MOEN

GEC8 LIVE OWNER'S MANUAL

(Midi Enhancement Edition)

Version 3.0

2014. 8

Features:

- Tiny footprint : 460(L) x 96(W) x 68(H) mm
- Instant recall, no delay at all.
- Relay Truebypass design.
- Individual Tuner/Mute switch
- 80 major presets plus 80 shadow presets, 8(+8) presets per bank, 10 banks.
- Active bank number is settable from 2~10 .
- Each preset sends editable midi program change number (0~127, off)
  on two midi channels (1, 2).
- Powerful external footswitch which can be programmed as
  loop(s) on/off controller / tap tempo input for most popular pedals
- Programmable A/B/Y (Stereo) outputs.
- 8 loops, 5 series loops and 3 separate loop, loop5 is stereo loop.
- 2 dedicated footswitch (latch type).
- Intuitive Programming/Rehearsal mode.

Guitar Effects Commander

Be sure to read this manual before using the product in order to ensure safe operation.

1- Top view
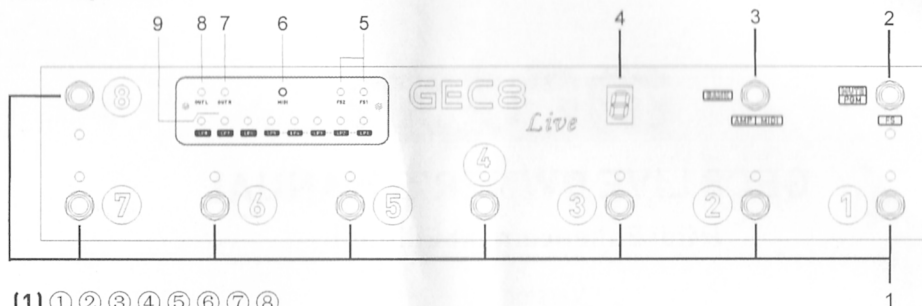
(1) ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

In RECALL mode, these switches recall preset 1~8 separately.
In REHEARSAL mode, these switches engage/bypass loop1~loop8 individually.
In MIDI edit mode, these switches select "ones" of a PC#, refer to section 5.3.
In SHADOW edit mode, these switches select options, refer to section 5.4.1.

(2) PGM/MUTE (FS)

In RECALL mode, shortly press this button will mute the INPUT and switch guitar to TUNER.
In PROGRAMMING mode, shortly press this button will turn on/off footswitch FS1 and FS2.
In MIDI edit mode, MUTE represents "ones" 9 of a midi PC#.
In SHADOW edit mode, MUTE confirms an option.

(3) BANK (AMP/MIDI)

In RECALL mode, this switch changes the bank number.
In PROGRAMMING mode, shortly press this button will turn on/off OUT L and OUT R,
The sequence is "R(on)L(off)- R(off)L(on)- R&L(on) - R&L(off)"
In MIDI edit mode, it changes the "tens" of a midi PC#.
In SHADOW edit mode, it changes the option number of the midi CC# and FS1.

Initial active bank number: Hold BANK switch then power up GEC8 live, the bank number starts to blink, press BANK to choose active bank number (2~10), hold BANK for 2s to finalize initialization.

(4) SEGMENT LED DISPLAY

It is a BANK number indicator(RECALL mode), MODE incidator (REHEARSAL mode), or "tens" Indicator (MIDI edit mode), or options indicator (SHADOW edit mode).

(5) FS1 / FS2

Footswitch 1 / 2 indicator, it lights up when footswitch1 / 2 jack is internally open(tip/sleeve).

(6) MIDI

The indicator flashes when MIDI edit mode or SHADOW edit mode is activated.

(7) OUT R

OUTPUT R indicator, OUT R outputs/mutes signal when the indicator is on/off.
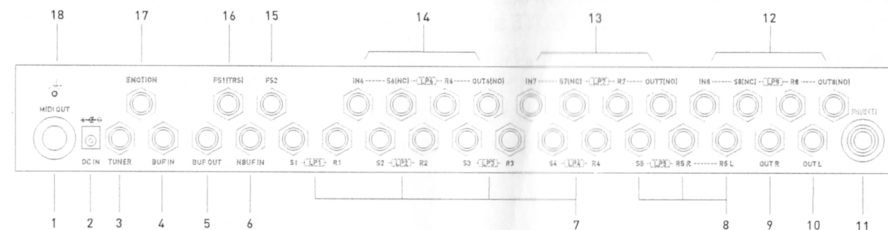
(8) OUT L

OUTPUT L indicator, OUT L outputs/mutes signal when the indicator is on/off.

(9) Indicators of ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

The corresponding indicator lights on when ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ is pushed.

2- Rear view

① MIDI OUT

This jack outputs midi PC# (program/patch change) and CC# (Control Change).

② DC IN

Power input, works with negative center DC 9V of which the capacity should be above 350mA .

③ TUNER

This jack switches to BUF IN or NBUF IN when GEC8 is muted, normally it connects to a tuner.

④ BUF IN

Buffered input jack, signal via this jack is fed to a buffer circuit prior to being sent to the loops.

⑤ BUF OUT

The jack outputs buffered signal when guitar is connected to BUF IN.

⑥ NBUF IN

Non-buffered input jack.

⑦ LOOP1~4

S1~4 is "SEND" of loop1~4, R1~4 is "RETURN" of loop1~4, the four loops only support mono guitar pedals, loop1 to loop4 are internally connected, the signal chain is
BUF IN (NBUF IN) -> loop1-> loop2->loop3->loop4

⑧ LOOP5

This is a mono "SEND" and stereo "RETURN" loop, S5 is "SEND", R5 R is "Right Return" , R5 L is "Left Return", loop5 is after loop4 and prior to OUT R and OUT L.

⑨ OUT R

Output RIGHT jack, connects to R5 R of loop5, OUT R can be shut off in Programming mode.

⑩ OUT L

Output LEFT jack, connects to R5 L of loop5, OUT L can be shut off in Programming mode.

⑪ FS(EXT.)

This jack is used as the 2nd midi output port.

⑫ **LOOP8**

It is a separate loop which isolates from other loops, IN8 is "input" of the loop, S8 is "send", R8 is "return", OUT8 is "output" of this loop. S8 also works as N.C. (Normally Close) latching footswitch which is able to switch amp channel, OUT8 also works as N.O. (Normally Open) latching footswitch

⑬ **LOOP 7**

Separate loop, refer to loop8.

⑭ **LOOP 6**

Separate loop, refer to loop8.

⑮ **FS2**

Dedicated latching footswitch, mono jack, its tip and sleeve are normally closed (indicator off).

⑯ **FS1(TRS)**

Dedicated latching footswitch, stereo jack, its tip and sleeve are normally closed(indicator off), its ring connects to the tip of FS2. This jack can connect either mono or stereo cable, with stereo cable it works as a two-button footswitch * (FS1 and FS2 combines into the stereo jack).
* If FS1 works as TRS footswitch, ensure there is no cable connected to FS2 jack.
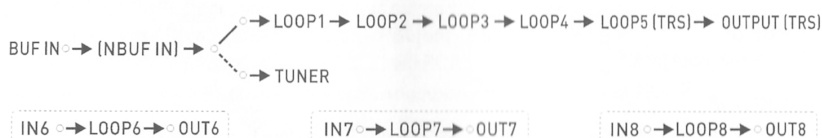
⑰ **EMOTION**

Connect to the external footswitch, recall SHADOW presets, refer to section 5.4

⑱ **EARTH STUD**

Connect GEC8 enclosure to earth.

3- Signal Path

BUF IN ○→ (NBUF IN) → ○→ LOOP1 → LOOP2 → LOOP3 → LOOP4 → LOOP5 (TRS) → OUTPUT (TRS)
○→ TUNER

IN6 ○→ LOOP6 → ○ OUT6   IN7 ○→ LOOP7 → ○ OUT7   IN8 ○→ LOOP8 → ○ OUT8

4- Midi

GEC8 live transfer two types of midi messages, Program Change (PC#) and Control Change (CC#). In Recall mode (page 5), each major preset sends two PC# (0~127 or off) on two midi channels (1,2). The shadow preset (recalled by external footswitch) sends pre-programmed CC# which control tap tempo, FX on/off, volume boost level. Check more detail in section 5.4.

5- MODE SWAPPING

GEC8 live works in 4 modes, Recall Mode, Rehearsal Mode, Midi Edit Mode, Shadow Edit Mode.

Midi Edit Mode ←—Hold "BANK"—→ Recall Mode ←—Hold Ext. Footswitch—→ Shadow Edit Mode

Recall Mode ←—Hold "MUTE"—→ Rehearsal Mode

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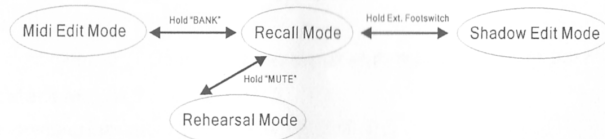
5- Operation

5.1 - RECALL MODE

GEC8 live enters RECALL mode after power up, switch ①˜⑧ recalls major preset 1~8, the bank number blinks when BANK switch is pressed till a new RRESET is recalled. GEC8 live have 6 banks, 48 major presets in total. In RECALL mode, MUTE switch mutes the INPUT of series loops and switch the guitar to TUNER jack.

5.2 - REHEARSAL MODE

In Recall mode, hold MUTE for 2 seconds GEC8 live enters REHEARSAL mode, the segment LED shows "P", this is also programming mode, loop1~8 can be engaged/bypassed individually by pressing ①˜⑧, FS1/FS2 be opened/closed by pressing BANK switch, OUT L/OUT R be turned on/off by pressing MUTE switch, all these operations instantly behave so you hear what you see, hold MUTE switch for two seconds again the switcher gets back to RECALL mode and all the status of loops(1~8), footswitch(FS1 and FS2) and output (L/R) will be automatically stored into the active preset. For example, if Bank1 Preset 2 needs to be programmed, firstly recall Bank1 Preset 2, and hold MUTE to enter REHEARSAL mode, set loops, output L/R, footswitches, hold MUTE again to finish the programming.

5.3 - MIDI EDIT MODE

In Recall mode, hold "BANK" for 2 seconds, GEC8 live enters MIDI EDIT mode, the blue midi led flashes, the segment LED shows tens (0~9, A, b, C,off) of the Ch1 PC#, the led of ①˜⑧ represent the ones "1~8", the ext. footswitch LED represents "0", the MUTE led represents "9",the available PC# range is "0~127,off ".

Ch1 midi PC# example:
- segment LED "Ӡ", ① led on, the PC# is "31" (3*10+1)
- segment LED "8", ext. footswitch led on, the PC# is "80" (8*10+0)
- segment LED "A", MUTE led on, the PC# is "109" (10*10+9)
- segment LED "C", ⑥ led on, the PC# is "126" (12*10+6)
- segment LED "o", all led off, the PC# is "off".

Shortly push BANK will change the tens, the segment LED blinks, pick the ones by pushing ①˜⑧ or MUTE or the ext. footswitch. Once the ones is picked it goes to the 2nd midi channel, the segment LED shows the tens with a "dot" under the number. Edit the Ch2 PC# in the same way, the Ch2 PC # range is "0~127,off ".

Ch2 midi PC# example:
- segment LED "2.", ① led on, the PC# is "21" (2*10+1)
- segment LED "8.", the ext. footswitch led on, the PC# is "80" (8*10+0)
- segment LED "o.", all led off, the PC# is "off".

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5.4 - SHADOW EDIT MODE

Connect ext. footswitch to EMOTION, in Recall mode, hold the ext. footswitch for 2 seconds, GEC8 live enters SHADOW EDIT mode, both the MIDI led and FS1 led start to flash simultaneously, the segment LED shows CC# options (0~10, off).

5.4.1 Shadow Loop preset

In SHADOW edit mode, press ①~⑧ to select/deselect the shadow loop.
The shadow preset is an additional preset upon its major preset, it always works together with its active major preset. The rule is, the shadow preset loop does Exclusive OR (XOR) operation with the major loop preset, what is it for?

(B-BANK, P-PRESET)
Tutorial 1: Master bypass
B1 P1, Major preset: loop1,2,3 on
B1 P1, Shadow preset : loop1,2,3 on
Ext. footswitch off: loop1,2,3 on, on: Master bypass.

Tutorial 2: Engage/bypass certain loop(s)
B1 P2, Major preset: loop1, 2 on (overdrive, distortion)
B1 P2, Shadow preset : loop3,4 on (delay, reverb)
Ext. footswitch off: OD+DIST (loop1,2), on: OD+DIST+Delay+Reverb (loop1,2,3,4)

Tutorial 3: rhythm / solo toggle
B1 P3, Major preset: loop1, 3 on (overdrive, chorus)
B1 P3, Shadow preset : loop1, 2, 3, 4, 5 on (overdrive, distortion, chrus, delay, boost)
Ext. footswitch off: OD+CH(loop1,3), on: DIST + DELAY + BOOST(loop2,4,5)

XOR TRUTH TABLE

(0: loop off,   1: loop on)

major preset	shadow preset	ext. switch off	ext. switch on
0	0	0	0
0	1	0	1
1	0	1	1
1	1	1	0

5.4.2 Shadow Midi preset

The ext. switch also provides pre-programmed options (0~9, off) of midi CC# (on channel 1), push BANK to change the option, push MUTE to confirm the option.
MIDI CC# MAP:

OPTION	⊘	0	1	2	3
MIDI CC#	NULL	Tap Tempo Line6, Eventide	Tap Tempo Strymon, Eventide	FX ON/OFF Line6, Eventide	FX ON/OFF Strymon, Eventide
	4	5	6	7	8	9
	Boost +1dB Timeline	Boost +2dB Timeline	Boost +3dB Timeline	Level +1dB Mobius	Level +2dB Mobius	Level +3dB Mobius

Tutorial 1: Strymon Tap Tempo input
B2 P1, Major preset: loop1,2,3 on
B2 P1, Shadow preset : loop1~8 off, MIDI CC# option 1, Strymon
Ext. footswitch off: send tap tempo, on: send tap tempo.
Note: ensure midi cable is connected between GEC and Strymon

Tutorial 2: Persist Strymon Timeline Trails (Spill Over)
B2 P2, Major preset: whatever, keep Timeline always on in the signal chain.
B2 P2, Shadow preset : loop1~8 off, MIDI CC# option 3 (Strymon on/off)
Ext. footswitch on: engage timeline via. midi, off: bypass timeline via. midi.
Note: ensure midi cable is connected between GEC and Strymon, the parameter "persist"(delay machines) needs to be turned on in the Timeline.

Tutorial 3: Solo Boost
B2 P3, Major preset: loop1,3 on (overdrive, chorus)
B2 P3, Shadow preset : loop1,2(distortion),3, 4 (timeline) on, option 5(boost +2dB)
Ext. footswitch off: OD+CHORUS, on: DIST + Timeline (boost +2dB).
Note: ensure midi cable is connected between GEC and Strymon

5.4.3 Shadow footswitch preset

After the shadow midi preset is confirmed, it enters shadow footswitch options, the segment led shows the option number with a dot.
The shadow footswitch preset allows user to customize FS1(footswitch) function, It provide 5 options,

Option	⊘.	0.	1.	2.	3.
FS1	NULL	Latch Normal Close	Latch Normal Open	Momentary Normal Close	Momentary Normal Open

Note: if FS1 is set to option other than NULL, the major preset will lose the control to FS1.

Tutorial 1: Tap Tempo input of BOSS DD-20
B3 P1, Major preset: loop1,3 on (overdrive, DD-20)
B3 P1, Shadow preset : loop1~8 off, FS1 option 2(momentary N.C)
Ext. footswitch off: send tap tempo, on: send tap tempo
Note: Connect FS1 to the CTL PEDAL jack of DD-20, set CTL PEDAL as tap input.

6- Specifications

Dimensions...460(L) x96(W)X68(H) mm
Weight...1500g
Power Supply.......................................DC9V (Negative Center)
Current Drain...max. 350mA
Max. NBUF Input Vp-p... 30V
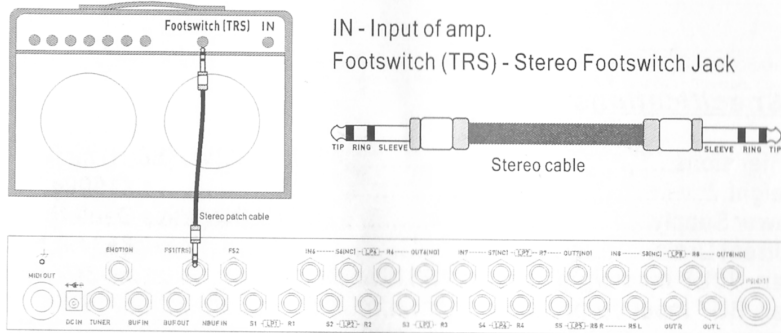Max. BUF Input Vp-p... 3V

Tutorial 1 - 7 pedals & AMP Channel Switching

Signal chain:
Guitar -> buffer -> loop1-> .....loop5-> OUT L ->(patch cable)-> loop7->(patch cable)->loop8->AMP
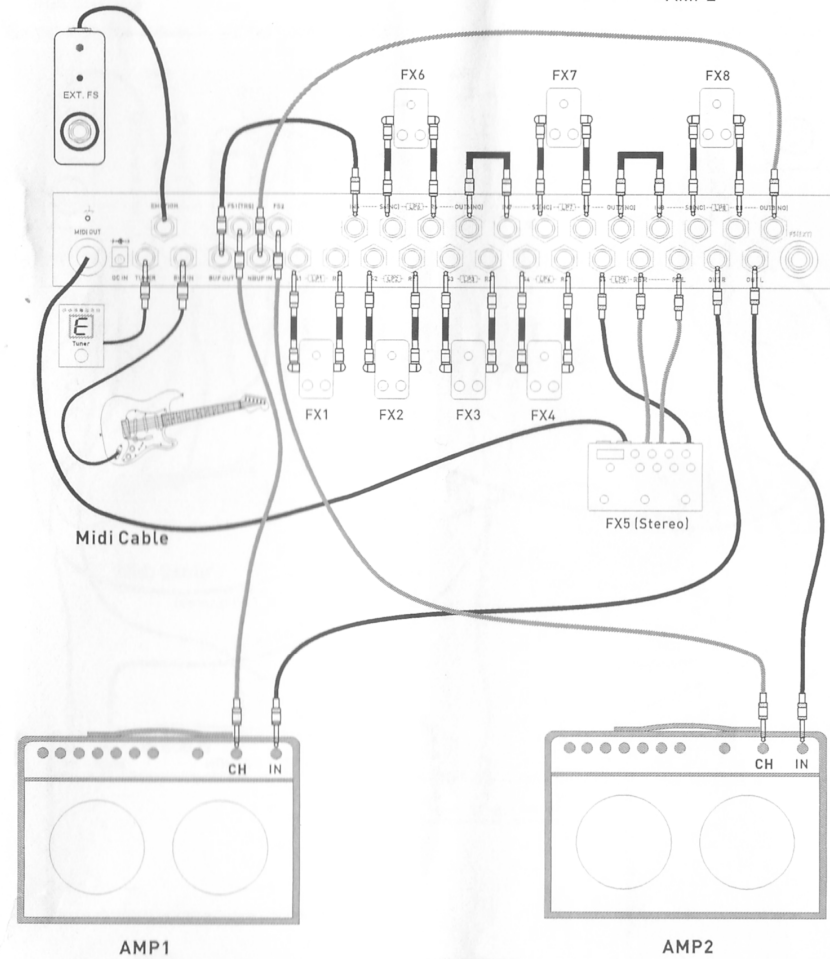FS1/FS2/S6(N.C.) are for three AMP channel switching

IN - Input of amp.
CH1/CH2/CH3 - Amp footswitch jacks (mono).

FX6   FX7
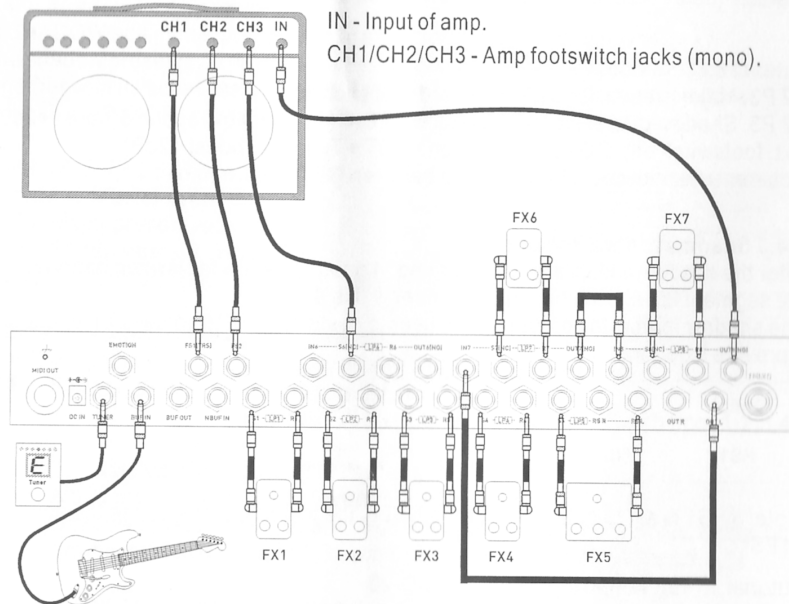
FX1   FX2   FX3   FX4   FX5

If AMP is with TRS latching footswitch, connect stereo patch cable from FS1 (GEC8) to AMP footswitch.

Footswitch (TRS)   IN

IN - Input of amp.
Footswitch (TRS) - Stereo Footswitch Jack

TIP RING SLEEVE   SLEEVE RING TIP

Stereo cable

Stereo patch cable

Tutorial 2 - 7 mono pedals, 1 stereo pedal (with midi) & 2 amplifiers

Signal chain:
Guitar -> buffer -> FX6-> FX7-> FX8-> FX1->FX2->FX3->FX4->FX5(stereo) → AMP1 → AMP2

EXT. FS

FX6   FX7   FX8

MIDI OUT

Tuner

FX1   FX2   FX3   FX4

Midi Cable

FX5 (Stereo)

AMP1   CH IN   AMP2   CH IN

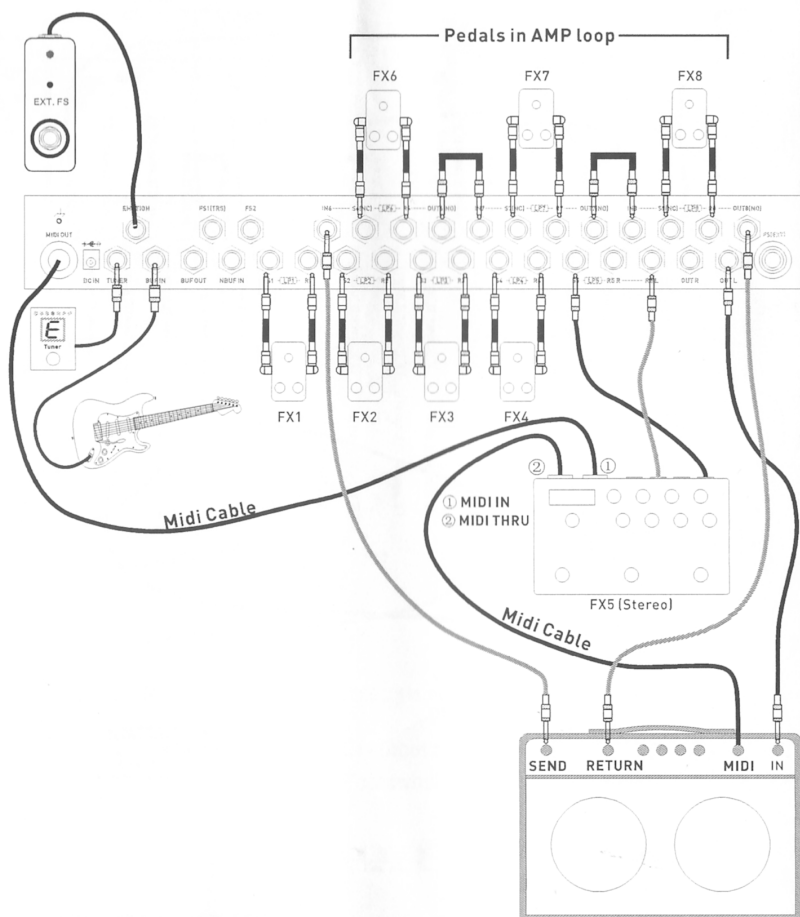AMP1   AMP2

IN - Input of amp.
CH - mono footswitch jack for channel switching.

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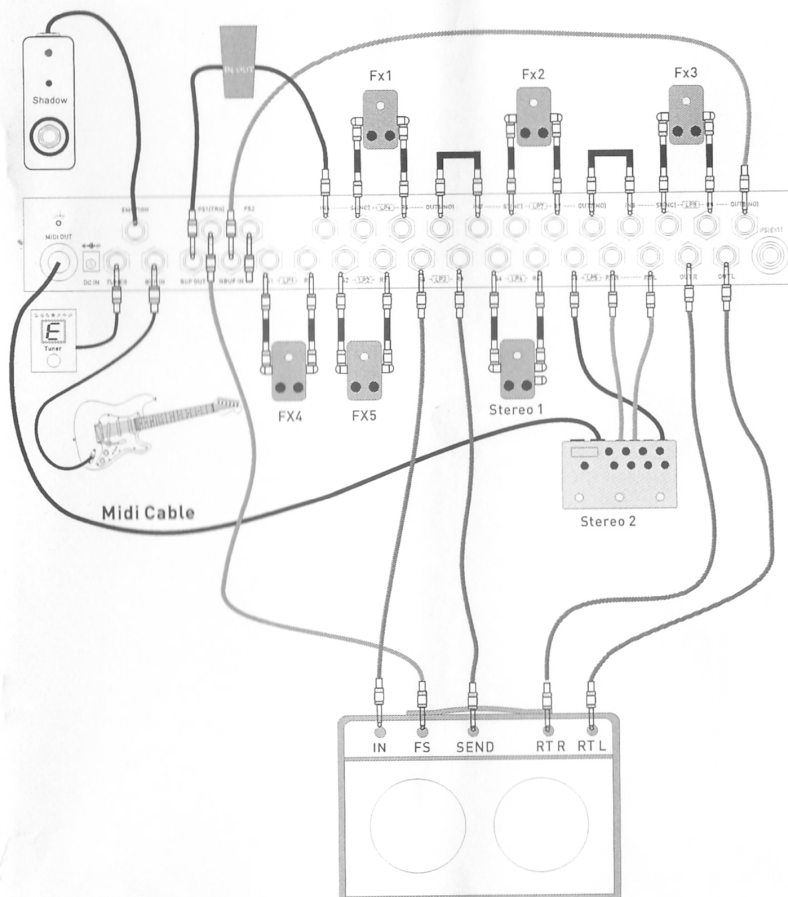## Tutorial 3 - 5 front pedals, 3 pedals in AMP loop, AMP with midi

Signal chain:
Guitar -> buffer -> FX1-> FX2-> FX3-> FX4->FX5->AMP Preamp -> FX6->FX7->FX8->Power AMP
Amp channels and patch of FX5 are controlled by midi.

Tutorial 4 - 5 front pedals, 2 stereo pedals in AMP loop

Signal chain:
Guitar -> buffer -> FX1-> FX2-> FX3-> FX4->FX5->AMP Preamp -> FX6->FX7->FX8->Power AMP
Amp channels and patch of FX5 are controlled by midi.

Signal chain:
Guitar -> buffer -> Wah-> FX1-> FX2-> FX3->FX4->FX5->LOOP3 (always on)->stereo1->stereo2-> AMP.

More tutorials are coming up......