

# Millennium 2T10

High Power 2 GHz Portable Microwave Transmitter



## Applications

- Electronic News Gathering
- Portable Outside Broadcast

## Features

- Wideband 10 watt transmitter
- Selectable high/low power output
- Synthesized audios
- Two subcarriers, 4.83 to 8.59 MHz
- Front panel mic/line switch
- Color bar generator option
  - ◆ Auto/Standby mode
  - ◆ Video detector standby mode
  - ◆ SMPTE color bars
  - ◆ Two distinct audio test tones
  - ◆ Selectable video display of station ID
- Remote control connector
- Digital frequency synthesizers
- Standby mode; instant on-frequency transmission
- Choice of built-in AC/DC power
  - ◆ 10.5 to 18 Vdc & 115/230 Vac; or
  - ◆ 18 to 30 Vdc & 115/230 Vac

## Overview

The high power member of the Millennium Series portable transmitters provides a 10 watt RF output and features an improved low noise source. The 2T10 is a wideband 2 GHz radio for both U.S. and international applications. The 2T10 offers switchable power output of 10 or 3 watts. It has two synthesized audios, front panel mic/line/off switches, a remote control connector and an optional color bar/tone generator.

This high-performance, frequency agile radio transmitter features a high degree of multichannel flexibility. It concurrently transmits a color video channel and two program audio channels. The compact design of the Millennium Series Transmitters provides the mobility and quick-response required in broadcast ENG applications.

The color bar generator option is SMPTE compatible and offers selectable video display of the station ID. It also features a video detector standby mode and two distinct audio test tones to clearly distinguish between audio subcarrier channels.

Superior performance is achieved through the use of sophisticated, field-proven RF circuitry and a digital synthesizer for multi-channel flexibility. No elaborate tuning or adjustments are required. If adjacent channel interference occurs the Millennium Series units can be quickly switched to a new channel. Audio subcarriers are easily set through dip switches for rapid reconfiguration; and the front panel mic/line/off switches make field input changes quick and easy.

The 2T10 can operate easily from either AC or DC power sources without the need for modifications or external converters. It features a choice of two internal AC/DC power supplies. Both offer 115 or 230 Vac operation; one version supports DC from 10.5 to 18 Vdc, the second version supports 18 to 30 Vdc battery sources.

The Millennium Series features ruggedized, weather-resistant cases, connectors, switches, and indicators to function reliably in the most adverse field conditions.

## SPECIFICATIONS

**RF PERFORMANCE**

Frequency Range, Standard: ..... 1.99 to 2.5 GHz\*  
 Frequency Range, Optional: ..... 2.0 to 2.7 (any 500 MHz)  
 Channel Plan, U.S. Broadcast: ..... 30 channels  
 (10 with  $\pm$  offset)  
 Non-Broadcast: ..... 10 channels  
 Source: ..... Digital frequency synthesizer  
 Frequency Stability: .....  $\pm 0.005\%$   
 Power Output: ..... 10 watts nominal, 8 watts min  
 or 3 watts, switch selectable  
 Standby Mode: ..... On-frequency transmission instantly  
*Other frequency bands available; contact MRC.*

**VIDEO PERFORMANCE**

Video: ..... 525/625 lines  
 Input Level: ..... 1 Vp-p  $\pm 4$  MHz deviation, adjustable  
 Input Impedance: ..... 75  $\Omega$   
 Pre-emphasis: ..... Per CCIR Recommendation 405  
 Signal-to-Noise Ratio (min): ..... 67 dB

**AUDIO PERFORMANCE**

Channels, standard: ..... 2 channels, mic or  
 line audio input,  
 independently selectable,  
 front panel mic/line switch  
 Input Level Impedance  
 Line Audio: ..... +8 dBm, 600  $\Omega$   
 Microphone: ..... -50 dBm, 150  $\Omega$   
 Deviation: ..... 75 kHz peak at 1 kHz TT  
 Pre-emphasis, Standard: ..... 75  $\mu$ s  
 Optional: ..... 50  $\mu$ s  
 Signal-to-Noise Ratio (@ 75 kHz peak deviation):  
 Line Audio: ..... 65 dB  
 Microphone: ..... 55 dB  
 Harmonic Distortion (@ 75 kHz peak deviation): ..... 1.0% max  
 Subcarrier Frequencies: ..... Synthesized, any two channels  
 ..... from 4.83 to 8.59 MHz

**POWER REQUIREMENTS**

Input Range, Standard: ..... +10.5 to 18 Vdc,  
 and 115/230 Vac, 50/60 Hz  
 Input Range, Optional: ..... +18 to 32 Vdc,  
 and 115/230 Vac, 50/60 Hz  
 Power Consumption, High Setting (typical): ..... 130 watts  
 Power Consumption, Low Setting (typical): ..... 60 watts

**PHYSICAL**

Size: ..... 4.6" h x 8.2" w x 12.3" d  
 (11.7 x 20.8 x 32.2 cm)  
 Weight: ..... 13.0 lbs (5.9 kg)  
 Case: ..... Self contained enclosure, ruggedized and  
 weather-resistant; white with decorative trim  
 Controls: ..... All controls and connectors  
 front-mounted except RF connector

**ENVIRONMENTAL**

Temperature Range, Operational: ..... -30° to +55°C  
 Full Specifications: ..... -20° to +50°C  
 High Power Thermal Overload Protection: ..... Standard  
 Relative Humidity: ..... 95% (@ +10° to +40°C)  
 Altitude, Operating: ..... 15,000 feet (4,500 m)

**CONFIGURATIONS**

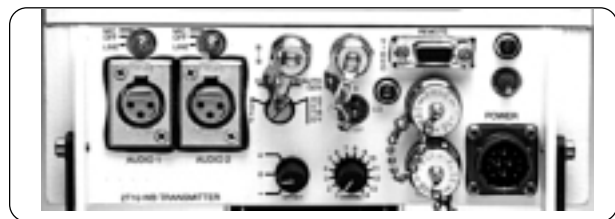
Millennium 2T10, 10 to 18 Vdc supply  
 2T10, Color Bar Generator, 10 to 18 Vdc  
 Millennium 2T10, 18-30 Vdc supply  
 2T10, Color Bar Generator, 18 to 30 Vdc

**OPTIONS**

Antenna Lock Plate (Use with Twist Lock Antennas)  
 CINE60 Tripod Quick Disconnect Plate  
 Antenna Quick Connect Kit (4' Antenna only)  
 SF214 Cable, Type N (24")  
 Antenna Quick Connect Kit (Other Antennas)  
 Portable Transmitter Transit Case  
 Portable Transmitter & 1' Antenna Transit Case  
 Portable Transmitter & Megahorn Transit Case

**TRIPODS**

Heavy Duty Tripod  
 Pan & Tilt Head (Used with heavy-duty Tripod)  
 Medium Weight Tripod  
 Lightweight Tripod



*Millennium 2T10: Front panel controls and indicators*

