

# TTS-9000

8.75 Cubic Inch Telemetry Transmitter - 2, 5, 10 or 20 Watts

**CURTISS-  
WRIGHT**

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## Key Features

- L & S Bands
- 2, 5, 10, or 20 Watt Power Output
- Frequency Selectable
- Compact Package
- Environmentally Rugged

## Applications

- Video Transmission
- Aircraft Flight Testing
- Missile Performance Testing
- Development/Operational Flight Instrumentation
- Remote Ground Communication

## Overview

TTS-9000 series transmitters are designed for use in frequency-shift keying (FSK), hypermod, telemetry, digital, wideband, and video applications. Versions are available to handle L and S bands at powers ranging from 2 watts to 20 watts. They are compact with a package size of just 8.75 cubic inches in size. The transmitters are environmentally rugged for high reliability in the field and have selectable frequency ranges.

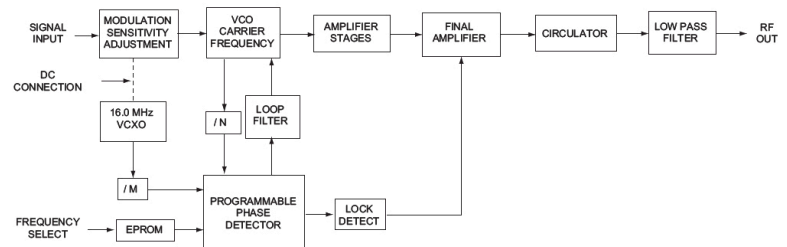


Figure 1: TTS-9000 Block diagram

## Specifications

### RF Output

- Frequency agile: 1435.5 to 1539.5; 1710 to 1850; 2200.5 to 2299.5; 2300.5 to 2399.5 (see Table 1)
- Frequency selection: In 1.0 MHz steps, by use of MDM-9P connector interface
- Carrier stability:  $\pm 0.002$  % over the temperature range of  $-20^{\circ}\text{C}$  to  $70^{\circ}\text{C}$
- Output power: 2, 5, 10, or 20 watts minimum, as specified
- VSWR: 1.5:1 maximum
- Output impedance: 50 ohms nominal
- Loading: Normal operation into any load VSWR and phase angle
- Open short protection: Internal Isolator
- Harmonic/spurious Lvl: In accordance with IRIG-106-96

### Dimensions and Mechanical

- Dimensions (W x L x H)
  - + 2.50 x 3.5 x 1.0" (63.5 x 76.2 x 25.4 mm)
- Weight
  - + 0.75 lb (0.34 kg)
- Power & input connectors: J1, PT02H-8-4P
- J1 Pin Functions:
  - + A- Power input
  - + B- Signal input
  - + C&D- Power, Signal and Case Ground
- Frequency select connector: J2, MDM-9P
- J2 pin functions:
 

+ 1- Ground or 100	4- BCD 20	7- BCD 4
+ 2- BCD 80	5- BCD 10	8- BCD 2
+ 3- BCD 40	6- BCD 8	9- BCD 1
- RF output connector: J3, SMA Female

### Power Requirements

- Input voltage: +28 VDC  $\pm 4$ , reverse polarity protected
- Max input current: 1.0A (2 watt out), 1.6A (5 watt out) and 3.0A (10 watt out), 4.0A (20 watt out)

### Environmental Specifications

- Temperature:
  - + Operating:  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  ( $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  available)
  - + Storage:  $-54^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Humidity: Up to 95% at any temperature forming frost or condensation
- Vibration: 20G, 20 Hz to 2,000 Hz, in the three major axes
- Shock: 100 G peak, half-sine, for 11 milliseconds in each major axis
- Acceleration: 100 G, in the three major axes
- Altitude: Unlimited

### Modulation Input

- Frequency response: 100 Hz to 1.0 MHz,  $\pm 1.5$  dB
- Peak deviation:  $\pm 1.0$  MHz, maximum
- Deviation non-linearity: 1.0% maximum BSL for  $\pm 750$  KHz deviation
- Deviation sensitivity: Factory set at  $\pm 750$  KHz/volt rms
- Harmonic distortion: 1.0% maximum for  $\pm 750$  KHz deviation
- Incidental AM: 5% maximum
- Incidental FM: 10 kilohertz maximum
- Input impedance: 10K ohms minimum

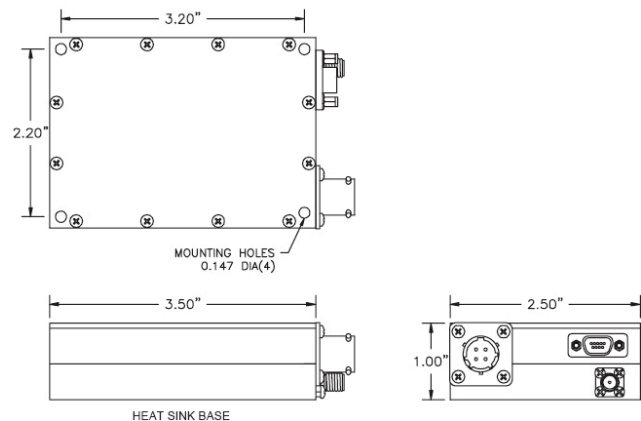


Figure 2: TTS-9000 Outline drawing

TABLE 1 Model Variants	
TTS-91x2	100 Hz to 1.0 MHz Input, 2 Watt
TTS-91x5	100 Hz to 1.0 MHz Input, 5 Watt
TTS-91x9	100 Hz to 1.0 MHz Input, 10 Watt
TTS-91x0	100 Hz to 1.0 MHz Input, 20 Watt
TTS-92x2	Digital Signal Input, 2 Watt
TTS-92x5	Digital Signal Input, 5 Watt
TTS-92x9	Digital Signal Input, 10 Watt
TTS-92x0	Digital Signal Input, 20 Watt
TTS-93x2	10 Hz to 4.5 MHz Input, 2 Watt
TTS-93x5	10 Hz to 4.5 MHz Input, 5 Watt
TTS-93x9	10 Hz to 4.5 MHz Input, 10 Watt
TTS-93x0	10 Hz to 4.5 MHz Input, 20 Watt
TTS-94x2	Video Input, 2 Watt
TTS-94x5	Video Input, 5 Watt
TTS-94x9	Video Input, 10 Watt
TTS-94x0	Video Input, 20 Watt
TTS-9519-A	SMA Modulated Input, 10 Watt
TTS-96x1	Hypermod Input, 20 Watt

TABLE 2 TTS-9xxx Carrier Frequencies	
TTS-xx1x	1435.5 to 1539.5 MHz
TTS-xx2x	1710 to 1850 MHz
TTS-xx3x	2200.5 to 2299.5 MHz
TTS-xx4x	2300.5 to 2399.5 MHz
TTS-xx5x	4400.5 to 4999.5 MHz

TABLE 3 TTS-96xx Carrier Frequencies	
TTS-xx1x	1435.5 to 1539.5 MHz
TTS-xx2x	2200 to 2399.5 MHz

## Ordering Information

Contact [Curtiss-Wright](https://www.curtisswright.com) for ordering information