

Millennium TBT

Portable Microwave Transmitter



Applications

- Electronic News Gathering
- Portable Outside Broadcast

Features

- Available in single, dual, or tri-band models
- Standard bands:
 - ◆ 1.99 to 2.5 GHz
 - ◆ 6.4 to 7.1 GHz
 - ◆ 12.7 to 13.2 GHz
 - ◆ 14.7 to 15.2 GHz
- Upgradeable to the new 2 GHz channel plan
- Other bands available
- Compact size: 3.25" x 7.5" x 11"
- Ideal for congested environments and national and international broadcasting operations
- Switchable power output:
 - ◆ 4 watt/1 watt at 2 & 7 GHz
 - ◆ 1 watt/250 mW at 13 & 14 GHz
- Switchable inputs:
 - ◆ Baseband
 - ◆ Video
 - ◆ 70 MHz IF (optional)
- Two synthesized audio modulators
- Remote control connector
- Monitor output BNC connector
- Choice of two or three band operation
- Universal power supply (115/230 Vac & 11 to 32 Vdc)
- Options:
 - ◆ Color bar generator
 - ◆ Built-in test tone
 - ◆ 70 MHz demodulator

Overview

Available in single-band, dual-band, or tri-band models, the new Millennium TBT Transmitter offers outstanding operational versatility in a modern, compact transmitter package. Through extensive usage of surface mount devices and MMIC technology, the Millennium TBT is able to offer up to three operating bands in the physical size of a typical single-band microwave transmitter. With its reduced component count, the radio also features an improved reliability and greater ease of service.

The Millennium TBT also offers new features that make the transmitter easier to set up and operate. The radio input is switchable between video, composite baseband, and optional 70 MHz IF inputs. The two audio channels are synthesized and field programmable through dip switches. Mic/line switching is a screwdriver switch on the front panel. Other front panel switches include high/low and standby power output; optional color bar and tone generator; operating bands, channels, and offsets; and the optional monitor/test tone output which can be used to drive another RF source.

With its modular architecture, the Millennium TBT is also ideal for today's changing regulatory environments, enabling future band requirements to be readily incorporated into the radio.

SPECIFICATIONS

RF Performance

Transmitter:	2 GHz	7 GHz	13 GHz
Frequency Range, Standard*:	1.99 – 2.11 & 2.45 – 2.5 GHz	6.45–6.55 & 6.82 – 7.12 GHz	12.7 – 13.2 GHz
Optional :	2.0 – 2.7 (any 500 MHz)		
Channel Plan, U.S. Broadcast:	30 Channels (10 w/o offsets)	42 Channels (14 w/o offsets)	66 Channels (22 w/o offsets)
Power Output, high setting:	4 W typical, 3 W min	4 W typical, 3 W min	1 W typical, 750 mW min
Power Output, low setting	1 W Typical	1 W typical	250 mW typical
Standby Mode:	All Models: On-Frequency transmission instantly		
Source:	All Models: Digital Frequency Synthesizer		
Frequency Stability	All Models: 0.002%		

* Other frequency bands are available. Consult Factory.

IDEO PERFORMANCE

Video: 525/625 lines
 Input Level: 1 Vp-p \pm 4 MHz deviation, switchable
 Input Impedance: 75 Ω
 Pre-Emphasis: Per ITU Rec. 405
 Return Loss: 26 dB (10 Hz to 5 MHz)
 Signal-to-Noise Ratio (min):
 2 GHz 7 GHz 13 GHz
 67 dB 67 dB 65 dB

AUDIO PERFORMANCE

Channels: 2 channels, mic or line audio input, independently selectable through front panel mic/line/off switches
 Input Level Impedance, Line Audio: +8 dBm, 600 Ω
 Microphone: -50 dBm, 150 Ω
 Deviation: 75 kHz peak at 1 kHz (100 kHz peak, PAL)
 Pre-Emphasis, Standard: 75 μ s
 Optional: 50 μ s
 Signal-to-Noise Ratio (@ 75 kHz peak deviation)
 Line Audio: 65 dB
 Microphone: 55 dB
 Harmonic Distortion: 0.5% max, line; 1.0% max, mic
 Subcarrier Frequencies: Synthesized, two channels field selectable from 4.83 to 8.59 MHz



TBT Transmitter: Front Control Panel

PHYSICAL CHARACTERISTICS

Size: 3.25" h x 7.5" w x 11.0" d (8.26 x 19.1 x 27.9 cm)
 Weight, Dual-Band Models: 14.5 lbs (6.6 kg)
 Tri-Band Models: 15.25 lbs (6.9 kg)
 Case: Self-contained enclosure, ruggedized and weather-resistant; hinged top cover for internal access
 Controls: All controls and connectors mounted on the front panel, except RF connector on rear panel

POWER REQUIREMENTS

Input Range, Standard: +11 to 32 Vdc and 115/230
 Vac Consumption: 40 Watts

ENVIRONMENTAL

Temperature Range, Operating: -30° to +60°C
 Relative Humidity, Operating: 95% (@ +10° to +40°C)
 Altitude, Operating: 15,000 feet (4,500 m)

REMOTE FUNCTIONS

RF Channel Selection
 Offset Selection
 RF ON/Standby
 High/Low Power
 RF Band

CONFIGURATIONS

Millennium TBT, 2 GHz
 Millennium TBT, 7 GHz
 Millennium TBT, 13 GHz
 Millennium TBT, 2 & 7 GHz
 Millennium TBT, 2 & 13 GHz
 Millennium TBT, 7 & 13 GHz
 Millennium TBT, 2, 7 & 13 GHz

OPTIONS

- Antenna Lock Plate (use with Twist Lock Antennas)
- Color Bar Generator



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