Lehle Parallel M
Operating instructions CE

Lehle
Lehle Gitarrentechnik

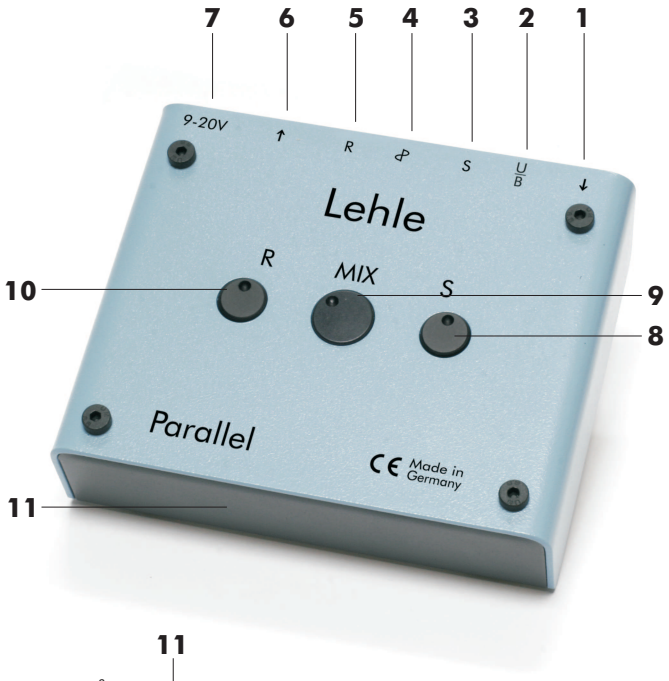
Thank you for choosing the Lehle Parallel M!

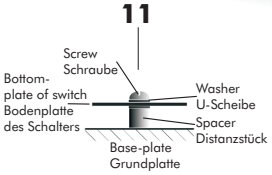
The Lehle Parallel M is a compact and versatile line mixer to meet demanding tonal standards. The Parallel M mixes the signals from effect units into the original signal, either before the amp or inserted into its effects loop. Send and return levels can be adjusted separately, and level relative to the original signal optimally selected using the mix controller. The send and return paths can, of course, be operated both balanced and unbalanced.
The great dynamic range of the Parallel makes it possible to mix into the guitar signal a 19" studio effect with its low-impedance line level, for example, or to insert effects pedals level-adjusted via the amp's effects loop.
Thanks to their JFET technology, the Parallel's inputs can handle both high-impedance signals from electric guitars and basses or acoustic instruments, and low-impedance signals from keyboards and active electric guitars and basses with a broad output range extending from 20 to 100,000 Hz.
To exploit the dynamics of tube amplifiers to the full, the input voltage is rectified from the power supply socket, then filtered, stabilized and doubled to 18V.
The Lehle Parallel is available in two versions, the Parallel L, featuring a True-Bypass switch with gold-plated contacts, and the Parallel M, a straight mixer.

Technical data

Weight:	521 g (without battery)
Length:	10 cm (3.9")
Width:	12,2 cm (4.8")
Overall height:	3,9 cm (1.5")
Voltage range:	9 - 20 V AC or DC, or 9V PP3 battery
Max. power take-up:	37 mA with battery, 63 mA with an extern. power supply
Frequency response:	20 Hz - 100 kHz
Distortion:	0,003 % at 1kHz, 0 dBU
Impedance, Input:	1 MOhm
Impedance, Return:	1 MOhm
Impedance, Output:	100 Ohm
Impedance, Send:	100 Ohm
Signal-to-noise ratio:	-91 dB at 1kHz, 0 dBU (A-weighted)
Max. level:	5,3 V RMS (approx. 16 dBU)
Max. gain/ loss	
Send and Return:	+/- 15 dB

General Description





1 Input socket
⇒*Connect your instrument or the Send output of your amplifier to this socket.*
The Lehle Parallel M has a high-impedance input and can therefore accept both low-impedance and high-impedance signals of all types, so that you can plug in virtually any instrument you like: electrical and acoustic stringed instruments, such as electric guitars and basses, acoustic guitars and all types of stringed instruments, and also the low-impedance signals from computers, keyboards and mixers.
If you want to use your Lehle Parallel M to inject an external effect into the serial effects loop of your amplifier, connect the Send output of the amplifier to this input socket.
Note:
In battery mode, the battery circuit is automatically activated when a cable is connected to the input socket so always "pull the plug" when you've finished your session, or are taking a longer break!

2 U/B-mode switch
⇒*Set this switch correspondingly, depending on whether you want a balanced or an unbalanced signal at the Send output (3).*
For an unbalanced signal on the Send socket (3), set the gold-contact switch to the "U" (for "unbalanced") position, and to the "B" (for "balanced") for a balanced signal.
The mode switch should be set to "U" if normal (pedal-type) effect units are connected to the Send socket (3), since these devices generally have an unbalanced input. Mixers, stage boxes and A/D converters generally have balanced inputs, so you should then set the mode switch to "B".

3 Send socket
⇒*Connect the input of your effect unit or the input of your target device (e.g. mixer, computer, etc.) to this socket.*
If you're using the Lehle Parallel M for parallel effect loops, connect the Send socket to the input of the effect unit. The Send socket can also be used as a DI output in order to route the signal to the input of a mixer or an A/D converter or sound card. The intensity of the signal available on the Send socket can be controlled using the appurtenant controller (8).

4 Phase switch
⇒*The phase of the return signal can be reversed here, if necessary.*
Phase cancellations can occur if you are mixing the original signal with the return signal - this sound is usually felt to be too "thin". Reversing the phase using the gold contacted phase switch solves this problem. Simply move the switch to the position at which the sound is best - this is, of course, ultimately a question of individual taste.

5 Return socket
⇒*Connect the output of your effect unit or the output of your second device (e.g. mixer, computer, second pick-up on a guitar, etc.) to this socket.*
If you're using the Lehle Parallel M for parallel effect loops, connect the output of your effect unit to the Return socket. The Return socket can also be used as an input for other signal sources - the output from a computer sound card, for example, or from a signal processor.
If the Lehle Parallel M is being used to mix two pick-ups from one instrument, the Return socket can also be used as the input for the second pick-up. The Return socket has a 1 MOhm input impedance. This means that even very weak signals, such as those generated by piezo and magnetic pick-ups can be transmitted without loss of sound.
The Return input can handle both balanced and unbalanced signals, and switches automatically to corresponding the signal type, depending on whether a stereo jack-plug (TRS) for balanced or a mono jack-plug (TS) for unbalanced signals is connect. The Return input's sensitivity can be adjusted using the controller (10).

6 Output socket
⇒*Connect your amplifier or the Return input from the serial effects loop of your amplifier to this socket.*
The device connected here will mostly be an amplifier, but can also be a mixer, a stage box or a sound card. The signal mixed from the input and the return signal is available here. The mixing ratio can be controlled using the MIX controller (9).
Connect the output socket to the Return input of your amplifier if you want to use the Lehle Parallel M to inject an external effect into your amplifier's serial effects loop.

7 External power supply
⇒*Connect a power suppy with a voltage of 9 to 20 V here, when needed.*
The Lehle Parallel M can be operated optionally with a 9 V PP3 battery or from an external power supply, which should provide not less than 9 and not more than 20 Volts. Polarity is not important here, and both AC and DC sources can be used. The supply voltage is internally rectified, filtered, stabilized and then doubled to 18 V. A connector for the Lehle Sunday Driver's power-supply socket is included in the pack; if desired, this connector can also be soldered on to your power-pack mains cable.
The cover must be unscrewed and removed to permit installation of a 9V (PP3) battery. To do this, simply unscrew the four screws holding the cover, and draw the cover off.
Note:
The Lehle Parallel M automatically switches via a gold-plated relay to battery operation if power supply voltage drops below 9 Volt. So always make sure that your Lehle Parallel M has a charged battery if you want the extra security of knowing that it will continue to operate trouble-free even if the power supply fails.

8 Send signal controller (S)
⇒*You can set the level of the Send signal here.*
The input signal is available 1:1 on the Send input when this controller is set to its center position, Turn the controller to the left to decrease the signal by up to 15 dB, or to the right, to boost the signal by up to 15 dB.

9 MIX controller
⇒*Here you can set the mixing ratio for mixing of the Input and Return signals.*
The two signals have equal strength when this controller is in its center position. Turn the MIX controller to the left to increase the Return signal and decrease the Input signal. The Input signal is increased, and the Return signal decreased when you turn the controller to the right.

10 Return signal controller (R)
⇒*Set the level of the Return signal here.*
The signal on the Return input is transmitted 1:1 when this controller is in its center position. Turn the controller to the left to decrease the signal by up to 15 dB, or to the right, to boost the signal by up to 15 dB.

11 Base and fixing
⇒*You can use the fixing screws supplied with the Lehle Sunday Driver to fix it to a base plate (or to a pedal board, for example)*
Thanks to its ready-to-go fixing system, the Lehle Sunday Driver can be mounted without difficulty on a base plate. To do this, undo the four housing screws and detach the cover. Then fix the device base to a base plate using the two screws, the washers and the spacers supplied. Replace the cover and tighten the four housing screws - done!

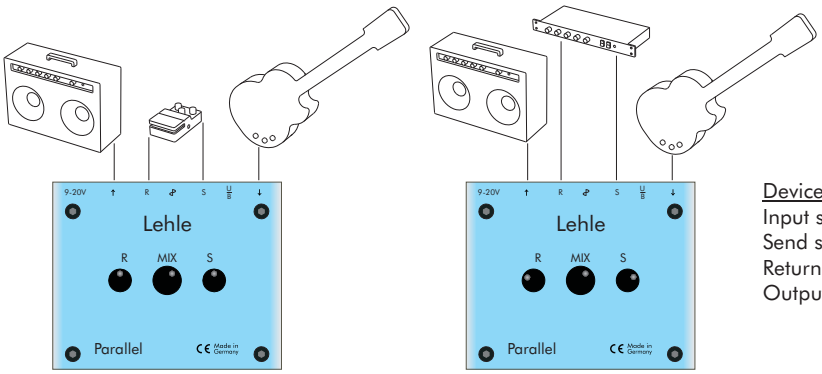
12 True-Bypass switch
⇒*Use this switch to select the original or the MIX signal.*
This button actuates a True-Bypass switch with gold-plated contacts inside the Lehle Parallel M, via a virtually indestructible switch mechanism.

13 Switching-state LEDs
⇒*You're listening to the MIX if the LED is showing red*
The high-intensity LEDs under the lenses clearly indicate the switching-state, even under stage lighting.
If you're using the Lehle Parallel M with a power pack, a green LED will illuminate to show True-Bypass mode. In this case, you are listening only to the signal directly present on the input. If you now press the True-Bypass switch (12), the color of the LED will change to red. You're now listening to the MIX of the Input and the Return signal. When you're operating on batteries, the LED only shows red for the MIX. No LED illuminates during True-Bypass mode, so your batteries will last longer.

Typical uses

The Lehle Parallel M universal properties make it equally suitable for live use on stage and in the concert hall, and for studio recording sessions. The following few pages show a number of typical applications in which the Lehle Parallel M is a rational addition to your gear!

Lehle Parallel M for parallel effect loops



Device connection

Input socket (1)	Instrument
Send socket (3)	Input effect unit(s)
Return socket (5)	Output effect unit(s)
Output socket (6)	Amplifier

Without a Lehle Parallel M, injecting effects into the signal path can cause all kinds of problems, especially if you're using older, so-called "vintage" effects which, as every player knows, produce a unique sound, but generally falsify the original signal very noticeably. The Lehle Parallel M will help you here in several ways:

⇒Optimum effect level: Because you can to select an optimum mix ratio between the original and the effect by using the MIX controller (9), you can mix exactly the amount of effect you want into the original signal.

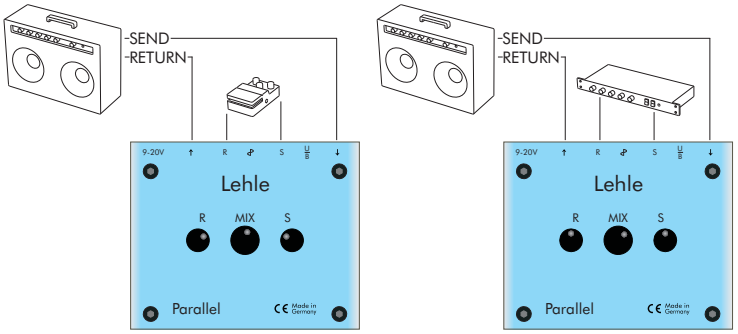
⇒Minimum noise: The ability to adjust the level of the effect device connected using the Send and Return controllers means that noise is reduced to the absolute minimum. It can be a good idea to increase the Send level when using effect units that generate powerful background noise, since this enables you to get more signal and less noise in the effect sound.

⇒No sound losses in Bypass mode: The True-Bypass switch (12), with its gold-plated contacts, makes sure that the signal passes through switched-off effect units with no loss (genuine "True-Bypass").

What to do:

1. Connect your instrument to the Input socket (1) of the Lehle Parallel M.
2. Connect your amplifier to the Output socket (6) of the Lehle Parallel M.
3. Connect the Send socket (3) of the Lehle Parallel M to the input of your effect unit.
4. Connect the output of your effect unit to the Return socket (5) of the Lehle Parallel M.
5. Use the Send (8) and Return (10) controllers on the Lehle Parallel M to adjust the level of the effect unit connected optimally.
6. Use the MIX controller (9) on the Lehle Parallel M to select the desired effect level.
7. Done!

Using the Lehle Parallel M to insert effects into the effects loop of an amplifier.



Device connection

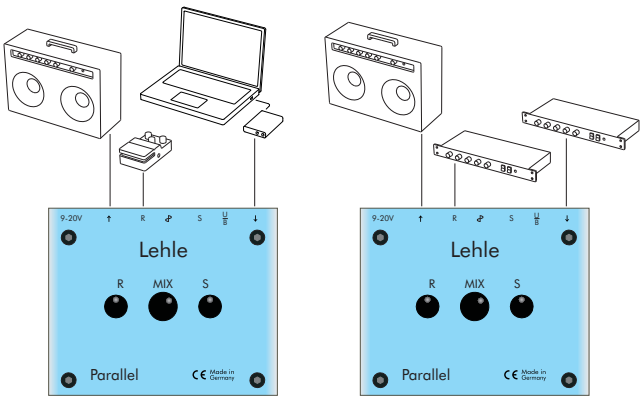
Input socket (1)	Send of the serial effects loop of an amplifier
Send socket (3)	Input effect unit(s)
Return socket (5)	Output effect unit(s)
Output socket (6)	Return from the serial effects loop of an amplifier

Many amplifiers feature only one serial effects loop, which means that the signal is routed entirely via this loop between the preamp and the power amplifier. In many cases, the level on the serial effects loop will be too high for any effects pedals which you might try to connect at this point. The Lehle Parallel M enables you to adjust the level for these effects optimally by turning the Send controller (8) down slightly. Turn the Return controller (10) up again, to increase the level back to that of the amplifier's effects loop.
The signal will often lose warmth, intensity and depth - everything, that makes up the unique sound of a good tube amplifier! - when digital effect processes are used in a serial effects loop. With the Lehle Parallel M, however, you can add the effect signal to the original sound - with the pleasing result that you lose none of your amplifier's excellent sound characteristics and don't have to do without the effect sounds you love.

What to do:

1. Connect the Send output from the serial effects loop of your amplifier to the Input socket (1) of the Lehle Parallel M.
2. Connect the Output socket (6) of the Lehle Parallel M to the Return input of your amplifier's serial effects loop.
3. Connect the Send socket (3) of the Lehle Parallel M to the input of your effect unit.
4. Connect the output of your effect unit to the Return socket (5) of the Lehle Parallel M.
5. Use the Send (8) and Return (10) controllers of the Lehle Parallel M to adjust the level of the effect unit connected optimally.
6. Select the desired effect level using the MIX controller (9) on the Lehle Parallel M.
7. Done!

Using the Lehle Parallel M to mix two input signals



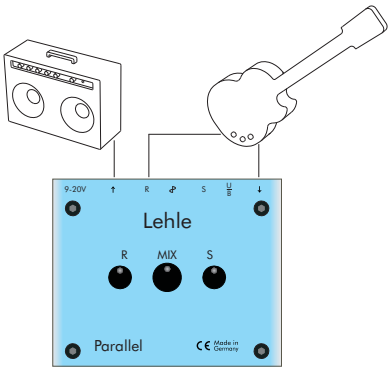
Device connection

Input socket (1)	Output from first device (effect unit, PC, keyboard, mixer, instrument, etc.)
Send socket (3)	-
Return socket (5)	Output from second device (PC, keyboard, mixer, instrument, etc. – balanced signal if required)
Output socket (6)	Amplifier, input for PC or mixer

The Lehle Parallel M can also be used to mix two different signals. Since the regular Input (1) and the Return (5) input are both high-impedance, all conceivable signals can be processed and mixed, including signals that are otherwise difficult to process. It doesn't matter whether the signal is a low-impedance signal from a computer, keyboard or mixer, or a high-impedance signal from passive pick-ups.
The Lehle Parallel M is frequently used in this context for mixing of two preamps or effect units - it optimally combines these signals into one overall signal.

What to do:
1. Connect the output from your first device to the Input socket (1) of the Lehle Parallel M.
2. Connect the output from your second device to the Return input (5) of the Lehle Parallel M.
3. Set the sensitivity for the second unit using the Return controller (10) on the Lehle Parallel M.
4. Set the required mixing ratio for the two units using the MIX controller (9) on the Lehle Parallel M.
5. Connect your amplifier or another target device to the Output socket (6) of the Lehle Parallel M.
6. Done!

Using the Lehle Parallel M to mix two pick-ups from one instrument



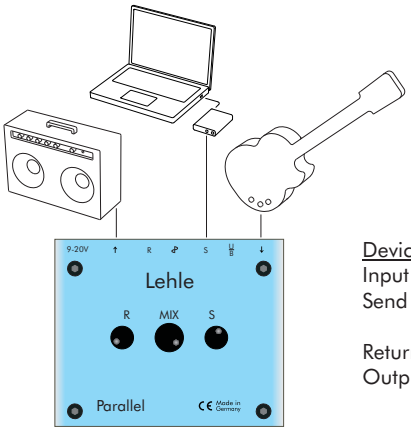
Device connection

Input socket (1)	Instrument's first pick-up
Send socket (3)	-
Return socket (5)	Instrument's second pick-up
Output socket (6)	Amplifier

Many instruments have two different types of pick-up, such as one magnetic and one piezo pick-up, for example. The Lehle Parallel M is excellent at mixing these signals.
Mixing of signals from two different pick-ups can cause problems with phase cancellations, with the mixed sound then being thin and weak. This problem can be quickly eliminated using the phase reverse switch (4). Press this switch and the phase on the Return input is reversed, and the mixed sound from the two pick-ups becomes full and rich again.

What to do:
1. Connect your instrument's first pick-up to the Input socket (1) of the Lehle Parallel M.
2. Connect your instrument's second pick-up to the Return input (5) of the Lehle Parallel M.
3. Use the Return controller (10) on the Lehle Parallel M to set the sensitivity for your second pick-up.
4. Use the MIX controller (9) on the Lehle Parallel M to set the required mixing ratio for the two pick-ups.
5. Connect your amplifier to the Output socket (6) of the Lehle Parallel M.
6. Check the overall sound for any phase cancellations and, if necessary, press the phase reverse switch (4) on the Lehle Parallel M.
7. Done!

Using the Lehle Parallel M as a active DI box



Device connection

Input socket (1)	Instrument
Send socket (3)	Mixer, PC, stage box, etc., input (balanced signal if required)
Return socket (5)	-
Output socket (6)	Amplifier

A further, entirely practicable use of the Lehle Parallel M is as an active DI box. The unfalsified signal is then routed via the Send socket (3) to the input of a mixer, stage box or an A/D converter or sound card, while the accustomed sound can be heard simultaneously from the amplifier.

What to do:
1. Connect your instrument to the Input socket (1) of the Lehle Parallel M.
2. Connect your amplifier to the Output socket (6) of the Lehle Parallel M.
3. Use the U/B mode switch (2) on the Lehle Parallel M to select whether the Send output (3) will supply a balanced or an unbalanced signal (see the instructions for the U/B mode switch above).
4. Connect the Send socket (3) of the Lehle Parallel M to the input of your target device.
5. Turn the MIX controller (9) on the Lehle Parallel M all the way to the right, so that you have 100 % of the original signal on the output.
6. Use the Send controller (8) on the Lehle Parallel M to set the optimum output level.
7. Done!

Note: The signal present on the Send socket (3) is not electrically isolated from the output. Ground loops may thus occur and cause undesirable background noise. In this case, a Lehle P-Split II, which electrically isolates the signals via its built-in LTHZ transformer, and thus eliminates all background noise, can be connected between the units.

Signal flow chart of the Lehle Parallel M