

BST50 PNG Base Station



The PNG base station is the heart of the system and shall be installed in the platform and connected to the wired ICS. The Base station supports multiple audio connections.

In addition to the ICS, the base station can be connected to other installed radios via the platform's audio control interface or via dedicated audio interfaces. It can deliver a PTT signal to these radios, thereby the wireless users are able to address platform installed radio systems and can use the platform as a relay through his mobile transceiver.

The PNG base station is controlled by a dedicated AXNES control panel CP50.

The base station supports up to two antennas, one for in-cabin installation and one for an external antenna. The base station is supplied by the platform's internal power. Two power inputs are available, one for main power supply and one for emergency or backup power supply.

- Qualified according to DO-178C
- Delivered with EASA Form 1 or a Certificate of Conformity (CofC)

Technical spec BST50:

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|---------------------------------|--|
| Radio: | Duplex, single frequency |
| Frequency: | 397-470 MHz, customer specified channels |
| VOX operation: | Axnes patented NIVOX ensures no loss at VOX operation and operation in high noise environments |
| Number of wireless users: | Unlimited |
| Number of groups: | 1 – 2 depending on configuration |
| Number of radio configurations: | Up to 20 |
| Encryption: | AES 256, FIPS 140-2, further qualifications pending |
| Operating temperature: | -45°C to +70°C |
| Moving map interface: | RS232 ARINC 462 |

Power supply

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| Supply voltage: | 10 – 33 VDC |
| Current consumption: | Operation 285mA (@ 400mW TX and 28V, including control 3A internal fuse |
| Protection: | Reverse voltage protection |

Audio interface

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| Line output level: | 0.8-850mV rms, 150 Ω load impedance, 1KHz test signal |
| Line input level: | 0.46-37.5mV rms, 5 Ω load impedance, 1KHz test signal |
| Line input impedance: | 10K Ω at 1 kHz |
| Line input level: | 70-5000 mV rms |
| PTT out: | Supported on audio interface 0 and 1. Open collector output, active low |
| PTT in: | Supported on audio interface 0 and 1. Active ground, internal pullup. |
| Broadcast and mute activation: | Active ground, internal pullup. |

Connectors

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|-------------------------------|--------------------------------|
| Power and Digital ICS i/f P1: | Amphenol 451 02 Y 20 41 P 50 |
| Analogue ICS i/f P2: | Amphenol 451 02 Y 20 41 P W 50 |
| Antenna A1/A2: | TNC female |

Radio characteristics

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|----------------------|---|
| Frequency: | 397-470 MHz (customer configurations) |
| Channel separation: | 25 KHz |
| Modulation: | $\pi/4$ DQPSK, 8PSK, 16QAM |
| Frequency stability: | <5 ppm |
| Receiver sensitivity | <102dBm at BER 10 ⁻² |
| Output power: | 30-500 mW (nom 400 mW) @ A2, A1 17 dB below |
| Antenna impedance: | 50 Ω |

Dimensions

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|---------------------------------|---------------------------------|
| Weight and physical dimensions: | 193 x 53 x 150 mm 1270 g |
| Mounting: | Wall-mounting M5 bolts |
| Material: | Nickel plated aluminium chassis |