

Harley Benton

AirBorne Pro Instrument
wireless system



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1 General information

This user manual contains important information on the safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device to another user, be sure that they also receive this manual.

Our products and user manuals are subject to a process of continuous development. We therefore reserve the right to make changes without notice. Please refer to the latest version of the user manual which is ready for download under www.thomann.de.

1.1 Further information

On our website (www.thomann.de) you will find lots of further information and details on the following points:

Download	This manual is also available as PDF file for you to download.
Keyword search	Use the search function in the electronic version to find the topics of interest for you quickly.
Online guides	Our online guides provide detailed information on technical basics and terms.
Personal consultation	For personal consultation please contact our technical hotline.
Service	If you have any problems with the device the customer service will gladly assist you.

1.2 Notational conventions

This manual uses the following notational conventions:

Letterings

The letterings for connectors and controls are marked by square brackets and italics.

Examples: *[VOLUME]* control, *[Mono]* button.

Instructions

The individual steps of an instruction are numbered consecutively. The result of a step is indented and highlighted by an arrow.


Example:

1. ➤ Switch on the device.
2. ➤ Press *[Auto]*.
 - ⇒ Automatic operation is started.
3. ➤ Switch off the device.

1.3 Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this manual.

Signal word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
WARNING!	This combination of symbol and signal word indicates a possible dangerous situation that can result in death or serious injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.

Warning signs	Type of danger
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended to be used for the wireless transmission of audio signals from instruments to mixers, amplifiers or active speakers. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Safety



DANGER!

Danger for children

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard! Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke! Never let children unattended use electrical devices.

**WARNING!****Incorrect handling of lithium batteries can result in injury**

In the event of a short circuit, overheating or mechanical damage, lithium batteries can cause severe injuries. Follow the advice on the correct handling of lithium batteries in the present section.

**NOTICE!****Operating conditions**

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations. Only operate the device within the ambient conditions specified in the chapter 'Technical specifications' of this user manual. Avoid heavy temperature fluctuations and do not switch the device on immediately after it was exposed to temperature fluctuations (for example after transport at low outside temperatures). Dust and dirt inside can damage the unit. When operated in harmful ambient conditions (dust, smoke, nicotine, fog, etc.), the unit should be maintained by qualified service personnel at regular intervals to prevent overheating and other malfunction.

**NOTICE!****External power supply**

The device is powered by an external power supply. Before connecting the external power supply, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly the user. Unplug the external power supply before electrical storms occur and when the device is unused for long periods of time to reduce the risk of electric shock or fire.



NOTICE!

Possible damage to lithium-ion batteries through incorrect storage



By deep discharge, lithium-ion batteries can be permanently damaged or lose some of their capacity. Before long breaks, charge the batteries to around 50 % of their capacity and then switch off the device. Store the device at room temperature or cooler in an environment as dry as possible. If the batteries are stored for a longer period, recharge them to 50 % every three months. Fully charge the batteries only shortly before use at room temperature.



NOTICE!

Possible staining



The plasticiser contained in the rubber feet of this product may possibly react with the coating of your parquet, linoleum, laminate or PVC floor and after some time cause permanent dark stains. In case of doubt, do not put the rubber feet directly on the floor, but use felt-pad floor protectors or a carpet.



NOTICE!

Electromagnetic compatibility with other electrical equipment



Using the device near radios or TV sets may cause interference. Then increase the distance between the devices. Increase the distance between the devices.

3 Features

The Wireless System AirBorne Pro Instrument Set consists of the following components:

- AirBorne Pro Instrument pedal receiver:
 - Fixed built-in antenna for optimum reception quality
 - Built-in chromatic tuner with easy-to-read LCD display
 - Built-in magnetic charging station for the transmitter
 - Cable tone simulator
 - Mute function
 - Four channels selectable
 - Pairing and ID link LCD display
 - Battery status LCD display
 - Output: 1/4" phone socket
 - Power supply: 9 V ---
 - Robust metal housing
- AirBorne Pro Instrument pedal transmitter:
 - Operation with built-in, rechargeable lithium-ion battery
 - Easy to read LCD display
 - Charging contacts for the receiver's magnetic charging station

- Mute function
- Battery status LCD display
- Pairing and ID link LCD display
- USB charger connection
- Rotatable 220° angled audio plug (1/4" jack plug)
- Plug-n-Play
- Transmission range up to 35 m
- USB cable and 9 V plug-in power supply included

The system works in the frequency range 5.729 GHz... 5.820 GHz and is free of charge and registration worldwide.

4 Installation and starting up

4.1 General Information

Unpack and check carefully there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the product against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.

Notes on wireless transmission

- This device utilizes frequencies that are not harmonized within the European Union (EU) and therefore may only be used in certain EU member states. In all European countries, the frequencies used for the transmission of audio signals are strictly regulated. Before you start, make sure the frequencies are allowed in the respective country and check whether the operation must be reported to the appropriate authority.
For more information, please visit: <http://www.thomann.de>.
- Make sure that transmitter and receiver are both tuned to the same channel.
- Never set multiple transmitters to the same channel.
- Make sure that there are no metal objects between the transmitter and receiver.
- Avoid interference from other radio or in-ear systems.

4.2 Dealing with lithium batteries



WARNING!

Incorrect handling of lithium batteries can result in injury

In the event of a short circuit, overheating or mechanical damage, lithium batteries can cause severe injuries.

Follow the advice on the correct handling of lithium batteries in the present section.

When handled correctly and appropriately lithium batteries pose no risk.

Store lithium batteries in a cool, dry place, ideally in the original packaging.

Store lithium batteries away from heat sources (e.g. radiators or sunlight). Lithium batteries are hermetically sealed. Never attempt to open a lithium battery.

If the battery housing is damaged small amounts of the electrolyte may leak out. If this should happen, seal the lithium battery in airtight packaging and wipe up the traces of electrolyte using absorbent paper towels. You must wear protective rubber gloves when doing so. Clean your hands and the affected surface thoroughly with cold water.

Never attempt to recharge non-rechargeable lithium batteries. When charging lithium batteries you must use a suitable charging device intended for the purpose.

Before disposing of the device remove the lithium batteries. Protect used lithium batteries against potential short circuits, e.g. by covering the poles with adhesive tape.

Only use powder extinguishers or other suitable extinguishing agents to extinguish a burning lithium battery.

4.3 Receiver

Connecting the power supply



NOTICE!

External power supply

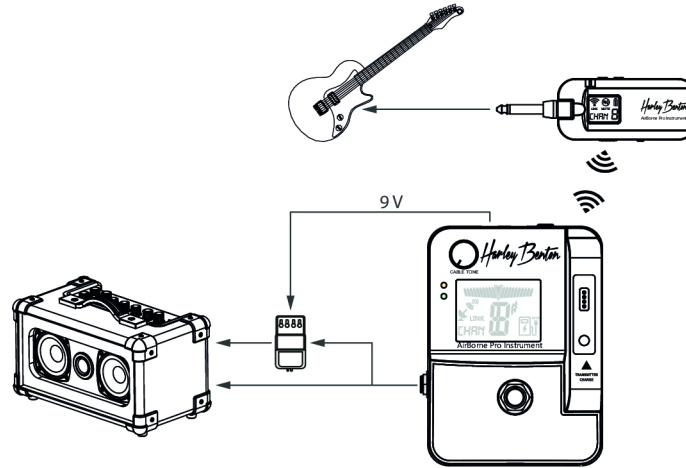
The device is powered by an external power supply. Before connecting the external power supply, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly the user.

Unplug the external power supply before electrical storms occur and when the device is unused for long periods of time to reduce the risk of electric shock or fire.

First, connect the power adapter to the receiver and then plug the power adapter into the power outlet. Then turn on the device with the main switch on the rear panel.

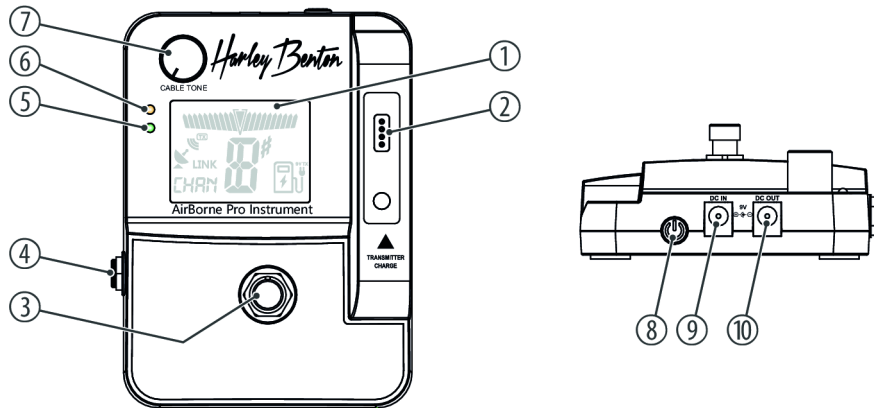
Connecting audio and starting up

Connect the audio output of the receiver to your amplifier. You can add further pedals (e.g. effects pedal) between the receiver and amplifier. The following figure shows an example of how the device can be integrated into your signal chain.



5 Connections and controls

5.1 Receiver



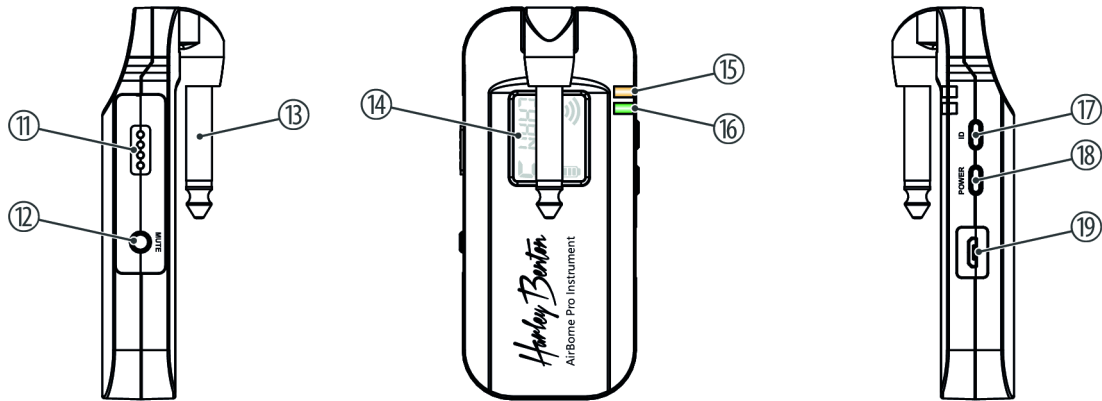
AirBorne Pro Instrument

1	Display
2	Magnetic charging contacts for the transmitter
3	Footswitch to activate the tuner mode Tuner mode can only be activated when transmitter and receiver are paired.
4	<i>[OUT]</i> 1/4" mm jack socket as unbalanced audio signal output for direct connection to an amplifier
5	LED to indicate the coupling between transmitter and receiver. If transmitter and receiver have not been successfully paired, the LED flashes orange. If the coupling is successful, the LED turns off.
6	ID indicator LED to indicate the selected channel (red = channel 1, green = channel 2, blue = channel 3, purple = channel 4)
7	<i>[CABLE TONE]</i> Rotary control for selecting a virtual cable length to simulate the influences that a conventional cable has on the transmission between the instrument and the amplifier.
8	Main switch. Turns the device on and off.

9	<i>[DC IN]</i> Connector for the supplied plug-in power supply.
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10	<i>[DC OUT]</i> Connection to power an additional pedal
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5.2 Transmitter



11	Magnetic charging contacts for the transmitter
12	<i>[MUTE]</i> Press and hold the button for two seconds to mute the receiver's output. 🗸 is flashing in the display. Press and hold the button again for two seconds to unmute.
13	1/4" jack plug for connection to the instrument.
14	Display The display switches off automatically ten seconds after successful pairing with the receiver.
15	LED to indicate the coupling between transmitter and receiver. If transmitter and receiver have not been successfully paired, the LED flashes orange. If the coupling is successful, the LED turns off.
16	ID indicator LED to indicate the selected channel (red = channel 1, green = channel 2, blue = channel 3, purple = channel 4)
17	<i>[ID]</i> Button to select one of the four wireless transmission channels

- | | |
|----|--|
| 18 | <i>[POWER]</i>
Main switch. Turns the device on and off. |
| 19 | USB connection for charging the transmitter using the supplied USB cable |

6 Operating

Pairing transmitter and receiver

1. ▶ Press and hold the main switch of the transmitter and receiver to switch on the devices.
 - ⇒ If the ID displays show the same colour (red = channel 1, green = channel 2, blue = channel 3, purple = channel 4) and the displays of the transmitter and receiver show the same channel, the coupling was successful. The LEDs indicating the coupling of transmitter and receiver turn off.
2. ▶ If the coupling was not successful, the LEDs to indicate the coupling of transmitter and receiver flash orange.

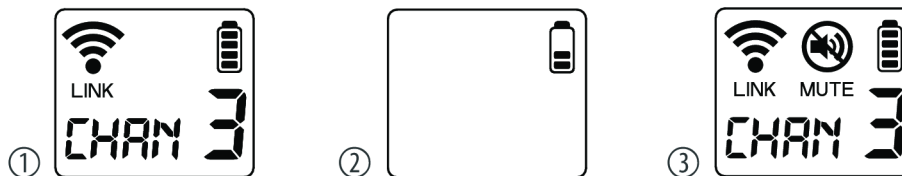
Hold down *[ID]* on the transmitter and *[CABLE TONE]* on the receiver for five to seven seconds until the ID displays show the same colour (red = channel 1, green = channel 2, blue = channel 3, purple = channel 4) and the displays of the transmitter and receiver show the same channel. The LEDs indicating the coupling of transmitter and receiver turn off.
3. ▶ To select a different channel when pairing is successful, press *[ID]* on the transmitter.
 - ⇒ The channel assignment is automatically adopted for transmitter and receiver.



If the receiver does not receive a signal from the transmitter, the receiver switches off automatically after 30 minutes.

Display layout transmitter

The following illustrations show the display layouts of the transmitter:



1	<ul style="list-style-type: none"> : Successful pairing and transfer : Battery status CHAN 3: Channel assignment
2	Battery charging
3	: The output of the receiver is muted.

Display layout receiver

The following illustrations show the display layouts of the receiver:



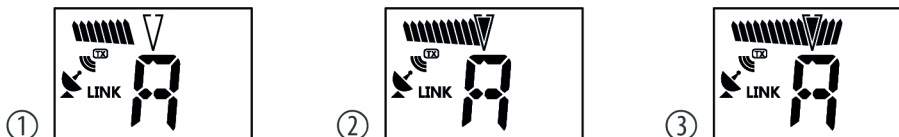
1	<p>: Successful pairing and transfer</p> <p>CHAN 3: Channel assignment</p>
2	<p>: Tuning display</p> <p>: Successful pairing and transfer</p> <p>: Tone display</p>
3	<p>: The transmitter is charged in the receiver's charging station</p>

Instrument tuning

Once transmitter and receiver have been successfully paired, you can tune the instrument connected to the transmitter with the receiver.

1. ➤ Press the footswitch to activate tuner mode.
⇒ If the tuner mode is activated, the transmission is automatically muted.
2. ➤ Now tune the connected instrument.

The following illustrations show the display layouts of the receiver:



1	Instrument is tuned flat
2	Instrument is tuned correctly
3	Instrument is tuned sharp

7 Technical specifications

7.1 Receiver

Number of systems that can be operated in parallel	4 systems	
Input connections	Power supply	Connector for power adapter
Output connections	Power supply of further devices	Socket for connecting a 9 V cable
	LINE output	1/4" jack socket, unbalanced
Frequency of operation	5.729 GHz ... 5.820 GHz	
Sensitivity	-81 dBm	
Signal-to-noise ratio	140 dB	
Audio sampling rate	24 bit / 48 kHz	
Distortion	-100 dB	
Latency	5.6 ms	

Power supply	External power adapter, 100 - 240 V ~ 50/60 Hz	
Operating voltage	9 V $\overline{\text{---}}$ /500 mA, centre positive	
Dimensions (W × H × D)	99 mm × 50 mm × 130 mm	
Weight	263 g	
Ambient conditions	Temperature range	0 °C...40 °C
	Relative humidity	20 %...80 % (non-condensing)

7.2 Transmitter

Frequency of operation	5.729 GHz ... 5.820 GHz
Max. transmission power	7 dBm
Max. amplitude of the input signal	500 mV

Transfer rate	2 MHz	
Signal-to-noise ratio	140 dB	
Audio sampling rate	24 bit / 48 kHz	
Distortion	-100 dBm	
Latency	5.6 ms	
Range in clear field of vision	up to 35 m	
Battery / rechargeable battery	Battery type	1 × lithium-ion battery
	Voltage	3.7 V
	Capacity	600 mAh
	Operating time	5 h (after 3.5 hours charging time)
Dimensions (W × H × D, without antenna)	43 mm × 29 mm × 92 mm	
Weight	56 g	

Technical specifications

Ambient conditions	Temperature range	0 °C...40 °C
	Relative humidity	20 %...80 % (non-condensing)

Further information

Transmission channels	1
Transmission technology	digital
Transmitter type	Guitar bug
Receiver type	Pedal board
Selectable frequencies	4
Frequency display	yes
Frequency search	Yes
Diversity	No
detachable antenna	No
Battery status indicator	yes
Charging system	yes
Built-in battery	yes

Technical specifications

Rechargeable battery transmitter	yes
Rack kit	No

8 Plug and connection assignment

Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment in such a way that a perfect sound experience is ensured.

Please note these advices, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into the socket, an incorrect connection may result in a destroyed power amp, a short circuit or 'just' in poor transmission quality!

Unbalanced transmission

Unbalanced transmission is mainly used in semi-professional environment and in hifi use. Instrument cables with two conductors (one core plus shielding) are typical representatives of the unbalanced transmission. One conductor is ground and shielding while the signal is transmitted through the core.

Unbalanced transmission is susceptible to electromagnetic interference, especially at low levels, such as microphone signals and when using long cables.

1/4" TS phone plug (mono, unbalanced)



1	Signal
2	Ground, shielding

9 Troubleshooting

In the following we list a few common problems that may occur during operation. We give you some suggestions for easy troubleshooting:

Symptom	Remedy
No sound	1. Check the power supply of transmitter and receiver.
	2. Make sure that transmitter and receiver are operating in the same frequency range. The frequency range can be found on the devices.
	3. Are transmitter and receiver set to the same channel and ID?
	4. Test the connection between the receiver and the connected audio. Is the connected audio device turned on and does the signal level at the output of the receiver match the input requirements of the audio device?
	5. See if the audio transmission works when you move the transmitter closer to the receiver.
	6. Make sure that no metal objects near the transmitter or receiver obstruct the transmission.

Symptom	Remedy
Transmission is interrupted.	1. Modify the orientation of the antennas.
	2. If you use more than one wireless system at the same time, check the used frequencies and channels.
	3. Interference can also be caused by other radio or in-ear systems.
Transmitter won't charge	1. Try a different plug-in power supply or charge the transmitter with the USB cable.

If the procedures recommended above do not succeed, please contact our Service Center. You can find the contact information at www.thomann.de.

10 Protecting the environment

Disposal of the packaging material



For the packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

Disposal of batteries



Batteries do contain some hazardous chemicals so they should not be thrown away with the normal household waste. They should be returned to the manufacturer for disposal or recycled elsewhere in accordance with your local regulations.

Dispose lithium batteries only in discharged condition. Remove lithium batteries from the device before disposal. Protect used lithium batteries against potential short circuits, e.g. by covering the poles with adhesive tape. Dispose the built-in lithium batteries together with the device. Please check for an appropriate reception facility.

Disposal of your old device



This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.



