Instruction manual

Simrad PI HBU
Hydrophone Booster Unit

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Instruction Manual

This document allows you to install and put to use the **PI HBU (Hydrophone Booster Unit)**.

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Document history

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Warning

The equipment to which this manual applies must only be used for the purpose for which it was designed. Improper use or maintenance may cause damage to the equipment and/or injury to personnel. The user must be familiar with the contents of the appropriate manuals before attempting to install, operate or work on the equipment.
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ABOUT

This document allows you to install and put to use the **PI HBU (Hydrophone Booster Unit)**.

Figure 1 PI HBU (Hydrophone Booster Unit)

Figure 2 Commercial power supply provided with the PI HBU

PI HBU (HYDROPHONE BOOSTER UNIT)

The **PI HBU (Hydrophone Booster Unit)** is a small and compact unit providing amplification for the weak signals from the PI hydrophone. It is connected between the hydrophone and the PI cabinet. The **PI HBU** is powered by a separate power supply.

Prerequisites for use

In order to use the **PI HBU** your PI receiver must operate with the following software version:

- **PI32**: Not applicable
- **PI44**: DSP (Digital Signal Processor) version 1.11 (or later) with MMI version 0.50 (or later).
- **PI54**: DSP (Digital Signal Processor) version 1.11 (or later) with MMI version 0.50 (or later).

Why use the PI HBU

On the PI44 and PI54 systems, software release 1.08 provided an increased range capability. By using the PI HBU (Hydrophone Booster Unit) as well the systems will offer additional range, and they will be more tolerant for noise. On PI32 systems, the PI HBU (Hydrophone Booster Unit) will also provide increased range capability.

Why not use the PI HBU

For the majority of PI users experiencing adequate performance, and with no need to increase the range capability, the PI HBU (Hydrophone Booster Unit) will not be required.

When to use the PI HBU

The PI HBU (Hydrophone Booster Unit) is recommended if the reception of the PI system is cluttered with noise from interference, or with noise from other acoustic systems on the vessel, such as sonars, echo sounders or logs. The PI HBU (Hydrophone Booster Unit) may also prove useful if you experience noise from the vessel propellers.

RECOMMENDED PARAMETER SETTINGS

When the PI HBU (Hydrophone Booster Unit) is put to use, the recommended parameter settings are changed.

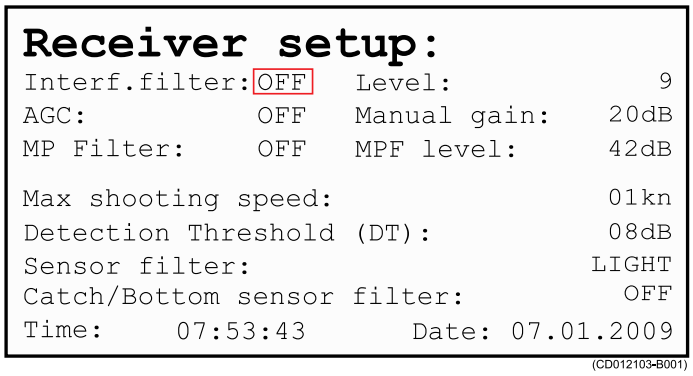
Simrad PI32

The following **Receiver setup** parameters are recommended when the PI HBU (Hydrophone Booster Unit) is put to use.

- **Interference filter**: OFF
  - Switch ON if interference is still a problem. As an alternative, you may keep the filter OFF, and increase the **Detection threshold (DT)** setting in steps of 2 dB until the interference disappears.
- **Interference filter level**: 9
  - If you switch the interference filter ON, you may change the level to 8.
- **AGC**: OFF
- **Manual gain**: 20 dB
- **Max shooting speed**: 1 kn
  - In order to maintain best possible reception during the shooting you may increase this setting to 5 kn.
- **Detection threshold (DT)**: 8 dB

The other settings are not important.

Figure 3 PI30 Receiver Setup, example



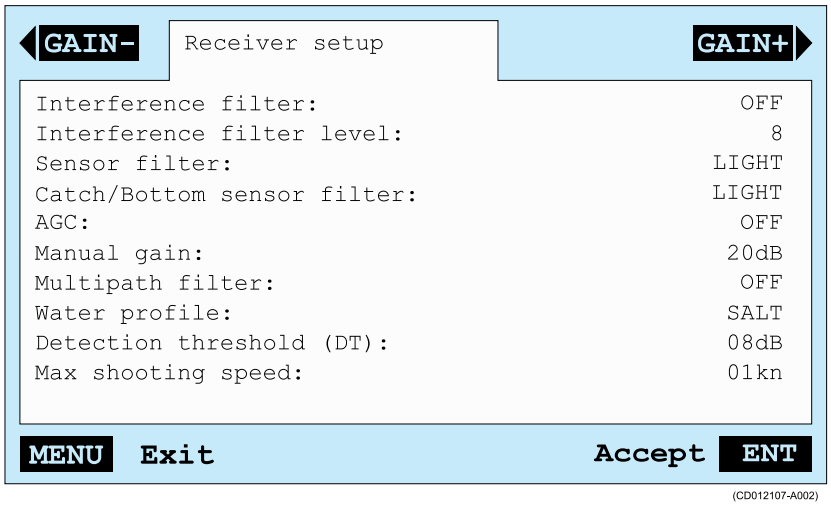
Simrad PI44 and PI54

When the PI HBU (Hydrophone Booster Unit) is put to use, the recommended parameter settings are changed.

- **Interference filter**: OFF
  - Switch ON if interference is still a problem. As an alternative, you may keep the filter OFF, and increase the **Detection threshold (DT)** setting in steps of 2 dB until the interference disappears.
- **Interference filter level**: 8
  - If you switch the interference filter ON, you may change the level to 7.
- **Sensor filter**: LIGHT
- **Catch/Bottom sensor filter**: LIGHT
- **AGC**: OFF
- **Manual gain**: 20 dB
- **Multipath filter**: OFF
  - If you use the PI Geometry sensor, this filter must be ON.
- **Detection threshold (DT)**: 8 dB
- **Max shooting speed**: 1 kn
  - In order to maintain best possible reception during the shooting you may increase this setting to 5 kn.

The other settings are not important.

Figure 4 PI44/54 Receiver Setup, example



INSTALLATION

Observe the procedure to install the PI HBU (Hydrophone Booster Unit).

1 Unpack the PI HBU (Hydrophone Booster Unit) unit.

2 Check that the package contains the unit and a power supply.

3 Find a suitable location for the PI HBU unit.

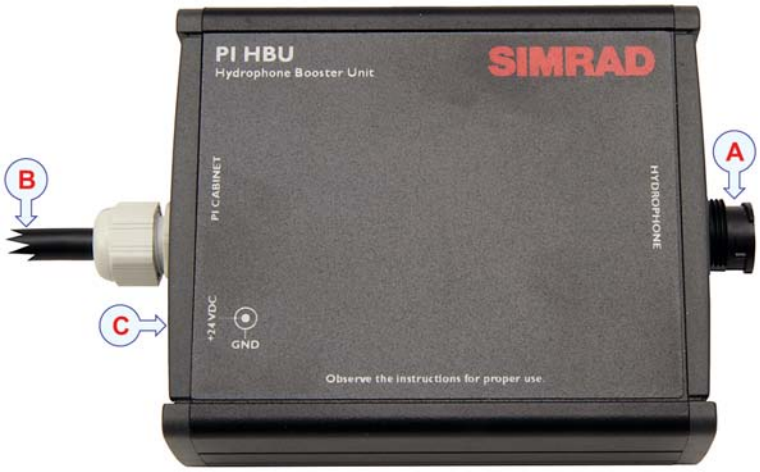
The unit must be placed close to the PI operator unit, and within reach of a power outlet (115–230 Vac). Observe the length of the hydrophone cable, which limits the distance between the units.

4 Mount the PI HBU unit.

5 Power down your PI system.

6 Disconnect the hydrophone connector on the rear side of the PI operator unit, and connect it to the PI HBU unit (A).

Figure 5 PI HBU (Hydrophone Booster Unit) connections



A *Hydrophone socket*

B *Cable to hydrophone socket on PI operator unit*

C *+24 Vdc power socket (use power supply provided with the PI HBU)*

7 Connect the cable from the PI HBU unit (B) to the hydrophone socket on the rear side of the PI operator unit.

8 Connect the power supply to AC mains, and connect the power cable to the socket (C) on the PI HBU unit.

9 Power up your PI system.

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