



BACK PAGE EXPRESSION PEDAL CONTROLS OF THE SOUNDBLOX PRO BASS ENVELOPE FILTER

Summary

The following information digs deeper into the 'Back Page Parameters' of the Soundblox Pro Bass Envelope Filter specifically relating to an expression pedal. The BEF Pro boasts an incredible variety of functions that can be most completely explored with a full understanding of these controls. They are divided into two categories: 'XD' for Expression Pedal Depth, which controls the range of an expression pedal and 'XC' for Expression Pedal Control, which controls the parameter assignment of an expression pedal.

Expression Pedal Depth (XD)

The 'XD' marker located on the leftmost side of the graphic EQ signifies the Expression Depth function. This can be used to modify the range or depth of a third-party expression pedal connected to the BEF Pro. There are a total of 25 possible 'XD' selections between -12 and +12 with 5 levels in between each level indicated by a single LED being lit.

A single light in the +12 position denotes the maximum depth of positive value.

A single light in the -12 position denotes the maximum depth of negative value.

A single light in the '0' position is a neutral selection that effectively disables the expression input.

Expression Pedal Control (XC)

The 'XC' marker located second from the left above the graphic EQ signifies the Expression Control function. This can be used to select the input destination of a third-party expression pedal or the LFO. Any of the four control knobs (Frequency, Sweep Range, Speed, and Mix) may be a destination. Filter modulation and the effect selector knob are also available destinations.

When paired, the knobs remain active with the expression pedal signal summed with the knob position. This sum value is pinned to stay within the full control range of the knobs alone. To enable control of the entire range of a knob with an expression pedal, it is important to set the destination knob to the full counter-clockwise position. Otherwise, the value will pin and some of the physical range of the expression pedal will not have any effect.

It is important to note that the signal from the expression pedal is identical to the action of turning each knob. The range and direction of the expression pedal is dictated by the 'XD' parameter. When 'XD' is set to a parameter above the neutral '0' position (towards +12), moving the expression pedal forward will be like turning the destination knob clockwise. When 'XD' is set to a parameter below the neutral '0' position (towards -12), moving the expression pedal forward will be like turning the destination knob counter-clockwise.

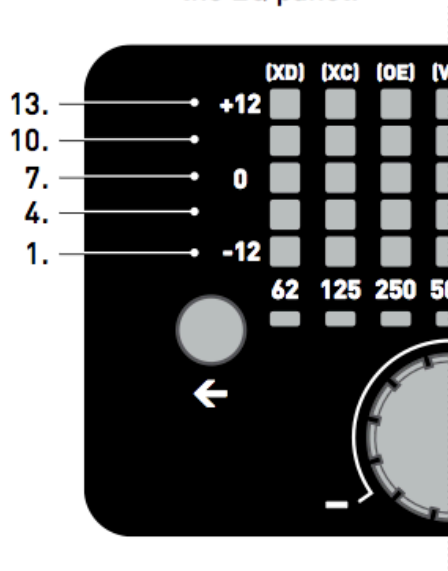
For example, in the case of the Sweep Range knob, this means that rocking the expression pedal forward while the knob is set to its full counter-clockwise position may pass the signal from maximum negative sweep through zero modulation to maximum positive sweep.

For split function knobs such as Sweep Range, it is advisable to set the destination knob to 12 o'clock and set the 'XD' parameter to half of its maximum positive (+6) or negative (-6) so that the full range of the expression corresponds to the full range of one function.

For single function knobs such as Frequency, it is advisable to set the destination knob to its full counter-clockwise position and set the 'XD' parameter to its maximum positive (+12) so that the full range of the expression pedal corresponds to the full range of the knob.

There are 13 possible 'XC' selections. Starting from the bottom (-12), they are:

The 13 possible 'XC' selections start from the bottom (-12) on the EQ panel.



1. **EXPRESSION PEDAL to SPEED**
2. EXPRESSION PEDAL to SWEEP RANGE
3. EXPRESSION PEDAL to WET/DRY MIX
4. **EXPRESSION PEDAL to MODULATION**
5. EXPRESSION PEDAL to FREQUENCY
6. EXPRESSION PEDAL to EFFECT SELECTOR
7. **LFO to EFFECT SELECTOR**
8. LFO to EFFECT SELECTOR and EXPRESSION PEDAL to LFO SPEED
9. LFO to FREQUENCY
10. **LFO to FREQUENCY and EXPRESSION PEDAL to LFO SPEED**
11. LFO to MODULATION and EXPRESSION PEDAL to LFO SPEED
12. LFO2 TO MODULATION and EXPRESSION PEDAL to LFO2 SPEED
13. **LFO2 to EFFECT SELECTOR and EXPRESSION PEDAL to LFO2 SPEED**

Selections in bold are denoted by a single LED.

1. EXPRESSION PEDAL TO SPEED

This setting is primarily intended to enable control of the LFO rate with an expression pedal, but can also be used for Envelope and Hot Hand modes. Note that when the pedal is set to Envelope mode, the Speed Knob is divided into two regions.

2. EXPRESSION PEDAL TO SWEEP RANGE

This setting enables expression pedal control of the depth and/or direction of the envelope filter sweeps.

To exclusively control the *depth* of the filter sweeps, set the knob to 12 o'clock and the 'XD' parameter to half of its maximum positive (+6) for upward sweeps or negative (-6) for downward sweeps.

To exclusively control the *direction* of the filter sweeps, set the knob to its full counter-clockwise position and set the 'XD' setting to its maximum positive position (+12). In this setting, the expression pedal will have a maximum negative filter sweep when in its backmost position and a maximum positive filter sweep when in its full forward position with variations in between. The zero modulation point will occur in the center of the pedals range.

3. EXPRESSION PEDAL TO WET/DRY MIX

This setting enables expression pedal control of the wet/dry mix of the BEF Pro. As the maximum 'dry' setting occurs at 12 o'clock on the Mix Knob, it is advisable to set the knob to 12 o'clock and the 'XD' parameter to half of its maximum positive (+6) or negative (-6) position depending on the preferred mix settings (see Mix Knob explanation p.???)

To set the maximum dry sound to the full forward position of the expression pedal, either set the Mix Knob to its full counter-clockwise position and the 'XD' parameter to half of its maximum positive position or set the Mix Knob to its full clockwise position and the 'XD' parameter to half of its maximum negative position.

4. EXPRESSION PEDAL TO MODULATION

This setting is primarily intended to allow an expression pedal to control the BEF Pro in a similar fashion to a standard wah pedal. This will turn the expression pedal into a new modulation source to be directly summed with the selected primary modulation sources of the BEF Pro (Envelope, LFO, or Hot Hand).

For standard wah pedal functionality, disable the primary modulation signal by setting the Sweep Range knob to 12 o'clock and set the 'XD' parameter to its desired range of positive or negative modulation.

Many of the filter effect types on the BEF Pro feature multiple filter shapes sweeping in varied directions. To emulate the linear sweeps of a standard wah pedal, it is advisable to select one of the less complex filter effect types such as the Single Peak or 2 Pole Low Pass settings.

Even more unique wah pedal sounds can be achieved through various combinations of expression pedal modulation with the primary modulation sources of the BEF Pro enabled by moving the Sweep Range knob away from its neutral 12 o'clock position.

5. EXPRESSION PEDAL TO FREQUENCY

This setting allows an expression pedal to raise or lower the frequency range that the primary modulation source (Envelope, LFO, or Hot Hand) operates within. It also serves as another option for allowing an expression pedal to function as a standard wah pedal.

For standard wah pedal functionality, disable the primary modulation signal by setting the Sweep Range knob to 12 o'clock and set the 'XD' parameter to its desired range of positive or negative modulation. Each filter effect type will function as a locked equalizer shape moving as a unit according to the input of an expression pedal. As a result, each effect type will only vary in tone.

To line up the full range of the expression pedal with the full range of the Frequency Knob, set the Frequency Knob to its full counter-clockwise position and set the 'XD' parameter to its maximum positive (+12) position.

6. EXPRESSION PEDAL TO EFFECT SELECTOR

This setting allows an expression pedal to pass through each effect type available on the BEF Pro. This can be used either as a method for quickly switching between filter effect types or for generating a sequencer like sound.

The starting point and stopping point of the expression pedals movement can be selected with the Effect Selector knob and the 'XD' parameter respectively.

In this setting, the positions of the 'XD' parameter do not correspond to depth but rather to each individual effect type available on the Effect Selector knob. The 23 available filter effect types are selectable as the first 23 of the 25 available 'XD' positions beginning from the bottom (-12). The final two positions are redundancies of effect #23.

The expression pedal will sequentially pass through all effect types in a clockwise motion starting from the Effect Selector knobs selection until it reaches the ending point defined by the 'XD' parameter. Depending on the control range, the Effect Selector values may wrap around from effect #23 to #0 and beyond, and in the opposite direction as well. The LED's around the Effect Selector knob do not change as the expression pedal is moved.

The Effect Selector knob can be changed normally after exiting the Back Page parameter and each filter effect type can still be modulated by the BEF Pro's primary modulation sources (Envelope, LFO, Hot Hand) when in this mode.

7. LFO TO EFFECT SELECTOR

This setting is primarily intended to create a continuous sequencer-like sound by allowing the LFO to control the Effect Selector knob. The Speed Knob controls the rate of the LFO. Each individual effect can be controlled by the BEF Pro's primary modulation sources (Envelope, LFO, or Hot Hand) when in this mode unless deactivated by setting the Sweep Range knob to it's neutral 12 o'clock position.

The starting point and stopping point of the LFO's movement can be selected with the Effect Selector knob and the 'XD' parameter respectively. The LFO shape can be selected with the back page parameter 'LS' (see p. ??).

The *square wave* setting will switch between only the effect types of the starting and stopping points.

The *sine wave* setting will slide back and forth between the starting point and stopping point effect types. It is important to note that the sine wave shape will double the time spent on the starting and stopping points resulting in an audible variation in sequencer rate.

The *rectified sine wave* setting will behave similarly to the regular sine wave but with the time spent on the starting point will be halved.

The *saw-tooth* settings will slide upwards from the starting point to the stopping point effect types and then rapidly return to the starting point.

The *triangle step* settings will sequentially switch up and down through the effect types between the selected starting point and stopping point effects.

The *step saw* settings will all climb upwards from the starting point to the stopping point effect, switching between effect types and then rapidly returning to the starting point.

The *random step* setting will randomly switch between effect types between the selected starting point and stopping point effects.

8. LFO TO EFFECT SELECTOR AND EXPRESSION PEDAL TO LFO SPEED

This setting is identical to the previous setting (LFO to Effect Selector) only in this mode the expression pedal takes over control of the Speed knob.

9. LFO TO FREQUENCY

This setting uses input from the LFO signal of the BEF Pro to control the parameters of the Frequency knob. The Speed knob controls the LFO rate and the 'XD' parameter controls the depth of the LFO wave shape. When the 'XD' parameter is set below the neutral '0' position, the LFO wave shapes will reverse. The differences will not be audible in the symmetrical LFO shapes such as the sine wave, rectified sine, square, and step triangle settings. While in this setting, each of the BEF Pro's primary modulation sources (Envelope, LFO, or Hot Hand) are available for use on the selected filter effect type.

To align the full range of the Frequency knob with the LFO, set the Frequency knob to 12 o'clock and the 'XD' parameter to half of its positive maximum (+6) or half of its negative maximum (-6).

If the Frequency knob or 'XD' parameters are set such as that the value exceeds the range of the Frequency knob, the output will hit and remain at the maximum positive or negative position until the LFO returns to within range.

10. LFO TO FREQUENCY AND EXPRESSION PEDAL TO LFO SPEED

This setting is identical to the previous setting (LFO to Frequency and Expression Pedal to LFO Speed) only in this mode the expression pedal takes over control of the Speed knob.

11. LFO TO MODULATION AND EXPRESSION PEDAL TO LFO SPEED

This setting is primarily intended for the combination of LFO modulation with one of the other primary modulation sources of the BEF Pro (Envelope or Hot Hand). The primary modulation sources use the top panel depth and speed controls while the LFO uses the 'XD' parameter and an expression pedal for depth and speed.

12. LFO2 TO MODULATION AND EXPRESSION PEDAL TO LFO2 SPEED

This setting allows for the combination of an LFO with *all* of the BEF Pro's primary modulation sources (Envelope, LFO or Hot Hand). The wave shape of LFO2 is restricted to a triangular waveform while the primary LFO is adjustable through the 'LS' parameter. The primary modulation sources use the top panel depth and speed controls while the LFO2 uses the 'XD' parameter and an expression pedal for depth and speed.

13. LFO2 TO EFFECT SELECTOR AND EXPRESSION PEDAL TO LFO2 SPEED

This setting allows for the combination of LFO to Effect Selector with *all* of the BEF Pro's primary modulation sources (Envelope, LFO, or Hot Hand). The starting and ending points of the LFO2 Effect Selector cycle are chosen by the Effect Selector knob and 'XD' parameter respectively. The primary modulation sources use the top panel depth and speed controls while the LFO2 uses an expression pedal for speed.