

G LAB
GUITAR LABORATORY

SMOOTH DELAY SD-1



- User Manual
- Mode d'emploi
- Instrukcja obsługi
- Bedienungsanleitung

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Dear Customer!

Thank you for choosing our product.

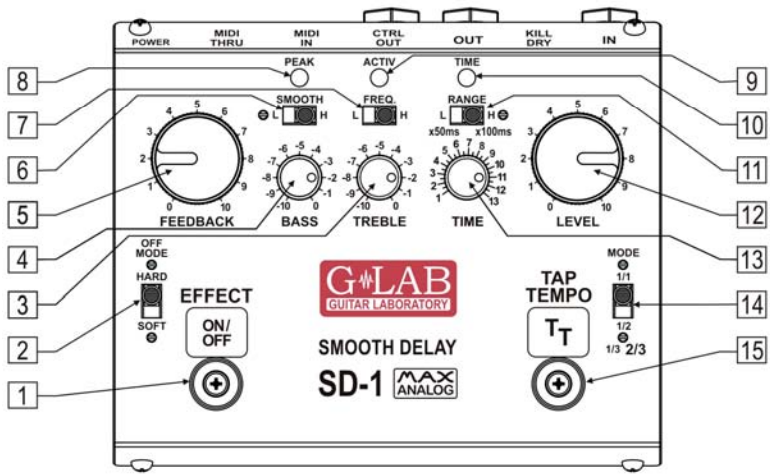
SMOOTH DELAY SD-1 is a classic delay effect with applied MAX ANALOG technology. Its full signal path contains discrete components with exception of single delay realized by 24 bits DSP processor. Its analog voice circuit with characteristics accordant to the guitar tone enables to achieve natural sound of repeats with adjustable attenuation of the high and low frequencies. Its SMOOTH function enables to enlarge attenuation of the high and low frequencies for successive delay repeats. That allows SD-1 to emulate the analog and tape delay effect.

Basic characteristics:

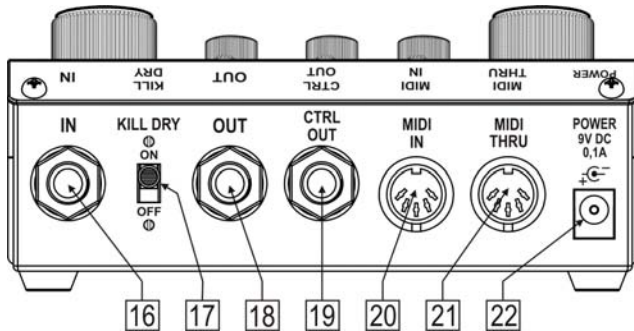
- Delay is set by TIME knob in two ranges (from 50 ms to 640 ms and from 100 ms to 1280 ms) or is defined by TAP TEMPO footswitch
- Backlighted FEEDBACK and LEVEL foot knobs
- BASS and TREBLE (with FREQUENCIES range switch) knobs and SMOOTH switch for repeats voicing
- Two switching off modes: HARD and SOFT
- KILL DRY function
- MIDI IN input and MIDI THRU output
- CTRL OUT output for controlling external devices

- INPUT GAIN signal level and EFFECT LEVEL regulators
- Clickless TRUE BYPASS
- 9V DC power supply

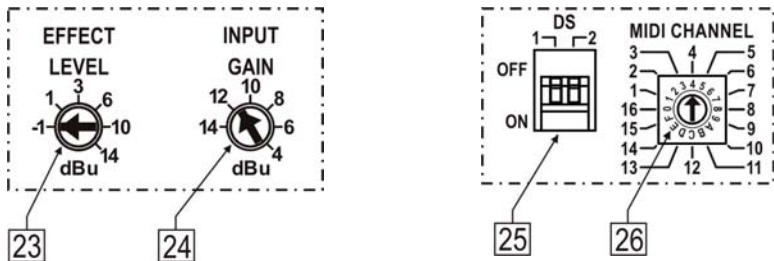
Structure



- 1 - Effect ON/OFF footswitch
- 2 - HARD/SOFT OFF mode switch
- 3 - TREBLE – high tones setting knob
- 4 - BASS - low tones setting knob
- 5 - FEEDBACK – repeats quantity setting foot knob
- 6 - SMOOTH L/H switch
- 7 - FREQ. L/H switch of TREBLE regulator functionality range
- 8 - PEAK indicator
- 9 - ACTIV – effect ON indicator
- 10 - TIME – delay time indicator
- 11 - RANGE L/H switch of delay TIME knob range
- 12 - LEVEL – effect volume foot knob
- 13 - TIME – delay time knob
- 14 - MODE 1/1 / ½ switch of TAP TAMPO switch functionality mode
- 15 - TAP TEMPO footswitch



- 16 - IN signal connector
- 17 - KILL DRY switch – dry signal OFF switch
- 18 - OUT signal connector
- 19 - CTRL OUT output to control DUAL REVERB
- 20 - MIDI IN input
- 21 - MIDI THRU output
- 22 - 9V power supply connector



23 - EFFECT LEVEL – regulator of delay maximal volume level

24 - GAIN INPUT– regulator of input sensitivity

25 - DS1 and DS2 switches

26 - MIDI channel setting switch

Power supply

The SD-1 should be supplied from external regulated 9V DC power supply, with capacity of 100 mA or more. It is recommended to use separated source e.g. G LAB PB -1 in order to avoid ground loop. Before connecting check if the connector's polarization is CTR – (center negative).

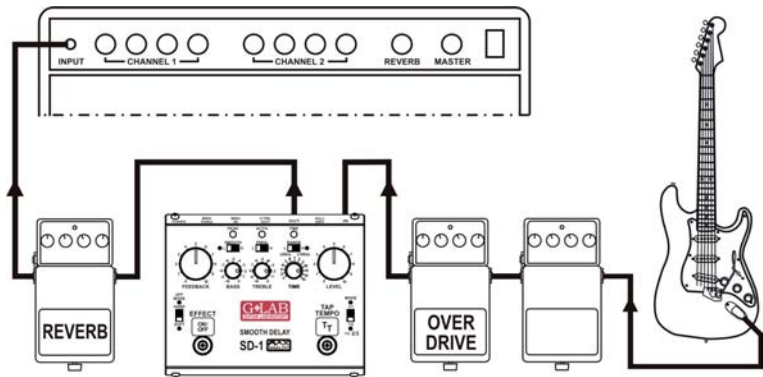


The device is protected against opposite polarity. If this protection switches on it is needed to disconnect the power supply and wait few minutes before reactivation of the device.

ATTENTION: Damages caused by improper power supply causes the loss of the warranty.

Way of connecting

It is recommended to connect the SD-1 as the last but one stompbox (after SD-1 should be connected REVERB type effect).



If you use amp overdriven channel it is recommended to connect the SD-1 on the amp effect loop. SD-1 can be connected to the serial or parallel loop.

Only in case of connecting the SD-1 to the parallel amp loop the KILL DRY and the DS1 should be set to ON position. In other cases the KILL DRY switch and the DS1 should remain in OFF position. By reason of TRUE BYPASS it is recommended to switch the effect ON/OFF by using the SD-1's footswitch or MIDI commands. It enables to use the delay SOFT OFF MODE.

Setting INPUT GAIN and EFFECT LEVEL regulators

INPUT GAIN and the EFFECT LEVEL regulators enable to match the SD-1 to signal level. Setting is done by means of small, flat screw and should be carried out for the maximal signal level (it is usually CLEAN tone) with activated delay effect (ACTIV indicator lit). The INPUT GAIN should be set to maximal value on which doesn't blink the PEAK indicator. Maximal volume of the effect signal is set by the EFFECT LEVEL regulator. It is recommended to set its dBu value similar to the INPUT GAIN regulator dBu value. Additionally EFFECT LEVEL regulator enables to adjust LEVEL knob functionality range to particular needs.

Tone parameters setting

Delay time

The time of delay is a basic parameter of the delay type effect. In the SD-1 the delay can be set by using the TIME knob and the RANGE switch (for more precise adjustment). Delay time is signalized by blinking TIME indicator.

The delay time can be also set by the TAP TEMPO footswitch. The TAP TEMPO enables to adjust the time of repeats to the tempo of currently played song. The MODE switch enables to enter the tempo of repeats in ratio 1/1 or 2/3 (1/3 and 1/2) to the time intervals between successive footswitch pressings. It is possible to change the time ratio on lower position of MODE switch for 1/3, 1/2 or 2/3.

In order to do that press and hold footswitch (or footswitches) corresponding to the needed time ratio and after change the position (in any direction) of the MODE switch.

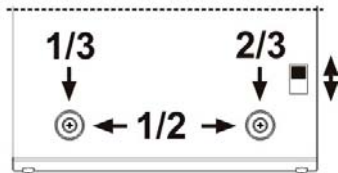
The SD-1 defines the tempo on the base of two last pressings. If the intervals between pressings extend to more than 1,3 sec. in 1/1 mode, 3,9 sec in 1/3 mode, 2,6 sec. in 1/2 mode and 1,9 sec. in 2/3 mode they are ignored.

Changing of the TIME knob position sets the tempo relevant to the current position of the knob. Pressing and holding TAP TEMPO footswitch for more than one second sets the tempo relevant to the current position of the TIME knob.

Effect volume and quantity of repeats

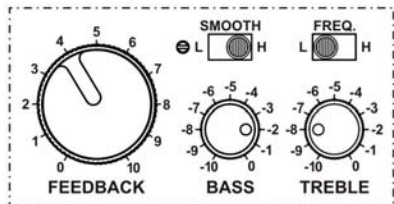
For setting the effect volume serves the LEVEL knob. Maximal effect volume depends on settings of the EFFECT LEVEL regulator. To set the quantity of repeats serves the FEEDBACK knob. Setting the FEEDBACK knob on 0 position creates the single repeat effect. The FEEDBACK and LEVEL knobs can be turned by foot. So basic parameters of the effect can be set by foot. Thanks to the backlighted knobs their position is well visible even in darkness.

The BASS and TREBLE knobs serve to adjust the tone of repeats. In the extreme right position (marked 0) the characteristics is flat. Regulators enable attenuation of the low



and high tones. The FREQ switch enables changing of the TREBLE knob frequencies range. Switching to the L position move the TREBLE knob frequencies range to the lower frequencies. It enables to get the tone of the effect similar to the typical tape and analog delays. Additionally, the SMOOTH switch set to H (HIGH) position enables to enlarge the effect of high and low frequencies attenuation for successive repeats. It causes that the delays are heard as from apparently bigger distance.

Below are shown settings of the SD-1 which enable to obtain that effect.



Effect switching off

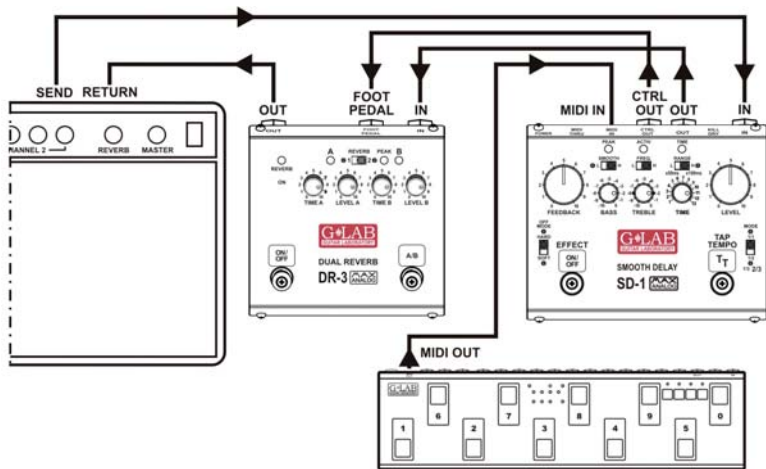
Switching off mode is defined by position of the OFF MODE switch. In HARD mode the switching off is immediate with muting of repeats. In SOFT switching off mode the repeats of previously played tones will resound to the end.

CTRL OUT output

CTRL OUT output enables to control the DUAL REVERB (G LAB DR-3/2, DR) via MIDI commands or by using ON/OFF switch of the SD-1. In that purpose it is needed to

connect CTRL OUT connector with DUAL REVERB FOOT PEDAL input by using JACK-JACK stereo cable (shielded cable is not required).

Thanks to that set of this effects constitute the reverberations center which can be controlled by MIDI commands or by foot.



If the DS2 switch is in ON position every switching on of the effect causes setting in the DUAL REVERB the B parameters and switching it off causes setting back the A parameters. In case of MIDI control each of the effects is considered as an individual MIDI device (on different channels) and can be fully switched ON/OFF by controller or other MIDI device.

MIDI channel setting

To set a MIDI channel on which the SD-1 receives the commands serves MIDI CHANNEL rotatable switch. To change the channel use a small screw and turn it a little right or left. The arrow-head indicates set channel (A, B, C, D, E, F letters correspond with 10, 11, 12, 13, 14, 15 channels numbers and "0" digit indicates channel No. 16). For CTRL OUT output the channel on which are received the commands is higher by one than this set by MIDI CHANNEL switch (for channel No. 16 it is channel No. 1).

Controlling via MIDI commands

SD-1 can be controlled by Program Change and/or Control Change commands. The table below shows functionality of the Program Change commands.

Prog Change Number	Functionality
1	Switch off the effect (the mode is defined by OFF MODE switch position)
2	Switch off the effect in HARD mode
3	Switch off the effect in SOFT mode
4	Switch on the effect
5 do 128	Switch on the effect with delay time Pr.Ch. x 10 ms

The table below shows functionality of the Control Change commands.

Control Change Number	Control Change Value
102	0-63 switch off the effect (the mode is defined by OFF MODE switch position) 64-127 switch on the effect
103	4–127 delay time = Value x 10 ms +10 ms
80	(0 and 127 alternately) TAP TEMPO function

The table below shows functionality of the CTRL OUT output's Program Change commands (to control DUAL REVERB effects).

Prog Change Number	DR-3, DR-2	DR
1	REVERB ON, SET A	SET A
2	REVERB ON, SET B	SET B
3	REVERB OFF, SET A	SET A
4	REVERB OFF, SET B	SET B

Technical parameters

Dimensions:	depth	120 mm
	width	145 mm
	heigh	65 mm
Weight		0,65 kg
Input impedance		1Mohm
Input signal range (with 5 dB room for effect signal)		-2 dBu (1,7Vpp)
		up to 10 dBu (7Vpp)
Maximal output signal (@ the load of 20 kOhm and more)		14,7 dBu (12Vpp)
Power supply		9V DC regulated (8,7V - 9,4V)
Current consumption		100 mA

EMC/EMI & Certificate of conformity

EMC/EMI

This device has been designed and manufactured to conform with directives and standards in the field of safety operations and electromagnetic interference.

This device uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However in spite of performing below standards there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception which can be determined by turning the device on and off, the user is encouraged to try to correct the interference by one or more of the following operations:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- Contact with the manufacturer.
- Consult the dealer for help.

Certificate of Conformity

ELZAB S.A., ul. Kruczkowskiego 39, 41-813 Zabrze, Poland,
hereby declares on own responsibility that the following product:

G LAB SMOOTH DELAY (SD-1)

that is covered by this certificate and marked with CE 07 label conforms with following standards:

- | | |
|--------------------|---|
| PN-EN 60065:2004 | Safety requirements for mains operated electronic and related apparatus for household and similar general use |
| PN-EN 55103-1:1998 | Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 1: Emission. |
| PN-EN 55103-2:1998 | Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2: Immunity. |

with reference to regulations in following directives:

73/23/EEC, 2004/108/EEC

Issued in Zabrze, March 2009

Jerzy Biernat

President of the ELZAB S.A. Board of Directors



DO NOT PLACE THIS PRODUCT INTO THE WASTE CONTAINER !

This device is marked with a cross-lined waste container symbol according to 2002/96/EU Directive on Waste Electric and Electronic Equipment.

Such marking informs that after usage equipment can not be trashed together with other household waste.

An user obligation is to return wasted equipment to a party collecting wasted electric and electronic equipment. Parties collecting such equipment organise a system, including local collection points, shops and other units, allowing to return such equipment. This Directive assures an user free of charge utilisation of such delivered equipment.

This device is made of materials which can be recycled or utilised after becoming out of use. Proper handling of wasted electric and electronic equipment reduce demand for raw materials and contribute in avoiding harmful consequences for environment and health of people caused by dangerous components and not proper storing and utilising of such equipment.

User Manual, Drawing No. G35INA00



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