TwinPulse400 Dual Band RF Amplifier for NMR

TOMCO

- The new Tomco TwinPulse400 is a single, low-cost drop-in replacement for four different Herley/AMT 3900 models (3900-1S4, 3900-1S7, 3900B-15B, 3900C-12)
- Published specifications equal to or better than the equivalent Herley/AMT amps, including wider bandwidth, lower noise figure, lower blanked noise, longer pulse widths
- 100% compatible interface and connections
- Mechanically equivalent
- Low band 5-300MHz, 300W PEP
  High band 200-650MHz, 100W PEP
- These amplifiers are ready for use in a range of NMR systems, including the Varian Unity, Mercury and Inova systems. Can also be used in Bruker spectrometers.

Key Specifications

	Channel A	Channel B
Bandwidth	200-650MHz	5-300MHz
PEP @ 0dBm in	100W	300W
Max. pulse width	300ms	300ms
Max. duty cycle	20%	20%
Power in CW mode	15W	30W

For further information please email info@tomcorf.com

Tomco Technologies 38 Payneham Road, Stepney, SA 5069, Australia www.tomcorf.com

DESIGN AND MANUFACTURE OF RF AMPLIFIERS

TwinPulse400 Dual Band RF Amplifier for NMR

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Model	TwinPulse400	
Amplifier type	Class AB, LDMOS	
Frequency range Channel A Channel B	 200-650MHz 5-300MHz	
Pulse power Channel A Channel B	 100W minimum 300W minimum	 Across full frequency range
CW power Channel A Channel B	 15W minimum 30W minimum	 Into a 50W load
Linearity Channel A Channel B	 ±1dB from 0.08-80W ±1dB from 0.25-250W	
Amplitude droop Channel A Channel B	 5% maximum 5% maximum	 at 300ms,80W at 300ms, 200W
Pulse width	300ms maximum, both channels	Blanking pulse width, internally limited
Amplitude rise time Channel A Channel B	 150ns maximum 500ns maximum	
Input VSWR	2:1 maximum, both channels	
Output noise blanked	15dB over thermal, maximum, both channels	
Noise figure	15dB maximum, both channels	

Max.RF input level	0dBm, both channels	
Maximum duty-cycle	20%, both channels	Blanking pulse duty-cycle, internally limited
Phase change over linear output power range	20^0 maximum, both channels	
Phase shift over pulse width	6^0 maximum, both channels	At 300ms pulse width
Blanking delay	2ms maximum, both channels	
Protection	Input overdrive, over duty, over pulse width, over temperature	All protection is self-resetting upon correction of the fault
Connectors	RF input: BNC(F) x 2 RF output: N-type (F) x 2 Noise blanking: BNC (F) x 2 Interface: D25 (F)	All connectors are on the rear panel in the standard configuration. Front panel connectors are available as option
Front panel LED indicators	DC supply status Over pulse width / duty cycle Over temperature CW mode active (x2)	
Cooling	Forced air, front to rear	
Operating ambient temperature	10 - 40^0C	
AC supply	110-240V AC, 50-60Hz universal input	Standard IEC mains inlet
AC supply rating	1000VA minimum	
Size	5.25”H x 19”W x 25.6”D	

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