

Providence[®]

**BASS FX CONSOLE
BFX-1**



OWNER'S MANUAL

Thank you for choosing a Providence product. In order to take full advantage of the features and performance the product provides, please read this owner's manual thoroughly, and keep it in a safe place for future reference.

◆ Main Features

- This advanced bass switching console includes a high-performance Providence bass preamp with 4-band EQ and acclaimed VITALIZER B circuitry. The unit can be patched so that LOOP-1 controls EQ ON/OFF switching.
- The VITALIZER B circuit is specifically designed to optimally handle bass guitar frequencies while delivering low-impedance output for consistently high sound quality with just about any signal routing setup.
- The balanced DI OUT connector can be switched to LOOP-3 or LOOP-4 output to take full advantage of the additional functionality provided by LOOP-4 (Separate Loop).
- LOOP 4 (Separate Loop) can be used independently and provides its own inputs and outputs as well as a send-return loop for versatile system configuration.
- Four effect loops (three in series and one separate) in a compact pedal unit that is only 290 mm wide and 70 mm deep.
- Up to four effect loop combinations can be stored in memory for easy recall when needed (Program Mode).
- All four effect loops can be independently switched ON or OFF (Direct Mode).
- 80 mm footswitch spacing for easy operation.
- Extra-bright LEDs with lenses provide high visibility.

■ Specifications

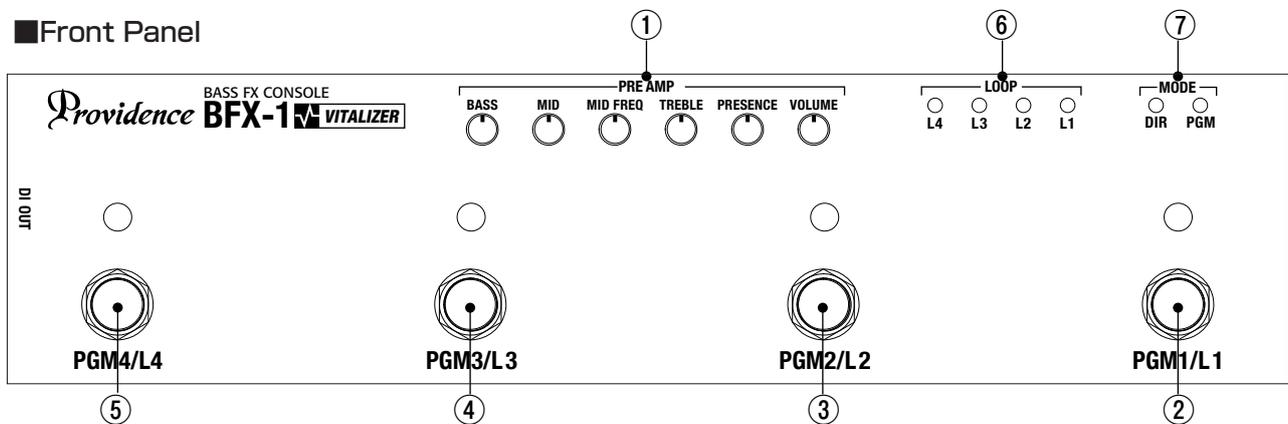
- Power Supply: AC adaptor (PAP-712DC)
- Power Consumption: 160mA (LOOP-1~LOOP-4 ON)
- Dimensions (W x D x H): 290 x 70 x 32 ~ 40 mm (incl. jacks and switches)
- Weight: 780 grams, approx.
- Supplied Accessories: AC adaptor (PAP-712DC)

■ Handling Precautions

- Switching the unit on or off while it is connected to an amplifier that is powered on with the volume turned up can damage the amplifier and/or speakers. Make sure the amplifier is turned off, or the BFX-1 is unplugged from the amplifier, when turning the BFX-1 power on or off.
- If the unit malfunctions or behaves erratically, cease operation at once and contact the dealer from which the unit was purchased.

1. Controls and Connectors

■ Front Panel



① PRE AMP (EQ Controls)

- **BASS:** Adjusts the level of the low frequencies. Bass response is flat with the control at its center click-stop position. Center frequency is 60 Hz, with a boost/cut range of ± 14 dB.
- **MID:** Adjusts the level of the midrange frequency band specified by the MID FREQ control. Midrange response is flat with the control at its center click-stop position. The boost/cut range is ± 14 dB.
- **MID FREQ:** Sets the center frequency of the midrange frequency band to be adjusted by the MID control. The mid frequency range is 150 Hz ~ 1 kHz.
- **TREBLE:** Adjusts the level of the high frequencies. Treble response is flat with the control at its center click-stop position. Center frequency is 3 kHz, with a boost/cut range of ± 14 dB.
- **PRESENCE:** Adjusts the level of the ultra-high frequencies above the treble band. Presence response is flat with the control at its center click-stop position. Center frequency is 7.5 kHz, with a boost/cut range of ± 14 dB.
- **VOLUME:** Adjusts the output level of the bass preamp. Gain is "unity" (i.e. the output level is the same as the input level) with the control at its center click-stop position. The input signal is boosted by 6 dB when the VOLUME control is rotated fully clockwise.

② PGM1/L1 Switch

In the Program mode this switch recalls the setting stored in the PGM1 memory. In the Direct Access mode it turns LOOP-1 ON or OFF.

③ PGM2/L2 Switch

In the Program mode this switch recalls the setting stored in the PGM2 memory. In the Direct Access mode it turns LOOP-2 ON or OFF.

④ PGM3/L3 Switch

In the Program mode this switch recalls the setting stored in the PGM3 memory. In the Direct Access mode it turns LOOP-3 ON or OFF.

⑤ PGM4/L4 Switch

In the Program mode this switch recalls the setting stored in the PGM4 memory. In the Direct Access mode it turns LOOP-4 ON or OFF.

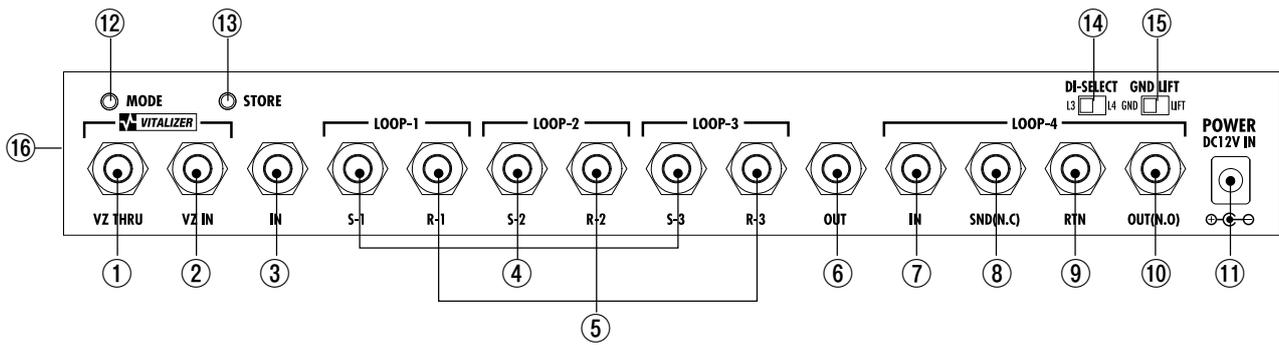
⑥ LOOP ON/OFF LED

These LEDs show the ON/OFF status of the corresponding loops. When a loop is ON the corresponding LED will also be ON.

⑦ MODE Status Indicator

These indicators show the unit's current mode. The PGM LED (red) lights when the Program mode is engaged, and the DIR LED (green) lights when the Direct Access mode is engaged.

Rear Panel



① VZ THRU (VITALIZER Thru)

The input signal is split and sent to a VITALIZER circuit ahead of the LOOP-1 circuit, and the output from the VITALIZER circuit is available at the VZ THRU connector. Low-impedance VITALIZER output is therefore available at all times. VZ THRU can be connected to other devices or an external tuner, for example.

② VZ IN (VITALIZER Input)

An input signal received here is sent to LOOP-1 after passing through the VITALIZER and EQ circuits. When a plug is inserted into the IN jack, described below, the VITALIZER and EQ circuits are bypassed and do not affect the input signal.

③ IN (Input)

An input signal received here is directly sent to LOOP-1 without passing through the VITALIZER and active EQ circuits.

④ S-1, S-2, S-3 (Send 1~Send 3)

These are the send jacks for LOOP-1, LOOP-2, and LOOP 3. The send jacks send the corresponding loop signal to the external device(s) used with that loop. When a loop is switched OFF the corresponding send is muted, preventing unwanted signal leakage and noise. These jacks should be connected to the inputs of the effect devices used in the corresponding loops.

⑤ R-1, R-2, R-3 (Return 1~Return 3)

These are the return jacks for LOOP-1, LOOP-2, and LOOP 3. The outputs from the corresponding effect units should be connected to these jacks.

⑥ OUT (Output)

This is the final output from series-connected loops LOOP-1 ~ LOOP-3. The signal received at the VZ IN or IN jack passes through all three loops and is output via the OUT jack.

⑦ IN/LOOP-4

This is the LOOP-4 (Separate Loop) input jack.

⑧ SND (N.C.)

The LOOP-4 (Separate Loop) send jack. The signal input to LOOP-4 is sent to any device(s) connected to this jack, and it should be connected to the input of the effect unit used in the loop. When LOOP-4 is switched OFF the send is muted. This jack can also be used as a latched control connector (N.C.) for amp channel switching. "N.C." stands for "Normally

Closed," meaning that the control contacts are closed when the loop is switched OFF. The control contacts are open when the loop is switched ON.

⑨ RTN

The LOOP-4 (Separate Loop) return jack. The output from the device(s) used in LOOP-4 is returned here.

⑩ OUT (N.O.)

The LOOP-4 (separate Loop) output jack. This jack can also be used as a latched control connector (N.O.) for amp channel switching. "N.O." stands for "Normally Open," meaning that the control contacts are open when the loop is switched OFF. The control contacts are closed when the loop is switched ON.

⑪ POWER(DC12V IN)

The DC output cable from the dedicated AC adapter connects here. Only use the supplied PAP-712DC AC adapter.

⑫ MODE Switch

Alternately selects the PGM (Program) or DIR (Direct Access) mode.

⑬ STORE Switch

This switch is used to store the current settings in one of the unit's program memories.

⑭ DI-SELECT

Selects LOOP-3 (L3) or LOOP-4 (L4) for output via the balanced DI output circuitry and connector. Select L4 when the output of LOOP-3 is series-connected to the input of LOOP-4 and you want balanced output from all four loops. When LOOP-4 is being used independently as an input selector or amp channel switcher, the output from LOOP-3 will be the last signal output and therefore the DI-SELECT switch should be set to L3.

⑮ GND LIFT

Disconnects PIN 1 of the balanced output from ground when set to LIFT. This can reduce noise when a ground loop occurs between the balanced output and the connected device. The switch should normally be set to GND, connecting PIN 1 of the balanced output to circuit ground.

⑯ DI OUT

This XLR connector provides direct balanced output of the same signal that is appearing at the LOOP-3 or LOOP-4 OUT jack, according to the DI-SELECT switch setting.

2. Connections and Use

The following example covers basic connection and operation of series loops 1 through 3 (LOOP-1 ~ LOOP-3).

2-1. Preparation: Connecting the BFX-1 and related devices

Note: All related amplifiers should be turned OFF when setting up and connecting the BFX-1. Turn amplifier power ON after the setup procedure is complete.

- 1) Connect the effect units to be used in each BFX-1 loop to the appropriate loop connectors. Loop sends (S-1, S-2, and S-3) connect to effect inputs, and loop returns (R-1, R-2, and R-3) connect to effect outputs.
- 2) Connect the bass guitar to the BFX-1 VZ IN (VITALIZER IN) or IN (if you want to bypass the VITALIZER and active EQ circuits) jacks.
- 3) Connect the OUT and/or DI-OUT jack to the input of your amplifier and/or mixing console. In this case the DI-SELECT switch should be set to L3. A tuner, if required, can be connected to the VZ THRU (VITALIZER Thru) jack.
- 4) Connect the supplied AC adapter to the BFX-1 to apply power. Do not turn the amplifier(s) ON yet.
- 5) The BFX-1 will start up and the LED above the PGM1/L1 switch will light.
- 6) Turn the amplifier(s) ON and raise the amplifier volume control just enough to be able to check for proper operation. Raise the volume of the bass guitar until output is heard from the amplifier(s). If no sound is heard at this point go back and recheck all connections. When output has been confirmed, take another look at the effects to ensure that they are connected correctly.
- 7) Press the rear-panel MODE switch to change the active mode to DIR (Direct Access). The green MODE status DIR LED should light. In this mode the loops can be directly switched ON and OFF via the corresponding footswitches. You can now individually check the effects connected to each loop.

Example: A compressor pedal is connected to LOOP-1, an overdrive pedal is connected to LOOP-2, and a delay pedal is connected to LOOP-3. Turn each loop on individually and check that each effect is set up and functioning properly. If, for example, the overdrive connected to LOOP-2 doesn't seem to be working as expected, you could start by checking that the related cables are fully inserted, then move on to power supply, control settings, and so forth.

2-2. Programming the BFX-1

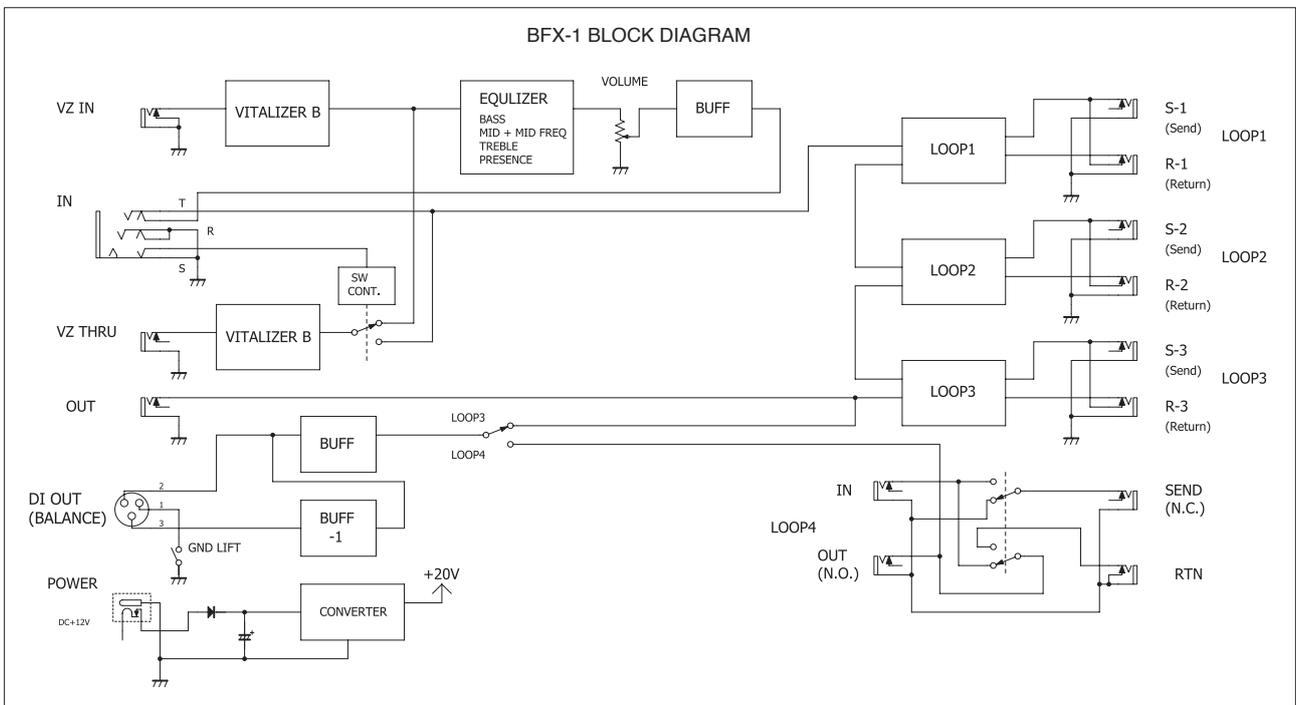
- 1) If the PGM mode is not already selected, press the rear-panel MODE switch so that the red PGM mode LED lights. The BFX-1 starts up in PGM mode when power is initially applied, so unless you have select the DIR mode there is no need to press the MODE switch to select the PGM mode.
- 2) Press the program selector switch you want to program: PGM1, PGM2, PGM3, or PGM4. To store a new PGM1 program, for example, press the PGM1/L1 switch so that the blue LED indicator above it lights.
- 3) Press the rear-panel MODE switch to select the DIR (Direct Access) mode. In the DIR mode, use the LOOP-1, LOOP-2, and LOOP-3 switches to set up the loop ON/OFF combination that you want to program for the PGM switch selected in step 2, above. When the loops are set up as required, press the rear-panel STORE switch to store the settings. The blue LED will flash to indicate that the settings have been stored.
- 4) Press the MODE switch again to return to the PGM mode, and check that the settings have been properly stored for the specified PGM switch.

That completes programming for one PGM switch. Repeat the process for the PGM2, PGM 3, and PGM 4 switches as required.

Programming Flowchart



3. Block Diagram



4. Feature Details

4-1. Preamp Section

●VITALIZER B

VITALIZER B is a version of the Providence VITALIZER®*1 circuit that has been specifically tuned for use with passive bass guitars. It prevents the loss of low-end definition that often occurs with passive bass pickups, delivering consistently tight, well-defined sound. VITALIZER B can also help to tighten up the low-impedance output from active basses, producing a smoother, more natural tone with less high-end harshness.

*1 The VITALIZER® Circuit

The Providence VITALIZER is an active impedance converter that prevents degradation of the instrument signal and makes it more resistant to noise. High impedance signals can become degraded and pick up noise while passing through multiple jacks, contact points, and cables. The low-impedance VITALIZER output is much more resistant to such changes. It has also been carefully designed and refined to maintain the natural tone of the instrument and effects used without sounding too "hi-fi."

●EQ

The EQ section features a four-band equalizer that ideally supports a wide range of musical genres and playing styles with frequency points that have been optimized for bass guitar. The MID (Midrange) control is a parametric type with variable center frequency for precise control. The PRESENCE control is designed to primarily affect overtones that contribute to clarity and "edge." All EQ controls feature special curves that have been selected to provide an ideal blend of subjective linearity and operating ease.

4-2. Input Section

●VZ IN (VITALIZER Input)

Use this input when you want to convert delicate passive bass output to a more robust signal that is resistant to degradation and noise (the signal level does not change). Signals received at this input also pass through the EQ circuit, allowing subtle response compensation or bold sound shaping as required. VZ IN is the best choice for pedal board system where the signal will pass through multiple relays, mechanical switches, patch plugs, and cables that might otherwise cause a loss of signal quality and/or increased noise.

●IN (Input)

Use this input if you don't need the VITALIZER circuit or EQ stage in your signal chain. The sound of some fuzz effects can change slightly when presented with a low-impedance signal, and in such cases it might be better to bypass the BFX-1 active circuitry by using the direct IN jack.

4-3. The Series Loops

LOOP-1, LOOP-2, and LOOP-3 are connected in series. All loops use high-quality mechanical relays for signal switching. When a loop is turned OFF, the corresponding send jack is muted so that no signal is sent to the connected effect(s). This prevents crosstalk-induced oscillation that can occur with some high-gain effects. All loops feature S.C.T (Single Contact True Bypass) circuits so that the signal only passes through one set of relay contacts when the loop is bypassed. The result is high reliability as well as the highest possible sound quality.

4-4. Separate Loop^{*1}

LOOP-4 is a truly "Separate Loop" that has its own ground and is essentially isolated from the rest of the BFX-1 circuitry.² It can be used as an external controller and will not cause ground loops that can result in noise when connected to amplifiers or effect loops. This important distinction allows LOOP-4 to be used for a variety of applications. If the three series-connected BFX-1 loops aren't enough, LOOP-4 can simply be added as a fourth series-connected loop. It can also be used as an input A/B switcher, a mute switch, and more. In addition to audio signal routing and switching LOOP-4 can be used as an external channel switcher with amps that allow use of a latched switch for that purpose.

*1 See "5. Separate Loop (LOOP-4) Examples" for examples of how LOOP-4 can be used.

*2 When the DI-SELECT switch is set to L4 so that the output from LOOP-4 is sent to the DI-OUT connector, the LOOP-4 ground is connected to the main BFX-1 circuit ground. Set the DI-SELECT switch to L3 to ensure that the LOOP-4 ground is completely isolated from the rest of the circuitry.

4-5. VZ THRU (VITALIZER Thru)

The signal received at the VZ IN or IN jack is split, passed through a VITALIZER circuit, and always available at this output jack. VZ THRU can be connected to a tuner, for example, so you can check your tuning at any time while playing. The split signal and VZ THRU output is buffered from the main signal path so that connected devices cannot affect operation of the main signal path in any way.

4-6. DI-OUT

This balanced XLR type output can be connected directly to live sound or recording systems for essentially unlimited control and mixing versatility. The provided ground lift switch makes it easy to interrupt ground loops that can cause unwanted noise. DI-OUT can be switched to output LOOP-3 or LOOP-4, allowing flexible operation of the unit's series and separate loops.

4-7. Power Supply Section

The BFX-1 runs on 12-volt DC power from the lightweight, compact adapter included. The power circuitry inside the main unit distributes appropriate stabilized power to each circuit section. Signal circuits are powered at 20 volts to maintain the widest possible dynamic range and the highest possible overall sonic quality.

5. Separate Loop (LOOP-4) Examples

1) Effect Loops

When the three series-connected BFX-1 loops are not enough, LOOP-4 can be configured as an additional effect loop. Connect the output from LOOP-1/LOOP-2/LOOP-3 to the LOOP-4 IN jack, the LOOP-4 SND send jack to the effect unit input, the effect unit output to the LOOP-4 RTN return jack, and the LOOP-4 OUT jack to the following equipment.

* For this application set the DI-SELECT switch to L4.

2) Input Selector

This setup makes it possible to switch between two input sources. When LOOP-4 is ON the signal received at the LOOP-4 RTN jack is routed to the LOOP-4 OUT jack, and when the LOOP-4 is OFF the signal received at the LOOP-4 IN jack is routed to the LOOP-4 OUT jack. The LOOP-4 SND jack is not used.

3) Mute Switch

If nothing is connected to the LOOP-4 RTN jack, the LOOP-4 OUT jack is muted when the loop is ON. If a tuner is connected to the LOOP-4 SND jack, the tuner will be active only when the loop is ON and LOOP-4 OUT is muted.

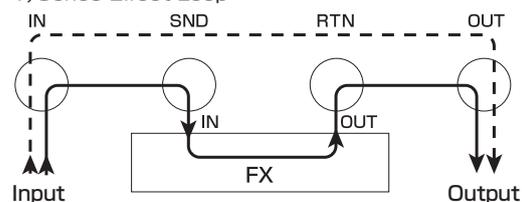
* To also use the DI-OUT connector with LOOP-4, make sure that the DI-SELECT switch is set to L4.

4) External Amp Channel Selector

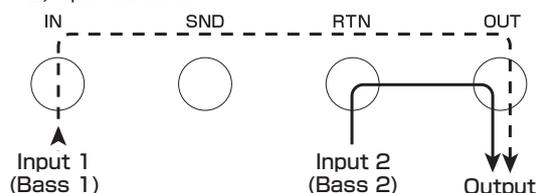
In addition to switching and routing audio signals, the Separate Loop circuit can be used as an external controller for amplifier channel switching with amps that allow use of a latched switch for that purpose. Some amps require an N.C. (Normally Closed) type latched switch for channel selection, while others require an N.O. (Normally Open) type latched switch. The BFX-1 LOOP-4 circuit supports both types. The LOOP-4 SND (N.C.) jack functions as a Normally Closed latched switch, and the LOOP-4 OUT (N.O.) functions as a Normally Open latched switch. Connect the appropriate jack to the amplifier's channel select jack via a mono phone cable.

* For this application the DI-SELECT switch must be set to L3.

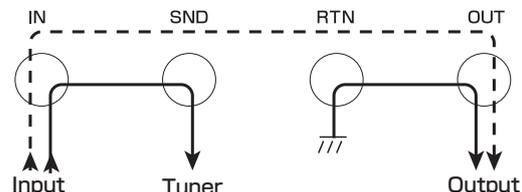
1) Series Effect Loop



2) Input Selector

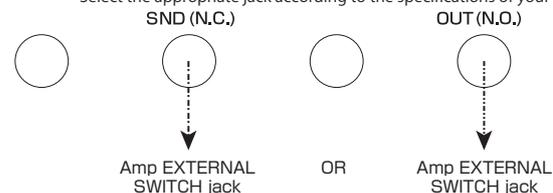


3) Mute Switch

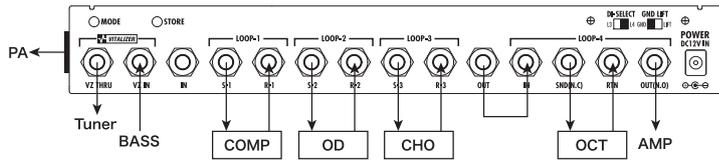


4) External Amp Channel Selector

Select the appropriate jack according to the specifications of your amp.

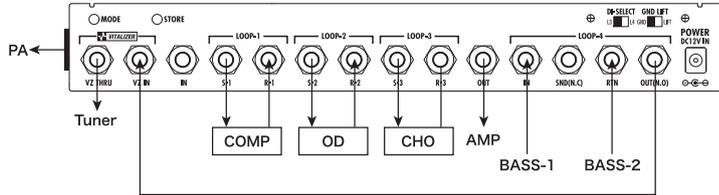
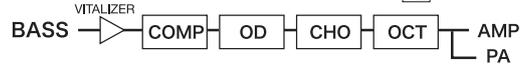


6. Application Examples



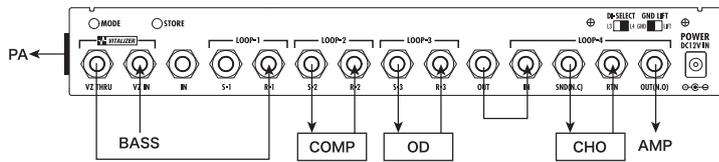
1. Four effect units with one bass guitar

DI-SELECT SW : L4
DI-SELECT L3 L4



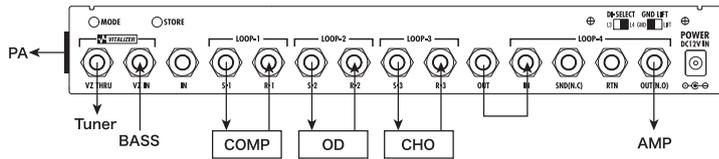
2. Three effect units with two bass guitars

DI-SELECT SW : L3
DI-SELECT L3 L4



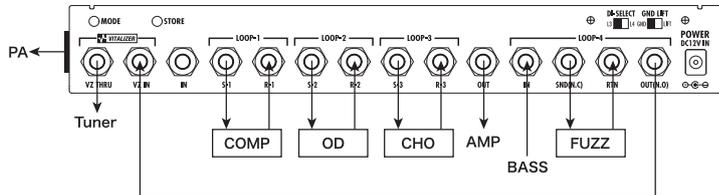
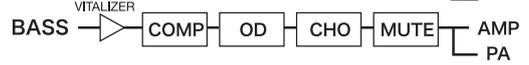
3. Use LOOP-1 to turn the internal EQ ON/OFF

DI-SELECT SW : L4
DI-SELECT L3 L4



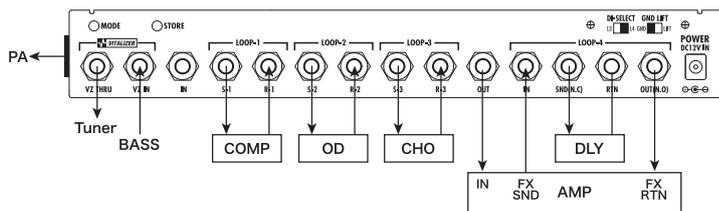
4. Use LOOP-4 to mute/unmute the effect system

DI-SELECT SW : L4
DI-SELECT L3 L4



5. Use fuzz and VITALIZER in the same system (VITALIZER after fuzz)

DI-SELECT SW : L3
DI-SELECT L3 L4



6. Use the three BFX-1 series loops with the amp effect loop

DI-SELECT SW : L4
DI-SELECT L3 L4

