

# **MERCURY7**

MANUAL v.3

MORE THAN LOGIC. UNITING ART + ENGINEERING.







email: info@meris.us phone: 747.233.1440 website: www.meris.us

# TABLE OF CONTENTS

SECTION 1 PG. 1 FRONT PANEL CONTROLS

SECTION 2 PG. 2-4 GLOBAL SETTINGS CONFIGURATION MODE

SECTION 3 PG. 4-5 EXPRESSION JACK MODES IN DEPTH

3a - EXPRESSION PEDAL

3b - TAP SWITCH

3c - 4 BUTTON PRESET SWITCH

3d - MIDI

SECTION 4 PG. 6 KNOB BEHAVIOR IN DEPTH

SECTION 5 PG. 6 PRESETS IN DEPTH

SECTION 6 PG. 7 MIDI CC TABLES

SECTION 7 PG. 8 PRESET 1 FACTORY SETTINGS

SECTION 8 PG. 9 TECHNICAL SPECIFICATIONS

## **SECTION 1 - FRONT PANEL CONTROLS**

**Space Decay:** Sets decay energy of

the reverberation space

Alt Function: Predelay Sets amount

of time that elapses

before the onset of reverberation

Lo Frequency: Changes how low frequencies react in the reverb algorithm. When set closer to max, low frequency decay times are extended giving the impression of a larger room

**Alt Function: Density** Sets amount of initial build up of echoes before the reverb tank

#### Swell LED / Alt Function Switch:

Switch LED ON when Swell is active. Alt Functions only accessible when ALT (HOLD) is held

**Swell:** Press to engage the auto swell function.

Hold to maximize Space Decay sustain

**Modulate:** Sets overall modulation depth of the reverb algorithm

**Alt Function:** Mod Speed Sets dominant modulation speed of the reverb algorithm



**Pitch Vector:** Sets intra tank pitch interval to: Octave down, slight pitch up, slight pitch down. 5th up, or octave up. Decay. Pitch Vector Mix & Hi/Lo Freq controls all interact to sculpt the intra-tank pitch regeneration

**Alt Function: Attack Time** Sets the attack time for the swell envelope

Mix: Adjusts Mix of Dry and Wet signals in analog domain Alt Function: Pitch Vector Mix Adjusts mix between intra-tank pitch shifted reflections and normal reflections inside the reverb tank

Hi Frequency: Changes how high frequencies react in the reverb algorithm and alters the high frequency absorbtion of the reverb space. Set lower to reduce the amount of time high frequencies live in the algorithm for a more natural room reverh

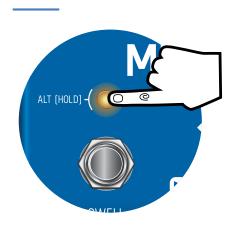
Alt Function: Vibrato Depth Adds vibrato to the reverb input for lush, haunting trails

Bypass LED / Algorithm
Select Switch: Switch LED
indicates Bypass status.
Small LEDs indicate active
algorithm
ULTRAPLATE: Inspiring &
lush plate with a fast build
CATHEDRA: Massive &
ethereal algo with a slow
build

**Bypass:** Processes signal when LED is ON. passes dry signal entirely in analog [buffered or relay] when OFF

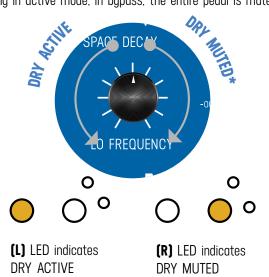
## **SECTION 2 - GLOBAL SETTINGS CONFIGURATION MODE**

# TO START GLOBAL SETTING **CONFIGURATION MODE**

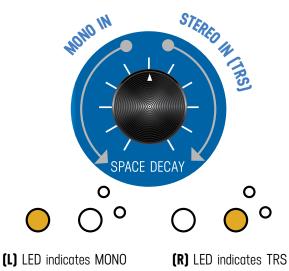


HOLD (L) LED switch on power up (power up takes 3 secs); all of the front panels LEDs will blink 3 times

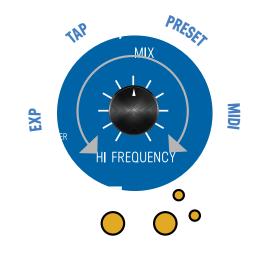
#### KILL DRY: \*With DRY MUTED, the pedal delivers wet only in active mode; in bypass, the entire pedal is muted



## **INPUT MODE:**

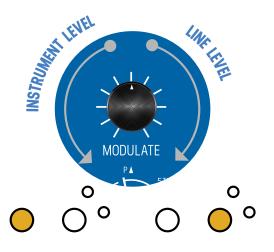


#### **EXPRESSION MODE:**



LEDs on front panel blink to indicate EXP, TAP, PRESET, & MIDI

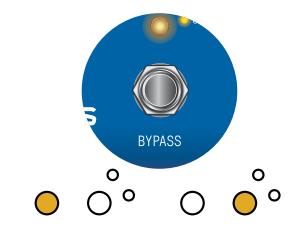
## **LINE/SYNTH LEVEL:**



(L) LED indicates
INSTRUMENT LEVEL

(R) LED indicates LINE LEVEL

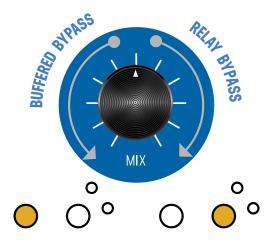
## MIDI THRU ON: Toggle [R] foot switch.



(L) LED indicates MIDI OUT

(R) LED indicates MIDI THRU

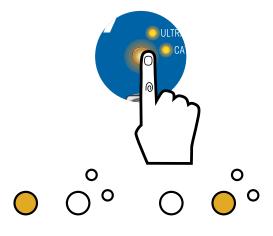
## **BYPASS MODE:**



**(L)** LED indicates BUFFERED BYPASS

(R) LED indicates RELAY BYPASS

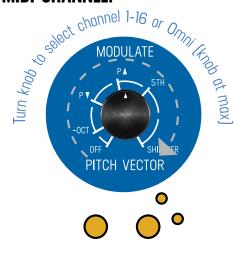
**TRAILS:** Toggle Trails OFF or ON using (**R**) LED switch only



(L) LED indicates OFF

(R) LED indicates ON

#### **MIDI CHANNEL:**



LEDs on front panel blink to indicate binary

MIDI CHANNELS

1 0 0°

2 O O •

ဝ ဝိဇ

4 O O°

0 00

7 O O°

₃ **o o°**•

ှ ဂ ဂိ∘

10 0

12 0 0

13 0 0

14 •

15 🔾 💍

16 0 0 0

## **SECTION 3** - EXPRESSION JACK MODES IN DEPTH

The Expression Pedal Jack is a multifunction jack that gives you 4 different modes of operation that you can choose in Global Settings Mode: Expression Pedal, External Switch, 4 Button Preset Switch, and MIDI.

#### Section 3a. Expression Pedal

The expression pedal works by morphing between two complete settings of all of the knob values (even the second layer knob values). This gives you two complete and distinct presets in one that you can then use the expression pedal to morph between. Put the expression pedal to the "toe up position" and set the knobs (including the 2nd layer ones) any way you wish, and then put the expression pedal to the "toe down position" and set the knobs to create your seconds sound. Now sweeping the expression pedal from heel to toe will smoothly morph between those two sets of settings. You can also manipulate the expression pedal using MIDI CC #04.



#### Section 3b. External Switch

For the Mercury7, the external switch enables the Swell and has all of the same functionality as the Swell button on the main pedal, this includes maxing out the decay when held.

#### Section 3c. 4 Button Preset Switch

This mode gives you access to and instant enabling of presets 1 through 4, when connected with a proprietary Meris 4 button switch.

#### Section 3d. MIDI

The Mercury7 features both MIDI In and Out via the EXP jack, and has a rich and deep MIDI implementation. All the knobs, alt functions, expression pedal, and switches are available via MIDI CCs. You can receive program change messages [MIDI PCs]. You also have the ability to send and receive presets. Be sure to set the your desired MIDI channel in Global Settings Configuration Mode. If you have multiple devices connected to MIDI in a chain, you will probably want each to device to set to listen to and send on its own channel. Also, be sure to check out the MIDI CC table later in this manual.

## **SECTION 4 - KNOB BEHAVIOR IN DEPTH**

Depending on the EXP Jack modes you have chosen, the Mercury7 will scan the top layer knobs and update the knobs on power up. If your Mercury7 is set to either "Expression Pedal" or "Tap Switch" for its EXP mode, then it will scan the knobs at power up. This means if you change the knobs whether the unit is off, those values will be how the pedal sounds next time you turn the pedal is on. Additionally, the Swell and the Algorithm Types are auto saved and return to whatever they were set to last when powering up the pedal. In these two EXP modes, the Mercury7 behaves exactly like all classic guitar pedals work [WYSIWYG], if it's set to either "4 Button Preset Switch" or "MIDI" for its EXP jack mode, then the pedal will simply recall the preset that is stored in the current memory location. This setting makes sure that the Mercury7 functions like a standard multi-preset device for those who depend on recalling exact sounds for a performance.

## **SECTION 5 - PRESETS IN DEPTH**

The Mercury7 features 16 internal preset locations. The first four presets are accessible by a compatible 4 button footswitch and all sixteen presets are accessible by MIDI Program Change messages.

To save a preset simply hold the Alt button. The preset is saved every time you edit the "Alt"/2nd layer knobs, this is how the Mercury7 is able to recall your second layer knob settings in its memory after a power down.

To save a preset to a different location than your current location, either press the desired preset button on a compatible 4 button footswitch or send a Program Change message over MIDI to which ever preset you would like to edit. After you are done with any changes, just press and hold the "Alt" button to save.

The Mercury7 can send and receive full presets for via MIDI Sysex Data. To send a preset from the Mercury7 to your computer by pressing the Bypass LED switch while holding the Alt button. It's always listening for preset data, so simply send any presets you have backed up on your PC back to the Mercury7 and it will overwrite that preset with the data you sent. If you are happy with the newly received preset, simply press Alt and the Mercury7 will save that data to the current preset location.

# **SECTION 6** - EXPRESSION JACK MODES IN DEPTH

CONTROL CHANGE	MERCURY7 CONTROL	RECEIVE VALUE RANGE	TRANSMIT VALUE RANGE
CC# 04	EXPRESSION PEDAL	О то 127	0 то 127
CC# 14	BYPASS	0 то 63 = FX BYPASS 64 то 127 = FX ENABLE	O FOR FX BYPASS 127 FOR FX ENABLE
CC# 16	SPACE DECAY	О то 127	О то 127
CC# 17	MODULATE	О то 127	О то 127
CC# 18	MIX	О то 127	О то 127
CC# 19	LO FREQ	О то 127	О то 127
CC# 20	PITCH VECTOR	О то 127	О то 127
CC# 21	HI FREQ	О то 127	О то 127
CC# 22	PREDELAY	О то 127	О то 127
CC# 23	MOD SPEED	О то 127	О то 127
CC# 24	PITCH VECTOR MIX	О то 127	О то 127
CC# 25	DENSITY	О то 127	О то 127
CC# 26	ATTACK TIME	О то 127	О то 127
CC# 27	VIBRATO DEPTH	О то 127	О то 127
CC# 28	SWELL	0 - 63 = SWELL OFF 64 - 127 = SWELL ON	0 = SWELL OFF 127 = SWELL ON
CC# 29	ALGORITHM SELECT	0 to 63 = ultraplate 64 to 127 = cathedra	0 = ULTRAPLATE 127 = CATHEDRA

# **SECTION 7** - MERCURY7 PRESET 1 FACTORY SETTINGS

EXPRESSION	PARAMETER	KNOB POSITION	REAL WORLD VALUE	MIDI DECIMAL	MIDI HEX
TOE UP	SPACE DECAY	JUST BEFORE 1 O'CLOCK	DECAY SET TO 63%	80	50
TOE UP	MODULATE	9 o'clock	MODULATION DEPTH AT 10%	12	С
TOE UP	MIX	JUST PAST 12 O'CLOCK	60% reverb 100% DRY	77	4D
TOE UP	LO FREQUENCY	MAX	NO LOW FREQ ATTENUATION	127	7F
TOE UP	PITCH VECTOR	MIN	PITCH SHIFTING DISABLED	0	0
TOE UP	HI FREQUENCY	MAX	NO HIGH FREQ ATTENUATION	127	7F
TOE UP	PREDELAY	MIN	O MILLISECONDS OF PREDELAY	0	0
TOE UP	MOD DEPTH	10 o'clock	MODULATION DEPTH AT 16%	21	15
TOE UP	PITCH VECTOR MIX	1 o'clock	70% PITCH 30% DRY	88	58
TOE UP	DENSITY	MAX	MAXIMUM DENSITY	127	7F
TOE UP	ATTACK TIME	12 o'clock	ABOUT 600 MILLISECONDS	63	3F
TOE UP	VIBRATO DEPTH	MIN	VIBRATO IS OFF	0	0
	SWELL	N/A	SWELL DISABLED	0	0
	ALGORITHM	N/A	ULTRAPLATE	0	0
TOE DOWN	SPACE DECAY	MAX	MAXIMUM DECAY TIME	127	7F
TOE DOWN	MODULATE	MAX	MAXIMUM MODULATION DEPTH	127	7F
TOE DOWN	MIX	MAX	100% reverb 0% dry	127	7F
TOE DOWN	LO FREQUENCY	MAX	NO LOW FREQ ATTENUATION	127	7F
TOE DOWN	PITCH VECTOR	MIN	PITCH SHIFTING DISABLED	0	0
TOE DOWN	HI FREQUENCY	MAX	NO HIGH FREQ ATTENUATION	127	7F
TOE DOWN	PREDELAY	MAX	41.5 MILLISECS OF PREDELAY	127	7F
TOE DOWN	MOD DEPTH	MIN	MINIMUM MODULATION DEPTH	0	0
TOE DOWN	PITCH VECTOR MIX	1 o'clock	70% PITCH 30% DRY	88	58
TOE DOWN	DENSITY	MAX	MAXIMUM DENSITY	127	7F
TOE DOWN	ATTACK TIME	12 o'clock	ABOUT 600 MILLISECONDS	63	3F
TOE DOWN	VIBRATO DEPTH	MIN	VIBRATO IS OFF	0	0

## **SECTION 8 - TECHNICAL SPECIFICATIONS**

Conversion 24 bit A/D and D/A DSP 32 bit floating point

Sample Rate 48000 Hz
Input Impedance 1 Meg Ohm
SNR 115dB typical
Frequency Response 20Hz-20kHz

Max Input Level +9 dBu (instrument level setting)

+12.5 dBu (line/synth level setting)

Power 9V DC center-negative, 150mA, 2.1mm jack

Bypass Selectable True Bypass (Relay) or Analog Buffered Bypass

Dimensions 4.25" wide, 4.5" long, 2" tall

Weight 14.6 ounces



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

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.

This equipment requires shielded interface cables in order to meet FCC class B limit.

Any unauthorized changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.