



600W to 1250W
ARMA-5000S™ series



Features

- High gain and linearity
- Output power up to 1250W
- Gain adjustment (Local & Remote)
- Remote Monitor & Control (Local & Remote)
- Output sample monitor port
- Temperature gain compensation
- Automatic over-temperature shutdown
- Automatic high reflected power shutdown
- Infinite VSWR protection
- Power factor correction
- CE Marking

Overview

The ARMA-5000S™ series are the rack-mount solid-state power amplifiers (SSPAs), operating in S-Band frequency range. The amplifier is an integrated unit, complete with power supply and cooling system. Intended for indoor operation, the amplifiers are of compact size and occupy nine rack-mounting spaces (9 RU - 15¾") of a standard 19-inch rack. Built-in microprocessor controller provides capability for serial port interfaces (RS485) for remote monitoring and control.

Advantech's SSPAs set the industry standard for linearity and operating efficiency. Built-in design features and assembly methods incorporated with efficient combining techniques result in the trouble-free operation of the amplifier.

Application

The featured SSPAs are designed for S-Band satellite up-link applications. They are designed for 19-inch rack mounting in a protected environment. The ARMA-S series are available in output power from 50W to 1250W. For higher power Advantech provides phase-combined systems. Other SSPAs are available for operation at other satellite frequency bands. With all the features of the ARMA-S, Advantech also offers a built-in converter.

Redundancy

With the addition of the appropriate waveguide and switch kit, the ARMA-5000S™ amplifiers can be easily converted for the operation in 1:1 redundant configuration without the use of any external controller. Full remote Monitor and Control of the redundant system is accessible via the serial port (RS-485).

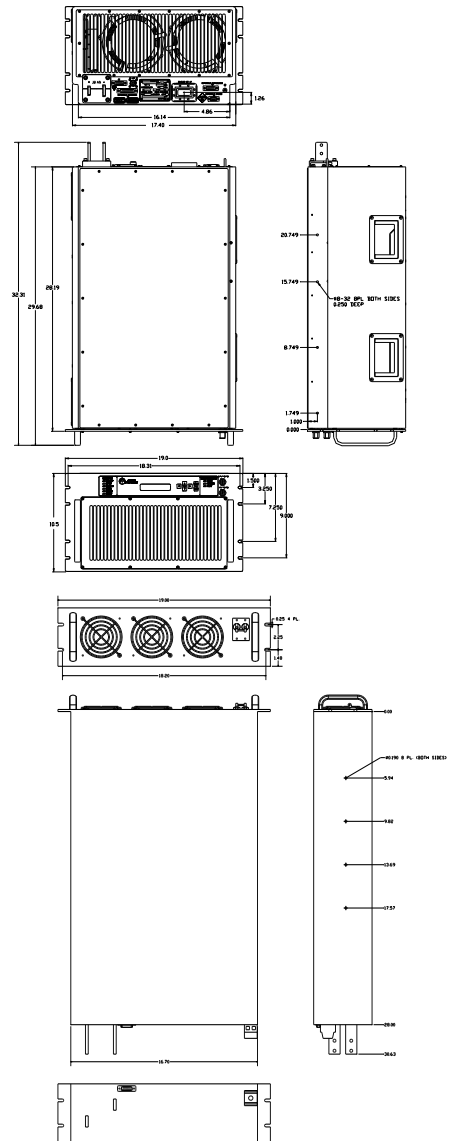


Table A

Band	RF Band (GHz)	Output Power (W)
S	2.025 - 2.120	500 - 1000

Options

- Integrated Block Up Converter
- RF input sample port
- Redundant system

Accessories

- Redundancy Kit
- Shelf slides
- Band pass filter
- Remote M&C panel (Ethernet port optional)

S-Band Rack-mount SSPA



Technical Specifications		600W	700W	800W	1000W	1250W	
Electrical Characteristics							
Availability in this series							
S		√	√	√	√	√	
Output power (P _{SAT})		+58 dBm	+58.5 dBm	+59 dBm	+60 dBm	+61 dBm	
Output power (P _{1dB}) min		+57 dBm	+57.5 dBm	+58 dBm	+59 dBm	+60 dBm	
Gain at maximum setting		70 dB min					
Frequency range		2.025 - 2.120 GHz					
Gain adjustment range		20 dB					
Max input power without damage		+10 dBm					
Gain flatness		1.5 dB p-p max over full band 0.5 dB p-p over 10 MHz at 25°C					
Gain slope		0.06 dB/MHz, max					
Gain variation over temperature		±1.5 dB over full operating range (temperature compensation mode)					
Gain variation over 24 hours		±0.5 dB max at constant temperature & drive level					
Input VSWR		1.3: 1					
Output VSWR		1.3: 1					
Noise Power Density		-90 dBm/Hz max in TX band					
Spurious at rated power		-65 dBc max					
Harmonics at rated power		-45 dBc max					
AM/PM conversion		3.5°/dB max at P _{1dB} 1°/dB max at 3 dB total back-off from rated P _{1dB}					
Third order IMD (two equal tones 5 MHz apart)		-24 dBc max at 3 dB total back-off from rated P _{1dB}					
Group Delay		Linear: 0.02 nsec/MHz max. Parabolic: 0.003 nsec/MHz ² max. Ripple: 1 nsec p-p max.					
Residual AM (F* - frequency in kHz)		0-10 kHz	-45 dBc	10 kHz - 500 kHz	-20 (1.25+log F*) dBc	500 kHz - 1 MHz	-80 dBc
Power Requirements							
DC input voltage		180-264 VAC (47-63 Hz)					
Power consumption, (nominal)		2500W	2700W	3000W	3200W	3500W	
Mechanical Characteristics							
Dimensions (L x W x H)		9 RU of 19" rack (6 RU amplifier + 3 RU power supply unit)					
Weight		80 kg (176 lbs.)					
Interfaces:	RF input	N-Type (F)	Redundancy	D-sub 25S	Discrete port	D-sub 9S	
	RF output	7-16 DIN (F)	RS-232	D-sub 9S	DC Line	2-pole terminal board	
	Output sample port	N-Type (F)	RS-485	D-sub 9S	AC Line	IEC 320 inlet	
Environmental Conditions							
Temperature	Operating	0°C to +50°C					
	Storage	-55°C to +85°C					
Humidity		5% to 95% non-condensing					
Altitude		10,000' AMSL, derated 2°C/1,000' from AMSL					

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