

Datasheet / Instructions for use



MHP-200-R / Art.Nr.:1062-R



The **MHP 200 R** is a low-noise and large-signal-proof mast preamplifier with transmit / receive switching. It is intended for use in transmitting and receiving stations of medium and high power. Based on the LNA 200, the MHP 200 R has two HF power relays with N connections. The input of the preamplifier is protected with an amplitude limiter. The input and output networks of the amplifier are dimensioned so that both connections have an exact 50 ohm impedance with very low imaginary components. As a result, the antenna system is optimally loaded and not detuned. This ensures that the gain of the antenna system is not reduced.

Caution: The amplifier may only be switched over without power! The MHP 200 R may only be operated with a correctly wired sequence control (e.g. sequencer DCW 2004 B). Transmission operation without a correctly wired sequence control will damage the device!

Technical specifications

Frequency range:	144-146 MHz
Noise figure @ 20°C NF:	0,5...0,6 dB
Gain S21, typ.:	21 dB
Transferable power:	1500W PEP
TX Insertion loss.:	0,05 dB
Max. RX Input Power	23 dBm
Operating voltage.:	13,8V-15,0V
Power consumption, typ.:	500 mA
Anschlussnorm:	N-Buchse
DC Input	Remote
Mast diameter	Max. 58 mm

Assembly instructions

Fasten the amplifier directly to the antenna mast, near the antenna system, using the clamps supplied. The connection sockets must point downwards, otherwise rainwater can penetrate the device. The antenna input ("ANT" socket) of the amplifier should be connected to the antenna system using a short, low-attenuation coaxial cable, e.g. Ecoflex 10 or Ecoflex 15. Multiple $\lambda / 2$ coaxial cable lengths should be used in the installation of the entire system, taking into account its shortening factor.

Attention: The output of the amplifier (socket "TRX") is connected to the output of the power amplifier, which has an internal sequence control with LNA remote power supply. The "TX delay" of the transceiver must be set to at least 25ms. **If this is not possible with the device, it is better to use an external sequence control!** Otherwise there is a risk of damaging the preamplifier, especially with FM operation. For power amplifiers without sequence control with LNA remote supply, an external sequence

control e.g. DCW 2004 B is used. The coaxial cable from the TRX connector of the amplifier is connected to the preamplifier connector of the sequencer and the PA connector of the sequencer to the output of the power amplifier. **The PTT control of the transceiver must take place in analogue operating modes (SSB, CW FM) from connection 6 of the DCW 2004 B sequencer.** You can control the PTT with a foot switch. Or you have to split the PTT line on the microphone. When using the WSJT-X program, the PTT output socket of the transceiver must be connected to connection 3 of the DCW 2004 B sequencer. Set the TX delay to 0.5 sec in the program under Settings → Advanced!

Especially with digital operating modes, it can happen that the output power of the transceiver (max. 50 watts) is present at the preamplifier for a few milliseconds before the MHP switches to transmission. For this case, a protective circuit is installed in the current version. It blocks the output and prevents the LNA from being damaged.

Notes on environmental protection



Electrical and electronic devices may not be disposed of with household waste. This must be handed in separately at collecting points, or returned to the point of sale. Packaging materials must be separated and disposed of through the municipal waste by material type.

Maintenance

Do not open the unit. It does not contain any parts needing maintenance. If you need help regarding technical matters, please contact support@ssb-electronic.com. For a lowest possible noise figure of the complete system, set preamp to maximum gain.

Safety, Warranty

Not suitable for children! The packaging material and the device may contain small parts which may be swallowed. Repairs may only be performed by qualified personnel., Opening the device, or improper use will void any warranty claims. No guarantee will be given. The device applies to the Low Voltage Directive 2006/95/EG, as well as to 2004/108/EG, 2002/96/EG, 1999/44/ EG.

Declaration of Conformity



The CE mark is a free trade mark. It does not guarantee any product features. The product does apply all relevant regulations within the scope of 94/62/EG.

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