G·LAB
GUITAR LABORATORY

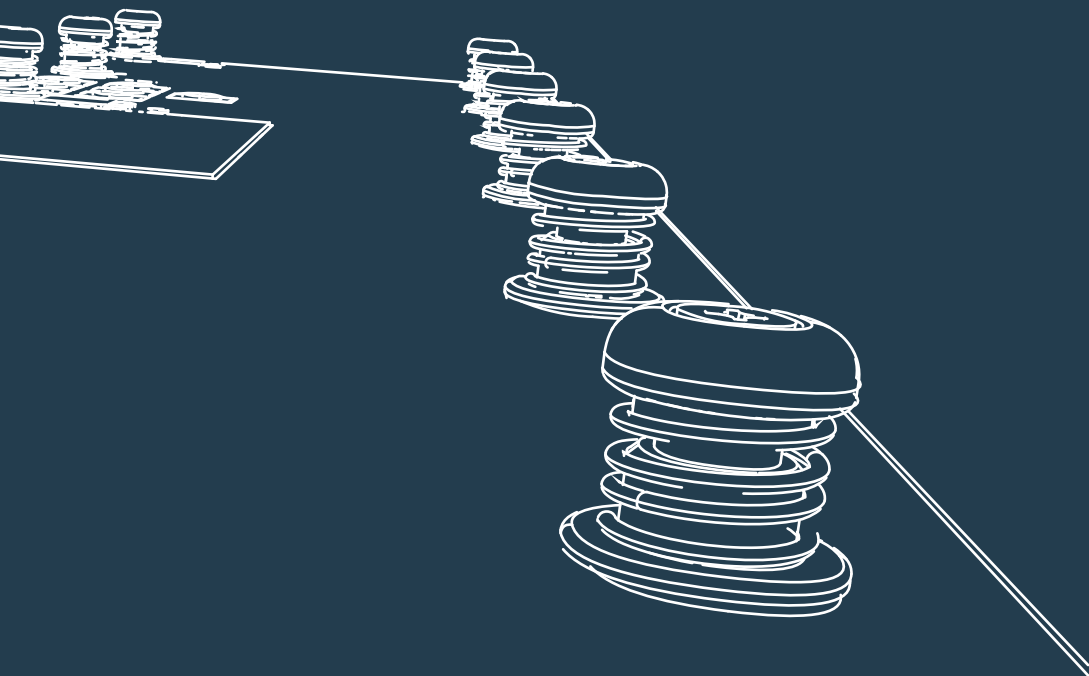# GSC 4
GUITAR SYSTEM CONTROLLER

○ user manual

○ instrukcja obsługi

○ bedienungsanleitung

○ mode d'emploi

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Important safety instructions

–   Read these instructions and follow them.

–   Prevent this device against moisture or spilling liquid inside.

–   Clean only with dry cloth.

–   Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus producing a lot of heat

–   Protect the power supply cord from being walked on or pinched.

–   Only use attachments/accessories specified by the manufacturer.

–   Unplug this device during lighting storms or when unused for long periods of time.

–   Do no open device or its power supply casing.

–   The power supply adapter should be installed in the socket outlet and disconnection of the adapter should be easily accessible.

–   To completely disconnect from AC mains disconnect the power supply adapter from the AC receptacle.

FCC Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, 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, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

–   Reorient or relocate the receiving antenna.

–   Increase the separation between the equipment and receiver.

–   Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

–   Consult the dealer for help.

Declaration of Conformity

Elzab Soft sp. z o.o., ul. Kruczkowskiego 39, 41-813 Zabrze, Poland,

declare under sole responsibility, that the following product:

G LAB/GSC 4 Guitar System Controller

conforms with requirements of the EC Council Directives:

•   2006/95/EEC Low Voltage Directive,

•   2004/108/EEC Electromagnetic Compatibility,and holds CE mark. Above named product conforms with the following standards:

•   PN-EN 60065:2004 /EN 60065:2002/ Audio, video and similar apparatus - Safety requirements.

•   PN-EN 55103-1:2000 /EN 55103-1:1996/ Electromagnetic compatibility - Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use - Part 1: Emission

•   PN-EN 55103-2:2001 /EN 55103-2:1996/ Electromagnetic compatibility - Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use - Part 2: Immunity

Arkadiusz Kocik

President of the Elzab Soft sp. z o.o. Board of Directors

Copy of original EC declaration of conformity is available for download on our website

http://www.glab.com.pl

**Thank you for purchasing the Guitar System Controller 4 by G LAB.**

GSC-4 is a programmable foot controller for fast and easy control of guitar equipment.

Basic features:

- Large 4.3''graphic LCD TFT display with a sharp and high quality image that enables easy programming and controlling of the entire system.

- Intuitive 7 key navigation keyboard for direct and quick setting.

- 12x foot switches. (10x multifunction + 2x bank preset UP/DOWN)

- 10 MFS (Multifunction switch) with a two color description of the foot switch state. Each MFS foot switch can used to operate the following:

1. Recalling of PRESETS (setting the effect loops, switch outs and send MIDI commands.

2. Switching of effect loops (LOOP MODIFIER).

3. Setting of SWITCH OUTs (SWITCH MODIFIER).

4. Sending a MIDI PROGRAM CHANGE and/or CONTROL CHANGE (MIDI MODIFIER).

- 2x bank or preset UP/DOWN switches.

- 6x effect loops via electromechanical relays(passive switching).

- Switchable high impedance input buffer in any preset (identical to a tube amp input load impedance characteristics).

- Dedicated TUNER output with silent tuning which receives the signal through a very high impedance circuit (no tone coloration on guitar signal).

- LOOP SPLIT mode that enables the connection of two stomp boxes at the amp's front input and three in the amp's FX- loop without a ground loop hum.

- 6x relays for amp switching (3 isolated stereo outs) with 3 programmable modes of operation (Latching, impulse and momentary).

- WAH-PAD input for connecting a Wah-Pad and Whammy-Pad.

- Expression pedal input.

- MIDI OUT for controlling up to 10 midi devices.

- PROGRAM CHANGE and CTRL CHANGE commands.

- 20x programmable CTRL CHANGE commands for every MIDI device and capability of sending up to 20 CTRL commands with one press of the footswitch.

- MIDI IN input to control the GSC-4 by other MIDI device.

- USB connections for external keyboard, flash memory or computer.

- 6x 9VDC outputs for powering stomp boxes (2x sections of 500mA per section).

- Durable power socket for connecting a dedicated power supply via a long and flexible cable.

- PHANTOM POWER MODE for powering the GSC-4 thru the midi out connector.

- 1000 presets (100 banks with 10 presets each)

- TAP TEMPO function operated by CTRL CH and/or NOTE ON/OFF

- Durable powder-coated casing.

- Dimensions (width x depth x height): 50cm x 14cm x 6,5cm / 19.7" x 5.5" x 2.6"

- Weight: 1,9 kg / 4,2 lbs

- Power consumption: 24V DC 240mA(under no load conditions at the 9VDC outputs) .

1 OVERVIEW
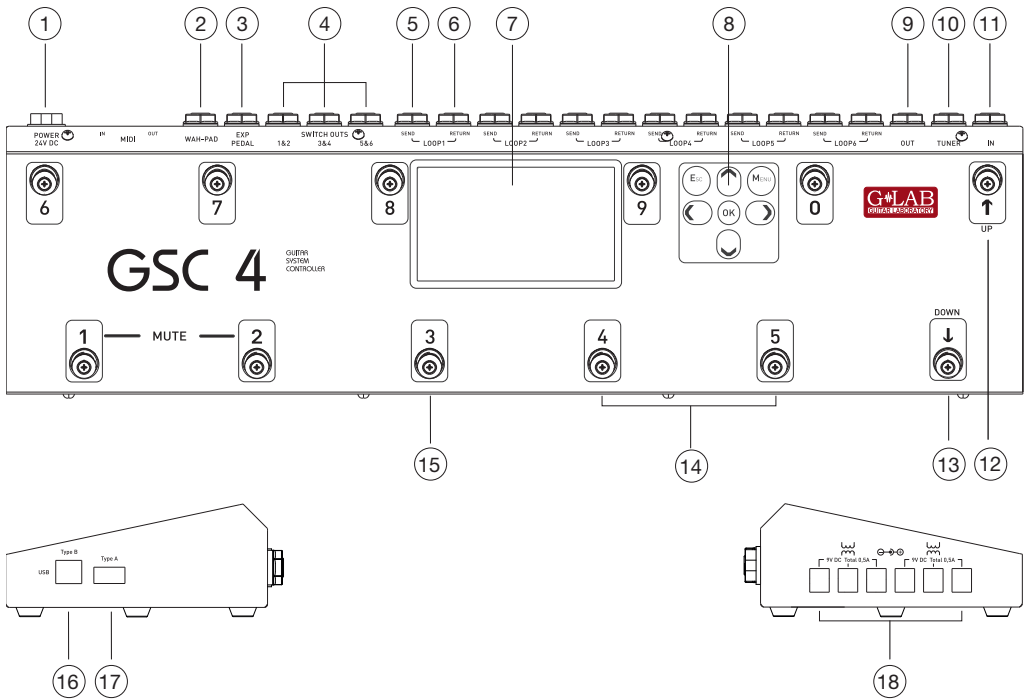
1.1 Basic Elements

1 - 24VDC power connection.

2 - WAH-PAD input.

3 – EXPRESSION PEDAL input.

4 - SW1&2, SW3&4, SW5&6 outs for amp controlling.

5 – EFFECT LOOP SEND output (connect to effect input).

6 – EFFECT LOOP RETURN input (connect from effect output).

7 – TFT Display.

8 – GSC-4 programming keyboard.

9 – MAIN-OUT (signal output).

10 – TUNER output.

11 –MAIN IN (signal input).

12 – PRESET/BANK UP foot switch.

13 – PRESET/BANK DOWN foot switch.

14 – MFS foot switches.

15 – MFS state indicators.

16 - USB B type connection.

17 - USB A type connection.

18 - 9VDC outputs for powering effects.

1.2 Keyboard description and layout.
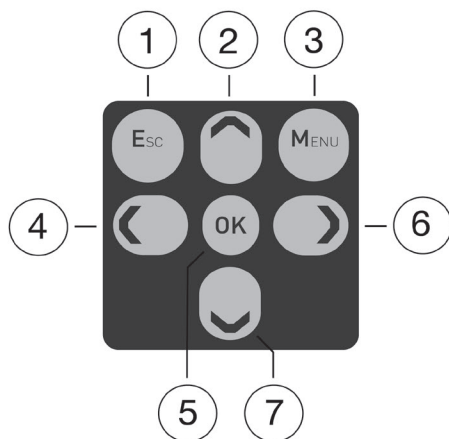
1_ "ESC" key.

2_ "ARROW/UP" key.

3_ "MENU" key.

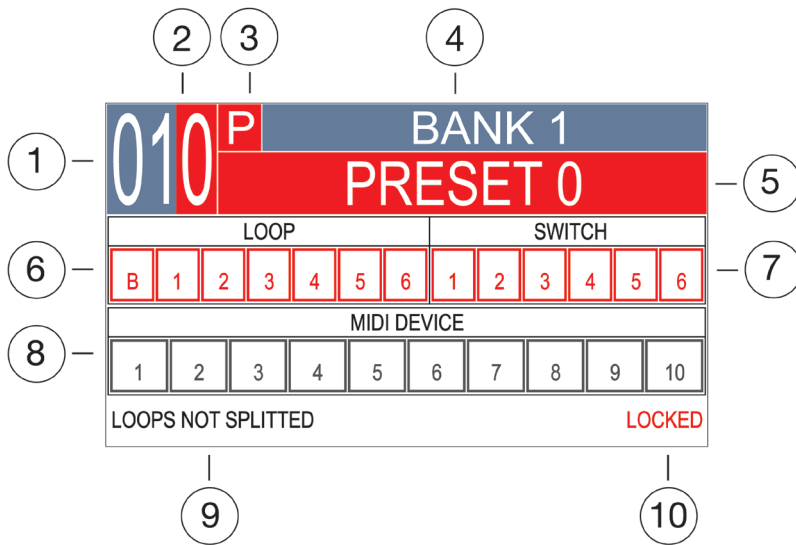4_ "ARROW/LEFT" key.

5_ "OK" key.

6_ "ARROW/RIGHT" key.

7_ "ARROW/DOWN" key.

2 BASIC OPERATION

2.1 Main screen

The GSC-4 uses a highly intuitive TFT display interface.

Most of navigation is carried out in similar screens and covered by similar mechanisms.

1 – Bank number.

2 – Selected MFS number.

3 – MFS type.

4 – Bank name.

5 – Selected MFS name.

6 – LOOP section with LOOPS and BUFFER indicators.

7 - SWITCH section with relays indicators.

8 - MIDI section with indicators for all 10 MIDI devices.

9 – LOOP SPLIT mode indication.

10 – Indication of Locking/Unlocking the programming mode.

The main screen is the basic view that is visible while playing and programming presets most of the time.

Figure 2.1.1 Preset MFS mode

Figure 2.1.2 Loop Modifier MFS mode

Figure 2.1.3 Switch Modifier MFS mode

Figure 2.1.4 Midi Modifier MFS mode

2.2 MENU screen
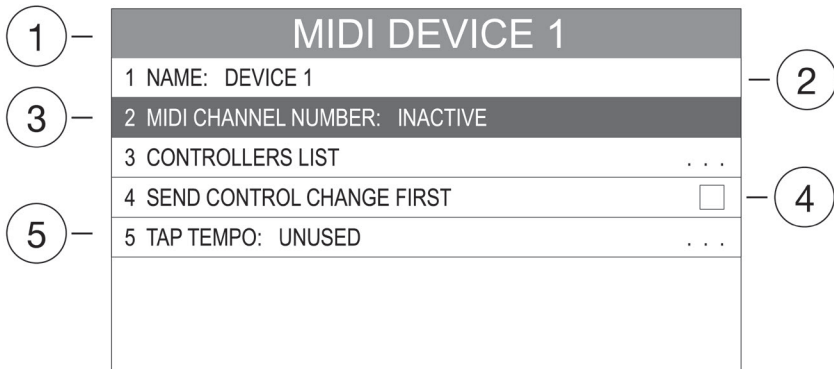
Figure. 2.2.1 MENU screen

1 – Menu's name field.

2 – Field's type for enter to the on-screen keyboard.

3 – Selected field.

4 - Field's type for editing.

5 - Field's type for in-depth view of the menu options.

This window is displayed in the SETTINGS PROGRAMMING. It is built almost always in the same way (The only difference refers to the functions name and the field's quantity including their designations). Use the keyboard UP and DOWN arrows to move between MENU fields. Use OK for entering/change chosen function and ESC to go out.

2.3 Message screen

The MESSAGE SCREEN will inform in regards to any warning and other important messages. (Press any key to quit).

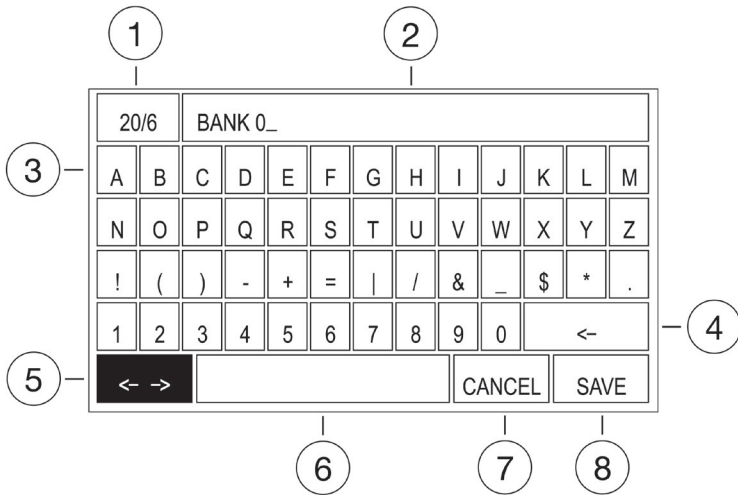## 2.4 Onscreen text keyboard

Figure 2.4 Onscreen text keyboard

Description:

1 –Field: indicates the maximum number of characters for typing/number of already entered characters.

2 – Entered characters.

3 – Letters, numbers and special characters field.

4 – BACKSPACE key field

5 – MOVE THE CURSOR key field

6 – SPACE key field

7 – CANCEL key field

8 – SAVE key field

This screen is for text writing and editing. The MOVE CURSOR field is the first active field after the screen is displayed. In the editing field there is a selected text for editing. At this instance there are few options:

- Press OK to keep the text and move the cursor to the end of the text.

- Press LEFT and RIGHT ARROWS to keep the text and move the cursor to the desired text position.

- Press UP ARROW and select the desired character by pressing given ARROWS and then press OK to overwrite the text by the selected character.

- Press UP ARROW and select the BACKSPACE field and press OK to clear the text.

Use ARROWS to select a character. Press OK to add the selected character to the text.

At anytime you can press the ESC key to quit editing with no text overwrite and then select the CANCEL key field and press OK for the same result.

To save overwrites select the SAVE field and press OK.
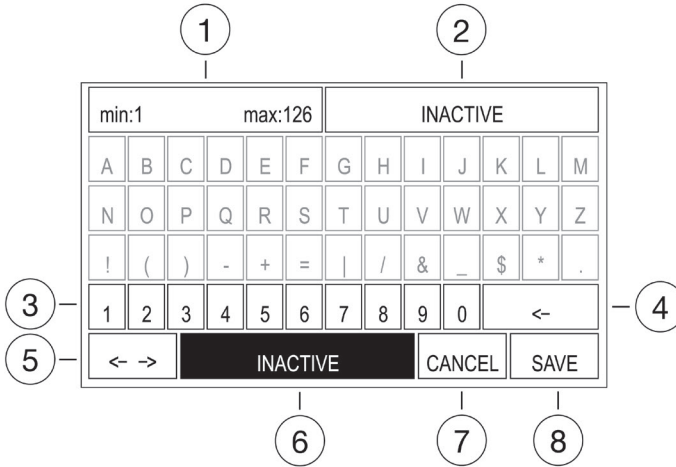
2.5 Onscreen numbers keyboard

Figure 2.5 Onscreen numbers keyboard

Description:

1 – Minimum value and maximum value.

2 – Entered value.

3 – Numbers field (fields of letters and special characters are inactive on purpose).

4 – BACKSPACE key field.

5 – MOVE THE CURSOR key field.

6 – INACTIVE key field.

7 – CANCEL key field.

8 – SAVE key field.

This screen is used for entering the number values. The actual value of the setting is indicated in the editing field (No. 2 in Figure 2.05). Information of the provided range of entered values is on the top left side (No. 1 in Figure 2.05).

The INACTIVE field is the first active field after the screen is displayed. At this instance, there are few options:

- Press OK to set the value to INACTIVE.

- Use ARROWS to choose the number and then OK to overwrite the previous value with the selected one.

- Select the BACKSPACE field and press OK for clearing the actual number. Then use ARROWS for selecting the number. Pressing OK will add the selected number (if it is in the available range). It is possible to use MFS footswitches for adding numbers. Anytime you can press ESC key to quit the edition with no changes. Select the CANCEL key field and press OK for the same result.

To save overwrites select the SAVE field and press OK.

3 WORKING MODE

3.1 Switching on the controller

Switching on the GSC-4 activates the previously recalled PRESET (recalled before turning off). When the controller has been turned off after recalling a different function than PRESET then it will activate the lowest PRESET number available.

3.2 Display

Figure 3.2.1 Bank and preset are active

Figure 3.2.2 Bank is active, preset is not active

Figure 3.2.3 Bank and preset are not active

Above fields of the display are subject to the following mechanisms:

- BANK color back round is always the same.

- MFS number, function and name are changing color back round depending on MFS function (see figures 2.1.1, 2.1.2, 2.1.3, 2.1.4).

- Fields and characters displayed in reverse, refers to the active bank/preset.

Figure 3.2.4 LOOP section

LOOP section fields are subject to the following mechanisms:

- The field's back round color depends on the last used MFS footswitch.

– Field with back round color ("B", "4") indicates that the given loop is ON.

– Empty with back round color ("1", "2", "6"), indicates that the given loop is OFF.

– Empty with gray color back round ("5") indicates that the given loop is used for the wah/whammy pad (see chapter 4.2.3).

– Field with gray color back round ("3") with the information "LOOPS SPLIT" in the lower part of the display indicates that loops are split (see chapter 4.2.5).
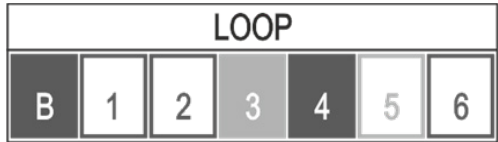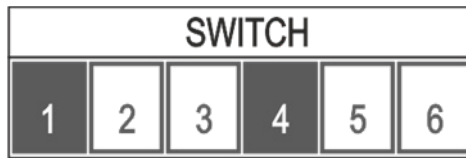

Figure 3.2.5 SWITCH section

SWITCH section fields are subject to the following mechanisms:

– The field's color back round depends on the last used MFS footswitch.

– Field with color back round ("B", "4") indicates that the given switch is ON.

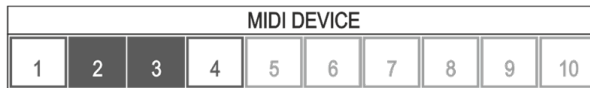– Empty field ("2", "3", "5", "6") indicates that the given switch is OFF.

Figure 3.2.6 MIDI section

MIDI section fields are subject to the following mechanisms:

– Empty with red color back round ("1", "4") indicates that the defined MIDI device is without a defined midi action.

– Field with red or yellow color back round ("2", "3") indicates that the defined MIDI device is with a defined midi action.

– Empty field with gray color ("5", "6", "7", "8", "9", "10") indicates that there is no defined MIDI device.

3.3 Recalling the preset

Press the MFS footswitch (from 0 to 9) to recall the preset. Controller will recall all preset settings with the hardware response (Bank and preset will be active).

Alternatively it is possible to recall the preset by pressing UP/DOWN footswitches.

Press UP to switch to one preset up and then press DOWN to switch to one preset down.

Depending on the BANK/PRESET CHANGE MODE setting the GSC-4 responds as follows:

DIRECT (default) – controller will recall all preset settings with the hardware response.

INDIRECT (browsing mode) – Bank and MFS name, number and MFS mode will be displayed in positive (see figures 3.2.1, 3.2.2, 3.2.3). Screen will display all preset settings with no hardware response. Press any MFS footswitch to recall all preset settings with the hardware response.

For changing DIRECT and INDIRECT change MODE follow the instruction below:

MENU -> BANK/PRESET CHANGE MODE.

3.4 Recalling the bank

Press the UP and DOWN foot switches simultaneously to change between preset and bank switching. Backlight color will change depending on the function. Red color for bank switching and green color for preset switching. In bank switching every press of the UP and DOWN foot switches will change the bank. For a faster change of banks press and hold down the UP or DOWN foot switches.

Bank will also change when the preset will be changed from 9 to 0 (one bank UP) and from 0 to 9 (one bank DOWN).

3.5 Controller's hardware work

3.5.1 LOOPS

Recalling a PRESET or the LOOP MODIFIER (using the MFS footswitches or preset UP/DOWN in direct mode) will cause the relays to switch. Relays will not switch when a recalled preset or MFS doesn't change the LOOP'S state. In the first stage the signal is muted. Then relays are switched and muting is off.

3.5.2 SWITCH outs

Recalling a PRESET or the SWITCH MODIFIER (using the MFS footswitches or preset UP/DOWN in direct mode) will cause the relays to switch. Relays will not switch when recalled preset or MFS doesn't change the SWITCH OUTS state. Relay mode operation depends on the setting (see chapter 4.2.3).

3.5.3 MIDI

Recalling a PRESET or the MIDI MODIFIER (using the MFS footswitches or preset UP/DOWN in direct mode) could cause sending of MIDI commands. Command order corresponds to the programmed MIDI DEVICE list. If PROGRAM and CONTROL CHANGE are assigned for one midi device the PROGRAM CHANGE is sent as first by default. For more PC and CC order see the chapter 4.2.1

4 PROGRAMMING MODE

The word LOCKED at the bottom right side of the display informs that programming mode is locked. Press the LEFT and RIGHT ARROWS simultaneously to unlock. The word will change from LOCKED to UNLOCK. Now the controller is ready for programming.

4.1 Preset and MFS basic programming

Select and recall the Bank and MFS footswitch to enter its programming.

For basic preset programming, press OK.

Use the keyboard ARROWS to move between fields and edit. Selected field should be blinking. In some modes of MFS programming, some fields are not active (see chapter 4.1.1). Press OK for changing the available field settings. Display will read all possible functions to be set. Press OK to approve the setting. All changes are approved instantly. Press ESC to quit editing. The display will read the actual state of the controller.

Below are the described sections of the preset settings.
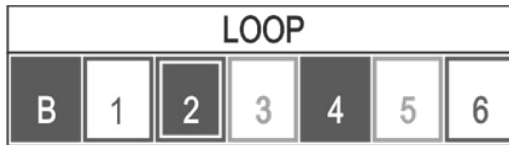
Figure 4.1.1 LOOP section

–   Fields "B"and "4" indicate that loops are ON.

–   Fields "1" and "6" indicate that loops are OFF.

–   Field "2" indicates the TOGGLE mode of the loop.

–   Fields "3"and "5" indicate that loops are INACTIVE.

Figure 4.1.2 SWITCH section

–   Field "1" means that the switch is ON.

–   Fields "2" and"6" mean that switches are OFF.

–   Field "3" means the TOGGLE mode of the switch.

–   Fields "4" and "5" mean that switches are INACTIVE.

MIDI DEVICE									
1	2	3	4	5	6	7	8	9	10

Figure 4.1.3 MIDI section

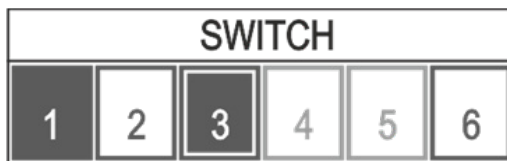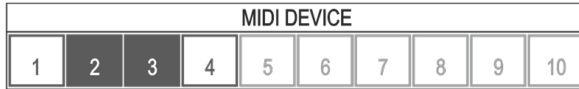–   Fields "1" and "4" indicate the defined MIDI devices which are ready for programming midi commands (no midi commands programmed for these devices).

–   Fields "2" and "3" indicate the defined MIDI devices with already programmed midi commands.

–   Fields "5", "6", "7", "8", "9", "10" indicate there are no defined MIDI devices

4.1.1 MFS footswitch type.

Every MFS footswitch can work in one of four modes mentioned below:

PRESET, LOOP MODFIER, SWITCH MODIFIER, MIDI MODIFIER. The table below indicates which fields are active for which MFS mode.

MFS footswitch mode	Controller's field (section)		
	LOOP	SWITCH	MIDI
PRESET	ON	ON	PC
(red)	OFF	OFF	CC
LOOP MODFIER	ON		
	ON		
(blue)	TOGGLE		
	INACTIVE		
SWITCH MODIFIER		ON	
	-	OFF	
(green)		TOGGLE	
		INACTIVE	
MIDI MODIFIER			PC
(yellow)	-	-	CC

Table 1. Available controller's sections (fields) for particular MFS foot switch modes.

PRESET

ON – the section's field is set to on and causes the immediate reaction of hardware.

OFF - the section's field is set to off and causes the immediate reaction of hardware.

PC - PROGRAM CHANGE sending.

CC - CONTROL CHANGE sending.

LOOP MODIFIER, SWITCH MODIFIER

ON – the section's field is set to on. Using such modifier will turn on the selected fields.

OFF - the section's field is set to off. Using such modifier will turn off the selected fields.

TOGGLE – the section's field is set as a switcher to the opposite state. Using such a modifier will switch selected fields to the opposite state.

PRESET

ON – the section's field is set to on and causes the immediate reaction of hardware.

OFF - the section's field is set to off and causes the immediate reaction of hardware.

PC - PROGRAM CHANGE sending.

CC - CONTROL CHANGE sending.

LOOP MODIFIER, SWITCH MODIFIER

ON – the section's field is set to on. Using such modifier will turn on the selected fields.

OFF - the section's field is set to off. Using such modifier will turn off the selected fields.

TOGGLE – the section's field is set as a switcher to the opposite state. Using such a modifier will switch selected fields to the opposite state.

INACTIVE - the section's field is inactive. Using such setting will have no influence on the selected fields.

To check the ON, OF, or TOGGLE programming hardware response it is required to quit the edition and recall the preset. Then recall the programmed MFS footswitch.

MIDI MODIFIER

PC - PROGRAM CHANGE sending.

CC - CONTROL CHANGE sending.

Warning! CHANGING TYPE OF THE MFS FOOTSWITCH WILL CLEAR ALL PREVIOUSLY PROGRAMMED FIELD SETTINGS.

4.1.2 Bank name

It is possible to change the bank name in each MFS belonging to the bank. To change the bank name select the field of the bank name and press OK. Then proceed as described in chapter 2.5 for editing with the on-screen keyboard.

4.1.3 MFS name

It is possible to name every MFS function. To change the MFS name select the field of the MFS (preset) name and press OK. Then proceed as it is described in the chapter 2.5 for edition with the onscreen keyboard.

4.1.4 LOOP section

For setting the given loops state. Available settings and modes of MFS where the LOOP section is active are shown in the Table 1. on page No. 12.

4.1.5 SWITCH section

For setting the given amp controlling outs. Available settings and modes of MFS where the SWITCH section is active are shown in the Table 1. on page No. 12.

4.2 Settings programming

To enter the settings programming press the MENU keyboard button (the controller must be unlocked – see chapter 4). In the chapter 2.2 it is described how to move in the MENU setting.

Warning! IF THE SETTINGS PROGRAMMING WAS ACTIVATED FROM THE MODIFIER THEN THE QUIT WILL RECALL THE NEAREST PRESET.

4.2.1 MIDI OUT functions

Midi device – to control any MIDI device it is required to assign the device in MIDI settings.

The controller enables to set the given settings:

- NAME – device name with (max 20 characters)

- MIDI CHANNEL NUMBER – the MIDI channel of controlled device (form 1 to 16 or INACTIVE when the device is not defined)

- CONTROLLERS LIST – the list of CONTROL CHANGE commands to control the unit

- SEND CONTROL CHANGE FIRST – when programming PROGRAM CHANGE and CONTROL CHANGE commands it is possible to send a Control change at first

- TAP TEMPO – tap tempo settings

It is possible to define up to a maximum of 10 midi devices.

The first step which enables the use of MIDI is done by activating 'MIDI DEVICE' and by selecting the MIDI CHANNEL which corresponds to the MIDI CHANNEL of the receiving MIDI device. It is recommended to name the device later in the PRESET/MFS programming. It will help to identify the given device. Defined midi device field in the main display will change its grey color to red.

Control change

Control Change usually controls a single Function of the controlled MIDI device. Each function has its own assigned CC number. It is possible to assign up to a maximum of 20 such functions for each midi device. To set the controller list proceed as follows:

MENU -> MIDI DEVICES -> MIDI DEVICE NAME-> CONTROLLER LIST

Beside the controller's number, it is possible to add the name of it. Names will show up in the basic programming. The controllers number is set as follows:

basic programming -> MIDI DEVICE -> CTRL CHANGE VALUE. Controller will send maximal 20 CC commands after recalling the PRESET or the MODIFIER.

Tap tempo

Activating the TAP TEMPO Function for each MIDI DEVICE. There are two ways of sending tap tempo:

- TAP CTRL – Every press of the footswitch defined as a PRESET sends the Control Change command. The CC command number is set globally for all midi devices as follows:

MENU -> TAP TEMPO -> TAP CTRL NUMBER

Then it is possible to activate the TAP TEMPO for the chosen

MIDI DEVICE: MENU -> MIDI DEVICES -> MIDI DEVICE name-> TAP TEMPO

To use this Function set the TAP CTRL mode. Tapping of the tempo will send alternating 0 and 127 values of the CC number.

- TAP TEMPO NOTE – Every press of the defined footswitch as a PRESET sends the MIDI NOTE command. The note number is set globally for all midi devices as follows:

MENU -> TAP TEMPO -> NOTE ON/OFF

Then it is possible to activate the TAP TEMPO for the chosen

MIDI DEVICE: MENU -> MIDI DEVICES -> MIDI DEVICE name-> TAP TEMPO

To use this Function set the AP TEMPO NOTE. Tapping of the tempo will send the note with the value 0.

Expression pedal

Connect the exp. pedal to the EXP PEDAL input. Pedal's value is send by the GSC-4 using CTRL CHANGE number.

 Exp. pedal settings are placed in the Menu: MENU -> EXPRESSION PEDAL:

- NAME – Function's name maximal 20 characters.

- STATE (ON/OFF) – Activate and deactivate exp pedal function.

- MIDI DEVICE – Define device that will be controlled with exp. Pedal.

- CTRL # - Control change number of controlled function (from 0 to 127).

- CHARACTERISTIC – Characteristic response of exp.pedal movement from upper   to lower pedal position:

> • FAST/SLOW - Fast increase at the beginning, slow at the end.
>
> • LINEAR - Proportionally within the entire range.
>
> • SLOW/FAST - Slow increase at the beginning, fast at the end.

- TOE UP VALUE - Value for the up position (from 0 to 127).

- TOE DOWN VALUE - value for the low position (from 0 to 127).

- PERIOD - minimum interval between sending commands 4ms, 8ms,16ms, 32ms 64ms.

- CURRENT VALUE - currently sent value.

- CALIBRATION – pedal's calibration.

CHARACTERISTIC of pedal's response:

Typical expression pedals feature a linear characteristic (potentiometer taper response) and volume pedals feature a logarithmic characteristic. CURRENT VAL function enables to check characteristic of the pedal's response. After pedal calibration set the CHARACTERISTIC as follows: LINEAR, TOE UP VAL: 0, TOE DOWN VAL: 127 and then set the pedal in its middle position. If the pedal features linear characteristics the CURRENT VAL will be about 63. If it is different it is possible to apply other characteristics from the CHARACTERISTIC function to correct the linearity of the pedal. It is also possible to use CHARACTERISTIC function to get the nonlinear characteristic of the pedal's response.

TOE UP POSITION

TOE DOWN POSITION
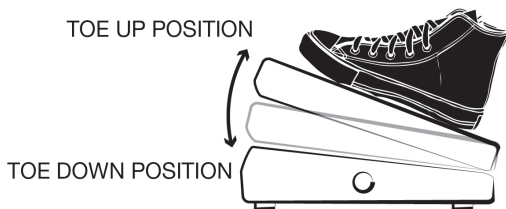
TOE- UP VALUE, TOE-DOWN VALUE

Adjust the range of values which are send and change the direction of the given expression pedal function by the TOE UP VALUE and the TOE DOWN VALUE settings. To change the direction set the TOE UP VALUE bigger than the TOE DOWN VALUE.

TRANSMISSION PERIOD

The commands are only sent when the value of the sent controller changes by changing the pedal.

Position. The PERIOD parameter that designates the minimal time interval between successive CTRL CH.

Commands. It is recommended to set the interval on 4 ms if the expression pedal is used in functions demanding a quick action (e.g. wah-wah effect). For other functions e.g. VOLUME ,it is suggested to set the interval in the range of 16 ms to 32 ms. This reduces the number of data transmitted to the sound processor which in some cases can bring the faster reaction for CTRL CH commands.

Expression pedal CALIBRATION:

Calibration assures correct functioning of the connected pedal in terms of its response range and working direction. To calibrate the pedal first enter the MENU -> EXPRESSION PEDAL -> CURRENT VALUE and watch the noise level. It is recommended using pedals with a maximum noise level of 10. Don't change the pedals position while checking the noise level. Then enter the MENU -> EXPRESSION PEDAL -> CALIBRATION. Set the pedal to TOE UP position and press OK. Then set the pedal to TOE DOWN position and press OK. The percentage values displayed during the calibration indicate the level of signal in proportion to the full signal range.

4.2.2 MIDI IN function

Controller enables to receive PROG CHANGE and CONTROL CHANGE commands from an external MIDI device for remote control. Commands enable to remotely recall the banks and activate the functions of the MSF foot switch. To set the MIDI IN functions enter the MENU -> MIDI IN FUNCTIONS. Using MIDI IN is possible when the receiving MIDI CHANNEL will be selected in MENU -> MIDI IN FUNCTIONS -> CHANNEL.

The PC commands functionality is set in MENU -> MIDI IN FUNCTIONS -> PC FUNCITON:

- UNUSED – receiving a PROGRAM CHANGE commands is OFF

- PRESET 1-10 – recalling the MFS footswitch which refers to the PC number (PC#10 is MFS No. 0)

- BANK + PRESET –recalling the bank and the preset. The bank No. refers to the hundreds and tens digit in the range from 1 to 11. The MFS footswitch No. refers to the units digit.

The CC commands functionality is set in MENU -> MIDI IN FUNCTIONS -> CC FUNCITON:

- UNUSED – receiving a CONTROL CHANGE commands is OFF

- NUMBER - BANK, VALUE – PRESET – The bank No. refers to the CC number and the MFS No. refers to the CC value.

4.2.3 WAH PADS function

To set the Function enter the MENU -> WAH PADS. The function enables to select loops connected to effects which are placed on the pads.

4.2.4 SWITCH OUT MODE of work

To set the Function it is needed to enter the MENU -> SWITCH OUT MODE. The setting defines the mode of working of SWITCH OUT relays. Each of 6 relay can work in the one of three below mentioned mode:

- LATCHING – bistable –setting the SWITCH to ON will short the corresponding relay output and setting to OFF will open the relay

- PULSE – setting the SWITCH to ON will short the corresponding relay for 80ms

- MOMENTARY - setting the SWITCH to the opposite (e.g. to ON when OFF) will short the corresponding relay for 80ms

4.2.5 CLICK PROTECTION function

To enable the CLICK PROTECTION Function, enter the MENU -> CLICK PROTECTION. The function enables to choose the deep of the 'fade in/out' of the signal while switching. It is possible to set three levels: LOW/MID/HIGH.

4.2.6 LOOPS SLIT function

Controller's effect loops and their grounding can be split in two sections. One section with first two loops with the ability of activating the input buffer. It should be connected at the front of the amp. The input of this section is the IN input and the output of this section is the LOOP 3 SEND out. The Second section with last 3 loops connect to the amp's effects loop. The input of this section is LOOP 3 RETURN in and the output of this section is OUT output.

The sentence at the bottom left side of the display indicates the state of the loops split. If there is a "LOOPS NOT SPLITED" message on the display it is needed to proceed as follows in order to split the loops:

Enter the MENU -> LOOPS SPLIT (ON/OFF) and select ON. The relay of the loop 3 will permanently switch ON. The information on the main display will turn to SPLIT WILL CHANGE. Then switch off the controller. After reconnecting the power of the controller loops will split. The display will read LOOPS SPLITTED. The process of merging the loop proceeds in an analogous manner.

4.2.7 FACTORY SETTINGS and memory clearing

To set the Function enter the MENU -> FACTORY SETTINGS.

To clear the mentioned sections see below !!.

CLEAR PRESET – clear memory with presets and MFS functions

CLEAR SETUP DATA – clear controllers settings (back to factory settings)

FACTORY RESET (CLEAR ALL) - CLEAR PRESET and CLEAR SETUP DATA

Warning! PRESETS AND SETTINGS WILL BE LOST AFTER OPERATIONS MENTIONED ABOVE !

4.2.8 USB function

To set the function enter the MENU -> USB. It is possible to upgrade the firmware of the controller using the USB function. The last version of the firmware is available at www.glab.com.pl

The firmware file should be load on the flash memory and then the flash must be connected into the USB connector. In order to upgrade the firmware enter FIRMWARE UPGRADE in the USB settings and the upgrade will run automatically.
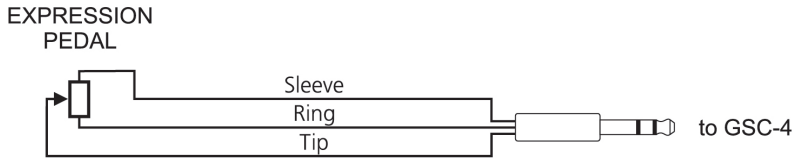
4.2.9 ABOUT GSC function

This function enables to read the actual firmware version.

5 CONNECTING GSC-4 ACCESSORY

5.1 Expression pedal wiring:

The expression pedal must be passive (preferably with a potentiometer in the range of 10k ohm to 100k ohm) and feature a TRS connection as shown in the picture below.

Connecting a typical volume pedal instead of an expression pedal requires the use of a -"Y"- type cable. The RING cable should be connected to the INPUT (or INSTRUMENT input) and the TIP cable should be connected to the OUTPUT (or AMP output)
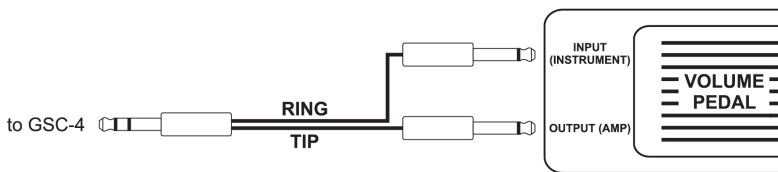

5.2 Amp channel / function switching:

SW1-6 OUTs are used for controlling the amp channels as well as other functions,

e.g. the amp's built-in reverb.

G LAB consults with amp manufacturers in regards to their proprietary wiring of amp controlling/switching. Information can be found in our website www.glab.com.pl which explains how to control a given amp model and what cable or adapter is required. Many amps are equipped with a ¼' female Jack(footswitch input). If your amp is equipped with such type of connector, please check on www.glab.com.pl or ask your dealer and amp manufacturer if it is possible to connect and control your amp directly (with mono or stereo Jack/Jack or Y type cable) by using relay outputs.

Warning! DO NOT CONNECT THE SW1&2, SW 3&4 and SW5&6 OUTPUTS TO THE EXTERNAL SWITCHING INPUTS OF THE MESA BOOGIE AMPS. To control these types of amps use G LAB MIDI AMP CONTROLLER MAC-4.4 (product code 00876).
The diagram below indicates the layout connections of the SW1&2, SW3&4 and SW5&6 outputs.
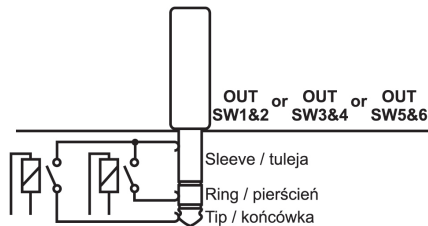
The SWITCH outputs are galvanically isolated in order to avoid ground loops. It is recommended to use connectors with A plastic shielding to avoid accidental connection with signal grounding.

5.3 WAH PADS

WAH PAD or/and WHAMMY PAD should be connect to the controller's WAH PAD input. The wah-pad is a touch sensor enabling to switch automatically on/off state of the wah-wah or the WHAMMY effect without the effect switcher. The WAH-PAD can also be used for a typical (analog) volume pedal. The additional advantage of the TOUCH PAD is the relay TRUE BYPASS. Place the touch pad under the wah-wah or WHAMMY effect and connect to the GSC-4. Then connect the wah-wah/WHAMMY input and output to the selected LOOP of the 6LE module. Switch the wah-wah or WHAMMY effect to the ON position. It is recommended to block the wah-wah switch with the plastic element attached to the wah-pad. The following sets of WAH PAD + WHAMMY PAD or 2 x WAH PAD(for connecting to the GSC-4),can be purchased individually from G LAB.

5.4 Phantom powering

The standard option for powering the controller is to use its original power supply. It is possible to power the controller via the MIDI OUT and MIDI IN connectors. Controller requires a 24VDC voltage supply. The (+) is on pin number 3 of the controller's midi connector and the (-) is on pin number 1.

Warning ! LONGER MIDI CABLES COULD CAUSE A VOLTAGE SUPPLY DROP THUS IT IS RECOMMENDED TO CHOOSE A PROPER POWER SUPPLY.

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 row 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.

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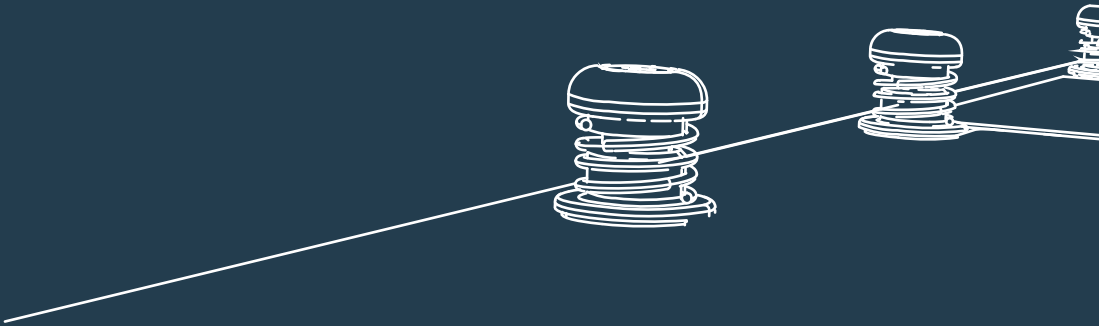
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