

# hörbert DIY Upgrade Kit for model 2011 – Information Sheet

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- 1x Rotary Encoder with Cable and Nut
- 1x Blind Plug with Screw and Washer after removing the toggle switch
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- 1x Cardboard Vibration Protection for the Key Caps
- 4x Spacers for the board
- 1x Screw/Nut Set for board assembly

## Hello Makers,

We are delighted that you have chosen our hörbert upgrade kit. With this kit, you can convert your hörbert 2011 to the electronics of the new hörbert model 2021. If you have previously built your own audio player using the 2011 electronic kit and now want to upgrade, please get in touch with our service team beforehand if you're unsure whether our parts and cables are suitable for your DIY build.

To get started quickly, here are the key points:

Please watch our upgrade tutorial video carefully. You can find the video here:

<https://youtu.be/VAbMgyfhPHg>

You will need the following tools:

- Socket wrench (nut) SW7, SW11, SW10, and SW14
- Hex key 2.0 mm
- Hex key 2.5 mm
- Drills 2 mm and 8 mm
- TORX screwdriver T10

## Safety precautions:

Electronic components are sensitive to static electricity.

Ground yourself before unpacking the electronics to avoid damaging the material with static discharge.

It's best to work on a professional work surface or at least on a wooden table with a cotton cloth or other suitable surface.

Avoid wearing rubber-soled shoes on a plastic carpet.

Keep the electronics in the ESD protective bag as long as possible and only unpack them when you're ready to install them.

Do not drill, cut, or file on the board as it may short-circuit the layers.

Never plug or unplug cables while any part still has power.

Always remove the batteries first!

Disposed of removed electronic components responsibly as electronic waste.

## Step-by-step instructions

### Removing the toggle switch

First, loosen the nut around the toggle switch using a socket wrench SW14. Unplug all the cables inside (switch, speaker, volume control, board). Remove all components that need to be replaced.

### Removing the potentiometer (volume control)

Loosen the knob on the potentiometer (poti). To remove the knob, use a 2.0 mm hex key to loosen the small set screw deep inside the knob. Then, pull the knob upwards. You will need the knob later. Loosen the nut around the potentiometer using a socket wrench SW10 and remove the poti.

### Removing the board

Inside, loosen the four nuts holding the board screws using a socket wrench SW7. You won't need the screws anymore. Carefully remove the board along with the buttons. You won't need these parts anymore. Remove the front screws using a 2.5 mm hex key while holding the inside with a socket wrench SW7. Remove the front screws, as well as the spacers and washers inside. You won't need these parts anymore.

### Drilling

Next, mark two holes for the pins of the new volume control (rotary encoder) with a 12 mm spacing on the centerline of the hole. Then mark the hole for the microphone. Position it with a 10 mm distance from the bottom edge of the wooden frame and centered under the right lower screw. Now carefully drill the holes for the side pins of the encoder and the microphone. Use a 2 mm drill for the holes. Drill the opening for the new encoder with an 8 mm drill. Enlarge the two previously drilled adjacent holes into slots using a small screwdriver. Smooth the edges with a small file.

### Microphone installation

We supply the microphone with the cable already inserted. If the cable is loose in the package, open the two small black locks on the microphone board by sliding them forward. Insert the cable with the white side up and close the locks again. On the back of the microphone board, you'll see two small openings. The tiny hole is for sound, and the slightly larger hole is for the LED indicator, which lights up red during recording. Remove the protective film from the adhesive tape on the microphone board. Now, position the microphone so that the smaller sound hole is completely visible and the LED hole is at least partially visible behind the microphone opening drilled in step 10. Press the microphone firmly against the inner wooden wall so that the adhesive tape has good contact.

### Mounting the blind plug

Insert the blind plug from above into the opening of the former toggle switch. Place the washer on the TORX T10 screw and tighten the screw from below using a TORX screwdriver T10 into the blind plug.

### Preparing the encoder

Open the two small black locks on the encoder by sliding them forward. Now insert the flat ribbon cable with the white side up into the encoder and close the locks again. Now plug the encoder into the connector labeled "Encoder" on the board. The correct connector is located above the hörbert logo printed on the board.

**Caution:** Never swap the microphone and encoder connections. It will damage the microphone.

### Board and encoder assembly

The board is secured with a total of four screws and four spacers.

Take one of the small green spacers and hold it with the wide side against the hörbert front.

Take one of the four new front screws and insert it from the front through the front and into the spacer. Hold your hand in front of the screws that are not yet fixed so that they don't fall out when you gently place hörbert on its front side.

Now open the two locks on the connector at the bottom of the board, where the microphone cable with the white side up must be inserted.

Insert the board **with the colorful buttons facing you** slightly into the case so that you can plug in the microphone cable on the underside of the board. Slide the cable into the board's connector and close the locks. Now, **gently turn the board** with the inserted microphone cable clockwise, **so that the colorful buttons face the front of hörbert** and the blue part of the microphone cable's connector on the board is visible.

Now insert the encoder from the inside through the previously drilled encoder hole. Then place the nut on the encoder and tighten it with a socket wrench SW11. (Note: In the video, the encoder is tightened later for filming purposes.)

Next, plug the speaker cable into the designated connector on the right side of the board.

Lay the board flat on the previously inserted screws and spacers and press it slightly. Hold the board with your thumb while tightening the nuts on all four screws with your other hand. Use the 2.5 mm hex key and the socket wrench SW7 to tighten the board screws from both sides.

**Caution:** Be very careful and do not overtighten to prevent the wooden lacquer around the front screws from cracking.

Now, place the knob on the encoder and tighten the small set screw inside with a 2.0 mm hex key.

**Caution:** Do not press the knob too deeply onto the wood. Leave a gap of 1 to 1.5 mm from the wood. The knob should be able to be pressed downwards after assembly without sitting on the wood.

**Congratulations! Your hörbert upgrade is complete.**

If you have any questions, please contact us at [service@hoerbert.com](mailto:service@hoerbert.com).

You can find instructions and videos for the new features on our website in the service section: <https://en.hoerbert.com/customer-service/manuals-and-videos/hoerbert/>

The hörbert team wishes you much enjoyment with the features of your new hörbert electronics.