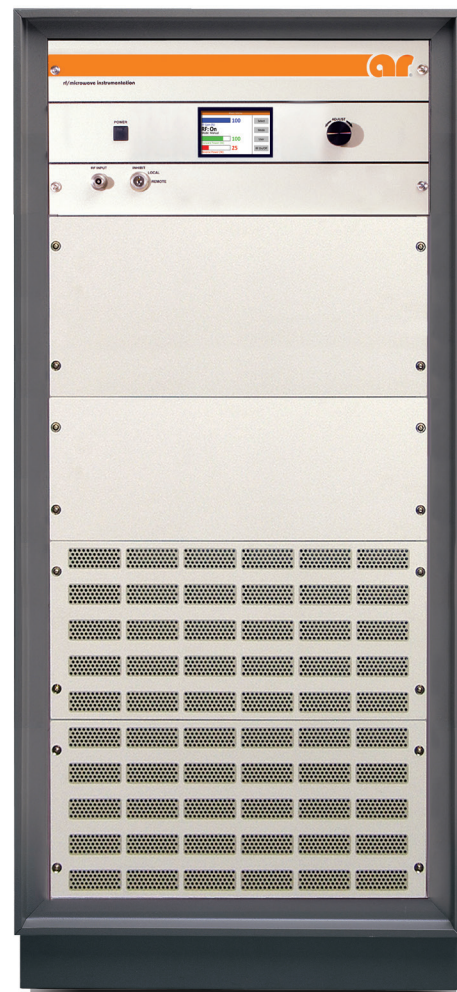


Performance & Reliability That Exceed Your Highest Expectations

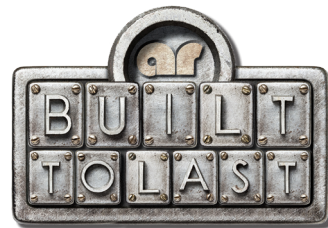
Newest Additions To Our Microwave Solid State Amplifiers:
“S” Series 0.7 To 6 GHz, 175 Watt CW Class A Amplifier;
And 6.0 To 18 GHz, 20 and 40 Watts CW Class A Liquid Cooled Amplifiers
For Immunity Testing, Wireless Testing & EW Applications

500S1G6
500 Watts Class A CW
0.7-6.0 GHz



“ This amplifier (500S1G6) really is a life saver for RI, given its power and frequency range. ”

Chad Redman, Type Test Technician
Pullman, WA
Company: Schweitzer Engineering Labs



We don't just build great products.
We build great products that last.

40S6G18-L
40 Watts CW
6.0-18 GHz



Our “S” Series Solid State Amplifiers Provide 100% Of Rated Power Without Foldback

Others talk about advanced technology, AR delivers. We created the first single band 0.7 to 6 GHz power amplifiers with output powers from 15 to 500 watts. There's no need to switch between amplifiers/bands to provide power to the load. You use less power and save more money.

These innovative Class A amplifiers offer low harmonic distortion, ∞ :1 mismatch capability and excellent noise figures for your most demanding EMC or Wireless applications.

Extensive control and status reporting capabilities are available both locally and remotely. The touch-screen panels are intuitive, convenient, and easy to use.

AR Amplifiers Use The Latest Technology

- Producing more power in a smaller package compared to the competition.
- Internal self-contained liquid cooling technology.

Reduced Power Consumption

- This results in a greener product by saving on input power, and on lower cooling needs.

AR Quality Built Into Every Amplifier

- Designed for years of use.

Wide Instantaneous Bandwidth

- Allows for continuous testing without interruption associated with switching of amplifiers, while also providing the user with a lower overall cost when compared to 2 amplifiers and a switch.

Low Spurious Signal Levels

- Makes these amplifiers ideal for use as a driver amplifier for wireless, communication component, and subsystem testing.

2000S1G2z5
2000 Watts CW
1.0-2.5 GHz



Watch Our New Product Demo



Visit www.arworld.us/6to18 to view a demo of AR's New 6-18 GHz Amplifier Series or scan this page with the Layar app to watch on your mobile device.

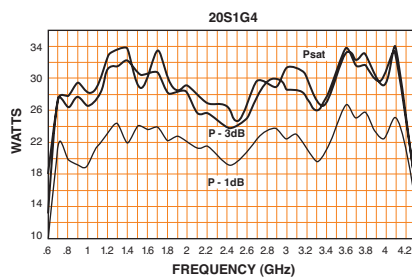
Microwave Solid State Amplifiers 0.7 to 4.2 GHz

20S1G4 Solid State Amplifier



20 watts CW, 0.7-4.2 GHz

Rated Power Output	20 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 25 watts / min. 20 watts
Power Output @ 1dB compression	Nominal 22 watts / min. 18 watts
Flatness	±1.5dB typ. / ±2dB max.
Frequency Response	0.7 - 4.2 GHz instantaneously
Gain (at max. setting)	43dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Harmonic Distortion	Minus 20dBc max. at 20 watts
Spurious	Minus 73dBc typ.
Third Order Intercept Point	52dBm typ.
Noise Figure	10dB typ.
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase 210 watts max.
Connectors	RF input Type N female on front panel RF output Type N female on front panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	16.8 kg (37 lb)
Size (WxHxD)	50.3 x 15.5 x 37.6 cm / 19.8 x 6.1 x 14.8 in.

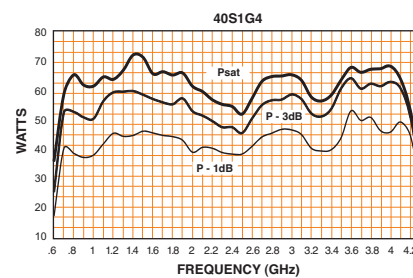


40S1G4 Solid State Amplifier



40 watts CW, 0.7-4.2 GHz

Rated Power Output	40 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 50 watts / min. 40 watts
Power Output @ 1dB compression	Nominal 44 watts / min. 35 watts
Flatness	±1.5dB typ. / ±2dB max.
Frequency Response	0.7 - 4.2 GHz instantaneously
Gain (at max. setting)	46dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept	55dBm typ.
Harmonic Distortion	Minus 20dBc max. at 40 watts
Spurious	Minus 73dBc typ.
Noise Figure	10dB typ.
Phase Linearity	±1 deg/100 MHz, typ.
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase 285 watts max.
Connectors	RF input Type N female on front panel RF output Type N female on front panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	18.2 kg (40 lb)
Size (WxHxD)	50.3 x 15.5 x 37.6 cm / 19.8 x 6.1 x 14.8 in.

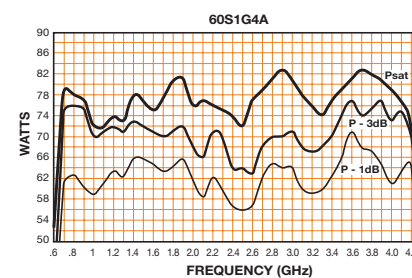


60S1G4A Solid State Amplifier



60 watts CW, 0.7-4.2 GHz

Rated Power Output	60 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 70 watts / min. 60 watts
Power Output @ 1dB compression	Nominal 65 watts / min. 50 watts
Flatness	±1.5dB typ. / ±2dB max.
Frequency Response	0.7 - 4.2 GHz instantaneously
Gain (at max. setting)	47.8dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept	58dBm typ.
Harmonic Distortion	Minus 20dBc max. at 60 watts
Spurious	Minus 73dBc typ.
Noise Figure	10dB typ.
Phase Linearity	±1 deg/100 MHz, typ.
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase 415 watts max.
Connectors	RF input Type N female on front panel RF output Type N female on front panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	27.7 kg (61 lb)
Size (WxHxD)	50.3 x 20.3 x 54.6 cm / 19.8 x 8.0 x 21.5 in.

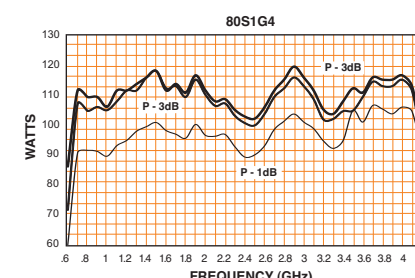


80S1G4 Solid State Amplifier



80 watts CW, 0.7-4.2 GHz

Rated Power Output	80 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 95 watts / min. 80 watts
Power Output @ 1dB compression	Nominal 85 watts / min. 70 watts
Flatness	±1.5dB typ. / ±2dB max.
Frequency Response	0.7 - 4.2 GHz instantaneously
Gain (at max. setting)	49dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept	58dBm typ.
Harmonic Distortion	Minus 20dBc max. at 80 watts
Noise Figure	10dB typ.
Spurious	Minus 73dBc typ.
Phase Linearity	±1 deg/100 MHz, typ.
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase 448 watts max.
Connectors	RF input Type N female on front panel RF output Type N female on front panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	28.4 kg (62.5 lbs)
Size (WxHxD)	50.3 x 20.3 x 54.6 cm / 19.8 x 8.0 x 21.5 in.

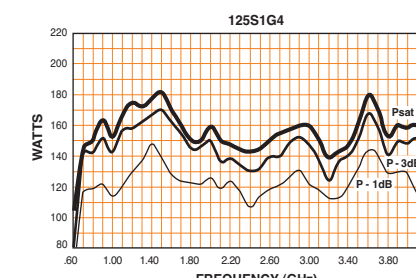


125S1G4 Solid State Amplifier



125 watts CW, 0.7-4.2 GHz

Rated Power Output	125 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 140 watts / min. 120 watts
Power Output @ 1dB compression	Nominal 120 watts / min. 100 watts
Flatness	±1.5dB typ. / ±2dB max.
Frequency Response	0.7 - 4.2 GHz instantaneously
Gain (at max. setting)	51dB min.
Gain Adjustment (continuous range)	15dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
RF Power Display	0 - 200 Watts
Third Order Intercept	61dBm typ.
Harmonic Distortion	Minus 20dBc max. at 115 watts
Spurious	Minus 73dBc typ.
Phase Linearity	±1 deg/100 MHz, typ.
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase 900 watts max.
Connectors	RF input Type N female on front panel RF output Type N female on front panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	44 kg (97 lb)
Size (WxHxD)	50.3 x 30 x 61 cm / 19.8 x 11.8 x 24 in.

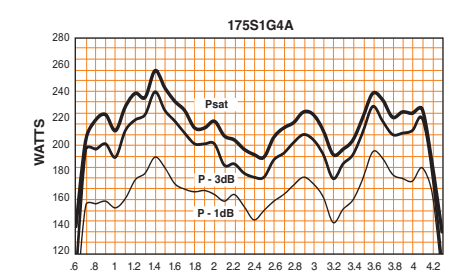


175S1G4A Solid State Amplifier



175 watts CW, 0.7-4.2 GHz

Rated Power Output	175 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 190 watts / min. 160 watts
Power Output @ 1dB compression	Nominal 165 watts / min. 135 watts
Flatness	±1.5dB typ. / ±2dB max.
Frequency Response	0.7 - 4.2 GHz instantaneously
Gain (at max. setting)	52.5dB min.
Gain Adjustment (continuous range)	15dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
RF Power Display	0 - 200 Watts
Third Order Intercept	61dBm typ.
Harmonic Distortion	Minus 20dBc max. at 160 watts
Spurious	Minus 73dBc typ.
Phase Linearity	±1 deg/100 MHz, typ.
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase 1050 watts max.
Connectors	RF input Type N female on front panel RF output Type N female on front panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	45.4 kg (100 lb)
Size (WxHxD)	50.3 x 30 x 61 cm / 19.8 x 11.8 x 24 in.



250S1G4A Solid State Amplifier



250 watts CW, 0.7-4.2 GHz

Rated Power Output	250 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 280 watts / min. 240 watts
Power Output @ 1dB compression	Nominal 240 watts / min. 200 watts
Flatness	±1.5dB typ. / ±2.0dB max.
Frequency Response	0.7 - 4.2 GHz instantaneously
Gain (at max. setting)	54dB min.
Gain Adjustment	15dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
RF Power Display	Digital, forward and reflected
Third Order Intercept	64dBm typ.
Harmonic Distortion	Minus 20dBc max. at 225 watts
Primary Power	120 - 240 VAC 50/60 Hz, single phase 1450 watts
Connectors	RF input Type N female on front panel RF output Type 7-16 female on front panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin female Subminiature D on rear panel
Cooling	Forced air (self contained fans)
Weight	71.8 kg (158 lb)
Size (WxHxD)	50.3 x 55.9 x 61 cm / 19.8 x 22 x 24 in.

350S1G4A Solid State Amplifier



350 watts CW, 0.7-4.2 GHz

Rated Power Output	350 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 375 watts / min. 320 watts
Power Output @ 1dB compression	Nominal 325 watts / min. 270 watts
Flatness	±1.5dB typ. / ±2.0dB max.
Frequency Response	0.7 - 4.2 GHz instantaneously
Gain (at max. setting)	55.5dB min.
Gain Adjustment (continuous range)	15dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
RF Power Display	Digital, forward and reflected
Third Order Intercept	65dBm typ.
Harmonic Distortion	Minus 20dBc max. at 325 watts
Spurious	Minus 65dBc typ.
Primary Power	120 - 240 VAC 50/60 Hz, single phase 1900 watts max.
Connectors	RF input Type N female on front panel RF output Type 7-16 female on front panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin female Subminiature D on rear panel
Cooling	Forced air (self contained fans)
Weight	86.2 kg (190 lb)
Size (WxHxD)	50.3 x 55.9 x 61 cm / 19.8 x 22 x 24 in.

15S1G6 Solid State Amplifier



15 watts CW, 0.7-6.0 GHz

Rated Power Output	15 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 20 watts / min. 15 watts
Power Output @ 1dB compression	Nominal 15 watts / min. 12 watts
Flatness	±1.5dB typ. / ±2.0dB max.
Frequency Response	0.7 - 6 GHz instantaneously
Gain (at max. setting)	43dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Third Order Intercept Point	48dBm typ.
Noise Figure	10dB typ.
Harmonic Distortion	Minus 20dBc max. at 15 watts (1 - 6 GHz) Minus 20dBc max. at 15 watts (0.7 - 6 GHz)
Spurious	Minus 73dBc typ.
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase 210 watts max.
Connectors	RF input Type N female on front panel RF output Type N female on front panel Standard Remote Interfaces Included
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	15.9 kg (35 lb)
Size (WxHxD)	50.3 x 15.5 x 37.6 cm / 19.8 x 6.1 x 14.8 in

30S1G6 Solid State Amplifier



30 watts CW, 0.7-6.0 GHz

Rated Power Output	30 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 35 watts / min. 26 watts
Power Output @ 1dB compression	Nominal 30 watts / min. 22 watts
Small Signal Gain Flatness	±1.5dB typ. / ±2.0dB max.
Frequency Response	0.7 - 6 GHz instantaneously
Gain (at max. setting)	44dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point	50dBm typ.
Noise Figure	10dB typ.
Harmonic Distortion	Minus 20dBc max. at 30 watts Minus 73dBc typ.
Spurious	Minus 73dBc typ.
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase 300 watts max.
Connectors	RF input Type N female on front panel RF output Type N female on front panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	18.2 kg (40 lb)
Size (WxHxD)	50.3 x 15.5 x 37.6 cm / 19.8 x 6.1 x 14.8 in
Export Classification:	EAR99

60S1G6 Solid State Amplifier



60 watts CW, 0.7-6.0 GHz

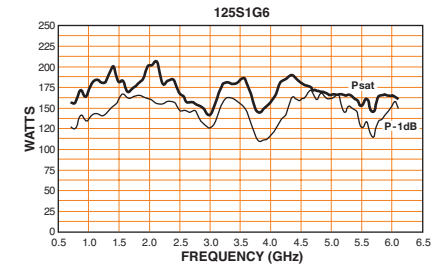
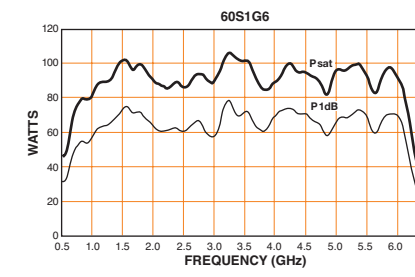
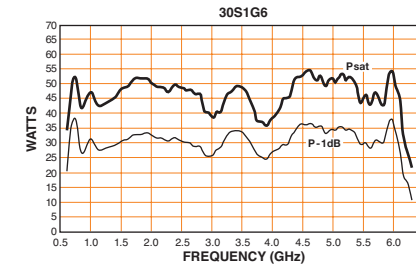
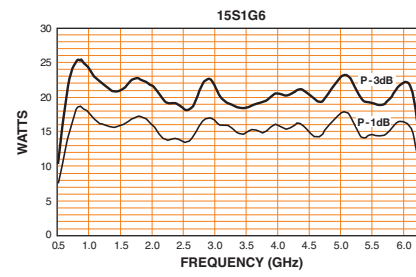
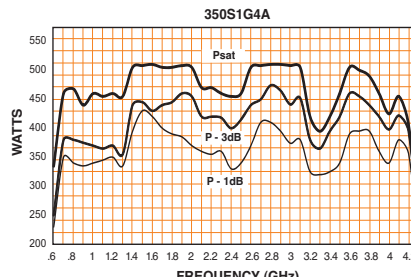
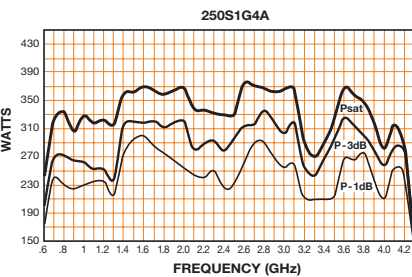
Rated Power Output	60 watts min. (0.7 - 6 GHz)
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 70 watts / min. 55 watts
Power Output @ 1dB compression	Nominal 60 watts / min. 50 watts
Flatness	±1.5dB typ. / ±2.0dB max.
Frequency Response	0.7 - 6 GHz instantaneously
Gain (at max. setting)	48dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. *See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point	56dBm typ.
Noise Figure	10dB typ.
Harmonic Distortion	Minus 20dBc max. at 60 watts (0.7 - 6 GHz) Minus 73dBc typ.
Spurious	Minus 73dBc typ.
Phase Linearity	±1 deg/100 MHz, typ.
Primary Power (selected automatically)	90 - 132, 180 - 250 VAC 50/60 Hz, single phase 550 watts max.
Connectors	RF Type N female on front panel
Remote Interfaces	IEEE-488 24 pin RS-232 9 pin Subminiature D RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	28.4 kg (62.5 lb)
Size (WxHxD)	50.3 x 20.3 x 54.6 cm / 19.8 x 8.0 x 21.5 in
Export Classification:	3A001

125S1G6 Solid State Amplifier



125 watts CW, 0.7-6.0 GHz

Rated Power Output	125 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 125 watts / min. 120 watts
Power Output @ 1dB compression	Nominal 120 watts / min. 100 watts
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	0.7 - 6 GHz instantaneously
Gain (at max. setting)	52dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. *See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point	58dBm typ.
Noise Figure	10dB typ.
Harmonic Distortion	Minus 20dBc max. at 125 watts (0.7 - 6 GHz) Minus 73dBc typ.
Spurious	Minus 73dBc typ.
Phase Linearity	±1 deg/100 MHz, typ.
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase, 1100 watts max.
Connectors	RF Type N female on front panel
Remote Interfaces	IEEE-488 24 pin RS-232 9 pin Subminiature D RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	45 kg (100 lb)
Size (WxHxD)	50.3 x 30 x 61 cm / 19.8 x 11.8 x 24 in
Export Classification:	3A001



175S1G6 Solid State Amplifier



175 watts CW, 0.7-6.0 GHz

Rated Power Output	175 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 190 watts / min. 160 watts
Power Output @ 1dB compression	Nominal 170 watts / min. 140 watts
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	0.7 - 6 GHz instantaneously
Gain (at max. setting)	54dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. *See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point	60dBm typ.
Noise Figure	10dB typ.
Harmonic Distortion	Minus 20dBc max. at 170 watts (1.0 - 6 GHz) Minus 20dBc typ. (0.7 - 1.0 GHz)
Spurious	Minus 73dBc typ.
Phase Linearity	±1 deg/100 MHz, typ.
Primary Power (selected automatically)	200 - 250 VAC 50/60 Hz, single phase 2700 watts max.
Connectors	RF Type N female on front panel
Remote Interfaces	IEEE-488 24 pin RS-232 9 pin Subminiature D RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	68 kg (150 lb)
Size (WxHxD)	50.3 x 38 x 61 cm / 19.8 x 15 x 24 in
Export Classification:	3A001

250S1G6 Solid State Amplifier



250 watts CW, 0.7-6.0 GHz

Rated Power Output	250 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 250 watts / min. 225 watts
Power Output @ 1dB compression	Nominal 220 watts / min. 200 watts
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	0.7 - 6 GHz instantaneously
Gain (at max. setting)	54dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. *See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point	60dBm typ.
Noise Figure	10dB typ.
Harmonic Distortion	Minus 20dBc max. at 250 watts (0.75 - 6.0 GHz); 18 dBc typ. (0.7 - 0.75 GHz)
Spurious	Minus 73dBc typ.
Phase Linearity	±1 deg/100 MHz, typ.
Primary Power (selected automatically)	200 - 250 VAC 50/60 Hz, single phase 2500 watts max.
Connectors	RF Type N female on front panel
Remote Interfaces	IEEE-488 24 pin RS-232 9 pin Subminiature D RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	64 kg (140 lb)
Size (WxHxD)	50.3 x 47 x 61 cm / 19.8 x 18.5 x 24 in
Export Classification:	3A001

350S1G6 Solid State Amplifier



350 watts CW, 0.7-6.0 GHz

Rated Power Output	350 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 370 watts / min. 315 watts
Power Output @ 1dB compression	Nominal 300 watts / min. 250 watts
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	0.7 - 6 GHz instantaneously
Gain (at max. setting)	58dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. *See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point	63dBm typ.
Noise Figure	10dB typ.
Harmonic Distortion	Minus 20 dBc max. at 300 watts, (1.0-6.0 GHz); minus 20 dBc typical (0.7-1.0 GHz)
Spurious	Minus 73dBc typ.
Primary Power (selected automatically)	200 - 260 VAC 50/60 Hz, single phase 3800 watts max.
Connectors	RF input Type N female on front panel RF output Type 7-16 DIN female on front panel
Remote Interfaces	IEEE-488 24 pin RS-232 9 pin Subminiature D RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	93 kg (205 lbs)
Size (WxHxD)	50.3 x 59.2 x 61 cm / 19.8 x 23.3 x 24 in
Export Classification:	3A001

500S1G6 Solid State Amplifier



500 watts CW, 0.7-6.0 GHz

Rated Power Output	500 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 500 watts / min. 470 watts
Power Output @ 1dB compression	Nominal 425 watts / min. 350 watts
Flatness	±2.0dB typ. / ±2.5dB max.
Frequency Response	0.7 - 6 GHz instantaneously
Gain (at max. setting)	57dB min.
Gain Adjustment (continuous range)	10dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. *See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point	66dBm typ.
Harmonic Distortion	Minus 20dBc max. at 350 watts (1 - 6 GHz); Minus 20 dBc typ. (0.7 - 1 GHz)
Primary Power (selected automatically)	200 - 260 VAC 50/60 Hz, single phase 5700 watts max.
Connectors	RF Input Type N female on rear panel RF Output Type 7-16 DIN female on rear panel
Remote Interfaces	IEEE-488 (GPIB) & RS-232 connector, rear ST Conn Tx, RS-232 Rx (fiber optic) USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D, rear
IEEE-488 (GPIB) Interface & RS-232	Allows control and monitoring of all front panel controls except keylock position control.
Cooling	Forced air (self contained fans)
Weight	173 kg (380 lb)
Size (WxHxD)	50.3 x 127 x 61 cm / 19.8 x 50 x 24 in
Export Classification:	3A001

525S1G4A Solid State Amplifier



525 watts CW, 0.8-4.2 GHz**

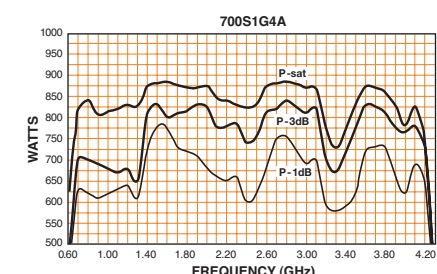
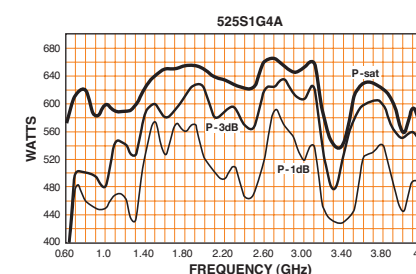
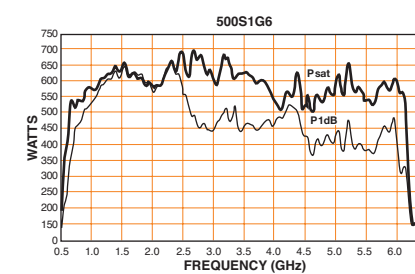
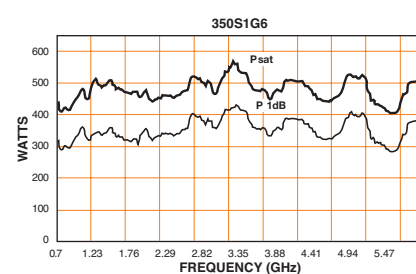
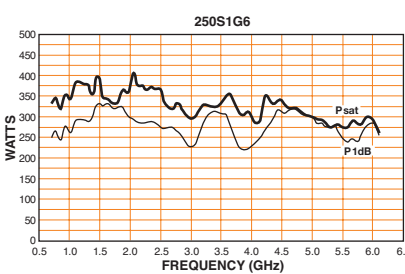
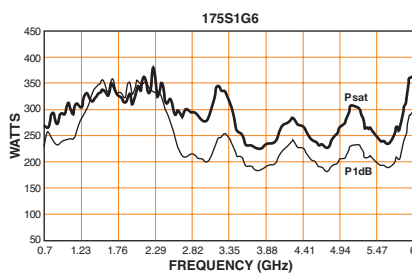
Rated Power Output	525 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 525 watts / min. 475 watts
Power Output @ 1dB compression	Nominal 450 watts / min. 400 watts
Flatness	±2.0dB typ. / ±2.5dB max.
Frequency Response	0.8 - 4.2 GHz instantaneously
Gain (at max. setting)	57.2dB min.
Gain Adjustment	15dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
RF Power Display	Digital, forward and reflected
Third Order Intercept	66dBm typ.
Harmonic Distortion	Minus 20dBc max. at 500 watts
Primary Power	200 - 260 VAC 50/60 Hz, single phase 3000 watts
Connectors	RF input Type N female on rear panel RF output Type 7-8 EIA female on rear panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin female Subminiature D on rear panel
IEEE-488 (GPIB) Interface & RS-232	Allows control and monitoring of all front panel controls except keylock position control.
Cooling	Forced air (self contained fans)
Weight	136 kg (300 lb)
Size (WxHxD)	50.3 x 127 x 61 cm / 19.8 x 50 x 24 in.
Export Classification:	3A001

700S1G4A Solid State Amplifier



700 watts CW, 0.8-4.2 GHz**

Rated Power Output	700 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 700 watts / min. 625 watts
Power Output @ 1dB compression	Nominal 600 watts / min. 525 watts
Flatness	±1.5dB typ. / ±2.0dB max.
Frequency Response	0.8 - 4.2 GHz instantaneously
Gain (at max. setting)	59dB min.
Gain Adjustment	15dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
RF Power Display	Digital, forward and reflected
Third Order Intercept	67dBm typ.
Harmonic Distortion	Minus 20dBc max. at 700 watts
Primary Power	200 - 260 VAC 50/60 Hz, single phase 3800 watts
Connectors	RF input Type N female on rear panel RF output Type 7-8 EIA female on rear panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin female Subminiature D on rear panel
IEEE-488 (GPIB) Interface & RS-232	Allows control and monitoring of all front panel controls except keylock position control.
Cooling	Forced air (self contained fans)
Weight	124.8 kg (275 lb)
Size (WxHxD)	50.3 x 127 x 61 cm / 19.8 x 50 x 24 in.
Export Classification:	3A001



1000S1G4 Solid State Amplifier



1,000 watts CW, 0.8-4.2 GHz

Rated Power Output 1000 watts min.
Input For Rated Output 1 milliwatt max.
Power Output @ 3dB compression
 Nominal 1050 watts / min. 950 watts
Power Output @ 1dB compression
 Nominal 850 watts / min. 800 watts
Flatness ±2.0dB typ. / ±2.5dB max.
Frequency Response 0.8 - 4.2 GHz instantaneously
Gain (at max. setting) 60.5dB min.
Gain Adjustment 20dB min.
Input Impedance 50 ohms, VSWR 2.0:1 max.
Output Impedance 50 ohms, nominal
Mismatch Tolerance*
 100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability
 Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
RF Power Display Digital, forward and reflected
Third Order Intercept 68dBm typ.
Harmonic Distortion Minus 20 dBc maximum at 800 watts, -30 dBc typical at 800 watts.
Primary Power
 200 - 240 VAC
 50/60 Hz, single phase
 5800 watts
Connectors
 RF input Type N female on rear panel
 RF output Type 7-8 EIA female on rear panel
Remote Interfaces
 IEEE-488 24 pin female
 RS-232 9 pin Subminiature D (female)
 RS-232 (fiber optic) Type ST
 USB 2.0 Type B
 Ethernet RJ-45
Safety Interlock 15 pin female Subminiature D on rear panel
IEEE-488 (GPIB) Interface & RS-232
 Allows control and monitoring of all front panel controls except keylock position control.
Cooling Forced air (self contained fans)
Weight 244.8 kg (540 lbs)
Size (WxHxD)
 68.8 x 202.2 x 82.5 cm / 27.1 x 79.6 x 32.5 in.

100S1G2z5A Solid State Amplifier



100 watts CW, 1.0-2.5 GHz

Rated Power Output 100 watts min.
Input For Rated Output 1 milliwatt max.
Power Output @ 3dB compression
 Nominal 120 watts / min. 90 watts
Power Output @ 1dB compression
 Nominal 100 watts / min. 70 watts
Average Power Output @ 3.2 GHz and above
 Less than 60 watts
Flatness ±1.5dB typ. / ±2.0dB max.
Frequency Response 1.0 - 2.5 GHz instantaneously
Gain (at max. setting) 50dB min.
Gain Adjustment (continuous range) 20dB min.
Input Impedance 50 ohms, VSWR 2.0:1 max.
Output Impedance 50 ohms, nominal
Mismatch Tolerance*
 100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability
 Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point 60dBm typ.
Harmonic Distortion Minus 20dBc max. at 70 watts
Primary Power (selected automatically)
 90 - 264 VAC
 50/60 Hz, single phase
 650 watts max.
Connectors
 RF input Type N female on front panel
 RF output Type N female on front pane
Remote Interfaces
 IEEE-488 24 pin female
 RS-232 9 pin Subminiature D (female)
 RS-232 (fiber optic) Type ST
 USB 2.0 Type B
 Ethernet RJ-45
Safety Interlock 15 Pin Subminiature D
Cooling Forced air (self contained fans)
Weight 35.4 kg (78 lb)
Size (WxHxD)
 50.3 x 30 x 61 cm / 19.8 x 11.8 x 24 in.

250S1G2z5A Solid State Amplifier



250 watts CW, 1.0-2.5 GHz

Rated Power Output 250 watts min.
Input For Rated Output 1.0 milliwatt max.
Power Output @ 3dB compression
 Nominal 275 watts / min. 225 watts
Power Output @ 1dB compression
 Nominal 200 watts / min. 175 watts
Average Power Output @ 3.2 GHz and above
 Less than 60 watts
Flatness ±1.5dB typ. / ±2.0dB max.
Frequency Response 1.0 - 2.5 GHz instantaneously
Gain (at max. setting) 54dB min.
Gain Adjustment (continuous range) 20dB min.
Input Impedance 50 ohms, VSWR 2.0:1 max.
Output Impedance 50 ohms, nominal
Mismatch Tolerance*
 100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability
 Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point 64dBm typ.
Noise Figure 10dB typ.
Harmonic Distortion Minus 20dBc max. at 175 watts
Spurious Minus 73dBc typ.
Phase Linearity ±1.0 deg/100 MHz, typ.
Primary Power (selected automatically)
 90 - 264 VAC
 50/60 Hz, single phase
 1300 watts max.
Connectors
 RF input Type N female on front panel
 RF output Type N female on front panel
Remote Interfaces
 IEEE-488 24 pin female
 RS-232 9 pin Subminiature D (female)
 RS-232 (fiber optic) Type ST
 USB 2.0 Type B
 Ethernet RJ-45
Safety Interlock 15 Pin Subminiature D
Cooling Forced air (self contained fans)
Weight 40.8 kg (90 lb)
Size (WxHxD)
 50.3 x 30 x 61 cm / 19.8 x 11.8 x 24 in.

500S1G2z5 Solid State Amplifier



500 watts CW, 1.0-2.5 GHz

Rated Power Output 500 watts min.
Input For Rated Output 1.0 milliwatt max.
Power Output @ 3dB compression
 Nominal 550 watts / min. 450 watts
Power Output @ 1dB compression
 Nominal 400 watts / min. 350 watts
Flatness ±1.5dB typ. / ±2.0dB max.
Frequency Response 1.0 - 2.5 GHz instantaneously
Gain (at max. setting) 57dB min.
Gain Adjustment (continuous range) 20dB min.
Input Impedance 50 ohms, VSWR 2.0:1 max.
Output Impedance 50 ohms, nominal
Mismatch Tolerance*
 100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability
 Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point 66dBm typ.
Harmonic Distortion Minus 20dBc max. at 175 watts
 Minus 20dBc typ. at 500 watts
Spurious Minus 73dBc typ.
Phase Linearity ±1.0 deg/100 MHz, typ.
Primary Power (selected automatically)
 120 - 240 VAC
 50/60 Hz, single phase
 2200 watts max.
Connectors
 RF input Type N female on front panel
 RF output Type 7/16 female on front panel
Remote Interfaces
 IEEE-488 24 pin female
 RS-232 9 pin Subminiature D (female)
 RS-232 (fiber optic) Type ST
 USB 2.0 Type B
 Ethernet RJ-45
Safety Interlock 15 Pin Subminiature D
Cooling Forced air (self contained fans)
Weight 74.8 kg (165 lb)
Size (WxHxD)
 50.3 x 47.0 x 61 cm / 19.8 x 18.5 x 24 in.

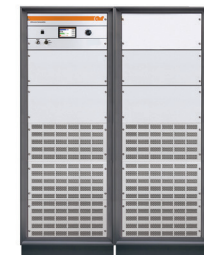
1000S1G2z5A Solid State Amplifier



1,000 watts CW, 1.0-2.5 GHz

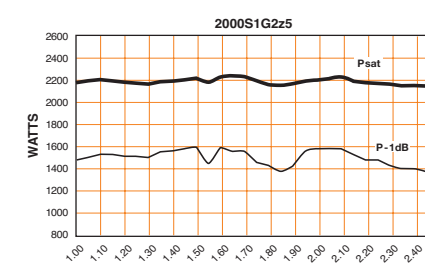
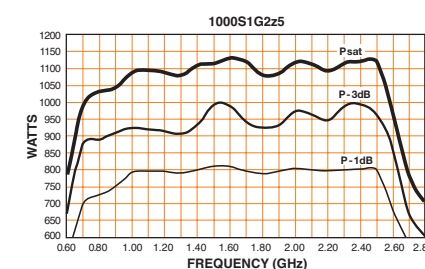
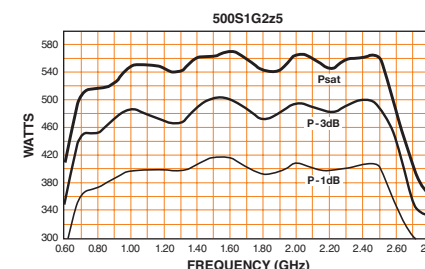
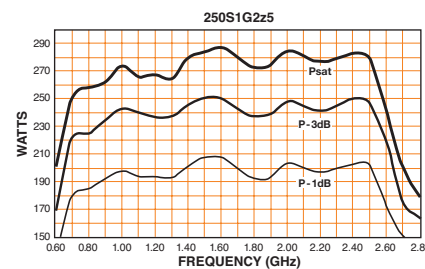
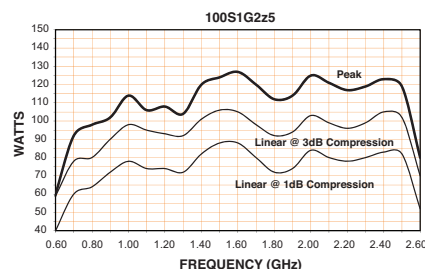
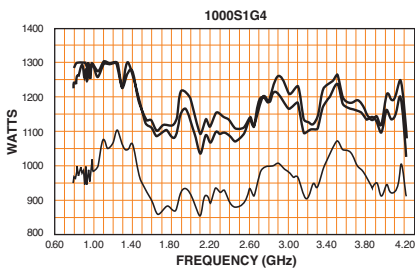
Rated Power Output 1000 watts min.
Input For Rated Output 1 milliwatt max.
Power Output @ 3dB compression
 Nominal 1000 watts / min. 925 watts
Power Output @ 1dB compression
 Nominal 850 watts / min. 725 watts
Flatness ±1.5dB typ. / ±2.0dB max.
Frequency Response 1 - 2.5 GHz instantaneously
Gain (at max. setting) 60dB min.
Gain Adjustment (continuous range) 20dB min.
Input Impedance 50 ohms, VSWR 2.0:1 max.
Output Impedance 50 ohms, nominal
Mismatch Tolerance*
 100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. * See Application Note #27A.
Modulation Capability
 Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point 69dBm typ.
Noise Figure 10dB typ.
Harmonic Distortion Minus 20dBc max. at 800 watts
 Minus 20dBc typ. at 1000 watts
Spurious Minus 73dBc typ.
Primary Power (selected automatically)
 200 - 264 VAC
 50/60 Hz, single phase
 4500 watts max.
Connectors
 RF input Type N female on front panel
 RF output Type 7-8 EIA on rear panel
Remote Interfaces
 IEEE-488 24 pin female
 RS-232 9 pin Subminiature D (female)
 RS-232 (fiber optic) Type ST
 USB 2.0 Type B
 Ethernet RJ-45
Safety Interlock 15 Pin Subminiature D
Cooling Forced air (self contained fans)
Weight 148 kg (325 lb)
Size (WxHxD)
 56.1 x 127 x 83 cm / 22.1 x 50 x 32.4 in.

2000S1G2z5 Solid State Amplifier

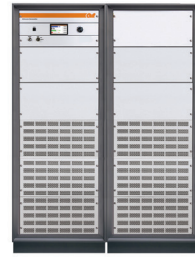


2,000 watts CW, 1.0-2.5 GHz

Rated Power Output 2000 watts min.
Input For Rated Output 1 milliwatt max.
Power Output @ 3dB compression
 Nominal 1850 watts / min. 1750 watts
Power Output @ 1dB compression
 Nominal 1500 watts / min. 1300 watts
Average Output Power @ 3.2 GHz And Above:
 Less than 60 watts
Flatness ±1.5dB typ. / ±2.0dB max.
Frequency Response 1 - 2.5 GHz instantaneously
Gain (at max. setting) 63dB min.
Gain Adjustment (continuous range) 20dB min.
Input Impedance 50 ohms, VSWR 2.0:1 max.
Output Impedance 50 ohms, nominal
Mismatch Tolerance*
 100% of rated power without foldback up to 6.0:1 mismatch above which may limit to 1000 watts reflected power. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. *See Application Note #27A.
Modulation Capability
 Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point 70dBm typ.
Noise Figure 10dB typ.
Harmonic Distortion Minus 20dBc max. at 1400 watts
Spurious Minus 73dBc typ.
Primary Power (selected automatically)
 208 VAC, WYE (5-wire)
 50/60 Hz, 3-phase, 12kVA
Connectors
 RF input Type N female on rear panel
 RF output Type 1-5/8 EIA female on rear panel
Remote computer interfaces
 IEEE-488 24 pin
 RS-232 9 pin subminiature D
 RS-232 Fiber Optic Type ST
 USB 2.0 Type B
 Ethernet RJ-45
Safety Interlock 15 Pin Subminiature D
Cooling Forced air (self contained fans)
Weight 296 kg (650 lb)
Size (WxHxD) 2 joined cabinets:
 111.8 x 123.7 x 83 cm / 44.0 x 48.7 x 32.4 in
Base Requirements: 3" diameter/2" wide casters, height adjustable over 1". Must accommodate forklift.
Export Classification: EAR99



3000S1G2z5 Solid State Amplifier



3,000 watts CW, 1.0-2.5 GHz

Rated Power Output	3000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 2750 watts / min. 2600 watts
Power Output @ 1dB compression	Nominal 2300 watts / min. 2000 watts
Average Output Power @ 3.2 GHz And Above:	Less than 60 watts
Flatness	±1.5dB typ. / ±2.0dB max.
Frequency Response	1 - 2.5 GHz instantaneously
Gain (at max. setting)	64dB min.
Gain Adjustment (continuous range)	20dB min. (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance*	100% of rated power without foldback up to 6.0:1 mismatch above which may limit to 1500 watts reflected power. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point	72dBm typ.
Noise Figure	10dB typ.
Harmonic Distortion	Minus 20dBc max. at 2200 watts
Spurious	Minus 73dBc typ.
Primary Power (selected automatically)	208 VAC, WYE (5-wire) 50/60 Hz, 3-phase, 17.5kVA
Connectors	RF input Type N female on rear panel RF output Type 1-5/8 EIA female on rear panel
Remote computer interfaces	IEEE-488 24 pin RS-232 9 pin subminiature D RS-232 Fiber Optic Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	432 kg (950 lb)
Size (WxHxD) 2 joined cabinets:	111.8 x 149.9 x 83 cm / 44.0 x 59 x 32.4 in
Base Requirements:	3" diameter/2" wide casters, height adjustable over 1". Must accommodate forklift.
Export Classification:	EAR99

20S6G18-L Solid State Amplifier



20 watts CW, 6.0-18 GHz

Rated Power Output	20 watts min.
Input For Rated Output	1 milliwatt max., 0dBm
Power Output @ 3dB compression	Nominal 25 watts / min. 18 watts
Power Output @ 1dB compression	Nominal 22 watts / min. 15 watts
Power Gain Flatness (0 dBm IN)	±2dB typ. / ±3dB max.
Frequency Response	6.0 - 18 GHz instantaneously
Gain (at max. setting)	43dB min.
Gain Adjustment (continuous range)	10dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point	49dBm typ.
Harmonic Distortion	Minus 20dBc max. at 20 watts
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase <700 watts max.
Connectors	RF input Precision N female on rear panel RF output Precision N female on rear panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (internal self-contained liquid)
Weight	w/cabinet: 31.75 kg (70 lb) w/o cabinet: 20.4 kg (45 lb)
Size (WxHxD)	w/cabinet: 50.3 x 20.6 x 62.2 cm / 19.8 x 8.1 x 24.5 in w/o cabinet: 48.3 x 17.8 x 62.2 cm / 19.0 x 7.0 x 24.5 in
Export Classification:	3A001

40S6G18-L Solid State Amplifier



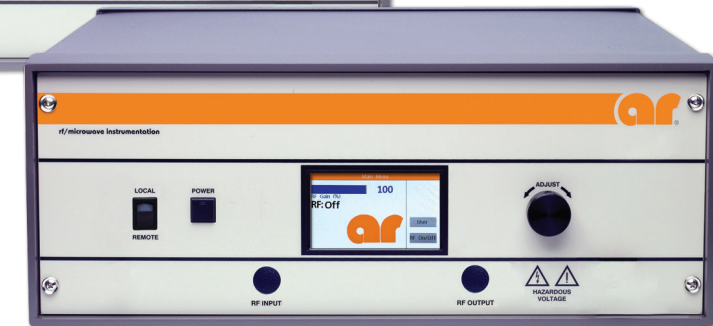
40 watts CW, 6.0-18 GHz

Rated Power Output	40 watts min.
Input For Rated Output	1 milliwatt max., 0dBm
Power Output @ 3dB compression	Nominal 45 watts / min. 35 watts
Power Output @ 1dB compression	Nominal 30 watts / min. 22 watts
Power Gain Flatness (0 dBm IN)	±2dB typ. / ±3dB max.
Frequency Response	6.0 - 18 GHz instantaneously
Gain (at max. setting)	46dB min.
Gain Adjustment (continuous range)	10dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Modulation Capability	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
Third Order Intercept Point	52dBm typ.
Harmonic Distortion	Minus 20dBc max. at 40 watts
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50/60 Hz, single phase <1000 watts max.
Connectors	RF input Precision N female on rear panel RF output Precision N female on rear panel
Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (internal self-contained liquid)
Weight	w/cabinet: 34 kg (75 lb) w/o cabinet: 22.7 kg (50 lb)
Size (WxHxD)	w/cabinet: 50.3 x 20.6 x 62.2 cm / 19.8 x 8.1 x 24.5 in w/o cabinet: 48.3 x 17.8 x 62.2 cm / 19.0 x 7.0 x 24.5 in
Export Classification:	3A001

6 to 18 GHz Amplifiers With New Internal Liquid Cooling

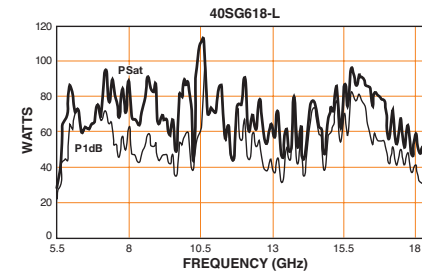
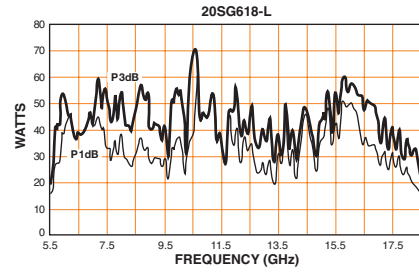
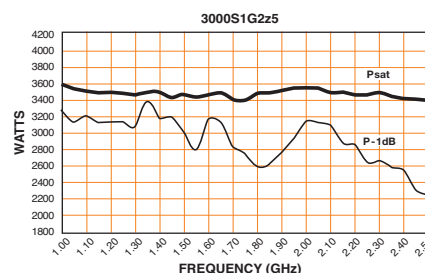


40S6G18-L



20S6G18-L

AR's new 20S6G18-L and 40S6G18-L are self-contained, air-cooled, broadband, Class A solid-state amplifiers with a new internal liquid cooling design. These models are for applications where instantaneous bandwidth, high gain and linearity are required. The Model 20S6G18-L, when used with a sweep generator, will provide a minimum of 20 watts of RF output power instantaneously from 6 to 18 GHz, while the 40S6G18-L version delivers 40 watts. These instruments are suitable for radiated and conducted immunity testing, TWTA replacements, and EW applications.



Dual-Band, Class A Solid State Amplifiers

We put two of our state of the art Class A CW amplifiers in a single chassis to address your needs and provide an easy to use amplifier system. With AR's Dual Band Amplifiers, you have freedom like never before.

The Dual-Band Amplifiers combine two amplifiers in one package, enabling you to cover a wider frequency with one dual-band amp that costs less, weighs less and requires less space than two solid state individual amplifiers.

Our Dual-Band amplifiers are Mismatch Tolerant, providing 100% of rated power without foldback. These amplifiers can be used for EMC, EW and other applications because they are linear and extremely load tolerant. They will operate without damage or oscillation with any magnitude and phase of source and load impedance.

All our Amplifiers have modulation capability that will faithfully reproduce AM, FM or Pulse Modulation appearing on the input signal. The AM peak envelope power is limited to specified power.

Some Benefits To Our Customers Are:

- Single unit eliminates need for external switches, resulting in less complexity & lower unit cost
- Simplify setup and improve throughput by not having to change antenna, coupler, or control interface
- Single unit more compact when space is an issue
- Less bulk and weight results in easier handling
- No foldback provides the maximum power to the load – you get the power you paid for
- Future upgradability results in lower upgrade costs on select models

From 700 MHz To 18 GHz "S" Series Solid State Dual-Band Amplifiers

These dual band units supply you with up to 60 watts in the first 0.7-6 GHz band split and up to 40 watts output power in the 6-18 GHz split. A few of the applications benefiting from these models include immunity testing, EW, calibration, R&D, and material testing.

These versatile dual-band amplifiers also have the flexibility to be upgraded to higher power levels for each specific frequency range.

From 10 Hz To 1000 MHz Solid State Dual-Band Amplifiers

Applications specific dual band amplifiers that are ready for the job! With AR's state-of-the-art design capabilities, these dual band amplifiers will help the user be more productive while watching the bottom line. Capabilities allow us to combine the best of our single band amplifiers to exceed requirements of standards such as near-field immunity, IEC EN61000, and Mil-Std 461 CS114 Navy.

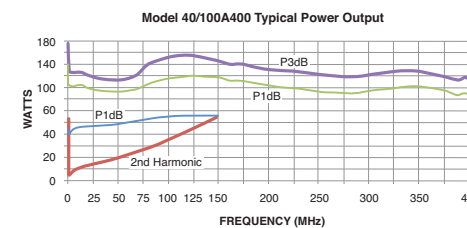


40/100A400 Dual-Band Solid State Amplifier



40/100 watts, 10 Hz-400 MHz

Rated Power Output	40 watts min (0.01 – 150 kHz) 100 watts min (0.01 – 400MHz)
Input For Rated Output	1.0 milliwatt max., 0dBm
Power Output @ 3dB compression	
Nominal	125 watts (0.01 – 400MHz)
Minimum	100 watts (0.01 – 400MHz)
Power Output @ 1dB compression	
Nominal	85 watts (0.01 – 400MHz)
Minimum	25 watts (0.01 – 150 kHz) 75 watts (0.01 – 400MHz)
Power Gain Flatness (0 dBm IN)	
Nominal	±1.5 dB typ., ±2.0 dB max. (0.01 – 150 kHz)
Minimum	±1.0 dB typ., ±1.5 dB max. (0.01 – 400MHz)
Frequency Response	0.01 – 150 kHz instantaneously 0.01 – 400MHz instantaneously
Power Gain (at max. setting)	45 dB min. (0.01 – 150 kHz) 50 dB min. (0.01 – 400MHz)
Gain Adjustment (continuous range)	18 dB min. (0.01 – 150 kHz) 20 dB min. (0.01 – 400MHz)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. See Application Note 27A.
Spurious	Minus 73 dBc typ.
Harmonic Distortion	Minus 25 dBc max. at 25 watts (0.01 – 150 kHz) Minus 20 dBc typ. at 75 watts (0.01 – 400MHz)
Third Order Intercept Point	54 dBm typ. (0.01 – 150 kHz) 55 dBm typ. (0.01 – 400MHz)
Noise Figure	10 dB typ. (0.01 – 150 kHz)
Primary Power (Universal; selected automatically)	100-240 VAC, 50/60 Hz 400 watts (0.01 – 150 kHz) 500 watts max. (0.01 – 400MHz)
Connectors	RF input Type N female RF output Type N female
Standard Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D Female RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (internal self-contained liquid)
Weight	35 kg (77 lb)
Size (WxHxD)	50.3 x 20.5 x 74.9 cm (19.8 x 8.1 x 29.5 in)
Export Classification:	EAR99

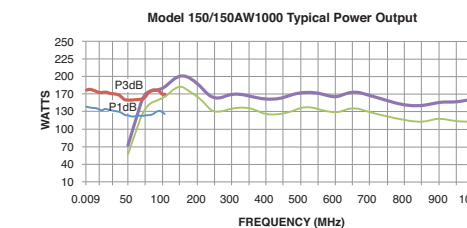


150/150AW1000 Dual-Band Solid State Amplifier



150/130 watts, 10 kHz-1000 MHz

Rated Power Output	150 watts min (10 kHz – 100 MHz) 130 watts min (80 – 1000 MHz)
Input For Rated Output	1.0 milliwatt max., 0dBm
Power Output @ 3dB compression	
Nominal	165 watts (10 kHz – 100 MHz) 150 watts (80 – 1000 MHz)
Minimum	140 watts (10 kHz – 100 MHz) 125 watts (80 – 1000 MHz)
Power Output @ 1dB compression	
Nominal	135 watts (10 kHz – 100 MHz) 125 watts (80 – 1000 MHz)
Minimum	110 watts (10 kHz – 100 MHz) 100 watts (80 – 1000 MHz)
Power Gain Flatness (0 dBm IN)	
Nominal	±1.0 dB typ., ±1.5 dB max. (10 kHz – 100 MHz)
Minimum	±1.5 dB typ., ±2.0 dB max. (80 – 1000 MHz)
Frequency Response	10 kHz – 100 MHz instantaneously 80 – 1000 MHz instantaneously
Power Gain (at max. setting)	51.8 dB min. (10 kHz – 100 MHz) 52 dB min. (80 – 1000 MHz)
Gain Adjustment (continuous range)	20 dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. See Application Note 27A.
Spurious	Minus 73 dBc typ.
Harmonic Distortion	Minus 20 dBc max. at 100 watts, -30 dBc typ. at 70 watts (10 kHz – 100 MHz) -30 dBc typ. at 100 watts (80 – 1000 MHz)
Third Order Intercept Point	55 dBm typ. (10 kHz – 100 MHz) 58 dBm typ. (80 – 1000 MHz)
Noise Figure	8 dB typ. (10 kHz – 100 MHz) 8 dB max., 6 dB typ. (80 – 1000 MHz)
Primary Power (Universal; selected automatically)	100-240 VAC, 50/60 Hz 500 watts (10 kHz – 100 MHz) 650 watts max. (80 – 1000 MHz)
Connectors	RF input Type N female RF output Type N female
Standard Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D Female RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (internal self-contained liquid)
Weight	42.6 kg (94 lb)
Size (WxHxD)	50.3 x 20.5 x 74.9 cm (19.8 x 8.1 x 29.5 in)
Export Classification:	EAR99

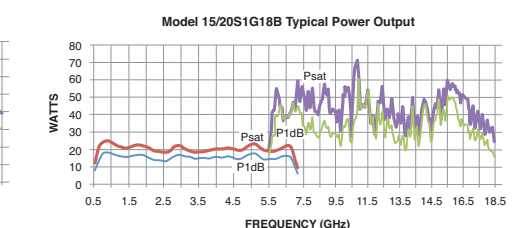


15/20S1G18B Dual-Band Solid State Amplifier



15/20 watts, 0.7 GHz-18 GHz

Rated Power Output	15 watts min (0.7 – 6 GHz), 20 watts min (6 – 18 GHz)
Input For Rated Output	1.0 milliwatt max., 0dBm
Power Output @ 3dB compression	
Nominal	20 watts (0.7 – 6 GHz), 25 watts (6 – 18 GHz)
Minimum	14 watts (0.7 – 6 GHz), 18 watts (6 – 18 GHz)
Power Output @ 1dB compression	
Nominal	15 watts (0.7 – 6 GHz), 22 watts (6 – 18 GHz)
Minimum	12 watts (0.7 – 6 GHz), 15 watts (6 – 18 GHz)
Power Gain Flatness (0 dBm IN)	
Nominal	±1.5 dB typ., ±2.0 dB max. (0.7 – 6 GHz)
Minimum	±2.0 dB typ., ±3.0 dB max. (6 – 18 GHz)
Frequency Response	0.7 – 6 GHz instantaneously 6 – 18 GHz instantaneously
Power Gain (at max. setting)	43 dB min. (0.7 – 6 GHz) 44 dB min. (6 – 18 GHz)
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. See Application Note 27A.
Spurious	Minus 73 dBc typ.
Harmonic Distortion	Minus 20 dBc max. at 15 watts (0.7 – 6 GHz) Minus 20 dBc max. at 20 watts (6 – 18 GHz)
Third Order Intercept Point	48 dBm typ. (0.7 – 6 GHz) 49 dBm typ. (6 – 18 GHz)
Noise Figure	10 dB typ.
Primary Power	90-264 VAC 50/60 Hz, single phase 210 watts max. (0.7 – 6 GHz) 600 watts max. (6 – 18 GHz)
Connectors	RF input Type N female front panel RF output Type N female front panel
Standard Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D Female RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (internal self contained liquid)
Weight	40.5 kg (89 lb)
Size (WxHxD)	50.3 x 34 x 62.2 cm (19.8 x 13.4 x 24.5 in)
Export Classification:	3A001



Dual Band, Solid State Amplifiers 0.7 to 18 GHz

15/40S1G18A Dual-Band Solid State Amplifier



15/40 watts, 0.7 GHz-18 GHz

Rated Power Output	15 watts min (0.7 – 6 GHz), 40 watts min (6 – 18 GHz)
Input For Rated Output	1.0 milliwatt max., 0dBm
Power Output @ 3dB compression	Nominal 20 watts (0.7 – 6 GHz), 46 watts (6 – 18 GHz) Minimum 15 watts (0.7 – 6 GHz), 35 watts (6 – 18 GHz)
Power Output @ 1dB compression	Nominal 15 watts (0.7 – 6 GHz), 30 watts (6 – 18 GHz) Minimum 12 watts (0.7 – 6 GHz), 22 watts (6 – 18 GHz)
Power Gain Flatness (0 dBm IN)	±1.5 db typ., ±2.0 dB max. (0.7 – 6 GHz) ±2.0 db typ., ±3.0 dB max. (6 – 18 GHz)
Frequency Response	0.7 – 6 GHz instantaneously 6 – 18 GHz instantaneously
Power Gain (at max. setting)	43 dB min. (0.7 – 6 GHz), 46 dB min. (6 – 18 GHz)
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. See Application Note 27A.
Spurious	Minus 73 dBc typ.
Harmonic Distortion	Minus 20 dBc max. at 15 watts (0.7 – 6 GHz) Minus 20 dBc max. at 40 watts (6 – 18 GHz)
Third Order Intercept Point	48 dBm typ. (0.7 – 6 GHz), 52 dBm typ. (6 – 18 GHz)
Noise Figure	10 dB typ.
Primary Power	90-264 VAC 50/60 Hz, single phase 210 watts max. (0.7 – 6 GHz) <1000 watts max. (6 – 18 GHz)
Connectors	RF input Type N female front panel RF output Type N female front panel
Standard Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D Female RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (internal self-contained liquid)
Weight	44 kg (97 lb)
Size (WxHxD)	50.3 x 34 x 62.2 cm (19.8 x 13.4 x 24.5 in)
Export Classification:	3A001

30/20S1G18B Dual-Band Solid State Amplifier



30/20 watts, 0.7 GHz-18 GHz

Rated Power Output	30 watts min (0.7 – 6 GHz), 20 watts min (6 – 18 GHz)
Input For Rated Output	1.0 milliwatt max., 0dBm
Power Output @ 3dB compression	Nominal 35 watts (0.7 – 6 GHz), 25 watts (6 – 18 GHz) Minimum 26 watts (0.7 – 6 GHz), 18 watts (6 – 18 GHz)
Power Output @ 1dB compression	Nominal 30 watts (0.7 – 6 GHz), 22 watts (6 – 18 GHz) Minimum 22 watts (0.7 – 6 GHz), 15 watts (6 – 18 GHz)
Power Gain Flatness (0 dBm IN)	±1.5 db typ., ±2.0 dB max. (0.7 – 6 GHz) ±2.0 db typ., ±3.0 dB max. (6 – 18 GHz)
Frequency Response	0.7 – 6 GHz instantaneously 6 – 18 GHz instantaneously
Power Gain (at max. setting)	44 dB min. (0.7 – 6 GHz), 43 dB min. (6 – 18 GHz)
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. See Application Note 27A.
Spurious	Minus 73 dBc typ.
Harmonic Distortion	Minus 20 dBc max. at 30 watts (0.7 – 6 GHz) Minus 20 dBc max. at 20 watts (6 – 18 GHz)
Third Order Intercept Point	50 dBm typ. (0.7 – 6 GHz), 49 dBm typ. (6 – 18 GHz)
Noise Figure	10 dB typ.
Primary Power	90-264 VAC 50/60 Hz, single phase 300 watts max. (0.7 – 6 GHz) 600 watts max. (6 – 18 GHz)
Connectors	RF input Type N female front panel RF output Type N female front panel
Standard Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D Female RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	42 kg (93 lb)
Size (WxHxD)	50.3 x 34 x 62.2 cm (19.8 x 13.4 x 24.5 in)
Export Classification:	3A001

30/40S1G18B Dual-Band Solid State Amplifier



30/40 watts, 0.7 GHz-18 GHz

Rated Power Output	30 watts min (0.7 – 6 GHz), 40 watts min (6 – 18 GHz)
Input For Rated Output	1.0 milliwatt max., 0dBm
Power Output @ 3dB compression	Nominal 35 watts (0.7 – 6 GHz), 46 watts (6 – 18 GHz) Minimum 26 watts (0.7 – 6 GHz), 30 watts (6 – 18 GHz)
Power Output @ 1dB compression	Nominal 30 watts (0.7 – 6 GHz), 30 watts (6 – 18 GHz) Minimum 22 watts (0.7 – 6 GHz), 22 watts (6 – 18 GHz)
Power Gain Flatness (0 dBm IN)	±1.5 db typ., ±2.0 dB max. (0.7 – 6 GHz) ±2.0 db typ., ±3.0 dB max. (6 – 18 GHz)
Frequency Response	0.7 – 6 GHz instantaneously 6 – 18 GHz instantaneously
Power Gain (at max. setting)	44 dB min. (0.7 – 6 GHz), 46 dB min. (6 – 18 GHz)
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. See Application Note 27A.
Spurious	Minus 73 dBc typ.
Harmonic Distortion	Minus 20 dBc max. at 30 watts (0.7 – 6 GHz) Minus 20 dBc max. at 40 watts (6 – 18 GHz)
Third Order Intercept Point	50 dBm typ. (0.7 – 6 GHz), 52 dBm typ. (6 – 18 GHz)
Noise Figure	10 dB typ.
Primary Power	90-264 VAC 50/60 Hz, single phase 300 watts max. (0.7 – 6 GHz) <1000 watts max. (6 – 18 GHz)
Connectors	RF input Type N female front panel RF output Type N female front panel
Standard Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D Female RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (internal self-contained liquid)
Weight	46.3 kg (102 lb)
Size (WxHxD)	50.3 x 34 x 62.2 cm (19.8 x 13.4 x 24.5 in)
Export Classification:	3A001

60/20S1G18B Dual-Band Solid State Amplifier



60/20 watts, 0.7 GHz-18 GHz

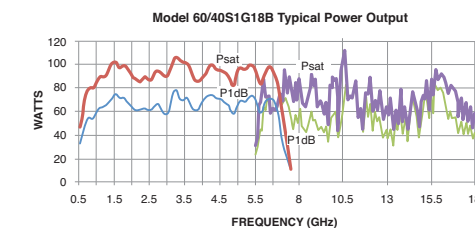
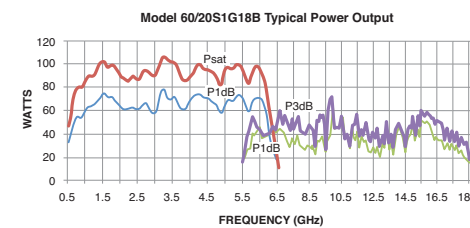
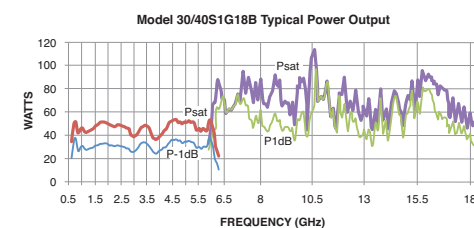
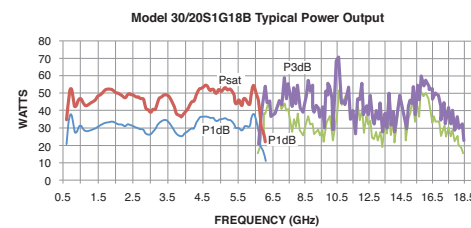
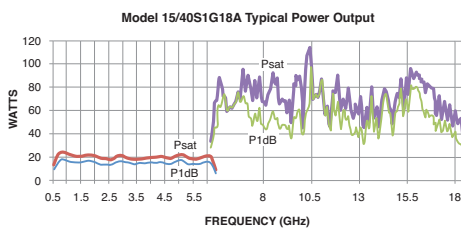
Rated Power Output	60 watts min (0.7 – 6 GHz), 20 watts min (6 – 18 GHz)
Input For Rated Output	1.0 milliwatt max., 0dBm
Power Output @ 3dB compression	Nominal 60 watts (0.7 – 6 GHz), 25 watts (6 – 18 GHz) Minimum 55 watts (0.7 – 6 GHz), 18 watts (6 – 18 GHz)
Power Output @ 1dB compression	Nominal 57 watts (0.7 – 6 GHz), 22 watts (6 – 18 GHz) Minimum 50 watts (0.7 – 6 GHz), 15 watts (6 – 18 GHz)
Power Gain Flatness (0 dBm IN)	±1.5 db typ., ±2.0 dB max. (0.7 – 6 GHz) ±2.0 db typ., ±3.0 dB max. (6 – 18 GHz)
Frequency Response	0.7 – 6 GHz instantaneously 6 – 18 GHz instantaneously
Power Gain (at max. setting)	48 dB min (0.7 – 6 GHz), 43 dB min (6 – 18 GHz)
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. See Application Note 27A.
Spurious	Minus 73 dBc typ.
Harmonic Distortion	Minus 20 dBc max. at 60 watts (0.7 – 6 GHz) Minus 20 dBc max. at 20 watts (6 – 18 GHz)
Third Order Intercept Point	54 dBm typ. (0.7 – 6 GHz), 49 dBm typ. (6 – 18 GHz)
Noise Figure	10 dB typ.
Primary Power	90-264 VAC 50/60 Hz, single phase 550 watts max. (0.7 – 6 GHz) 600 watts max. (6 – 18 GHz)
Connectors	RF input Type N female front panel RF output Type N female front panel
Standard Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D Female RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	50 kg (110 lb)
Size (WxHxD)	50.3 x 34 x 62.2 cm (19.8 x 13.4 x 24.5 in)
Export Classification:	3A001

60/40S1G18B Dual-Band Solid State Amplifier



60/40 watts, 0.7 GHz-18 GHz

Rated Power Output	60 watts min (0.7 – 6 GHz), 40 watts min (6 – 18 GHz)
Input For Rated Output	1.0 milliwatt max., 0dBm
Power Output @ 3dB compression	Nominal 60 watts (0.7 – 6 GHz), 46 watts (6 – 18 GHz) Minimum 55 watts (0.7 – 6 GHz), 35 watts (6 – 18 GHz)
Power Output @ 1dB compression	Nominal 57 watts (0.7 – 6 GHz), 30 watts (6 – 18 GHz) Minimum 50 watts (0.7 – 6 GHz), 22 watts (6 – 18 GHz)
Power Gain Flatness (0 dBm IN)	±1.5 db typ., ±2.0 dB max. (0.7 – 6 GHz) ±2.0 db typ., ±3.0 dB max. (6 – 18 GHz)
Frequency Response	0.7 – 6 GHz instantaneously 6 – 18 GHz instantaneously
Power Gain (at max. setting)	48 dB min (0.7 – 6 GHz), 46 dB min (6 – 18 GHz)
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. See Application Note 27A.
Spurious	Minus 73 dBc typ.
Harmonic Distortion	Minus 20 dBc max. at 60 watts (0.7 – 6 GHz) Minus 20 dBc max. at 40 watts (6 – 18 GHz)
Third Order Intercept Point	54 dBm typ. (0.7 – 6 GHz), 52 dBm typ. (6 – 18 GHz)
Noise Figure	10 dB typ.
Primary Power	90-264 VAC 50/60 Hz, single phase 550 watts max. (0.7 – 6 GHz) <1000 watts max. (6 – 18 GHz)
Connectors	RF input Type N female front panel RF output Type N female front panel
Standard Remote Interfaces	IEEE-488 24 pin female RS-232 9 pin Subminiature D Female RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	52.2 kg (115 lb)
Size (WxHxD)	50.3 x 34 x 62.2 cm (19.8 x 13.4 x 24.5 in)
Export Classification:	3A001



T and TP Series "CW" & "Pulsed" Microwave TWTAs

Highest Available Power (Up To 10,000 Watts)

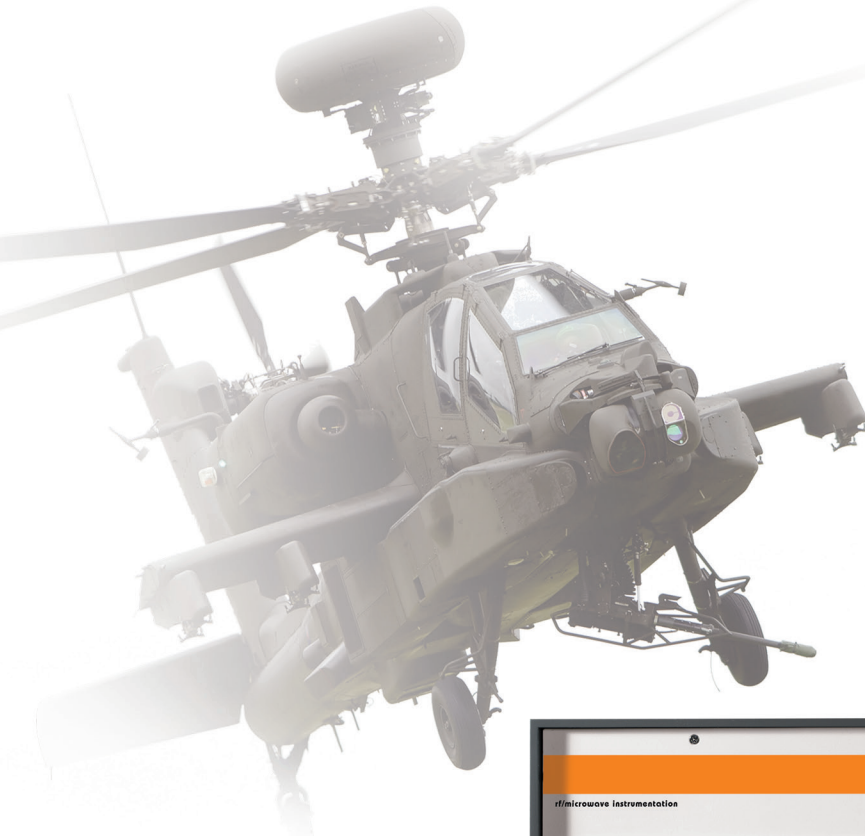
- Complies with the most stringent standards.
- Operation up to 50 GHz
- Faithfully Reproduce AM, FM Or Pulse Modulation Appearing On The Input Signal

Intelligent Display

- Monitor forward and reverse power, and more.

VSWR Protection

- Each amplifier is designed with output foldback protection.

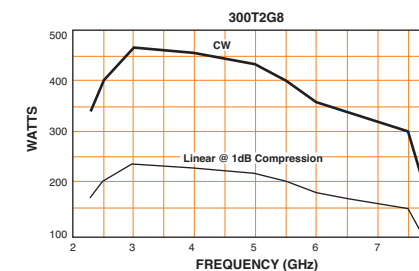


300T2G8 TWT Amplifier



300 watts CW, 2.5-7.5 GHz

Power (fundamental), CW/Pulse @ Output Connector	
Nominal	350 watts / min. 300 watts
Linear @ 1dB Compression	75 watts min.
Flatness ±12dB max, equalized for ±5dB max. at rated power	
Frequency Response 2.5 - 7.5 GHz instantaneously	
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	55dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output power foldback protection at reflected power exceeding 60 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Video Pulse Capability	
Pulse Width	0.05 microseconds min.
Pulse Rate (PRF)	100 kHz max.
RF Rise and Fall	30 ns max. (10% to 90%)
Delay	300 ns max. from pulse input to RF 90%
Pulse width distortion ±30 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Noise Power Density (pulse on) Minus 75dBm/Hz max., Minus 80dBm/Hz typ.	
(pulse off) Minus 140dBm/Hz typ.	
Harmonic Distortion Minus 3dBc max., Minus 4.5dBc typ.	
Primary Power 190 - 260 VAC	
50/60 Hz, single phase	
3 kVA max.	
Connectors	
RF input	Type N female on rear panel
RF output	Type N female on rear panel
RF output sample port	Type N female on rear panel
Interlock	DB-15 female on rear panel
Video	BNC-female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	54 kg (120 lb)
Size (WxHxD) 50.3 x 29.7 x 68.6 cm / 19.8 x 11.7 x 27 in.	

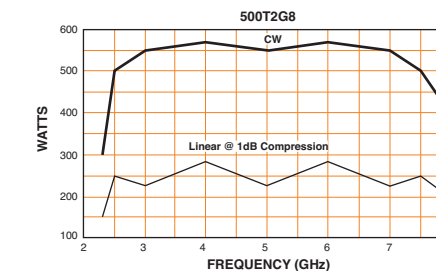


500T2G8 TWT Amplifier



500 watts CW, 2.5-7.5 GHz

Power (fundamental), CW/Pulse @ Output Connector	
Nominal	541 watts / min. 500 watts
Linear @ 1dB Compression	125 watts min.
Flatness ±8dB max, equalized for ±5dB max. at rated power	
Frequency Response 2.5 - 7.5 GHz instantaneously	
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	57dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output power foldback protection at reflected power exceeding 100 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Video Pulse Capability	
Pulse Width	0.05 microseconds min.
Pulse Rate (PRF)	100 kHz max.
RF Rise and Fall	30 ns max. (10% to 90%)
Delay	300 ns max. from pulse input to RF 90%
Pulse width distortion ±30 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Noise Power Density (pulse on) Minus 85dBm/Hz max., Minus 95dBm/Hz typ.	
(pulse off) Minus 140dBm/Hz typ.	
Harmonic Distortion Minus 3dBc max., Minus 3.5dBc typ.	
Primary Power 208 VAC ± 10%	
50/60 Hz, three phase	
3.5 kVA max.	
Connectors	
RF input	Type N female on rear panel
RF output	7-16 DIN female on rear panel
RF output sample port	Type N female on rear panel
Interlock	DB-15 female on rear panel
Video	BNC-female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	55 kg (120 lb)
Size (WxHxD) 50.8 x 25.4 x 68.6 cm / 20 x 10 x 27 in.	

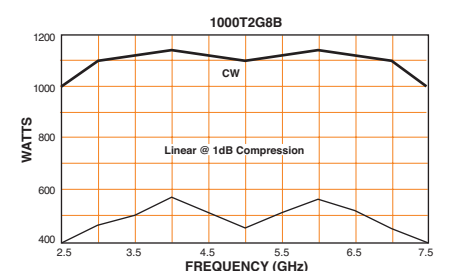


1000T2G8B TWT Amplifier

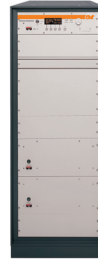


1,000 watts CW, 2.5-7.5 GHz

Power (fundamental), CW, @ Output Connector	
Nominal	1100 watts / min. 900 watts, 2.5 - 2.7 GHz
	1000 watts, 2.7 - 7.5 GHz
Linear @ 1dB Compression	250 watts min.
Flatness ±8dB max., equalized for ±3dB max. at rated power	
Frequency Response 2.5 - 7.5 GHz instantaneously	
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	60dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output power foldback protection at reflected power exceeding 200 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Noise Power Density Minus 80dBm/Hz max., Minus 90dBm/Hz typ.	
Harmonic Distortion Minus 15dBc max., Minus 17dBc typ.	
Primary Power 190 - 255 VAC	
50/60 Hz, three phase, delta (4 wire)	
8.0 kVA max.	
Connectors	
RF input	Type N female on rear panel
RF output	Type WRD-250D30 waveguide flange on rear panel
RF output sample port	Type N female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	295 kg (650 lb)
Size (WxHxD) 56 x 160 x 82.3 cm / 22.1 x 63 x 32.4 in.	



1500T2G8A TWT Amplifier



1,700 watts CW, 2.5-7.5 GHz

Power (fundamental), CW, @ Output Connector
Nominal 2000 watts / min. 1600 watts, 2.5 - 3 GHz
1700 watts, 3 - 7.5 GHz
Linear @ 1dB Compression 400 watts min.

Flatness
±8dB max., equalized for ±6dB max. at rated power

Frequency Response 2.5 - 7.5 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 62dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
Output power foldback protection at reflected power exceeding 300 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Noise Power Density
Minus 85dBm/Hz max., Minus 95dBm/Hz typ.

Harmonic Distortion
Minus 15dBc max., Minus 17dBc typ.

Primary Power
190 - 255 VAC
50/60 Hz, three phase, delta (4 wire)
11 kVA max.

Connectors
RF input Type N female on rear panel
RF output Type WRD-250D30 waveguide flange on rear panel
RF output sample ports (forward and reflected) Type N female on rear panel

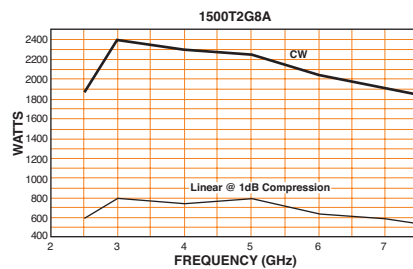
Interlock DB-15 female on rear panel

GPIB IEEE-488 female on rear panel

Cooling
Forced air (self contained fans), air entry and exit in rear.

Weight 296 kg (650 lb)

Size (WxHxD)
56 x 160 x 82.3 cm / 22.1 x 63 x 32.4 in.



200T4G8 TWT Amplifier



200 watts CW, 4.0-8.0 GHz

Power (fundamental), CW, @ Output Connector
Nominal 262 watts / min. 200 watts
Linear @ 1dB Compression 100 watts min.

Flatness ±6dB max. at rated power

Frequency Response 4.0 - 8.0 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 53dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
Output power foldback protection at reflected power exceeding 40 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Noise Power Density
Minus 64dBm/Hz max., Minus 70dBm/Hz typ.

Harmonic Distortion
Minus 4dBc max., Minus 7dBc typ.

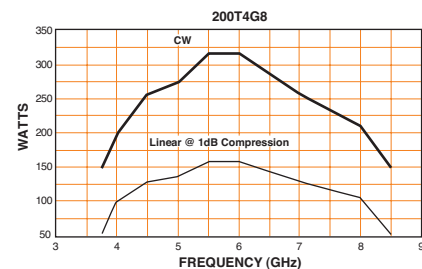
Primary Power
190-260 VAC
50/60 Hz, single phase
2.0 kVA max.

Connectors
RF input Type N female on rear panel
RF output Type N female on rear panel
RF output sample port Type N female on rear panel
Interlock DB-15 female on rear panel
GPIB IEEE-488 female on rear panel

Cooling
Forced air (self contained fans), air entry and exit in rear.

Weight 54 kg (120 lb)

Size (WxHxD)
50.3 x 29.7 x 68.6 cm / 19.8 x 11.7 x 27 in.



250T6G18 TWT Amplifier



250 watts CW, 6-18 GHz

Power (fundamental), CW/Pulse @ Output Connector
Nominal 300 watts / min. 250 watts
±6dB max. at rated power

Flatness ±6dB max. at rated power

Frequency Response 6 - 18 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 54dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.5:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
Output power foldback protection at reflected power exceeding 50 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Video Pulse Capability
Pulse Width 1 microsecond min.
Pulse Rate (PRF) 100 kHz max.
RF Rise and Fall 30 ns max. (10% to 90%)
Delay 300 ns max. from pulse input to RF 90%
Pulse width distortion ±30 ns max. (50% points of output pulse width compared to 50% points of input pulse width)

Noise Power Density
(pulse on) Minus 65dBm/Hz max., Minus 70dBm/Hz typ.
(pulse off) Minus 140dBm/Hz typ.

Harmonic Distortion
Minus 5dBc max., Minus 8dBc typ.

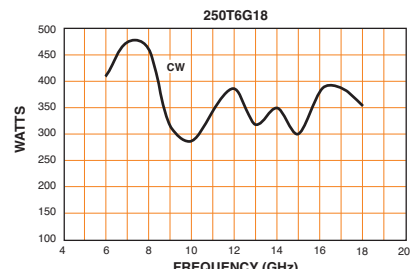
Primary Power
190 - 260 VAC, 50/60 Hz, single phase, 2.0 kVA max.

Connectors
RF input Type N female on rear panel
RF output Type WRD-650 waveguide flange on rear panel
RF output sample port Type N female on rear panel
Interlock DB-15 female on rear panel
Video BNC-female on rear panel
GPIB IEEE-488 female on rear panel

Cooling
Forced air (self contained fans), air entry and exit in rear.

Weight 53 kg (115 lb)

Size (WxHxD)
50.3 x 29.7 x 68.6 cm / 19.8 x 11.7 x 27 in.



250T8G18 TWT Amplifier



250 watts CW, 7.5-18 GHz

Power (fundamental), CW/Pulse @ Output Connector
Nominal 300 watts / min. 250 watts
Linear @ 1dB Compression 70 watts min.

Flatness ±12dB max., equalized for ±5dB max. at rated power

Frequency Response 7.5 - 18 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 54dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
Output power foldback protection at reflected power exceeding 50 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Video Pulse Capability
Pulse Width 0.05 microsecond min.
Pulse Rate (PRF) 100 kHz max.
RF Rise and Fall 30 ns max. (10% to 90%)
Delay 300 ns max. from pulse input to RF 90%
Pulse width distortion ±30 ns max. (50% points of output pulse width compared to 50% points of input pulse width)

Noise Power Density
(pulse on) Minus 70dBm/Hz max., Minus 72dBm/Hz typ.
(pulse off) Minus 140dBm/Hz typ.

Harmonic Distortion
Below 10 GHz, Minus 5dBc max., Minus 7dBc typ.
10 - 12 GHz, Minus 8dBc max., Minus 12dBc typ.
Above 12 GHz, Minus 20dBc max., Minus 30dBc typ.

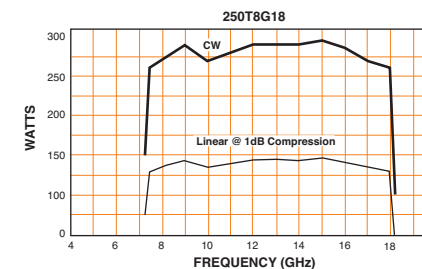
Primary Power
190 - 260 VAC, 50/60 Hz, single phase, 2.5 kVA max.

Connectors
RF input Type N female on rear panel
RF output Type WRD-750D24 waveguide flange on rear panel
RF output sample port Type N female on rear panel
Interlock DB-15 female on rear panel
Video BNC-female on rear panel
GPIB IEEE-488 female on rear panel

Cooling
Forced air (self contained fans), air entry and exit in rear.

Weight 53 kg (115 lb)

Size (WxHxD)
50.3 x 29.7 x 68.6 cm / 19.8 x 11.7 x 27 in.



500T8G18 TWT Amplifier



500 watts CW, 7.5-18 GHz

Power (fundamental), CW, @ Output Connector
Nominal 543 watts / min. 500 watts
Linear @ 1dB Compression 125 watts min.

Flatness ±11dB max., equalized for ±3dB max. at rated power

Frequency Response 7.5 - 18 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 57dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
Output power foldback protection at reflected power exceeding 100 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Noise Power Density
Minus 70dBm/Hz max., Minus 72dBm/Hz typ.

Harmonic Distortion
Minus 20dBc max., Minus 22dBc/Hz typ.

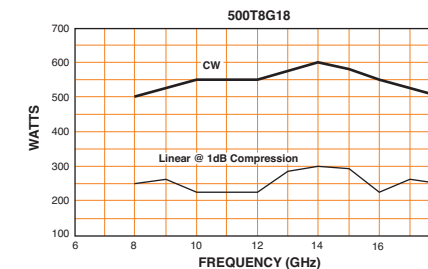
Primary Power
208 VAC ± 10%, 50/60 Hz, three phase, 4 kVA max.

Connectors
RF input Type N female on rear panel
RF output Type WRD-750D24 waveguide flange on rear panel
RF output sample port Type N female on rear panel
GPIB IEEE-488 female on rear panel
Interlock DB-15 female on rear panel

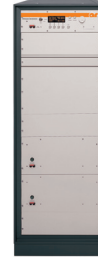
Cooling
Forced air (self contained fans), air entry and exit in rear.

Weight 91 kg (200 lb)

Size (WxHxD)
50.3 x 40.6 x 68.6 cm / 19.8 x 16.0 x 27 in.



1000T8G18B TWT Amplifier



1,000 watts CW, 7.5-18 GHz

Power (fundamental), CW, @ Output Connector
Nominal 1100 watts
Minimum 1000 watts 7.5 - 17 GHz, 925 watts 17 - 18 GHz
Linear @ 1dB Compression 250 watts min.

Flatness ±11dB max., equalized for ±3dB max. at rated power

Frequency Response 7.5 - 18 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 60dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
Output power foldback protection at reflected power exceeding 200 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Noise Power Density
Minus 70dBm/Hz max., Minus 72dBm/Hz typ.

Harmonic Distortion
Minus 20dBc max., Minus 27dBc typ.

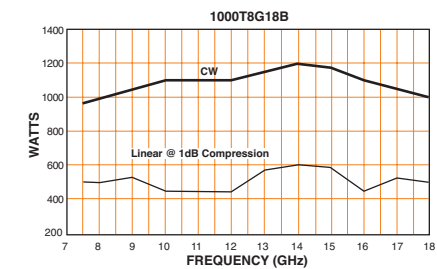
Primary Power
190 - 255 VAC
50/60 Hz, three phase, delta (4 wire)
8 kVA max.

Connectors
RF input Type N female on rear panel
RF output Type WRD-750D24 waveguide flange on rear panel
RF output sample port Type N female on rear panel
Interlock DB-15 female on rear panel
GPIB IEEE-488 female on rear panel

Cooling
Forced air (self contained fans), air entry and exit in rear.

Weight 295 kg (650 lb)

Size (WxHxD)
56 x 160 x 82.3 cm / 22.1 x 63 x 32.4 in.



1500T8G18 TWT Amplifier



1,500 watts CW, 7.5-18 GHz

Power (fundamental), CW, @ Output Connector
 Nominal 2000 watts / Min. 1500 watts
 Linear @ 1dB Compression 375 watts min.

Flatness
 ±11dB max., equalized for ±6dB max. at rated power

Frequency Response 7.5 - 18 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 62dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output power foldback protection at reflected power exceeding 300 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Noise Power Density
 Minus 70dBm/Hz max., Minus 72dBm/Hz typ.

Harmonic Distortion
 Minus 20dBc max., Minus 27dBc typ.

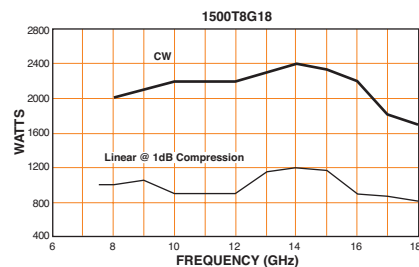
Primary Power
 190 - 255 VAC
 50/60 Hz, three phase, delta (4 wire)
 16 kVA max.

Connectors
 RF input Type N female on rear panel
 RF output Type WRD-750D24 waveguide flange on rear panel
 RF output sample ports (forward and reverse) Type N female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 female on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 546 kg (1200 lb)

Size (WxHxD) (2 cabinets)
 56 x 160 x 84 cm / 22.1 x 63 x 33 in. per cabinet



40T18G26A TWT Amplifier



40 watts CW, 18-26.5 GHz

Power (fundamental), CW, @ Output Connector
 Nominal 45 watts / min. 40 watts
 Linear @ 1dB Compression 10 watts min.

Flatness ±8dB max.

Frequency Response 18 - 26.5 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 46dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output power foldback protection at reflected power exceeding 10 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Noise Power Density
 Minus 60dBm/Hz max., Minus 65dBm/Hz typ.

Harmonic Distortion
 Minus 20dBc max., Minus 28dBc typ.

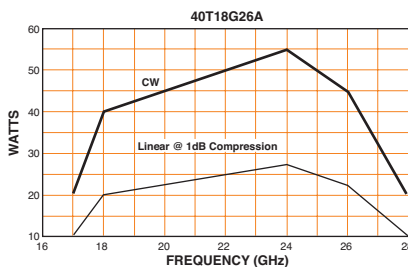
Primary Power
 99 - 260 VAC
 50/60 Hz, single phase
 850 VA max.

Connectors
 RF input Type K female on rear panel
 RF output Type WR-42 waveguide flange on rear panel
 RF output sample port Type K female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 female on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 30 kg (65 lb)

Size (WxHxD)
 50.3 x 16.5 x 68.6 cm / 19.8 x 6.5 x 27 in.



130T18G26z5B TWT Amplifier



130 watts CW, 18-26.5 GHz

Power (fundamental), CW, @ Output Connector
 Nominal 150 watts / min. 130 watts
 Linear @ 1dB Compression 30 watts min.

Flatness ±9dB max.

Frequency Response 18 - 26.5 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 52dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output power foldback protection at reflected power exceeding 20 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Noise Power Density
 Minus 70dBm/Hz max., Minus 75dBm/Hz typ.

Harmonic Distortion
 Minus 15dBc max., Minus 20dBc typ.

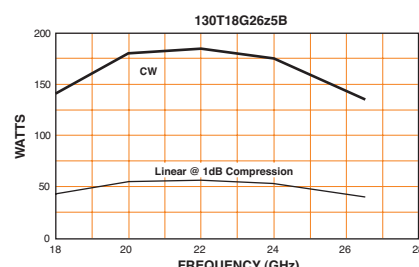
Primary Power
 190 - 260 VAC
 50/60 Hz, single phase
 0.8 kVA max.

Connectors
 RF input Type K female on rear panel
 RF output Type WR-42 waveguide flange on rear panel
 RF output sample port Type K female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 on rear panel
 Video BNC female on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 36 kg (80 lb)

Size (WxHxD)
 50.3 x 16.5 x 68.6 cm / 19.8 x 6.5 x 27 in.



200T18G26z5A TWT Amplifier



200 watts CW, 18-26.5 GHz

Power (fundamental), CW, @ Output Connector
 Nominal 225 watts / min. 200 watts
 Linear @ 1dB Compression 50 watts min.

Flatness ±10dB max.

Frequency Response 18 - 26.5 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 53dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output power foldback protection at reflected power exceeding 40 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Video Pulse Capability
 Pulse Width 0.1 microseconds min.
 Pulse Rate (PRF) 10 kHz max.
 Duty Cycle Some restrictions apply. Contact AR with application requirements.

RF Rise and Fall 100 ns max. (10% to 90%)

Delay 500 ns max from pulse input to RF90%

Pulse Width Distortion
 200 ns max (50% points of output pulse width compared to 50% points of input pulse width)

Noise Power Density (pulse off) Minus 140 dBm/Hz typ.

Pulse Off Isolation 80 dB min., 90 dB typ.

Pulse Input
 TTL Level, 50 Ohm nominal termination, high level enables RF when video pulsing mode is selected.

Noise Power Density
 Minus 70dBm/Hz max., Minus 75dBm/Hz typ.

Harmonic Distortion
 Minus 20dBc max., Minus 30dBc typ.

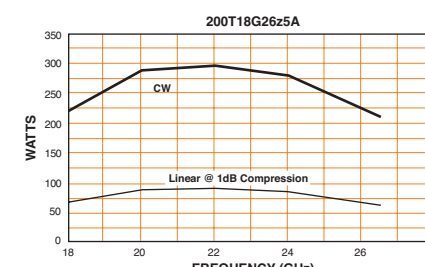
Primary Power
 190 - 260 VAC
 50/60 Hz, single phase
 3 kVA max.

Connectors
 RF input Type K female on rear panel
 RF output Type WR-42 waveguide flange on rear panel
 RF output sample port Type K female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 91 kg (200 lb)

Size (WxHxD)
 50.3 x 43 x 81 cm / 19.8 x 17 x 32 in.



40T26G40A TWT Amplifier



40 watts CW, 26.5-40 GHz

Power (fundamental), CW, @ Output Connector
 Nominal 45 watts / min. 40 watts
 Linear @ 1dB Compression 10 watts min.

Flatness ±8dB max.

Frequency Response 26.5 - 40 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 46dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output power foldback protection at reflected power exceeding 10 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Noise Power Density
 Minus 60dBm/Hz max., Minus 70dBm/Hz typ.

Harmonic Distortion
 Minus 20dBc max., Minus 28dBc typ.

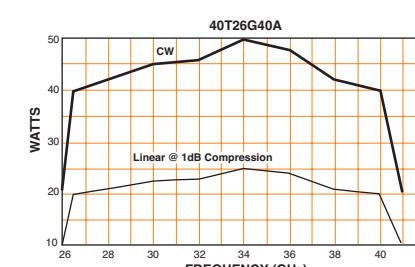
Primary Power
 99 - 260 VAC
 50/60 Hz, single phase
 850 VA max.

Connectors
 RF input Type K female on rear panel
 RF output Type WR-28 waveguide flange on rear panel
 RF output sample port Type K female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 30 kg (65 lb)

Size (WxHxD)
 50.3 x 16.5 x 68.6 cm / 19.8 x 6.5 x 27 in.



130T26z5G40B TWT Amplifier



130 watts CW, 26.5-40 GHz

Power (fundamental), CW, @ Output Connector
 Nominal 150 watts / min. 130 watts
 Linear @ 1dB Compression 30 watts min.

Flatness ±10dB max.

Frequency Response 26.5 - 40 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 52dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output power foldback protection at reflected power exceeding 20 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Noise Power Density
 Minus 70dBm/Hz max., Minus 75dBm/Hz typ.

Harmonic Distortion
 Minus 15dBc max., Minus 20dBc typ.

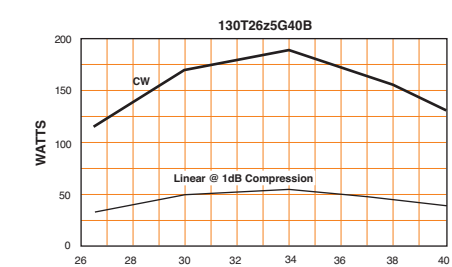
Primary Power
 190 - 260 VAC
 50/60 Hz, single phase
 0.8 kVA max.

Connectors
 RF input Type K female on rear panel
 RF output Type WR-28 waveguide flange on rear panel
 RF output sample port Type K female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 36 kg (80 lb)

Size (WxHxD)
 50.3 x 16.5 x 68.6 cm / 19.8 x 6.5 x 27 in.



Microwave TWT Amplifiers 26.5 to 40 GHz

40 to 50 GHz

1 to 1.5 GHz Pulse

1.5 to 2 GHz Pulse

2 to 4 GHz Pulse

200T26z5G40A TWT Amplifier



200 watts CW, 26.5-40 GHz

Power (fundamental), CW, @ Output Connector
 Nominal 225 watts / min. 200 watts
 Linear @ 1dB Compression 50 watts min.

Flatness ±10dB max.

Frequency Response 26.5 - 40 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 53dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output power foldback protection at reflected power exceeding 40 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Video Pulse Capability
 Pulse Width 0.1 microseconds min.
 Pulse Rate (PRF) 10 kHz max.
 Duty Cycle 1% max.
 Some restrictions apply. Contact AR with application requirements.

RF Rise and Fall 100 ns max. (10% to 90%)

Delay 500 ns max from pulse input to RF90%

Pulse Width Distortion
 200 ns max (50% points of output pulse width compared to 50% points of input pulse width)

Noise Power Density (pulse off) Minus 140 dBm/Hz typ.

Pulse Off Isolation 80 dB min., 90 dB typ.

Pulse Input
 TTL Level, 50 Ohm nominal termination, high level enables RF when video pulsing mode is selected.

Noise Power Density
 Minus 70dBm/Hz max., Minus 75dBm/Hz typ.

Harmonic Distortion
 Minus 20dBc max., Minus 30dBc typ.

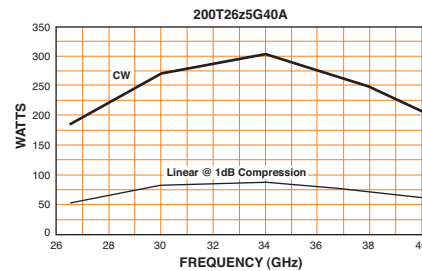
Primary Power
 190 - 260 VAC
 50/60 Hz, single phase
 3 kVA max.

Connectors
 RF input Type K female on rear panel
 RF output Type WR-42 waveguide flange on rear panel
 RF output sample port Type K female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 91 kg (200 lb)

Size (WxHxD)
 50.3 x 43 x 81 cm / 19.8 x 17 x 32 in.



70T40G50 TWT Amplifier



70 watts CW, 40-50 GHz

Power (fundamental), CW, @ Output Flange
 Minimum 70 watts, 40 GHz - 45 GHz
 50 watts, 45 GHz - 50 GHz

Flatness ±3dB max. at rated power

Frequency Response 40 - 50 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain (at maximum setting) 47dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output power foldback protection at reflected power exceeding 20 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Harmonic Distortion Minus 15dBc typ.

Spurious Response (non-harmonic)
 Minus 15dBc typ. (excluding harmonics)

Primary Power
 190 - 260 VAC
 50/60 Hz, single phase
 1.5 kVA max.

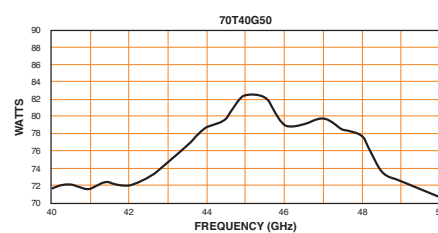
Connectors
 RF input Type 2.4 mm female on rear panel
 RF output Type WR-22 waveguide flange on rear panel, all tapped
 RF output sample ports (forward and reflected) Type 2.4 mm female on rear panel
 Remote Interface IEEE-488
 Interlock DB-15 female on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 42 kg (93 lb)

Size (WxHxD)
 48.26 x 16.5 x 76.2 cm / 19 x 6.5 x 30 in.

Export Classification EAR99



100T40G50 TWT Amplifier



100 watts CW, 40-50 GHz

Power (fundamental), CW, @ Output Connector
 Minimum 100 watts

Flatness ±8dB max.

Frequency Response 40 - 50 GHz instantaneously

Input For Rated Output 1 milliwatt max.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.0:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Harmonic Distortion
 Minus 22dBc typ.

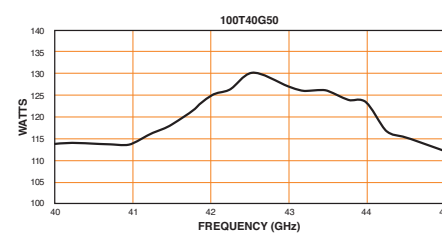
Primary Power
 190 - 260 VAC
 50/60 Hz, single phase
 1.5 kVA max.

Connectors
 RF input Type 2.4 mm female on rear panel
 RF output Type WR-22 waveguide flange on rear panel
 RF output sample ports Type 2.4 mm female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 female on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 82 kg (180 lb)

Size (WxHxD)
 50.3 x 43 x 76 cm / 19.8 x 17 x 30 in.



8000TP1G1z5 Pulse TWT Amplifier



8,000 watts, 1-1.5 GHz Pulse

Power (fundamental), Peak Pulse, @ Output
 Nominal 10,000 watts / min. 8000 watts

Flatness ±6dB min.

Frequency Response 1 - 1.5 GHz

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 69dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.5:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output pulse width foldback protection at peak reflected power exceeding 2000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Pulse Capability
 Pulse Width 0.07 - 40 microseconds
 Pulse Rate (PRF) 100 kHz max.
 Duty Cycle 1% max.
 RF Rise and Fall 70 ns max. (10% - 90%)
 Delay 300 ns max. from pulse input to RF 90%

Pulse Width Distortion
 ±30 ns max. (50% points of output pulse width compared to 50% points of input pulse width)

Pulse Off Isolation 80 dB min., 90 dB typ.

Pulse Input TTL level, 50 ohm nominal termination

Noise Power Density
 (pulse on) Minus 55dBm/Hz max., Minus 65dBm/Hz typ.
 (pulse off) Minus 140dBm/Hz typ.

Harmonic Distortion
 Minus 15dBc max.

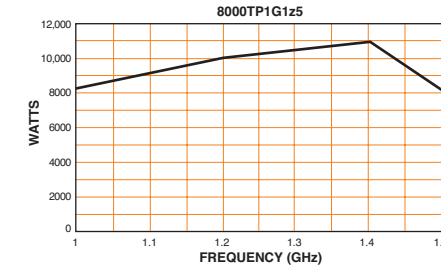
Primary Power
 190 - 260 VAC
 50/60 Hz, single phase
 1 kVA max.

Connectors
 RF input Type N female on rear panel
 RF output Type DIN 7-16 on rear panel
 RF output forward and reflected sample ports Type N female on rear panel
 Pulse input Type BNC female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 female on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 57 kg (125 lb)

Size (WxHxD)
 50.3 x 26 x 94 cm / 19.8 x 10.3 x 37 in.



6500TP1z5G2 Pulse TWT Amplifier



6,500 watts, 1.5-2 GHz Pulse

Power (fundamental), Peak Pulse, @ Output
 Nominal 8000 watts / min. 6500 watts

Flatness ±6dB min.

Frequency Response 1.5 - 2 GHz

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 68dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.5:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output VSWR protection using internal isolator. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Pulse Capability
 Pulse Width 0.07 - 40 microseconds
 Pulse Rate (PRF) 100 kHz max.
 Duty Cycle 1% max.
 RF Rise and Fall 30 ns max. (10% - 90%)
 Delay 300 ns max. from pulse input to RF 90%

Pulse Width Distortion
 ±30 ns max. (50% points of output pulse width compared to 50% points of input pulse width)

Pulse Off Isolation 80 dB min., 90 dB typ.

Pulse Input TTL level, 50 ohm nominal termination

Noise Power Density
 (pulse on) Minus 55dBm/Hz max., Minus 65dBm/Hz typ.
 (pulse off) Minus 140dBm/Hz typ.

Harmonic Distortion
 Minus 15dBc max.

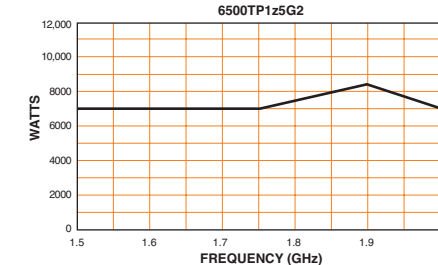
Primary Power
 190 - 260 VAC
 50/60 Hz, single phase
 1 kVA max.

Connectors
 RF input Type N female on rear panel
 RF output Type DIN 7-16 on rear panel
 RF output forward and reflected sample ports Type N female on rear panel
 Pulse input Type BNC female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 female on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 57 kg (125 lb)

Size (WxHxD)
 50.3 x 26 x 94 cm / 19.8 x 10.3 x 37 in.



4000TP2G4 Pulse TWT Amplifier



4,000 watts, 2-4 GHz Pulse

Power (fundamental), Peak Pulse, @ Output
 Nominal 5800 watts / min. 4.7 kW

Flatness ±10dB max.

Frequency Response 2 - 4 GHz

Input For Rated Output 1 milliwatt max.

Gain (at max. setting) 66dB min.

Gain Adjustment (continuous range) 35dB min.

Input Impedance 50 ohms, VSWR 2.5:1 max.

Output Impedance 50 ohms, VSWR 2.5:1 typ.

Mismatch Tolerance
 Output pulse width foldback protection at peak reflected power exceeding 1000 watts. Will operate without damage with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

Pulse Capability
 Pulse Width 0.07 - 50 microseconds
 Pulse Rate (PRF) 100 kHz max.
 Duty Cycle 4% max.
 RF Rise and Fall 35 ns max. (10% to 90%)
 Delay 300 ns max. from pulse input to RF 90%

Pulse Width Distortion
 ±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)

Pulse Off Isolation 80 dB min., 90 dB typ.

Pulse Input TTL level, 50 ohm nominal termination

Noise Power Density
 (pulse on) Minus 57dBm/Hz max., Minus 59dBm/Hz typ.
 (pulse off) Minus 140dBm/Hz typ.

Harmonic Distortion
 Minus 0dBc max.

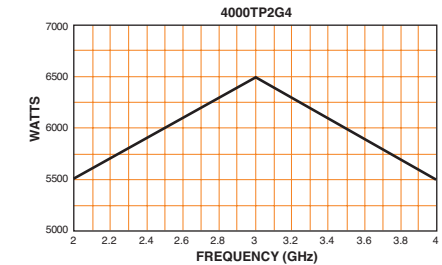
Primary Power
 208 VAC ±10%
 Three phase, 50/60 Hz
 3 kVA max.

Connectors
 RF input Type N female on rear panel
 RF output Type N female on rear panel
 RF output forward sample port Type N female on rear panel
 Pulse input Type BNC female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 female on rear panel

Cooling
 Forced air (self contained fans), air entry and exit in rear.

Weight 75 kg (165 lb)

Size (WxHxD)
 51 x 30.5 x 84 cm / 19.8 x 12 x 33 in.



Microwave TWT Amplifiers 2 to 4 GHz Pulse

2.5 to 7.5 GHz Pulse

2.7 to 3.1 GHz

4 to 8 GHz Pulse

6900TP2G4 Pulse TWT Amplifier



6,900 watts, 2-4 GHz Pulse

Power (fundamental), Peak Pulse, @ Output	
Nominal	9000 watts / min. 6900 watts
Flatness	±8dB min., ±4dB at rated power
Frequency Response	2 - 4 GHz
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	68dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 4000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.2 - 50 microseconds
Pulse Rate (PRF)	100 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	70 ns max. (10% - 90%)
Delay	300 ns max. from pulse input to RF 90%
Pulse Width Distortion	±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80 dB min., 90 dB typ.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Power Density	
(pulse on)	Minus 55dBm/Hz max., Minus 84dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Primary Power	208 VAC ±10%
	50/60 Hz, three phase, delta (4 wire)
	5 kVA max.
Connectors	
RF input	Type N female on rear panel
RF output	Type DIN 7-16 female on rear panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	121 kg (265 lb)
Size (WxHxD)	50.3 x 48 x 89 cm / 19.8 x 19 x 35 in.

12000TP2G4 Pulse TWT Amplifier



12,000 watts, 2-4 GHz Pulse

Power (fundamental), Peak Pulse, @ Output	
Nominal	14,000 watts / min. 12,000 watts
Flatness	±10dB max., ±6dB at rated power
Frequency Response	2 - 4 GHz
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	70.8dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 3000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.1 - 40 microseconds
Pulse Rate (PRF)	20 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	150 ns max. (10% to 90%)
Delay	500 ns max. from pulse input to RF 90%
Pulse Width Distortion	±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80 dB min., 90 dB typ.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Power Density	
(pulse on)	Minus 55dBm/Hz max., Minus 70dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Primary Power	208 VAC ±10%
	Three phase, delta (4-wire), 50/60 Hz
	9 kVA max.
Connectors	
RF input	Type N female on rear panel
RF output	Type 7-16 DIN female on rear panel
RF output forward sample ports	Type N female on rear panel
(forward and reflected)	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	273 kg (600 lb)
Size (WxHxD)	55.9 x 114 x 96.5 cm / 22 x 45 x 38 in.
Export Classification	3A999.d

2000TP2G8B Pulse TWT Amplifier



2,000 watts, 2.5-7.5 GHz Pulse

Power (fundamental), Peak Pulse, @ Output Connector	
Nominal	2200 watts / min. 1000 watts
Flatness	±13dB max., equalized for ±4dB max. at rated power
Frequency Response	2.5 - 7.5 GHz instantaneously
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	63dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 1000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.07 - 30 microseconds
Pulse Rate (PRF)	100 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	30 ns max (10% to 90%)
Delay	300 ns max. from pulse input to RF 90%
Pulse Width Distortion	±30 ns max (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80dB min., 90dB typ.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Power Density	
(pulse on)	Minus 70dBm/Hz max., Minus 72dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Primary Power	190 - 260 VAC
	Single phase, 50/60 Hz
	1.2 kVA max.
Connectors	
RF input	Type N female on rear panel
RF output	Type N female on rear panel
RF output sample port	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	53 kg (115 lb)
Size (WxHxD)	50.3 x 25.4 x 82 cm / 19.8 x 10 x 32 in.

8000TP2z7G3z1 TWT Amplifier



8,000 watts CW, 2.7-3.1 GHz

Power, CW, @ Output Connector	
Power (fundamental), CW, @ Output Connector	Nominal 10,000 watts / min. 8000 watts
Flatness	
±6dB max.	
Frequency Response	2.7 - 3.1 GHz instantaneously
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	69dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Noise Power Density	
(pulse on)	Minus 55dBm/Hz max., Minus 80dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Minus 20dBc max.	
Primary Power	
190 - 255 VAC	
50/60 Hz, three phase, delta (4 wire)	
2 kVA max.	
Connectors	
RF input	Type N female on rear panel
RF output	Type DIN 7-16 female on rear panel
RF output sample ports (forward and reflected)	Type N female on rear panel
RF output	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	61 kg (135 lb)
Size (WxHxD)	50.3 x 26 x 88.9 cm / 19.8 x 10.3 x 35 in.

4000TP4G8 Pulse TWT Amplifier



4,000 watts, 4-8 GHz Pulse

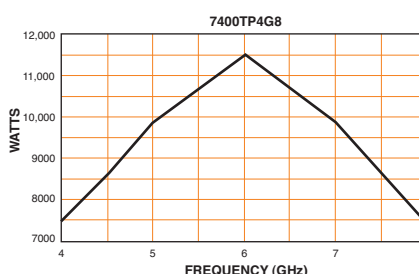
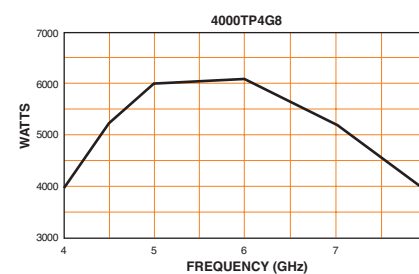
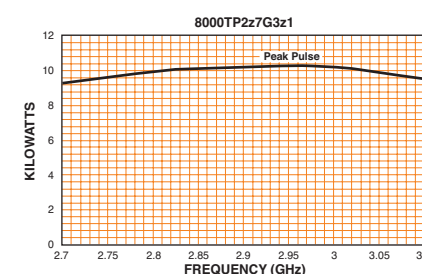
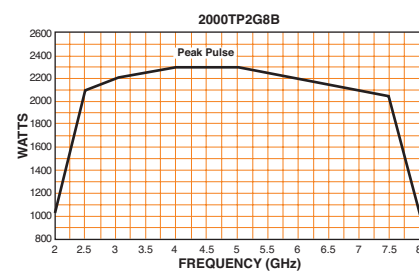
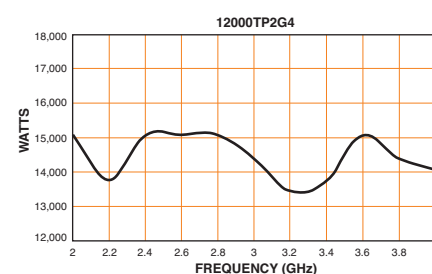
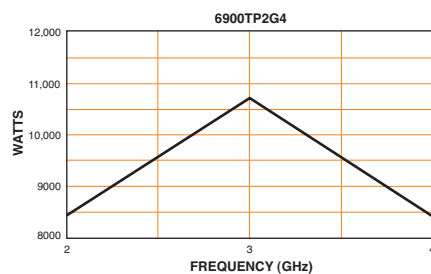
Power (fundamental), Peak Pulse, @ Output	
Nominal	5000 watts / min. 3.8 kW from 4 - 4.5 GHz, 4 kW from 4.5 - 7.5 GHz, 3.8 kW from 7.5 - 8 GHz
Flatness	±10dB min.
Frequency Response	4 - 8 GHz
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	66dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 1000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.07 - 50 microseconds
Pulse Rate (PRF)	100 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	35 ns max. (10% to 90%)
Delay	300 ns max. from pulse input to RF 90%
Pulse Width Distortion	±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80 dB min., 90 dB typ.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Power Density	
(pulse on)	Minus 65dBm/Hz max., Minus 75dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Primary Power	208 VAC ± 10%
	50/60 Hz, three phase
	2.5 kVA max.
Connectors	
RF input	Type N female on rear panel
RF output	Type WRD-350 waveguide flange on rear panel
RF output forward sample port	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	71 kg (155 lb)
Size (WxHxD)	See Model Configuratons on spec sheet via www.arworld.us

7400TP4G8 Pulse TWT Amplifier



7,400 watts, 4-8 GHz Pulse

Power (fundamental), Peak Pulse, @ Output	
Nominal	10,000 watts / min. 7400 watts
Flatness	±10dB min., ±5dB at rated power
Frequency Response	4 - 8 GHz
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	69dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 2000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.2 - 50 microseconds
Pulse Rate (PRF)	100 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	70 ns max. (10% - 90%)
Delay	500 ns max. from pulse input to RF 90%
Pulse Width Distortion	±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80 dB min., 90 dB typ.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Power Density	
(pulse on)	Minus 65dBm/Hz max., Minus 85dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Primary Power	208 VAC ± 10%
	50/60 Hz, three phase, delta (4 wire)
	5 kVA max.
Connectors	
RF input	Type N female on rear panel
RF output	Type WRD-350 waveguide flange on rear panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	123 kg (270 lb)
Size (WxHxD)	50.3 x 53 x 91 cm / 19.8 x 24 x 36 in.



Microwave TWT Amplifiers 4 to 8 GHz Pulse

7.5 to 18 GHz Pulse

8 to 10 GHz Pulse

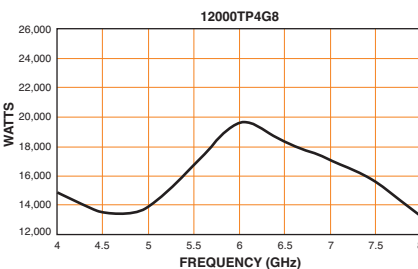
8 to 12 GHz Pulse

12000TP4G8 Pulse TWT Amplifier



12,000 watts, 4-8 GHz Pulse

Power (fundamental), Peak Pulse, @ Output	
Nominal	14,000 watts / min. 12,000 watts
Flatness	±10dB max., ±6dB at rated power
Frequency Response	4 - 8 GHz
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	70.8dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 3000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.1 - 40 microseconds
Pulse Rate (PRF)	20 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	150 ns max. (10% to 90%)
Delay	500 ns max. from pulse input to RF 90%
Pulse Width Distortion	±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80 dB min., 90 dB typ.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Power Density	
(pulse on)	Minus 55dBm/Hz max., Minus 70dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Minus 10dBc max.	
Primary Power	
208 VAC ±10%	
Three phase, delta (4-wire), 50/60 Hz	
9 kVA max.	
Connectors	
RF input	Type N female on rear panel
RF output	Type WRD-350 on rear panel
RF output forward sample ports (forward and reflected)	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	273 kg (600 lb)
Size (WxHxD)	55.9 x 114 x 96.5 cm / 22 x 45 x 38 in.
Export Classification	3A999.d

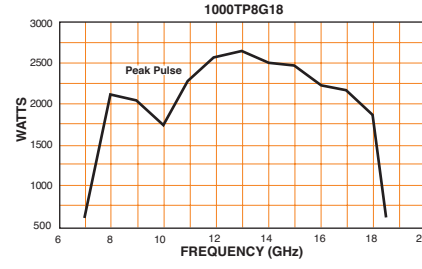


1000TP8G18 Pulse TWT Amplifier



1,000 watts, 7.5-18 GHz Pulse

Power (fundamental), Peak Pulse, @ Output Connector	
Nominal	1800 watts / min. 1000 watts
Flatness	±8dB max., equalized for ±3dB max. at rated power
Frequency Response	7.5 - 18 GHz instantaneously
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	60dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at average reflected power exceeding 500 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.07 - 100 microseconds
Pulse Rate (PRF)	100 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	30 ns max (10% to 90%)
Delay	300 ns max. from pulse input to RF 90%
Pulse Width Distortion	±30ns max (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80dB min. / 90dB typ.
Noise Power Density	
(pulse on)	Minus 57dBm/Hz max., Minus 58dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Minus 2dBc max., Minus 3dBc typ.	
Primary Power	
190 - 260 VAC	
50/60 Hz, single phase	
1.5 kVA max.	
Connectors	
RF input	Type N female on rear panel
RF output	Type WRD-750D24 waveguide flange on rear panel
RF output sample port	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	52 kg (115 lb)
Size (WxHxD)	50.3 x 25.4 x 69 cm / 19.8 x 10 x 27 in.

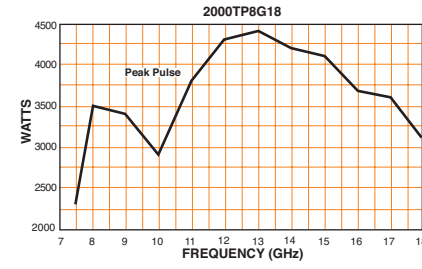


2000TP8G18 Pulse TWT Amplifier



2,000 watts, 7.5-18 GHz Pulse

Power (fundamental), Peak Pulse, @ Output Connector	
Nominal	2500 watts / min. 2000 watts
Flatness	±8dB max., equalized for ±3dB max. at rated power
Frequency Response	7.5 - 18 GHz instantaneously
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	63dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at average reflected power exceeding 1000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.07 - 30 microseconds
Pulse Rate (PRF)	100 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	30 ns max (10% to 90%)
Delay	300 ns max. from pulse input to RF 90%
Pulse Width Distortion	±30ns max (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80dB min. / 90dB typ.
Noise Power Density	
(pulse on)	Minus 55dBm/Hz max., Minus 58dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Minus 18dBc max., Minus 20dBc typ.	
Primary Power	
190 - 260 VAC	
50/60 Hz, single phase	
3 kVA max.	
Connectors	
RF input	Type N female on rear panel
RF output	Type WRD-750D24 waveguide flange on rear panel
RF output sample port	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	72 kg (170 lb)
Size (WxHxD)	50.3 x 39.4 x 77.5 cm / 19.8 x 15.5 x 30.5 in.

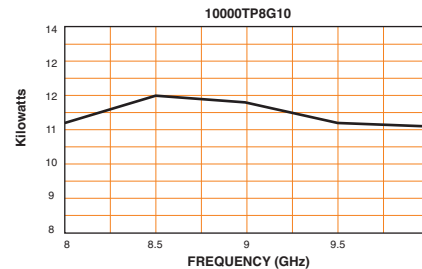


10000TP8G10 Pulse TWT Amplifier



10,000 watts, 8-10 GHz Pulse

Power (fundamental), Peak Pulse, @ Output	
Nominal	11000 watts / min. 10000 watts
Flatness	±6dB min.
Frequency Response	8 - 10 GHz
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	70dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 5000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.07 - 40 microseconds
Pulse Rate (PRF)	100 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	300 ns max. from pulse input to RF 90%
Pulse Width Distortion	±30 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80 dB min., 90 dB typ.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Power Density	
(pulse on)	Minus 65dBm/Hz max., Minus 69dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Minus 15dBc max.	
Primary Power	
190-260 VAC	
50/60 Hz single phase	
2.5 KVA max.	
Connectors	
RF input	Type N precision female on rear panel
RF output	Type WR90 waveguide flange on rear panel
RF output forward and reflected sample ports	Type N precision female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	107 kg (235 lb)
Size (WxHxD)	50.3 x 49 x 74 cm / 19.8 x 19 x 29 in.

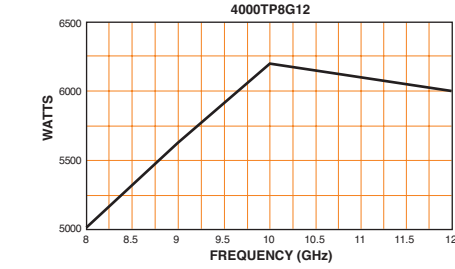


4000TP8G12 Pulse TWT Amplifier



4,000 watts, 8-12 GHz Pulse

Power (fundamental), Peak Pulse, @ Output	
Nominal	5500 watts / min. 4200 watts
Flatness	±10dB max.
Frequency Response	8 - 12 GHz
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	66dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 1000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.07 - 50 microseconds
Pulse Rate (PRF)	100 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	35 ns max. (10% to 90%)
Delay	300 ns max. from pulse input to RF 90%
Pulse Width Distortion	±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80 dB min., 90 dB typ.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Power Density	
(pulse on)	Minus 57dBm/Hz max., Minus 59dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Minus 10dBc max.	
Primary Power	
208 VAC ± 10% or 190 - 260 VAC	
50/60 Hz, three phase or single phase	
3 kVA max.	
Connectors	
RF input	Type N precision female on rear panel
RF output	Type WRD-90 waveguide flange on rear panel
RF output forward sample port	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	75 kg (165 lb)
Size (WxHxD)	51 x 44.5 x 69 cm / 19.8 x 17.5 x 27 in.

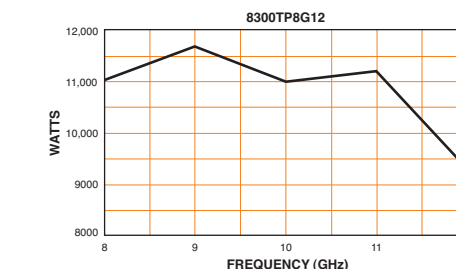


8300TP8G12 Pulse TWT Amplifier



8,300 watts, 8-12 GHz Pulse

Power (fundamental), Peak Pulse, @ Output	
Nominal	10,000 watts / min. 8300 watts
Flatness	±10dB max., ±5dB at rated power
Frequency Response	8 - 12 GHz
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	69dB min.
Gain Adjustment (continuous range)	35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 4000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.	
Pulse Capability	
Pulse Width	0.2 - 50 microseconds
Pulse Rate (PRF)	100 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	70 ns max. (10% - 90%)
Delay	500 ns max. from pulse input to RF 90%
Pulse Width Distortion	±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80 dB min., 90 dB typ.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Power Density	
(pulse on)	Minus 70dBm/Hz max., Minus 73dBm/Hz typ.
(pulse off)	Minus 140dBm/Hz typ.
Harmonic Distortion	
Minus 15dBc max.	
Primary Power	
208 VAC ± 10%	
50/60 Hz, three phase, delta (4 wire)	
5 kVA max.	
Connectors	
RF input	Type N precision female on rear panel
RF output	Type WR-90 waveguide flange on rear panel
RF output forward and reflected sample ports	Type N precision female on rear panel
Pulse input	Type BNC female on rear panel
Interlock	DB-15 female on rear panel
GPIB	IEEE-488 female on rear panel
Cooling	
Forced air (self contained fans), air entry and exit in rear.	
Weight	121 kg (265 lb)
Size (WxHxD)	50.3 x 43 x 84 cm / 19.8 x 17 x 33 in.



Microwave TWT Amplifiers 8 to 12 GHz Pulse

12 to 18 GHz Pulse

20000TP8G12 Pulse TWT Amplifier



3000TP12G18 Pulse TWT Amplifier

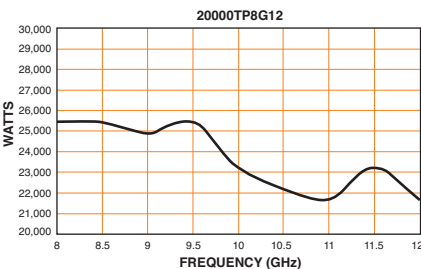


5700TP12G18 Pulse TWT Amplifier



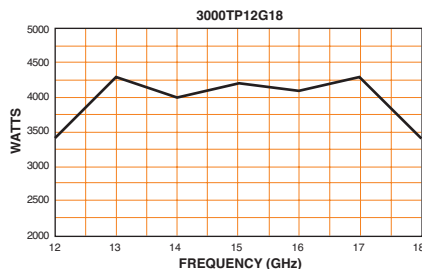
20,000 watts, 8-12 GHz Pulse

Power (fundamental), Peak Pulse, @ Output
 Nominal 22,000 watts / min. 20,000 watts
Flatness ±10dB max., ±6dB at rated power
Frequency Response 8 - 12 GHz
Input For Rated Output 1 milliwatt max.
Gain (at max. setting) 73dB min.
Gain Adjustment (continuous range) 35dB min.
Input Impedance 50 ohms, VSWR 2.5:1 max.
Output Impedance 50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance
 Output pulse width foldback protection at peak reflected power exceeding 5000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.
Pulse Capability
 Pulse Width 0.1 - 40 microseconds
 Pulse Rate (PRF) 20 kHz max.
 Duty Cycle 4% max.
 RF Rise and Fall 150 ns max. (10% to 90%)
 Delay 500 ns max. from pulse input to RF 90%
 Pulse Width Distortion ±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
 Pulse Off Isolation 80 dB min., 90 dB typ.
 Pulse Input TTL level, 50 ohm nominal termination
Noise Power Density
 (pulse on) Minus 65dBm/Hz max., Minus 85dBm/Hz typ.
 (pulse off) Minus 140dBm/Hz typ.
Harmonic Distortion
 Minus 19dBc max.
Primary Power
 208 VAC ±10%
 Three phase, delta (4-wire), 50/60 Hz
 12 kVA max.
Connectors
 RF input Type N female on rear panel
 RF output Type WRD-90 female on rear panel
 RF output forward sample ports (forward and reflected) Type N female on rear panel
 Pulse input Type BNC female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 female on rear panel
Cooling
 Forced air (self contained fans), air entry and exit in rear.
Weight 575 kg (1250 lb)
Size (WxHxD) 57.5 x 196 x 82.5 cm / 22.6 x 77.2 x 32.5 in.
Export Classification 3A999.d



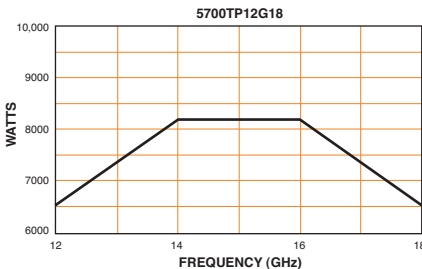
3,000 watts, 12-18 GHz Pulse

Power (fundamental), Peak Pulse, @ Output
 Nominal 3800 watts / min. 3000 watts
Flatness ±10dB max.
Frequency Response 12 - 18 GHz
Input For Rated Output 1 milliwatt max.
Gain (at max. setting) 65dB min.
Gain Adjustment (continuous range) 35dB min.
Input Impedance 50 ohms, VSWR 2.5:1 max.
Output Impedance 50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance
 Output pulse width foldback protection at peak reflected power exceeding 1000 watts. Will operate without damage with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.
Pulse Capability
 Pulse Width 0.07 - 50 microseconds
 Pulse Rate (PRF) 100 kHz max.
 Duty Cycle 4% max.
 RF Rise and Fall 30 ns max. (10% to 90%)
 Delay 300 ns max. from pulse input to RF 90%
 Pulse Width Distortion ±30 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
 Pulse Off Isolation 80 dB min., 90 dB typ.
 Pulse Input TTL level, 50 ohm nominal termination
Noise Power Density
 (pulse on) Minus 55dBm/Hz max., Minus 65dBm/Hz typ.
 (pulse off) Minus 140dBm/Hz typ.
Harmonic Distortion
 Minus 8dBc max.
Primary Power
 190 - 260 VAC
 50/60 Hz, single phase
 2 kVA max.
Connectors
 RF input Type N female on rear panel
 RF output Type WR-62 waveguide flange on rear panel
 RF output forward sample port Type N female on rear panel
 Pulse input Type N female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 female on rear panel
Cooling
 Forced air (self contained fans), air entry and exit in rear.
Weight 52 kg (115 lb)
Size (WxHxD) 50.3 x 26 x 81 cm / 19.8 x 10 x 31.9 in.



5,700 watts, 12-18 GHz Pulse

Power (fundamental), Peak Pulse, @ Output
 Nominal 7000 watts / min. 5700 watts
Flatness ±10dB min., ±5dB at rated power
Frequency Response 12 - 18 GHz
Input For Rated Output 1 milliwatt max.
Gain (at max. setting) 67dB min.
Gain Adjustment (continuous range) 35dB min.
Input Impedance 50 ohms, VSWR 2.5:1 max.
Output Impedance 50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance
 Output pulse width foldback protection at peak reflected power exceeding 3000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.
Pulse Capability
 Pulse Width 0.2 - 50 microseconds
 Pulse Rate (PRF) 100 kHz max.
 Duty Cycle 4% max.
 RF Rise and Fall 70 ns max. (10% - 90%)
 Delay 500 ns max. from pulse input to RF 90%
 Pulse Width Distortion ±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
 Pulse Off Isolation 80 dB min., 90 dB typ.
 Pulse Input TTL level, 50 ohm nominal termination
Noise Power Density
 (pulse on) Minus 55dBm/Hz max., Minus 80dBm/Hz typ.
 (pulse off) Minus 140dBm/Hz typ.
Harmonic Distortion
 Minus 15dBc max.
Primary Power
 208 ±10% VAC
 50/60 Hz, three phase, delta (4 wire)
 5 kVA max.
Connectors
 RF input Type N precision female on rear panel
 RF output Type WR-62 waveguide flange on rear panel
 RF output forward and reflected sample ports Type N precision female on rear panel
 Pulse input Type BNC female on rear panel
 Interlock DB-15 female on rear panel
 GPIB IEEE-488 female on rear panel
Cooling
 Forced air (self contained fans), air entry and exit in rear.
Weight 121 kg (265 lb)
Size (WxHxD) 50.3 x 43 x 84 cm / 19.8 x 17 x 33 in.



AR's Class AB Solid State Power Amplifiers

AR is now offering a choice between our world-renowned Class A amplifiers in the 1-6 GHz frequency range and our new Class AB designs when there are stringent demands for a combination of power, size, and cost.

These amplifiers feature a very cost effective solution for various applications where the linearity and extreme ruggedness of Class A designs are not required. The Class AB configuration affords almost twice the output power as a Class A approach in the same footprint in addition to providing higher efficiency at a substantially lower unit price.

Applications that can benefit from these products are:

- Military jammers
- Wireless testing
- TWT replacements
- Calibration
- Laboratory general testing
- Limited EMC testing

Features & Benefits

- Wideband Power – One amplifier does the work of two of our competitors
- Higher power capability than Class A designs at minimal price increase
- Higher Efficiency – Less current draw for critical requirements
- Versatility – Can be used for wireless and EW applications

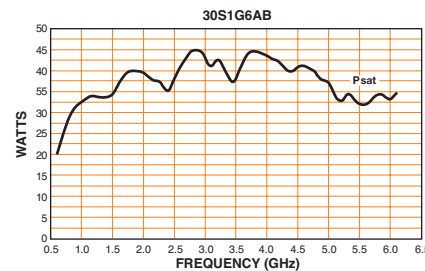


30S1G6AB Solid State Amplifier



30 watts CW, 1.0-6.0 GHz

Rated Power Output	30 watts min. (1-6 GHz)
Small Signal Gain Flatness	±1.0 dB typ. / ±2.0 dB max.
Frequency Response	1.0 - 6 GHz instantaneously
Gain (at max. setting)	44dB min.
Gain Adjustment (continuous range) (4096 steps remote)	15dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance @ rated P _{out}	3:1 at all load phase
Modulation Capability	Faithfully reproduce AM, FM, or pulse Modulation appearing on the input signal
Third Order Intercept Point	48dBm typ.
Noise Figure	8.5dB typ.
Harmonic Distortion	-15dBc typical at rated power
Spurious	Minus 73dBc typ.
Phase Linearity	±1.0 deg/100 MHz, typ.
Primary Power (selected automatically)	90 - 132, 180 - 264 VAC 50 - 400 Hz, single phase.
Connectors	
RF input	Type N female on front panel
RF output	Type N female on front panel
Remote interfaces	
IEEE-488	24 pin
RS-232	9 pin Subminiature D
RS-232 (fiber optic)	Type ST
USB 2.0	Type B
Ethernet	RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Export classification	EAR99
Weight	15.9 kg (35 lb)
Size (WxHxD)	50.3 x 15.5 x 37.6 cm / 19.8 x 6.1 x 14.8 in

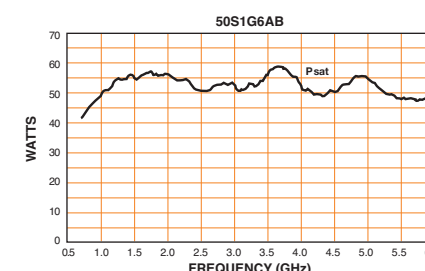


50S1G6AB Solid State Amplifier



50 watts CW, 1.0-6.0 GHz

Rated Power Output	50 watts min. (1-6 GHz)
Small signal gain flatness	±1.0 dB typical / ±2.0 dB maximum
Frequency Response	1.0 - 6 GHz instantaneously
Gain (at max. setting)	47dB min.
Gain Adjustment (continuous range) (4096 steps remote)	15dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance @ rated P _{out}	3:1 at all load phase
Modulation Capability	Faithfully reproduce AM, FM, or pulse Modulation appearing on the input signal
Third Order Intercept Point	56dBm typ.
Noise Figure	10dB typ.
Harmonic Distortion	-15dBc typical at rated power
Spurious	Minus 73dBc typ.
Phase linearity	1.0 deg/100 MHz, typical
Primary Power (selected automatically)	90-132, 180-250 VAC; 50-400 Hz, single phase; 500 watts maximum
Connectors	
RF input	Type N female on front panel
RF output	Type N female on front panel
Remote interfaces	
IEEE-488	24 pin
RS-232	9 pin Subminiature D
RS-232 (fiber optic)	Type ST
USB 2.0	Type B
Ethernet	RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Export classification	EAR99
Weight	15.9 kg (35 lb)
Size (WxHxD)	50.3 x 15.5 x 37.6 cm / 19.8 x 6.1 x 14.8 in

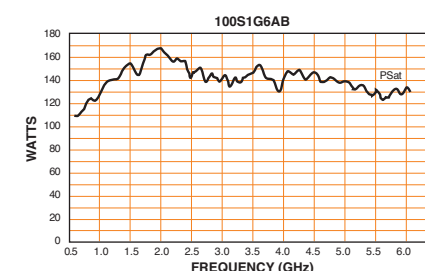


100S1G6AB Solid State Amplifier



100 watts CW, 1.0-6.0 GHz

Rated Power Output	100 watts min. (1-6 GHz)
Input For Rated Output	1 milliwatt max.
Small signal gain flatness	±1.5 dB typical / ±2.5 dB maximum
Frequency Response	1.0 - 6 GHz instantaneously
Gain (at max. setting)	50dB min.
Gain Adjustment (continuous range) (4096 steps remote)	10dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance @ rated P _{out}	Infinite VSWR. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Modulation Capability	Faithfully reproduce AM, FM, or pulse Modulation appearing on the input signal
Third Order Intercept Point	56dBm typ.
Noise Figure	10dB typ.
Harmonic Distortion	-15dBc typical at rated power
Spurious	Minus 73dBc typ.
Phase linearity	1.0 deg/100 MHz, typical
Primary Power (selected automatically)	90-132, 180-250VAC; 50/60 Hz, single phase, 525 watts maximum
Connectors	
RF input	Type N female on front panel
RF output	Type N female on front panel
Remote interfaces	
IEEE-488	24 pin
RS-232	9 pin Subminiature D
RS-232 (fiber optic)	Type ST
USB 2.0	Type B
Ethernet	RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Export classification	3A001
Weight	28.4 kg (62.5 lb)
Size (WxHxD)	50.3 x 20.3 x 54.6 cm / 19.8 x 8.0 x 21.5 in

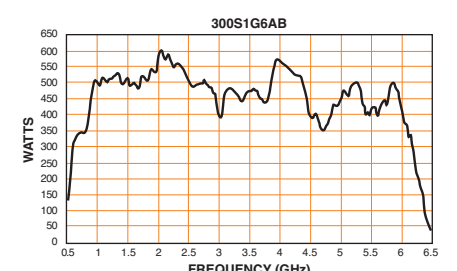


300S1G6AB Solid State Amplifier



300 watts CW, 1.0-6.0 GHz

Rated Power Output	300 watts min. (1-6 GHz)
Input For Rated Output	1 milliwatt max.
Small signal gain flatness	±1.5 dB typical / ±2.5 dB maximum
Frequency Response	1.0 - 6 GHz instantaneously
Gain (at max. setting)	55dB min.
Gain Adjustment (continuous range) (4096 steps remote)	20dB min.
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance @ rated P _{out}	6:1 at all load phase with no gain foldback. Will operate without damage or oscillation with any magnitude and phase of load and source impedance.
Modulation Capability	Faithfully reproduce AM, FM, or pulse Modulation appearing on the input signal
Third Order Intercept Point	60dBm typ.
Noise Figure	9dB typ.; 12dB max.
Harmonic Distortion	-15dBc typical at rated power
Spurious	Minus 73dBc typ.
Phase linearity	1.0 deg/100 MHz, typical
Primary Power (selected automatically)	200-260 VAC; 50/60 Hz, single phase 3800 watts maximum
Connectors	
RF input	Type N female on front panel
RF output	Type N female on front panel
Remote interfaces	
IEEE-488	24 pin
RS-232	9 pin Subminiature D
RS-232 (fiber optic)	Type ST
USB 2.0	Type B
Ethernet	RJ-45
Safety Interlock	15 Pin Subminiature D
Cooling	Forced air (self contained fans)
Export classification	3A001
Weight	62 kg (136 lb)
Size (WxHxD)	50.3 x 47 x 61 cm / 19.8 x 18.5 x 24 in





New Solid State Pulsed Amplifiers:

- 1000SP0z8G2z5
- 2000SP0z8G2z5
- 10000SP1G2
- 10000SP2G4

Why AR Solid State Pulsed Amplifiers Should Be On Your Radar

For automotive and military EMC radiated immunity susceptibility testing, as well as radar and communication applications, there is now a very attractive alternative to Traveling Wave Tube Amplifiers (TWTAs).

AR's new offerings include various frequency ranges and output power levels to meet several standards, or designs can be tailored to suit your specific application. These amplifiers feature a touchscreen control panel, GPIB interface, TTL gating, fault monitoring, and forced air cooling.

Features & Benefits For These Rugged Amplifiers Are:

- Octave Frequencies: 1-2 GHz and 2-4 GHz
- Narrowband Frequencies: 1.2-1.4 GHz & 2.7-3.1 GHz
- Power Levels: 1 kW to 150 kW
- Harmonic Distortion of -18dBc @ 1dB compression point
- Pulse Widths to 100 μ sec. & Duty Cycles to 10%
- High Mean Time To Failure (MTTF)
- Mismatch Tolerance - Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
- Numerous Applications Possible - Automotive, MIL STD 464, DO-160 and Military Radar

Call AR Applications Engineers at 800.933.8181, for specific needs not covered by these amplifiers.



Watch Our Pulsed Amps Video
Visit www.arworld.us/pavid or scan this page with the Layar app to watch on your mobile device.

Solid State Pulsed Amplifiers 0.8 to 2.5 GHz Pulse

1 to 2 GHz Pulse

1000SP0z8G2z5 Pulsed Amplifier



1,000 watts, 0.8-2.5 GHz Pulse

Rated Power Output	1000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 950 watts / min. 900 watts
Power Output @ 1dB compression	Nominal 800 watts / min. 700 watts
Flatness	±2.5dB max.
Frequency Response	0.8 -2.5 GHz instantaneously
Gain (at max. setting)	60dB min.
Gain Adjustment	Continuous Range 20 dB minimum, (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 500 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.1 - 100 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	5% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	2 μs max. from pulse input to RF 90%
Pulse Width Distortion	±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	12dB typ.
Harmonic Distortion	Minus 20dBc max. at 700 watts
Spurious	Minus 60dBc typ.
Primary Power	100 - 264 VAC 50/60 Hz, single phase 500 watts max.
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	44 kg (97 lbs)
Size (WxHxD)	51 x 25.4 x 60cm / 20 x 10 x 23.6 in
Export Classification	3A999.d

2000SP0z8G2z5 Pulsed Amplifier



2,000 watts, 0.8-2.5 GHz Pulse

Rated Power Output	2000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 1900 watts / min. 1800 watts
Power Output @ 1dB compression	Nominal 1600 watts / min. 1400 watts
Flatness	±2.5dB max.
Frequency Response	0.8 -2.5 GHz instantaneously
Gain (at max. setting)	63dB min.
Gain Adjustment	Continuous Range 20 dB minimum, (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 1000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.1 - 100 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	5% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	2 μs maximum from pulse input to RF 90%
Pulse Width Distortion	±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	12dB typ.
Harmonic Distortion	Minus 20dBc max. at 1400 watts
Spurious	Minus 60dBc typ.
Primary Power	100 - 264 VAC 50/60 Hz, single phase 2200 watts max.
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	65 kg (143 lbs)
Size (WxHxD)	51 x 25.4 x 87 cm / 20 x 10 x 34.9 in
Export Classification	3A999.d

8000SP0z8G2z5 Pulsed Amplifier



8,000 watts, 0.8-2.5 GHz Pulse

Rated Power Output	8000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 8000 watts / min. 7000 watts
Power Output @ 1dB compression	Nominal 7000 watts / min. 6400 watts
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	0.8 -2.5 GHz instantaneously
Gain (at max. setting)	69dB min.
Gain Adjustment	Continuous Range 20 dB minimum, (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 4000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.1 - 100 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	5% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Third Order Intercept Point	75dBm typ.
Noise Figure	15dB typ.
Harmonic Distortion	Minus 20dBc max. at 6400 watts
Spurious	Minus 60dBc typ.
Phase Linearity	±4 deg/100 MHz, typ.
Primary Power	100 - 264 VAC 50/60 Hz, single phase 1600 watts max.
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	170 kg (375 lbs)
Size (WxHxD)	50.3 x 54.1 x 92cm / 19.8 x 21.3 x 36.2 in
Export Classification	3A999.d

1000SP1G2 Pulsed Amplifier



1,000 watts, 1-2 GHz Pulse

Rated Power Output	1000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 950 watts / min. 900 watts
Power Output @ 1dB compression	Nominal 800 watts / min. 700 watts
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	1 - 2 GHz instantaneously
Gain (at max. setting)	60dB min.
Gain Adjustment	Continuous Range 20dB min., (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 500 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.07 - 50 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	5% max.
RF Rise and Fall	50 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Third Order Intercept Point	67dBm typ.
Noise Figure	15dB typ.
Harmonic Distortion	Minus 18dBc max. at 700 watts
Spurious	Minus 60dBc typ.
Phase Linearity	±4 deg/100 MHz, typ.
Primary Power	100 - 264 VAC 50/60 Hz, single phase 1500 watts max.
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	38 kg (84 lbs)
Size (WxHxD)	50.3 x 19.8 x 60.5 cm / 19.8 x 7.8 x 23.8 in
Export Classification	3A999.d

2000SP1G2 Pulsed Amplifier



2,000 watts, 1-2 GHz Pulse

Rated Power Output	2000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 1900 watts / min. 1800 watts
Power Output @ 1dB compression	Nominal 1600 watts / min. 1400 watts
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	1 - 2 GHz instantaneously
Gain (at max. setting)	63dB min.
Gain Adjustment	Continuous Range 20dB min., (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 1000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.07 - 50 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	5% max.
RF Rise and Fall	50 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Third Order Intercept Point	67dBm typ.
Noise Figure	15dB typ.
Harmonic Distortion	Minus 18dBc max. at 1400 watts
Spurious	Minus 60dBc typ.
Phase Linearity	±4 deg/100 MHz, typ.
Primary Power	100 - 264 VAC 50/60 Hz, single phase 2500 watts max.
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	50 kg (110 lbs)
Size (WxHxD)	50.3 x 32 x 86 cm / 19.8 x 9.6 x 23.6 in
Export Classification	3A999.d

4000SP1G2 Pulsed Amplifier



4,000 watts, 1-2 GHz Pulse

Rated Power Output	4000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 3800 watts / min. 3600 watts
Power Output @ 1dB compression	Nominal 3200 watts / min. 2800 watts
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	1 - 2 GHz instantaneously
Gain (at max. setting)	66dB min.
Gain Adjustment	Continuous Range 20dB min., (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 2000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.07 - 50 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	6% max.
RF Rise and Fall	50 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	15dB typ.
Harmonic Distortion	Minus 20dBc max. at 2800 watts
Spurious	Minus 20dBc typ.
Primary Power	100 - 264 VAC 50/60 Hz, single phase 2500 watts max.
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	170 kg (375 lbs)
Size (WxHxD)	50.3 x 55 x 72 cm / 19.8 x 21.7 x 28.3 in
Export Classification	3A999.d

10000SP1G2 Pulsed Amplifier



10,000 watts, 1-2 GHz Pulse

Rated Power Output	10000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Minimum 9000 watts
Power Output @ 1dB compression	Minimum 7000 watts
Flatness	±4dB max. / ±2.5dB rated power
Frequency Response	1 - 2 GHz instantaneously
Gain (at max. setting)	70dB min.
Gain Adjustment	Continuous Range 20dB min., (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 5000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.07 - 50 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	6% max.
RF Rise and Fall	50 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	15dB typ.
Harmonic Distortion	Minus 20dBc max. at 7000 watts
Spurious	Minus 60dBc typ.
Primary Power	100 - 264 VAC 50/60 Hz, single phase 2500 watts max.
Connectors	
RF input	Type N female on rear panel
RF output	7/16 DIN female on rear panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	105 kg (231 lbs)
Size (WxHxD)	60 x 59 x 90 cm / 23.6 x 23.2 x 35.4 in
Export Classification	3A999.d

12000SP1G2 Pulsed Amplifier



12,000 watts, 1-2 GHz Pulse

Rated Power Output	12000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 11500 watts / min. 11000 watts
Power Output @ 1dB compression	Nominal 9500 watts / min. 9000 watts
Flatness	±4dB max. / ±2.5dB rated power
Frequency Response	1 - 2 GHz instantaneously
Gain (at max. setting)	71dB min.
Gain Adjustment	Continuous Range 20dB min., (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 6000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.07 - 50 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	6% max.
RF Rise and Fall	50 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	15dB typ.
Harmonic Distortion	Minus 20dBc max. at 9000 watts
Spurious	Minus 60dBc typ.
Primary Power	100 - 264 VAC 50/60 Hz, single phase 2500 watts max.
Connectors	
RF input	Type N female on rear panel
RF output	7/8 EIA female on rear panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	90 kg (200 lbs)
Size (WxHxD)	60 x 99 x 90 cm / 23.6 x 39 x 35.4 in
Export Classification	3A999.d

18000SP1G2 Pulsed Amplifier



18,000 watts, 1-2 GHz Pulse

Power (Fundamental), Pulse, @ Output:	Nominal 20,000 watts / min. 18,000 watts
Flatness	±10dB max. / ±4dB at rated power
Frequency Response	1 - 2 GHz
Input For Rated Output	1 milliwatt max.
Gain (at max. setting)	72.6dB min.
Gain Adjustment	Continuous Range 35dB min.
Input Impedance	50 ohms, VSWR 2.5:1 max.
Output Impedance	50 ohms, VSWR 2.5:1 typ.
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 4500 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.
Pulse Capability	
Pulse Width	0.1 - 40 microseconds
Pulse Rate (PRF)	20 kHz max.
Duty Cycle	4% max.
RF Rise and Fall	150 ns max. (10% - 90%)
Delay	500 ns max. from pulse input to RF 90%
Pulse Width Distortion	±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80dB min., 90dB typ.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Power Density	(pulse on) Minus 65dBm/Hz (max.); Minus 75dBm/Hz (typ.) (pulse off) Minus 140dBm/Hz (typ.)
Harmonic Distortion	Minus 20dBc
Primary Power	208 VAC ±10% delta (4-wire) 50/60 Hz, 3 phase 9 kVA max.
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
GPIB	IEEE-488 female on rear panel
Interlock	DB-15 female on rear panel
Cooling	Forced air (self contained fans), air entry and exit in rear
Weight	575 kg (1250 lbs)
Size (WxHxD)	57.5 x 196 x 82.5 cm / 22.6 x 77.2 x 32.5 in
Export Classification	3A999

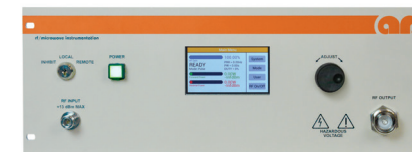
20000SP1G2 Pulsed Amplifier



20,000 watts, 1-2 GHz Pulse

Rated Power Output	20000 watts min.
Input For Rated Output	1 milliwatt max.
Flatness	±2dB max.; ±1.5dB at rated power
Frequency Response	1 - 2 GHz instantaneously
Gain (at max. setting)	73dB min.
Gain Adjustment	Continuous Range 20dB min., (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 5000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.1 - 50 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	5% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	900 ns max. from pulse input to RF 90%
Pulse Droop (25 μs pulse)	5% max.
Pulse Width Distortion	±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	15dB typ.
Harmonic Distortion	Minus 20dBc max. at 14000 watts
Spurious	Minus 60dBc typ.
Primary Power	190 - 240 VAC 50/60 Hz, 3-phase Delta 5 kVA max.
Connectors	
RF input	Type N female on front panel
RF output	Type 1-5/8" EIA female on rear panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin, rear
Ethernet	RJ-45, rear
Safety Interlock	15 pin Subminiature D, rear
Cooling	Forced air (self contained fans)
Weight (max.)	340 kg (750 lbs)
Size (WxHxD)	50.3 x 185 x 90 cm / 19.8 x 73 x 35.5 in
Export Classification	3A999.d

1000SP1z2G1z4 Pulsed Amplifier



1,000 watts, 1.2-1.4 GHz Pulse

Rated Power Output	1000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 1000 watts / min. 900 watts
Power Output @ 1dB compression	Nominal 800 watts / min. 700 watts
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	1.2 - 1.4 GHz instantaneously
Gain (at max. setting)	60dB min.
Gain Adjustment	Continuous Range 20dB min., (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 500 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.07 - 30 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	1% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	2 μs max. from pulse input to RF 90%
Pulse Width Distortion	±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	12dB typ.
Harmonic Distortion	Minus 30dBc max. at 700 watts
Spurious	Minus 60dBc typ.
Primary Power	100 - 264 VAC 50/60 Hz, single phase 700 watts max.
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	20 kg (44 lbs)
Size (WxHxD)	50.3 x 15 x 87 cm / 19.8 x 5.9 x 34.1 in
Export Classification	3A999.d

2000SP1z2G1z4 Pulsed Amplifier



2,000 watts, 1.2-1.4 GHz Pulse

Rated Power Output	2000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	Nominal 2000 watts / min. 1800 watts
Power Output @ 1dB compression	Nominal 1600 watts / min. 1400 watts
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	1.2 - 1.4 GHz instantaneously
Gain (at max. setting)	63dB min.
Gain Adjustment	Continuous Range 20dB min., (4096 steps remote)
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	Output pulse width foldback protection at peak reflected power exceeding 1000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
Pulse Capability	
Pulse Width	0.07 - 30 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	1% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	2 μs max. from pulse input to RF 90%
Pulse Width Distortion	±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation	80dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	15dB typ.
Harmonic Distortion	Minus 30dBc max. at 1400 watts
Spurious	Minus 60dBc typ.
Primary Power	100 - 264 VAC 50/60 Hz, single phase 800 watts max.
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	Type N female on rear panel
Pulse input	Type BNC female on rear panel
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	29 kg (64 lbs)
Size (WxHxD)	50.3 x 20 x 68 cm / 19.8 x 7.9 x 26.8 in
Export Classification	3A999.d

Solid State Pulsed Amplifiers 1.2 to 1.4 GHz Pulse

2 to 4 GHz Pulse

4000SP1z2G1z4 Pulsed Amplifier



4,000 watts, 1.2-1.4 GHz Pulse

Rated Power Output	4000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	
Nominal 4000 watts / min. 3600 watts	
Power Output @ 1dB compression	
Nominal 3200 watts / min. 2800 watts	
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	1.2 - 1.4 GHz instantaneously
Gain (at max. setting)	66dB min.
Gain Adjustment	
Continuous Range 20dB min., (4096 steps remote)	
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 2000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.	
Pulse Capability	
Pulse Width	0.07 - 40 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	1% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	2 μs max. from pulse input to RF 90%
Pulse Width Distortion	
±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	15dB typ.
Harmonic Distortion	Minus 30dBc max. at 2800 watts
Spurious	Minus 60dBc typ.
Primary Power	
100 - 264 VAC	
50/60 Hz, single phase	
600 watts max.	
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	
Type N female on rear panel	
Type BNC female on rear panel	
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	50 kg (110 lbs)
Size (WxHxD)	
50.3 x 29.5 x 80 cm / 19.8 x 11.6 x 31.5 in	
Export Classification	3A999.d

8000SP1z2G1z4 Pulsed Amplifier



8,000 watts, 1.2-1.4 GHz Pulse

Rated Power Output	8000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	
Nominal 8000 watts / min. 7000 watts	
Power Output @ 1dB compression	
Nominal 7000 watts / min. 6400 watts	
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	1.2 - 1.4 GHz instantaneously
Gain (at max. setting)	69dB min.
Gain Adjustment	
Continuous Range 20dB min., (4096 steps remote)	
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 4000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.	
Pulse Capability	
Pulse Width	0.07 - 40 microseconds
Pulse Rate (PRF)	300 kHz max.
Duty Cycle	1% max.
RF Rise and Fall	50 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Droop	5% max.
Pulse Width Distortion	
±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Third Order Intercept Point	75dBm typ.
Noise Figure	15dB typ.
Harmonic Distortion	Minus 18dBc max. at 7000 watts
Spurious	Minus 60dBc typ.
Phase Linearity	±4 deg/100 MHz, typ.
Primary Power	
100 - 264 VAC	
50/60 Hz, single phase	
600 watts max.	
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	
Type N female on rear panel	
Type BNC female on rear panel	
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	45 kg (100 lbs)
Size (WxHxD)	
50.3 x 29.2 x 79 cm / 19.8 x 11.5 x 31 in	
Export Classification	3A999

3000SP2G4 Pulsed Amplifier



3,000 watts, 2-4 GHz Pulse

Rated Power Output	3000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	
Nominal 2500 watts / min. 2200 watts	
Power Output @ 1dB compression	
Nominal 2200 watts / min. 1800 watts	
Flatness	±1.5dB typ. / ±2.5dB at rated power
Frequency Response	2.0 - 4.0 GHz instantaneously
Gain (at max. setting)	64.8dB min.
Gain Adjustment	
Continuous Range 20dB min., (4096 steps remote)	
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 1500 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.	
Pulse Capability	
Pulse Width	0.07 - 50 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	6% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	
±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	80dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	12dB typ.
Harmonic Distortion	Minus 22dBc max. at 1800 watts
Spurious	Minus 60dBc typ.
Primary Power	
100 - 264 VAC	
50/60 Hz, single phase	
1500 watts max.	
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	
Type N female on rear panel	
Type BNC female on rear panel	
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	76 kg (168 lbs)
Size (WxHxD)	
50.3 x 37 x 68 cm / 19.8 x 14.6 x 26.8 in	
Export Classification	3A999.d

6000SP2G4 Pulsed Amplifier



6,000 watts, 2-4 GHz Pulse

Rated Power Output	6000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	
Nominal 5800 watts / min. 5400 watts	
Power Output @ 1dB compression	
Nominal 4500 watts / min. 4300 watts	
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	2 - 4 GHz instantaneously
Gain (at max. setting)	67.8dB min.
Gain Adjustment	
Continuous Range 20dB min., (4096 steps remote)	
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 3000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.	
Pulse Capability	
Pulse Width	0.1 - 100 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	10% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	
±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	80dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	15dB typ.
Harmonic Distortion	Minus 20dBc max. at 4300 watts
Spurious	Minus 60dBc typ.
Primary Power	
100 - 264 VAC	
50/60 Hz, single phase	
4500 watts max.	
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	
Type N female on rear panel	
Type BNC female on rear panel	
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	102 kg (225 lbs)
Size (WxHxD)	
50.3 x 51 x 79 cm / 19.8 x 20 x 31 in	
Export Classification	3A999.d

10000SP2G4 Pulsed Amplifier



10,000 watts, 2-4 GHz Pulse

Rated Power Output	10000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	
Minimum 9000 watts	
Power Output @ 1dB compression	
Minimum 8000 watts	
Flatness	±4dB typ. / ±2.5dB max.
Frequency Response	2 - 4 GHz instantaneously
Gain (at max. setting)	70dB min.
Gain Adjustment	
Continuous Range 20dB min., (4096 steps remote)	
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 5000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.	
Pulse Capability	
Pulse Width	0.07-50 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	6% max.
RF Rise and Fall	50 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	
±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	15dB typ.
Harmonic Distortion	Minus 20dBc max. at 8000 watts
Spurious	Minus 60dBc typ.
Primary Power	
100 - 264 VAC	
50/60 Hz, single phase	
3800 watts max.	
Connectors	
RF input	Type N female on rear panel
RF output	Type 7-16 DIN female on rear panel
RF output forward and reflected sample ports	
Type N female on rear panel	
Type BNC female on rear panel	
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	125 kg (276 lbs)
Size (WxHxD)	
60 x 68 x 90 cm / 23.6 x 26.8 x 35.4 in	
Export Classification	3A999.d

15000SP2G4 Pulsed Amplifier

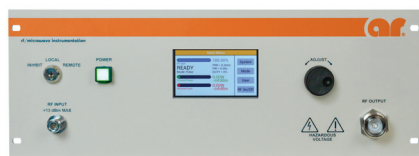


15,000 watts, 2-4 GHz Pulse

Rated Power Output	15000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	
Nominal 14000 watts / min. 13500 watts	
Power Output @ 1dB compression	
Nominal 13000 watts / min. 12500 watts	
Flatness	±4dB max. / ±2.5dB at rated power
Frequency Response	2 - 4 GHz instantaneously
Gain (at max. setting)	71.8dB min.
Gain Adjustment	
Continuous Range 20dB min., (4096 steps remote)	
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 7500 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.	
Pulse Capability	
Pulse Width	0.07 - 50 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	6% max.
RF Rise and Fall	50 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	
±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	15dB typ.
Harmonic Distortion	Minus 20dBc max. at 12500 watts
Spurious	Minus 60dBc typ.
Primary Power	
100 - 264 VAC	
50/60 Hz, single phase	
3800 watts max.	
Connectors	
RF input	Type N female on rear panel
RF output	7/8 EIA female on rear panel
RF output forward and reflected sample ports	
Type N female on rear panel	
Type BNC female on rear panel	
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	145 kg (320 lbs)
Size (WxHxD)	
60 x 117 x 90 cm / 23.6 x 46 x 35.4 in	
Export Classification	3A999.d

Solid State Pulsed Amplifiers 2.7 to 3.1 GHz Pulse

1000SP2z7G3z1 Pulsed Amplifier



1,000 watts, 2.7-3.1 GHz Pulse

Rated Power Output	1000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	
Nominal 1000 watts / min. 900 watts	
Power Output @ 1dB compression	
Nominal 800 watts / min. 700 watts	
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	2.7 - 3.1 GHz instantaneously
Gain (at max. setting)	60dB min.
Gain Adjustment	
Continuous Range 20dB min., (4096 steps remote)	
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 500 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.	
Pulse Capability	
Pulse Width	0.07 - 30 microseconds
Pulse Rate (PRF)	50 kHz max.
Duty Cycle	1% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	2 μs max. from pulse input to RF 90%
Pulse Width Distortion	
±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	12dB typ.
Harmonic Distortion	Minus 30dBc max. at 700 watts
Spurious	Minus 60dBc typ.
Primary Power	
100 - 264 VAC	
50/60 Hz, single phase	
700 watts max.	
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	
Type N female on rear panel	
Type BNC female on rear panel	
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	20 kg (44 lbs)
Size (WxHxD)	50.3 x 15 x 68 cm / 19.8 x 5.9 x 26.8 in
Export Classification	3A999.d

2000SP2z7G3z1 Pulsed Amplifier



2,000 watts, 2.7-3.1 GHz Pulse

Rated Power Output	2000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	
Nominal 2000 watts / min. 1800 watts	
Power Output @ 1dB compression	
Nominal 1600 watts / min. 1400 watts	
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	2.7 - 3.1 GHz instantaneously
Gain (at max. setting)	63dB min.
Gain Adjustment	
Continuous Range 20dB min., (4096 steps remote)	
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 1000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.	
Pulse Capability	
Pulse Width	1 - 200 microseconds
Pulse Rate (PRF)	10 kHz max.
Duty Cycle	10% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	
±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	80dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	12dB typ.
Harmonic Distortion	Minus 30dBc max. at 1400 watts
Spurious	Minus 60dBc typ.
Primary Power	
100 - 264 VAC	
50/60 Hz, single phase	
700 watts max.	
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	
Type N female on rear panel	
Type BNC female on rear panel	
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	27 kg (60 lbs)
Size (WxHxD)	50.3 x 15 x 68 cm / 19.8 x 5.9 x 26.8 in
Export Classification	3A999.d

4000SP2z7G3z1 Pulsed Amplifier



4,000 watts, 2.7-3.1 GHz Pulse

Rated Power Output	4000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	
Nominal 3800 watts / min. 3600 watts	
Power Output @ 1dB compression	
Nominal 3400 watts / min. 3000 watts	
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	2.7 - 3.1 GHz instantaneously
Gain (at max. setting)	66dB min.
Gain Adjustment	
Continuous Range 20dB min., (4096 steps remote)	
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 2000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.	
Pulse Capability	
Pulse Width	1 - 200 microseconds
Pulse Rate (PRF)	10 kHz max.
Duty Cycle	10% max.
RF Rise and Fall	30 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	
±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	80dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Noise Figure	12dB typ.
Harmonic Distortion	Minus 30dBc max. at 3000 watts
Spurious	Minus 60dBc typ.
Primary Power	
100 - 264 VAC	
50/60 Hz, single phase	
1200 watts max.	
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	
Type N female on rear panel	
Type BNC female on rear panel	
Remote Interfaces	
IEEE-488	24 pin
Ethernet	RJ-45
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	42 kg (93 lbs)
Size (WxHxD)	50.3 x 28.7 x 68 cm / 19.8 x 11.3 x 27 in
Export Classification	3A999.d

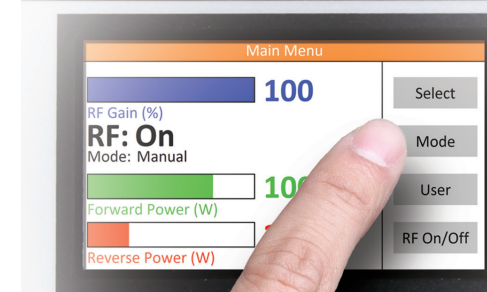
8000SP2z7G3z1 Pulsed Amplifier



8,000 watts, 2.7-3.1 GHz Pulse

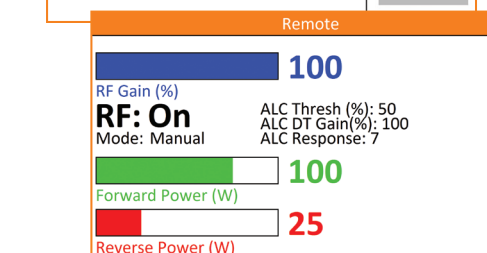
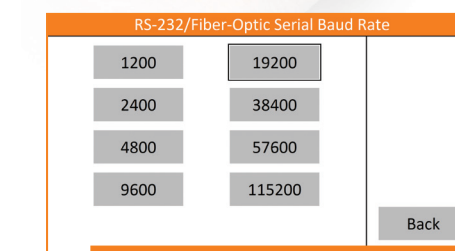
Rated Power Output	8000 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compression	
Nominal 8000 watts / min. 7000 watts	
Power Output @ 1dB compression	
Nominal 7000 watts / min. 6400 watts	
Flatness	±1.5dB typ. / ±2.5dB max.
Frequency Response	2.7 - 3.1 GHz instantaneously
Gain (at max. setting)	69dB min.
Gain Adjustment	
Continuous Range 20dB min., (4096 steps remote)	
Input Impedance	50 ohms, VSWR 2.0:1 max.
Output Impedance	50 ohms, nominal
Mismatch Tolerance	
Output pulse width foldback protection at peak reflected power exceeding 4000 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.	
Pulse Capability	
Pulse Width	0.07 - 6 microseconds
Pulse Rate (PRF)	300 kHz max.
Duty Cycle	1% max.
RF Rise and Fall	50 ns max. (10% - 90%)
Delay	600 ns max. from pulse input to RF 90%
Pulse Width Distortion	
±100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	60dB min.
Pulse Input	TTL level, 50 ohm nominal termination
Third Order Intercept Point	75dBm typ.
Noise Figure	15dB typ.
Harmonic Distortion	Minus 18dBc max. at 7000 watts
Spurious	Minus 60dBc typ.
Phase Linearity	±4 deg/100 MHz, typ.
Primary Power	
100 - 264 VAC	
50/60 Hz, single phase	
700 watts max.	
Connectors	
RF input	Type N female on front panel
RF output	Type 7-16 DIN female on front panel
RF output forward and reflected sample ports	
Type N female on rear panel	
Type BNC female on rear panel	
Remote Interfaces	
IEEE-488	24 pin
Safety Interlock	15 pin Subminiature D
Cooling	Forced air (self contained fans)
Weight	45 kg (100 lbs)
Size (WxHxD)	50.3 x 29.2 x 71 cm / 19.8 x 11.5 x 27.9 in
Export Classification	3A999.d

AR's Amplifier Control System



AR's latest Touch Panel amplifier control system represents a number of significant advancements. We've expanded its abilities, and made it easier to control and monitor important functions. Following are some of the features:

- Fiber-optic link between control system modules
- The control system modules self-address
- Each control system module has 32 General Purpose I/O, 2 analog outputs, and 4 analog inputs
- The system is expandable up to 4096 modules
- Color-resistive touch screen display
- Standard remote ports: GPIB, RS-232, USB, F/O Serial, & Ethernet
- Remote port settings controlled through touch screen menus
- Special system module for monitoring sub-system forward and reverse power levels to determine if they are balanced
- ALC for output leveling
- Ability to monitor full system and sub-system power levels
- Easy integration with systems using an external chiller
- Module firmware upgradeable through USB port using a PC
- VSWR indication on A-Series amplifiers
- Safety "keep alive" system for remote communication on high powered amplifiers



These screen shots and the explanations of the screens' functions provide a look at just how intuitive and powerful the AR Touch Panel control system is.