

MAIN FEATURES

- ❖ 200W output RF power
- ❖ Stable output power over temperature
- ❖ Ethernet or RS485 M&C interface
- ❖ High reliability



DESCRIPTION

This solid state power amplifier is intended for use in X-band satellite communications systems as uplink SSPA. It is to be installed directly to the antenna. The outdoor construction protects the amplifier against harsh environmental conditions. The SSPA can be fully remotely monitored and controlled via the built-in RS-485 or Ethernet port. 1:1 hot redundant arrangement increases the reliability of the system.

SPECIFICATIONS

ELECTRICAL PARAMETERS	
Operation Frequency Band	7145 – 7235 MHz
RF Output Power	53 dBm @ P3dB
Power Gain	60 dB min. 65dB typ.
Gain Flatness	± 0.5 dB in full band ±0.2 dB / 10 MHz max.
AM/PM Conversion @ P3dB	< 4 °/dB
ALC Control Range	20 dB min. with 0.5dB step
In/Out Impedance Nominally	50 Ohms
Input VSWR	< 1.4:1
Output VSWR	< 1.4:1
Out-of-Band Gain Reduction	35dB @ F > 7.4 GHz and F < 7.0 GHz
Group delay variation (with filter)	Linear: 0.02ns/MHz Parabolic: 0.001ns/MHz ² Ripple: 1ns pk-pk
Gain adjustment range	20 dB
Gain adjustment step	0.5 dB typ.
Noise Figure (standalone system)	< 10 dB (@max. gain)
Harmonics @ P3dB	< -60 dBc
Spurious @ P3dB	< -60 dBc
Output sample port	-50 dBc typ.
Intermodulation distortion @ Pout=50 dBm (two tone, 47dBm/tone, 1MHz spacing)	< -25 dBc
MTBF	> 90 000 hours
Remote M&C interface	Ethernet (Option: RS485)
Power supply voltage	110-240 V AC, 47-63 Hz
AC Power Consumption (230 VAC) @ Pout= 53 dBm	<1100 VA



BPBC17 200W 1:1 Redundant X-band Outdoor Power Amplifier

MECHANICAL PARAMETERS	
Connectors	AC: MS3102E18-10P ETHERNET: Amphenol MS3112E12-10S RF IN: N-Female SAMPLE: N-Female RF OUT: WR137 (CPRG flange)
Weight	80 kg approx.
Dimensions (L x W x H)	595 x 980 x 370 mm
ENVIRONMENTAL PARAMETERS	
Operating Temperature Range	-40°C to +60°C
Degree of protection	IP67
Cooling	Forced air
Shock & Vibration	Transportation
SOFTWARE PARAMETERS	
Remote M&C interface	Ethernet (TCP/IP); Optional: RS-485

Specifications are subject to change without notice.

SOFTWARE SCREENSHOT

BPBS Control Program v1.4.0.3

Factory Settings: Recall, Boot Mode

User Settings: Recall, Save

Remote Control: Restart Device, Settings

System Status: IP: 192.168.16.53, Port: 40000, Connected, Connections: 1

Master Summary:

- Device Type: BPBC17
- Serial Number: 003
- Date of Manufacture: 16.01.2019
- Firmware Version: 4.7
- Hardware Version: 1.0

Spare PAM: Spare PAM ON/OFF

Active PAM Settings:

- ALC ON-OFF: ON/OFF
- ALC Level: 30.0 dBm
- Attenuation: 20.0 dB
- RF by User: ON/OFF
- Output Power = < 10 dBm
- Output Return Loss = N.A. dB

PAM B Status: Active, Connection State, Communication State (all green)

PAM A Status: Active, Connection State, Communication State (all grey)

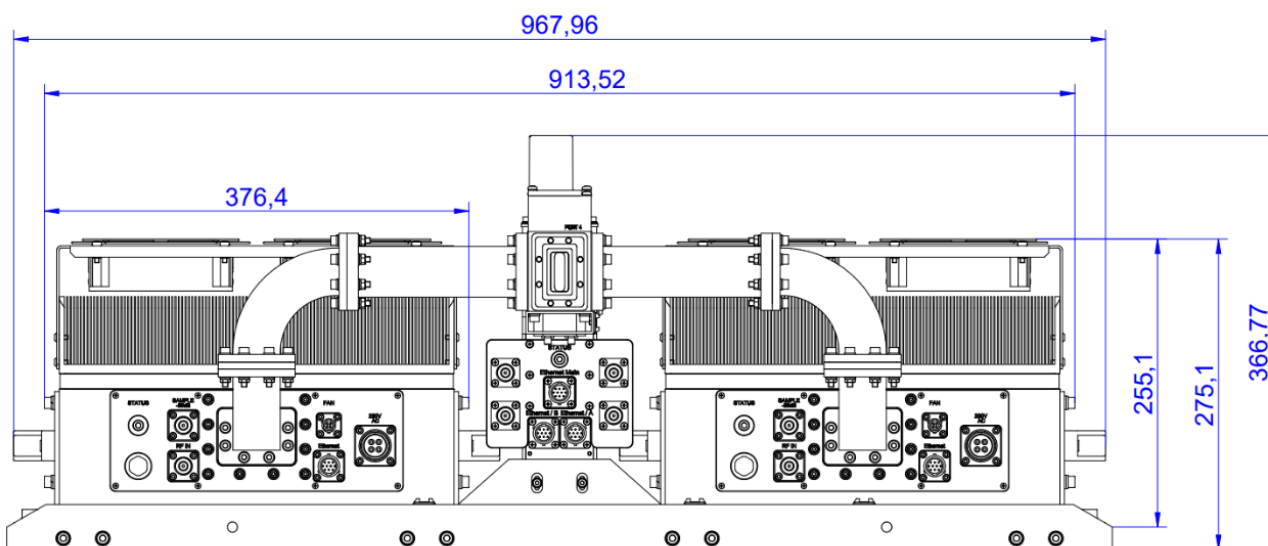
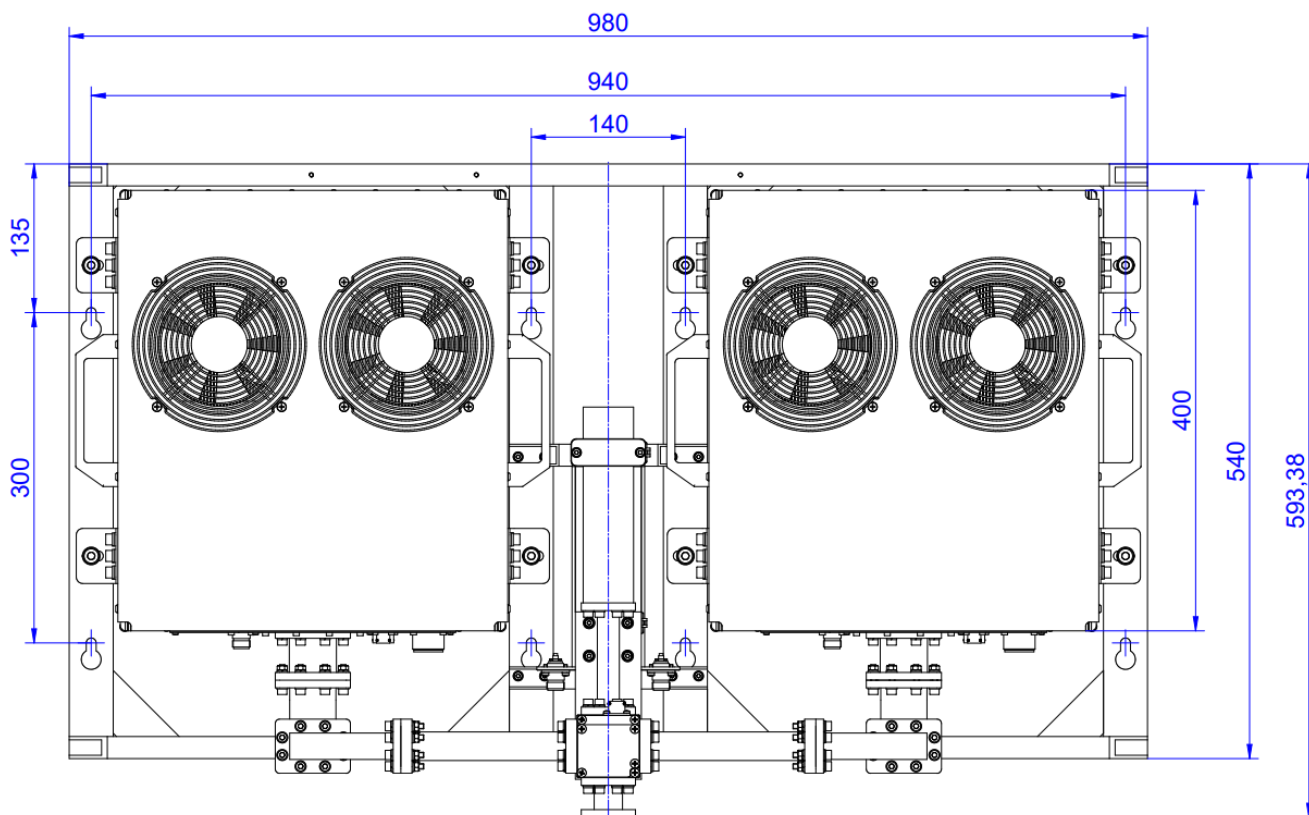
Schematic Diagram: Shows PAM B (Preferred) and PAM A connected to IN, DUMMY, and OUT ports. AUX port is also shown.

RF OFF: RF Out: OFF, Output Power < 10 dBm, End FETs Temp. 38 °C

Master Monitor Table:

Master Monitor	Current	History
Master Temp.	●	●
24V Supply Voltage	●	●
24V Supply Current	●	●
5V Supply Voltage	●	●
Clear Alarm History CLEAR		
Active PAM Monitor	Current	History
End FETs Temp.	●	●
End FETs Current	●	●
End FETs Voltage	●	●
24V Supp. Volt. 1	●	●
24V Supp. Volt. 2	●	●
Output Return Loss	●	●
Driver	●	●
Fan curr.	●	●
Preamp.	●	●
Clear Alarm History CLEAR		

OUTLINE DRAWING (mm)





BPBC17 200W 1:1 Redundant X-band Outdoor Power Amplifier

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
BPBC17K10511	BPBC17 200 W, X-band 7145 – 7235 MHz, 1:1 redundant outdoor SSPA

DOCUMENT REVISION

DOCUMENT NAME	REVISION	DATE
BPBC17-LM-K10511	V01	03/05/2023