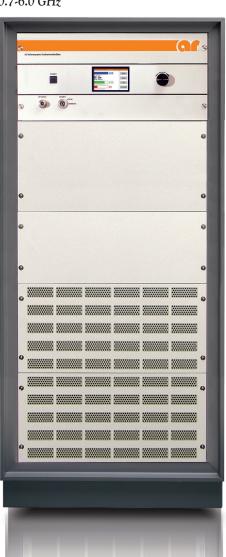
Performance & Reliability That Exceed Your Highest Expectations

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.

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.

2000S1G2z5 2000 Watts CW 1.0-2.5 GHz



20S1G4 Solid State Amplifier

40S1G4 Solid State Amplifier

60S1G4A Solid State Amplifier

80S1G4 Solid State Amplifier

125S1G4 Solid State Amplifier

175S1G4A 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 ± 1.5 dB typ. $/ \pm 2$ dB max. Frequency Response 0.7 - 4.2 GHz instantaneously 43dB min. Gain (at max. setting) Gain Adjustment (continuous range) 10dB min. (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Input Impedance Output Impedance 50 ohms, nominal Mismatch Tolerance³

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 Minus 73dBc typ. Spurious 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 RJ-45 Ethernet 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.



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 ± 1.5 dB typ. / ± 2 dB max. Flatness

0.7 - 4.2 GHz instantaneously Frequency Response 46dB min. Gain (at max, setting) Gain Adjustment (continuous range) 10dB min. (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance

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 Minus 73dBc typ. Spurious Noise Figure 10dB typ. ± 1 deg/100 MHz, typ. Phase Linearity Primary Power (selected automatically) 90 - 132, 180 - 264 VAC

50/60 Hz, single phase 285 watts max. Connectors

Type N female on front panel RF input 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 RI-45 15 pin Subminiature D Safety Interlock Cooling Forced air (self contained fans) 18.2 kg (40 lb) Weight

Size (WxHxD) 50.3 x 15.5 x 37.6 cm / 19.8 x 6.1 x 14.8 in.



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 ± 1.5 dB typ. $/ \pm 2$ dB max. Flatness Frequency Response 0.7 - 4.2 GHz instantaneously 47.8dB min. Gain (at max, setting) 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 Minus 73dBc typ. Spurious Noise Figure 10dB typ. ±1 deg/100 MHz, typ. Phase Linearity

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 RI-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



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 ± 1.5 dB typ. $/ \pm 2$ dB max. Frequency Response 0.7 - 4.2 GHz instantaneously 49dB min. Gain (at max, setting)

Gain Adjustment (continuous range) 10dB min. (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Input Impedance 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. Minus 73dBc typ. Spurious ± 1 deg/100 MHz, typ. Phase Linearity

Primary Power (selected automatically) 90 - 132, 180 - 264 VAC

50/60 Hz, single phase 448 watts max.

Connectors Type N female on front panel RF input 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) 28.4 kg (62.5 lbs) Weight

Size (WxHxD) 50.3 x 20.3 x 54.6 cm / 19.8 x 8.0 x 21.5 in



125 watts CW, 0.7-4.2 GHz

Rated Power Output 125 watts min. Rated Power Output Input For Rated Output Power Output @ 3dB compression Nominal 140 watts / min. 120 watts Power Output @ 1dB compression Nominal 120 watts / min. 100 watts

 ± 1.5 dB typ. $/ \pm 2$ dB max. Flatness 0.7 - 4.2 GHz instantaneously Frequency Respons 51dB min. Gain (at max, setting)

Gain Adjustment (continuous range) 15dB min. (4096 steps remote)

Input Impedance 50 ohms, VSWR 2.0:1 max. Input Impedance 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 Minus 73dBc typ. Spurious ± 1 deg/100 MHz, typ. Phase Linearity

Primary Power (selected automatically) 90 - 132, 180 - 264 VAC

50/60 Hz, single phase 900 watts max.

Connectors Type N female on front panel RF input 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 RI-45 15 pin Subminiature D Safety Interlock Cooling Forced air (self contained fans)

44 kg (97 lb) Weight Size (WxHxD) 50.3 x 30 x 61 cm / 19.8 x 11.8 x 24 in.

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175 watts CW, 0.7-4.2 GHz

175 watts min.

1 milliwatt max. Input For Rated Output 1 milliwatt may Power Output @ 3dB compression Nominal 190 watts / min. 160 watts Power Output @ 1dB compression Nominal 165 watts / min. 135 watts ± 1.5 dB typ. $/ \pm 2$ dB max. Flatness 0.7 - 4.2 GHz instantaneously Frequency Response 52.5dB min. Gain (at max, setting) Gain Adjustment (continuous range) 15dB min. (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Output Impedance 50 ohms, nomina 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.

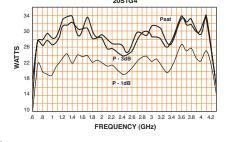
Primary Power (selected automatically) 90 - 132, 180 - 264 VAC

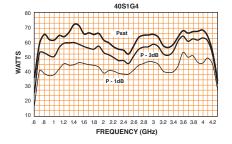
50/60 Hz, single phase 1050 watts max. Connectors

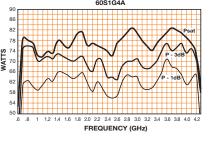
RF input Type N female on front panel RF output Type N female on front panel Remote Interfaces IEEE-488 24 pin female RS-232 9 pin Subminiature D (female)

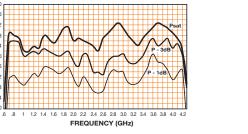
RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RJ-45 Safety Interlock 15 pin Subminiature D Cooling Forced air (self contained fans) Weight 45.4 kg (100 lb)

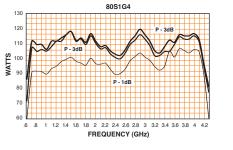
Size (WxHxD) 50.3 x 30 x 61 cm / 19.8 x 11.8 x 24 in.

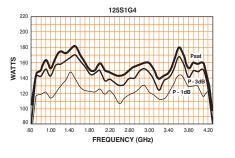


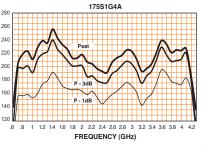












250S1G4A Solid State Amplifier



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 ± 1.5 dB typ. / ± 2.0 dB max. Flatness 0.7 - 4.2 GHz instantaneously Frequency Respons 54dB min. Gain (at max, setting) 15dB min. Gain Adjustment Input Impedance 50 ohms, VSWR 2.0:1 max. Output Impedance 50 ohms, nominal Mismatch Tolerance³ 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

Harmonic Distortion

120 - 240 VAC

Primary Power

Weight

Size (WxHxD)

50.3 x 55.9 x 61 cm / 19.8 x 22 x 24 in.

50/60 Hz, single phase 1450 watts Connectors Type N female on front panel RF input Type 7-16 female on front panel RF output 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 RI-45 Safety Interlock 15 pin female Subminiature D on rear panel Cooling Forced air (self contained fans)

64dBm typ.

71.8 kg (158 lb)

Weight

Size (WxHxD)

Minus 20dBc max. at 225 watts

350S1G4A Solid State Amplifier



350 watts CW, 0.7-4.2 GHz

Rated Power Output 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 ± 1.5 dB typ. $/ \pm 2.0$ dB max. Flatness 0.7 - 4.2 GHz instantaneously Frequency Respons 55.5dB min. Gain (at max, setting) Gain Adjustment (continuous range) 15dB min. (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance 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 65dBm typ. Third Order Intercept Minus 20dBc max. at 325 watts Harmonic Distortion 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 24 pin female IEEE-488 RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Туре В Ethernet RI-45 Safety Interlock 15 pin female Subminiature D on rear panel Forced air (self contained fans) Cooling

50.3 x 55.9 x 61 cm / 19.8 x 22 x 24 in.

86.2 kg (190 lb)



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 ± 1.5 dB typ. / ± 2.0 dB max. Flatness 0.7 - 6 GHz instantaneously Frequency Response 43dB min. Gain (at max, setting) Gain Adjustment (continuous range) 10dB min (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance Output Impedance 50 ohms, nomina Third Order Intercept Point 48dBm typ. 10dB typ. Noise Figure Harmonic Distortion Minus 20dBc max. at 15 watts (1 - 6 GHz) Minus 20dBc max. at 15 watts (0.7 - 6 GHz)

Minus 73dBc typ. Spurious 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 Forced air (self contained fans) Cooling 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 ± 1.5 dB typ. / ± 2.0 dB max. Frequency Response 0.7 - 6 GHz instantaneously

44dB min. Gain (at max, setting) Gain Adjustment (continuous range) 10dB min. (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Input Impedance 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. 10dB typ. Noise Figure Harmonic Distortion Minus 20dBc max. at 30 watts

Minus 73dBc typ.

EAR99

Spurious Primary Power (selected automatically) 90 - 132, 180 - 264 VAC

50/60 Hz, single phase 300 watts max. Connectors Type N female on front panel RF input 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 RJ-45 Ethernet

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:**

60S1G6 Solid State Amplifier



60 watts CW, 0.7-6.0 GHz

60 watts min. (0.7 - 6 GHz) Rated Power Output 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 ± 1.5 dB typ. $/ \pm 2.0$ dB max. Flatness Frequency Response 0.7 - 6 GHz instantaneously 48dB min. Gain (at max, setting) Gain Adjustment (continuous range) 10dB min. (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance 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. 10dB typ. Noise Figure Harmonic Distortion

Minus 20dBc max. at 60 watts (0.7 - 6 GHz) Spurious Minus 73dBc typ. ±1 deg/100 MHz, typ. Phase Linearity

Primary Power (selected automatically) 90 - 132, 180 - 250 VAC 50/60 Hz, single phase 550 watts max.

Connectors Type N female on front panel Remote Interfaces IEEE-488 RS-232 9 pin Subminiature D RS-232 (fiber optic) Type ST

USB 2.0 Type B Ethernet RI-45 Safety Interlock 15 Pin Subminiature D Cooling Forced air (self contained fans) 28.4 kg (62.5 lb) Weight Size (WyHyD)

50.3 x 20.3 x 54.6 cm / 19.8 x 8.0 x 21.5 in Export Classification:

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 ± 1.5 dB typ. / ± 2.5 dB max. 0.7 - 6 GHz instantaneously Frequency Response 52dB min. Gain (at max. setting) 10dB min. Gain Adjustment (continuous range

(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)

Spurious Minus 73dBc typ. ±1 deg/100 MHz, typ. Phase Linearity Primary Power (selected automatically) 90 - 132, 180 - 264 VAC

50/60 Hz, single phase, 1100 watts max.

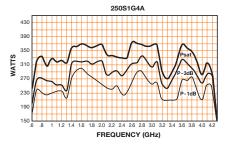
Connectors

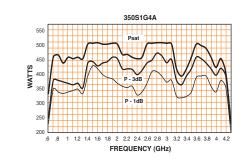
Remote Interfaces IEEE-488 9 pin Subminiature RS-232 RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet ŘI-45 Safety Interlock 15 Pin Subminiature D Cooling Forced air (self contained fans) Weight 45 kg (100 lb)

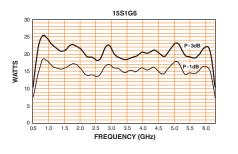
Type N female on front panel

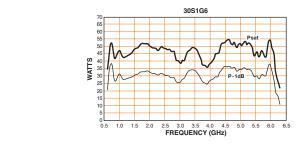
Size (WxHxD) 50.3 x 30 x 61 cm / 19.8 x 11.8 x 24 in

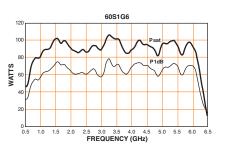
Export Classification:

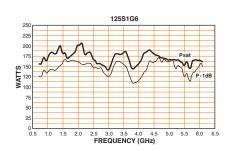












3A001

175S1G6 Solid State Amplifier



175 watts CW, 0.7-6.0 GHz

Rated Power Output Input For Rated Output Power Output @ 3dB compression Nominal 190 watts / min. 160 watts Power Output @ 1dB compression Nominal 170 watts / min. 140 watts ± 1.5 dB typ. / ± 2.5 dB max. Flatness 0.7 - 6 GHz instantaneously Frequency Response 54dB min. Gain (at max. setting) 10dB min. Gain Adjustment (continuous range) (4096 steps remote) Input Impedance 50 ohms, VSWR 2.0:1 max. 50 ohms, nominal Output Impedance Mismatch Tolerance³ 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

Noise Figure Harmonic Distortion Minus 20dBc max. at 170 watts (1.0 - 6 GHz) Minus 20dBc typ. (0.7 - 1.0 GHz) Spurious

Will faithfully reproduce AM, FM, or pulse modulation

Phase Linearity Primary Power (selected automatically) 200 - 250 VAC

appearing on the input signal.

Third Order Intercept Point

50/60 Hz, single phase 2700 watts max.

Size (WxHxD)

Connectors Type N female on front panel Remote Interfaces IFFF-488 24 pin RS-232 9 pin Subminiature D RS-232 (fiber optic) Type ST USB 2.0 Type B RJ-45 Ethernet 15 Pin Subminiature D Safety Interlock Cooling Forced air (self contained fans) 68 kg (150 lb) Weight

50.3 x 38 x 61 cm / 19.8 x 15 x 24 in **Export Classification:**

175S1G6

250S1G6 Solid State Amplifier



250 watts CW, 0.7-6.0 GHz

175 watts min. Rated Power Output 250 watts min. 1 milliwatt max. 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 ± 1.5 dB typ. $/ \pm 2.5$ dB max. Flatness Frequency Response 0.7 - 6 GHz instantaneously 54dB min. Gain (at max, setting) Gain Adjustment (continuous range) 10dB min. (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance 50 ohms, nominal Output Impedance Mismatch Tolerance³

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. 60dBm typ. Noise Figure 10dB typ. 10dB typ. Harmonic Distortion Minus 20dBc max. at 250 watts (0.75 - 6.0 GHz);

18 dBc typ. (0.7 - 0.75 GHz) Minus 73dBc typ. Spurious Minus 73dBc typ. Phase Linearity ±1 deg/100 MHz, typ. ±1 deg/100 MHz, typ. Primary Power (selected automatically)

200 - 250 VAC 50/60 Hz, single phase 2500 watts max.

Connectors

3A001

Type N female on front panel Remote Interfaces IEEE-488 24 pin RS-232 9 pin Subminiature RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RI-45 Safety Interlock 15 Pin Subminiature D Cooling Forced air (self contained fans) 64 kg (140 lb) Weight Size (WxHxD)

50.3 x 47 x 61 cm / 19.8 x 18.5 x 24 in Export Classification:

350S1G6 Solid State Amplifier



350 watts CW, 0.7-6.0 GHz

Rated Power Output 350 watts min. Input For Rated Output 1 milliwatt may Power Output @ 3dB compression Nominal 370 watts / min. 315 watts Power Output @ 1dB compression Nominal 300 watts / min. 250 watts ± 1.5 dB typ. / ± 2.5 dB max. Flatness 0.7 - 6 GHz instantaneously Frequency Response 58dB min. Gain (at max, setting)

10dB min. Gain Adjustment (continuous range) (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance Output Impedance 50 ohms, nomina Mismatch Tolerance³

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) Minus 73dBc typ.

Spurious Primary Power (selected automatically) 200 - 260 VAC

50/60 Hz, single phase 3800 watts max

Connectors RF input Type N female on front panel Type 7-16 DIN female on front panel RF output Remote Interfaces

IEEE-488 24 pin RS-232 9 pin Subminiature D RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet 15 Pin Subminiature D Safety Interlock 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

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 ± 2.0 dB typ. / ± 2.5 dB max.

Frequency Response 0.7 - 6 GHz instantaneously 57dB min. Gain (at max, setting) 10dB min. Gain Adjustment (continuous range) (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Input Impedance 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 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

Safety Interlock

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 Ethernet

IEEE-488 (GPIB)Interface & RS-232 Allows control and monitoring of all front panel controls except keylock position contro

Cooling Forced air (self contained fans) Weight 173 kg (380 lb) Size (WxHxD)

15 Pin Subminiature D, rear

3A001

50.3 x 127 x 61 cm / 19.8 x 50 x 24 in **Export Classification:**



525S1G4A Solid State Amplifier



Rated Power Output

Input For Rated Output

525 watts CW, 0.8-4.2 GHz**

Rated Power Output	525 watts min.
Input For Rated Output	1 milliwatt max.
Power Output @ 3dB compre	ession
Nominal 525 watts / min.	475 watts
Power Output @ 1dB compre	ession
Nominal 450 watts / min.	400 watts
Flatness	± 2.0 dB typ. / ± 2.5 dB 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*	
1000/ of rotad payvan with	out foldbook Will operate without

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 66dBm tvp.

Third Order Intercept Minus 20dBc max. at 500 watts Harmonic Distortion Primary Power 200 - 260 VAC

50/60 Hz, single phase 3000 watts

Connectors Type N female on rear panel RF input Type 7-8 EIA female on rear panel RF output 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 RI-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.

** Not subampable

700S1G4A Solid State Amplifier

700 watts CW, 0.8-4.2 GHz**

700 watts min

1 milliwatt max.

Power Output @ 3dB compression Nominal 700 watts / min. 625 watts Power Output @ 1dB compression Nominal 600 watts / min. 525 watts ± 1.5 dB typ. / ± 2.0 dB max Flatness 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. Minus 20dBc max. at 700 watts Harmonic Distortion Primary Power 200 - 260 VAC

50/60 Hz, single phase 3800 watts

Connectors RF input RF output

Type 7-8 EIA female on rear panel Remote Interfaces IFFF-488 24 pin female RS-232 9 pin Subminiature D (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RI-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

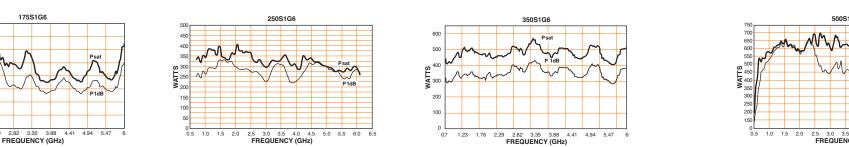
except keylock position control. Forced air (self contained fans) Cooling

Weight 124.8 kg (275 lb) Size (WxHxD)

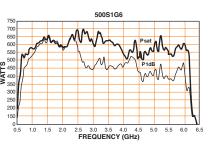
50.3 x 127 x 61 cm / 19.8 x 50 x 24 in.

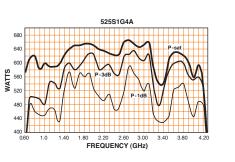
** Not subampable

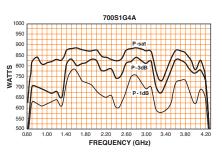
Type N female on rear panel



3A001







1,000 watts CW, 0.8-4.2 GHz

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 ± 2.0 dB typ. $/ \pm 2.5$ dB max. Flatness Frequency Response 0.8 - 4.2 GHz instantaneously Gain (at max. setting) 60.5dB min. 20dB min. Gain Adjustment Input Impedance 50 ohms, VSWR 2.0:1 max. Output Impedance 50 ohms, nominal

Mismatch Tolerance³ 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

Rated Power Output

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. Minus 20 dBc maximum at Harmonic Distortion 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 Type 7-8 EIA female on rear panel RF output Remote Interfaces IEEE-488 24 pin female 9 pin Subminiature D (female)

RS-232 RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet RI-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.

Forced air (self contained fans) Cooling 244.8 kg (540 lbs) Weight 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 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 and above Less than 60 watts Flatness ± 1.5 dB typ. $/ \pm 2.0$ dB max. 1.0 - 2.5 GHz instantaneously Frequency Response 50dB min. Gain (at max, setting) 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 Harmonic Distortion Minus 20dBc max. at 70 watts Primary Power (selected automatically) 90 - 264 VAC

50/60 Hz, single phase 650 watts max. Connectors

Type N female on front panel RF input RF output Type N female on front

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 Forced air (self contained fans)

Weight Size (WxHxD) 50.3 x 30 x 61 cm / 19.8 x 11.8 x 24 in.

Cooling

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 ± 1.5 dB typ. / ± 2.0 dB max. 1.0 - 2.5 GHz instantaneously Frequency Response Gain (at max. setting) 54dB min. 20dB min Gain Adjustment (continuous range) (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Input Impedance 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. 10dB typ. Noise Figure Minus 20dBc max. at 175 watts Harmonic Distortion Spurious Minus 73dBc typ. Phase Linearity ±1.0 deg/100 MHz, tvp. Primary Power (selected automatically)

90 - 264 VAC 50/60 Hz, single phase 1300 watts max.

Connectors Type N female on front panel RF input 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 RI-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



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 ± 1.5 dB typ. / ± 2.0 dB max. 1.0 - 2.5 GHz instantaneously Frequency Response 57dB min. Gain (at max. setting) Gain Adjustment (continuous range) 20dB min. (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Input Impedance 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 Minus 73dBc typ. Spurious ± 1.0 deg/100 MHz, typ.

Phase Linearity Primary Power (selected automatically) 120 - 240 VAC

50/60 Hz, single phase 2200 watts max. Connectors

Type N female on front panel RF input 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 RI-45 Safety Interlock 15 Pin Subminiature D Forced air (self contained fans)

Cooling Weight 74.8 kg (165 lb) Size (WxHxD)

50.3 x 47.0 x 61 cm / 19.8 x 18.5 x 24 in

500S1G2z5 Solid State Amplifier 1000S1G2z5A Solid State Amplifier



Rated Power Output Input For Rated Output Power Output @ 3dB compression Nominal 1000 watts / min. 925 watts Power Output @ 1dB compression Nominal 850 watts / min. 725 watts

Flatness 1 - 2.5 GHz instantaneously Frequency Response Gain (at max. setting) 60dB min. Gain Adjustment (continuous range) 20dB min. (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Input Impedance Output Impedance 50 ohms, nominal

100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.

Modulation Capability

69dBm typ. Third Order Intercept Point 10dB typ. Noise Figure Harmonic Distortion Minus 20dBc max. at 800 watts Minus 20dBc typ. at 1000 watts

Primary Power (selected automatically)

50/60 Hz, single phase 4500 watts max.

Connectors RF input RF output

IEEE-488 24 pin female 9 pin Subminiature D (female) RS-232 RS-232 (fiber optic) Type ST

RI-45 15 Pin Subminiature D Forced air (self contained fans)

56.1 x 127 x 83 cm / 22.1 x 50 x 32.4 in

1,000 watts CW, 1.0-2.5 GHz

1000 watts min. 1 milliwatt max. ± 1.5 dB typ. / ± 2.0 dB max.

Flatness

Mismatch Tolerance*

* See Application Note #27A.

Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.

Spurious

200 - 264 VAC

Type N female on front panel Type 7-8 EIA on rear panel Remote Interfaces

USB 2.0 Type B Ethernet

Safety Interlock Cooling Weight 148 kg (325 lb) Size (WxHxD)

Rated Power Output Input For Rated Output 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 ± 1.5 dB typ. / ± 2.0 dB max. 1 - 2.5 GHz instantaneously Frequency Response 63dB min. Gain (at max. setting) Gain Adjustment (continuous range) 20dB min. (4096 steps remote)

Minus 73dBc typ.

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.

2000S1G2z5 Solid State Amplifier

2,000 watts CW, 1.0-2.5 GHz

1 milliwatt max

Modulation Capability Will faithfully reproduce AM, FM, or pulse modulation

appearing on the input signal. Third Order Intercept Point

70dBm typ. 10dB typ. Noise Figure Minus 20dBc max. at 1400 watts Harmonic Distortion Minus 73dBc tvp. Spurious

Primary Power (selected automatically) 208 VAC, WYE (5-wire)

50/60 Hz, 3-phase, 12kVA Connectors

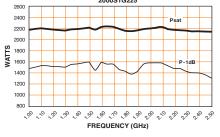
Type N female on rear panel RF input RF output Type 1-5/8 EIA female on rear panel Remote computer interfaces IEEE-488 24 pin

RS-232 9 pin subminiature D RS-232 Fiber Optic Type ST USB 2.0 Туре В Ethernet RI-45 15 Pin Subminiature D Safety Interlock Cooling Forced air (self contained fans) Weight 296 kg (650 lb)

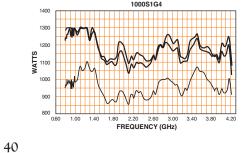
Size (WxHxD) 2 joined cabinets

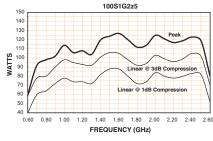
111.8 x 123.7 x 83 cm / 44.0 x 48.7 x 32.4 in Base Requirements: 3" diameter/2" wide casters. height adjustable over 1". Must accommodate forklift

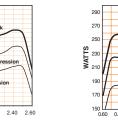
EAR99 Export Classification:



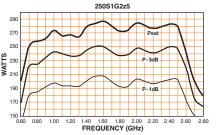
41

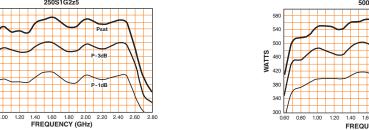


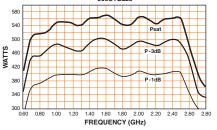


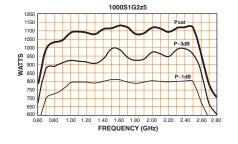


35.4 kg (78 lb)









3000S1G2z5 Solid State Amplifier



3,000 watts CW, 1.0-2.5 GHz

Rated Power Output 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 ± 1.5 dB typ. / ± 2.0 dB max. 1 - 2.5 GHz instantaneously Frequency Response 64dB min. Gain (at max, setting) 20dB min.

Gain Adjustment (continuous range) (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Input Impedance 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. *See Application Note #27A.

Modulation Capability

Will faithfully reproduce AM, FM, or pulse modulation

appearing on the input signal 72dBm typ. Third Order Intercept Point Noise Figure 10dB typ. Minus 20dBc max. at 2200 watts Harmonic Distortion 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 Type 1-5/8 EIA female on rear panel RF output Remote computer interfaces

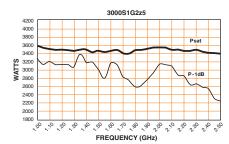
IEEE-488 24 pin RS-232 9 pin subminiature D RS-232 Fiber Optio Type ST USB 2.0 Type B Ethernet RJ-45

15 Pin Subminiature D Safety Interlock 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. EAR99 **Export Classification:**



20S6G18-L Solid State Amplifier



20 watts CW, 6.0-18 GHz

Rated Power Output 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) $\pm 2dB$ typ. $/ \pm 3dB$ max. 6.0 - 18 GHz instantaneously Frequency Response 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 Minus 20dBc max. at 20 watts Harmonic Distortion Primary Power (selected automatically)

90 - 132, 180 - 264 VAC 50/60 Hz, single phase

< 700 watts max. Connectors

Precision N female on rear panel RF input 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 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:

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) $\pm 2dB$ typ. $/ \pm 3dB$ 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, nomina 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. Minus 20dBc max. at 40 watts Harmonic Distortion Primary Power (selected automatically)

90 - 132, 180 - 264 VAC 50/60 Hz, single phase <1000 watts max.

Connectors RF input

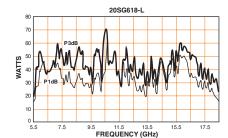
Precision N female on rear panel RF output Remote Interfaces IEEE-488 RS-232 9 pin Subminiature Ď (female) RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet

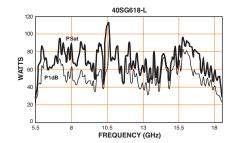
Precision N female on rear panel

Safety Interlock 15 pin Subminiature D Cooling Forced air (internal self-contained liquid) w/cabinet: 34 kg (75 lb) Weight 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:





6 to 18 GHz Amplifiers With New Internal Liquid Cooling



20S6G18-L

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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.

40/100A400 Dual-Band Solid State Amplifier

40/100 watts, 10 Hz-400 MHz

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.

Primary Power (Universal; selected automatically) 100-240 VAC, 50/60 Hz

40 watts min (0.01 – 150 kHz)

1.0 milliwatt max., 0dBm

125 watts (0.01 - 400MHz)

100 watts (0.01 – 400MHz)

85 watts (0.01 - 400MHz)

25 watts (0.01 – 150 kHz)

75 watts (0.01 - 400MHz)

 $0.01-150\ kHz$ instantaneously

0.01 – 400MHz instantaneously

45 dB min. (0.01 – 150 kHz)

50 dB min. (0.01 – 400MHz)

18 dB min. (0.01 – 150 kHz)

50 ohms, VSWR 2.0:1 max.

50 ohms, nominal

Minus 73 dBc typ.

Type N female

Type N female

24 pin female

20 dB min. (0.01 – 400MHz)

55 dBm typ. (0.01 - 400MHz

10 dB typ. (0.01 – 150 kHz)

 $\pm 1.5 \text{ dB typ.}, \pm 2.0 \text{ dB max.} (0.01 - 150 \text{ kHz})$

 $\pm 1.0 \text{ dB typ.}, \pm 1.5 \text{ dB max.} (0.01 - 400\text{MHz})$

Minus 25 dBc max. at 25 watts (0.01 - 150 kHz)

Minus 20 dBc typ. at 75 watts (0.01 – 400MHz)

100 watts min (0.01 - 400MHz

Rated Power Output

Nominal

Frequency Response

Input Impedance

Output Impedance

Mismatch Tolerance

Third Order Intercept Point

400 watts (0.01 – 150 kHz)

Standard Remote Interfaces

500 watts max. (0.01 - 400MHz)

Noise Figure

Connectors

RF input

RF output

IEEE-488

Power Gain (at max. setting)

Gain Adjustment (continuous range

Input For Rated Output

Power Output @ 3dB compression

Power Output @ 1dB compression

Power Gain Flatness (0 dBm IN)

150/150AW1000 Dual-Band Solid State Amplifier 15/20S1G18B Dual-Band Solid State Amplifier

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.

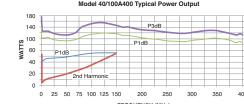
From 10 Hz To 1000 MHz Solid State Dual-Band Amplifiers

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.





9 pin Subminiature D Female RS-232 (fiber optic) Type ST USB 2.0 Ethernet 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**





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 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 compressio 135 watts (10 kHz - 100 MHz) 125 watts (80 - 1000 MHz) 110 watts (10 kHz - 100 MHz) 100 watts (80 – 1000 MHz) Power Gain Flatness (0 dBm IN) $\pm 1.0 \text{ dB typ.}, \pm 1.5 \text{ dB max.} (10 \text{ kHz} - 100 \text{ MHz})$ $\pm 1.5 \text{ dB typ.}, \pm 2.0 \text{ dB max.} (80 - 1000 \text{ MHz})$

Frequency Response 10 kHz – 100 MHz instantaneously 80 - 1000 MHz instantaneously 51.8 dB min. (10 kHz – 100 MHz) Power Gain (at max. setting) 52 dB min. (80 – 1000 MHz)

Gain Adjustment (continuous range) 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.

Minus 73 dBc typ. 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) 54 dBm typ. (0.01 – 150 kHz) 55 dBm typ. (10 kHz – 100 MHz) Third Order Intercept Point 58 dBm typ. (80 – 1000 MHz) 8 dB typ. (10 kHz – 100 MHz)

> Primary Power (Universal; selected automatically) 500 watts (10 kHz - 100 MHz)

650 watts max. (80 – 1000 MHz) Connectors RF input

Type N female RF output Standard Remote Interfaces 24 pin female IEEE-488 USB 2.0 Ethernet

Safety Interlock 15 Pin Subminiature D Cooling Forced air (internal self-contained liquid) 42.6 kg (94 lb) Weight 50.3 x 20.5 x 74.9 cm (19.8 x 8.1 x 29.5 in) Size (WxHxD) **Export Classification:**



15/20 watts, 0.7 GHz-18 GHz

Rated Power Output 6 GHz), 20 watts min (6 – 18 GHz) 15 watts min (0.7 1.0 milliwatt max., 0dBm Input For Rated Output Power Output @ 3dB compression 20 watts (0.7 – 6 GHz), 25 watts (6 – 18 GHz) 14 watts (0.7 - 6 GHz), 18 watts (6 - 18 GHz) Power Output @ 1dB compression 15 watts (0.7 – 6 GHz), 22 watts (6 – 18 GHz) 12 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

43 dB min. (0.7 – 6 GHz) Power Gain (at max. setting) 44 dB min. (6 – 18 GHz) 50 ohms, VSWR 2.5:1 max. Input Impedance Output Impedance 50 ohms, nomina

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.

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)

90-264 VAC 50/60 Hz, single phase 210 watts max. (0.7 - 6 GHz) 600 watts max. (6 - 18 GHz)

Primary Power

Type ST

Connectors Type N female front panel RF input RF output Type N female front panel

Standard Remote Interfaces IEEE-488 RS-232

9 pin Subminiature D Female RS-232 (fiber optic) Type ST USB 2.0 Type F Ethernet 15 Pin Subminiature D Safety Interlock Cooling Forced air (internal self contained liquid)

24 pin female

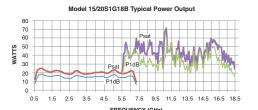
40.5 kg (89 lb)

3A001

45

Weight Size (WxHxD) 50.3 x 34 x 62.2 cm (19.8 x 13.4 x 24.5 in)

Export Classification:



- 17 8400 - 17 8400

AA W AA W

15/40S1G18A Dual-Band Solid State Amplifier 30/20S1G18B Dual-Band Solid State Amplifier 30/40S1G18B Dual-Band Solid State Amplifier



15/40 watts, 0.7 GHz-18 GHz

13/70 watts, 0.7	0112-10 0112
Rated Power Output	
15 watts min (0.7 – 6 C	GHz), 40 watts min (6 – 18 GHz)
Input For Rated Output	1.0 milliwatt max., 0dBm
Power Output @ 3dB compression	on
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	on
	- 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 t	$yp., \pm 2.0 \text{ dB max.} (0.7 - 6 \text{ GHz})$
	typ., $\pm 3.0 \text{ dB max.} (6 - 18 \text{ GHz})$
Frequency Response	0.7 – 6 GHz instantaneously
• • •	6 – 18 GHz instantaneously
Power Gain (at max. setting)	43 dB min. (0.7 – 6 GHz),
, 3,	46 dB min. (6 – 18 GHz)
Input Impedance	50 ohms, VSWR 2.5:1 max.
utput Impedance 50 ohms, noming	
Mismatch Tolerance	0.0000000000000000000000000000000000000
100% of rated power without fol	ldback Will operate without
damage or oscillation with any n	
source and load impedance. See	
source and road impedance, occ	rippiication riott 2//1.

Minus 73 dBc typ. Spurious Harmonic Distortion Minus 20 dBc max. at 15 watts (0.7 - 6 GHz) Minus 20 dBc max. at 40 watts (6 – 18 GHz) 48 dBm typ. (0.7 – 6 GHz), Third Order Intercept Point 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 Type N female front panel RF input RF output Type N female front panel Standard Remote Interfaces IEEE-488 RS-232 RS-232 (fiber optic)

24 pin female 9 pin Subminiature D Female Type ST USB 2.0 Type B RJ-45 Ethernet 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 Export Classification:

lodel 15/40S1G18A Typical Power Output 0.5 1.5 2.5 3.5 4.5 5.5 10.5 15.5



	0112 10 0112	
tput		
tts min (0.7 – 6 G	Hz), 20 watts min (6 – 18 GHz)	
Input For Rated Output 1.0 milliwatt max., 0dBm		
3dB compressio	n	
35 watts (0.7 -	- 6 GHz), 25 watts (6 – 18 GHz)	
26 watts (0.7 -	- 6 GHz), 18 watts (6 – 18 GHz)	
Power Output @ 1dB compression		
	- 6 GHz), 22 watts (6 – 18 GHz)	
22 watts (0.7 -	- 6 GHz), 15 watts (6 – 18 GHz)	
ness (0 dBm IN)	, ,	
$\pm 1.5 \text{ dB typ.}, \pm 2.0 \text{ dB max.} (0.7 - 6 \text{ GHz})$		
	yp., ±3.0 dB max. (6 – 18 GHz)	
	0.7 – 6 GHz instantaneously	
	6 – 18 GHz instantaneously	
max, setting)	44 dB min. (0.7 – 6 GHz)	
inan occarig)	43 dB min. (6 – 18 GHz)	
2	50 ohms, VSWR 2.5:1 max	
	50 ohms, nomina	
	otinis, nomina	
	11 1 397-11 . 1	
100% of rated power without foldback. Will operate without		
damage or oscillation with any magnitude and phase of		
	ttput ttts min (0.7 – 6 G Output 3 dB compressio 35 watts (0.7 – 26 watts (0.7 – 26 watts (0.7 – 22 watts (0.7 – 22 watts (0.7 – 22 watts (0.7 – 22 watts (0.7 – 24 watts (0.7 – 25 watts (0.7 – 26 watts (0.7 – 27 watts (0.7 – 28 watts (0.7 – 29 watts (0.7 – 20 watts (0.7 – 20 watts (0.7 – 21 watts (0.7 – 22 watts (0.7 – 24 watts (0.7 – 25 watts (0.7 – 26 watts (0.7 – 27 watts (0.7 – 28 watts (0.7 – 29 watts (0.7 – 20 watts (0.7 – 21 watts (0.7 – 22 watts (0.7 – 22 watts (0.7 – 23 watts (0.7 – 24 watts (0.7 – 25 watts (0.7 – 26 watts (0.7 – 27 watts (0.7 – 28 watts (0.7 – 29 watts (0.7 – 20 watts (0.7 – 21 watts (0.7 – 22 watts (0.7 – 23 watts (0.7 – 24 watts (0.7 – 24 watts (0.7 – 25 watts (0.7 – 26 watts (0.7 – 27 watts (0.7 – 27 watts (0.7 – 28 watts (0.7 – 28 watts (0.7 – 29 watts (0.7 – 20 watts (0.7 – 20 watts (0.7 – 21 watts (0.7 – 22 watts (0.7 – 22 watts (0.7 – 22 watts (0.7 – 23 watts (0.7 – 24 watts (0.7 – 24 watts (0.7 – 25 watts (0.7 – 26 watts (0.7 – 27 watts (0.7 – 27 watts (0.7 – 28 watts (0.7 – 28 watts (0.7 – 29 watts (0.7 – 21 watts (0.7 – 22 watts (0.7 – 22 watts (0.7 – 23 watts (0.7 – 24 watts (0.7 – 24 watts (0.7 – 25 watts (0.7 – 26 watts (0.7 – 27 watts (0.7 – 28 watts (0.	

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) 50 dBm typ. (0.7 – 6 GHz), Third Order Intercept Point 49 dBm typ. (6 – 18 GHz) 10 dB typ.

Noise Figure Primary Power 90-264 VAC 50/60 Hz, single phase 300 watts max. (0.7 – 6 GHz) 600 watts max. (6 – 18 GHz)

Connectors Type N female front panel RF input RF output Type N female front panel Standard Remote Interfaces IEEE-488 24 pin female 9 pin Subminiature D Female RS-232 RS-232 (fiber optic) Type ST USB 2.0 Type B Ethernet ŔJ-45 15 Pin Subminiature D Safety Interlock 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)

Model 30/20S1G18B Typical Power Output 0.5 1.5 2.5 3.5 4.5 5.5 6.5 8.5 10.5 12.5 14.5 16.5 18.5

3A001

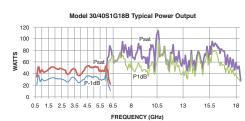


30/40 watts 0.7 CHz.18 CHz

30/40	watts, 0.7	GHz-18 GHz
Rated Power Ou	tput	
		GHz), 40 watts min (6 – 18 GHz)
Input For Rated	Output	1.0 milliwatt max., 0dBm
Power Output @	3dB compressio	n
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 compressio	n
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 Flat	ness (0 dBm IN)	l
	±1.5 db ty	$7p., \pm 2.0 \text{ dB max.} (0.7 - 6 \text{ GHz})$
	±2.0 db t	yp., ±3.0 dB max. (6 – 18 GHz)
Frequency Respo	onse	0.7 – 6 GHz instantaneously
		6 – 18 GHz instantaneously
Power Gain (at r	nax. setting)	44 dB min. (0.7 – 6 GHz),
		46 dB min. (6 – 18 GHz)
Input Impedance		50 ohms, VSWR 2.5:1 max.
Output Impedan	ce	50 ohms, nominal
Mismatch Tolera		,
100% of rated	power without fol	dback. Will operate without
		nagnitude and phase of
source and loa	nd impedance. See	Application Note 27A.
Spurious	•	Minus 73 dBc typ.
Harmonic Distor	rtion	71
		max. at 30 watts (0.7 – 6 GHz)

Minus 20 dBc max. at 40 watts (6 – 18 GHz) 50 dBm typ. (0.7 – 6 GHz), Third Order Intercept Point 52 dBm typ. (6 – 18 GHz) 10 dB typ. Noise Figure 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 Type ST RS-232 (fiber optic) USB 2.0 Type B Ethernet 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	60/40 wa
Rated Power Output 60 watts min (0.7 – 6 of Input For Rated Output Power Output @ 3dB compression Nominal 60 watts (0.7 of IdB compression Nominal 57 watts (0.7 of IdB compression Nominal 57 watts (0.7 of IdB compression Nominal 50 watts (0.7 of IdB compression Nominal 50 watts (0.7 of IdB compression)	GHz), 20 watts min (6 – 18 GHz) 1.0 milliwatt max., 0dBm on – 6 GHz), 25 watts (6 – 18 GHz) – 6 GHz), 18 watts (6 – 18 GHz) on – 6 GHz), 22 watts (6 – 18 GHz) – 6 GHz), 15 watts (6 – 18 GHz)	Rated Power Output 60 watts min Input For Rated Outpu Power Output @ 3dB Nominal 60 Minimum 55 Power Output @ 1dB Nominal 57 Minimum 50
$\pm 2.0 \text{ db}$	yp., ±2.0 dB max. (0.7 – 6 GHz) typ., ±3.0 dB max. (6 – 18 GHz)	Power Gain Flatness (
Frequency Response	0.7 – 6 GHz instantaneously 6 – 18 GHz instantaneously	Frequency Response
`	6 GHz), 43 dB min (6 – 18 GHz) 50 ohms, VSWR 2.5:1 max.	Power Gain (at max. se 48 dB i Input Impedance
Input Impedance Output Impedance Mismatch Tolerance 100% of rated power without fo damage or oscillation with any a source and load impedance. See	50 ohms, nominal ldback. Will operate without magnitude and phase of	Output Impedance Mismatch Tolerance 100% of rated power damage or oscillation source and load imp
	Minus 73 dBc typ. c max. at 60 watts (0.7 – 6 GHz) c max. at 20 watts (6 – 18 GHz)	Spurious Harmonic Distortion M
Third Order Intercept Point	54 dBm typ. (0.7 – 6 GHz), 49 dBm typ. (6 – 18 GHz)	Third Order Intercept
Noise Figure Primary Power 90-264 VAC 50/60 Hz, single phase 550 watts max. (0.7 – 6 GHz) 600 watts max. (6 – 18 GHz)	10 dB typ.	Noise Figure Primary Power 90-264 VAC 50/60 Hz, single pha 550 watts max. (0.7 <1000 watts max. (
Connectors RF input RF output Standard Remote Interfaces IEEE-488 RS-232 RS-232 (fiber optic) USB 2.0 Ethernet Safety Interlock	Type N female front panel Type N female front panel 24 pin female 9 pin Subminiature D Female Type ST Type B RJ-45 15 Pin Subminiature D	Connectors RF input RF output Standard Remote Inte IEEE-488 RS-232 RS-232 (fiber optic) USB 2.0 Ethernet Safety Interlock
Cooling Weight Size (WxHxD)	Forced air (self contained fans) 50 kg (110 lb)	Cooling Weight Size (WxHxD)
50.3 x 34 x 62.2 cm (19.8 x 13 Export Classification:	.4 x 24.5 in) 3A001	50.3 x 34 x 62.2 cm Export Classification:



8 GHz

60/40S1G18B Dual-Band Solid State Amplifier

0/20 watts, 0.7	GHz-18 GHz	60/40 watts, 0	0.7 GHz-18 GHz
Ower Output		Rated Power Output	
or Rated Output	Hz), 20 watts min (6 – 18 GHz) 1.0 milliwatt max., 0dBm	Input For Rated Output	6 GHz), 40 watts min (6 – 18 GHz) 1.0 milliwatt max., 0dBm
	n - 6 GHz), 25 watts (6 – 18 GHz) - 6 GHz), 18 watts (6 – 18 GHz)		ssion D.7 – 6 GHz), 46 watts (6 – 18 GHz) D.7 – 6 GHz), 35 watts (6 – 18 GHz)
Output @ 1dB compressio		Power Output @ 1dB compre	,,
imum 50 watts (0.7 -	- 6 GHz), 22 watts (6 – 18 GHz) - 6 GHz), 15 watts (6 – 18 GHz)	Minimum 50 watts (0	0.7 – 6 GHz), 30 watts (6 – 18 GHz) 0.7 – 6 GHz), 22 watts (6 – 18 GHz)
	rp., ±2.0 dB max. (0.7 – 6 GHz) yp., ±3.0 dB max. (6 – 18 GHz)		IN) IB typ., ±2.0 dB max. (0.7 – 6 GHz) db typ., ±3.0 dB max. (6 – 18 GHz)
ncy Response	0.7 – 6 GHz instantaneously 6 – 18 GHz instantaneously	Frequency Response	0.7 – 6 GHz instantaneously 6 – 18 GHz instantaneously
Gain (at max. setting)	OTT) (2 10 OTT)	Power Gain (at max. setting)	
,	GHz), 43 dB min (6 – 18 GHz)		7 – 6 GHz), 46 dB min (6 – 18 GHz)
npedance Impedance	50 ohms, VSWR 2.5:1 max. 50 ohms, nominal	Input Impedance	50 ohms, VSWR 2.5:1 max.
Impedance ch Tolerance	onins, nominai	Output Impedance Mismatch Tolerance	50 ohms, nominal
% of rated power without fol age or oscillation with any n		100% of rated power withou damage or oscillation with a	
ce and load impedance. See		source and load impedance.	
is nic Distortion	Minus 73 dBc typ.	Spurious Harmonic Distortion	Minus 73 dBc typ.
	max. at 60 watts (0.7 – 6 GHz)		dBc max. at 60 watts (0.7 – 6 GHz)
Minus 20 dBc max. at 20 watts (6.7 – 6 GHz)) dBc max. at 40 watts (6 – 18 GHz)
Order Intercept Point	54 dBm typ. (0.7 – 6 GHz), 49 dBm typ. (6 – 18 GHz)	Third Order Intercept Point	54 dBm typ. (0.7 – 6 GHz), 52 dBm typ. (6 – 18 GHz)
igure	10 dB typ.	Noise Figure	10 dB typ.
Power		Primary Power	
64 VAC		90-264 VAC	
0 Hz, single phase watts max. (0.7 – 6 GHz)		50/60 Hz, single phase 550 watts max. (0.7 – 6 GF	47)
watts max. (6 – 18 GHz)		<1000 watts max. (6 – 18	
tors		Connectors	
nput	Type N female front panel	RF input	Type N female front panel
output	Type N female front panel	RF output	Type N female front panel
rd Remote Interfaces E-488	24 pin female	Standard Remote Interfaces IEEE-488	24 pin female
232	9 pin Subminiature D Female	RS-232	9 pin Subminiature D Female
232 (fiber optic)	Type ST	RS-232 (fiber optic)	Type ST
3 2.0	Type B	USB 2.0	Type B
ernet	RJ-45	Ethernet	RJ-45
nterlock	15 Pin Subminiature D	Safety Interlock	15 Pin Subminiature D
;	Forced air (self contained fans)	Cooling	Forced air (self contained fans)
/xHxD)	50 kg (110 lb)	Weight Size (WxHxD)	52.2 kg (115 lb)
x 34 x 62.2 cm (19.8 x 13.	4 x 24.5 in)	50.3 x 34 x 62.2 cm (19.8 x	x 13.4 x 24.5 in)
, oz.z cm (17.0 K 15.	, = , ***/	22.5 11.5 11.02.2 0111 (17.0 1	

Model 60/40S1G18B Typical Power Output FREQUENCY (GHz)

3A001

Model 60/20S1G18B Typical Power Output 0.5 1.5 2.5 3.5 4.5 5.5 6.5 8.5 10.5 12.5 14.5 16.5 18.5

300T2G8 TWT Amplifier

300 watts CW, 2.5-7.5 GHz

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.

Should not be tested with connector off.

to 50% points of input pulse width)

May oscillate with unshielded open due to coupling to input.

 ± 30 ns max. (50% points of output pulse width compared

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

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

350 watts / min. 300 watts

2.5 - 7.5 GHz instantaneously

50 ohms, VSWR 2.0:1 max.

50 ohms, VSWR 2.5:1 typ.

0.05 microseconds min.

30 ns max. (10% to 90%)

Minus 140dBm/Hz typ.

Type N female on rear panel

Type N female on rear panel

Type N female on rear panel

DB-15 female on rear panel

IEEE-488 female on rear panel

BNC-female on rear panel

54 kg (120 lb)

300 ns max. from pulse input to RF 90%

Minus 75dBm/Hz max., Minus 80dBm/Hz typ.

Minus 3dBc max., Minus 4.5dBc typ.

100 kHz max.

75 watts min.

1 milliwatt max.

55dB min.

35dB min.

Power (fundamental), CW/Pulse @ Output Connector

Nominal

Frequency Response

Input For Rated Output

Gain (at max. setting)

Input Impedance

Output Impedance

Mismatch Tolerance

Video Pulse Capability

Pulse Rate (PRF

RF Rise and Fall

Noise Power Density

Harmonic Distortion

190 - 260 VAC

3 kVA max.

Connectors

RF input

RF output

Interlock

Size (WxHxD)

Video

GPIB

Cooling

Weight

50/60 Hz, single phase

RF output sample port

(pulse on)

(pulse off)

Primary Power

Pulse width distortion

Pulse Width

Linear @ 1dB Compression

Gain Adjustment (continuous range)

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.

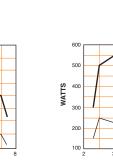




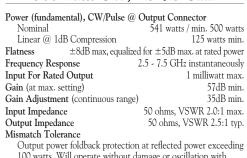


STANDEY OPERATE

50.3 x 29.7 x 68.6 cm / 19.8 x 11.7 x 27 in. 300T2G8



500 watts CW, 2.5-7.5 GHz



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) RF Rise and Fall 30 ns max. (10% to 90%) 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

Minus 85dBm/Hz max., Minus 95dBm/Hz typ. (pulse on) Minus 140dBm/Hz typ. (pulse off) Harmonic Distortion Minus 3dBc max., Minus 3.5dBc typ.

Primary Power 208 VAC ± 10% 50/60 Hz, three phase 3.5 kVA max.

Connectors

Type N female on rear panel RF input 7-16 DIN female on rear panel RF output RF output sample port Type N female on rear panel Interlock DB-15 female on rear panel Video BNC-female on rear panel IEEE-488 female on rear panel

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

50.8 x 25.4 x 68.6 cm / 20 x 10 x 27 in.

500T2G8 TWT Amplifier



1000T2G8B TWT Amplifier



1,000 watts CW, 2.5-7.5 GHz

Power (fundamental), CW, @ Output Connector 1100 watts / min. 900 watts, 2.5 - 2.7 GHz

1000 watts, 2.7 - 7.5 GHz Linear @ 1dB Compression 250 watts min

 $\pm 8dB$ max., equalized for $\pm 3dB$ max. at rated power 2.5 - 7.5 GHz instantaneousl

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

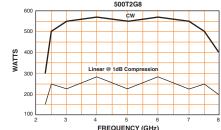
Type WRD-250D30 waveguide flange on rear panel RF output sample port Type N female on rear pane Interlock DB-15 female on rear pane **GPIB** IEEE-488 female on rear pane

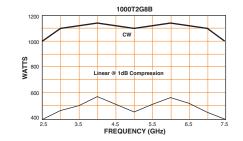
Cooling

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

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. 35dB min. Gain Adjustment (continuous range) 50 ohms, VSWR 2.0:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance 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 DB-15 female on rear panel Interlock **GPIB** IEEE-488 female on rear panel

Cooling

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

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 4.0 - 8.0 GHz instantaneously Frequency Response Input For Rated Output 1 milliwatt max. 53dB min. Gain (at max, setting) Gain Adjustment (continuous range) 35dB min. 50 ohms, VSWR 2.0:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance 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 tvp.

Primary Power

190-260 VAC 50/60 Hz, single phase

2.0 kVA max. Connectors

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

GPIB Cooling

Forced air (self contained fans), air entry and exit in rear. 54 kg (120 lb)

Weight 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

300 watts / min. 250 watts Nominal Flatness ±6dB max, at rated power 6 - 18 GHz instantaneously Frequency Response 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. 50 ohms, VSWR 2.5:1 typ. Output Impedance 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 microseconds min. Pulse Rate (PRF) 100 kHz max RF Rise and Fall 30 ns max. (10% to 90%) 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 Type N female on rear panel RF output sample port Interlock DB-15 female on rear pane Video BNC-female on rear pane **GPIB** IEEE-488 female on rear panel

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. ±12dB max., equalized for ±5dB max. at rated power Flatness 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. 50 ohms, VSWR 2.0:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance 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 microseconds min. Pulse Rate (PRF) 100 kHz max. RF Rise and Fall 30 ns max. (10% to 90%) 300~ns~max. from pulse input to RF 90%Delay 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 DB-15 female on rear panel Interlock BNC-female on rear panel Video **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 ± 11 dB max., equalized for ± 3 dB max. at rated power 7.5 - 18 GHz instantaneously Frequency Response Input For Rated Output 1 milliwatt max. 57dB min. Gain (at max. setting) Gain Adjustment (continuous range) 35dB min. 50 ohms, VSWR 2.0:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance 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/Hz 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 Type N female on rear panel RF output sample port IEEE-488 female on rear panel **GPIB** DB-15 female on rear panel Interlock

Cooling

Forced air (self contained fans), air entry and exit in rear. 91 kg (200 lb) Weight 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 1000 watts 7.5 - 17 GHz, 925 watts 17 - 18 GHz Minimum Linear @ 1dB Compression 250 watts min

±11dB max., equalized for ±3dB max. at rated power Frequency Response 7.5 - 18 GHz instantaneously

Input For Rated Output 1 milliwatt max. 60dB min. Gain (at max. setting) Gain Adjustment (continuous range) 35dB min. 50 ohms, VSWR 2.0:1 max. Input Impedance

50 ohms, VSWR 2.5:1 typ.

295 kg (650 lb)

Output Impedance 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.

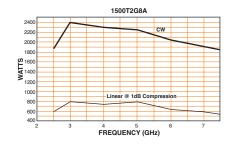
Connectors

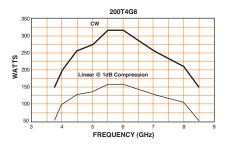
Type N female on rear panel RF input RF output Type WRD-750D24 waveguide flange on rear panel

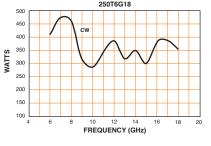
RF output sample port Type N female on rear panel Interlock DB-15 female on rear panel GPIB IEEE-488 female on rear panel Cooling

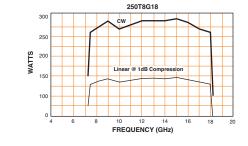
Forced air (self contained fans), air entry and exit in rear Weight Size (WxHxD)

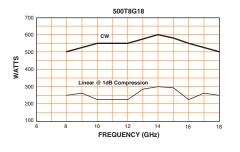
56 x 160 x 82.3 cm / 22.1 x 63 x 32.4 in

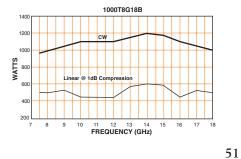












1,500 watts CW, 7.5-18 GHz

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 7.5 - 18 GHz instantaneously Frequency Response Input For Rated Output 62dB min. Gain (at max, setting) Gain Adjustment (continuous range) 50 ohms, VSWR 2.0:1 max. Output Impedance Input Impedance 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

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

130T18G26z5B 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. 18 - 26.5 GHz instantaneously Frequency Response 1 milliwatt max. Input For Rated Output 1 milliwatt max. Gain (at max. setting) 46dB min. Gain Adjustment (continuous range) 35dB min. 35dB min. Input Impedance 50 ohms, VSWR 2.0:1 max. 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 Type WR-42 waveguide flange on rear panel RF output 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. 30 kg (65 lb) Weight

Size (WxHxD)

50.3 x 16.5 x 68.6 cm / 19.8 x 6.5 x 27 in.

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 18 - 26.5 GHz instantaneously Frequency Response Input For Rated Output 1 milliwatt max Gain (at max. setting) 52dB min. 35dB min. Gain Adjustment (continuous range) Input Impedance 50 ohms, VSWR 2.0:1 max. 50 ohms, VSWR 2.5:1 typ. Output Impedance 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

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

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 225 watts / min. 200 watts Nominal Linear @ 1dB Compression 50 watts min. ±10dB max. Flatness 18 - 26.5 GHz instantaneously Frequency Response Input For Rated Output 1 milliwatt max. Gain (at max. setting) 53dB min.

35dB min. Gain Adjustment (continuous range) 50 ohms, VSWR 2.0:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance 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 RF Rise and Fall

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) Minus 140 dBm/Hz typ. Noise Power Density (pulse off) Pulse Off Isolation 80 dB min., 90 dB typ.

100 ns max. (10% to 90%)

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 Type WR-42 waveguide flange on rear panel RF output RF output sample port Type K female on rear panel Interlock DB-15 female on rear panel **GPIB** 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 45 watts / min. 40 watts Nominal

Linear @ 1dB Compression 10 watts min. ±8dB max. Flatness 26.5 - 40 GHz instantaneously Frequency Response Input For Rated Output 1 milliwatt max. Gain (at max. setting) Gain Adjustment (continuous range) Input Impedance 50 ohms, VSWR 2.0:1 max. Input Impedance

50 ohms, VSWR 2.5:1 typ. Output Impedance 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

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

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

Linear @ 1dB Compression 30 watts min. ±10dB max. Flatness 26.5 - 40 GHz instantaneously Frequency Response Input For Rated Output 1 milliwatt max. 46dB min. Gain (at max. setting) 52dB min. 35dB min. Gain Adjustment (continuous range) 35dB min. 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

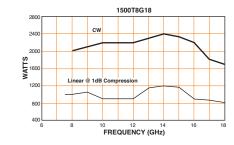
RF input Type K female on rear panel Type WR-28 waveguide flange on rear panel RF output Type K female on rear panel DB-15 female on rear panel RF output sample port Interlock

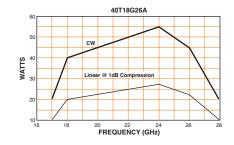
IEEE-488 on rear panel

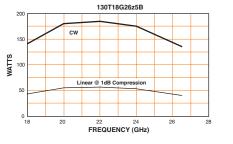
GPIB Cooling

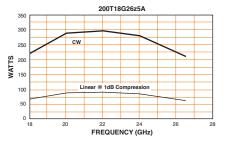
Forced air (self contained fans), air entry and exit in rear. Weight 36 kg (80 lb) Size (WxHxD)

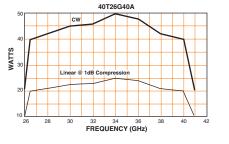
50.3 x 16.5 x 68.6 cm / 19.8 x 6.5 x 27 in.

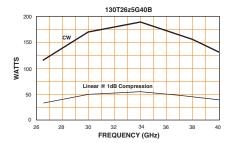












200T26z5G40A TWT Amplifier



200 watts CW, 26.5-40 GHz

Power (fundamental), CW, @ Output Connector 225 watts / min. 200 watts Nominal Linear @ 1dB Compression 50 watts min. Flatness ±10dB max. 26.5 - 40 GHz instantaneously Frequency Response Input For Rated Output 1 milliwatt max. 53dB min. Gain (at max, setting) Gain Adjustment (continuous range) 35dB min. 50 ohms, VSWR 2.0:1 max. Input Impedance 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) Duty Cycle

Some restrictions apply. Contact AR with application

RF Rise and Fall 100 ns max. (10% to 90%) 500 ns max from pulse input to RF90% Delay

Pulse Width Distortion 200 ns max (50% points of output pulse width

compared to 50% points of input pulse width) Minus 140 dBm/Hz typ. Noise Power Density (pulse off) 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 Type K female on rear panel RF output sample port Interlock OB-15 female on rear panel IEEE-488 on rear pane GPIB Cooling

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

50.3 x 43 x 81 cm / 19.8 x 17 x 32 in.

200T26z5G40A FREQUENCY (GHz)

70T40G50 TWT Amplifier



70 watts CW, 40-50 GHz

Power (fundamental), CW, @ Output Flange 70 watts, 40 GHz - 45 GHz 50 watts, 45 GHz - 50 GHz Flatness ±3dB max. at rated power 40 - 50 GHz instantaneously Frequency Response Input For Rated Output 1 milliwatt max. Gain (at maximum setting) 47dB min. Gain Adjustment (continuous range) 35dB min. 50 ohms, VSWR 2.0:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance 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.

Minus 15dBc typ. Harmonic Distortion 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 DB-15 female on rear panel Interlock

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

100T40G50 TWT Amplifier



100 watts CW, 40-50 GHz

Power (fundamental), CW, @ Output Connector 100 watts ±8dB max. Flatness 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. 50 ohms, VSWR 2.5:1 tvp. Output Impedance Harmonic Distortion Minus 22dBc typ. Primary Power

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

Connectors

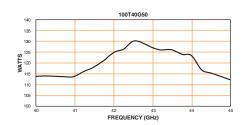
RF input Type 2.4 mm female on rear panel Type WR-22 waveguide flange on rear panel RF output RF output sample ports Type 2.4 mm female on rear panel Interlock DB-15 female on rear panel IEEE-488 female on rear panel **GPIB**

Cooling

EAR99

Forced air (self contained fans), air entry and exit in rear. 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 10,000 watts / min. 8000 watts Nominal ±6dB min. Flatness 1 -1.5 GHz Frequency Response Input For Rated Output 1 milliwatt max. Gain (at max. setting) 69dB min. 35dB min. Gain Adjustment (continuous range 50 ohms, VSWR 2.5:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance 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 RF Rise and Fall 70 ns max. (10% - 90%) 300 ns max. from pulse input to RF 90% Delay 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

Minus 55dBm/Hz max., Minus 65dBm/Hz typ. (pulse on) Minus 140dBm/Hz typ. (pulse off) Harmonic Distortion Minus 15dBc max. Primary Power

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

Connectors Type N female on rear panel RF input Type DIN 7-16 on rear panel RF output 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 8000 watts / min. 6500 watts ±6dB min. Flatness 1.5 - 2 GHz Frequency Response Input For Rated Output 1 milliwatt max. 68dB min. Gain (at max, setting) 35dB min. Gain Adjustment (continuous range) 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 0.07 - 40 microseconds Pulse Width 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)

80 dB min., 90 dB typ. Pulse Off Isolation TTL level, 50 ohm nominal termination Pulse Input Noise Power Density

Minus 55dBm/Hz max., Minus 65dBm/Hz typ. (pulse on) Minus 140dBm/Hz typ. (pulse off) Minus 15dBc max. Harmonic Distortion

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

Connectors RF input

Type N female on rear panel Type DIN 7-16 on rear panel RF output RF output forward and reflected sample ports Type N female on rear panel

Type BNC female on rear panel Pulse input Interlock DB-15 female on rear panel IEEE-488 female on rear panel GPIB 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 Flatness ±10dB max. 2 - 4 GHz Frequency Response Input For Rated Output 1 milliwatt max. Gain (at max. setting) 66dB min. Gain Adjustment (continuous range) 35dB min. 50 ohms, VSWR 2.5:1 max. Input Impedance 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 microsecond 100 kHz max. Pulse Rate (PRF) Duty Cycle 4% max 35 ns max. (10% to 90%) RF Rise and Fall 300 ns max. from pulse input to RF 90% Pulse Width Distortion

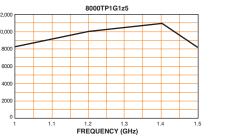
 ± 50 ns max. (50% points of output pulse width compared to 50% points of input pulse width) 80 dB min., 90 dB typ. Pulse Off Isolation TTL level, 50 ohm nominal termination Pulse Input Noise Power Density

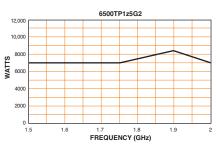
Minus 57dBm/Hz max., Minus 59dBm/Hz typ. (pulse on) Minus 140dBm/Hz typ. (pulse off) Harmonic Distortion Minus OdBc max. 208 VAC + 10% Primary Power

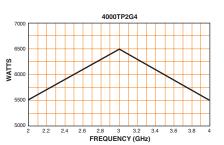
208 VAC ±10% Three phase, 50/60 Hz 3 kVA max.

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

Cooling 75 kg (165 lb) Weight 51 x 30.5 x 84 cm / 19.8 x 12 x 33 in.







6900TP2G4 Pulse TWT Amplifier



6,900 watts, 2-4 GHz Pulse

Power (fundamental), Peak Pulse, @ Output Nominal ±8dB min., ±4dB at rated power Flatness 2 - 4 GHz Frequency Response Input For Rated Output 1 milliwatt max. 68dB min. Gain (at max, setting) 35dB min. Gain Adjustment (continuous range) 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

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
Pulse Rate (PRF)
Duty Cycle
RF Rise and Fall
Delay
Pulse Width Distortion

±50 ns max. (50% points of output pulse width compared to 50% points of input pulse width)
Pulse Off Isolation
Pulse Input
TTI level 50 ohm pominal termination

Pulse Off Isolation 50 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 13dDm/Hz max., Minus 4dDm/Hz typ.

Harmonic Distortion Minus 15dBc max.

Primary Power

208 VAC ± 10% 50/60 Hz, three phase, delta (4 wire) 5 kVA max.

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

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

12,000 watts, 2-	4 GHZ Tulse		
Power (fundamental), Peak Pulse, @ Output			
Nominal 14,	14,000 watts / min. 12,000 watt		
Flatness $\pm 10d$	±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 prote	ection at peak reflected		
power exceeding 3000 watts. Will	operate without damage or		

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
Pulse Rate (PRF)
Duty Cycle
RF Rise and Fall
Delay
Pulse Width Distortion
Pulse Width Distortion
Pulse Width Distortion
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 7-16 DIN female on rear panel
RF output forward sample ports
Type 7-16 DIN female on rear panel

(forward and reflected)
Pulse input
Interlock
GPIB
GPIB
IEEE-488 female on rear panel
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., equalize	ed 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	e) 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 pro	tection at peak reflected

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 CapabilityPulse Width0.07 - 30 microsecondsPulse Rate (PRF)100 kHz max.Duty Cycle4% max.RF Rise and Fall30 ns max (10% to 90%)Delay300 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** Minus 0dBc max., Minus 1.5dBc typ. **Primary Power**

190 - 260 VAC Single phase, 50/60 Hz 1.2 kVA max.

Connectors

RF input

RF output

RF output sample port

Pulse input
Interlock

GPIB

Cooling

Type N female on rear panel
Type N female on rear panel
Type N female on rear panel
Type BNC female on rear panel
Type BNC female on rear panel

EEE-488 female on rear panel

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. 50 ohms, VSWR 2.5:1 typ. Output Impedance 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 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 ±10dB min. Flatness Frequency Response 4 - 8 GHz Input For Rated Output 1 milliwatt max. Gain (at max. setting) 66dB min. Gain Adjustment (continuous range) 35dB min. 50 ohms, VSWR 2.5:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance 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
O.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 Minus 0dBc max.

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

Connectors

RF input

RF output

Type WRD-350 waveguide flange on rear panel
RF output forward sample port
Pulse input
Interlock

GPIB

Type N female on rear panel
Type N female on rear panel
Type BNC female on rear panel
DB-15 female on rear panel
EEE-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

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7400TP4G8 Pulse TWT Amplifier

7,400 watts, 4-8 GHz Pulse

Power (fundamental), Peak Pulse, @ Output 10,000 watts / min. 7400 watts ±10dB min., ±5dB at rated power Flatness Frequency Response 4 - 8 GHz Input For Rated Output 1 milliwatt max. 69dB min. Gain (at max. setting) Gain Adjustment (continuous range) 35dB min 50 ohms, VSWR 2.5:1 max. Input Impedance 50 ohms, VSWR 2.5:1 tvp. Output Impedance 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
Pulse Width
Pulse Rate (PRF)
Pulse Width Distortion
Pulse Width Distortion

±50 ns max. (50% points of output pulse width

±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 12dBc typ. 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

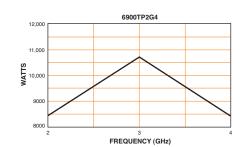
Type WRD-350 waveguide flange on rear panel
RF output forward and reflected sample ports

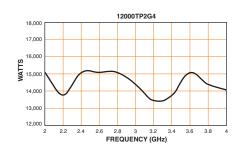
Type N female on rear panel
Pulse input Type BNC female on rear panel
Interlock DB-15 female on rear panel
GPIB IEEE-488 female on rear panel

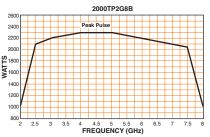
Cooling
Forced air (self contained fans), air entry and exit in rear.

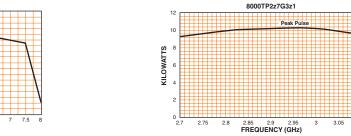
Weight
123 kg (270

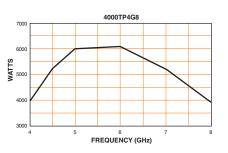
Weight 123 kg (270 lb) Size (WxHxD) 50.3 x 53 x 91 cm / 19.8 x 24 x 36 in.

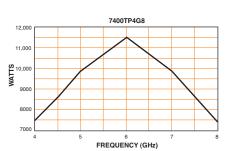












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10000TP8G10 Pulse TWT Amplifier

12,000 watts, 4-8 GHz Pulse

Power (fundamental), Peak Pulse, @ Output 14,000 watts / min. 12,000 watts Nominal Flatness ± 10 dB max., ± 6 dB 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. 50 ohms, VSWR 2.5:1 max. Input Impedance 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 20 kHz max. Pulse Rate (PRF) Duty Cycle 4% max. RF Rise and Fall 150 ns max. (10% to 90%) 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)

80 dB min., 90 dB typ. Pulse Off Isolation TTL level, 50 ohm nominal termination Pulse Input Noise Power Density

Minus 55dBm/Hz max., Minus 70dBm/Hz typ. (pulse on) Minus 140dBm/Hz typ. (pulse off) Harmonic Distortion Minus 10dBc max.

Primary Power 208 VAC ±10%

Size (WxHxD)

Export Classification

Three phase, delta (4-wire), 50/60 Hz 9 kVA max.

Connectors RF input Type N female on rear panel Type WRD-350 on rear panel RF output RF output forward sample ports

Type N female on rear panel (forward and reflected) Pulse input Type BNC female on rear panel Interlock DB-15 female on rear panel IEEE-488 female on rear panel

GPIB Cooling Forced air (self contained fans), air entry and exit in rear 273 kg (600 lb) Weight 55.9 x 114 x 96.5 cm / 22 x 45 x 38 in.

1000TP8G18 Pulse TWT Amplifier

7.5 to 18 GHz Pulse



1,000 watts, 7.5-18 GHz Pulse

Power (fundamental), Peak Pulse, @ Output Connector 1800 watts / min. 1000 watts Flatness $\pm 8dB$ max., equalized for $\pm 3dB$ max. at rated power Frequency Response 7.5 - 18 GHz instantaneously Input For Rated Output 1 milliwatt max. Gain (at max. setting) 60dB min. 35dB min. Gain Adjustment (continuous range) Input Impedance 50 ohms, VSWR 2.5:1 max. 50 ohms, VSWR 2.5:1 typ. Output Impedance 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 30 ns max (10% to 90%) RF Rise and Fall $300~\mathrm{ns}$ max. from pulse input to RF 90%Delay Pulse Width Distortion ±30ns max (50% points of output pulse width

compared to 50% points of input pulse width) 80dB min. / 90dB typ. Pulse Off Isolation Noise Power Density

(pulse on) Minus 57dBm/Hz max., Minus 58dBm/Hz typ. (pulse off) Minus 140dBm/Hz typ. Minus 2dBc max., Minus 3dBc typ. Harmonic Distortion

Primary Power 190 - 260 VAC 50/60 Hz, single phase

1.5 kVA max. Connectors

3A999.c

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

FREQUENCY (GHz)

2000TP8G18 Pulse TWT Amplifier



2,000 watts, 7.5-18 GHz Pulse

2500 watts / min. 2000 watts Frequency Response Input For Rated Output Gain (at max. setting) Gain Adjustment (continuous range)

Input Impedance Output Impedance 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 30 ns max (10% to 90%) RF Rise and Fall 300 ns max. from pulse input to RF 90% Delay Pulse Width Distortion

compared to 50% points of input pulse width)

Noise Power Density

(pulse off) Minus 140dBm/Hz typ.

3 kVA max.

Cooling Forced air (self contained fans), air entry and exit in rear Weight Size (WxHxD)

50.3. x 39.4 x 77.5 cm / 19.8 x 15.5 x 30.5 in.

Power (fundamental), Peak Pulse, @ Output Connector

 $\pm 8dB$ max., equalized for $\pm 3dB$ max. at rated power 7.5 - 18 GHz instantaneously 1 milliwatt max. 63dB min. 35dB min 50 ohms, VSWR 2.5:1 max. 50 ohms, VSWR 2.5:1 typ.

±30ns max (50% points of output pulse width

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

(pulse on) Minus 55dBm/Hz max., Minus 58dBm/Hz typ.

Harmonic Distortion Minus 18dBc max., Minus 20dBc typ. Primary Power

190 - 260 VAC 50/60 Hz, single phase

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 Type BNC female on rear panel Pulse input Interlock DB-15 female on rear panel **GPIB** IEEE-488 female on rear panel

2000TP8G18

Power (fundamental), Peak Pulse, @ Output

11000 watts / min. 10000 watts Nominal Flatness ±6dB min. Frequency Response 8 - 10 GHz Input For Rated Output 1 milliwatt max. Gain (at max. setting) 70dB min. 35dB min. Gain Adjustment (continuous range) 50 ohms, VSWR 2.5:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance Mismatch Tolerance

10,000 watts, 8-10 GHz Pulse

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 RF Rise and Fall 30 ns max. (10% - 90%) 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. TTL level, 50 ohm nominal termination Pulse Input Noise Power Density

Minus 65dBm/Hz max., Minus 69dBm/Hz tvp. (pulse on) Minus 140dBm/Hz typ. (pulse off)

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 Type WR90 waveguide flange on rear panel RF output 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. 107 kg (235 lb) Weight Size (WxHxD)

10000TP8G10

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 5500 watts / min. 4200 watts ±10dB max. Flatness Frequency Response 8 - 12 GHz Input For Rated Output 1 milliwatt max. 66dB min. Gain (at max. setting) Gain Adjustment (continuous range) 35dB min. 50 ohms, VSWR 2.5:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance 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 100 kHz max. Pulse Rate (PRF) Duty Cycle 4% max. RF Rise and Fall 35 ns max. (10% to 90%) 300 ns max. from pulse input to RF 90% Delay 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.

TTL level, 50 ohm nominal termination Pulse Input 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

Type N female on rear panel RF input 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 10,000 watts / min. 8300 watts

±10dB max., ±5dB at rated power Flatness 8 - 12 GHz Frequency Response 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. 50 ohms, VSWR 2.5:1 tvp.

Output Impedance 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 0.2 - 50 microseconds Pulse Width Pulse Rate (PRF) 100 kHz max. Duty Cycle

RF Rise and Fall 70 ns max. (10% - 90%) 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.

TTL level, 50 ohm nominal termination Pulse Input Noise Power Density Minus 70dBm/Hz max., Minus 73dBm/Hz typ.

(pulse on) (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

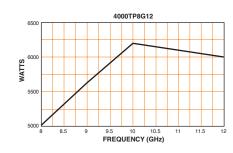
RF input Type N precision female on rear panel RF output Type WR-90 waveguide flange on rear panel RF output forward and reflected sample ports Type N precision female on rear panel

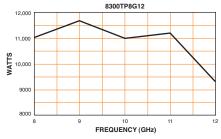
Pulse input Type BNC female on rear panel Interlock DB-15 female on rear panel IEEE-488 female on rear panel **GPIB**

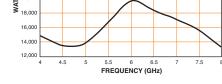
Cooling Forced air (self contained fans), air entry and exit in rear.

Weight 121 kg (265 lb) 50.3 x 43 x 84 cm / 19.8 x 17 x 33 in. Size (WxHxD)









58

20000TP8G12 Pulse TWT Amplifier



20,000 watts, 8-12 GHz Pulse

Power (fundamental), Peak Pulse, @ Output 22,000 watts / min. 20,000 watts ±10dB max., ±6dB at rated power Flatness Flatness Frequency Response Input For Rated Output Gain (at max. setting) 73dB min. 35dB min. Gain Adjustment (continuous range) 50 ohms, VSWR 2.5:1 max. Input Impedance 50 ohms, VSWR 2.5:1 typ. Output Impedance 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. 150 ns max. (10% to 90%) RF Rise and Fall 500 ns max. from pulse input to RF 90% Delay 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 tvp. TTL level, 50 ohm nominal termination Pulse Input Noise Power Density

Minus 65dBm/Hz max., Minus 85dBm/Hz typ. (pulse on) Minus 140dBm/Hz typ. Minus 19dBc max. Harmonic Distortion Primary Power

208 VAC +10% Three phase, delta (4-wire), 50/60 Hz 12 kVA max.

Connectors Type N female on rear panel RF input Type WRD-90 female on rear panel RF output RF output forward sample ports

(forward and reflected) Type N female on rear panel Pulse input Type BNC female on rear panel DB-15 female on rear panel Interlock IEEE-488 female on rear panel

Forced air (self contained fans), air entry and exit in rear. 575 kg (1250 lb) 57.5 x 196 x 82.5 cm / 22.6 x 77.2 x 32.5 in. Size (WxHxD) **Export Classification**

3000TP12G18 Pulse TWT Amplifier



3,000 watts, 12-18 GHz Pulse

Power (fundamental), Peak Pulse, @ Output 3800 watts / min. 3000 watts ±10dB max. 8 - 12 GHz Frequency Response 12 - 18 GHz 1 milliwatt max. 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. 50 ohms, VSWR 2.5:1 typ. Output Impedance 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 0.07 - 50 microseconds Pulse Width Pulse Rate (PRF) 100 kHz max. Duty Cycle 30 ns max. (10% to 90%) RF Rise and Fall 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) 80 dB min., 90 dB typ. Pulse Off Isolation TTL level, 50 ohm nominal termination Pulse Input Noise Power Density

Minus 55dBm/Hz max., Minus 65dBm/Hz typ. (pulse on) Minus 140dBm/Hz typ. (pulse off) 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 Type WR-62 waveguide flange on rear panel RF output 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

IEEE-488 female on rear panel Cooling Forced air (self contained fans), air entry and exit in rear. 52 kg (115 lb) 50.3 x 26 x 81 cm / 19.8 x 10 x 31.9 in. Size (WxHxD)

GPIB

5700TP12G18 Pulse TWT Amplifier



5,700 watts, 12-18 GHz Pulse

Power (fundamental), Peak Pulse, @ Output ±10dB min., ±5dB at rated power Flatness 12 - 18 GHz Frequency Response Input For Rated Output 1 milliwatt max. Gain (at max. setting) 67dB min. Gain Adjustment (continuous range) 35dB min. 50 ohms, VSWR 2.5:1 max. Input Impedance 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 0.2 - 50 microseconds Pulse Width Pulse Rate (PRF) 100 kHz max. Duty Cycle RF Rise and Fall 70 ns max. (10% - 90%) 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) 80 dB min., 90 dB typ. Pulse Off Isolation TTL level, 50 ohm nominal termination Pulse Input Noise Power Density

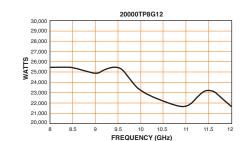
Minus 55dBm/Hz max., Minus 80dBm/Hz typ. (pulse on) Minus 140dBm/Hz typ. (pulse off) Harmonic Distortion

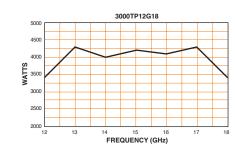
Primary Power 208 ±10% VAC 50/60 Hz, three phase, delta (4 wire) 5 kVA max.

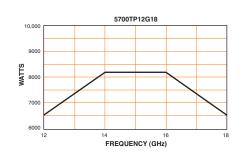
Connectors RF input Type N precision female on rear panel RF output Type WR-62 waveguide flange on rear panel RF output forward and reflected sample ports Type N precision female on rear panel

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. 121 kg (265 lb) Weight 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

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 pout	3:1 at all load phase
Modulation Capability	•
Faithfully reproduce AM, FM, or p	ulse Modulation appearing
on the input signal	
Third Order Intercept Point	48dBm typ.
Noise Figure	8.5dB typ.
Harmonic Distortion	-15dBc typical at rated power

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 automati	ically)
90 - 132, 180 - 264 VAC	
50 - 400 Hz, single phase.	
Connectors	
RF input	Type N female on front pane
RE output	Type N female on front pane

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 (sel	f contained fans)
Export classification		EAR99
Weight		15.9 kg (35 lb)
Size (WxHxD)		
50 3 v 15 5 v 37 6 cm / 19	8 x 6 1 x 14 8 in	

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

50 walls 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 maxim	um	
Frequency Response	1.0 - 6 GHz instantaneously	
Gain (at max. setting)	47dB 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 @ rated pout	3:1 at all load phase	
Modulation Capability	*	
Faithfully reproduce AM, FM, or p	ulse Modulation appearing	
on the input signal		
Third Order Intercept Point	56dBm typ.	
Noise Figure	10dB typ.	
Harmonic Distortion	-15dBc typical at rated power	

500 watts maximum	
Connectors RF input RF output Remote interfaces	Type N female on front panel Type N female on front panel

Minus 73dBc typ.

1.0 deg/100 MHz, typical

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)	Sa

Size (WxHxD) 50.3 x 15.5 x 37.6 cm / 19.8 x 6.1 x 14.8 in

Spurious

Phase linearity

Primary Power (selected automatically)

90-132, 180-250 VAC; 50-400 Hz, single phase;

100S1G6AB Solid State Amplifier



100 watts CW, 1.0-6.0 GHz

Rated Power Output Input For Rated Output	100 watts min. (1-6 GHz) 1 milliwatt max.
Small signal gain flatness ±1.5 dB typical / ±2.5 dB maximu	ım
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 pout	

with any magnitude and phase of source and load impedance.

Modulation Capability
Faithfully reproduce AM, FM, or pulse Modulation appearing

Infinite VSWR. Will operate without damage or oscillation

on the input signal

Third Order Intercept Point
Noise Figure
Harmonic Distortion
Spurious
Phase linearity
Primary Power (selected automatically)

56dBm typ.
10dB typ.
11dB typical at rated power
Minus 73dBc typ.
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
DC 222 (C1)	T OT

RS-232 (fiber optic)
USB 2.0
Ethernet
RJ-45
Safety Interlock
Cooling
Export classification
Type B
RJ-45
Safety Interlock
15 Pin Subminiature D
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 1.0 - 6 GHz instantaneously Frequency Response Gain (at max. setting) 20dB min. Gain Adjustment (continuous range) (4096 steps remote) Input Impedance 50 ohms, VSWR 2.0:1 max. Output Impedance 50 ohms, nominal Mismatch Tolerance @ rated pout

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

yp.
Third Order Intercept Point
Noise Figure
yp.
cal
Spurious
Phase linearity

Third Order Intercept Point
60dBm typ.
9dB typ.; 12dB max.
-15dBc typical at rated power
-15dBc typical at rated power
Minus 73dBc typ.
1.0 deg/100 MHz, typical

Phase linearity 1.0 de Primary Power (selected automatically) 200-260 VAC; 50/60 Hz, single phase

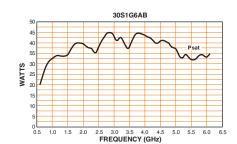
3800 watts maximum

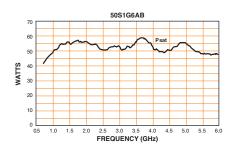
Connectors

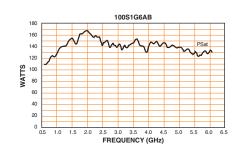
RF input	Type N female on front pane
RF output	Type N female on front pane
Remote interfaces	
IEEE-488	24 pir
RS-232	9 pin Subminiature I
RS-232 (fiber optic)	Type S7
USB 2.0	Type I
Ethernet	RJ-45
Safety Interlock	15 Pin Subminiature I
Cooling	Forced air (self contained fans

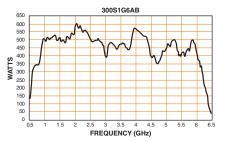
Export classification Weight Size (WxHxD)

50.3 x 47 x 61 cm / 19.8 x 18.5 x 24 in





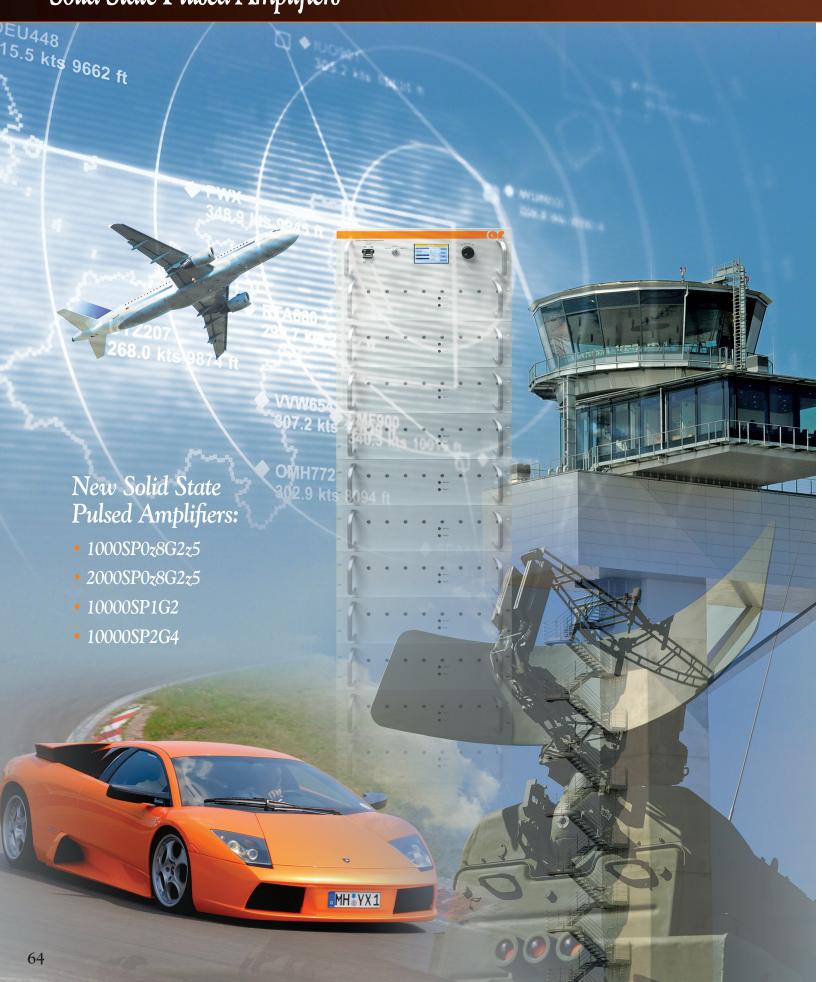




3A001

62 kg (136 lb)

Solid State Pulsed Amplifiers



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 μsec. & 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.

1 to 2 GHz Pulse

1000SP0z8G2z5 Pulsed Amplifier



1,000 watts, 0.8-2.5 GHz Pulse

Rated Power Output 1000 watts min. 1 milliwatt max. Input For Rated Output Power Output @ 3dB compression Nominal 950 watts / min. 900 watts Power Output @ 1dB compression

Nominal 800 watts / min. 700 watts Flatness ± 2.5 dB max. 0.8 - 2.5 GHz instantaneously Frequency Response 60dB min. Gain (at max. setting) 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 0.1 - 100 microseconds Pulse Width Pulse Rate (PRF) 50 kHz max. Duty Cycle 5% max. 30 ns max. (10% - 90%) RF Rise and Fall 2 μs max. from pulse input to RF 90% Delay Pulse Width Distortion \pm 100 ns max. (50% points of output pulse width compared to 50% points of input pulse width) 60dB min. Pulse Off Isolation

TTL level, 50 ohm nominal termination Pulse Input 12dB typ. Noise Figure Harmonic Distortion Minus 20dBc max. at 700 watts Minus 60dBc typ. Spurious Primary Power

100 - 264 VAC 50/60 Hz, single phase 500 watts max. Connectors

Type N female on front panel RF input Type 7-16 DIN female on front panel RF output 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

RI-45 Ethernet Safety Interlock 15 pin Subminiature D Cooling Forced air (self contained fans) Weight 44 kg (97 lbs) Size (WxHxD)

3A999.d

51 x 25.4 x 60cm / 20 x 10 x 23.6 in **Export Classification**

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 ± 2.5 dB max. 0.8 -2.5 GHz instantaneously Frequency Response 63dB min. Gain (at max, setting) Gain Adjustment Continuous Range 20 dB minimum, (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance

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

50 ohms, nominal

Output Impedance

load impedance. Pulse Capability 0.1 - 100 microseconds Pulse Width Pulse Rate (PRF) 50 kHz max. Duty Cycle 5% max. RF Rise and Fall 30 ns max. (10% - 90%) 2 μs maximum from pulse input to RF 90% Pulse Width Distortion \pm 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 12dB typ. Noise Figure Harmonic Distortion Minus 20dBc max. at 1400 watts Minus 60dBc typ. Spurious Primary Power 100 - 264 VAC 50/60 Hz, single phase 2200 watts max.

Connectors Type N female on front panel RF input 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 RI-45 Ethernet 15 pin Subminiature D Safety Interlock

Cooling Forced air (self contained fans) 65 kg (143 lbs) Weight Size (WxHxD) 51 x 25.4 x 87 cm / 20 x 10 x 34.9 in

3A999 d **Export Classification**

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 ± 1.5 dB typ. $/ \pm 2.5$ dB max. 0.8 - 2.5 GHz instantaneously Frequency Response 69dB min Gain (at max. setting) 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 0.1 - 100 microseconds Pulse Width Pulse Rate (PRF) 50 kHz max. Duty Cycle 5% max RF Rise and Fall 30 ns max. (10% - 90%) 600 ns max. from pulse input to RF 90% Pulse Width Distortion

 \pm 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 tvp. Noise Figure 15dB typ. Minus 20dBc max. at 6400 watts

Harmonic Distortion Minus 60dBc typ. Spurious ±4 deg/100 MHz, typ. Phase Linearity **Primary Power** 100 - 264 VAC

1600 watts max. Connectors

50/60 Hz, single phase

Type N female on front panel RF input 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

15 pin Subminiature D Safety Interlock 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**

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 ± 1.5 dB typ. / ± 2.5 dB max. Flatness 1 - 2 GHz instantaneously Frequency Response 60dB min. Gain (at max. setting) Gain Adjustment

Continuous Range 20dB min., (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance 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 0.07 - 50 microseconds Pulse Width Pulse Rate (PRF) 50 kHz max. Duty Cycle 5% max. RF Rise and Fall 50 ns max. (10% - 90%) 600 ns max. from pulse input to RF 90% Delay Pulse Width Distortion ±100 ns max, (50% points of output pulse width compared to 50% points of input pulse width) 60dB min. Pulse Off Isolation TTL level, 50 ohm nominal termination Pulse Input Third Order Intercept Point 67dBm typ.

15dB typ. Noise Figure Minus 18dBc max. at 700 watts Harmonic Distortion Minus 60dBc typ. Spurious $\pm 4 \text{ deg/100 MHz}$, typ. Phase Linearity

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 Ethernet RJ-45 15 pin Subminiature D Safety Interlock

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 3A999.d Export Classification

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

 ± 1.5 dB typ. / ± 2.5 dB max. Frequency Response 1 - 2 GHz instantaneously 63dB min. Gain (at max, setting) Gain Adjustment Continuous Range 20dB min., (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance

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. 50 ns max. (10% - 90%) RF Rise and Fall 600 ns max. from pulse input to RF 90% Delay Pulse Width Distortion ± 100 ns max. (50% points of output pulse width compared to 50% points of input pulse width) 60dB min. Pulse Off Isolation Pulse Input TTL level, 50 ohm nominal termination

Third Order Intercept Point 67dBm typ. 15dB typ. Noise Figure Minus 18dBc max. at 1400 watts Harmonic Distortion Minus 60dBc typ. Spurious ±4 deg/100 MHz, typ. Phase Linearity Primary Power 100 - 264 VAC 50/60 Hz, single phase 2500 watts max.

Connectors Type N female on front panel RF input Type 7-16 DIN female on front panel RF output RF output forward and reflected sample ports Type N female on rear panel Pulse input Type BNC female on rear panel

IEEE-488 RI-45 Ethernet 15 pin Subminiature D Safety Interlock Cooling Forced air (self contained fans) 50 kg (110 lbs) Weight Size (WxHxD)

50.3 x 32 x 86 cm / 19.8 x 9.6 x 23.6 in Export Classification 3A999.d

Remote Interfaces

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 ± 1.5 dB typ. / ± 2.5 dB max. Flatness

1 - 2 GHz instantaneously Frequency Response 66dB min Gain (at max, setting) 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 0.07 - 50 microseconds Pulse Width Pulse Rate (PRF) 50 kHz max. Duty Cycle 6% max RF Rise and Fall 50 ns max. (10% - 90%) 600 ns max. from pulse input to RF 90% Delay 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 TTL level, 50 ohm nominal termination Pulse Input

Noise Figure 15dB typ. Minus 20dBc max. at 2800 watts Harmonic Distortion 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 Type 7-16 DIN female on front panel RF output 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 RJ-45 Ethernet 15 pin Subminiature D Safety Interlock 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

66 67

3 A 999 A

10000SP1G2 Pulsed Amplifier



10,000 watts, 1-2 GHz Pulse

Rated Power Output Input For Rated Output 1 milliwatt max. Power Output @ 3dB compression Minimum 9000 watts Power Output @ 1dB compression Minimum 7000 watts $\pm 4dB$ max. / $\pm 2.5dB$ rated power Flatness 1 - 2 GHz instantaneously Frequency Response 70dB min. Gain (at max, setting) 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 0.07 - 50 microseconds Pulse Width 50 kHz max. Pulse Rate (PRF) Duty Cycle 6% max. RF Rise and Fall 50 ns max. (10% - 90%) 600 ns max. from pulse input to RF 90% Delay

Noise Figure Harmonic Distortion Spurious Primary Power 100 - 264 VAC 50/60 Hz, single phase 2500 watts max.

Pulse Off Isolation

Pulse Input

Pulse Width Distortion

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

±100 ns max. (50% points of output pulse width

compared to 50% points of input pulse width)

IEEE-488 RI-45 Ethernet 15 pin Subminiature D Safety Interlock 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

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 $\pm 4dB \text{ max.} / \pm 2.5dB \text{ rated power}$ Flatness Frequency Response 1 - 2 GHz instantaneously 71dB min Gain (at max, setting) Gain Adjustment Continuous Range 20dB min., (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance 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

0.07 - 50 microseconds Pulse Width Pulse Rate (PRF) 50 kHz max. Duty Cycle 6% max. RF Rise and Fall 50 ns max. (10% - 90%) 600 ns max. from pulse input to RF 90% Delay 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. TTL level, 50 ohm nominal termination Pulse Input 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.

60dB min.

15dB typ.

Minus 60dBc typ.

TTL level, 50 ohm nominal termination

Minus 20dBc max. at 7000 watts

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 RJ-45 Ethernet 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 3A999.d 3A999.d Export Classification

18000SP1G2 Pulsed Amplifier



18,000 watts, 1-2 GHz Pulse

Power (Fundamental), Pulse, @ Output: Nominal 20,000 watts / min. 18,000 watts Flatness ± 10 dB max. / ± 4 dB at rated power

Frequency Response Input For Rated Output 1 milliwatt max. Gain (at max. setting) 72.6dB min. Gain Adjustment

Continuous Range 35dB min. 50 ohms, VSWR 2.5:1 max. Input Impedance Output Impedance 50 ohms, VSWR 2.5:1 tvp. 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 0.1 - 40 microseconds Pulse Width 20 kHz max. Pulse Rate (PRF) Duty Cycle 4% max RF Rise and Fall 150 ns max. (10% - 90%) 500 ns max. from pulse input to RF 90% Delav 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 tvp. TTL level, 50 ohm nominal termination Pulse Input 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

Type N female on front panel RF input 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 IEEE-488 female on rear panel GPIB 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

20000SP1G2 Pulsed Amplifier



20,000 watts, 1-2 GHz Pulse Rated Power Output Input For Rated Output 1 milliwatt max. $\pm 2dB$ max.; $\pm 1.5dB$ at rated power Flatness Frequency Response 1 - 2 GHz instantaneously 73dB min. Gain (at max, setting) Gain Adjustment Continuous Range 20dB min., (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance 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%) 900 ns max. from pulse input to RF 90% Delay 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) 60dB min. Pulse Off Isolation

TTL level, 50 ohm nominal termination Pulse Input Noise Figure 15dB typ. Minus 20dBc max. at 14000 watts Harmonic Distortion Minus 60dBc typ. Spurious Primary Power

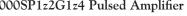
190 - 240 VAC 50/60 Hz, 3-phase Delta 5 kVA max. Connectors

RF input Type N female on front panel Type 1-5/8" EIA female on rear panel RF output RF output forward and reflected sample ports

Type N female on rear panel Pulse input Type BNC female on rear panel Remote Interfaces

IFFF_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





2000SP1z2G1z4 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 ± 1.5 dB typ. $/ \pm 2.5$ dB max. Flatness 1.2 - 1.4 GHz instantaneously Frequency Response 60dB min. Gain (at max, setting)

Gain Adjustment Continuous Range 20dB min., (4096 steps remote) Input Impedance 50 ohms, VSWR 2.0:1 max. Output Impedance

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 $2 \mu s$ 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 12dB typ. Noise Figure Harmonic Distortion Minus 30dBc max. at 700 watts Minus 60dBc typ. Spurious Primary Power 100 - 264 VAC 50/60 Hz, single phase 700 watts max

Connectors Type N female on front panel RF input 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

IEEE-488 24 pin RI-45 Ethernet 15 pin Subminiature D Safety Interlock 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

Remote Interfaces

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

 ± 1.5 dB typ. / ± 2.5 dB max. Flatness 1.2 - 1.4 GHz instantaneously Frequency Response 63dB min. Gain (at max, setting) Gain Adjustment Continuous Range 20dB min., (4096 steps remote)

Input Impedance 50 ohms, VSWR 2.0:1 max. Output Impedance 50 ohms, nominal 50 ohms, nomina 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 $2 \mu s$ 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 15dB typ. Noise Figure Minus 30dBc max. at 1400 watts Harmonic Distortion Spurious Minus 60dBc typ Primary Power

100 - 264 VAC 50/60 Hz, single phase 800 watts max. Connectors

Type N female on front panel RF input 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 Ethernet 15 pin Subminiature D Safety Interlock 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 3A999.d Export Classification

3A999.d

69

68

3A999

2 to 4 GHz Pulse

4000SP1z2G1z4 Pulsed Amplifier



4,000 watts, 1.2-1.4 GHz Pulse

Rated Power Output 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 ± 1.5 dB typ. / ± 2.5 dB max. Flatness 1.2 - 1.4 GHz instantaneously Frequency Response 66dB min. Gain (at max. setting) Gain Adjustment Continuous Range 20dB min., (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance 50 ohms, nominal Output Impedance 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 0.07 - 40 microseconds Pulse Width Pulse Rate (PRF) 50 kHz max. Duty Cycle 1% max. RF Rise and Fall 30 ns max. (10% - 90%) $2 \mu s$ 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) 60dB min Pulse Off Isolation Pulse Input TTL level, 50 ohm nominal termination 15dB typ. Noise Figure Minus 30dBc max. at 2800 watts Harmonic Distortion Minus 60dBc typ. Spurious Primary Power

50/60 Hz, single phase 600 watts max. Connectors RF input

100 - 264 VAC

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 Ethernet 15 pin Subminiature D Safety Interlock 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 ± 1.5 dB tvp. / ± 2.5 dB max. Flatness 1.2 - 1.4 GHz instantaneously Frequency Response 69dB min. Gain (at max, setting) Gain Adjustment Continuous Range 20dB min., (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance 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 0.07 - 40 microseconds Pulse Width 300 kHz max. Pulse Rate (PRF) Duty Cycle 1% max. RF Rise and Fall 50 ns max. (10% - 90%) 600 ns max. from pulse input to RF 90% Delay 5% max. Pulse Droot Pulse Width Distortion ± 100 ns max. (50% points of output pulse width compared to 50% points of input pulse width)

60dB min. Pulse Off Isolation Pulse Input TTL level, 50 ohm nominal termination Third Order Intercept Point 75dBm typ. 15dB typ. Noise Figure Minus 18dBc max. at 7000 watts Harmonic Distortion Minus 60dBc typ. Spurious ± 4 deg/100 MHz, typ. Phase Linearity 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 Pulse input Type BNC female on rear panel Remote Interfaces IEEE-488 24 pin Ethernet

RJ-45 15 pin Subminiature D Safety Interlock Cooling Forced air (self contained fans) Weight 45 kg (100 lbs) Size (WxHxD)

3A999

50.3 x 29.2 x 79 cm / 19.8 x 11.5 x 31 in **Export Classification**

3000SP2G4 Pulsed Amplifier



3,000 watts, 2-4 GHz Pulse

Rated Power Output 3000 watts min. Input For Rated Output 1 milliwatt may Power Output @ 3dB compression Nominal 2500 watts / min. 2200 watts

Power Output @ 1dB compression Nominal 2200 watts / min. 1800 watts ± 1.5 dB typ. / ± 2.5 dB at rated power Flatness 2.0 - 4.0 GHz instantaneously Frequency Response 64.8dB min. Gain (at max, setting)

Gain Adjustment Continuous Range 20dB min., (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance 50 ohms, nominal Output Impedance

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 0.07 - 50 microseconds Pulse Width Pulse Rate (PRF) 50 kHz max. Duty Cycle 6% max 30 ns max. (10% - 90%) RF Rise and Fall 600 ns max. from pulse input to RF 90% Delay Pulse Width Distortion \pm 100 ns max. (50% points of output pulse width

compared to 50% points of input pulse width) 80dB min. Pulse Off Isolation TTL level, 50 ohm nominal termination Pulse Input Noise Figure 12dB tvp. Minus 22dBc max. at 1800 watts Harmonic Distortion 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 Pulse input Type BNC female on rear panel

Remote Interfaces IEEE-488 Ethernet Safety Interlock 15 pin Subminiature D Cooling Forced air (self contained fans) Weight 76 kg (168 lbs)

3A999.d

Size (WxHxD) 50.3 x 37 x 68 cm / 19.8 x 14.6 x 26.8 in Export Classification

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 ± 1.5 dB typ. / ± 2.5 dB max. Flatness

2 - 4 GHz instantaneously Frequency Response 67.8dB min. Gain (at max, setting) Gain Adjustment Continuous Range 20dB min., (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Input Impedance 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%) 600 ns max. from pulse input to RF 90%Delay 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. TTL level, 50 ohm nominal termination Pulse Input Noise Figure 15dB tvp. Minus 20dBc max. at 4300 watts Harmonic Distortion Minus 60dBc typ. Spurious Primary Power

100 - 264 VAC 50/60 Hz, single phase 4500 watts max. Connectors

RF input Type N female on front panel Type 7-16 DIN female on front panel RF output RF output forward and refle ed sample ports Type N female on rear panel

Pulse input Type BNC female on rear panel Remote Interfaces IEEE-488 24 pin RJ-45

Ethernet 15 pin Subminiature D Safety Interlock 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

10000SP2G4 Pulsed Amplifier





10,000 watts, 2-4 GHz Pulse

Rated Power Output Input For Rated Output Power Output @ 3dB compression Minimum 9000 watts Power Output @ 1dB compression Minimum 8000 watts

Flatness ± 4 dB typ. / ± 2.5 dB max. Frequency Response 2 - 4 GHz instantaneously 70dB min. Gain (at max. setting) 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

Pulse Capability

load impedance.

0.07-50 microseconds Pulse Width 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 \pm 100 ns max. (50% points of output pulse width

compared to 50% points of input pulse width) 60dB min. Pulse Off Isolation TTL level, 50 ohm nominal termination Pulse Input 15dB typ. Noise Figure

Harmonic Distortion Minus 20dBc max. at 8000 watts Minus 60dBc typ. Spurious Primary Power 100 - 264 VAC

3800 watts max. Connectors

50/60 Hz, single phase

Type N female on rear panel Type 7-16 DIN female on rear panel RF input RF output RF output forward and reflected sample ports

Type N female on rear panel Type BNC female on rear panel Pulse input Remote Interfaces

IEEE-488 RJ-45 Ethernet 15 pin Subminiature D Safety Interlock Forced air (self contained fans) Cooling Weight 125 kg (276 lbs) Size (WxHxD)

60 x 68 x 90 cm / 23.6 x 26.8 x 35.4 in Export Classification



15000SP2G4 Pulsed Amplifier

15,000 watts, 2-4 GHz Pulse

10000 watts min. Rated Power Output 15000 watts min. 1 milliwatt max. Input For Rated Output 1 milliwatt may Power Output @ 3dB compression Nominal 14000 watts / min. 13500 watts Power Output @ 1dB compression Nominal 13000 watts / min. 12500 watts $\pm 4dB$ max. $/ \pm 2.5dB$ at rated power Flatness

2 - 4 GHz instantaneously Frequency Response 71.8dB min. Gain (at max, setting) Gain Adjustment Continuous Range 20dB min., (4096 steps remote)

Input Impedance 50 ohms, VSWR 2.0:1 max. Output Impedance 50 ohms, nomina 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 50 ns max. (10% - 90%) RF Rise and Fall 600 ns max. from pulse input to RF 90% Delay Pulse Width Distortion

 ± 100 ns max. (50% points of output pulse width compared to 50% points of input pulse width) Pulse Off Isolation

TTL level, 50 ohm nominal termination Pulse Input Noise Figure 15dB tvp. Minus 20dBc max. at 12500 watts Harmonic Distortion 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 Pulse input Type BNC female on rear panel

Remote Interfaces IEEE-488 Ethernet RJ-45 Safety Interlock 15 pin Subminiature D Cooling Forced air (self contained fans) 145 kg (320 lbs)

Weight Size (WxHxD) 60 x 117 x 90 cm / 23.6 x 46 x 35.4 in

3A999.d Export Classification

70

3A999.d

60dB min

1000SP2z7G3z1 Pulsed Amplifier

2000SP2z7G3z1 Pulsed Amplifier

4000SP2z7G3z1 Pulsed Amplifier



1,000 watts, 2.7-3.1 GHz Pulse

A A D

50 kHz max.

1% max.

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 ± 1.5 dB typ. $/ \pm 2.5$ dB max. Flatness 2.7 - 3.1 GHz instantaneously Frequency Response

60dB min. Gain (at max, setting) Gain Adjustment Continuous Range 20dB min., (4096 steps remote)
50 ohms, VSWR 2.0:1 max. Input Impedance 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 0.07 - 30 microseconds Pulse Width Pulse Rate (PRF) Duty Cycle RF Rise and Fall 30 ns max. (10% - 90%)

 $2 \mu s$ 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. TTL level, 50 ohm nominal termination Pulse Input 12dB typ. Noise Figure Minus 30dBc max. at 700 watts

Harmonic Distortion Spurious Minus 60dBc typ. Primary Power 100 - 264 VAC

50/60 Hz, single phase 700 watts max.

Connectors Type N female on front panel RF input Type 7-16 DIN female on front panel RF output 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

RI-45 Ethernet 15 pin Subminiature D Safety Interlock Forced air (self contained fans) Cooling 20 kg (44 lbs) Weight Size (WxHxD)

50.3 x 15 x 68 cm / 19.8 x 5.9 x 26.8 in

3A999.d **Export Classification**



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 ± 1.5 dB typ. $/ \pm 2.5$ dB max. Flatness Frequency Response 2.7 - 3.1 GHz instantaneously 63dB min. Gain (at max, setting) Gain Adjustment Continuous Range 20dB min., (4096 steps remote)
50 ohms, VSWR 2.0:1 max. Input Impedance 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 10 kHz max. Pulse Rate (PRF) Duty Cycle 10% max. 30 ns max. (10% - 90%) RF Rise and Fall 600 ns max. from pulse input to RF 90% Delay Pulse Width Distortion \pm 100 ns max. (50% points of output pulse width compared to 50% points of input pulse width) 80dB min. Pulse Off Isolation TTL level, 50 ohm nominal termination Pulse Input

Noise Figure 12dB typ. Minus 30dBc max. at 1400 watts Harmonic Distortion Spurious Minus 60dBc typ. Primary Power 100 - 264 VAC 50/60 Hz, single phase 700 watts max

Connectors Type N female on front panel RF input Type 7-16 DIN female on front panel RF output 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 15 pin Subminiature D Safety Interlock Forced air (self contained fans) Cooling 27 kg (60 lbs) Weight Size (WxHxD)

50.3 x 15 x 68 cm / 19.8 x 5.9 x 26.8 in 3A999.d **Export Classification**



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 ± 1.5 dB typ. / ± 2.5 dB max 2.7 - 3.1 GHz instantaneously Frequency Response Gain (at max. setting) 66dB min Gain Adjustment Continuous Range 20dB min., (4096 steps remote)

50 ohms, VSWR 2.0:1 max. Input Impedance 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 1 - 200 microseconds Pulse Width Pulse Rate (PRF) 10 kHz max. Duty Cycle 30 ns max. (10% - 90%) RF Rise and Fall 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) 80dB min. Pulse Off Isolation Pulse Input TTL level, 50 ohm nominal termination 12dB typ. Noise Figure

Harmonic Distortion Minus 30dBc max. at 3000 watts Minus 60dBc typ. Spurious Primary Power

100 - 264 VAC 50/60 Hz, single phase 1200 watts max.

Connectors RF input Type N female on front panel Type 7-16 DIN female on front panel RF output RF output forward and reflected sample ports Type N female on rear panel Type BNC female on rear panel Pulse input

Remote Interfaces IEEE-488 Ethernet Safety Interlock 15 pin Subminiature D Cooling Forced air (self contained fans) 42 kg (93 lbs)

3A999.d

Weight Size (WxHxD) 50.3 x 28.7 x 68 cm / 19.8 x 11.3 x 27 in

Export Classification



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

8000SP2z7G3z1 Pulsed Amplifier

Power Output @ 1dB compression Nominal 7000 watts / min. 6400 watts

 ± 1.5 dB typ. / ± 2.5 dB max. Flatness 2.7 - 3.1 GHz instantaneously Frequency Response 69dB min. Gain (at max. setting) Gain Adjustment

Continuous Range 20dB min., (4096 steps remote) 50 ohms, VSWR 2.0:1 max. Input Impedance 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

0.07 - 6 microseconds Pulse Rate (PRF) 300 kHz max. Duty Cycle 1% max. 50 ns max. (10% - 90%) RF Rise and Fall 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 Pulse Input TTL level, 50 ohm nominal termination Third Order Intercept Point 75dBm typ. 15dB typ. Noise Figure Minus 18dBc max. at 7000 watts Harmonic Distortion 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 Pulse input Remote Interfaces IEEE-488 24 pin

15 pin Subminiature D Safety Interlock 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



1200

2400

4800

9600

RF: On

Forward Power (W)

19200

38400

57600

115200

100

100

Back

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

ALC Thresh (%): 50 ALC DT Gain(%): 100 ALC Response: 7 of the screens' functions provide a look at iust how intuitive and powerful the AR Touch Panel control system is.