the t.racks

DSP 26

digital speaker management system

thomann
MUSIC IS OUR PASSION

user manual

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Table of contents

1 General notes

This manual contains important instructions for the safe operation of the unit. Read and follow the safety instructions and all other instructions. Keep the manual for future reference. Make sure that it is available to all those using the device. If you sell the unit please make sure that the buyer also receives this manual.

Our products are subject to a process of continuous development. Thus, they are subject to change.

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.

Displays

Texts and values displayed on the device are marked by quotation marks and italics.

Examples: *'24ch'*, *'OFF'*.

Cross-references

References to other locations in this manual are identified by an arrow and the specified page number. In the electronic version of the manual, you can click the cross-reference to jump to the specified location.

Example: See *'Cross-references' on page 7*.

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.
CAUTION!	This combination of symbol and signal word indicates a possible dangerous situation that can result in minor 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 notes

Intended use

This device serves sound control and distribution of incoming audio signals to the connected 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.

DANGER!

Electric shock caused by high voltages inside

Within the device there are areas where high voltages may be present. Never remove any covers.

There are no user-serviceable parts inside.

DANGER!

Electric shock caused by short-circuit

Always use proper ready-made insulated mains cabling (power cord) with a protective contact plug. Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.

CAUTION!

Possible hearing damage

With loudspeakers or headphones connected, the device can produce volume levels that may cause temporary or permanent hearing impairment.

Do not operate the device permanently at a high volume level. Decrease the volume level immediately if you experience ringing in your ears or hearing impairment.

NOTICE!

Risk of fire

Do not cover the device nor any ventilation slots. Do not place the device near any direct heat source. Keep the device away from naked flames.

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.

NOTICE!

Power supply

Before connecting the device, 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 injure the user.

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

3 Features

- Two input channels
- Six output channels
- Digital 24-bit signal processors
- RS485 interface
- USB port
- Suitable for installation in 19-inch racks (1 RU)

4 Installation and starting up

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

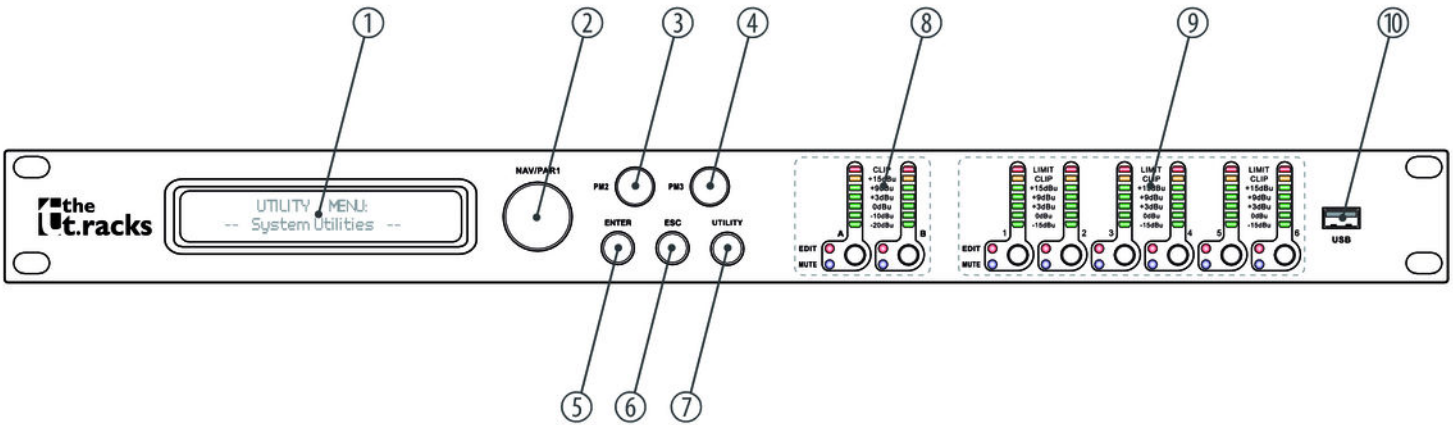
Establish all connections as long as the unit is switched off. Use the shortest possible high-quality cables for all connections.

Rack mounting

The unit has been designed for rack mounting in a standard 19-inch rack; it occupies one rack unit.

5 Connections and controls

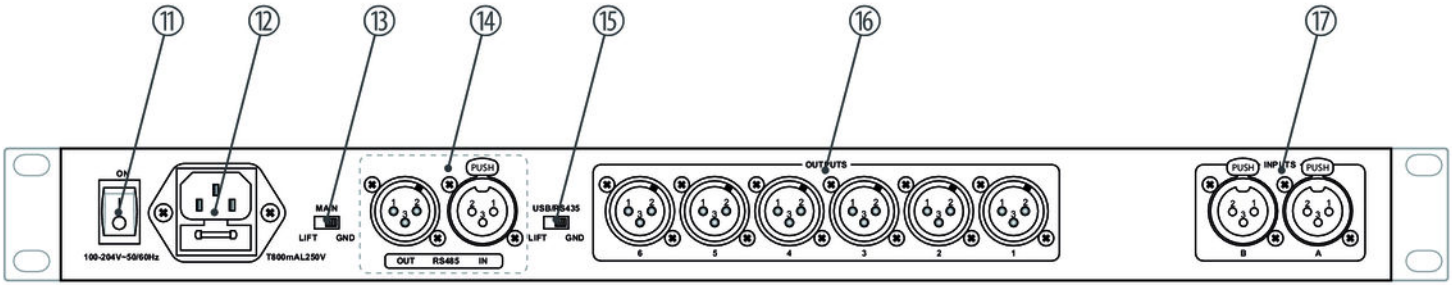
Front panel



1	Display
2	*[NAV/PM1]* Rotary switch for setting of values in submenus.
3	*[PM2]* Rotary switch for setting of values in submenus.
4	*[PM3]* Rotary switch for setting of values in submenus.
5	*[ENTER]* Button to confirm changes and input values.
6	*[ESC]* Button to exit an open menu or a menu function.
7	*[UTILITY]* Button to open the menu for setting the device parameters.

8	LED display input channel A / B The LEDs show the level of the input signal.
	[A], *[B]* Briefly pressing the button activates the edit mode for the input channel A and/or B, and the corresponding *[EDIT]* LED lights up blue. Changes always affect all active channels. Hold down the buttons for a second to mute the input channel A or B. In this case, the *[MUTE]* LED lights up red. Hold down the buttons again for a second to switch the input channel A or B back on. The *[MUTE]* LED goes out.
9	LED display output channel 1 to 6 The LEDs show the level of the input signal or the response of the limiter.
	[1] … *[6]* Briefly pressing the button activates the edit mode for the output channel 1 … 6. In this case, the *[EDIT]* LED lights up. Changes always affect all active channels. Hold down the buttons for a second to mute the output channel 1 … 6. In this case, the *[MUTE]* LED lights up red. Hold down the buttons for a second to switch the output channel 1 … 6 back on. The *[MUTE]* LED goes out.
10	USB port

Rear panel


⑪
⑫
⑬
⑭
⑮
⑯
⑰
ON
100-204V~50/60Hz
T800mAL250V
MAIN
LIFT
GND
PUSH
OUT
RS485
IN
USB/RS485
LIFT
GND
OUTPUTS
6
5
4
3
2
1
PUSH
INPUTS
PUSH
B
A

11	Mains switch to turn the device on and off.
12	IEC chassis plug with fuse holder for the power supply.
13	*[MAIN | LIFT | GND]* Switch to disconnect the signal ground from the chassis ground to avoid hum loops.
14	*[RS485 OUT | IN]* RS485 interface with output for looping through the signal to other devices.
15	*[USB/RS485 | LIFT | GND]* Switch to disconnect the signal ground from the USB or RS485 interface to avoid hum loops.
16	*[OUTPUTS]* Signal output 6 to 1 (XLR panel connector).
17	*[INPUTS]* Signal input B and A (XLR panel socket).

6 Operating

First switch on the speaker management system and then switch on the connected devices to avoid activation crackling and possible damage to the connected speakers.

When the device is switched on, the model name, the start-up status, and the last active operating mode (default: *'2×3 WAY X-OVER'*) appear one after another in the display.

Afterwards, there is the option to activate a desired operating mode or to adjust the device settings.

6.1 UTILITY menu

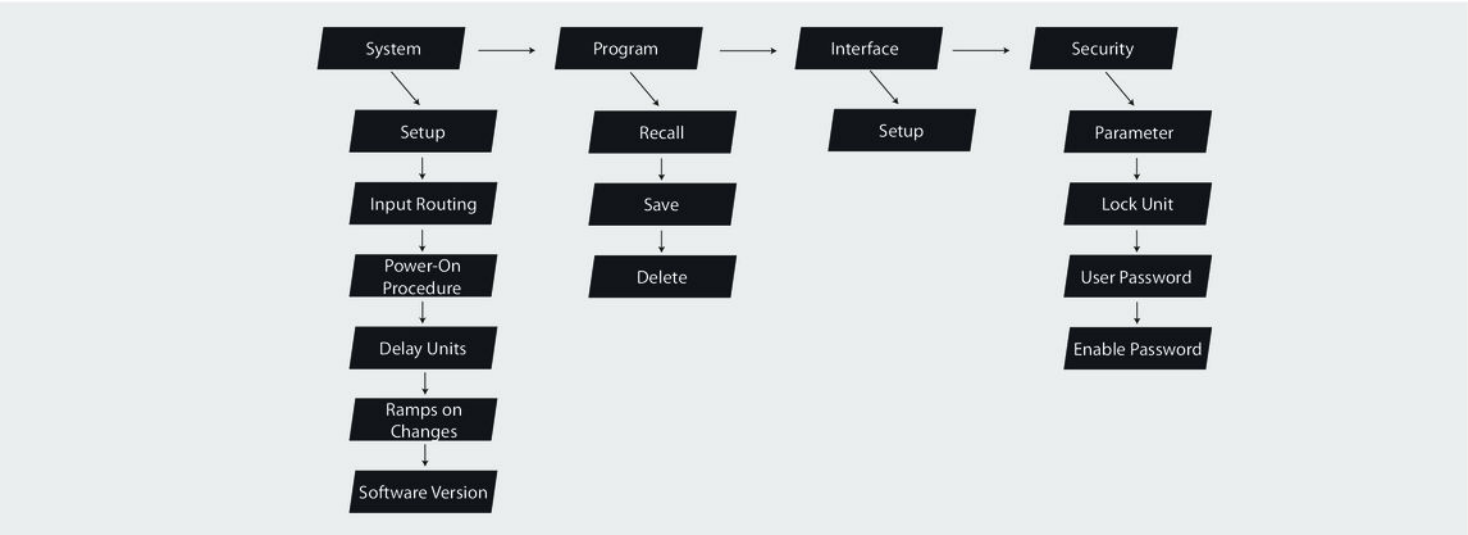
Press *[UTILIY]* to enter the *'UTILITY'* menu. Select the required submenu with*[NAV/PM1]* and confirm with *[ENTER]*.

Select the required option in the open submenu with*[NAV/PM1]* and confirm with *[ENTER]*. The selected menu item is marked with an asterisk (*).

Adjust the settings with *[PM2]* or *[PM3]* and confirm by pressing *[ENTER]* to apply the new settings.

Pressing *[ESC]* exits the menu without applying changes.

UTILITY menu overview



"System Utilities" – "System Setup"

This menu is used to select the operating mode. In the *[UTILITY]* menu, select the *'System Utilities'* option and confirm with *[ENTER]*.

Select the *'System Setup'* menu item and confirm with *[ENTER]*. The active operating mode is shown on the display.

Select the required operating mode with *[PM2]* or *[PM3]* and confirm by pressing *[ENTER]* to apply the new setting.

Operating modes

- *'2 × 2 WAY + SUB'* – in this operating mode, two inputs are assigned to four outputs as follows:
  - Input A to output 1/3 (1 = Low-A, 3 = High-A)
  - Input B to output 2/4 (2 = Low-B, 4 = High-B)
  - Input A and B to output 5/6 (5 = Sub-A, 6 = Sub-B)
- *'2 × 3 WAY.XOVER'* – in this operating mode, two inputs are assigned to six outputs as follows:
  - Input A to output 1/3/5 (1 = Low-A, 3 = Mid-A, 5 = High-A)
  - Input B to output 2/4/6 (2 = Low-B, 4 = Mid-B, 6 = High-B)
- *'6 WAY.XOVER'* – in this operating mode, input A is assigned to six outputs as follows:
  - Input A to output 1/2/3/4/5/6 (1 = Near-1, 2 = Near-2, 3 = Mid-1, 4 = Mid-2, 5 = Far-1, 6 = Far-2)

Pressing *[ESC]* exits the menu without applying changes.

"System Utilities" – "Delay Units"

This menu is used to set the signal delay of the digital speaker management system. In the *[UTILITY]* menu, select the *'System Utilities'* option and confirm with *[ENTER]*.

Select the *'Delay Units'* menu item and confirm with *[ENTER]*. The display shows the current setting.

Press *[PM2]* or *[PM3]* to switch between the available units of meters (m) and milliseconds (ms).

Turn *[PM2]* or *[PM3]* to set the unit required and confirm by pressing *[ENTER]* to apply the new setting.

Pressing *[ESC]* exits the menu without applying changes.

"System Utilities" - "Software Version"

This menu item is used to display the currently loaded software version. In the *[UTILITY]* menu, select the *'System Utilities'* option and confirm with *[ENTER]*.

Select the *'Software Version'* menu item and confirm with *[ENTER]*. The display shows the current software version

"Program Utilities" - "Recall a Program"

This menu is used to load stored configurations. A total of 24 storage locations are available for configurations. In the *[UTILITY]* menu, select the *'Program Utilities'* option and confirm with *[ENTER]*.

Select the *'Recall a Program'* menu item and confirm with *[ENTER]*.

Select the required entry with *[PM2]* or *[PM3]* and confirm by pressing *[ENTER]* to apply the new setting.

If there are no configurations stored on the device, the message *'No Stored Xovers'* is displayed.

Press *[ESC]* to cancel the operation at any time.

"Program Utilities" - "Save a Program"

This menu is used to save current device settings as a configuration. A total of 24 storage locations are available for configurations. In the *[UTILITY]* menu, select the *'Program Utilities'* option and confirm with *[ENTER]*.

Select the *'Save a Program'* menu item and confirm with *[ENTER]*.

Select the required storage location with *[PM2]* or *[PM3]* and confirm by pressing *[ENTER]*. Existing records can be overwritten. In this case, a corresponding confirmation prompt appears on the display. Press *[ENTER]* to confirm that the settings should be overwritten.

The following screen is used to enter a name under which the configuration is to be stored (up to 16 characters). Enter letters and numbers with *[PM2]* or *[PM3]*. The cursor can be placed in any position with *[NAV/PM1]*, for example to overwrite a character that has been entered incorrectly.

Use *[ENTER]* to confirm that the configuration is to be stored under the new name.

Press *[ESC]* to cancel the operation at any time.

"Program Utilities" - "Delete a Program"

This menu is used to delete stored configurations. In the *[UTILITY]* menu, select the *'Program Utilities'* option and confirm with *[ENTER]*.

Select the *'Delete a Program'* menu item and confirm with *[ENTER]*.

Highlight the configuration to be deleted with *[PM2]* or *[PM3]*. Confirm with *[ENTER]*.

A corresponding confirmation prompt appears on the display. Press *[ENTER]* to confirm that the settings should be deleted.

Press *[ESC]* to cancel the operation at any time.

"Interface Utilities" - "Interface Setup"

This menu is used to define which interface is used to control the device.

In the *[UTILITY]* menu, select the *'Interface Utilities'* option and confirm with *[ENTER]*.

Select the *'Interface Setup'* menu item and confirm with *[ENTER]*. The display shows the current setting.

Switch between the two available options with *[PM2]* or *[PM3]* and confirm by pressing *[ENTER]* to apply the new setting.

Interface

- *'USB'* - This selection establishes a connection to an external device via the USB interface.
- *'RS485'* - This selection establishes a connection to an external device via the RS485 interface

Pressing *[ESC]* exits the menu without applying changes.

"Security Utilities" - "Show Parameter"

This menu is used to define if the device parameters are displayed or hidden.

In the *[UTILITY]* menu, select the *'Security Utilities'* option and confirm with *[ENTER]*.

Select the *'Show Parameter'* menu item and confirm with *[ENTER]*. The display shows the current setting.

Switch between the available options with *[PM2]* or *[PM3]* and confirm by pressing *[ENTER]* to apply the new setting.

Parameter display

- *'Parameter will be shown'* – This selection displays all device parameters.
- *'Parameter will not be shown'* – This selection hides all device parameters.

Pressing *[ESC]* exits the menu without applying changes.

"Security Utilities" – "Lock Unit"

This menu is used to define the access rights to the different device parameters.

In the *[UTILITY]* menu, select the *'Security Utilities'* option and confirm with *[ENTER]*.

Select the *'Lock Unit'* menu item and confirm with *[ENTER]*. The display shows the current setting.

Switch between the available options with *[PM2]* or *[PM3]* and confirm by pressing *[ENTER]* to apply the new setting.

Parameter access

- *'Lock: Off'* - With this selection, all device parameters can be edited without entering a password.
- *'Lock: On'* - With this selection, the device parameters can only be accessed after entering a valid password.

Pressing *[ESC]* exits the menu without applying changes.

"Security Utilities" - "User Password"

This menu is used to set a password to control access to the different device parameters.

In the *[UTILITY]* menu, select the *'Security Utilities'* option and confirm with *[ENTER]*.

Select the *'User Password'* menu item and confirm with *[ENTER]*. The *'Insert Password'* prompt appears on the display.

Use *[PM2]* or *[PM3]* to enter a password with a maximum of six characters. The cursor can be placed in any position with *[NAV/PM1]*, for example to overwrite a character that has been entered incorrectly.

Confirm the input with *[ENTER]*. The *'Confirm Password'* prompt appears on the display. Retype the password for confirmation and confirm with *[ENTER]*, to finally accept the password.

Pressing *[ESC]* exits the menu without applying changes.

"Security Utilities" - "Enable Password"

This menu is used to activate or deactivate the password protection of the device.

In the *[UTILITY]* menu, select the *'Security Utilities'* option and confirm with *[ENTER]*.

Select the *'Enable Password'* menu item and confirm with *[ENTER]*. The display shows the current setting.

Switch between the available options with *[PM2]* or *[PM3]* and confirm by pressing *[ENTER]* to apply the new setting.

Password protection

- *'Password: Enable'* - With this selection, the device parameters can only be accessed after entering a valid password.
- *'Password: Disable'* - With this selection, all device parameters can be edited without entering a password.

Pressing *[ESC]* exits the menu without applying changes.

6.2 INPUT A/B menu

Press *[A]* or *[B]* to activate the edit mode for channel A or B and to open the *'INPUT A/B'* menu. On the device, the *[EDIT]* display LED of the activated input channel A or B lights up blue. Press *[ENTER]*. An arrow is shown on the display. The individual input parameters can now be adjusted.

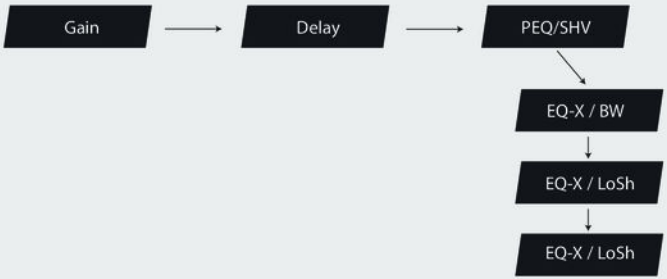
Changes always affect all active input channels.

Select the required option with*[NAV/PM1]* and confirm with *[ENTER]*. The selected menu item is marked with an asterisk (∗).

Adjust the settings with *[PM2]* or *[PM3]* and confirm by pressing *[ENTER]* to apply the new settings.

Pressing *[ESC]* exits the menu without applying changes.

INPUT A/B menu overview



"Gain"

This menu is used to lower or raise the level of the input signal in a range of –12 dB to +12 dB. Press *[A]* or *[B]* to activate the edit mode for channel A or B and to open the *'INPUT A/B'* menu.

Use *[PM2]* or *[PM3]* to adjust the level of the input signal as required. Confirm the new setting with *[ENTER]*.

Pressing *[ESC]* exits the menu without applying changes.

"Delay"

This menu is used to customise the signal delay in a range of 000.0000 ms to 848.9984 ms. Press *[A]* or *[B]* to open the *'INPUT A/B'* menu.

Press *[ENTER]* and use *[PM2]* to roughly adjust the signal delay in increments of 1 ms , or use *[PM3]* to finely adjust it in increments of 20.8 µs. Confirm the new setting with *[ENTER]*.

Pressing *[ESC]* exits the menu without applying changes.

"EQ-X"

This menu is used to activate five shelving filters/bell filters for all inputs. Press *[A]* or *[B]* to open the *'INPUT A/B'* menu. Set the signal gain (Gain) to zero.

Turn *[PM2]* in a clockwise direction to activate a bell filter.

Press *[ENTER]* to open the edit mode and select the following parameters:

- Bypass the EQ with *[PM2]*: Bypass active if *'Byp=On'*, bypass inactive if *'Byp=Off'*
- Type of filter: Bell filter *'Peaking_EQ'*, High Shelving *'Hi-Shelv_Q'* or Low Shelving *'Lo-Shelv_Q'* (Shelving filter)

To adjust the parameters of the selected filter, press *[ENTER]* again. The following options are available on this level:

- Frequency range with *[NAV/PM1]*, range *'20 Hz'* … *'20 kHz'*
- Quality with *[PM2]*, range *'Q=0.3'* … *'Q=20'*
- Signal enhancement with *[PM3]*, range *'–15 dB'* … *'+15 dB'*

Press *[ESC]* to return to the filter bypass menu. Press *[ENTER]* to return to the filter selection.

6.3 OUTPUT 1/2/3/4/5/6 menu

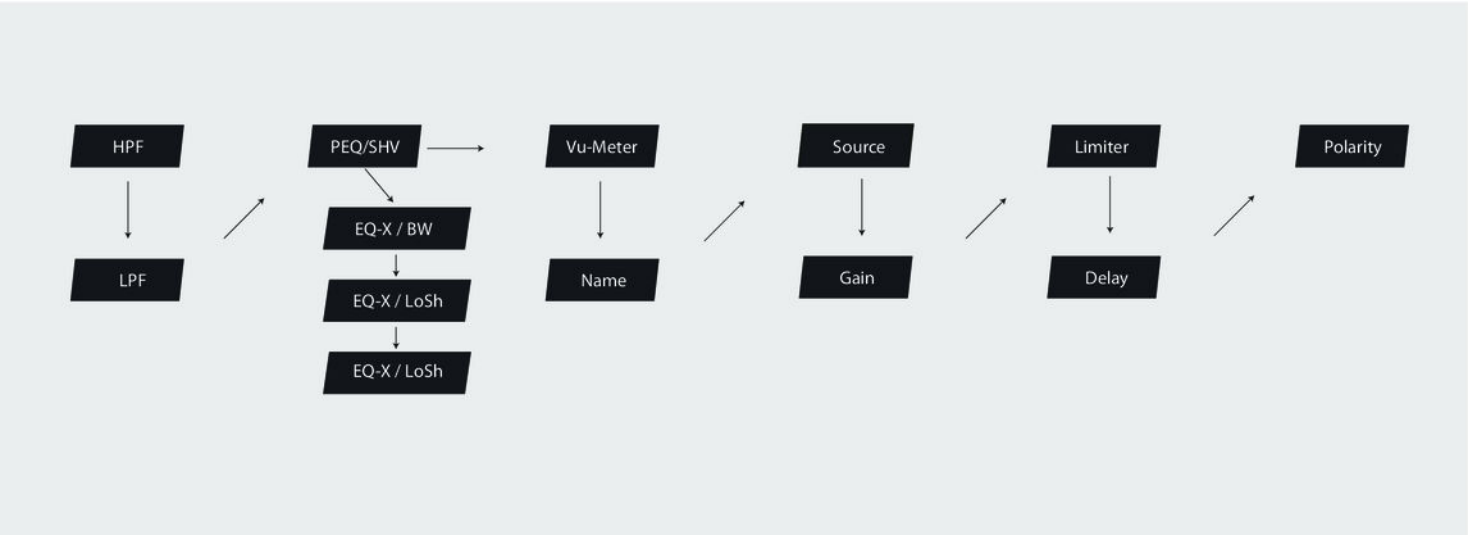
Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the edit mode for channel 1, 2, 3, 4, 5 and/or 6 and open the *'OUTPUT 1/2/3/4/5/6'* menu. On the device, the *[EDIT]* display LED of the activated output channel lights up blue. Press *[ENTER]*. An arrow is shown on the display. The individual output parameters can now be adjusted.

Select the required option with*[NAV/PM1]* and confirm with *[ENTER]*. The selected menu item is marked with an asterisk (*).

Adjust the settings with *[PM2]* or *[PM3]* and confirm by pressing *[ENTER]* to apply the new settings.

Pressing *[ESC]* exits the menu without applying changes.

1/2/3/4/5/6 menu overview



"HPF"

This menu is used to activate a high-pass filter for all outputs. Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the editing mode for channel 1, 2, 3, 4, 5 and/or 6 and adjust the following parameters as required:

- Cutoff frequency with *[PM2]*, range *'20 Hz'* … *'20 kHz'*
- Filter type with *[PM3]*
  - Butterworth, 6 dB, display *'Butwrth 6dB'*
  - Butterworth, 12 dB, display *'Butwrth 12dB'*
  - Linkwitz/Riley, 12 dB, display *'Lnk/Ril 12dB'*
  - Bessel, 12 dB, display *'Bessel 12dB'*
  - Butterworth, 18 dB, display *'Butwrth 18dB'*
  - Butterworth, 24 dB, display *'Butwrth 24dB'*
  - Linkwitz/Riley, 24 dB, display *'Lnk/Ril 24dB'*
  - Bessel, 24 dB, display *'Bessel 24dB'*

Pressing *[ESC]* exits the menu without applying changes.

"LPF"

This menu is used to activate a low-pass filter for all outputs. Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the editing mode for channel 1, 2, 3, 4, 5 and/or 6 and adjust the following parameters as required:

- Cutoff frequency with *[PM2]*, range *'20 Hz'* … *'20 kHz'*
- Filter type with *[PM3]*
  - Butterworth, 6 dB, display *'Butwrth 6dB'*
  - Butterworth, 12 dB, display *'Butwrth 12dB'*
  - Linkwitz/Riley, 12 dB, display *'Lnk/Ril 12dB'*
  - Bessel, 12 dB, display *'Bessel 12dB'*
  - Butterworth, 18 dB, display *'Butwrth 18dB'*
  - Butterworth, 24 dB, display *'Butwrth 24dB'*
  - Linkwitz/Riley, 24 dB, display *'Lnk/Ril 24dB'*
  - Bessel, 24 dB, display *'Bessel 24dB'*

Pressing *[ESC]* exits the menu without applying changes.

"EQ-X"

This menu is used to activate five shelving filters/bell filters for all outputs. Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the edit mode for channel 1, 2, 3, 4, 5 and/or 6. Set the signal gain (Gain) to zero.

Turn *[PM2]* in a clockwise direction to assign a bell filter.

Press *[ENTER]* to open the edit mode and select the following parameters:

- Bypass the EQ with *[PM2]*: Bypass active if *'Byp=On'*, bypass inactive if *'Byp=Off'*
- Type of filter: Bell filter *'Peaking_EQ'*, High Shelving *'Hi-Shelv_Q'* or Low Shelving *'Lo-Shelv_Q'* (Shelving filter)

To adjust the parameters of the selected filter, press *[ENTER]* again. The following options are available on this level:

- Frequency range with *[NAV/PM1]*, range *'20 Hz'* … *'20 kHz'*
- Quality with *[PM2]*, range *'Q=0.3'* … *'Q=20'*
- Signal enhancement with *[PM3]*, range *'–15 dB'* … *'+15 dB'*

Press *[ESC]* to return to the filter bypass menu. Press *[ENTER]* to return to the filter selection.

"Vu Meter"

This menu is used to define the parameters that are visualised by the LEDs of the output channels. Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the edit mode for channel 1, 2, 3, 4, 5 and/or 6.

Press *[ENTER]*and use *[NAV/PM1]* or *[PM2]* to switch between the options *'Limiter Act'* (limiter response) and *'Level'* (signal level).

Pressing *[ESC]* exits the menu without applying changes.

"Name"

This menu is used to assign an individual name to each output channel. Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the edit mode for channel 1, 2, 3, 4, 5 and/or 6.

Use *[PM2]* or *[PM3]* to enter a desired name with a maximum of six characters. The cursor can be placed in any position with *[NAV/PM1]*, for example to overwrite a character that has been entered incorrectly.

Pressing *[ESC]* exits the menu without applying changes.

"Source"

This menu is used to adjust the assignment between the input and output channels. Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the edit mode for channel 1, 2, 3, 4, 5 and/or 6.

Press *[ENTER]* and assign the required input to the active output with *[PM2]* or *[PM3]*.

Pressing *[ESC]* exits the menu without applying changes.

"Gain"

This menu is used to lower or raise the level of the output signal on a per channel basis in a range of –12 dB to +12 dB. Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the edit mode.

Use *[PM2]* or *[PM3]* to adjust the level of the output signal as required. Confirm the new setting with *[ENTER]*.

Pressing *[ESC]* exits the menu without applying changes.

"Limiter"

This menu is used to adjust the limiter function settings on a per channel basis. Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the edit mode and adjust the following parameters as required:

- Response time with *[NAV/PM1]*, range *'5 ms'* … *'200 ms'*
- Ramp-down time with *[PM2]*, range *'5 ms'* … *'200 ms'*
- Threshold with *[PM3]*, range *'–10 dB'* … *'+20 dB'*

Pressing *[ESC]* exits the menu without applying changes.

"Delay"

This menu is used to customise the signal delay in a range of 000.0000 ms to 848.9984 ms. Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the edit mode for channel 1, 2, 3, 4, 5 and/or 6.

Press *[ENTER]* and use *[PM2]* to roughly adjust the signal delay in increments of 1 ms , or use *[PM3]* to finely adjust it in increments of 20.8 µs. Confirm the new setting with *[ENTER]*.

Pressing *[ESC]* exits the menu without applying changes.

"Polarity"

This menu is used to reverse the polarity of the channels. Press *[1]*, *[2]*, *[3]*, *[4]*, *[5]* and/or *[6]*, to activate the edit mode for channel 1, 2, 3, 4, 5 and/or 6.

Press *[ENTER]* and invert the active channel with *[NAV/PM2]* or *[PM2]* (Display *'Normal'* or *'Inverted'*).

Pressing *[ESC]* exits the menu without applying changes.

6.4 Channel linkage

The device offers the option to freely link input and output channels, making it easier to edit the channel parameters.

First edit an input or output channel as required, see *Chapter 6.1 'UTILITY menu' on page 22*, *Chapter 6.2 'INPUT A/B menu' on page 34* and *Chapter 6.3 'OUTPUT 1/2/3/4/5/6 menu' on page 38*. Then press the *[EDIT]* button of all channels for which these settings are to be applied (blue LED is lit).

Confirm the changes for all active channels with *[ENTER]*.

6.5 Reset to factory defaults

Proceed as follows to restore the factory default settings:

1. Switch off the device.
2. Press and hold *[ENTER]*, *[ESC]* and *[UTILITY]*.
3. Switch on the device.
4. Release the three buttons as soon as the following message appears on the display: *'Please Wait … Memory Reset'*.
5. Wait until the startup screen is displayed.

7 Technical specifications

Inputs	2 × XLR input socket, balanced
Input level	max. +20 dBu
Outputs	6 × XLR output socket, balanced
Output level	max. +20 dBu
Interfaces	USB, RS485
Frequency response	20 Hz … 20 kHz
Total harmonic distortion (THD+N)	0.005 %
Signal-to noise ratio (SNR)	110 dBA
A/D converter, D/A converter	24 bit
Sampling rate	48 kHz
Digital S/PDIF stereo input	32 kHz, 44.1 kHz, 48 kHz
Operating supply voltage	100 … 230 V ~ 50/60 Hz

Fuse	5 mm × 20 mm, 800 mA, 250 V, slow-blow
Dimensions (W × D × H)	440 mm × 45 mm × 220 mm
Weight	2.7 kg

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

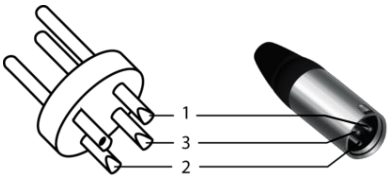
Unbalanced transmission is mainly used in semi-professional environment and in hifi use. Instrument cables with two conductors (one core plus shielding) are typical representatives of the unbalanced transmission. One conductor is ground and shielding while the signal is transmitted through the core.

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°.

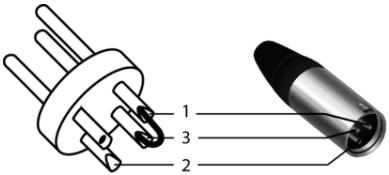
Since the interference affects both cores equally, by subtracting the phase-shifted signals, the interfering signal is completely neutralized. The result is a pure signal without any noise interference.

XLR plug (balanced)



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

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.

Fan grids

The fan grids of the device must be cleaned on a regular basis to remove dust and dirt. Before cleaning, switch off the device and disconnect AC-powered devices from the mains. Use a lint-free damp cloth for cleaning. Never use solvents or alcohol for cleaning.

10 Protecting the environment

Disposal of the packaging material

For the transport and protective 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 your old device

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

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