

PTX7602

S-Band Transmitter

The PTX7602 Transmitter is a high output power, modular unit designed to be a form-fit replacement for the Watchman Radar Transmitter; enabling users to easily upgrade their systems.

It is also suitable as an upgrade for other TWT or Magnetron based S-Band Radars requiring high output power for optimum target recognition.



In its complete form the PTX7602 comprises TMD's switched mode power supply and highly reliable PT6055 coupled cavity TWT (incorporating long life dispenser cathode) combined in a single cabinet (comprising two standard 19" racks).

(NOTE if Watchman users wish to retain their existing tube, TMD is able to provide a form-fit replacement for the power supply and will ensure successful integration).

The power supply design uses well established solid state components and is built up of a series of LRUs (line replaceable units), designed for ease of maintenance and minimal downtime.

All the high voltage sections are insulated with silicon based potting rather than oil (tested up to 40 kV). This eliminates the potential exposure to EHT, providing a safe, clean and user friendly environment for the operator.



The system has excellent low phase noise and spurious emissions, meeting the requirements of modern, high performance, radar systems.

High efficiency ensures minimum cooling and provides high service reliability over a wide range of ambient conditions. The control interface of the unit allows remote operation, status monitoring & BITE, providing a number of diagnostic outputs for test purposes. A wide variety of remote control protocols are possible, configurable to customers' individual requirements. Other options include long pulse versions or alternative prime power systems.

The rugged, modular design of the transmitter provides a base for upgrading to suit transportable, military applications. The switched mode power supply is suitable for use with other frequency TWTs.

All TMD's Transmitter products are extensively tested to agreed acceptance test procedures before shipment.



Specification

Application

Radar; Air Traffic Control, Maritime or General Surveillance

Frequency Range

2.75 – 3.05 GHz (air and maritime S band)
(TMD part number PT6055)

Output Power

50 kW Typical depending on output configuration

Gain

77 dB min, depending on input configuration

Duty Cycle

2.4 % Maximum

Max Pulse length

40 μ s (longer pulse lengths available)

Prime Power

415/440 VAC, 3-Ph, 50/60 Hz

Tube/Gun Type

Grid TWT

Cooling

PSU - Integral forced air
TWT - External fan or configured to suit customer requirements



Close to Carrier Noise

Better than -84 dBc/Hz

Out of Band Spurious

Better than -60 dBc

Size (nominal)

1.2 m (W) x 1.6 m (H) x 0.6 m (D)
(excluding inlet pipe for tube)

Weight

406.5 kg

User Benefits



- High power capability for optimum target recognition
- Long-term product support
- Modularised EHT section for improved maintainability
- Improved through life system support
- Suitable for use in a service life extend programme (SLEP)

- Reduction in operating and through life costs
- Improved safety for operators
- High Transmitter Reliability
MTBF >12,000 hours (calculated)
- High TWT Reliability
Typical life > 40,000 hours



If further details are required, please contact TMD to discuss full specification.

Email: wecare@tmd.co.uk





© TMD Technologies Ltd
Swallowfield Way Hayes Middx UB3 1DQ
Telephone +44 (0)20 8573 5555
Fax +44 (0)20 8569 1839
www.tmd.co.uk

This document gives only a general description of the products and/or services and is liable to update or improvement without notice. TMD Technologies accepts no responsibility for any interpretation of or reliance placed in this document.

