

WHAMMY™



USER'S GUIDE

H A Harman International Company



These symbols are internationally accepted symbols that warn of potential hazards with electrical products. The lightning flash means that there are dangerous voltages present within the unit. The exclamation point indicates that it is necessary for the user to refer to the owners manual.

These symbols warn that there are no user serviceable parts inside the unit. Do not open the unit. Do not attempt to service the unit yourself. Refer all servicing to qualified personnel. Opening the chassis for any reason will void the manufacturer's warranty. Do not get the unit wet. If liquid is spilled on the unit, shut it off immediately and take it to a dealer for service. Disconnect the unit during storms to prevent damage.

Electromagnetic Compatibility

Operation is subject to the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.
- Use only shielded interconnecting cables.
- Operation of this unit within significant electromagnetic fields should be avoided.

Warning

For your protection, please read the following:

Water and Moisture: Appliances should not be used near water (e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.) Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

Power Sources: The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

Grounding or Polarization: Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

Power Cord Protection: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

Servicing: To reduce the risk of fire or electrical shock, the user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

For units equipped with externally accessible fuse receptacle: Replace fuse with same type and rating only.

DECLARATION OF CONFORMITY

Manufacturer's Name: **Digitech Electronics**
Manufacturer's Address: 8760 S. Sandy Parkway
Sandy, Utah 84070, USA

Product Name: **Whammy**
Product Options: All (requires a Class II power adapter that conforms to the requirements of EN60065, EN60742, or equivalent.)

Conforms to the following Product Specifications:

Safety: EN 60065 (1993)
IEC 65 (1985) with Amendments 1, 2 & 3

EMC: EN 55013 (1990)
EN 55020 (1991)

Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and EMC Directive 89/336/EEC as amended by Directive 93/68/EEC.

Digitech
Vice-President of Engineering
8760 S. Sandy Parkway
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Tel: 801-566-8800
Fax: 801-566-7005

Effective February 15, 2000

European Contact: Your Local Digitech Sales and Service Office or

Harman Music Group
8760 S. Sandy Parkway
Sandy, Utah 84070, USA
Tel. 801-568-7638
Fax 801-568-7642

Warranty

At **Digitech** are very proud of our products and back-up each one we sell with the following warranty:

- 1. The warranty registration card must be mailed within ten days after purchase date to validate this warranty.*
- 2. Digitech warrants this product, when used solely within the U.S., to be free from defects in materials and workmanship under normal use and service.*
- 3. Digitech liability under this warranty is limited to repairing or replacing defective materials that show evidence of defect, provided the product is returned to Digitech WITH RETURN AUTHORIZATION, where all parts and labor will be covered up to a period of one year. A Return Authorization number may be obtained from Digitech by telephone. The company shall not be liable for any consequential damage as a result of the product's use in any circuit or assembly.*
- 4. Proof-of-purchase is considered to be the burden of the consumer.*
- 5. Digitech reserves the right to make changes in design, or make additions to, or improvements upon this product without incurring any obligation to install the same on products previously manufactured.*
- 6. The consumer forfeits the benefits of this warranty if the product's main assembly is opened and tampered with by anyone other than a certified Digitech technician or, if the product is used with AC voltages outside of the range suggested by the manufacturer.*
- 7. The foregoing is in lieu of all other warranties, expressed or implied, and Digitech neither assumes nor authorizes any person to assume any obligation or liability in connection with the sale of this product. In no event shall Digitech or its dealers be liable for special or consequential damages or from any delay in the performance of this warranty due to causes beyond their control.*

OTE: The information contained in this manual is subject to change at any time without notification. Some information contained in this manual may also be inaccurate due to undocumented changes in the product or operating system since this version of the manual was completed. The information contained in this version of the owner's manual supersedes all previous versions.

Congratulations on the purchase of your new Whammy™ Pedal. When DigiTech invented the Whammy™ pedal, it was the most revolutionary and innovative pedal to hit the guitar since the he wah wah. Nearly a decade later, in response to your demands, we have gone to painstaking lengths to bring back the original Whammy™. Every last detail was considered as we recreated his classic pitch bending effect. However, we strengthened the rugged steel chassis to endure the perils of the stage better, the addition of a MIDI input provides more flexibility, preset LEDs provide a visual indication of your selection, and the Dive Bomb setting bends your signal a full 3 octaves down. We are proud to bring back this pedal, and we're proud that you wanted it. Although the Whammy™ has an extremely intuitive user interface, this User's Guide will help you understand the Whammy™ functions and allow you to get the most out of your purchase for years to come.

Included Items

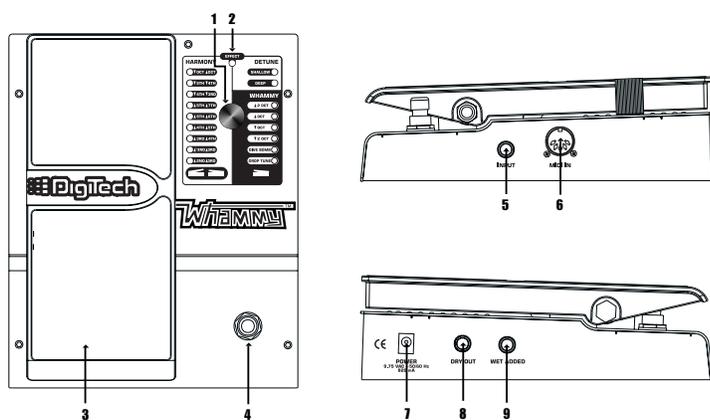
The utmost care was taken while your Whammy™ was being manufactured. Everything should be included and in perfect working order. Before you get started, please make sure that the following items have been included:

- Whammy™ Pedal**
- PS750 or PS913 Power Supply**
- User's Guide**
- Warranty Card**

If anything is missing, contact the factory at once. Please take a moment to complete your warranty card. It is your safeguard should a problem arise with your Whammy™.

Guided Tour

Detailed Descriptions



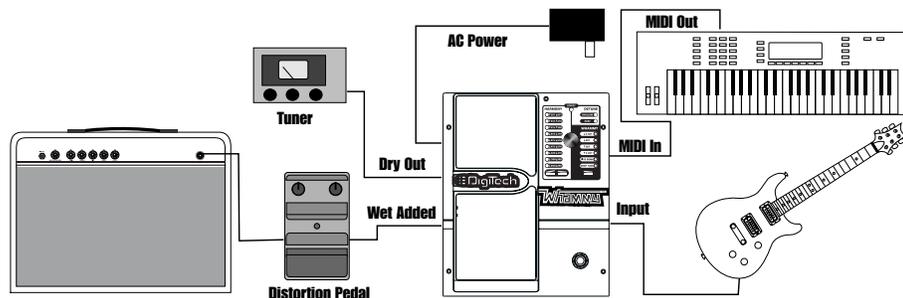
- . **Preset Knob** - This knob is used to select the Whammy™ (bend), Harmony intervals, or Detune range controlled by the treadle.
- . **Bypass LED** - This LED lights to indicate the effect is on.

- . **Treadle** - This Pedal is used to bend the input note, bend between harmony intervals, or mix detuning with your input signal.
- . **Bypass Switch** - This switch turns the effect on and off.
- . **Input** - Connect your instrument to this jack.
- . **MIDI In** - Connect any external MIDI device to this jack for the purpose of controlling the Whammy™ remotely.
- . **Power** - Connect the provided power supply to this jack. Do not use any power supply other than the supplied PS750 or PS913.
- . **Dry Output** - This jack contains your dry guitar signal only. No effect is present at this output.
- . **Wet Added Output** - This jack contains a mix of your dry guitar signal, and the pitch shifted signal produced by the Whammy™.

Making Connections

The Whammy™ pedal is extremely easy to set up and use. Simply follow these steps and you be Whammin'.

- . Connect your instrument to the Whammy™ input.
- . Connect from the “wet added” output to a your favorite distortion pedal or to your amplifier.
- . Connect from the Whammy™ Dry Out to a guitar tuner if desired.
- . Connect from the MIDI Out of a MIDI controller to the MIDI In on the Whammy™ if desired.
- . Connect the power supply between an AC outlet and the power jack on the Whammy™.
- . Turn on you amp and adjust the volume to a desired level.
- . Rotate the Preset knob to select the desired effect or interval.



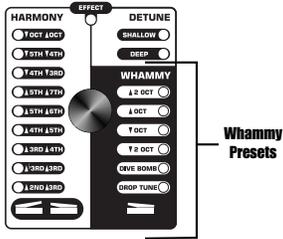
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About the Whammy™

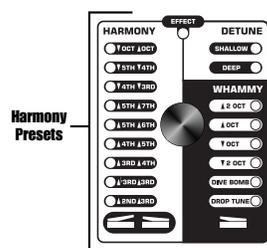
The Whammy™ pedal contains 17 Presets which are selected by rotating the Preset knob. An LED will light to indicate which preset has been selected. Each Preset will fall into one of three groups: Whammy, Harmony, or Detune.

Whammy - This group of Presets will bend your incoming signal either up or down depending upon the Preset you have chosen. As the treadle is rocked back and forth, the signal will bend from the original input pitch, to the pitch specified by the selected Preset. Whammy Presets include:



- 2 Oct Up** - Bends your input note two octaves up.
- 1 Oct Up** - Bends your input note one octave up.
- 1 Oct Dn** - Bends your input note one octave down.
- 2 Oct Dn** - Bends your input note two octaves down.
- Dive Bomb** - Bends your input note three octaves down.
- Drop Tune** - Bends your input note two semi-tones down with a reversed pedal action.

Harmony - This group of Presets adds a harmony to your incoming signal. Both the harmony note and the input signal are mixed together as if two guitars were playing simultaneously. As you rock the pedal back and forth, the harmony note bends between two intervals specified by the selected Preset but the input signal remains unchanged. Harmony Presets include:



2nd Up/3rd Up - Bends the harmony between a second (toe up) and a third (toe down) above the input note.

Min 3rd Up/3rd Up - Bends the harmony between a minor third (toe up) and a Major third (toe down) above the input note.

3rd Up/4th Up - Bends the harmony between a third (toe up) and a fourth (toe down) above the input note.

4th Up/5th Up - Bends the harmony between a fourth (toe up) and a fifth (toe down) above the input note.

5th Up/6th Up - Bends the harmony between a fifth (toe up) and a sixth (toe down) above the input note.

4th Up/7th Up - Bends the harmony between a fourth (toe up) and a seventh (toe down) above the input note.

4th Dn/3rd Dn - Bends the harmony between a fourth (toe up) and a third (toe down) below the input note.

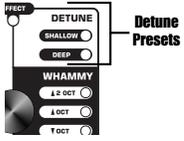
5th Dn/4th Dn - Bends the harmony between a fifth (toe up) and a fourth (toe down) below the input note.

Oct Up/Oct Dn - Bends the harmony between one octave below (toe up) and one octave above (toe down) the input note.

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Detune - This group of Presets creates a copy of your input signal, slightly shifts the pitch of the copied signal and mixes it back with the original signal. As the treadle is rocked back and forth, the level of this detuned signal is changed. With the pedal in the toe up position, only the original dry signal is heard. As the pedal is rocked forward, the detuned signal is mixed with the dry signal. The Detune Presets include:



Shallow - The copied signal is shifted slightly out of tune from the original pitch.

Deep - The copied signal is shifted substantially out of tune from the input signal.

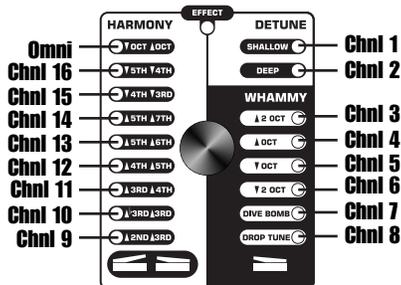
MIDI Functions

A new feature found in this incarnation of the Whammy™ is a MIDI input. MIDI messages can select a Whammy™ Preset, engage or disengage the effect, and control the pedal position.

MIDI Channel

The Whammy™ MIDI channel is used for receiving incoming MIDI data only. The Whammy™ can receive MIDI messages on any, or all MIDI channels. The following steps outline the procedure for accessing or changing the MIDI channel:

- . Disconnect the the power from the Whammy™ pedal.
- . Press and hold the footswitch while reconnecting the power. One of the Preset LEDs will begin to flash indicating the currently selected MIDI channel.
- . Using the reference chart below, rotate the knob to select the desired MIDI channel.
- . Press the footswitch again to exit the MIDI set up menu.



MIDI Program Changes

The Whammy™ uses MIDI Program Change commands for preset selection. Presets can be selected in either an active or bypassed state. The following list outlines the program change commands recognized by the Whammy™, and the corresponding Whammy™ preset.

MIDI Program Change #		MIDI Program Change #	
active	bypass	active	bypass
9	26	1	18
10	27	2	19
11	28	3	20
12	29	4	21
13	30	5	22
14	31	6	23
15	32	7	24
16	33	8	25
17	34		

The diagram shows the Whammy pedal interface with the following controls and their MIDI Program Change numbers:

- HARMONY:**
 - 1 OCT Δ OCT (MIDI 9, 26)
 - 1 5TH 1 4TH (MIDI 10, 27)
 - 1 4TH 1 3RD (MIDI 11, 28)
 - 1 5TH 1 7TH (MIDI 12, 29)
 - 1 5TH 1 6TH (MIDI 13, 30)
 - 1 4TH 1 5TH (MIDI 14, 31)
 - 1 3RD 1 4TH (MIDI 15, 32)
 - 1 3RD 1 3RD (MIDI 16, 33)
 - 1 2ND 1 3RD (MIDI 17, 34)
- EFFECT:** (Toggle switch)
- DETUNE:**
 - SHALLOW (MIDI 1, 18)
 - DEEP (MIDI 2, 19)
- WHAMMY:**
 - Δ 2 OCT (MIDI 3, 20)
 - Δ OCT (MIDI 4, 21)
 - 1 OCT (MIDI 5, 22)
 - 1 2 OCT (MIDI 6, 23)
 - DIVE BOMB (MIDI 7, 24)
 - DROP TUNE (MIDI 8, 25)

MIDI Continuous Control

The Whammy™ is capable of remotely adjusting the treadle position, as well as turning the Whammy™ effect on and off through the use of MIDI continuous control commands.

MIDI CC11 adjusts the treadle position. A value of 0 on MIDI CC11 corresponds to a toe up position and 127 corresponds to a toe down position.

MIDI CC0 is used to turn on and off the Whammy effect. Values from 0 through 64 on MIDI CC0 will turn the Whammy™ effect off, and values from 65 through 127 will turn the effect on.

Calibrating the Treadle

In the unlikely event that the treadle pedal does not respond properly, or that the note does not end or return to the correct pitch, it may need to be recalibrated. The following steps outline the procedure for treadle recalibration:

- . Disconnect the power from the Whammy™ pedal.
- . Press and hold the footswitch down while reconnecting the power. One of the preset LEDs will blink indicating that you are in set up mode.
- . Rock the treadle fully forward and fully back.
- . Press the footswitch again to exit the set up mode.

This completes the treadle calibration procedure.



Specifications

Sample Rate:	46.875 kHz
Frequency Response Dry:	20 Hz to 20kHz
Frequency Response Wet:	20 Hz to 12kHz
Signal to Noise Ratio:	Greater than -95dB (A weighted); ref = max level, 22 kHz bandwidth
THD:	0.006% (1kHz); ref = 1dBu w/ unity gain
A/D Conversion:	24 bit
D/A Conversion:	24 bit
Max Input:	+8.8 dBu
Max Output:	+8.8 dBu
Pitch Bend:	+2/-3 Octaves
Detune:	-4 to -30 cents
Dimensions:	8" (L) x 6.3" (W) x 2.5" (H)
Weight:	3.5 lbs. (1.6 kg)



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Please visit us on the World Wide Web at:

<http://www.digitech.com>

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