



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).

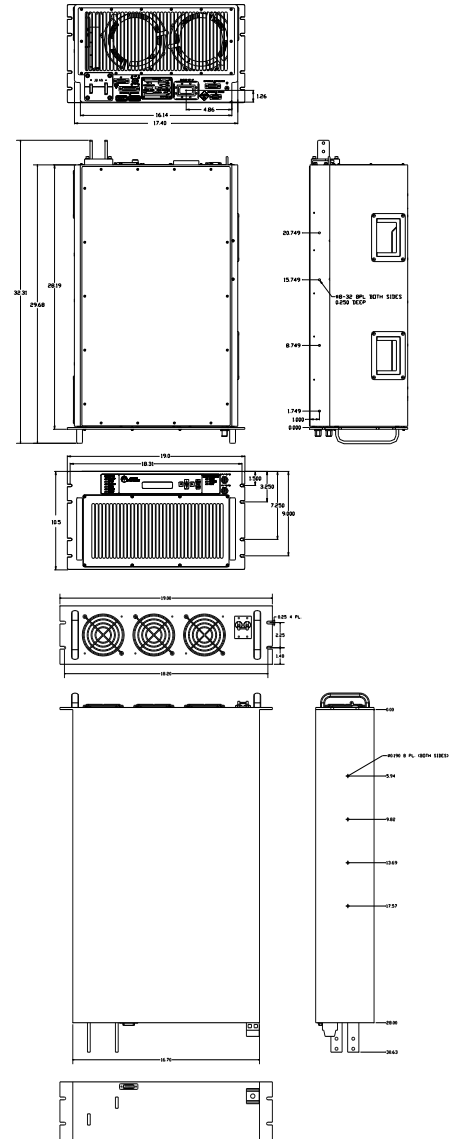


Table A

| Band | RF Band (GHz) | Output Power (W) |
|------|---------------|------------------|
| S | 2.025 - 2.120 | 600 - 1250 |

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 RF output Output sample port | N-Type (F) 7-16 DIN (F) N-Type (F) | Redundancy RS-232 RS-485 | D-sub 25S D-sub 9S D-sub 9S | Discrete port D-sub 9S DC Line 2-pole terminal board 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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