

# electro-harmonix

## BASS MONO SYNTH

Congratulations on your purchase of the Electro-Harmonix Bass Mono Synth. The Bass Mono Synth allows you to transform your bass guitar into one of eleven different synthesizers, from vintage synth emulations, to thick stacked voices, to deep pulsing sounds for an array of sonic landscapes and textures. The Bass Mono Synth was designed to work on your bass guitar without any modifications or special pickups. Plug in your bass and immediately join the synth race!

**WARNING:** Your Bass Mono Synth comes equipped with an Electro-Harmonix 9.6DC-200BI power supply (same as used by Boss® & Ibanez®: 9.6 Volts DC 200mA). The Bass Mono Synth requires 125mA at 9VDC with a center negative plug. Using the wrong adapter or a plug with the wrong polarity may damage your Bass Mono Synth and void the warranty.

### GETTING STARTED

Connect the supplied power adapter to the 9V power jack. Plug your instrument into the INPUT jack. Connect your amp or other effects pedals to the SYNTH OUTPUT jack. Set the DRY knob to minimum (fully counterclockwise) and set the other top row knobs to 12 o'clock. Select a TYPE and step on the BYPASS footswitch to turn on the LED. Play your bass and adjust controls to your liking.

### ONE NOTE AT A TIME

The Bass Mono Synth is a multi-oscillator monophonic instrument. It synthesizes one note at a time per oscillator. The oscillators have been pre-tuned for each synth type—only the synth type SPECTRE allows for user control over an oscillator. Additionally it can handle only one note from your bass at a time. It does not work properly when chords or two note intervals are played. The Bass Mono Synth behaves unpredictably and erratically when it receives more than one note at the INPUT jack.

### SYNTH TYPE DESCRIPTIONS

#### 1. **LASER** – deep, pulsating synth.

**CTRL:** this knob adjusts the attack and decay times of the filter envelope. As CTRL is turned clockwise both the attack and decay times slow down.

**EXP:** the expression pedal controls the cutoff frequency of the filter and sets the jump-off frequency for the envelope sweep. As the pedal travels from heel to toe the filter frequency goes from bass to treble.

#### 2. **X-FADE** – multi VCO synth with some dry signal added to the filter sweep.

**SENS:** sets filter sweep envelope follower depth and synth volume.

**CTRL:** adjusts the decay time of the filter envelope.

**EXP:** controls the cutoff frequency of the filter and the base of the filter envelope sweep.

3. **ACID** – fast decaying synth reminiscent of the TB-303.  
**SENS:** higher settings make for wider filter sweeps.  
**CTRL:** adjusts both filter resonance and sweep depth of the filter envelope. As CTRL is turned clockwise, both resonance and filter envelope frequency range increase.  
**EXP:** the expression pedal controls the filter envelope's decay time, which is triggered by pick attacks. Decay time increases as the pedal is swept from heel to toe.
4. **COSMIC** – bright and aggressive synth with subtle pitch modulation.  
**CTRL:** sets the decay time of the filter envelope.  
**EXP:** controls pitch modulation depth.
5. **SUB** – round sub-octave synth for adding low end.  
**CTRL:** controls the volume of the sub-octave oscillator.  
**EXP:** controls the cutoff frequency of the filter.
6. **GROWL** – percussive, punchy synth.  
**SENS:** adjusts filter sweep depth.  
**CTRL:** sets the decay time of the filter envelope.  
**EXP:** controls the filter envelope's sweep depth or frequency range.
7. **WUB** – pulsating synth with a modulating filter.  
**CTRL:** sets the speed of modulation.  
**EXP:** controls the filter's center frequency.
8. **UNISON** – the huge sound of stacking voices on a polyphonic synth  
**CTRL:** sets the decay time of the filter envelope.  
**EXP:** controls the cutoff frequency of the filter and the base of the filter envelope sweep.
9. **TWIN** – A throaty synth sound.  
**SENS:** higher settings make for wider filter sweeps.  
**CTRL:** adjusts the attack and decay times of the filter envelope.  
**EXP:** controls the filter envelope's sweep depth or frequency range.
10. **SPECTRE** – multi VCO synth with an added adjustable pitched note.  
**SENS:** higher settings make for wider filter sweeps.  
**CTRL:** adjusts the filter's cutoff frequency.  
**EXP:** controls the pitch of the added note in half-step increments. The pitch ranges from -1 octave—at the heel—to + 4 octaves—at the toe.
11. **OBLIVION** – big, lush, warm synth tone with a warbling modulation effect.  
**CTRL:** controls the rate of modulation.  
**EXP:** controls the resonance of the filter.

## CONTROLS AND I/O JACKS

### **DRY VOL Knob**

The DRY VOL knob controls the volume of the untreated bass signal present at the SYNTH OUTPUT jack.

### **SYNTH VOL Knob**

The SYNTH VOL knob controls the overall volume of the synthesizer sound at the SYNTH OUTPUT jack.

### **SENS Knob**

The SENS knob (short for sensitivity) adjusts the gain of the input signal before the signal hits the Bass Mono Synth's (BMS) trigger block. The BMS trigger block generates synth notes that match the pitch of your instrument and also resets all envelope sweeps. It only triggers new notes when the input signal exceeds its threshold. Lower settings of SENS will require louder notes to trigger the synthesizer while higher settings of SENS might trigger new synth notes with every note you play. The LED lights orange when the input signal to the synth engine exceeds -4.6dB. Use the LED as an aid when adjusting the SENS knob. Setting the SENS knob so the LED lights orange on your loudest notes is a good place to start. Please note: the LED does not indicate when the input signal has triggered a new note; it lights only to indicate the loudness of SENS. If some of your notes do not trigger the synth, then turn up SENS. If you hear many false triggers or retriggers without playing a new note then turn down SENS.

For all BMS synth types, the gain set by SENS also changes the synth volume over a small range. For some synth types, SENS also adjusts the sweep range of the filter's envelope. Higher settings of SENS yield wider filter sweeps and typically more volume. Check the SYNTH TYPE DESCRIPTIONS on the previous pages to see which synth type filters are directly affected by the SENS knob.

### **CTRL Knob**

This knob can be used to control a specific parameter for each synth type. See the SYNTH TYPE DESCRIPTIONS on pages 1 and 2 to learn more.

### **INPUT Jack**

Plug your instrument or the output of another effects pedal into this 1/4" jack. See Tips 1 & 2 on Page 7 for more on connecting your Bass Mono Synth.

### **DRY OUTPUT Jack**

The DRY OUTPUT jack is hardwired to produce a buffered version of the signal present at the INPUT jack. In either EFFECT or BYPASS mode, the dry signal is always present at the DRY OUTPUT jack. The DRY knob does not change the volume of the signal at the DRY output jack.

### **SYNTH OUTPUT Jack**

The SYNTH OUTPUT jack produces the mix set by the DRY and SYNTH volume controls. In BYPASS mode, SYNTH OUTPUT outputs the buffered bypass signal.

## **EXP Jack**

The EXP jack accepts a TRS cable from a standard passive expression pedal. Each synth type has a specific parameter controlled by the expression pedal, as explained in the SYNTH TYPE DESCRIPTIONS section.

When saving a preset, the expression pedal position is saved along with the knobs. If the expression pedal is not present or has not been moved since recalling the preset, the Bass Mono Synth loads the saved expression pedal setting. This allows you to tweak the parameter(s) controlled by the expression pedal to later recall with your presets.

The expression pedal's plug must be wired with the Sleeve connected to the heel position (usually GND), Ring connected to the toe position and the Tip connected to the wiper. The nominal expression pedal impedance is 10k $\Omega$  though most other values will work fine. Please do not go below 6k $\Omega$  on your expression pedal's potentiometer impedance. Some suggested Expression Pedals: EHX Expression Pedal, EHX Dual Expression, Moog® EP-2 and EP-3, Roland® EV-5 and Boss® FV-500L. Additionally, the EXP IN jack can be connected to a CV source using a TS plug; the acceptable control voltage range is 0V to 5V.

## **BYPASS Footswitch**

Press the BYPASS footswitch to toggle the SYNTH OUTPUT jack between buffered bypass and effect modes. The status LED lights when you are in effect mode.

## **PRESET Footswitch**

Use this footswitch to toggle between Preset and live What You See Is What You Get (WYSIWYG) modes. The PRESET footswitch is also used to save a preset to the current synth type set by the TYPE knob. See the PRESETS section for more information on saving and recalling presets.

## **Status LED**

The Status LED lights while the Bass Mono Synth effect is engaged. The Status LED is off when the unit is in buffered bypass. The LED lights green for WYSIWYG mode and lights red when preset mode is selected. The LED lights orange, in either mode, when loud notes are output from the SEND block into the synth trigger block.

## PRESETS

When the LED on the Bass Mono Synth (BMS) is green, you are in live WYSIWYG mode, meaning that the current knob and expression pedal settings represent the sound that is produced. You can also save and recall one preset for each of the eleven synth types. All four knobs in the top row are saved along with the setting of the expression pedal—when an expression pedal is attached at the time of saving the preset. The LED lights red when Preset mode is active.

### RECALLING A PRESET

1. Assuming the Status LED is green at the moment, turn the TYPE knob to the synth type that you want to recall. If the Status LED is currently red skip to step 3.
2. Press and release the PRESET footswitch. The preset for the current synth type will be recalled and the Status LED lights red.
3. At this time you may turn the TYPE knob to load the preset for each synth type.
4. Press and release the PRESET footswitch to return to WYSIWYG mode.

### SAVING A PRESET

1. A preset may be saved while either in WYSIWYG or Preset mode.
2. Press and hold the PRESET footswitch. After holding for about 2 seconds you will see the LED blink red at a fast rate.
3. Once the LED blinks red you may release the PRESET footswitch, the preset is now saved.
4. If an expression pedal is attached we recommend you don't move it while saving a preset.

### EDITING A PRESET

1. After recalling a preset, the LED lights solid red.
2. If you move any of the four knobs in the top row of knobs, the LED blinks red to indicate that a preset is loaded but has been changed in some way.
3. The LED does not blink if the expression pedal is moved after loading a preset.
4. If you press and release the PRESET footswitch, while the LED is blinking red, it will reload the preset from memory. After reloading, the LED lights solid red again.
5. If you press and hold the PRESET footswitch while the LED is blinking red, your newly edit preset will be saved to memory. Press and hold the PRESET footswitch until you see the LED blink at a fast pace.

### EXITING PRESET MODE

To exit Preset mode and return to WYSIWYG mode, simply press and release the PRESET footswitch. The LED will turn green. If the preset had been edited and you see the LED blinking red, press and release the PRESET footswitch twice to return to WYSIWYG mode.

## **EXPRESSION PEDAL PARAMETERS AND PRESETS**

If an expression pedal is connected to the BMS at the time you save a preset, the current state of the parameter(s) controlled by the expression pedal will be saved within the preset. Moving the expression pedal while in a preset does not result in the LED blinking (indicating an edited preset). If you later recall a preset without an expression pedal attached, the parameter(s) controlled by the expression pedal will be recalled with their values at the time of saving. Upon moving back to WYSIWYG mode, that parameter will go back its default setting.

## **FACTORY RESET**

To perform a factory reset and restore all default presets do the following:

1. Unplug the power cable from the BMS.
2. Press and hold the BYPASS footswitch as you apply power.
3. Continue to hold down the BYPASS footswitch until you see the LED toggle between red and green. Normally it will take four seconds for the LED to begin toggling.
4. Once the LED starts toggling between red and green, you can release the BYPASS footswitch. **DO NOT REMOVE POWER AT THIS POINT!**
5. About four to five seconds later the LED will light green and then shut off. The factory reset is complete and your BMS is ready for use.

## **NOTES AND SPECIFICATIONS**

- Buffered bypass
- Input impedance:  $2.2M\Omega$
- Output impedance (for both output jacks):  $680\Omega$
- Current draw: 125mA

## **TIPS ON GETTING OPTIMUM PERFORMANCE FROM THE BASS MONO SYNTH**

1. The Bass Mono Synth is generally best used as the first pedal in an effects chain. Place modulation, delay, and reverb effects after the Bass Mono Synth. The unit will not perform well if placed in the effects loop of a guitar amp.
2. Avoid placing a distortion or overdrive in front of the Bass Mono Synth, which could muddy up the input signal and cause the tracking to be unstable. If you want to add overdrive or distortion, place it after the Bass Mono Synth.
3. Make sure to play only one note at a time. The Bass Mono Synth acts unpredictably and erratically when it receives two or more notes at once.
4. You might find the SENS knob needs to be adjusted for each synth type. This is normal, each synth type reacts differently to the gain provided by SENS.

## - COMPLIANCE -

*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 or an experienced radio/TV technician for help.*

*Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.*



The CE logo indicates that this product has been tested and shown to conform with all applicable European Conformity directives.

## - WARRANTY INFORMATION -

Please register online at <http://www.ehx.com/product-registration> or complete and return the enclosed warranty card within 10 days of purchase. Electro-Harmonix will repair or replace, at its discretion, a product that fails to operate due to defects in materials or workmanship for a period of one year from date of purchase. This applies only to original purchasers who have bought their product from an authorized Electro-Harmonix retailer. Repaired or replaced units will then be warranted for the unexpired portion of the original warranty term.

If you should need to return your unit for service within the warranty period, please contact the appropriate office listed below. Customers outside the regions listed below, please contact EHX Customer Service for information on warranty repairs at [info@ehx.com](mailto:info@ehx.com) or +1-718-937-8300. USA and Canadian customers: please obtain a **Return Authorization Number** (RA#) from EHX Customer Service before returning your product. Include—with your returned unit—a written description of the problem as well as your name, address, telephone number, e-mail address, RA#, and a copy of your receipt clearly showing the purchase date.

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