







Features

- Full range of output power from 16W to 1000W
- High linearity
- Redundant ready with no external controller
- Full M&C capability via RS485 or Ethernet port
- Forward and Reflected power monitoring
- Output Sample Port
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Built-in Harmonic Filter
- Power factor correction
- CE marking

Overview

Advantech AMT C-Band line of Amplifiers and BUCs are intended for satellite up-link applications. The design of these units is based on Advantech's proven techniques resulting in high linearity and operating efficiency. Conservative thermal design contributes to the high MTBF for these units. Full monitor and control is provided via the serial or Ethernet ports. Special features such as automatic over-temperature shutdown and high-reflected power protection contribute to a trouble free operation.

The ARM-C series 19" rackmount SSPA/SSPB (BUC) is available in output power from 16W to 1000W. Higher power operation may be provided using external phase combining techniques offering an output power up to 1600W. Please contact factory for more details.

Advantech also offers the SUMMIT modular SSPA system for either indoor or outdoor applications.

The full set of accessories made available will facilitate the integration of these units in any application.

Options

- 1:1 or 1:2 Redundant configuration
- Phase combined systems for higher power
- L-Band input (SSPB/BUC operation)
- SNMP interface

Accessories

- Mounting slides
- Remote M&C panel

Redundancy

Advantech AMT C-Band line of Amplifiers and BUCs may be configured to operate in 1:1 or 1:2 redundancy mode. No extra controller is required for the redundancy operation as the built-in controller in each unit provides this function. For 1:1 redundancy operation, in addition to the two units (operating and standby) a special redundancy kit is required. For 1:2 redundancy operation another redundancy kit is needed in addition to the three units. The kits include the waveguide switches, terminations, splitter, interconnecting cable assemblies and mounting frames.

All redundancy systems are delivered fully tested.

C-Band Rack-mount SSPA/SSPB



Technical Specifications

Table A

| Band* | RF Band (GHz) | L-Band Input for BUC (MHz) | LO for BUC (GHz) | Output Power (W) |
|-------|------------------|----------------------------------|------------------------|---------------------|
| CS | 5.850 - 6.425 | 950 – 1525 | 4.900 | 16 - 1000 |
| CX | 5.850 - 6.725 | 950 – 1825 | 4.900 | 16 - 800 |
| CL | 4.400 - 5.000 | 950 – 1550 | 3.450 | 16 - 1000 |
| CI | 6.725 - 7.025 | 1225 – 1525 | 5.500 | 16 - 1000 |
| СР | 6.425 - 6.725 | 1025 – 1325 | 5.400 | 16 - 1000 |
| CR | 5.725 - 6.025 | 950 – 1450 | 4.775 | 16 - 1000 |

^{*}Other frequency sub-bands are available. Please consult factory.

SSPA/SSPB (BUC) Line

Table B

| Rated Psat | | P1dB dBm | Gain (dB) minimum | | Availability in this series | | Power Consumption W | Weight | Dimensions Outline |
|------------|-------|-------------|----------------------|----------------|-----------------------------|-----------|---------------------------|---------------------|-----------------------|
| W | SSPA | | BUC | CS CI CP | сх | (nominal) | | Culino | |
| 16W | +42 | +41 | +52 | +62 | √ | √ | 170 | | |
| 20W | +43 | +42 | +53 | +63 | √ | √ | 180 | | 3RU Outline #1 |
| 25W | +44 | +43 | +54 | +64 | V | V | 200 | 37.5 lbs (17 kg) | |
| 30W | +45 | +44 | +55 | +65 | √ | √ | 250 | | |
| 40W | +46 | +45 | +56 | +66 | √ | √ | 300 | | |
| 50W | +47 | +46 | +57 | +67 | V | √ | 350 | | |
| 60W | +48 | +47 | +58 | +68 | V | V | 550 | | 4RU Outline #2 |
| 80W | +49 | +48 | +59 | +69 | V | 1 | 800 | 66 lbs (30kg) | |
| 100W | +50 | +49 | +60 | +70 | V | 1 | 900 | | |
| 125W | +51 | +50 | +61 | +71 | √ | V | 950 | | |
| 150W | +52 | +51 | +62 | +72 | V | V | 1000 | | |
| 200W | +53 | +52 | +63 | +73 | V | V | 1100 | 99 lbs (45kg) | 5RU Outline #3 |
| 250W | +54 | +53 | +64 | +74 | √ | V | 1400 | | |
| 300W | +55 | +54 | +65 | +75 | √ | √ | 1700 | | |
| 350W | +55.5 | +54.5 | +65 | +75 | √ | V | 2000 | | |
| 400W | +56 | +55 | +66 | +76 | √ | √ | 2200 | 198 lbs (90kg) | 8RU Outline #4 |
| 500W | +57 | +56 | +67 | +77 | V | √ | 2700 | | |
| 600W | +58 | +57 | +68 | +78 | V | √ | 3500 | | |
| 700W | +58.5 | +57.5 | +69 | +79 | √ | V | 4000 | | |
| 800W | +59 | +58 | +70 | +80 | √ | 1 | 4500 | | |
| 1000W | +60 | +59 | +70 | +80 | 1 | - | 5500 | | |

C-Band Rack-mount SSPA/SSPB

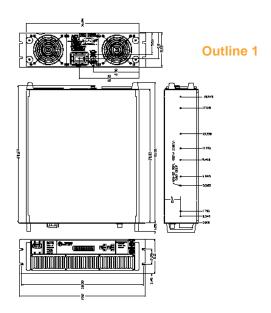


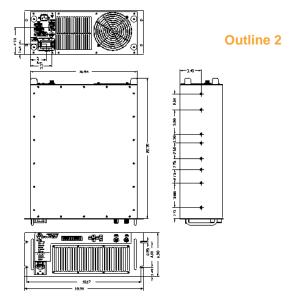
General Specifications

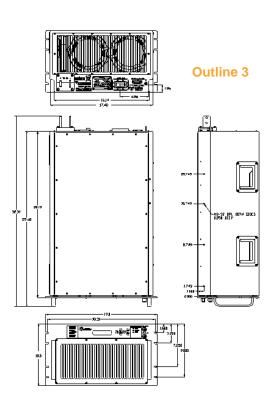
| Operating Frequency | See table A | | | | |
|----------------------------------|--|--|--|--|--|
| L-Band input (BUC) | See table A | | | | |
| Output Power | See table B | | | | |
| Gain | See table B | | | | |
| Gain adjustment range | 20 dB in 0.1 dB steps | | | | |
| Gain flatness over full band | ± 1dB max (SSPA), ±1.5dB max (SSPB) | | | | |
| Gain slope over 40 MHz | ± 0.3 dB max | | | | |
| Gain variation over temperature | ± 1.5 dB max | | | | |
| Input Impedance and VSWR | 50 Ω SSPA 1.3:1 SSPB (BUC) 1.4:1 | | | | |
| Output VSWR | 1.25:1 | | | | |
| Noise power density | -70 dBm/Hz in Transmit Band, | | | | |
| 140ise power density | -150 dBm/Hz in Receive Band (3.40 – 4.20 GHz) | | | | |
| Spurious at P1dB | -60 dBc max | | | | |
| Harmonics | -60 dBc @ P1dB, -70 dBc @ P1dB -3 dB max | | | | |
| AM/PM conversion | 2.5°/dB at P1Db | | | | |
| Third order intermod (two tones) | -26 dBc at 3 dB total back-off from rated P1dB | | | | |
| Group delay | Linear 0.02 nsec/MHz max | | | | |
| Gloup delay | Parabolic 0.003 nsec/MHz2 max | | | | |
| | Ripple 1 nsec p-p max | | | | |
| Residual AM Noise | 0 – 10 kHz -45 dBc | | | | |
| Residual Aivi Noise | | | | | |
| | 10 kHz – 500 kHz -20 (1.25 + log F) dBc F = Frequency in kHz | | | | |
| | 500 kHz – 1 MHz -80 dBc | | | | |
| SSPB (BUC) | | | | | |
| Local Oscillator frequency | See table A | | | | |
| Reference frequency | 10 MHz stability ±1-8 over temp range ±2-10/day | | | | |
| Phase Noise | -60 dBc/Hz at 10Hz -85 dBc/Hz at 10 kHz | | | | |
| Thase Noise | -65 dBc/Hz at 100Hz -95 dBc/Hz at 100 kHz | | | | |
| | -75 dBc/Hz at 1000Hz | | | | |
| External Reference Frequency | -115 dBc/Hz at 10Hz -150 dBc/Hz at 10 kHz | | | | |
| phase noise (max) | -135 dBc/Hz at 100Hz -160 dBc/Hz at 100 kHz | | | | |
| priase noise (max) | -148 dBc/Hz at 1000Hz | | | | |
| Weight & Dimensions | | | | | |
| Weight & Dimensions | See table B | | | | |
| AC input voltage | Up to 250W output power 95 - 265 VAC, 47-63 Hz, | | | | |
| | Option 48V DC | | | | |
| O 1: . | 300W output power and higher 220VAC 47 – 63 Hz | | | | |
| Cooling system | Forced air with front intake | | | | |
| Interfaces | Input (RF or L-Band) N type female | | | | |
| | Output Sample Port N type female | | | | |
| | RF output CPR137 contact | | | | |
| | 1 AC line 1 LC 220 in let | | | | |
| | AC line IEC 320 inlet | | | | |
| | RS232 serial port D-sub 9S | | | | |
| | RS232 serial port D-sub 9S RS485 D-sub 9S | | | | |
| | RS232 serial port D-sub 9S RS485 D-sub 9S Ethernet (option) RJ45 | | | | |
| Environmental | RS232 serial port D-sub 9S RS485 D-sub 9S Ethernet (option) RJ45 Temperature Operating 0°C to +50 °C | | | | |
| Environmental | RS232 serial port D-sub 9S RS485 D-sub 9S Ethernet (option) RJ45 Temperature Operating 0°C to +50 °C Storage -55°C to +85 °C | | | | |
| Environmental | RS232 serial port D-sub 9S RS485 D-sub 9S Ethernet (option) RJ45 Temperature Operating 0°C to +50 °C | | | | |

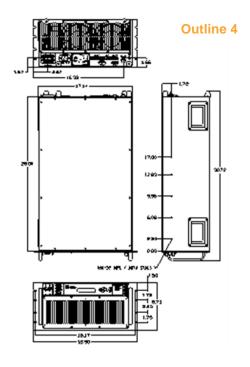
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