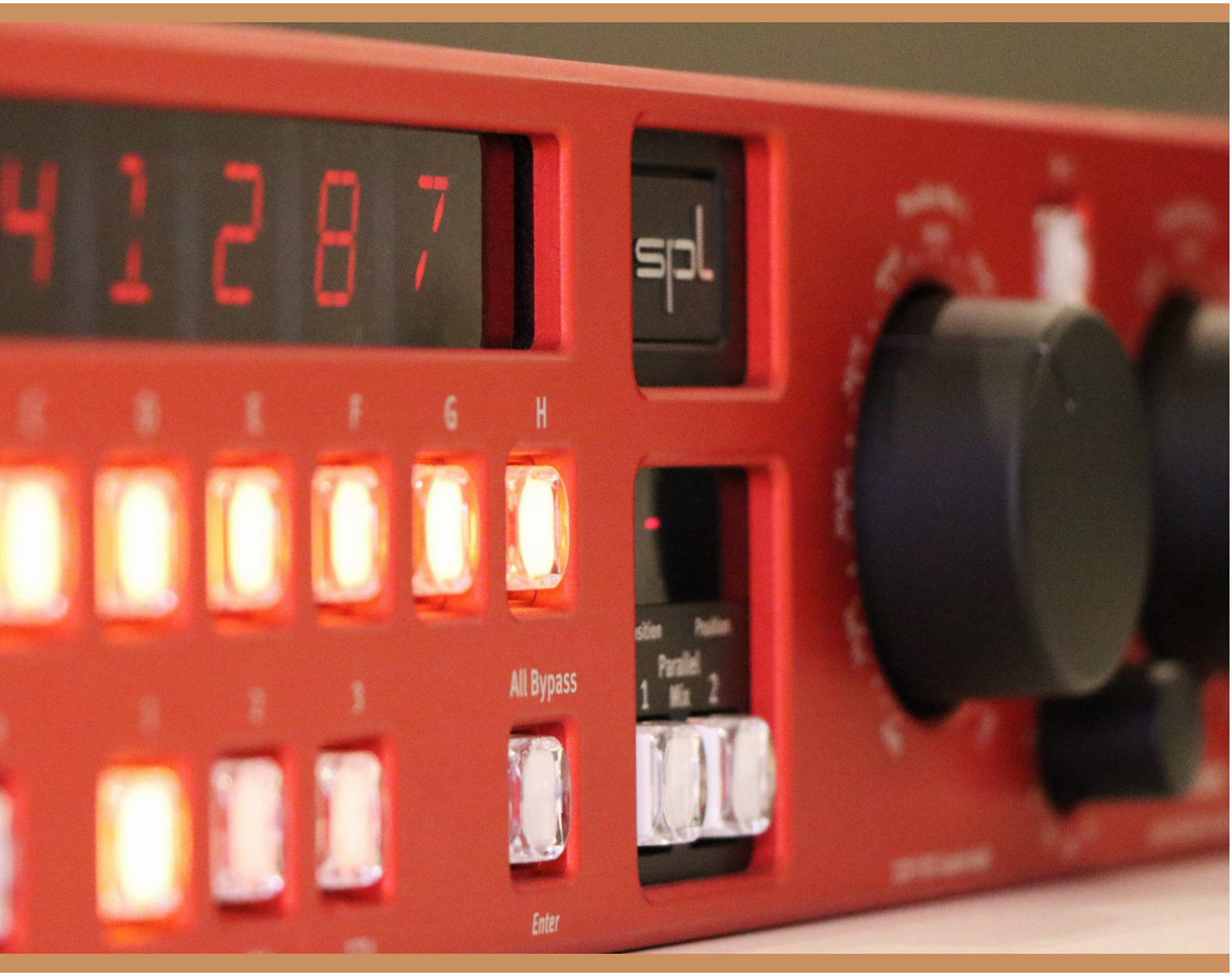
Hermes

Mastering Router



Manual

Content

Hermes

Content

Version 1.1 – 12/2018

Developer: Wolfgang Neumann

This manual includes a description of the product but no guarantee as for specific characteristics or successful results.

Unless stated otherwise, everything herein corresponds to the technical status at the time of delivery of the product and user manual by SPL electronics GmbH.

The design and circuitry are under continuous development and improvement.

Technical specifications are subject to change.

Package Contents

Hermes Mastering Router

Power cord

Manual

The Hermes Mastering Router is available in different colors.

Black:	Model 1620
Red:	Model 1624
All Black:	Model 1623

Do consider keeping the original packaging. It can come in very useful whenever you need to transport your gear. If there is ever the need to send it in for repair, the original packaging guarantees a safe shipment..

Product Registration

Register your device to get useful information concerning the product. On the front page of this manual you will find a QR code, which includes the link to the registration form and automatically fills in the serial number and product name into the form. Alternatively you can also call up the online form with your internet browser via the following link:

https://spl.audio/register

The routing matrix for the mastering studio

The Hermes Mastering Router revolutionizes Mastering.

With Hermes, it is possible to route an audio signal through up to eight dual-channel processors in any order.

User definable presets allow the comparison of complex processing chains with just a flip of a button.

In addition, Hermes has two integrated parallel mix stages that work with any of the eight processors allowing for comparison of two compressors with different parallel mix settings. The parallel mix stages are stored with the processing chains.

Hermes routing is entirely passive using gas-capsuled and gold-plated high-end relays. All active electronics like the in and output stages and the Parallel Mixes use SPL's proprietary and unequaled 120V DC audio rail.

Hermes speeds up the workflow in mastering in ways that were previously extremely difficult, and makes the most out of your existing mastering gear.

Repatching to hear a simple change is a thing of the past with Hermes – you can change processor sequences on the fly, store them, and compare settings instantly. All with real switches, relays and no software application

You will rediscover your processors, because the possible combinations and Parallel Mix stages open up new horizons.

The Hermes Mastering Router was designed, developed and manufactured in Germany.

120 Volt Technology

SPL‘s goal was to push analog signal processing to the limits. That‘s why we combined the best possible components with a high-grade optimized circuit design.

We have been using the in-house developed 120 Volt technology - the highest-ever operating voltage used for audio applications - in all our products from the Mastering series for years. Some of the most highly respected Mastering studios today revolve around SPL consoles and signal processors from our Mastering series (Bob Ludwigs Gateway Mastering & DVD in the USA, Simon Heyworth‘s Super Audio Mastering in the UK, Galaxy Studios in Belgium, and the legendary Wisseloord in the Netherlands, for instance).

The 120 Volt technology is based on op-amps developed internally by SPL‘s co-founder and Chief Developer Wolfgang Neumann. The Hermes Mastering Router features the most advanced generation of these op-amps. They boast with even better tech specs thanks to the thermal behavior optimization they underwent under the hands of Bastian Neu.

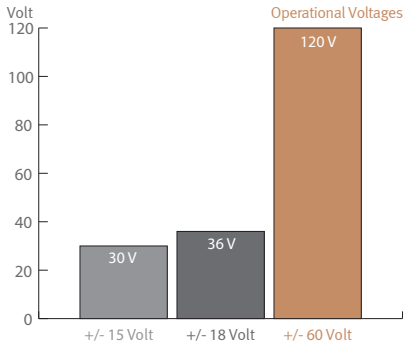
Ultimately, the supply voltage is key for the overall dynamic response of a processor. Voltage is to an electrical circuit what cylinder capacity is to an internal combustion engine:

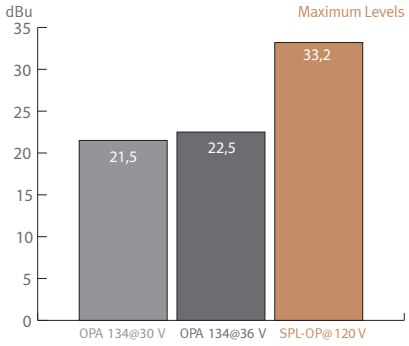
You can‘t replace cylinder capacity with anything else, except more cylinder capacity.

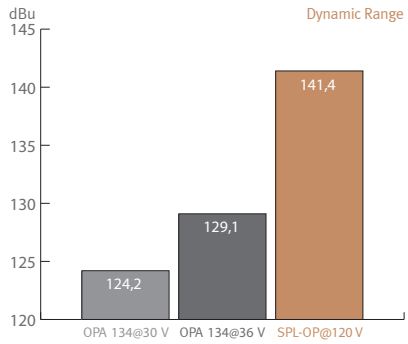
120 Volt Technology - Diagrams

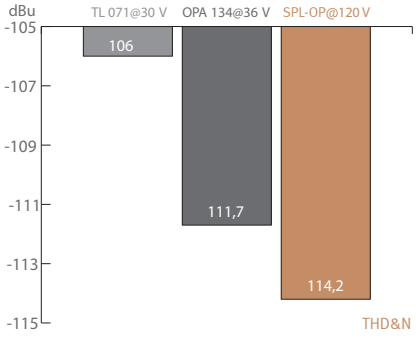
These diagrams clearly show the advantages of our 120-volt technology in comparison to other circuits with a lower operating voltage. The direct relation between operating level and maximum level is fundamental for the classification: the higher the operating level, the higher the maximum level a circuit can handle. And since virtually all essential acoustic and musical parameters depend on this relation, a higher operating voltage also has a positive impact on the dynamic range, distortion limit and signal-to-noise ratio. The result is a clearly more laid-back and natural sound with less unpleasant coloring.

Do bear in mind that dB scales do not represent linear but rather exponential increases. A 3 dB increase corresponds to doubling the acoustic power, +6 dB correspond to twice the sound pressure level, and +10 dB correspond to twice the perceived loudness.









When it comes to volume, the 120-volt technology exhibits a performance that is twice that of common components and circuits, in regard to maximum level and dynamic range, with values that are approximately 10 dB higher. THD measurements of the SPL op-amps show a difference of more than 3 dB compared to the OPA134 at 36 V — in terms of sound pressure level, that corresponds to an improvement of more than 50%.

The operating level most commonly used for audio equipment is 30 volts.

Installation

Voltage Selection

Before connecting the Hermes Mastering Router to the mains, make sure that the voltage selection corresponds to the values of your local power grid (230 or 115 volts). Inside the power connector, to the right, next to the on/off switch, there is an opening that displays the voltage selected. If the voltage indicated does not correspond to the one required, change it by following this procedure:

Open the power connector lid with a small screwdriver (use the tiny slots on the right hand side). Use the screwdriver to lever the red fuse holder from above until you can grab it. Take the fuse holder out and replace the fuse with one corresponding to the local power grid specifications. You can find the adequate values on the rear of the unit or on page 16 of this user‘s manual. Turn the fuse holder around 180 degrees and place it back again. When you close the lid again, you should see the correct voltage displayed in the opening.

On the product site on our website (http://hermes.spl.audio) you will find a video concerning the topic “Changing the mains voltage”. If you ever have to exchange a fuse, we recommend the video “Exchange defective fuses”.

First Steps

Before turning on the Hermes Mastering Router you must first connect the included 3-pin power cord to the 3-pin IEC socket. The transformer, power cord and IEC socket all comply to the VDE, UL and CSA regulations.

The Hermes Mastering Router should not be installed in close proximity to equipment that emits magnetic fields or emanates heat. Avoid exposure to heat, moisture, dust, and vibrations. Do not install the Hermes Mastering Router close to any power amps or digital processors. Instead, install it in a fully “analog rack” where any interferences can be avoided (Word Clock, SMPTE, MIDI etc.).

The unit should be powered off before connecting or disconnecting any cables or equipment to it.

Use the On/Off switch on the rear panel to turn the unit on or off. The illuminated red LED in the middle of the front panel indicates the unit‘s operating status. The On/Off switch was placed on the rear panel to avoid any emissions due to voltage-carrying conductors running across the unit and affecting sound. When powering on or off, there‘s no need to observe a specific sequence regarding the connected devices. However, like with any audio signal chain, power amplifiers should always be powered on last and powered off first. The Hermes Mastering Router can be powered on and off with the use of a circuit breaker, as long as the total load does not exceed the rating of the latter.

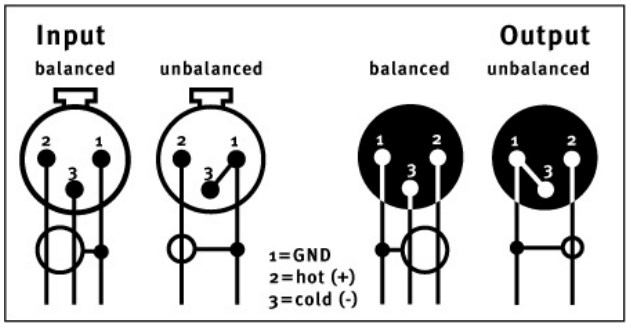
After switching on the device, the name “Hermes” and the installed software version appears on the display. After that, all buttons light up left to right, in the order from top to bottom, starting with “On 1”. Afterwards, the last selected configuration is loaded.

XLR inputs and outputs

We used exclusively Switchcraft/Neutrik XLR input and output plugs to guarantee perfect connectivity in the studio. They provide an optimal connection thanks to their electromechanical design and large contact surface.

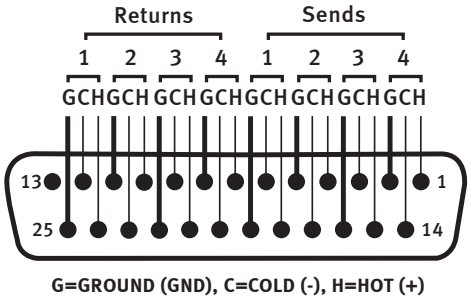
The image shows the XLR connectors pinout. They are balanced and have three conductors or wires. Conductor 2 (Pin 2) corresponds to the (+) or hot Signal.

In case an unbalanced connection is necessary, the correct polarity of the conductors needs to be observed.



DB25 in and output connectors

The image shows the assignment of the DB25 connectors. The pin assigment corresponds to Tascam standard, (AES/EBU). The inputs (Returns) are located on positions 1-4. The outputs (Sends) on positions 5-8.

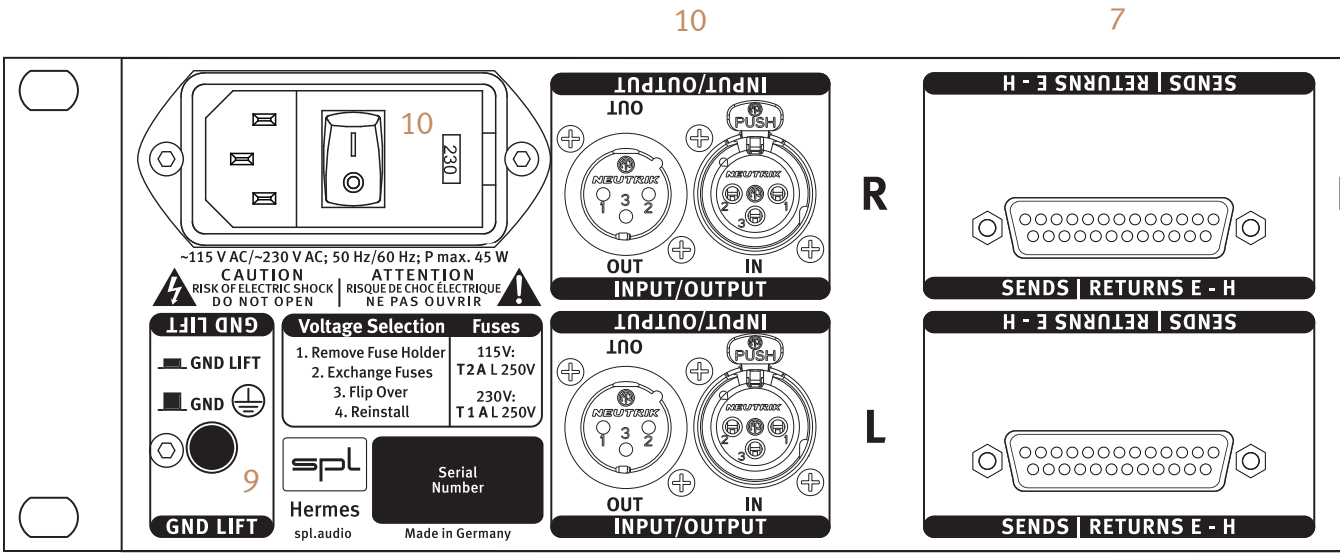


Ground Lift switch to avoid ground loops

On the rear panel of the Hermes Mastering Router (see page 8) is also a „GND LIFT“ (Ground Lift) switch to avoid any ground loops. Ground loops take place when gear connected in the same network have different potentials

The GND LIFT switch disconnects the equipment ground from the service ground to avoid such problems. The Ground Lift function is activated (= equipment ground disconnected) when the switch is depressed.

Cabling: Rear Side



1 Sends A-D (left)

2 Sends A-D (right))

3 Returns A-D (left)

4 Returns A-D (right)

5 Sends / Returns E-H (left)

6 Sends / Returns E-H (right)

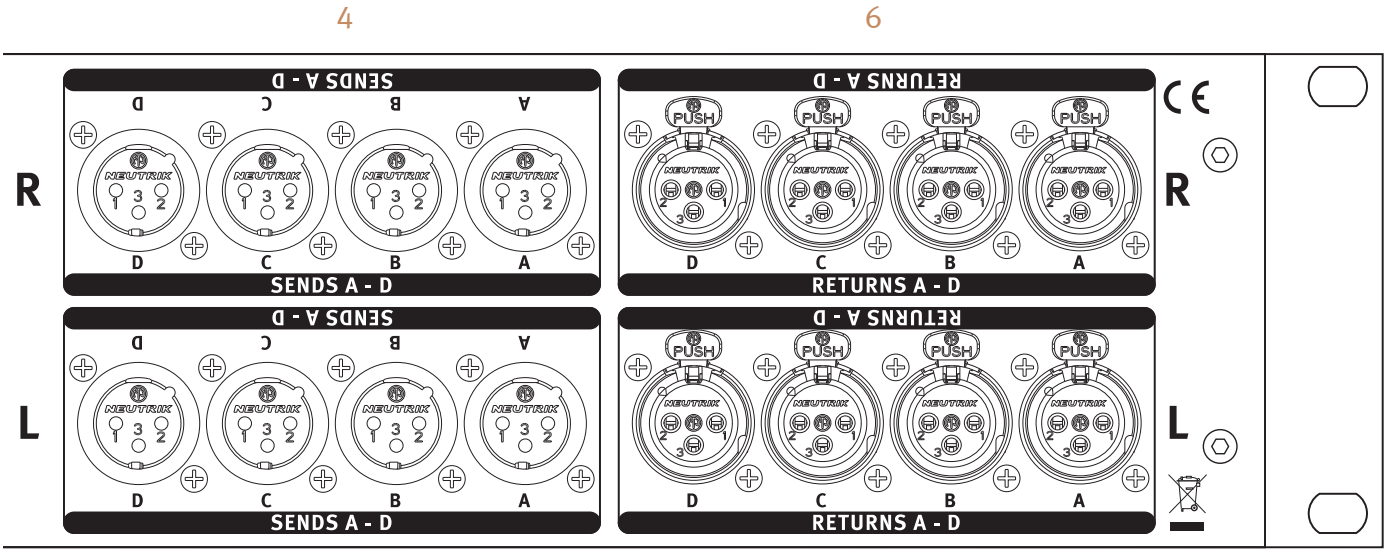
7 Input / Output (left)

8 Input / Output (right)

9 Ground-Lift (see details on page 7

10 Voltage (see details on page 6)

Cabling: Rear Side



We also provide a Screenshow video manual on the product page on our website: https://hermes.spl.audio

Rear Side: Connections

1 Sends A-D (left)

In the Sends A-D (left) section, Hermes provides four balanced output jacks. These are male XLR jacks. These outputs send the signal for the left input channels of connected devices.

2 Sends A-D (right)

In the Sends A-D (right) section, Hermes provides four balanced output jacks, male XLR. These outputs send the signal for the right inputs of connected devices.

3 Returns A-D (left)

In the Returns A-D (left) section, Hermes provides four balanced input jacks. These are female XLR jacks. These outputs receive the signal for the left output channels of connected devices.

4 Returns A-D (right)

In the Returns A-D (right) section, Hermes provides four balanced input jacks, male XLR. These inputs receive the signal of the right outputs of connected devices.

5 Sends / Returns E - H (left)

For the Sends / Returns (left) a DB25 connector is provided. The four Sends send the signal for the left inputs of connected devices. The four Returns receive the signal of the left outputs of connected devices. The pin assigment corresponds to Tascam standard (see page 7). To connect external devices, you should use a cable with four XLR, male and four XLR, female. The inputs (Returns) are located on positions 1-4. The outputs (Sends) on positions 5-8.

6 Sends / Returns E - H (right)

For the Sends / Returns (right) a DB25 connector is provided. The four Sends send the signal for the right inputs of connected devices. The four Returns receive the signal of the right outputs of connected devices. The pin assigment corresponds to Tascam standard (see page 7). To connect external devices, you should use a cable with four XLR, male and four XLR, female. The inputs (Returns) are located on positions 1-4. The outputs (Sends) on positions 5-8.

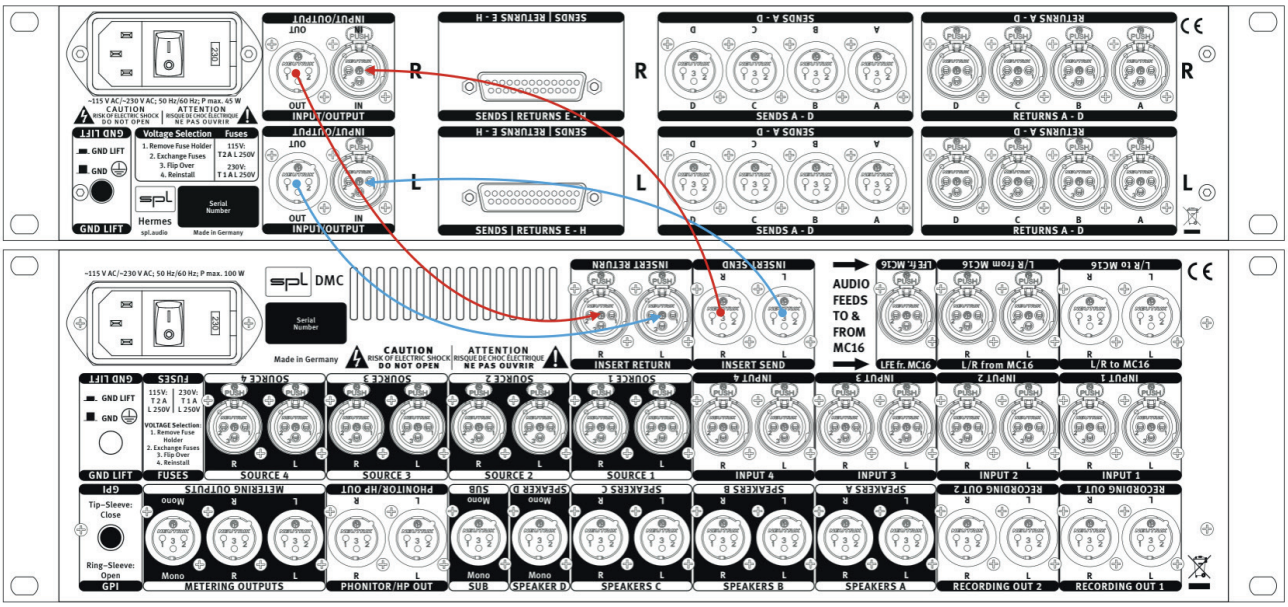
7 Input / Output (left)

The signal, which is supposed to be sent to the left channel of all devices connected to the inserts, is sent to the input (left), XLR, female. After the insert chain, this signal is outputted through the output (left), XLR, male. With this input / output, you can (for example) pair Hermes to the main insert of a mastering console like the SPL DMC Mastering Console or a DAW.

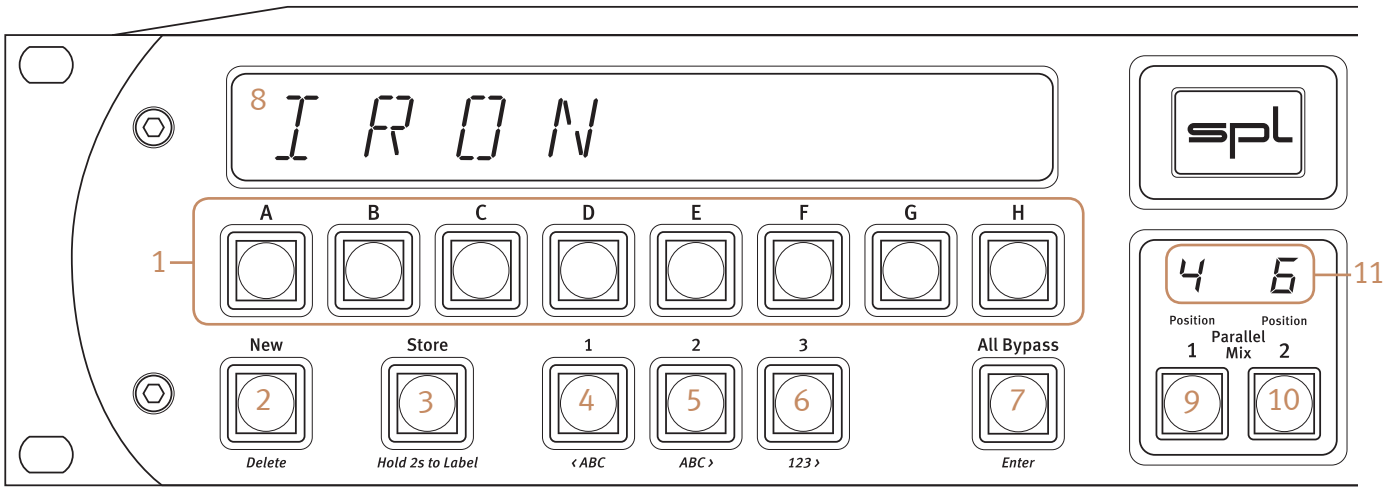
8 Input / Output (right)

The signal, which is supposed to be sent to the left channel of all devices connected to the inserts, is sent to the input (right), XLR, female. After the insert chain, this signal is outputted through the output (right), XLR, male

Pairing Hermes and DMC



Control Elements



1 Insert-Taster A-H

2 New [*Delete*]

3 Store [*Hold 2s to Label*]

4 Preset 1 [*‹ABC*]

5 Preset 2 [*ABC ›*]

6 Preset 3 [*123 ›*]

7 All Bypass [*Enter*]

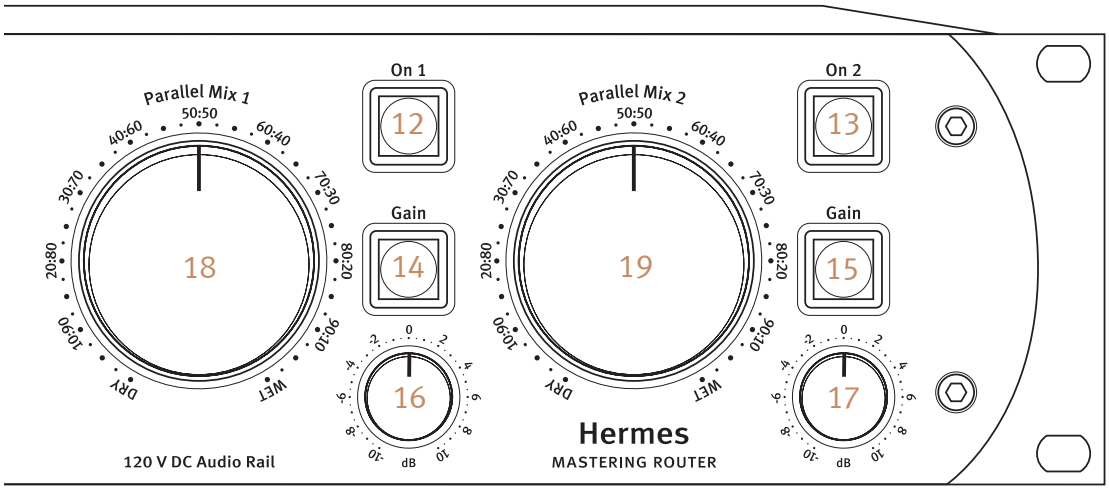
8 Main-Display

9 Position Parallel Mix 1

10 Position Parallel Mix 2

11 Display for the position of the Parallel Mix

Control Elements



12 Parallel Mix 1 On / Off

13 Parallel Mix 2 On / Off

14 Parallel Mix 1 Gain Control

15 Parallel Mix 2 Gain Control

16 Parallel Mix 1 Gain Control On / Off

17 Parallel Mix 2 Gain Control On / Off

18 Parallel Mix 1 Blend Control

19 Parallel Mix 2 Blend Control

We also provide a Screenshow video manual on the product page on our website:
https://hermes.spl.audio

Control Elements

1 Insert buttons A-H

With the insert buttons A to H, you can activate or deactivate the respective Insert. Furthermore, the order of the selection corresponds with the order of the inserts of the mastering chain. If you (for example) first activate insert D and then insert B afterwards, this will also correspond to the signal flow, which means that the signal is firstly sent to insert D and then to insert B.

2 New [*Delete*]

By activating the NEW button, you can create a new processing chain. All Inserts, which were previously activated, will be deactivated and the order which was previously set with the inserts and the linkings of the Parallel Mix are deleted. Now you can create a completely new processing chain.

The button has a further function on a second level (Label Mode). In this mode you can delete letters and characters with the DELETE button.

3 Store [*Hold 2s to Label*]

You can store a processing chain with the STORE button. If you press the STORE button, it lights up red and the Preset buttons start to blink orange. In this mode, a storage space for the active insert chain can now be selected with the Preset button.

On the second functional level, this button activates the Label Mode. To switch to the Label Mode, press the button for two seconds. If the Label Mode is active, the STORE button blinks red and the insert button orange. If you now select an insert, it can be labeled. The button of the selected insert now light up orange and the STORE button keeps on blinking red. If you press the STORE button again, you can end the Label Mode

4 Preset 1 [‹*ABC*]

With the button 1 in the Preset section, you can activate or store Preset 1.

On the second functional level, this button enables the selection of letters in Label Mode. The selection runs in the opposite direction compared to the normal order of letters, hence Z, Y, X, ...

5 Preset 2 [*ABC*›]

With the button 2 in the Preset section, you can activate or store Preset 2.

On the second functional level, this button enables the selection of letters in Label Mode. The selection runs in the normal order of letters, hence A, B, C, ...

6 Preset 3 [*123 ›*]

With the button 3 in the Preset section, you can activate or store Preset 3.

On the second functional level (Label Mode), this button enables the selection of letters and numbers. The selection runs in the normal order of letters, hence A, B, C, ...

7 All Bypass [*Enter*]

When the ALL BYPASS button is active, the audio signal is not routed through the insert chain, but is sent from the input of Hermes directly to the output.

On the second functional level (Label Mode), this button enables the selection of a letter, number or character. This takes the cursor to the next position on the Main Display.

8 Main-Display

In normal operation, the active processing chain is displayed on the Main Display. If, for example, the number 6 is displayed at insert D, it means that insert D is the sixth insert in the current insert chain. Furthermore, helpful information is shown in the display. The individual inserts can be labeled, which is shown when they are activated. If, for example, an SPL IRON Mastering Compressor is connected to insert D, its name can be labeled at this insert with the Label Mode. Another very helpful information is the little dot at the lower right hand corner of a number, when a processing chain is shown. This dot visualizes the assignment of a Parallel Mix. If (for example) there is a little dot at insert D, it means that this insert D assigned to a Parallel Mix stage.

9 Position Parallel Mix 1

With this button, the position/assignment of the Parallel Mix stage 1 is determined. When pressing this button for the first time, the Parallel Mix 1 is assigned to the first insert in the chain. When pressing it for the second time it is assigned to the second. And so on. Until you ran through the complete insert chain. The position of the Parallel Mix is shown in the Display (11) .

10 Position Parallel Mix 2

With this button, the position/assignment of the Parallel Mix stage 2 is determined. The basic functioning is equivalent to the functioning of the button for Parallel Mix 1, but of course relating to the Parallel Mix 2.

11 Display for the position of the Parallel Mix

In this display, the assignment of the Parallel Mix stages is shown.

12 Parallel Mix 1 On / Off

With this button, you can turn the Parallel Mix 1 on or off.

13 Parallel Mix2 On / Off

With this button, you can turn the Parallel Mix 2 on or off.

14 Parallel Mix 1 Gain Control

With this detended potentiometer, you can increase or attenuate the level of Parallel Mix 1 up to 10 dB..

15 Parallel Mix 2 Gain Control

With this detended potentiometer, you can increase or attenuate the level of Parallel Mix 2 up to 10 dB.

16 Parallel Mix 1 Gain Control On / Off

With this button, you can activate or deactivate the Parallel Mix Gain Control 1 (14).

17 Parallel Mix 2 Gain Control On /Off

With this button, you can activate or deactivate the Parallel Mix Gain Control 2 (15).

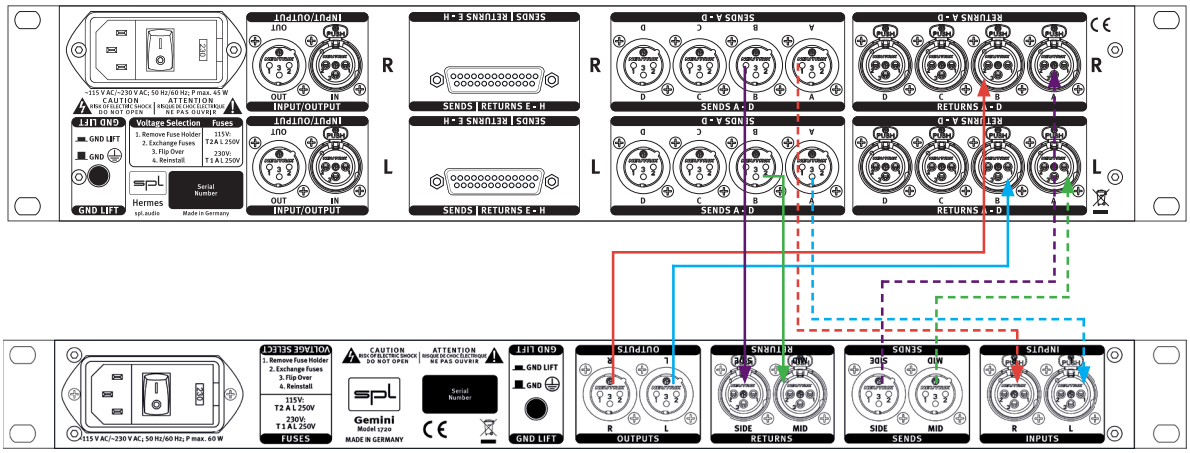
18 Parallel Mix 1 Blend Control

With this detended potentiometer, you can blend between the device connected to an insert (Wet) and the signal which is located at the input of this insert stage (Dry). This gives you the opportunity (for example) to use a compressor more intensively, but only mix this signal with the original signal and thereby maintain a part of the original transients.

19 Parallel Mix 2 Blend Control

The Parallel Mix 2 Blend Control operates equivalent to the Parallel Mix 1 Blend Control, but for the Parallel Mix 2.

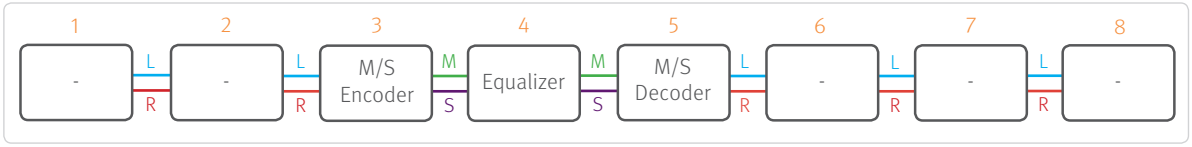
Two Parallel Mix stages are ideal, because this way you can switch between various constellations (different devices) and mixing ratios (one device with different Dry/Wet ratios).

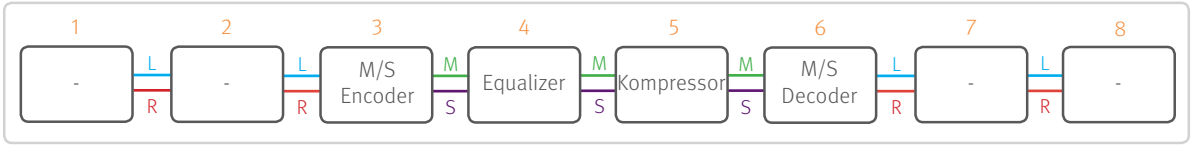


Pairing Hermes and Gemini

Hermes and Gemini (Mastering M/S Processor) operate in their complete range of functions as stand-alone devices. A pairing of Hermes and Gemini enables lots of further possibilities.

If the M/S Encoder and Decoder stages of Gemini are each paired with an insert of Hermes, it is possible to freely choose a position for the M/S Encoder and Decoder within the processing chain. This way, it is possible (see image below) to place the M/S Encoder on the third position, an equalizer on the fourth to use it for separate processing of the mid and side signal and then use the M/S Decoder stage of the Gemini on the fifth position to generate an L/R stereo signal. If you now like to additionally use a compressor, as a further device for M/S processing, you can place it on position 5 and the M/S Decoder stage would thus move to position 6.





Specifications

Measurements

Inputs

Max. Input Level ..... +32,5 dBu

Max. Input Level (Parallel Mix, Gain active) ..... +28 dBu

Input Impedance ..... 20 kOhm (bal.)

Outputs

Max. Output Level ..... +32,5 dBu

Output Impedance ..... ‹ 600 Ohm (bal.)

Noise (A-weighted) ..... -121 dBu

Noise (A-weighted, Parallel Mix active) ..... -104 dBu

Noise (A-weighted, Parallel Mix, Gain active) ..... -102 dBu

Crosstalk (at 1 kHz at 0 dBu) ..... › -130 dB

Crosstalk (at 1 kHz at 0 dBu Parallel Mix active) ..... › -110 dB

Crosstalk (at 1 kHz at 0 dBu Parallel Mix, Gain active) ..... › -80 dB

THD & N (at +20dBu) ..... › -112 dBu

Common-Mode-Rejection (at 0 dBu) ..... › -75 dB

Transmission Bandwidth: 10 Hz-200 kHz

10 Hz = -0,12 dB; 100 kHz = -0,3 dB; 200 kHz = -1,2 dB

Power Consumption: ..... 0,17 Amp, 230V/50Hz, 30 Watt, 37,6 VA
0,34 Amp, 115V/60Hz, 30 Watt, 37,6 VA

Fuses ..... 230 V/50 Hz: 1 Amp
115 V/60 Hz: 2 Amp

Dimensions

Standard EIA 19 Inch Housing/2U ..... 482 x 88 x 300 mm / ca. 19" x 3,5" x 11,8"
(front panel excl.)

Weight ..... 9 kg / 19,84 lb

Connections

Only use the connections as described. Other connections can lead to health risks and damage the equipment.

Water and humidity

Do not use this device anywhere near water (for example in a bath room, a damp cellar, near swimming pools, or similar environments). Otherwise your are dealing with an extremely high risk of fatal electrical shocks!

Insertion of objects or fluids

Be careful to not insert any object into any of the chassis openings. You can otherwise easily come into contact with dangerous voltage or cause a damaging short circuit. Never allow any fluids to be spilled or sprayed on the device. Such actions can lead to dangrous electrical shocks or fire!

Ventilation

The vent openings on the unit are meant to avoid the Hermes from overheating. You should never cover nor block these openings.

Power Supply

Power the unit exclusively with the voltage rating specified on the unit. In case of doubt, contact your local dealer or electric provider. Disconnect the unit from the electric power grid if you are not going to use it for a long period of time. Unplug the power chord from the mains to cut power supply to the unit. Always make sure that the mains plug is easily accessible.

Opening the unit

Simply put: DON‘T, if you are not a certified SPL technician or engineer. Really: Do not open the device housing, as there is great risk you will damage the device, or – even after being disconnected – you may receive a dangerous electrical shock!

Cord protection

Make sure that your power and audio signal cords are arranged to avoid being stepped on or any kind of crimping and damage related to such event. Do not allow any equipment or furniture to crimp the cords. Power connection overloads: Avoid any kind of overload in connections to wall sockets, extension or splitter power cords, or signal inputs. Always keep manufacturer warnings and instructions in mind. Overloads create fire hazards and risk of dangerous shocks!

Lightning

Before thunderstorms or other severe weather, disconnect the device from wall power; do not do this during a storm in order to avoid life threatening lightning strikes. Similarly, before any severe weather, disconnect all the power connections of other devices and antenna and phone/network cables which may be interconnected so that no lightning damage or overload results from such secondary connections.

Security Advices

Controls and switches

Operate the controls and switches only as described in the manual. Incorrect adjustments outside safe parameters can lead to damage and unnecessary repair costs. Never use the switches or level controls to effect excessive or extreme changes.

Repairs

Unplug the unit from all power and signal connections and immediately contact a qualified technician when you think repairs are needed – or when moisture or foreign objects may accidentally have reached inside the housing, or in cases when the device may have fallen and shows any sign of having been damaged. This also applies to any situation in which the unit has not been subjected to any of these unusual circumstances but still is not functioning normally or its performance is substantially altered. In cases of damage to the power supply and cord, first consider turning off the main circuit breaker before unplugging the power cord.

Replacement/substitute parts

Be sure that any service technician uses original replacement parts or those with identical specifications as the originals. Incorrectly substituted parts can lead to fire, electrical shock or other dangers, including further equipment damage. Safety inspection: Be sure always to ask a service technician to conduct a thorough safety check and ensure that the state of the repaired device is in all respects up to factory standards.

Cleaning

Do not use any solvents, as these can damage the chassis finish. Use a clean, dry cloth (if necessary, with an acid-free cleaning oil). Disconnect the device from your power source before cleaning

Notes on Environmental Protection

At the end of its operating life, this product must not be disposed of with regular household waste but must be returned to a collection point for the recycling of electrical and electronic equipment. The wheelie bin symbol on the product, user‘s manual and packaging indicates that. The materials can be reused in accordance with their markings. Through reuse, recycling of raw materials, or other forms of recycling of old products, you are making an important contribution to the protection of our environment. Your local administrative office can advise you of the responsible waste disposal point.

WEEE Registration: 973 349 88.

Contact

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Website & Blog: spl.audio
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Declaration of CE Conformity

The construction of this unit is in compliance with the standards and regulations of the European Community.

Copy Master: Recall Settings

Artist: Engineer:

Album: Track(s)/Groups:

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