

# WV Communications



## Model PA1123 – 2800W Dual L-Band Pulsed Power Amplifier w/ TR Switch Assembly

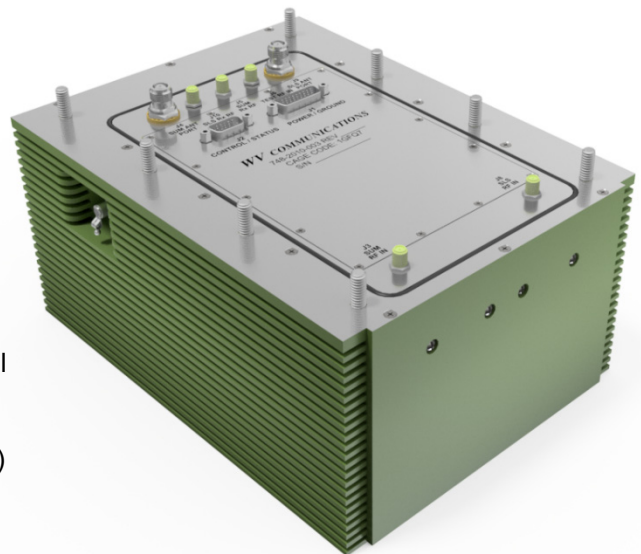
### DESCRIPTION

WV Communications' model PA1123; Dual L-Band Pulsed Power Amplifier w/ TR Switch consists of two completely independent 2800 Watt (P1dB) pulsed power amplifiers with internal isolators, separate T/R switches, output filters and output couplers. The unit also includes two DC-DC converters, an FPGA and high speed A/D converters, providing internal monitoring of the input, output and reflected RF pulses, on a pulse-to-pulse basis. The amplifier supports all current IFF modes of operation, including Mode S, and has a maximum duty cycle that is dependent on the output power. The unit has a maximum duty cycle of 2.1% at the full rated output power level, while the maximum duty cycle is 4.2% at 1400 Watts peak output power. The amplifier has internal protections from excessive duty cycle and excessive pulse widths. Both amplifier channels can be operated in a constant gain mode or in a constant output power mode (ALC), with gain adjustments occurring automatically using the internal programmable attenuator. Monitor & Control is provided via a High Speed serial bus and USB bus.

See block diagram of the amplifier on the backside of this brochure.

### SPECIFICATIONS

Operating Frequency Range:	1030-1090MHz
Operational Mode:	Class AB (Supports all IFF operation modes including Mode S & Mode 5)
RF Input Power:	-15 to +6dBm
RF Input VSWR:	1.3:1 Maximum
RF Input Modulation:	RF Pulse arbitrary Phase Modulation 15MHz at 3dB Maximum, AM at 30dB Maximum
RF Output Power Range:	1030MHz +44.5 to +64.5dBm (P1dB) Minimum
RF Output Pulse Width:	30.25µS Maximum
RF Output VSWR:	1.5:1 Maximum (Ref 50Ω)
RF Output:	Will operate into 10:1 VSWR without damage (protected by output Isolator)
Small Signal Gain & Flatness:	61.5±0.5dB Maximum into 1.5:1 VSWR
Input and Output Impedance:	50Ω Nominal
Harmonic Signal Levels:	2 <sup>nd</sup> : -80dBc Maximum 3 <sup>rd</sup> : -80dBc Maximum 4 <sup>th</sup> -12 <sup>th</sup> : -100dBc Maximum Key Down: -80dBc Maximum Key Up: -73dBc Maximum
Cooling:	Forced air via exterior cooling fins
Fault Indications/Protection:	Super Long Term Duty, Long Term Short Term Duty, Long Term Duty, Pulse Width, ModGate Duty, ModGate Width, ModGate Sequence, VSWR, Gain, Input Low, Max Power & Thermal
Temperature:	Operating: -40 to +55°C Storage: -55 to +85°C
Humidity:	Operating: 10 - 95% (Non-Condensing) Storage: 5 - 95% (Non-Condensing)
Altitude:	MSL to 50,000 Ft
Input Power:	12 Vdc @ 40 Amp Maximum



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