

User Manual

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FRFR-112A Guitar DSP

Guitar Combo

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21.10.2024, ID: 478594 (V3)

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1 General information

This document contains important instructions for the safe operation of the product. Read and follow the safety instructions and all other instructions. Keep the document for future reference. Make sure that it is available to all those using the product. If you sell the product to another user, be sure that they also receive this document.

Our products and documentation are subject to a process of continuous development. They are therefore subject to change. Please refer to the latest version of the documentation, which is ready for download under www.thomann.de.

1.1 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 document.

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 – high-voltage.
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended to be used for amplification and playback of signals from musical instruments with electromagnetic pickups. 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.



DANGER!

Risk of injury and choking hazard for children!

Children can suffocate on packaging material and small parts. Children can injure themselves when handling the device. Never allow children to play with the packaging material and the device. Always store packaging material out of the reach of babies and small children. Always dispose of packaging material properly when it is not in use. Never allow children to use the device without supervision. Keep small parts away from children and make sure that the device does not shed any small parts (such knobs) that children could play with.



DANGER!

Danger to life due to electric current!

Within the device there are areas where high voltages may be present. Never remove any covers. There are no user-serviceable parts inside. Do not use the device when covers, safety equipment or optical components are missing or damaged.



DANGER!

Danger to life due to electric current!

A short circuit could lead to a fire hazard and risk of death. Always use proper ready-made insulated triple-core mains cable with a safety plug. Do not modify the mains cable or the plug. In case of isolation damage, disconnect immediately the power supply and arrange repair. If in doubt, seek advice from a qualified electrician.



WARNING!

Possible hearing damage due to operating the device at a high volume!

The device can produce volume levels that, when operated at a high volume, may cause temporary or permanent hearing impairment. Over an extended period of time, even levels that seem to be uncritical can cause hearing damage. Avoid operating the device at excessively high volumes over an extended period of time. Decrease the volume level immediately if you experience ringing in your ears or hearing impairment. If this is not possible, keep a greater distance or use adequate ear-muffs.



NOTICE!

Damage to the device due to high voltages!

The device can be damaged if it is operated with the incorrect voltage or if high voltage peaks occur. In the worst case, excess voltages can also cause a risk of injury and fires. Make sure that the voltage specification on the device matches the local power grid before plugging in the device. Only operate the device from professionally installed mains sockets that are protected by a residual current circuit breaker (FI). Ensure that the power cord plug is easily accessible at all times if it is the only device to safely disconnect the device from the mains supply. As a precaution, disconnect the device from the power grid when storms are approaching or if the device will not be used for a longer period.

**NOTICE!****Damage to the device if operated in unsuitable ambient conditions!**

The device can be damaged if it is operated in unsuitable ambient conditions. Only operate the device indoors within the ambient conditions specified in the "Technical specifications" chapter of this user manual. Avoid operating it in environments with direct sunlight, heavy dirt and strong vibrations. Avoid operating it in environments with strong temperature fluctuations. If temperature fluctuations cannot be avoided (for example after transport in low outside temperatures), do not switch on the device immediately. Never subject the device to liquids or moisture. Never move the device to another location while it is in operation. In environments with increased dirt levels (for example due to dust, smoke, nicotine or mist): Have the device cleaned by qualified specialists at regular intervals to prevent damage due to overheating and other malfunctions.

**NOTICE!****Risk of fire due to covered vents and neighbouring heat sources!**

If the vents of the device are covered or the device is operated in the immediate vicinity of other heat sources, the device can overheat and burst into flames. Never cover the device or the vents. Do not install the device in the immediate vicinity of other heat sources. Never operate the device in the immediate vicinity of naked flames.

**NOTICE!****Risk of fire due to installation of a wrong fuse!**

Using fuses of a different type than compatible with the device may cause a fire and seriously damage the device. Only use fuses of the same type. Observe the labelling on the device casing and the information in the "Technical data" chapter.

**NOTICE!****Possible staining due to plasticiser in rubber feet!**

The plasticiser contained in the rubber feet of this product may react with the coating of the floor and cause permanent dark stains after some time. If necessary, use a suitable mat or felt slide to prevent direct contact between the product's rubber feet and the floor.

3 Features

The device is characterised by the following features:

- Full-range flat-response speaker for a modern digital guitar setup (amp modelling and multi-effect processor)
- Solid plastic housing with three handles
- 4 DSP sound programmes
- Various DSP equalizer modes, each with ± 12 dB level control per band
- 1200 watt amplifier, class D
- 12-inch woofer and 1-inch tweeter
- Suitable for use as floor monitor or on a stand
- 2 \times XLR / 6.35-mm jack combo socket as adjustable MIC/line input
- 1 \times 3.5-mm jack socket as AUX input for connecting line devices
- 1 \times XLR output
- Optional matching cover (item no. 410589)

4 Starting up

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.



NOTICE!

Possible property damage to adjacent devices due to magnetic fields.

Speakers generate a static magnetic field. This magnetic field can affect other neighbouring units and in unfavourable cases damage them.

Ensure that speakers are always a sufficient distance away from sensitive equipment that may be affected by an external magnetic field.



NOTICE!

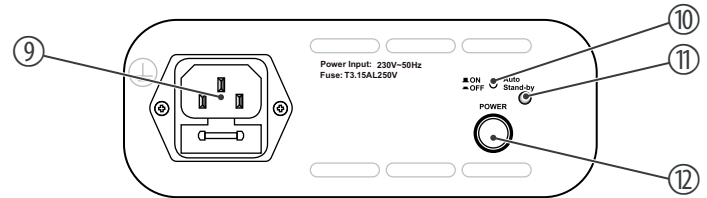
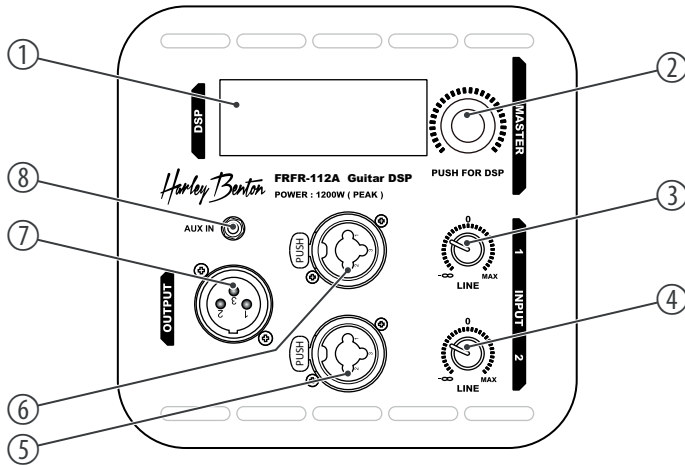
Potential property damage due to unsuitable stands!

If the device is mounted on an unsuitable stand, there is a risk that the stand will fall over and cause damage.

Only use stands whose maximum bearing capacity is at least as high as the weight of the device. Always ensure that the stand is stable.

The device can be mounted on a stand or set up on the floor or a sufficiently sized and stable surface.

5 Connections and controls



1	<i>[DSP]</i> Backlit display for DSP functions
2	<i>[MASTER / PUSH FOR DSP]</i> rotary control for the overall volume, push button for activating the DSP functions
3	<i>[INPUT 1 LINE]</i> Rotary control for input gain on input 1. Turning clockwise above the zero point increases the input gain for microphone connection. Turning it anti-clockwise decreases the input gain for connecting instruments or devices with line level outputs.
4	<i>[INPUT 2 LINE]</i> Rotary control for input gain on input 2. Turning clockwise above the zero point increases the input gain for microphone connection. Turning it anti-clockwise decreases the input gain for connecting instruments or devices with line level outputs.
5	Mic/line input, designed as an XLR/6.35-mm jack combo socket, balanced
6	Mic/line input, designed as an XLR/6.35-mm jack combo socket, balanced
7	<i>[OUTPUT]</i> Line output, designed as an XLR panel plug, 3-pin. The combined signal of both inputs is present here, unaffected by DSP.
8	<i>[AUX IN]</i> 3.5-mm jack socket for connecting line level players such as MP3 or CD players. Stereo signals are combined.
9	Rubber panel plug with fuse holder for the power supply
10	<i>[ON OFF Auto Stand-by]</i> enables and disables the automatic shutdown function. When the switch is pressed, the function is deactivated; when it is released, the function activated and switches off the device after 60 minutes without an input signal. The device automatically turns back on again when the input signal returns.
11	This LED lights up when the automatic shutdown function is active.
12	<i>[POWER ON / OFF]</i> Main switch. Turns the device on and off.

6 DSP functions

Function selection

1. ➤ Press *[MASTER | PUSH FOR DSP]* to enter the main menu.
2. ➤ Turn *[MASTER | PUSH FOR DSP]* to switch between menu items or values.
3. ➤ Press *[MASTER | PUSH FOR DSP]* to activate the menu shown on the display or to confirm a value.
4. ➤ To exit a menu item without any changes, select 'EXIT' and press *[MASTER | PUSH FOR DSP]* to confirm.

Setting the sound programme

1. ➤ Press *[MASTER | PUSH FOR DSP]* to enter the main menu.
2. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'MODE' and press *[MASTER | PUSH FOR DSP]* to confirm.
3. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'Sim1', 'Sim2', 'Sim3' (simulation of three different guitar sounds) or 'OFF', and press *[MASTER | PUSH FOR DSP]* to confirm.
⇒ The selected sound program is set.

Setting the EQ set

1. ▶ Press *[MASTER | PUSH FOR DSP]* to enter the main menu.
2. ▶ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'EQ SET' and press *[MASTER | PUSH FOR DSP]* to confirm.
3. ▶ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'EQ TYPE' and press *[MASTER | PUSH FOR DSP]* to confirm.
4. ▶ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'GUITAR1' or 'GUITAR2' and press *[MASTER | PUSH FOR DSP]* to confirm.

5. Turn [MASTER | PUSH FOR DSP] to raise or lower the level of the selected frequency band by 12 dB and press [MASTER | PUSH FOR DSP] to confirm. The table shows the possible settings:

Type	Mode	Frequency band
'GUITAR1'	'EQ 300Hz'	300 Hz
	'EQ 800Hz'	800 Hz
	'EQ 2K4Hz'	2.4 kHz
'GUITAR2'	'EQ 200Hz'	200 Hz
	'EQ 400Hz'	400 Hz
	'EQ 800Hz'	800 Hz
	'EQ 1K6Hz'	1.6 kHz
	'EQ 3K2Hz'	3.2 kHz
	'EQ 6K4Hz'	6.4 kHz

⇒ The selected EQ set is set.

Setting the LED mode

1. ➤ Press *[MASTER | PUSH FOR DSP]* to enter the main menu.
2. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'LED MODE' and press *[MASTER | PUSH FOR DSP]* to confirm.
3. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'OFF' (LED indicator off), 'ON' (LED indicator permanently on) or 'LIMITER' (LED indicator flashes when the limiter is enabled) and press *[MASTER | PUSH FOR DSP]* to confirm.

Dimming the display

1. ➤ Press *[MASTER | PUSH FOR DSP]* to enter the main menu.
2. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'LCD DIM' and press *[MASTER | PUSH FOR DSP]* to confirm.
3. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'OFF' or 'ON' and press *[MASTER | PUSH FOR DSP]* to confirm.

Setting the display brightness

1. ➤ Press *[MASTER | PUSH FOR DSP]* to enter the main menu.
2. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'BRIGHT' and press *[MASTER | PUSH FOR DSP]* to confirm.
3. ➤ Turn *[MASTER | PUSH FOR DSP]* to set a value between '1' (low) and '10' (high) and press *[MASTER | PUSH FOR DSP]* to confirm.

Setting the display contrast

1. ➤ Press *[MASTER | PUSH FOR DSP]* to enter the main menu.
2. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'CONTRAST' and press *[MASTER | PUSH FOR DSP]* to confirm.
3. ➤ Turn *[MASTER | PUSH FOR DSP]* to set a value between '0' (low) and '10' (high) and press *[MASTER | PUSH FOR DSP]* to confirm.

Reset

1. ➤ Press *[MASTER | PUSH FOR DSP]* to enter the main menu.
2. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'RESET' and press *[MASTER | PUSH FOR DSP]* to confirm.
3. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'Confirm Reset: YES' , and press *[MASTER | PUSH FOR DSP]* to confirm.
⇒ The device is reset to factory default settings.
4. ➤ To keep the existing settings, choose 'Confirm Reset: NO' and press *[MASTER | PUSH FOR DSP]* to confirm.

System information

1. ➤ Press *[MASTER | PUSH FOR DSP]* to enter the main menu.
2. ➤ Turn *[MASTER | PUSH FOR DSP]* until the display shows 'INFO' and press *[MASTER | PUSH FOR DSP]* to confirm.
 - ⇒ The current firmware version of the DSP function is displayed.

7 Technical specifications

Configuration	12-inch woofer 1-inch tweeter	
Amplifier class	Class D power amplifier	
Input connections	Mic/Line	2 × XLR / 6.35-mm jack combo socket, balanced
	Line level player	1 × 3.5-mm jack socket, unbalanced
	Power supply	1 × rubber panel plug C14
Output connections	Line level mix from both inputs	1 × XLR panel plug, 3-pin
Input impedance	22 kΩ	
Output power	RMS: 300 W	
	Peak: 1200 W	
Load capacity	1200 W	
Frequency range	48 Hz...19 kHz, -3 dB	
Total harmonic distortion (THD)	0.5% (Clean-Sound)	
Sound pressure level (SPL), max.	134 dB	
Power consumption	461 W	

Technical specifications

Supply voltage	230 V ~ 50 Hz	
Fuse	5 mm × 20 mm, 3 A, 250 V, slow blow	
Dimensions (W × H × D)	348 mm × 607 mm × 355 mm	
Weight	14.6 kg	
Ambient conditions	Temperature range	0 °C...40 °C
	Relative humidity	20%...50% (non-condensing)

Further information

Stand flange	35 mm
Cover	Optionally available (item no. 410589)
Speaker simulation	1

8 Plug and pin assignments

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!

Balanced and 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.

In a professional environment, therefore, the balanced transmission is preferred, because this enables an undisturbed transmission of signals over long distances. In addition to the conductors 'Ground' and 'Signal', in a balanced transmission a second core is added. This also transfers the signal, but phase-shifted by 180°.

Since the interference affects both cores equally, by subtracting the phase-shifted signals, the interfering signal is completely neutralized. The result is a pure signal without any noise interference.

1/4" TRS phone plug (mono, balanced)



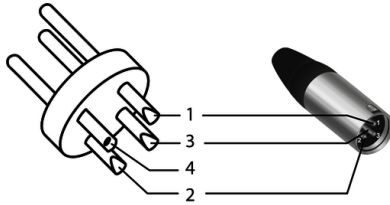
1	Signal (in phase, +)
2	Signal (out of phase, -)
3	Ground

Three-pole 1/8" mini phone jack (stereo, unbalanced)



1	Signal (left)
2	Signal (right)
3	Ground, shielding

XLR plug (balanced)



1	Ground, shielding
2	Signal (in phase, +)
3	Signal (out of phase, -)
4	Shielding on plug housing (option)

9 Cleaning

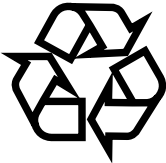
Device components

Clean the device components that are accessible from the outside regularly. The cleaning frequency depends on the operating environment: damp, smoky or particularly dirty environments can cause greater accumulation of dirt on the device components.

- Clean with a dry soft cloth.
- Stubborn dirt can be removed with a slightly dampened cloth.
- Never use solvents or alcohol for cleaning.

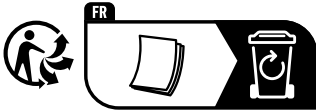
10 Protecting the environment

Disposal of the packing material



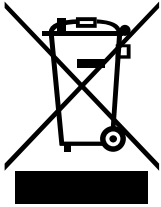
Environmentally friendly materials have been chosen for the packaging. These materials can be sent for normal recycling. Ensure that plastic bags, packaging, etc. are disposed of in the proper manner.

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



Observe the disposal note regarding documentation in France.

Disposal of your old device



This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) as amended.

Do not dispose of your old device with your normal household waste; instead, deliver it for controlled disposal by an approved waste disposal firm or through your local waste facility. If in doubt, consult your local waste management facility. You can also return the device to a retailer if they offer to take the device back for free or if they are legally obliged to do so. When disposing of the device, comply with the rules and regulations that apply in your country. You can also return your old device to Thomann GmbH at no charge. Check the current conditions on www.thomann.de.

Proper disposal protects the environment as well as the health of your fellow human beings. This is because the proper handling of old devices negates the potential negative effects of hazardous substances, and because it conserves resources by recycling them.

Also note that waste avoidance is a valuable contribution to environmental protection. Repairing a device or passing it on to another user is an ecologically valuable alternative to disposal.

If your old device contains personal data, delete those data before disposing of it.

