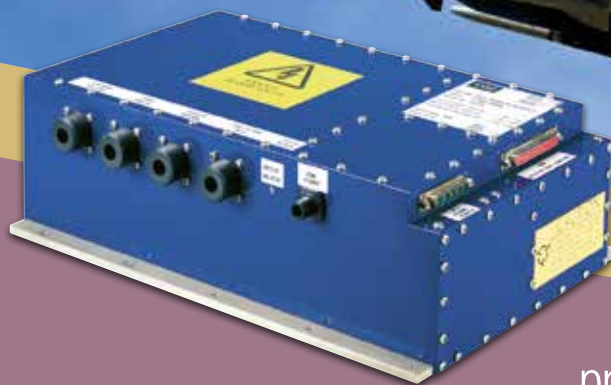


TMD

...the *power* in microwaves!

HIGH VOLTAGE  
POWER SUPPLIES



product summary

# HIGH VOLTAGE POWER SUPPLIES

[www.tmd.co.uk](http://www.tmd.co.uk)  
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# HIGH VOLTAGE POWER SUPPLIES

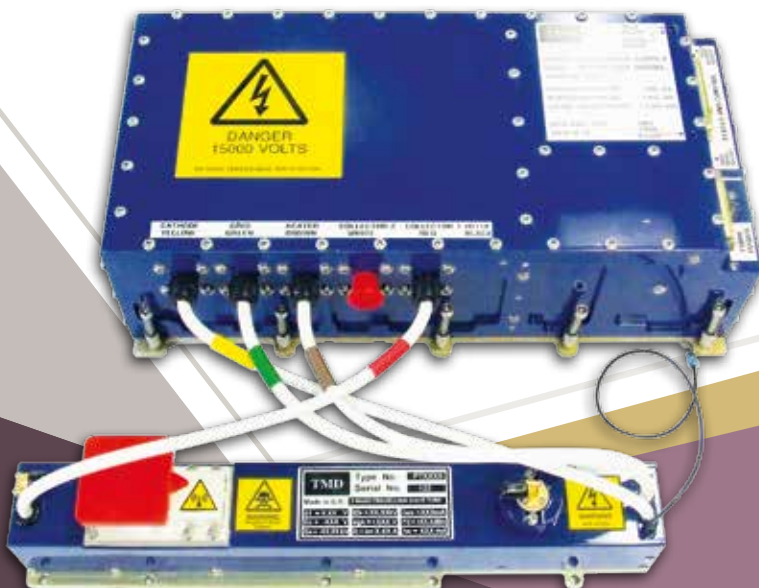
FOR RADAR, EW AND COMMUNICATIONS APPLICATIONS

## At the heart of things

In the late 1980s TMD, then a microwave tube company, took a very important decision which proved key to our subsequent growth.

We began building a new team of skilled power supply engineers and, in 1989, launched the first in a range of ruggedised military power supplies, which could be configured to drive virtually any manufacturer's TWT. This design was based on innovative switched mode technology, and is at the heart of all TMD's amplifier and transmitter products.

It offers many features desirable for modern radar and EW applications; high efficiency, ultra low voltage ripple (low noise), high inverter frequencies, ultra low pulse to pulse jitter, low throughput delay and high power density. The units are lightweight and compact with excellent thermal management and the high voltage sections are encapsulated with an oil free, silicone based compound. This provides excellent protection in harsh environments but also enables easy maintenance.





TMD has focused on significantly improving the reliability of TWT Power Suppliers using HALT and ESS techniques to achieve outstanding product and system availability.



Special products can be designed to customers' specific requirements.

## DID YOU KNOW?

11 years on from winning the UK Queen's Award for Innovation and TMD's power supply noise performance is still the best in the industry.



### Queens Award recognition

Power supply development continued steadily throughout the next few decades resulting in a Queen's Award for Innovation in 2005. The subject of this award was a radar power supply with a noise figure of better than -140 dBc/Hz CW equivalent single sideband random noise and better than -80 dBc spurious noise; improvement over the previous state of the art by a factor of 100 times!

This low noise achievement made possible dramatic improvement to radar performance and resulted in many important contracts for TMD.

Power supply development continues at TMD, most recently in the area of modular high voltage, high power capacitor charging power supplies.

The following table shows a selection of generic products we have produced, in this range but don't worry if you can't see exactly what you are looking for - custom solutions are available and our Business Development Team is always eager to discuss TMD's contribution to new technology areas.

**For more details of TMD's products and capabilities, please go to [www.tmd.co.uk](http://www.tmd.co.uk)**

### After sales support

At TMD relationships with our customers do not end when an order is placed. We pride ourselves in our after sales support, through delivery, set up and user testing. We also offer a comprehensive repairs service for our own or other companies' microwave products; contact us at [wecare@tmd.co.uk](mailto:wecare@tmd.co.uk) for an evaluation.

TMD is approved to the rigorous Quality Standard BS EN ISO9001:2008. Quality is at the heart of everything we do.



Image: courtesy of Chilean Navy.

# HIGH VOLTAGE POWER SUPPLIES

Please note - these are generic types only – many other variants are available to order

Type Number	Max Voltage V	PSU Power Capability W	Pulse or CW	Pulse Length us	Prime Power	Tube/Gun Type	Cooling	Size Lxwxh mm	Weight kg	Application & Other Notes
PTM8103	5000	500	PULSE/CW	-	270 VDC	Focus Electrode Mini TWT (Single or Dual)	Conduction	160x250x32	2	EW, Comms, Radar
PTM6259	11,000	1500	CW	-	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	360x194x103	9.5	EW
PTM6263	15,000	1000	PULSE	40	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	360x194x103	10	Radar Single collector
PTM6288	15,000	1500	PULSE	50	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	360x194x103	9	Radar Dual collector
PTM6688	15,000	1500	PULSE	50	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	360x194x103	9	Radar Triple collector
PTM6395	15,000	1000	PULSE	25	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	345x120x56	4	Radar
PTM6597	15,000	1000	PULSE	10	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	308x152x95	7	EW
PTM7721	15,000	1500	PULSE	150	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	440x187x120	13	Ultra low noise Radar
PTM7599	15,000	1500	PULSE	100	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	440x187x120	13	Ultra low noise Radar
PTM8815	20,000	1100	PULSE	50	66 VAC, 3-Ph 60 Hz	Grid TWT	Conduction	540x216x126	17	Low noise radar
PTM8825	20,000	1100	PULSE	50	160 VDC	Grid TWT	Conduction	540x216x126	17	Low noise radar
PTM9755	35,000	6000	PULSE	120	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	500x300x300	20	Radar

## Capacitor Chargers

TMD can provide customised capacitor charger power supplies to special order. From 20-250 kW; 15-20 kV

# CONTROL BOXES AND FILTERS

## Control Boxes

Custom control boxes can be provided for many of TMD PTX MPMs and rugged amplifiers (Datasheet EVD6106 describes the range)

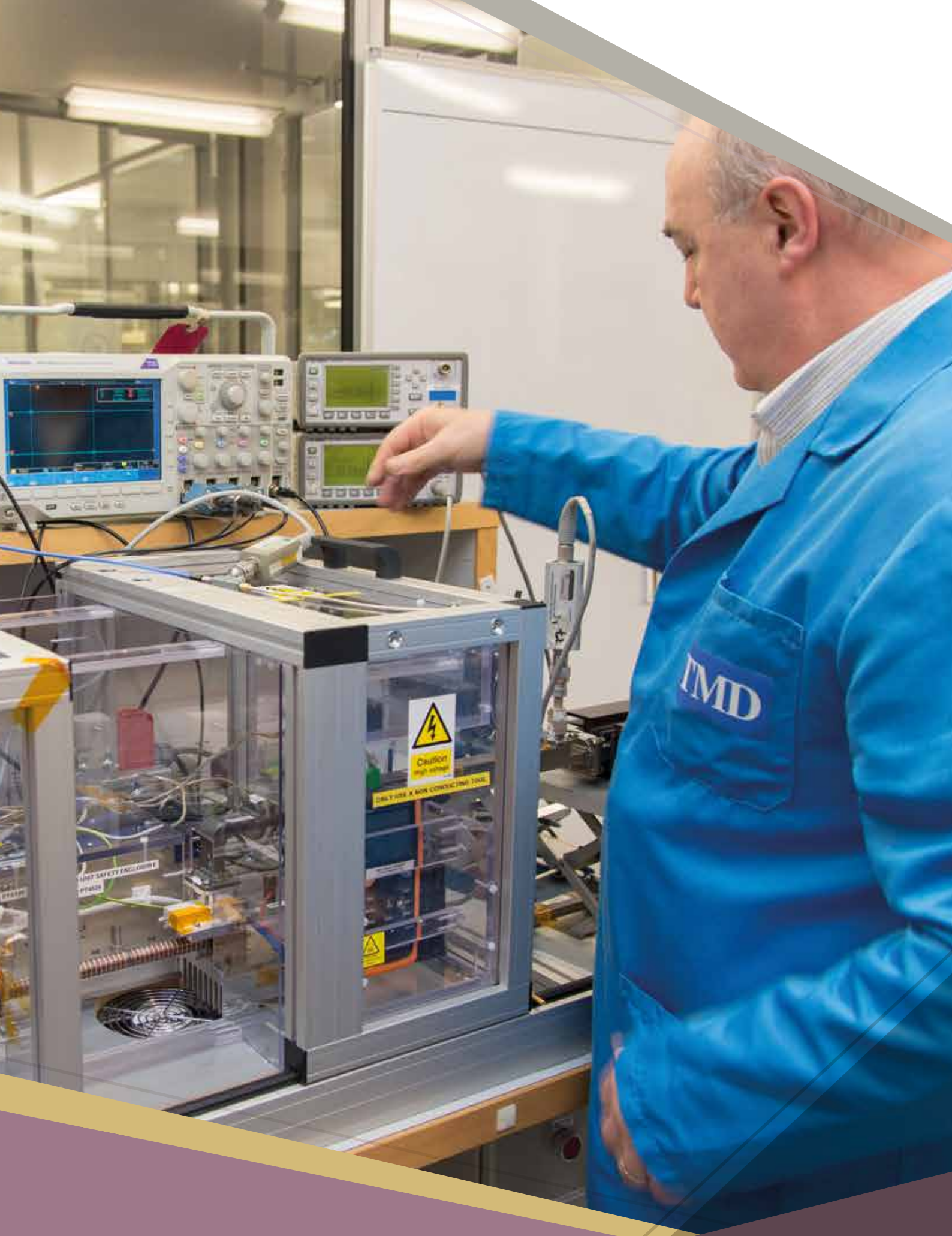
## EMI Filters

PTF6483	Designed to operate with PTM6482 power supply, meeting the emissions requirements of MIL-STD-461E
PTF6959	Designed to supplement the input filter already fitted within the PTM6688 and PTM6559 series high voltage power supplies meeting the emissions requirements of MIL-STD-461E

TMD's sophisticated encapsulation techniques prevent high voltage breakdown and protect components against shock, vibration, humidity and altitude.

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© TMD Technologies Ltd  
Swallowfield Way Hayes Middx UB3 1DQ UK  
Telephone +44 (0)20 8573 5555  
Fax +44 (0)20 8569 1839  
Email [wecare@tmd.co.uk](mailto:wecare@tmd.co.uk)  
[www.tmd.co.uk](http://www.tmd.co.uk)

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