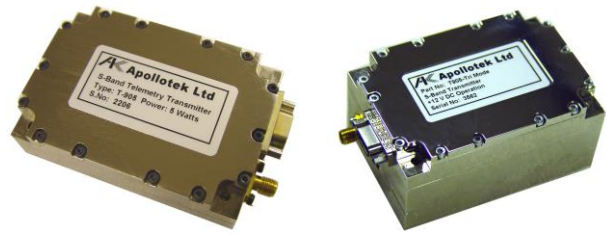


Transmitter Features:

- Multifunction Ruggedised Airborne Environment Data and Video Transmitter Series
- Unique Apollotek Design enables User Selection of PCM/FM modulation, PCM / SOQPSK modulation, Analogue / FM or Analogue Pre-modulation Filtered unclocked PCM Data with FM or SOQPSK Modulation
- Internal Pre-Modulation Digital Filtering linked to PCM Bit Rate
- Internal Pre-Modulation Digital Filtering linked to Analogue Frequency Response
- Internal IRIG 106 Randomizer Option when configured for NRZ-L PCM Data and Clock inputs
- FM frequency response up to 15 MHz
- Programmable Centre Frequency Range of up to 200 MHz with user defined frequency steps
- Fixed RF Power Output Options from 10 milliwatts up to 10 Watts
- Programmable through a Serial Data Port to a host PC using Apollotek supplied Windows GUI utility software.
- 100 KHz/Volt to 10 MHz/Volt nominal carrier deviation sensitivity can be user programmable for an analogue modulation input signal
- 28 Volts \pm 4 Volts DC Power as standard. Alternative DC Supply options available.
- Single Microminiature D-Type connector for Power Supply and Modulation Input as standard
- 50 Ohm SMA RF Output Connector
- Designed and Manufactured in the UK



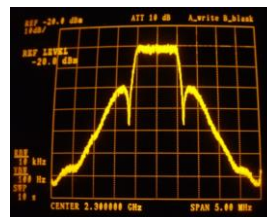
The Apollotek T-900 Multi-Mode series of Telemetry and Video Transmitters are designed using modern efficient components and are qualified for aerospace and similar severe operational environment applications.

L-Band, S-Band and C-Band versions are available with typically a 200 MHz centre frequency tuning range.

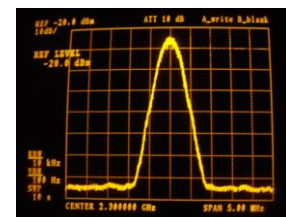
This range of Apollotek Digital transmitters utilises design concepts based on FPGA and DSP technology to provide a uniquely programmable transmitter capable of operation as a traditional PCM/FM Transmitter and as an SOQPSK bandwidth efficient Transmitter and also as an Analogue Input FM Transmitter.

The T-900 Series can also be user configured to take a pre-modulation filtered serial PCM stream from an Encryption Support Unit and then translate the signal into SOQPSK Modulation.

T-900 Series Modulated RF Bandwidth Spectrum examples for a PCM input signal with the same bit rate is shown here for both PCM/FM and SOQPSK Modulation schemes:



PCM/FM Configuration



SOQPSK Configuration

The T-900 Series transmitter housing is machined from solid aluminium sections using precision machining processes to provide a very high mechanical strength transmitter assembly. The T-900 Transmitter series can also be supplied in custom mechanical assembly configurations to meet new application specific requirements and they can also be supplied in configurations which match the mounting arrangements of legacy telemetry transmitters for existing applications.

STANDARD SPECIFICATIONS**General:**

| | |
|--|---|
| Standard Frequency Bands (Other frequency bands can be supported) | 200 MHz programmable tuning range within 1400 MHz to 1600 MHz frequency band. 200 MHz tuning range within 2200 MHz to 2400 MHz band 200 MHz tuning range within 5 GHz to 6 GHz band |
| Nominal Frequency Stability | ± 0.002 % |
| Output Power | Can be supplied in mechanical and electrical configurations providing from 10 milliwatts up to 10 Watts. |
| VSWR | Protected against damage from any VSWR |

Modulation:

| | |
|--|---|
| Modulation Type | User Selectable PCM/FM or SOQPSK Modulation or Analogue Voltage / FM. |
| Analogue Frequency Response | DC to 15 MHz ± 1.5 dB as standard (other ranges available) for Analogue Input Signal |
| Analogue Input Carrier Deviation Sensitivity Range | Nominal 100 KHz to 10 MHz per Volt rms range – user defined |
| TTL Clock and Data Bit Rate Range for PCM/FM and SOQPSK Modulation | 10 MBPS for NRZ PCM Codes as standard. Externally Pre-modulation filtered analogue unlocked PCM signal input option available for both PCM/FM and SOQPSK Modulation schemes |

Power Requirements:

| | |
|-----------|---|
| Voltage | 28V ±4 Volts DC (Other DC Power supply voltage options including 12 V DC are available) |
| Current | Nominal 950 mA for 5 Watts output at 25 ^o Centigrade with 28 V DC power supply. Current will vary depending on transmitter configuration |
| Isolation | Power and Modulation return are common to case ground as standard |

Mechanical:

| | |
|---|---|
| Nominal Dimensions | Up to 5 Watts: Standard 55 mm wide 80 mm long and 28 mm high excluding connectors 5 Watts to 10 Watts: Standard 65 mm wide 90 mm long 35mm high excluding connectors 10 Watt minimum footprint package Option: 55 mm wide 80 mm long and 38 mm high excluding connectors. |
| Power, Modulation and Programming Connector | 15 way microminiature D-Type |
| RF Output Connector | SMA as standard. Other options available |

Environmental:

| | |
|------------------------------|--|
| Normal Operating Temperature | -30 ^o Centigrade to +70 ^o Centigrade baseplate temperature |
| Vibration | >20g sine, 0.1 g ² random, 20Hz to 2000Hz, in any axis |
| Shock | 100g for 1 ms in three mutually perpendicular axes |
| Acceleration | 100g in three mutually perpendicular axes |

All specifications and information in this document are subject to change without notice E & OE