



# IRON LUNG

## Vocoder

Congratulations on your purchase of the Electro-Harmonix Iron Lung Vocoder. The Iron Lung is a versatile and easy to use vocoder in a compact pedal format. Musicians no longer need large rack equipment, computer plugins, or large keyboards to get a wide array of classic and modern vocoder sounds. The Iron Lung includes the same popular vocoding algorithm as the V-256.

Special Features of the Iron Lung:

- 256 band Vocoder
- TONE and GENDER BENDER controls
- Guitar Bypass or Split Guitar/Vocal Bypass (requires Insert Cable)

**WARNING:** Use only the AC Adapter that the Iron Lung comes supplied with. Do not use any other AC Adapters. Using other AC adapters, even those made by Electro-Harmonix, could cause harm to the unit, the adapter or you. The Iron Lung does not use batteries.

### - QUICK START GUIDE -

#### **BASIC AMPLIFIER CONNECTION SETUP**

1. Connect your microphone (dynamic mics works best since the Iron Lung does not provide Phantom Power) to the MIC input on the right side of the Iron Lung using a balanced XLR cable.
2. Using an unbalanced instrument cable, plug your instrument into the INST Input Jack on the right side of the Iron Lung.
3. Connect an unbalanced instrument cable from the OUTPUT jack on the left side of the Iron Lung to input of your amplifier.
4. Plug the AC Adapter into a wall outlet.

5. Plug the barrel connector of the AC Adapter into the 9V power jack at the top of the Iron Lung. **Polarity is center negative.**
6. Turn both knobs to their middle, 12 o'clock positions.
7. Set the Mic Gain switch to the middle position.
8. Push the MIC BYPASS footswitch until its associated LED is lit. Play your instrument, while singing or talking into the microphone. You should hear the vocoding effect.  
**Remember you will only output from the Iron Lung when you are playing your instrument and speaking into the microphone.**
9. If you connect a guitar to the input of the Iron Lung, try adding a distortion pedal between your guitar and the Iron Lung, this will help to emphasize the vocoder effect.

## - CONTROLS, INDICATORS & I/O-

### TONE

This knob adjusts the tonal quality of the effect. Fully CCW emphasizes lower frequencies and fully CW emphasizes higher frequencies. Additionally as the TONE knob is turned CW from noon, harmonic overtones are added to the instrument signal to make them sound fuller and richer. The added harmonic overtones are especially useful when you using a dry electric guitar straight into the Iron Lung.

### GENDER BENDER

Formant shift corresponds roughly to the length of the vocal tract. Bass and baritone singers have longer vocal tracts than sopranos and tenors.

The GENDER BENDER knob adjusts the amount of formant shift that is applied to the effected signal. For knob settings above noon, the formant will shift upward, which is equivalent to shortening the vocal tract, to sound more female. For knob settings below noon, the formant will shift downward, which is equivalent to lengthening the vocal tract, to sound more male. At noon, there is no formant shift.

### BYPASS FOOTSWITCH / STATUS LED

The BYPASS footswitch toggles the Iron Lung between effect mode and bypass mode. If the STATUS LED is lit, then the Iron Lung is in effect mode. If the STATUS LED is off, then the Iron Lung is in bypass mode.

**NORMAL BYPASS mode:** when a standard mono guitar cable is plugged into the Iron Lung's output jack, while the Iron Lung is set to bypass, your unaffected instrument is output through the OUTPUT jack and the effect is muted. In effect mode the dry guitar is muted and only the effected vocal signal is passed through the OUTPUT jack.

**SPLIT BYPASS mode:** when a TRS Insert Cable is plugged into the OUTPUT jack before applying power. In bypass mode, the instrument is output on the TIP of the OUTPUT jack and the vocal is output on the RING of the OUTPUT jack. In effect mode, the effect will be

present on both the Tip and Ring of the insert cable. **NB: in order to use Split Bypass, the insert cable must be plugged into the Iron Lung's Output jack before applying power to the Iron Lung.**

### **MIC GAIN TOGGLE SWITCH**

Use this switch to change the sensitivity of the mic pre-amp in the Iron Lung. Experiment with your setup to see whether LO, MID, or HI gain mode works best.

### **MIC INPUT XLR Jack**

The MIC INPUT XLR jack is a fully balanced microphone input. Connect your microphone directly to this input jack. The input impedance at the MIC INPUT XLR jack is 10 k $\Omega$ .

### **INST INPUT 1/4" Jack**

Plug the output of your instrument into the INST INPUT jack. The input impedance presented at the INST INPUT jack is 520 k $\Omega$ .

### **INST OUTPUT 1/4" Jack**

The Iron Lung's effect is output on this jack. In BYPASS mode, this jack outputs your dry guitar signal. In SPLIT BYPASS mode the jack outputs dry guitar signal to the TIP and MIC vocal to the RING of an Insert Cable (enabled when the Iron Lung is powered up with an Insert Cable plugged into the OUTPUT). While in effect mode, the effect signal is present on both the Tip and Ring contacts of the OUTPUT jack. Connect this output to your amp, effect pedals or other devices. The output impedance is 550  $\Omega$ .

### **9V Power Jack**

Plug the output of the Iron Lung's supplied AC Adapter into the 9V power jack located at the top of the Iron Lung. The Iron Lung requires 9 to 9.6VDC at 200mA with a center negative plug. The Iron Lung accepts Boss style AC Adapters.

## **TECHNICAL SPECIFICATIONS**

A/D and D/A Conversion Sample Rate = 71.5 kHz

A/D and D/A Conversion Bit Resolution = 24 bits

Current Draw = 150 mA @ 9VDC

### **- 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, and RA#; and a copy of your receipt clearly showing the purchase date.

**United States & Canada**

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This warranty gives a purchaser specific legal rights. A purchaser may have even greater rights depending upon the laws of the jurisdiction within which the product was purchased.

To hear demos on all EHX pedals visit us on the web at **www.ehx.com**

Email us at **info@ehx.com**

**- FCC COMPLIANCE -**

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. If the device is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications and void the user's authority to guarantee the equipment.*

*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.*