



 A Harman International Company

MPX G2

Software Version 1.10

Installation Instructions

SAFETY SUMMARY

The following general safety precautions must be observed during all phases of operation, service, and repair of this unit. Failure to comply with these precautions or with specific warnings elsewhere in these instructions violates safety standards of design manufacture and intended use of this unit. Lexicon, Inc. assumes no liability for failure to comply with these requirements.

GROUND THE INSTRUMENT

To minimize shock hazard, the unit chassis and cabinet must be connected to an electrical ground. The unit is equipped with a three-conductor AC power cable. The power cable must be either plugged into an approved three-contact electrical outlet or used with a three-contact to two-contact adapter with the grounding wire (green) firmly connected to an electrical ground (safety ground) at the power outlet. The power jack and mating plug of the power cable meet International Electrotechnical Commission (IEC) safety standards.

DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE

Do not operate the unit in the presence of flammable gasses or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.

KEEP AWAY FROM LIVE CIRCUITS

Operating personnel must not remove unit covers. Component replacement and internal adjustments must be made by qualified maintenance personnel. Do not replace components with power cable connected. Under certain conditions, dangerous voltages may exist even with the power cable removed. To avoid injuries, always disconnect power and discharge circuits before touching them.

DO NOT SERVICE OR ADJUST ALONE

Do not attempt internal service or adjustment unless another person capable of rendering first aid resuscitation is present.

DO NOT SUBSTITUTE PARTS OR MODIFY INSTRUMENT

Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the unit.

DANGEROUS PROCEDURE WARNINGS

Warnings such as the examples below precede potentially dangerous procedures throughout this document. Instructions contained in the warnings must be followed.

WARNING

Dangerous voltages capable of causing death are present in this instrument. Use extreme caution when handling, testing, or adjusting.

WARNING

These service instructions are intended for use by qualified personnel only. Do not perform any servicing other than that contained in these instructions unless qualified to do so. Refer to the Safety Summary on page 2 prior to performing any service.



ELECTROSTATIC DISCHARGE (ESD) PRECAUTIONS



CAUTION

The following practices minimize possible damage to EPROMs resulting from electrostatic discharge or improper insertion.

- Keep parts in original containers until ready for use.
- Avoid having plastic, vinyl, or Styrofoam in the work area.
- Wear an anti-static wrist strap.
- Discharge personal static before handling devices.
- Remove and insert boards with care.
- When removing boards, handle only by non-conductive surfaces and never touch open-edge connectors except at a static-free workstation.*
- Minimize handling of EPROMs.
- Handle each EPROM by its body.
- Do not slide EPROMs or boards over any surface.
- Insert EPROMs with the proper orientation, and watch for bent pins on EPROMs.
- Use anti-static containers for handling and transport.

* *To make a plastic-laminated workbench anti-static, wash with a solution of Lux liquid detergent, and allow to dry without rinsing.*



H A Harman International Company

Lexicon, Inc.
3 Oak Park
Bedford, MA 01730-1441 USA
Tel 781-280-0300
Fax 781-280-0490
www.lexicon.com

Customer Support

Tel 781-280-0300
Fax 781-280-0495 (Sales)
Fax 781-280-0499 (Service)

Lexicon Part No. 070-15031 | Rev 0 | 08/02

DOCUMENTATION CONVENTIONS

This document contains software installation instructions and release notes for MPX G2 Software Version 1.10. Refer to the MPX G2 User Guide for general safety, installation, and operating instructions.

The following symbols are used in this document:

WARNING

Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in injury or death.

CAUTION

Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in damage or destruction to part or all of the product.

Note:

Calls attention to information that is essential to highlight.

© 2002 Lexicon, Inc. All rights reserved.

This document should not be construed as a commitment on the part of Lexicon, Inc. The information it contains is subject to change without notice. Lexicon, Inc. assumes no responsibility for errors that may appear within this document.

Contents	6
Preserving User Settings	6
Installation Instructions	7
Step One: Open the Unit	8
Step Two: Install the EPROM	9
Release Notes	10
New Features	11
New & Improved Effects	11
<i>Comp (S) • Ring Mod</i>	
New Parameter Options	12
<i>Mix • Note • Time</i>	
Advanced Editor Mode	14
<i>Advanced Editor Mode Controls</i>	
DSP Step Count	19
Meters Mode	19
Errata Notes	20
Index	22

CONTENTS

This upgrade kit includes one of each of the following:

- MPX G2 Software Version 1.10 EPROM
- EPROM extractor tool
- Anti-static wrist strap
- MPX G2 Software Version 1.10 Installation Instructions & Release Notes (this document)

This kit does not include a Phillips Head screwdriver, which is needed to remove the two screws on the rear panel and the three screws on each side of the unit. These screws are Lexicon Part Number 640-10498.

PRESERVING USER SETTINGS

Installation of Software Version 1.10 will restore factory-default settings, such as System Mode parameters and User Bank programs. To avoid this, it is recommended to dump system information to an external MIDI device before installing the new software.

To perform a MIDI dump of system information:

1. Press the front panel System button to enable System Mode. The front panel display will appear as shown in the figure below.



2. Rotate the front panel selection knob two clicks to the right, until the MIDI option is selected (as shown in the figure below). The selection knob is located to the right of the Effect buttons.



3. Press the front panel > Yes button to select this option. The front panel display will appear as shown in the figure at the top of the next page.



4. Press the front panel > Yes nine times, until the MIDI Dump option is selected (as shown in the figure below). The front panel Store button LED will flash to indicate that the unit is armed to transmit a MIDI dump.



5. Rotate the front panel selection knob one click to the right until the front panel display appears as shown in the figure below. (The selection knob is located to the right of the Effect buttons.)



6. Press the front panel Store button to select this option. User settings will be transmitted to the designated external MIDI device.
7. Follow the instructions that begin below to install Software Version 1.10.
8. When the new software is installed, send the MIDI dump back to the MPX G2. This will restore user settings such as System Mode parameters and User Bank programs.

INSTALLATION INSTRUCTIONS

Performing this upgrade is a simple process. But, to avoid problems, please follow these instructions carefully. Pay particular attention to precautions that appear in this document, including the Safety Summary that begins on page 2. **Any damage caused during installation is not covered under warranty.**

... Installation Instructions continue on page 8

Installation Instructions *(continued from page 7)*

WARNING Turn off and disconnect all power to the unit prior to installing the software upgrade.

Note:

Installation of Software Version 1.10 will restore factory-default settings such as System Mode parameters and User Bank programs. To avoid this, it is recommended to dump system information to an external MIDI device before installing the new software. See Preserving User Settings on page 6 for more information.

STEP 1: OPEN THE UNIT

1. Using a Phillips head screwdriver, remove the two rear panel screws identified in the figure below.



2. Using a Phillips head screwdriver, remove the three screws on each side of the unit (for a total of six screws). These screws are identified in the figure below.



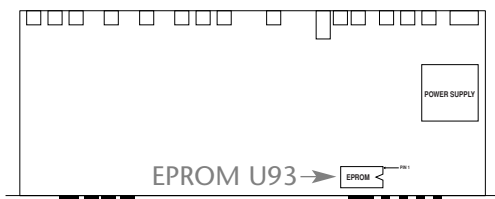
3. Remove the top cover by gently sliding it straight back, away from the front panel as shown in the figure below.



4. Before proceeding to Step 2: Installing the EPROM:
 - A. Put on the anti-static wrist strap.
 - B. Attach the copper tape to an electrical ground.

STEP 2: INSTALL THE EPROM

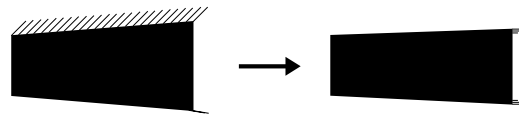
1. Refer to the figure below to locate the EPROM on the MPX G2 main board (location U93).



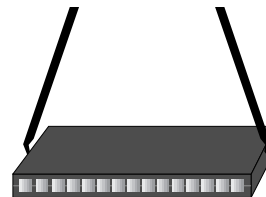
2. Examine the Software Version 1.10 EPROM provided in the upgrade kit. Because the manufacturing process leaves the pins angled out slightly from the body of the EPROM, the pins must be straightened before insertion.

To straighten the pins:

- A. Place the EPROM on its side on a static-free, flat surface. See page 3 for instructions to create a static-free workstation.
- B. Hold the body of the EPROM. Gently exerting pressure downward, roll the EPROM to force the pins into a position parallel to the workstation. This is demonstrated in the figure below.



3. Using the EPROM extractor tool shown in the figure below, remove the EPROM from location U93.



... Step Two: Installing the EPROM continues on page 10

Installation Instructions (continued from page 9)

4. Insert the Software Version 1.10 EPROM in place of the old EPROM. Be careful not to bend the pins. The notch on the EPROM (shown below) should align with the notch on the EPROM socket. When the EPROM is inserted, inspect the pins to make sure none have been bent.

CAUTION

EPROMs inserted backwards will be destroyed. Incorrect insertion of EPROMs might also cause damage to the board. Make sure the notch on the EPROM aligns with the notch on the EPROM socket. Damage caused during installation is not covered under warranty.

**RELEASE NOTES**

Software Version 1.10 includes the new enhancements described in this section.

- The Time parameter in the Delay (S), Delay (D), Echo (S), and Echo (D) effects can now be set above 5,000 milliseconds without creating ping pong effects.
- Program Change messages with values greater than 100 will no longer activate the "Sort programs by number" feature when sent to the unit. Rather, these messages will select the corresponding MIDI Map program.
- Different Program Change messages can now be assigned to the same program.
- The Wah2 and PedalWah2 effects will now maintain accurate output levels when placed in the pre-gain path. A -3dB change in output level will no longer occur when either of these effects is assigned in the Effect 1 bank.

NEW FEATURES

Software Version 1.10 includes the new features described in this section.

NEW & IMPROVED EFFECTS

- New effects have been added to the Effect 1, Effect 2, and EQ banks. Descriptions of these effects begin in the next column. The table beneath each description indicates the parameters available for the effect. Parameter descriptions are located in the MPX G2 User Guide and on pages 12 to 14 of this document.
- The Blue Comp effect time constant has been shortened to improve performance when the ATime (Attack Time) parameter is set to 0. The minimum attack time set in the algorithm is greater than 0. This time is now faster, making the Blue Comp effect sound less "crunchy" when the ATime parameter is set to 0. The Blue Comp effect is located in the Effect 1 and Effect 2 banks.

- The following effects have been added to the EQ bank: SweepFilter, Wah1, Wah2, PedalWah1, PedalWah2, Test Tone, and Ring Mod. These effects are identical to the effects included in the Effect 1 and Effect 2 banks.
- The compressor level in the Wah2 and PedalWah2 effects appears on the same meter as it appears on in the RedComp effect. The compressor in all three effects is identical.

Comp (S)

The Comp (S) effect has been added to the Effect 1 and Effect 2 banks. It is a stereo version of the Blue Comp effect. These effects are identical, except Comp (S) has a mono detector linking the left and right compressors. Comp (S) includes the ATime (Attack Time) parameter modification described in the previous column.

... Comp (S) continues on page 12

Comp (S) (continued from page 11)

Label	Default Value	Values
Mix	100% or Off	0 to 100% or Off, -95 to 0dB
Level	0dB	Off, -89dB to +6dB
Sense	0	-72 to +24
Thrsh	0dB	-83 to 0dB
Gain	0	-72 to +24
ATime	1	0 to 2000
RTime	100	0 to 2000

RingMod

The Ring Mod effect has been added to the Effect 2 and EQ banks. It is modeled after the Big Briar moogerfooger™. It multiplies a locally generated sine wave carrier by the input signal, creating sidebands around the carrier frequency. A built-in LFO modulates the carrier for added "weirdness." Harmonics are not anti-aliased.

Label	Default Value	Values
Mix	50% or Off	0 to 100% or Off, -95 to 0dB
Level	0dB	Off, -89dB to +6dB
Freq	200	1 to 8000
Bal	0	-50 to +50
Rate	1.00	0.00 to 50.00
PW	50%	0 to 100%
Depth	25%	0 to 100%
Type	Trian	Sine, Trian (Triangle), Squar (Square)

NEW PARAMETER OPTIONS**Note:**

To access the new options for the parameters described in this section, press the front panel Options button while the desired parameter is selected.

Mix (0 to 100% or Off, -95 to 0dB)

When the Effect Mix option is selected, the Mix parameter can be used to set the wet-to-dry ratio of the input signal as a percentage. When the Dry Level option is selected, the Mix parameter can be used to set the dry level of the input signal. (The Level parameter indicates the wet level of the input signal no matter which option is selected.)

The Mix parameter setting is not global. It must be selected for each desired effect. To save the Mix parameter setting, the effect must be saved as a User program.

Note:

When the Dry Level option is selected for the Mix parameters in the Panner and Auto Panner effects are not interpolated.

Note (C0 to G10 or 17to 25088)

The Note parameter can be used to set the pitch of the sine wave generated in the Test Tone effect. Press the front panel Options button to toggle between displaying the setting as a MIDI note or as a frequency (Hz). The default option is MIDI note.

Time (0 to 10000)

The Time parameter can be used to set the delay time of the selected delay effect. The setting can be displayed in the formats included in the table shown below.

Option	Description
mS	Displays the setting in milliseconds. Delay time is fixed.
Echoes:beat	Displays the setting in a rhythmic ratio of echoes-per-beat. Delay time varies with tempo, and can be adjusted by pressing the front panel Tap button.

... Time continues on page 14

Time (continued from page 13)

Option	Description
Feet	Displays the setting in feet – the equivalent distance from a sound source required to produce the delay. Delay time is fixed.
Meters	Displays the setting in meters – the equivalent distance from a sound source required to produce the delay. Delay time is fixed.
Tap mS	Displays the setting in milliseconds. When the Time parameter is selected, a new setting can be “tapped in.”
Samples*	Displays the setting as a number based on a 44100Hz sample rate (22.7 milliseconds per sample). Resonance effects can be created by adjusting the Time parameter when feedback parameters are set high.

* Lag time in the A/D/A converters sets absolute time in the box in milliseconds. Sample delays should be added to this time to calculate the accurate delay time.

ADVANCED EDITOR MODE

Advanced Editor Mode can be used to change preset names.

To enable Advanced Editor Mode:

1. Load the desired preset. (See page 2-2 in the MPX G2 User Guide for instructions to load presets.)
2. Press the front panel Store button. The Store button LED will flash to indicate that Store Mode has been enabled.
3. Press the front panel Options button to enable Advanced Editor Mode. Press the Options button again to disable Advanced Editor Mode.

The Options button LED will flash to indicate that Advanced Editor Mode is enabled. The Effect buttons will also flash, indicating that these buttons serve as controls in this mode. See the Advanced Editor Mode Controls section that begins on the next page for descriptions of each button function.

The front panel display will appear as shown in the figure below. The name of the selected preset will appear on the top line of the display. A cursor will flash beneath the first character in the preset name. A horizontal list of available letters, numbers, and symbols will appear on the bottom line of the front panel display.

Note:

The G2 Blue preset is used as an example in the figure below, and will continue to be used as an example throughout this section.



Advanced Editor Mode Controls

The front panel < No, Yes >, and Effect buttons can be used to change the name of the selected preset. Descriptions of these button functions begin in the next column.

< No Button

Moves the flashing cursor to the previous character in the preset name.

< Yes Button

Moves the flashing cursor to the next character in the preset name.

Gain Button

Deletes the preset name, beginning with the character above the flashing cursor and including all characters to the right of the flashing cursor. Characters to the left of the flashing cursor are not deleted. For instance, the flashing cursor is positioned below the "l" in the G2 Blue preset name. When the Gain button is pressed, the letters "l," "u," and "e" will be deleted.

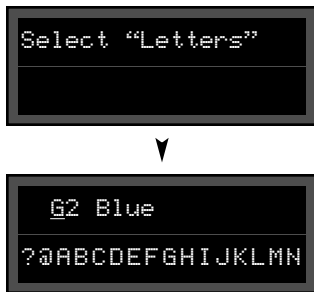
... *Advanced Editor Mode Controls continues on page 16*

Advanced Editor Mode Controls

(continued from page 15)

Effect 1 Button (Word Mode)

Selects Word Mode. When Word Mode is selected, an activation message will appear briefly on the top line of the front panel display. Then, the name of the selected preset will appear on the top line of the display. This sequence is shown in the figures below.



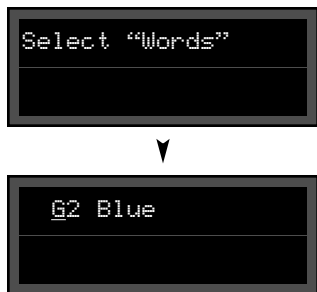
Press the front panel No < and > Yes buttons to move the flashing cursor to the desired character in the preset name. Then, rotate the selection knob to scroll through

available words. The selected word will replace characters above and to the right of the cursor. Characters to the left of the cursor will not change.

For example, the cursor is positioned below the number "2" in the G2 Blue preset name. When a new word is selected, it will replace the number "2," the space, and the letters "B," "I," "u," and "e." If the word "Ambience" is selected, the preset name will be changed to "GAmbience."

Effect 2 Button (Letter Mode)

Selects Letter Mode, the mode that is selected when Advanced Editor Mode is enabled. When Letter Mode is selected, an activation message will appear briefly on the top line of the front panel display. Then, the name of the selected preset will appear on the top line of the display. A horizontal list of available letters, numbers, and symbols will appear on the bottom line of the front panel display. This sequence is shown in the figures at the top of the next page.



Press the front panel No < and > Yes buttons to move the flashing cursor to the desired character in the preset name. Then, rotate the selection knob to scroll through available characters. The selected character will replace the character above the cursor. Other characters will not change.

For example, the flashing cursor is positioned below the number "2" in the G2 Blue preset name. When a new character is selected, it will replace the number "2." If the * character is selected, the preset name will be changed to "G* Blue."

Chorus Button

Changes the character above the flashing cursor to a lowercase "a."

Delay Button

Changes the character above the flashing cursor to an uppercase "A."

Reverb Button

Changes the character above the flashing cursor to a number "1."

EQ Button

Enables the Drag Word feature. **Unlike other front panel Effect buttons, the EQ button must be pressed and held to perform its Advanced Edit Mode function. If it is released, the unit will automatically disable the Drag Word feature.**

... *Advanced Edit Mode Controls continues on page 18*

Advanced Editor Mode Controls

(continued from page 17)

To enable the Drag Word feature:

1. Follow the instructions on page 14 to enable Advanced Edit Mode.
2. Press and hold the front panel EQ button. An activation message will briefly appear on the front panel display. Then, the name of the selected preset will appear on the top line of the display. This sequence is shown in the figures below.



Note:

Do not release the EQ button when the “Drag word” activation message appears on the front panel display. Remember, the EQ button must be pressed and held at all times to use this feature. If it is released, the unit will disable the feature.

3. Press the front panel No < and > Yes buttons to move the flashing cursor to the desired character in the preset name.
4. Rotate the selection knob to “drag” the preset name across the front panel display in the corresponding direction. Observe the rules listed below.
 - When the selection knob is rotated, characters above and to the right of the cursor will move. Characters to the left of the cursor will not move.
 - When the cursor is moved to the left, it will delete characters it passes over.
 - Characters that are moved outside the left or right margins of the front panel display will be deleted.

Examples of Drag Word Editing



If the selection knob is rotated to the right when the cursor is positioned beneath the number "2," the number "2," the space, and the letters "B," "I," "u," and "e" will move to the right. The letter "G" will not move.



If the selection knob is rotated to the left when the cursor is positioned beneath the number "2," the letter "G" will be deleted.



If the letters "I," "u," and "e" are moved outside the right margin of the front panel display, these letters will be deleted. Even if the preset name is moved left, these letters will not reappear.

5. Release the EQ button to disable the Drag Word feature.

DSP STEP COUNT

The total number of DSP steps has been increased from 190 to 200.

METERS MODE

Meters Mode can be used to view high-resolution, horizontal level meters that monitor input and output levels for each effect.

To enable Meters Mode:

1. Press the front panel Edit button to enable Edit Mode. The front panel display will appear as shown in the figure below.



... Meters Mode continues on page 20

Meters Mode (continued from page 19)

2. Rotate the front panel selection knob three clicks to the right, until the Meters option is selected (as shown in the figure below).



3. Press the front panel > Yes button to select this option. The front panel display will appear as shown in the figure below.



4. Press and hold the desired front panel Effect button. A horizontal level meter for the selected effect will appear on the front panel display. An example is shown in the figure at the top of the next column.



5. Press the front panel No < button to view an input level meter for the selected effect, or the front panel > Yes button to view an output level meter for the selected effect.
6. Press the Effect button again to disable Meters Mode.

ERRATA NOTES

1. When Sleep Mode is active, the Tuner works intermittently or not at all. To restore Tuner operation, deactivate Sleep Mode. (See page 5-13 in the MPX G2 User Guide for more information about Sleep Mode.)

2. Insert Modes are disabled when the unit is left in Tuner Mode for a long period of time. To avoid this, exit Tuner Mode when it is not in use. (See page 5-17 in the MPX G2 User Guide for more information about Tuner Mode.)

Index

Page Numbers will be inserted.

- < No Button,
- > Yes Button,
- CAUTION:;
- Note:
- Warning:
- A/D/A Converters,
- Advanced Editor Mode Controls,
- Advanced Editor Mode,
- Analog-to-Digital Converters,
- Anti-static Wrist Strap,
- ATime Parameter,
- Attack Time,
- Bal Parameter,
- Big Briar moogerfooger™,
- Blue Comp Effect,
- Chorus Button,
- Comp (S) Effect,
- Compressor Levels,
- Copper Tape,
- D/A Converters,
- Delay (D) Effect,
- Delay (S) Effect,
- Delay Button,
- Delay Effects,
- Delay Time,
- Depth Parameter,
- Digital-to-Analog Converters,
- Documentation Conventions,
- Drag Word Editing, Examples of,
- Drag Word Feature,
- Dry Level Option,
- DSP Step Count,
- Echo (D) Effect,
- Echo (S) Effect,
- Echoes:beat Option,
- Edit Button,
- Edit Mode,
- Effect 1 Bank,
- Effect 1 Button,
- Effect 2 Bank,
- Effect 2 Button,
- Effect Buttons,
- Effect Mix Option,
- Effects, New & Improved,
- Electrostatic Discharge (ESD) Precautions,
- EPROM Extractor Tool,
- EPROM Socket,
- EPROM, Software Version 1.10,
- EQ Bank,
- EQ Button,
- Factory-Default Settings,
- Feedback Parameters,
- Feet Option,
- Freq Parameter,
- Frequency, Sine Wave,
- Front Panel Display,
- Front Panel,
- G2 Blue Preset,
- Gain Button,
- Gain Parameter,
- Input Level Meters,
- Input Levels,
- Insert Modes,
- Inserting the EPROM,
- Installation Instructions,
- Letter Mode,
- Level Parameter,
- LFO,
- Location U93,
- Main Board,
- Meters Mode,
- Meters Option,
- Meters Option,
- MIDI Dump Option,
- MIDI Dump, Performing a,

MIDI Map Programs,
MIDI Note, Sine Wave,
MIDI Option,
Mix Parameter,
MPX G2 User Guide,
mS Option,
Note Parameter,
Options Button LED,
Options Button,
Output Level Meters,
Output Levels,
Parameter Options, New,
PedalWah1 Effect,
PedalWah2 Effect,
Phillips Head Screwdriver,
Pins, EPROM,
Pins, Straightening,
Preserving User Settings,
Program Change Messages, MIDI,
PW Parameter,
Rate Parameter,
Rear Panel Screws, Removing,
Rear Panel,
Release Notes,
Resonance Effects, Creating,

Reverb Button,
Ring Mod Effect,
RTime Parameter,
Safety Summary,
Samples Option,
Screws, Removing,
Selection Knob
Sense Parameter,
Side Panel? Screws, Removing,
Sine Wave,
Sleep Mode,
Software Version 1.10,
Sort Programs by Number Feature
Static-Free Workstation, Creating,
Step 1: Open the Unit,
Step 2: Installing the EPROM,
Store Button LED,
Store Button,
Store Mode,
SweepFilter Effect,
System Button,
System Mode Parameters,
System Mode,
Table of Contents,
Tap mS Option,

Test Tone Effect,
ThrsH Parameter,
Time Parameter,
Time Parameter,
Top Cover, Removing,
Tuner Mode,
Tuner,
Type Parameter,
U93, Location,
User Bank Programs,
Wah1 Effect,
Wah2 Effect,
Warranty Coverage,
Wet-to-Dry Ratio,
Word Mode,

Lexicon

H A Harman International Company

Lexicon, Inc.
3 Oak Park
Bedford, MA 01730-1441 USA
Tel 781-280-0300
Fax 781-280-0490
www.lexicon.com

Customer Support

Tel 781-280-0300
Fax 781-280-0495 (Sales)
Fax 781-280-0499 (Service)

Lexicon Part No. 070-15031 | Rev 0 | 08/02