



S-BAND RACK-MOUNT SSPA
250W to 400W
ARMA-4000S® series



KEY FEATURES

- High gain and linearity
- Output power up to 400W
- 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

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)

OVERVIEW

The ARMA-4000S® 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 six rack-mounting spaces (6 RU - 10½") 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 100W to 1000W. For higher power Advantech provides phase-combined systems.

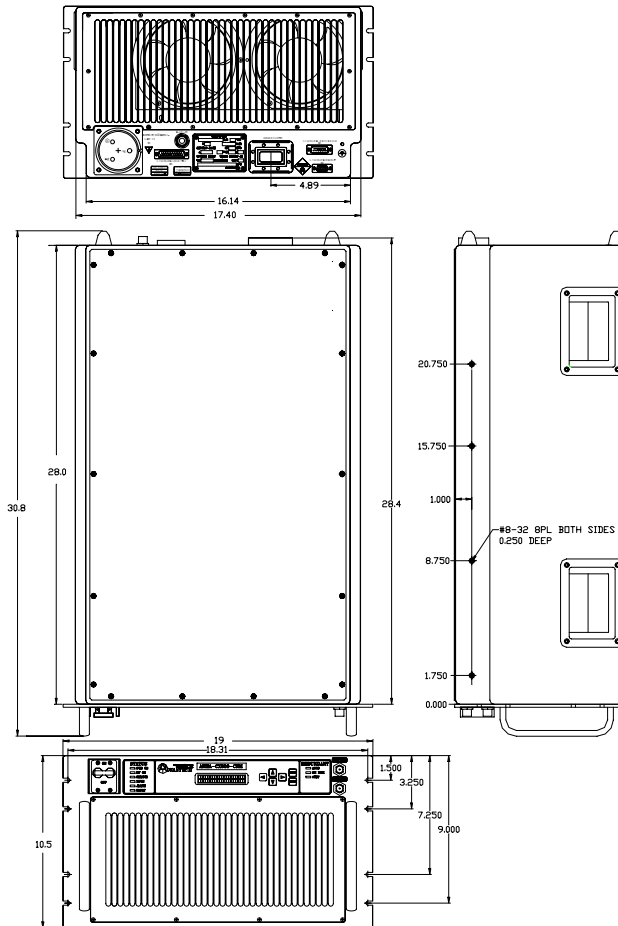


Table A

Band	RF Band (GHz)	Output Power (W)
S	2.025 - 2.120	250 - 400

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-4000S® 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).

S-band Very High Power SSPA



S-BAND RACK-MOUNT SSPA
 250W to 400W
ARMA-4000S® series



S-band Very High Power SSPA

TECHNICAL SPECIFICATIONS	250W	300W	350W	400W		
Electrical Characteristics						
Availability in this series S	√	√	√	√		
Output power (P _{SAT})	+54 dBm	+55 dBm	+55.5 dBm	+56 dBm		
Output power (P _{1dB}) min	+53 dBm	+54 dBm	+54.5 dBm	+55 dBm		
Power Gain @ max setting	70 dB min					
Frequency range	2.025 GHz - 2.120 GHz					
Gain adjustment range	20 dB					
Max input power w/out damage	+10 dBm					
Gain flatness	±1.5 dB max over full band					
Gain slope	±0.6 dB over 10 MHz at 25°C					
Gain variation over temperature	0.015 dB/ MHz max.					
Gain variation over 24 hours	±1.5 dB over full operating range (temperature compensation mode)					
Input VSWR	±0.25 dB max at constant temperature & drive level					
Output VSWR	1.3:1					
Noise Power Density	1.4:1					
Spurious at rated power	-90 dBm/Hz max in TX band					
Harmonics at rated power	-65 dBc, max.					
AM/PM conversion	-90 dBc, max					
Third order IMD (two equal tones 5 MHz apart)	2.5°/dB max. at P _{1dB}					
Group Delay	1°/dB max. at 3 dB back-off from rated P _{1dB}					
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						
AC input voltage	180-264 VAC auto ranging (47-63 Hz)					
Power consumption (nom.) (W)	1400	1500	1600	1700		
Mechanical Characteristics						
Panel Height	6 RU of 19" rack					
Weight	65kg (143 lbs)					
Interfaces:	RF input	N-Type (F)	Redundancy	D-sub 25S	Discrete port	D-sub 9S
	RF output	N-Type (F)	RS-232	D-sub 9S	AC Line	IEC 320 inlet
	Output sample port	N-Type (F)	RS-485	D-sub 9S		
Environmental Conditions						
Temperature:	Operating	0°C to +50°C				
	Storage	-55°C to +85°C				
Humidity	5%-95%, non-condensing					
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL					

