

VOCAL 300

**VOCAL
EFFECTS
PROCESSOR**

DiGiTech
The Power to Create



**User's
Guide**



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
Manufacturer's Address: 8760 S. Sandy Parkway
Sandy, Utah 84070, USA

declares that the product:

Product name: Vocal300
Note: Product name may be suffixed by the letters EU, JA, NP and UK.

Product option: none

conforms to the following Product Specifications:

Safety: IEC 60065 (1998)
EMC: EN 55013 (1990)
EN 55020 (1991)

Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 72/23/EEC and the EMC Directive 89/336/EEC as amended by Directive 93/68/EEC.

President of Harman Music Group
8760 S. Sandy Parkway
Sandy, Utah 84070, USA
Date: October 10, 2001

European Contact: Your local DigiTech Sales and Service Office or
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Table of Contents

Introduction	1	Factory Reset	7
Included Items	1	Effects and Parameters	8
Top Panel	1	Signal Path	8
Rear Panel	2	Compressor	8
Connecting the Vocal 300	2	Mic Pre/Voice	8
Mono Operation	2	Voice Parameters	8
Stereo Operation	3	EQ	9
Modes and Functions	4	Noise Gate	9
Performance Mode	4	Mod.Effects	9
Edit Mode	5	Mod Parameters	10
Store Mode	5	Delay	10
Bypass Mode	5	Reverb	10
Expression Pedal	6	Appendix	11
Assigning a Parameter	6	Preset List	11
V-Switch/Pedal Calibration	7	Specifications	11

Warranty

We 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.

NOTE: 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.

Introduction

The features and functions of the the Vocal 300 's knob based matrix editing system are extremely user friendly. To familiarize yourself with the Vocal 300, we recommend you go through this User's Guide with your Vocal 300 in front of you.

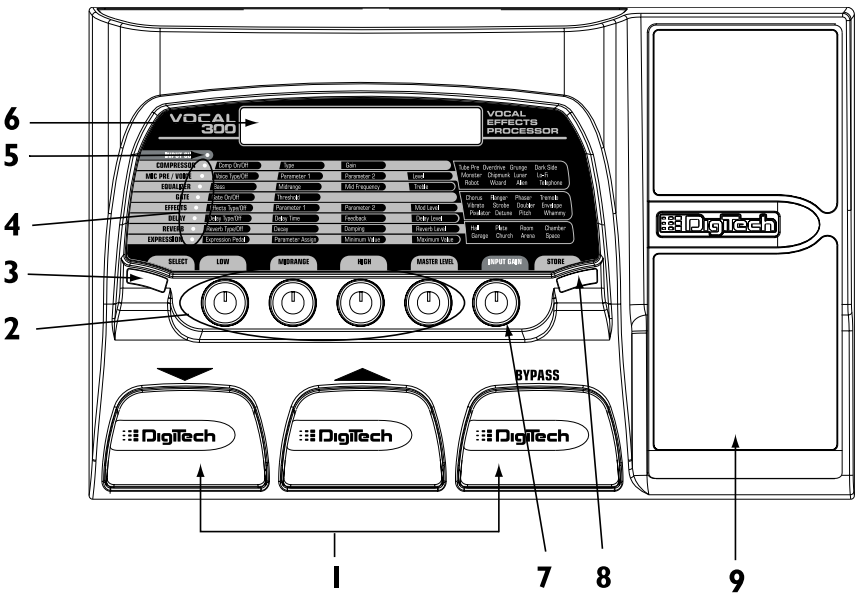
Included Items

This User Guide, and the following items have been included with the Vocal 300:

- 1. PS0913B Power Supply
- 2. Warranty Card

The utmost care was taken while your Vocal 300 was manufactured. If anything is missing or not working, please contact the factory at once. To register your product for warranty benefits, please return the warranty card.

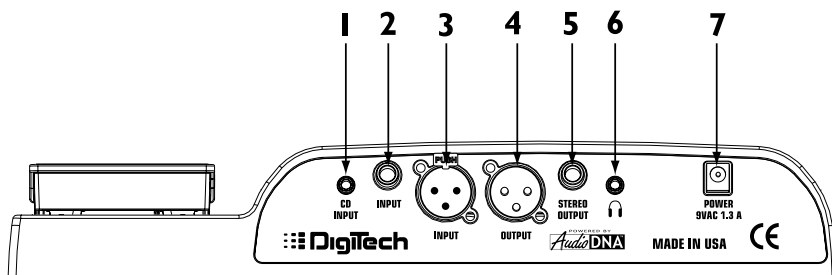
Top Panel



- 1. **DOWN, UP, and BYPASS** footswitches - Move through the Vocal 300's presets and bypass effects.
- 2. **LOW, MIDRANGE, HIGH, AND MASTER LEVEL** knobs - Adjusts the effect's parameters in Edit mode.
- 3. **SELECT** button - Accesses edit mode and selects the effects to edit.
- 4. **MATRIX** and LEDs - The matrix provides information regarding the current preset and parameter edit functions.

5. **INPUT CLIP LED** - Lights if the incoming signal is distorting.
6. **DISPLAY** - Provides information for the different functions.
7. **INPUT GAIN** knob - Adjusts the input signal level.
8. **STORE** Button - Stores or copies presets to User preset locations.
9. **EXPRESSION PEDAL** - Controls the Vocal 300's parameters in real time.

Rear Panel



1. **1/8" CD INPUT** - Connect the headphone output of your CD, tape, or MP3 player to this jack. This jack is used to sing-along with recorded music.
2. **1/4" Unbalanced INPUT** - Connect a CD player, mixer, or other line level device output to this jack.

Note: If this input is used, the XLR input is disabled.

3. **XLR Balanced INPUT** - Connect a microphone to this jack.
4. **XLR Balanced Mono OUTPUT** - Connect to a mixer XLR input.
5. **1/4" TRS STEREO OUTPUT** - Connect a 1/4" stereo "Y" cable to this output (becomes a 1/4" Mono output if 1/4" mono TS plug is used).
6. **1/8" HEADPHONE Output** - Connect a pair of stereo headphones to this jack.
7. **POWER** jack - Connect only the DigiTech PS0913B power supply to this jack.

Connecting the Vocal 300

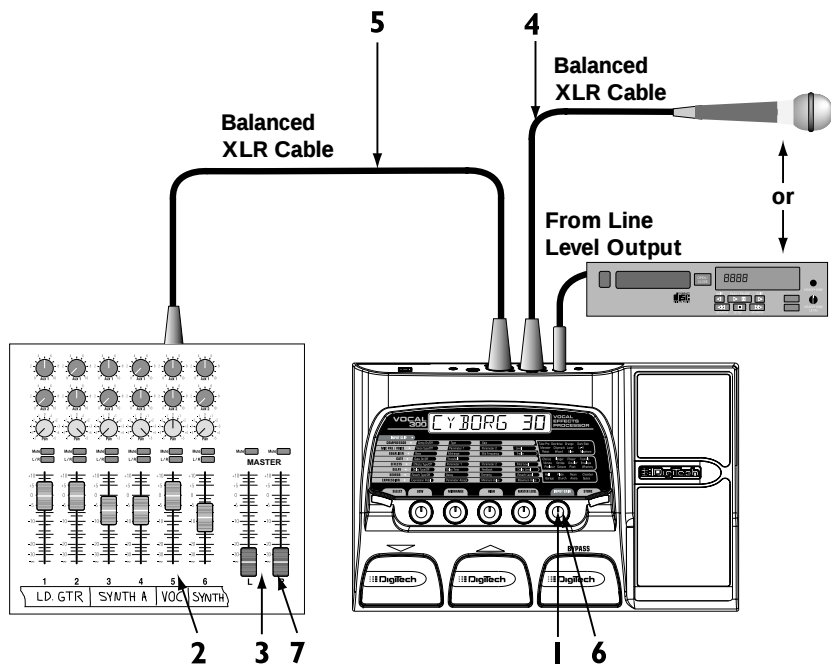
The Vocal 300 can be connected in several different ways. The following diagrams show a few possible options.

Mono Operation

1. Turn the **INPUT GAIN** knob completely counter-clockwise (7 o'clock) position.
2. Set the mixer channel's fader to 0dB.
3. Set the mixer's master fader to its minimum position (no output signal).
4. Connect the microphone to the Vocal 300's XLR **INPUT**.
5. Connect an XLR cable from the Vocal 300's XLR **OUTPUT** to the XLR mic input on the selected mixer channel.

6. While singing, gradually turn up the Vocal 300's **INPUT GAIN** knob until the **INPUT CLIP LED** lights with the strongest signals.
7. Gradually bring the mixer's master fader up.

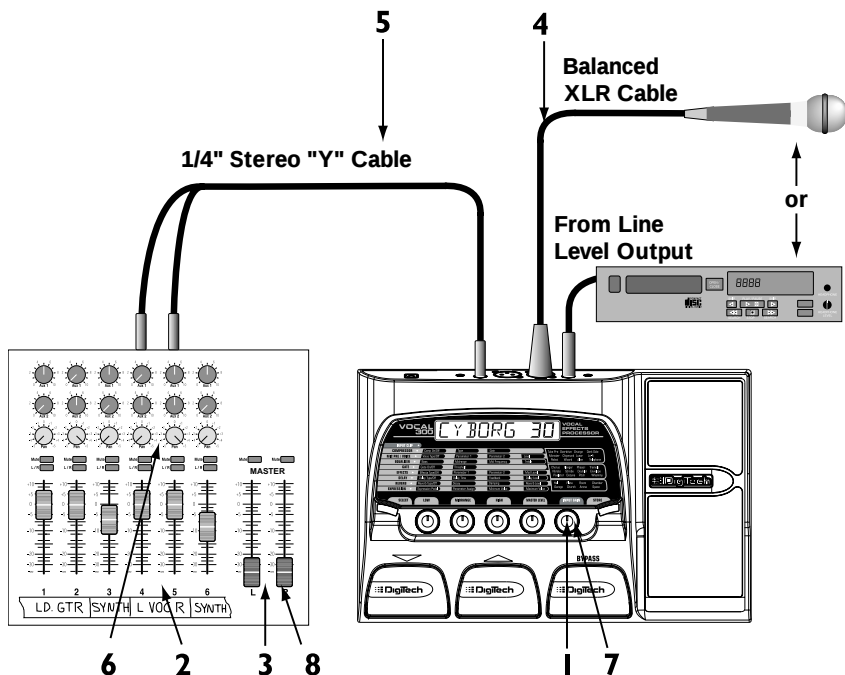
Note: It may be necessary to consult your mixer's owners manual for the proper mixer setup.



Stereo Operation

1. Turn the **INPUT GAIN** knob completely counter-clockwise (7 o'clock) position.
2. Set the mixer channel's fader to 0dB.
3. Set the mixer's master fader to its minimum position (no output signal).
4. Connect the microphone to the Vocal 300's XLR **INPUT**.
5. Connect an 1/4" TS cable or stereo TRS "Y" cable from the Vocal 300's 1/4" **OUTPUT** to the 1/4" line input of the selected mixer channel.
6. Set the pan controls on the selected mixer channel hard left and hard right.
7. While singing, gradually turn up the Vocal 300's **INPUT GAIN** knob until the **INPUT CLIP LED** lights with the strongest signals.
8. Gradually bring the mixer's master fader up.

Note: It may be necessary to consult your mixer's owners manual for the proper mixer setup.



Modes and Functions

Performance Mode

The Vocal 300 initially powers up in performance mode.

SELECT Button - Enters edit mode. Each press of this button moves to the next row of effects in the matrix. Press and hold this button to return to performance mode.

STORE Button - Begins the storing process.

INPUT GAIN knob - Sets the input gain for your microphone.

LOW, MIDRANGE, HIGH, AND MASTER LEVEL Knobs - These knobs control the Bass, Mid Level, Treble, and Master Level of the presets.

FOOTSWITCHES – The **UP** and **DOWN** footswitches move through the presets (1-40 User and 41-80 Factory). Pressing the **BYPASS** footswitch bypasses all effects. While in preset bypass, you can select the next preset using the **UP** and **DOWN** footswitches. This preset will then be loaded when bypass is exited.

Expression Pedal - Controls the assigned parameter of the current preset.

Edit Mode

The Vocal 300 lets you create your own presets, and modify existing presets. To create your own preset, do the following:

1. Select a User or Factory Preset.
2. Press the **SELECT** button. The Matrix's first effect row LED begins flashing.
3. Modify the parameters in the selected row using the **LOW**, **MIDRANGE**, **HIGH**, and **MASTER LEVEL** knobs. When changes are made, the Store LED lights, and the abbreviated parameter name with a space followed by a two digit parameter value is displayed.
4. To move to the next effect in the Matrix, press the **SELECT** button again.
5. Press the **STORE** button to save your changes.

Note: Pressing the UP or DOWN footswitches returns you to Performance mode. Pressing the BYPASS footswitch bypasses all effects.

Store Mode

After modifying a preset, you must store your settings to one of the 40 User Preset locations. To store changes to a preset or store a preset to a different location, do the following:

1. Press the **STORE** button. The Store LED begins blinking on and off, and the first character of the name flashes.
2. Use the **LOW** knob to change the character. Use the **MIDRANGE** knob to move to the next character (left or right) in the name.
3. Press the **STORE** button again. The preset's name and number are displayed.
4. If you want to change where the preset is stored, rotate the **MASTER LEVEL** knob to select a new preset location. Only User presets 1-40 can be overwritten.
5. Press the **STORE** button a final time to store your changes. *STORE* followed by the preset name is displayed.

Note: Pressing the SELECT button aborts the storing process.

Bypass Mode

The Vocal 300 can be bypassed so only a clean, unprocessed signal is heard. To bypass the Vocal 300, do the following:

1. Press the **BYPASS** footswitch. *BYPASS* appears in the display.
2. Press the **BYPASS** footswitch again to return to performance mode. If a new preset was selected while in bypass mode, you will exit bypass mode to the new preset. If a new preset was not selected, you will return to the preset in use before you entered bypass mode.

Expression Pedal

Assigning a Parameter

The Vocal 300 includes a built-in Expression pedal. The Expression pedal is used to control many of the Vocal 300's effect parameters in real time. To assign a parameter to the Expression pedal, do the following:

1. Select a User or Factory Preset.
2. Press the **SELECT** button until the Matrix's last effect row LED begins flashing.
3. Rotate the **LOW** knob to select the Expression pedal 1,2, or 3.

Note: You can assign three parameters to the Expression pedal per preset.

4. Rotate the **MIDRANGE** knob to select the parameter the pedal will control.
5. Rotate the **HIGH** knob to adjust the minimum value the pedal (toe up) reaches.
6. Rotate the **MASTER LEVEL** knob to adjust the maximum value the pedal (toe down) reaches.
7. Press the **STORE** button to store the changes. See page 5 for more information on storing presets.

The following is a list of the parameters that can be assigned to the Expression pedal:

Parameter	Display	Min Value	Max Value
Voice Param 1	Varies	Varies	Varies
Voice Param 2	Varies	Varies	Varies
Voice Level	VOLVL	1	99
Effect Speed	SPEED	1	99
Effect Amount	AMOUNT	1	99
Effect Level	FX LVL	0	99
Effect Mix	FX MIX	0	99
Whammy	WHAMMT	1	99
Delay Feedback	FBACK	1	99 R-hold
Delay In Level	DLY IN	0	99
Delay Out Level	DLYOUT	0	99
Reverb Decay	DECAY	1	99
Reverb In Level	REV IN	0	99
Reverb Out Level	REVOUT	0	99
Volume Pre	VOLPRE	-----	-----
Volume Post	VOLPOST	-----	-----

V-Switch/Pedal Calibration

The Vocal 300 has an expression pedal feature called V-Switch. V-Switch is a pressure sensitive virtual switch, that turns the Vocal Character module off and on. The expression pedal must be calibrated for the Vocal Character module to work. The expression pedal will continue to control the parameter it is assigned to regardless of the Vocal Character status. However, it is important to calibrate the expression pedal for it to function properly. To calibrate the expression pedal, do the following:

1. Press the **DOWN** footswitch and connect the power. *CALIB* briefly displays, and then *TOE DN* is displayed.
2. Press the expression pedal forward (toe down).
3. Press a footswitch, and *TOE UP* appears in the display.
4. Press the expression pedal toe up.
5. Press a footswitch, and *VSWTCH* appears in the display.
6. To calibrate the V-Switch press down hard on the toe until *DONE* appears in the display. The sensitivity value appears in the numeric display. The display toggles between *VSWTCHON* and *VSWTCHOF*.
7. (Optional) Rotate the Master Level knob to adjust the V-Switch sensitivity.
8. Press any footswitch to return to Performance mode with the changes saved.

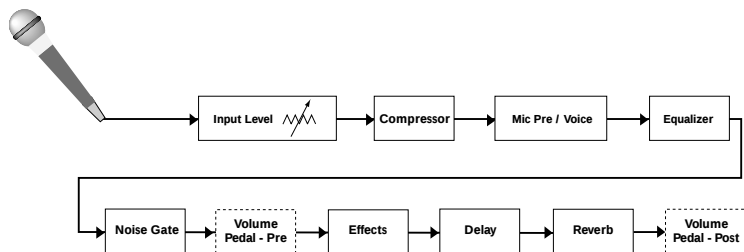
Factory Reset

This function resets the Vocal 300 to its original factory status. This procedure erases all custom user presets, and requires the expression pedal be recalibrated. To complete a factory reset, do the following:

1. Disconnect the power supply from the Vocal 300.
2. Press and hold the **SELECT** button while connecting the power supply.
3. When *RESET?* displays, release the button and press the **STORE** button. *reset* is displayed and the Vocal 300 is reset.
4. Calibrate the expression pedal (see previous section).

Effects and Parameters

Signal Path



Compressor

The compressor module is used to control the dynamics of varying signal strengths.

On/Off - Rotate the **LOW** knob to turn the effect on and off.

Type - Rotate the **MIDRANGE** knob to select the type of compression to be used, Low, Medium or High.

Gain - Rotate the **MIDRANGE** knob to increase the compressor's output gain.

Mic Pre/Voice

This module selects various mic preamp and voice character types. Tube Pre is a warm professional mic preamp type for standard vocal usage. Overdrive and Grunge are cutting edge distortion preamp types. The other 9 voice characters produce wild and unnatural vocal sounds.

Voice - Rotate the **LOW** knob to select a vocal character. Voice types are: Tube Pre, Overdrive, Grunge, Dark Side, Monster, Chipmunk, Lunar, Lo-Fi, Robot, Wizard, Alien, and Telephone.

Parameter 1 – Rotate the **MIDRANGE** knob to adjust the first parameter of the Voice type selected. (see Voice Parameter chart following these instructions)

Parameter 2 – Rotate the **HIGH** knob to adjust the second parameter of the Voice type selected. (see Voice Parameter chart following these instructions)

Level - Rotate the **MASTER LEVEL** knob to controls the preset level for the selected model.

Voice Parameters

Character	Param 1	Display	Param 2	Display
Tube Pre	Gain	GAIN	De-Esser	DE ESS
Overdrive	Gain	GAIN	De-Esser	DE ESS

Character	Param 1	Display	Param 2	Display
Grunge	Gain	GAIN	De-Esser	DE ESS
Dark Side	Breath	BREATH	n/a	
Monster	Size	SIZE	Growl	GROWL
Chipmunk	Size	SIZE	n/a	
Lunar	Range	RANGE	n/a	
Lo-Fi	Gain	GAIN	Sub Frequency	SUBFRQ
Robot	Range	RANGE	Edge	EDGE
Wizard	Range	RANGE	n/a	
Alien	Rate	RATE	Intensity	INTENS
Telephone	Sub Frequency	SUBFRQ	Sibilance	SIBLNC

EQ

The EQ module is a 3-band EQ consisting of Bass, Mid and Treble. The frequency centers for each band may vary depending on the selected model.

Bass – Rotate the **LOW** knob to adjust the low frequency gain.

Midrange - Rotate the **MIDRANGE** knob to adjust the midrange frequency gain.

Mid Frequency - Rotate the **HIGH** knob to adjust the midrange frequency.

High - Rotate the **MASTER LEVEL** knob to adjust the high frequency gain.

Noise Gate

The noise gate eliminates unwanted noise when a signal isn't present.

Gate On/Off - Rotate the **LOW** knob to turn the noise gate on and off.

Threshold - Rotate the **MIDRANGE** knob to select the noise gate's threshold.

A higher setting requires a stronger signal to open the gate.

Mod.Effects

The Mod Effects module has several effects to choose from: Off, Chorus, Flanger, Phaser, Tremolo, Vibrato, Strobe, Doubler, Envelope, Pixelator, Detune, Pitch, and Whammy. When the Mod. Effects row is selected, the following settings apply:

Type/Off - Rotate the **LOW** knob to select an effect and turn the effect on and off.

Parameter 1 - Rotate the **MIDRANGE** knob to adjust the first parameter of the selected effect type (see the parameter list following these instructions).

Parameter 2 - Rotate the **HIGH** knob to adjust the second parameter of the selected effect type (see the parameter list following these instructions).

Mod Level - Rotate the **MASTER LEVEL** knob to control the effect's level.

Note: Only one of the effects in this row can be used at a time.

Mod Parameters

Effect	Parameter 1	Parameter 2	Mod Level
Chorus	Speed	Depth	wet level
Flanger	Speed	Depth	wet/dry mix
Phaser	Speed	Depth	wet/dry mix
Tremolo	Speed	Depth	n/a
Vibrato	Speed	Depth	n/a
Strobe	Speed	Depth	n/a
Doubler	n/a	n/a	wet level
Envelope	Range	Sensitivity	wet/dry mix
Pixelator	Amount	Speed	wet/dry mix
Detune	Amount	n/a	wet level
Pitch	Amount	n/a	wet/dry mix
Whammy	Amount	Whammy Amount	wet/dry mix

Delay

Delay records a portion of the incoming signal, and plays it back a short time later. The recording can repeat just once or several times. The Delay module has three types of delay effects: Digital, Analog, and Ping Pong.

Type /Off - Rotate the **LOW** knob to select the delay type and to turn the delay on and off.

Delay Time - Rotate the **MIDRANGE** knob to select the delay time.

Feedback - Rotate the **HIGH** knob to select the number of delay repeats and the repeat hold.

Delay Level - Rotate the **MASTER LEVEL** knob to adjust the delay effect level.

Reverb

Using reverb in recorded program material gives the listener a sense that the material is being performed in an actual room or hall. This similarity to actual acoustic space makes reverberation a useful tool in recorded music.

Type/Off - Rotate the **LOW** knob to select 1 of 8 reverb types and to turn the reverb on and off.

Decay - Rotate the **MIDRANGE** knob to adjust the reverb decay time.

Damping - Rotate the **HIGH** knob to adjust the amount of high frequency damping in the reverb signal.

Reverb Level - Rotate the **MASTER LEVEL** knob to adjust the effect's input level.

Appendix

Preset List

Number	Preset Name	Display Name	Number	Preset Name	Display Name
1/41	Vocal Delay	VOC DEL Y	21/61	Wizard	WIZARD
2/42	Monster	MONSTER	22/62	Warm Tube Delay	TUB DEL Y
3/43	50's Slapback Delay	SLAPBK	23/63	Distorted Tremolo	DSTREM
4/44	Grunge Vocal	GRUNGE	24/64	Karaoke Delay	KAROK E
5/45	Thicken	THICKN	25/65	Mars Man	MARS
6/46	Vocal Plate	PLATE	26/66	Whammy Man	WHAMM AN
7/47	Wah Voice	WAH VO C	27/67	Big Verb	BIG V RB
8/48	Vibrato	VIBRTO	28/68	Distorted Delay	DST DEL Y
9/49	Tube Mic Preamp	TUBPRE	29/69	Helium	HELIUM
10/50	Oh Yeah!	OH YEAH	30/70	Cyborg	CYBORG
11/51	Breathy	BRETH Y	31/71	Billy Goat	GOAT
12/52	5th Up Pitch Shift	5TH UP	32/72	Invaders	INVADR
13/53	Telephone	TELP HN	33/73	Megaphone	MEGPHN
14/54	Alvin	ALV IN	34/74	Chorus Verb	CHORV B
15/55	Strobovoice	STROBE	35/75	Wiggle	WIGGLE
16/56	Rich Detune	DETUNE	36/76	Monster Pong	MONPNG
17/57	Lo-Fi	LO FI	37/77	Robot	ROBOT
18/58	Phased Pong	PHSPNG	38/78	Stutterer	STUTTR
19/59	Compressed	CMPSSD	39/79	Pixelator	PIXLTR
20/60	Dark Force	FORCE	40/80	Space Reverb	SPACE

Specifications

Line Input:

CD Input:

Mic Input:

Mic Output:

Stereo Output:

Headphone Output:

A/D/A Converter:

Sample Rate:

Frequency Response:

Signal to Noise:

Equivalent Input Noise (EIN):

THD:

Memory:

Power Supply:

Power Consumption:

Dimensions:

Weight:

1/4" TS Unbalanced

1/4" TRS Stereo

Balanced XLR

Balanced XLR

1/4" TRS Stereo

1/8" TRS Stereo

24 bit Delta Sigma

44.1 kHz

20-20kHz +0, -3dB

97dB (A weighted); ref = max level,
22kHz bandwidth

120dB (A weighted) 150 Ohm Source
Impedance, 22kHz bandwidth

Less than 0.04% (1kHz)

40 User Presets/40 Factory Presets

9V AC, 1.3A (PS0913)

10 Watts

8.5" L x 13" W x 2.25" H

3.75 lbs

DigiTech

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