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# PICO INTELLIGENT HARMONY MACHINE

User Manual

Harmony Generator

Welcome to the Electro-Harmonix Pico Intelligent Harmony Machine (IHM), a compact harmony generating pedal. The Pico IHM creates authentic sounding diatonic harmonies — harmonies within a given key, tracked from single notes. Set your key and choose from one of ten harmony interval options. Dual Mode allows you to add a second voice to each of the ten interval options, while the MIX knob is a wet/dry control allowing you to create the perfect mix of dry and harmony signals.

Operating Instructions

Insert the output plug from the supplied 9VDC AC adapter into the power jack at the top of the Pico IHM. The unit must be powered to pass signal, even in bypass. The pedal features buffered analog bypass. Connect an instrument cable from your instrument to the Input jack. Connect an instrument cable between the Output jack and a suitable amplifier. Press the footswitch to engage the Pico IHM and light the LED.
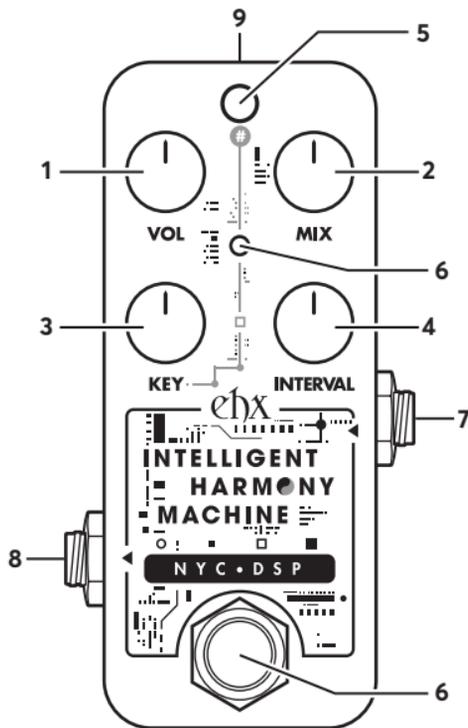
Power Supply Requirements: Voltage: 9VDC   Current: 100mA   Polarity: Center-Negative

This device comes equipped with an Electro-Harmonix 9.6DC-200 power supply. Use of the wrong adapter or a plug with the wrong polarity may damage the device and void the warranty. Do not exceed 10.5VDC on the power plug. Power supplies rated for less than 100mA may cause the device to act unreliably.

Controls & Jacks

1. VOL Adjusts the output volume.

2. MIX Adjusts the output mix from 100% dry to 100% wet.

3. KEY Sets the key that the IHM is tuned to, in conjunction with the # button. The key is incremented as you move this knob from minimum to maximum. The LED flashes briefly each time a new key is selected. See the following section, Setting The Key, for more information on keys and scales.

4. INTERVAL Controls the harmony interval relative to the input signal. The intervals are incremented as you move this knob from minimum to maximum. The LED flashes briefly each time a new interval is selected. Starting at minimum, the intervals are:

> OCTAVE DOWN
> SIXTH DOWN
> FOURTH DOWN
> THIRD DOWN
> THIRD UP
> FOURTH UP
> FIFTH UP
> SIXTH UP
> SEVENTH UP
> OCTAVE UP

The exact interval generated by the IHM will depend on the key setting and the note you play. For example, when set to a third up and the key of C major, playing a C will generate an E, a major third up from

the note you played, while playing a D will generate an F, a minor third up from the note you played.

5. # Button Press this button to switch between a natural and sharp key:

> **Green – NATURAL KEY**
>
> **Red – SHARP KEY**

Dual Mode In Dual Mode the Pico IHM synthesizes two different intervals simultaneously. The intervals are incremented as you move the INTERVAL knob from minimum to maximum as follows:

> OCTAVE DOWN + OCTAVE UP
> SIXTH DOWN + FOURTH DOWN
> FOURTH DOWN + THIRD UP
> THIRD DOWN + THIRD UP
> THIRD UP + FIFTH UP
> FOURTH UP + SIXTH UP
> FIFTH UP + OCTAVE DOWN
> SIXTH UP + THIRD UP
> SEVENTH UP + THIRD UP
> OCTAVE UP + FIFTH UP

Press and hold the # button for one second to enable Dual Mode. The LED blinks in an asymmetrical pattern to indicate Dual Mode is active. Press and hold the # button again to exit Dual Mode.

6. Footswitch and Status LED Footswitch engages or bypasses the effect. The LED color indicates the selected key mode. In bypass mode, the LED is off.

7. Input Jack Impedance: 2.2MΩ, Max In: +1.5dBu

8. Output Jack Impedance: 680Ω, Max Out: +2.1dBu

9. Power Jack Current draw: 100mA at 9.0VDC

Setting The Key

The Pico IHM generates diatonic harmonies in a set key based on single notes played on your instrument. Playing multiple notes or chords will not work well. **NOTE:** *It is very important that your instrument be in tune (based on A440) for the Pico IHM to work properly!*

The key is set by the bottom-left **KEY** knob in conjunction with **#** button. Select one of the seven natural keys with the **KEY** knob. The **#** button can be used to switch the Pico IHM into a sharp key. When the LED is green the key is natural. Press the **#** button and the LED will turn red, indicating a sharp key.

Minor Keys

The keys set by the KEY knob are major. Music theory instructs us that each major key contains the same notes as a relative minor key with the sixth note of the major scale indicating the relative minor key. For example, the relative minor of C major is A minor.

The following table shows the relative minor key for each major key. Use it as a guide when you want to set a minor key. For example, for E minor, set the KEY knob to G with the # button set to green.

Major Key	Relative Minor Key
C Major	A Minor
C# Major	A# Minor
D Major	B Minor
D# Major	C Minor
E Major	C# Minor
F Major	D Minor
F# Major	D# Minor
G Major	E Minor
G# Major	F Minor
A Major	F# Minor
A# Major	G Minor
B Major	G# Minor

Questions about this product?

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