



KEY FEATURES

- High gain and linearity
- Output power up to 1000W
- 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-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 - 15³/₄") 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	500 - 1000

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).



S-BAND RACK-MOUNT SSPA
500W to 1000W
ARMA-5000S® series



S-band Super Power SSPA

TECHNICAL SPECIFICATIONS	500W	600W	700W	800W	1000W
Electrical Characteristics					
Availability in this series S	√	√	√	√	√
Output power (P _{SAT})	+57 dBm	+58 dBm	+58.5 dBm	+59 dBm	+60 dBm
Output power (P _{1dB}) min	+56 dBm	+57 dBm	+57.5	+58 dBm	+59 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	±2.0 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	±0.5 dB max at constant temperature & drive level				
Output VSWR	1.3: 1				
Noise Power Density	1.3: 1				
Spurious at rated power	-90 dBm/Hz max in TX band				
Harmonics at rated power	-65 dBc max				
AM/PM conversion	-45 dBc max				
Third order IMD (two equal tones 5 MHz apart)	3.5°/dB max at P _{1dB}				
Group Delay	1°/dB max at 3 dB total 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					
DC input voltage	180-264 VAC (47-63 Hz)				
Power consumption, (nominal)	2000W	2500W	3250W	3500W	4000W
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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