transmit Key Up Time (25W to 90% full power) | =< 8ms |

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## SPECIFICATIONS

| RECEIVER | |
|---|---|
| Sensitivity (12.5kHz and 20kHz) | 0.35μV (-116dBm) for 12dB SINAD |
| Selectivity (VHF/UHF) | |
| 12.5kHz | 68dB/68dB |
| 20kHz | 75dB/73dB |
| 25kHz | 80dB/75dB |
| Spurious Response Attenuation | =>73dB |
| FM Hum and Noise | |
| 12.5kHz | 36dB |
| 20kHz | 38dB |
| 25kHz | 40dB |

| FCC AND IC ID | 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 | |
| 400-470MHz | CASTBBH5A | 22, 90 | 737A-TBBH5A |
| | 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 |

## TAIT ANALOG SOLUTION

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

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