

**200 W 1:1 REDUNDANT S-BAND
POWER AMPLIFIER**

- **200 W OUTPUT RF POWER**
- **STABLE OUTPUT POWER OVER TEMPERATURE**
- **1:1 HOT REDUNDANT ARRANGEMENT**
- **ETHERNET M&C INTERFACE**
- **ROBUST CONSTRUCTION**

This solid state power amplifier is intended for use in S-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 control via the built-in Ethernet interface. 1:1 hot redundant arrangement increases the reliability of the system.

Electrical parameters

Specification	Parameter
Frequency Band	2025 – 2120 MHz
RF Output Power	53 dBm min.
Power Gain	70 dB min.
Gain Slope	± 0.1 dB/10 MHz max.
Gain Flatness	± 0.5 dB
Output Power Stability vs. Temp (ALC ON)	± 1 dB(-40°C to +60°C) max.
ALC Control	20 dB min.
AM/PM Conversion @ P1 dB	2.5°/dB max.
In/Out Impedance Nominally	50 Ohms
Input VSWR	< 1.3 : 1
Output VSWR	< 1.4 : 1
Output Noise In Band 2.2-2.3 GHz with filter (*)	< -125 dBm/Hz @ 2200MHz < -155 dBm/Hz @ 2300MHz
Gain Adjustment Range	min. 20 dB, typ.25 dB
Gain Adjustment Step	0.1 dB typ.
Harmonics @ P1 dB-3 dB	< -60 dBc
Spurious	< -80 dBc
Group Delay Variation (linear)	< 0.03ns / MHz with filter
Noise Figure (redundant system)	< 8 dB
Noise Figure (standalone system)	< 3 dB
Intermodulation Distortion @ 2 x 47 dBm Pout	< -25 dBc
MTBF	> 130 000 Hours
M&C interface for local control panel	Ethernet
Power supply	100-260 V; 47-63 Hz
Operating temperature range	-40°C to +60°C

(*) Current specification. Any changes shall be discussed and agreed separately. Based on the changes the price may change.



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Control SW screenshot:

The screenshot displays the BPBS Control Program v1.3.9.3 interface. At the top, there are three main control panels: Factory Settings (with Recall and Boot Mode buttons), User Settings (with Recall and Save buttons), and Remote Control (with Restart Device and Settings buttons). To the right, system information is shown: IP: 192.168.17.1, Port: 40000, and a green 'Connect' button. The System Status is 'Connected' with 1 connection.

The main interface is divided into several sections:

- Master Summary:** Device Type: BPBS48, Serial Number: 002, Date of Manufacture: 08.08.2017, Firmware Version: 2.3.
- PAM A and PAM B Status:** Both are Active, with green indicators for Connection and Communication States.
- Selected PAM Settings:** ALC ON-OFF (ON/OFF), ALC Level (53.0 dBm), Attenuation (00.0 dB), RF by User (ON/OFF). Output Power is < 5 dBm and Output Return Loss is N.A. dB.
- Monitor:** A table showing current and history for Center Temp., Dummy Temp., 30V Supply Voltage, 30V Supply Current, 5V Supply Voltage, and Fan Current. All are green.
- Switch Settings:** Selection Mode (User Mode/Auto Mode), Active PAM (PAM A/PAM B), and Preferred PAM (PAM A/PAM B).
- RF Load:** Dummy Load (unchecked) and Antenna (checked).

The BHE logo is visible in the bottom right corner of the interface.



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Outline drawing (mm):

