



User Manual



DSX 110, DSX 112, DSX 115

Active Speaker

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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 designed for sound reinforcement. 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!

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!

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 over-heat 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!

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!****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!****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.

3 Features

The active 2-way full-range speakers are characterized by the following features:

- Suitable for PA applications and DJ applications
- 1 × woofer:
 - DSX 110: 10-inch speaker (ferrite) with 1.4-inch voice coil
 - DSX 112: 12-inch speaker (ferrite) with 1.4-inch voice coil
 - DSX 115: 15-inch speaker (ferrite) with 1.75-inch voice coil
- 1 × tweeter:
 - DSX 110: 1-inch compression driver (ferrite) with 2-inch voice coil
 - DSX 112: 1-inch compression driver (ferrite) with 2.36-inch voice coil
 - DSX 115: 1-inch compression driver (ferrite) with 3-inch voice coil
- 2 × adjustable MIC/line input, XLR / 6.35-mm jack combo socket
- 1 × line level player, 3.5-mm jack socket
- 1 × line level mix output, XLR built-in plug, 3-pin
- Maximum output power:
 - DSX 110: 1400 W
 - DSX 112 and DSX 115: 2000 W
- Backlit display for DSP functions
- 3-band DSP equalizer
- 4 × DSP sound programme: Music, live, voice, DJ
- Low-cut filter
- DSX 110: Standby function

- 35-mm stand flange
- High-quality wooden housing with carrying handles

4 Installation and 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.



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.



Comply with regulations

When installing and operating, make sure to follow the standards and regulations that apply in your country.

4.1 Tips on handling speakers

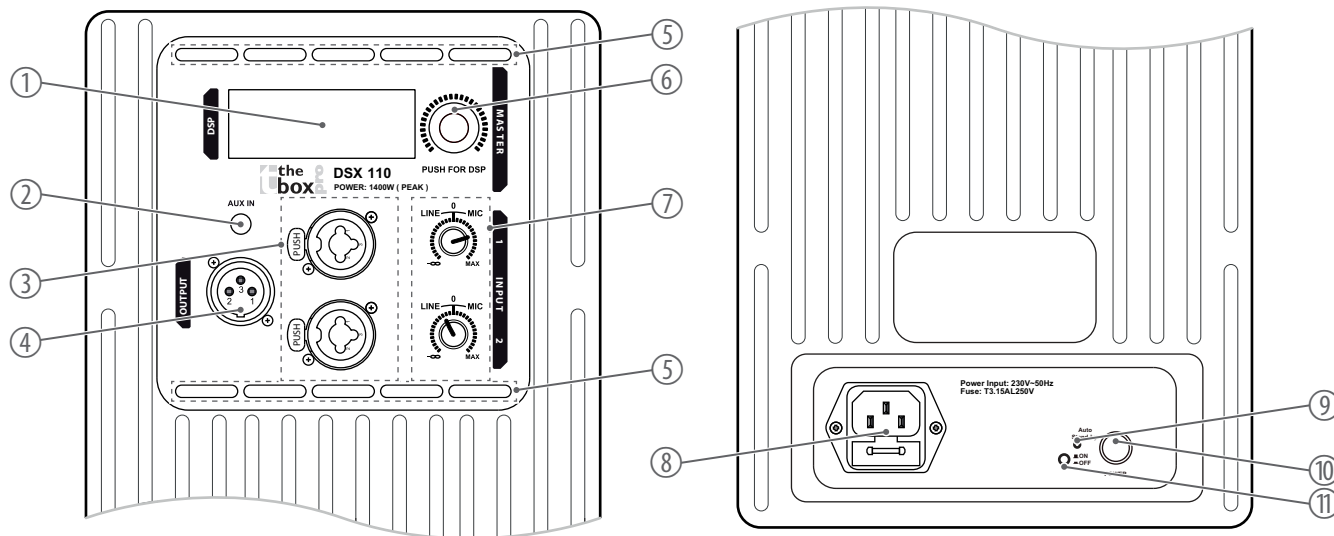
We recommend you to set up the speakers in a way, that the sound signals can reach the audience unobstructedly. It will often be helpful to mount the speakers on tripods. Thus, the sound will be evenly spread with maximum range throughout the audience area.

Always use high grade cable to connect your equipment. Otherwise you won't reach maximum sound quality.

If you notice distortion during operation, the active speaker is overloaded. This may permanently damage the device. Always reduce the volume as soon as you hear distortion.

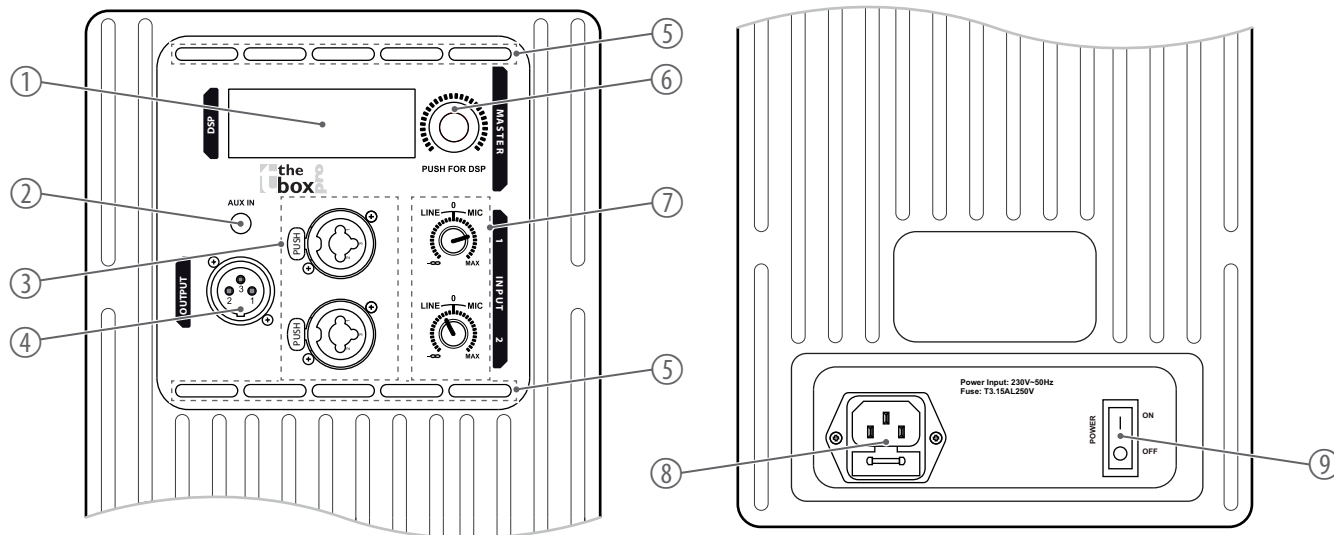
5 Connections and controls

DSX 110 (item no. 471967)



1	[DSP] Backlit display for DSP functions
2	[AUX IN] Input line level player (e.g. MP3 player or CD player), designed as a 3.5-mm jack socket. The stereo signals are combined.
3	[INPUT 1] / [INPUT 2] Mic/line input, designed as XLR/6.35-mm jack combo socket, balanced
4	[OUTPUT] XLR panel plug, 3-pin, for the output of line-level signals. The combined signal of all inputs is present here. The signal is tapped before the DSP and before the [MASTER / PUSH FOR DSP] master control.
5	Vents
6	[MASTER / PUSH FOR DSP] Rotary control for the overall volume, and push button for activating the DSP functions
7	[LINE] / [MIC] Rotary control for input gain on input 1 or input 2. Turning clockwise above the zero point increases the input gain for microphone connection. Turning anti-clockwise below the zero point decreases the input gain for connecting instruments or devices with line level outputs. If the display shows 'LIMIT', the input level is set too high. Reduce the input level.
8	[POWER INPUT] Rubber panel plug with fuse holder for the power supply
9	[Auto Standby] Behind the opening is the switch that turns the automatic shutdown function on and off. When the switch is pressed, the function is deactivated; when the switch is released, it is activated and switches off the device after 60 minutes without input signal. The device automatically turns back on again when the input signal returns.
10	[POWER ON/OFF] Mains switch
11	[Auto Standby] LED LED lights up when the automatic shutdown function is active.

**DSX 112 (item no. 471968) and
DSX 115 (item no. 471969)**



1	<i>[DSP]</i> Backlit display for DSP functions
2	<i>[AUX IN]</i> Input line level player (e.g. MP3 player or CD player), designed as a 3.5-mm jack socket. The stereo signals are combined.
3	<i>[INPUT 1] / [INPUT 2]</i> Mic/line input, designed as XLR/6.35-mm jack combo socket, balanced
4	<i>[OUTPUT]</i> XLR panel plug, 3-pin, for the output of line-level signals. The combined signal of all inputs is present here. The signal is tapped before the DSP and before the <i>[MASTER / PUSH FOR DSP]</i> master control.
5	Vents
6	<i>[MASTER / PUSH FOR DSP]</i> Rotary control for the overall volume, and push button for activating the DSP functions
7	<i>[LINE] / [MIC]</i> Rotary control for input gain on input 1 or input 2. Turning clockwise above the zero point increases the input gain for microphone connection. Turning anti-clockwise below the zero point decreases the input gain for connecting instruments or devices with line level outputs. If the display shows 'LIMIT', the input level is set too high. Reduce the input level.
8	<i>[POWER INPUT]</i> Rubber panel plug with fuse holder for the power supply
9	<i>[POWER ON/OFF]</i> Mains switch

6 DSP functions

Navigating the menu

The device shows the overall volume.

1. ➤ Turn the *[MASTER VOL | PUSH FOR DSP]* left or right to adjust the overall volume to between *'-60 dB' ... '+10 dB'*.
2. ➤ Press *[MASTER VOL | PUSH FOR DSP]* to call up the main menu and make the DSP settings.
3. ➤ Turn *[MASTER VOL | PUSH FOR DSP]* left or right to select a menu item.
4. ➤ Press *[MASTER VOL | PUSH FOR DSP]* to call up the selected menu item.
5. ➤ Turn *[MASTER VOL | PUSH FOR DSP]* left or right to select a value.
6. ➤ Press *[MASTER VOL | PUSH FOR DSP]* to call up a value.
7. ➤ To exit the menu and return to the volume control, select the *'EXIT'* menu item and press *[MASTER VOL | PUSH FOR DSP]* to confirm.

Menu overview

Menu level 1	Menu level 2	Function
'MODE'	'MUSIC'	The sound programme for music is activated.
	'LIVE'	The live sound programme is activated.

Menu level 1	Menu level 2	Function
	'SPEECH'	The sound programme for speech is activated.
	'DJ'	The sound programme for DJ applications gets activated.
'LOCATION'	'NORMAL'	The tone control for normal playback is activated.
	'MONITOR'	The tone control for stage monitors is activated.
'HIGH EQ'	'-12dB...+12dB'	Controls the treble (10 kHz).
'MID EQ'	'-12dB...+12dB'	Controls the mids (250 Hz).
'LOW EQ'	'-12dB...+12dB'	Controls the bass (80 Hz).
'SUB'	'OFF'	Low-cut filter off.
	'80HZ'	Frequency suppression below 80 Hz
	'100HZ'	Frequency suppression below 100 Hz
	'120HZ'	Frequency suppression below 120 Hz
	'150HZ'	Frequency suppression below 150 Hz
'DELAY'	'OFF'	Sound delay switched off.
	'0.1mS...16.0mS'	Sets the sound delay in milliseconds (0.1 ms...16.0 ms).

Menu level 1	Menu level 2	Function
'LED MODE'	'OFF'	Indicator LED switched off.
	'ON'	Indicator LED lights up permanently.
	'LIMITER'	Indicator LED lights up when overloaded.
'LCD DIM'	'ON'	Backlight of the display is dimmed.
	'OFF'	Backlight of the display is normal.
'BRIGHT'	'0... 10'	Controls the brightness of the display.
'CONTRAST'	'0... 10'	Controls the contrast of the display.
'RESET'	'Confirm Reset: No'	Cancels the factory reset. The existing settings are retained.
	'Confirm Reset: Yes'	The device is reset to factory default settings.
'INFO'	'DSP Firmware Vx.x.x'	The current firmware version is displayed.
'EXIT'		Exits the main menu and returns to the volume display.

7 Technical specifications

		DSX 110 (item no. 471967)	DSX 112 (item no. 471968)	DSX 115 (item no. 471969)
System		Active 2-way full-range speaker		
Amplifier class		D power amplifier and AB power amplifier		
Configuration	Woofer	1 × 10-inch speaker (fer- rite) with 1.4-inch voice coil	1 × 12-inch speaker (fer- rite) with 1.4-inch voice coil	1 × 15-inch speaker (fer- rite) with 1.75-inch voice coil
	Tweeter	1 × 1-inch compression driver (ferrite) with 2- inch voice coil	1 × 1-inch compression driver (ferrite) with 2.36- inch voice coil	1 × 1-inch compression driver (ferrite) with 3- inch voice coil
Input connections	Power supply	Rubber panel plug C14		
	Mic/Line	2 × XLR / 6.35-mm jack combo socket, balanced		
	Line level player	1 × 3.5-mm jack socket		
Input impedance		10 kΩ		
Output connections	Line level mix	1 × XLR panel plug, 3-pin		
Frequency range		65 Hz ... 19 kHz	50 Hz ... 19 kHz	43 Hz ... 19 kHz
		-3 dB		

		DSX 110 (item no. 471967)	DSX 112 (item no. 471968)	DSX 115 (item no. 471969)
Crossover frequency		3.0 kHz	2.8 kHz	
Output power	RMS	350 W	500 W	
	Peak	1400 W	2000 W	
Sensitivity (1 W/1 m)		96 dB SPL	97 dB SPL	98 dB SPL
Rated impedance		4 Ω		
Max. sound pressure level		121 dB SPL	128 dB SPL	136 dB SPL
Max. short-term sound pressure level		124 dB SPL	131 dB SPL	139 dB SPL
Beam angle (H $\times$ V)		90 $\times$ 60°		
Power consumption		310 W	380 W	430 W
Inrush current		2.3 A, 8/20 μ s	2.48 A, 8/20 μ s	2.5 A, 8/20 μ s
Supply voltage		230 V $\sim$ 50 Hz		
Fuse		5 mm $\times$ 20 mm, 3.15 A, 250 V, slow blow		
Dimensions	Width	335 mm	395 mm	455 mm
	Height	545 mm	640 mm	740 mm
	Depth	320 mm	390 mm	425 mm

		DSX 110 (item no. 471967)	DSX 112 (item no. 471968)	DSX 115 (item no. 471969)
Weight		15.5 kg	19.1 kg	23.6 kg
Ambient conditions	Temperature range	0 °C...40 °C		
	Relative humidity	20%...80% (non-condensing)		

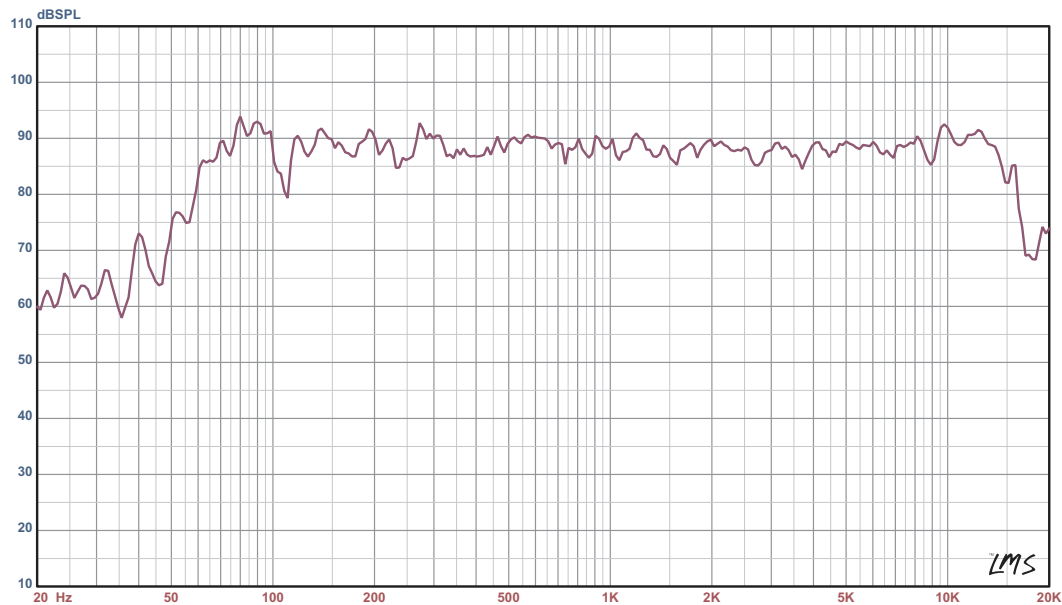
Further information

	DSX 110 (item no. 471967)	DSX 112 (item no. 471968)	DSX 115 (item no. 471969)
Housing	Wood		
Colour	Black		
Truss-capable	No		
Monitor inclination	Yes		
Ways	2-way		
Stand flange	35 mm		
Wall mount	No		
Protective cover	Optional (item no. 490202)	Optional (item no. 485043)	Optional (item no. 410589)

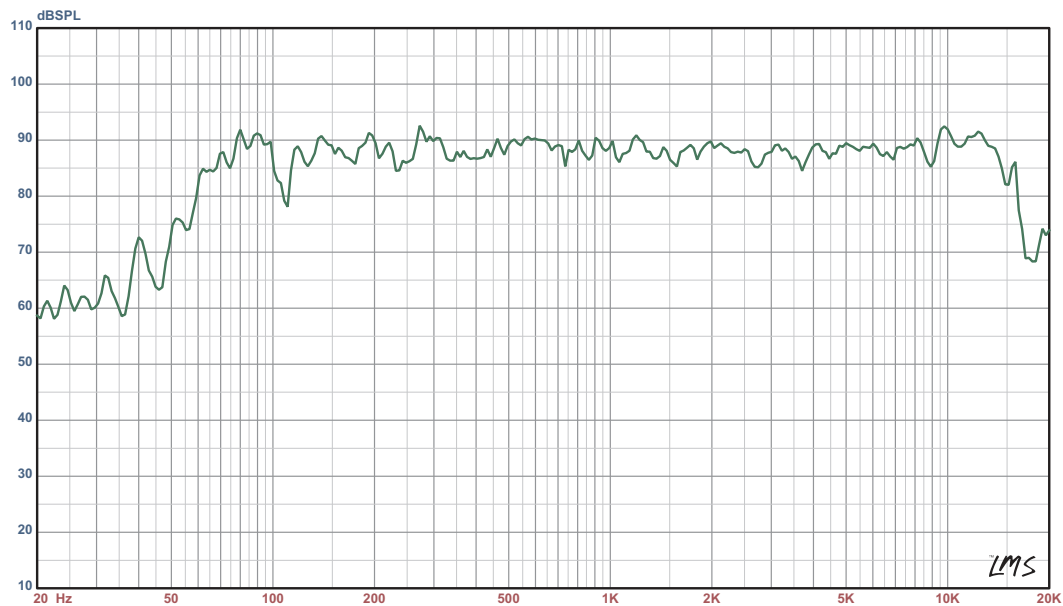
7.1 Frequency response

7.1.1 DSX 110

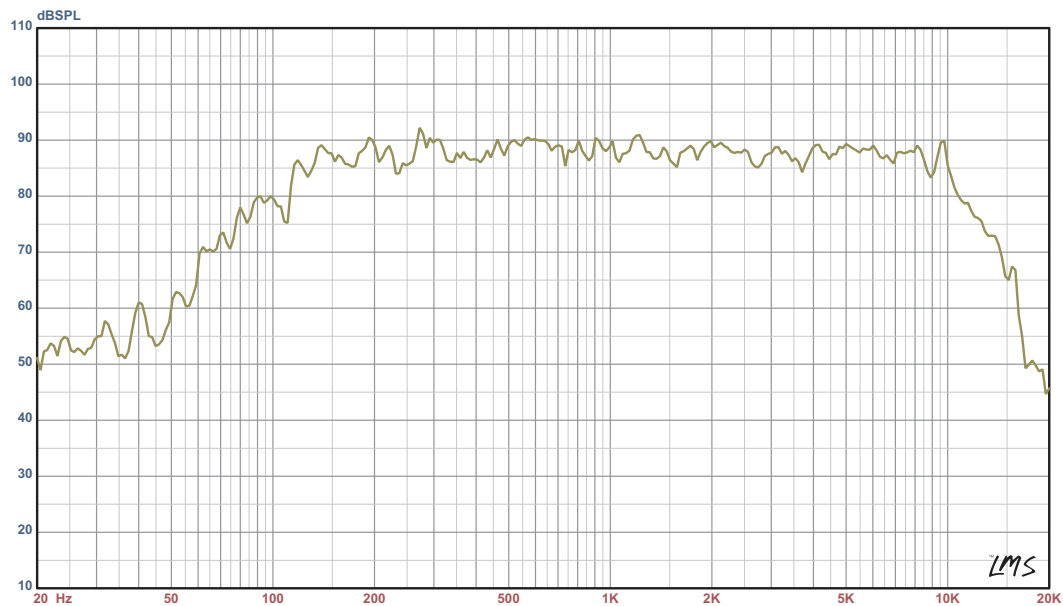
Music



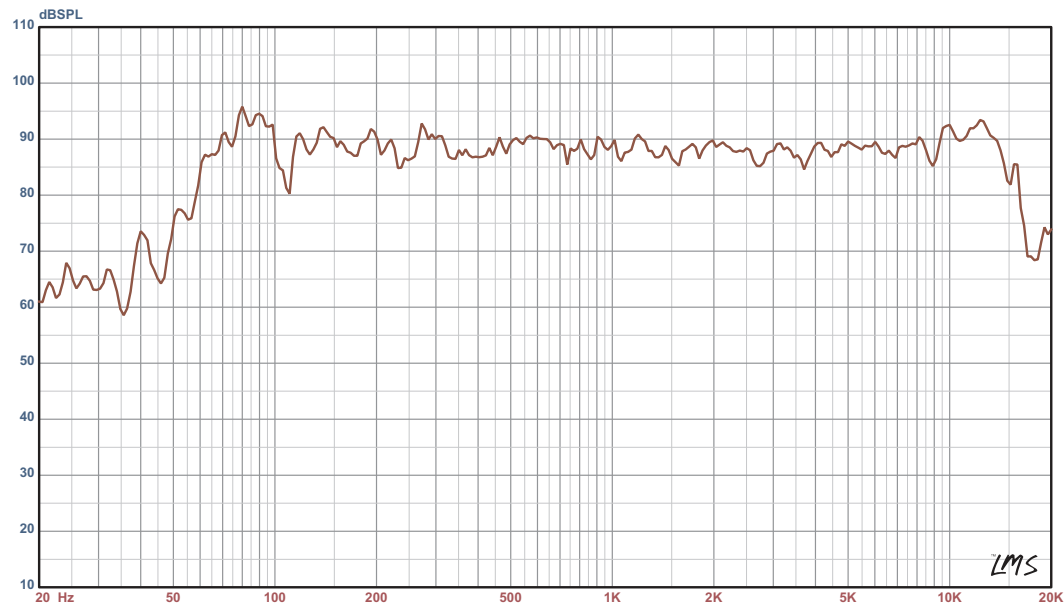
Live



Voice



DJ

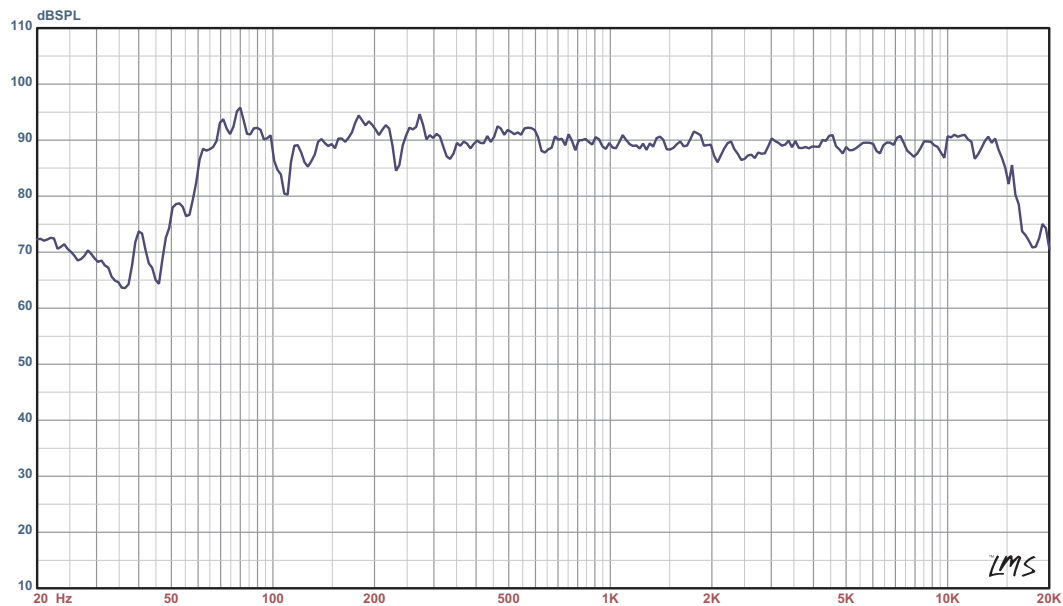


7.1.2 DSX 112

Music



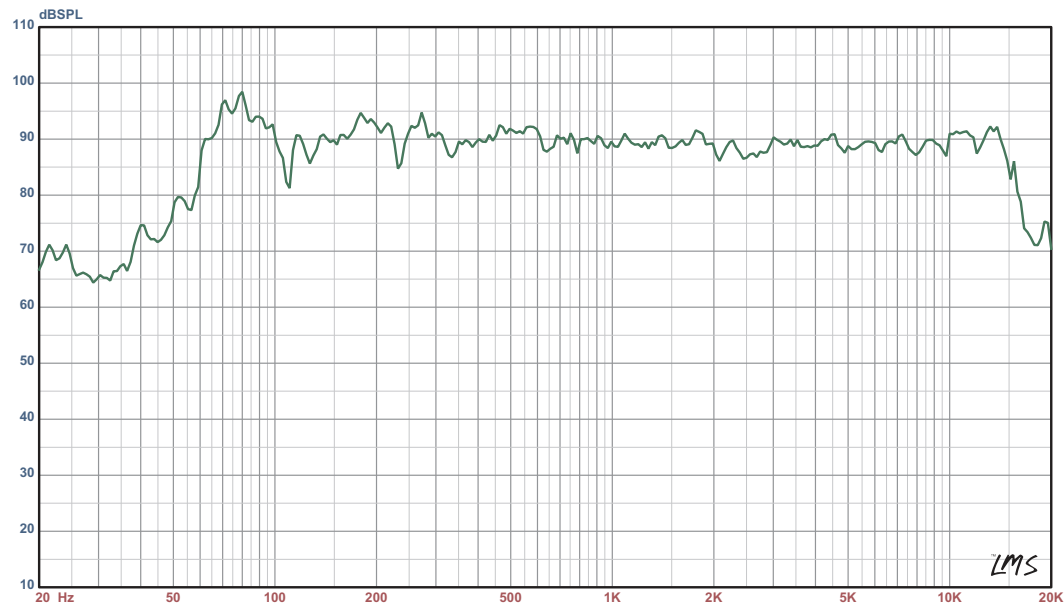
Live



Voice

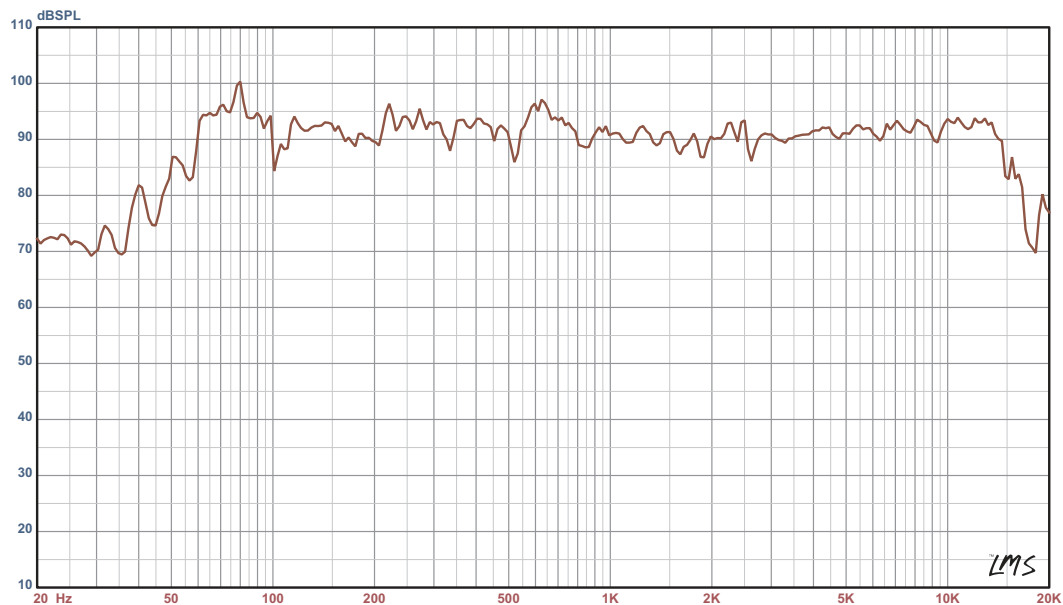


DJ

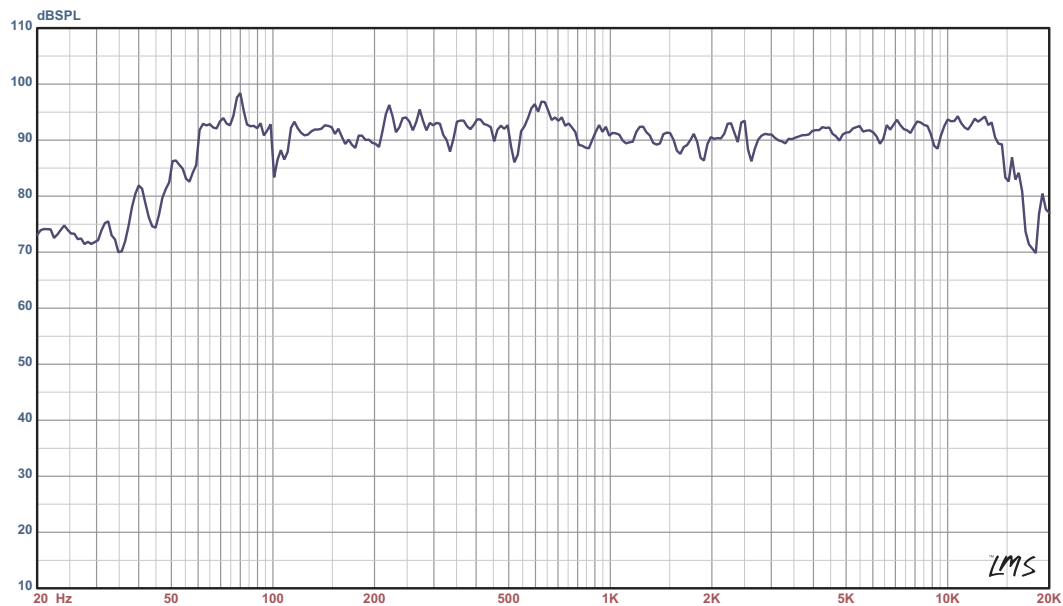


7.1.3 DSX 115

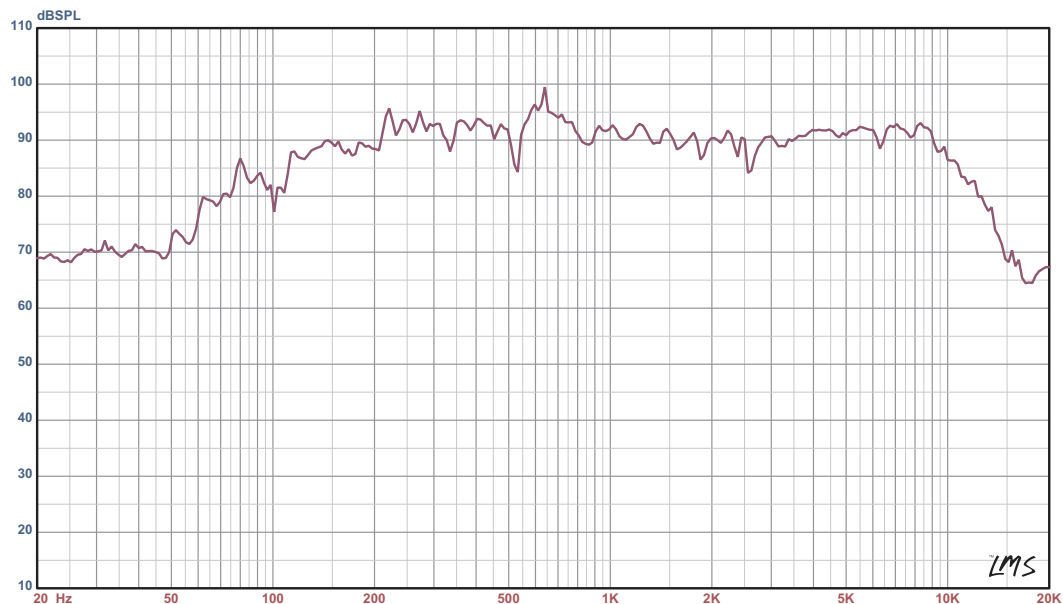
Music



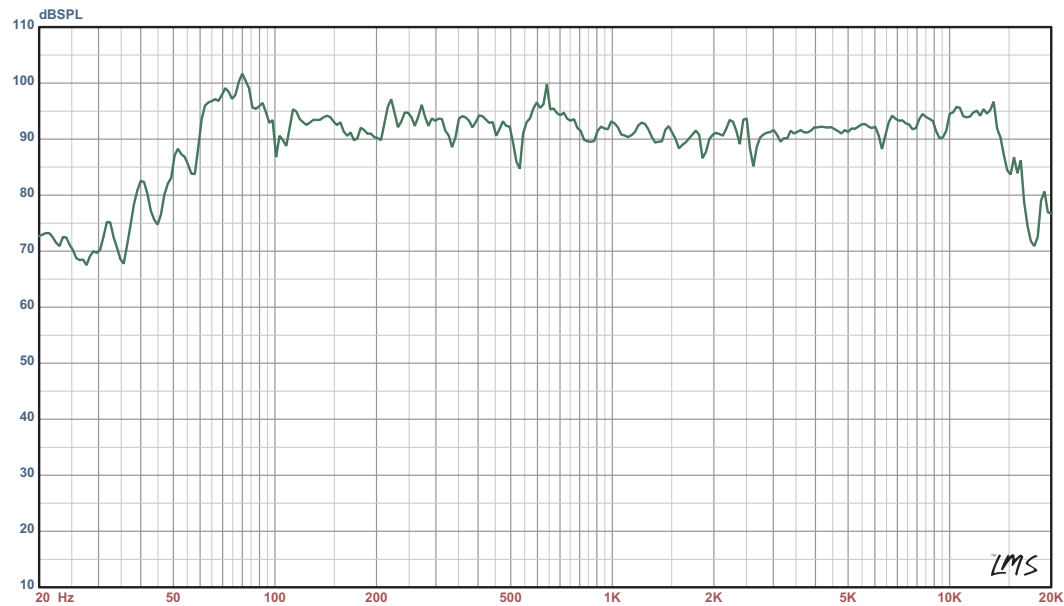
Live



Voice



DJ



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!

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.

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



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

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



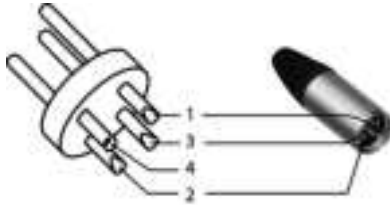
1	Signal
2	Ground, shielding

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



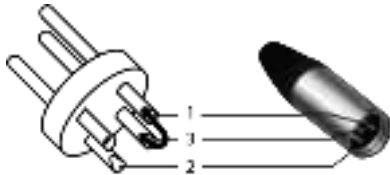
1	Signal (in phase, +)
2	Signal (out of phase, -)
3	Ground

XLR plug (balanced)



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

XLR plug (unbalanced)



1	Ground, shielding
2	Signal
3	Bridged to pin 1

9 Cleaning

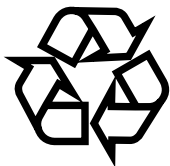
Device components

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.

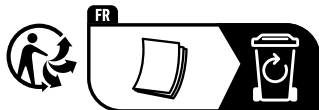
10 Protecting the environment

Disposal of the packing material



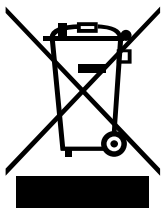
Environmentally friendly materials have been chosen for the packaging. These materials can be sent for normal recycling. Ensure that plastic bags, packaging, etc. are disposed of in the proper manner.

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.

