### **BOSCH PAVIRO - PVA-2P500 System Amplifier**

### **Architects’ and Engineers’ Specifications**

The 2x 500W Class D, high efficiency amplifier shall be an EN54-16 compliant and certified system device in a 2 RU, 19”cabinet. It shall provide 70/100V loudspeaker output voltages that are galvanically separated. The amplifier shall be permanently monitored by the system controller.

A special standby mode shall be provided for saving energy during the time the amplifier is not in use with respect to all economical and supervision aspects.

System control and audio interconnections shall be done via RJ45 connectors.

The amplifier shall be used as a system amplifier, but it shall also be possible to use the amplifier standalone.

As a system amplifier, four automatic selectable audio inputs via RJ45 shall be available. It shall also be possible to use a local input without losing system and line supervision.

It shall be a requirement that local input is used in case of standalone mode.

The local input shall be configurable in a way that it can be used as source input for in an installed system, for example for an external PA or local source input.   
The amplifier shall have the following specifications:

* Max amplifier load: 2x 500 Watt
* Class D amplifier
* 4 channel input on RJ45 connector, amp link in and out  
  (4 channel dynamic input channel switching for each amplifier)
* Local input on amplifier:   
  Enabled via software configuration or automatically selected when amplifier address is set to address "0",   
  System channel 4 will be used as supervision channel in case local inputs are used.
* Loop through on RJ45 connector (4 channels)
* Build in Limiter
* AC Power switch on rear side
* 24V DC Input
* Front to rear air ventilation

Technical data

**Specification**

|  |  |
| --- | --- |
| Rated load impedance (output power) |  |
| • 100 V | 20 Ω (500 W) |
| • 70 V | 10 Ω (500 W) |
| Rated output power, 1 kHz, THD ≤ 1% | 2 ✕ 500 W1 |
| Rated input voltage | +6 dBu |
| Max. RMS voltage swing, 1 kHz, THD ≤ 1%, without load | |
| • 100 V | 110 V |
| • 70 V | 78 V |
| Voltage gain, ref. 1 kHz, fixed | |
| • 70 V | 33.2 dB |
| • 100 V | 36.2 dB |
| Maximum load capacitance | 2 µF |
| Input level, max. | +18 dBu (9.75 Vrms) |
| Frequency response, ref. 1 kHz, rated load,  -3 dB | 50 Hz to 25 kHz |
| Input impedance, active balanced | 20 kΩ |
| Signal-to-noise ratio (A-weighted) | > 104 dB |
| Output noise (A-weighted) | < -62 dBu |
| Crosstalk , ref. 1 kHz | < -85 dB |
| Output stage topology | Class-D, transformer, floating |
| Power requirements | |
| • AC | 115–240 V (-10/+10%)2 |
| • DC | 21‑32 V |
| Power consumption, AC and DC | See section “Power consumption” in operation manual |
| Inrush current | 2 A |
| Inrush current, after five-second power cycle | 1.3 A |
| Mains fuse | T6.3A (internally) |
| DC fuse | 30A (internally) |
| Ground fault | R < 50 kΩ |
| CAN BUS port | 2 ✕ RJ-45, 10 to 500 kbit/s |

|  |  |
| --- | --- |
| Protection | Audio input level limiter, RMS output power limiter, high temperature, DC, short circuit, mains undervoltage protection, DC supply undervoltage protection, inrush current limiter, ground fault |
| Cooling | Front-to-rear, temperature-controlled fans |
| Operating temperature | -5 °C to +45 °C |
| Safety class | Class I |
| Electromagnetic environment | E1, E2, E3 |
| Product dimensions (Width ✕ Height ✕ Depth) | 19”, 2 HU, 483 ✕ 88.2 ✕ 375 mm |
| Net weight | 16.5 kg |
| Shipping weight | 19 kg |

1 In DC mode and in continuous alarm-signal operation, output signal limited by 3dB max.

2 Reduced output power at mains voltages below 115 V

**Standards**

• EN 50130-4

• EN 50581

• EN 55103-1/2

• EN 61000-3-2/3

• EN 61000-6-3

• IEC 60065

• EN 60945

**Power Consumption**

230 V/50 Hz operation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Isupply | Ssupply | Psupply | Pout | BTU/h |
| Standby | 0.14 A | 33.0 VA | 1.9 W | 0.0 W | 6.5 |
| Idle (no audio) | 0.20 A | 47.0 VA | 19.5 W | 0.0 W | 66.5 |
| Announcement (-10 dB) | 0.88 A | 202 VA | 175 W | 100 W | 255.8 |
| Alert (-3 dB) | 3.35 A | 772 VA | 745 W | 500 W | 835.5 |

120 V/60 Hz operation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Isupply | Ssupply | Psupply | Pout | BTU/h |
| Standby | 0.09 A | 9.0 VA | 1.3 W | 0.0 W | 4.4 |
| Idle (no audio) | 0.27 A | 29.0 VA | 17.3 W | 0.0 W | 59.0 |
| Announcement (-10 dB) | 1.6 A | 189 VA | 175 W | 100 W | 255.8 |
| Alert (-3 dB) | 6.9 A | 824 VA | 800 W | 500 W | 1023 |

24 V DC operation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Isupply | Ssupply | Psupply | Pout | BTU/h |
| Standby | 0.06 A | - | 1.4 W | 0.0 W | 4.8 |
| Idle (no audio) | 0.65 A | - | 15.6 W | 0.0 W | 53 |
| Announcement (-10 dB) | 7.0 A | - | 168 W | 100 W | 232 |
| Alert (-3 dB) | 32.5 A | - | 780 W | 500 W | 938 |

Description of table columns:

• Isupply = RMS current drawn from mains (or DC supply)

• Ssupply = apparent power drawn from the mains line

• Psupply = reactive power drawn from mains (or DC supply)

• Pout = NF output power provided to the speaker lines

• Ploss or BTU/h = thermal loss