[R1]

MAKO MKII

HIGH-FIDELITY STEREO REVERB

The R1 is an extremely powerful and versatile multi-function reverb with six customized, studio-quality programs - Spring, Hall, Plate, BFR, RFRCT (Refract), and Air. Every program has the option to be tuned and tweaked from short and subtle room sounds to massive washes of experimental euphoria. The R1 is your architect for new songs and textures to create and inspire.

9 volt DC, Center Negative • 300mA min*

*The use of an isolated power supply is recommended for powering all Walrus Audio Pedals. Daisy chain power supplies are not recommended.

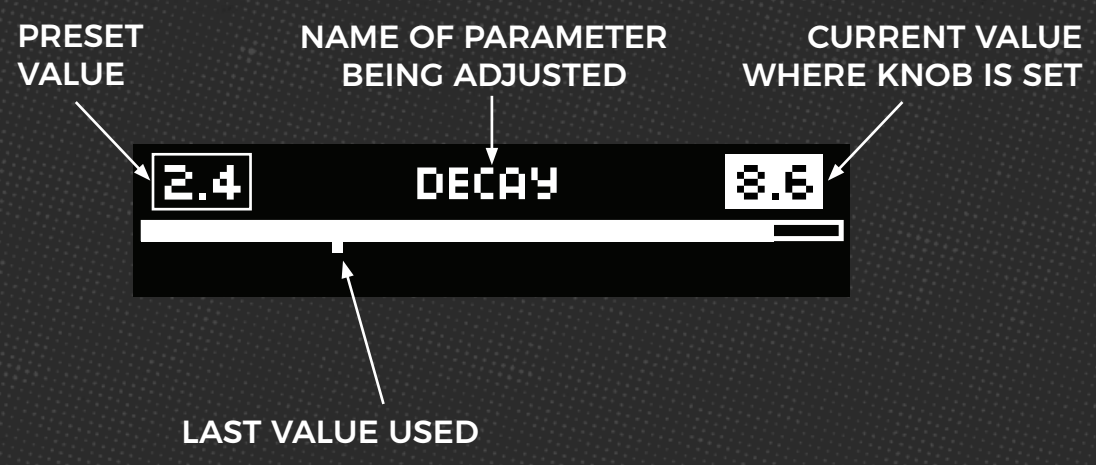
Got questions or need a repair?
Email help@walrusaudio.com to talk with a real live human about your Walrus gear!

This product comes with a limited lifetime warranty.
Click Here for more info.

CONTROLS

ADJUSTING PARAMETERS

When adjusting any knob parameter, you will see a bar appear on the screen. The higher you turn up a parameter, the fuller the bar will appear. The top left number is your stored preset value. The top right number shows the value of where the knob is currently set. The dot below the bar shows you the last value used before turning the knob.



CONTROLS

DECAY - The Decay knob sets the length of the reverb decay. Set this control lower for short natural sounding decays or higher for longer more ethereal-sounding reverbs.

PRE DELAY - Adjust the amount of pre-delay applied to your guitar signal before it enters the reverb. Pre-delay is useful for shaping how the reverb responds to your playing. At low (short) pre-delay settings, the reverb is heard almost immediately after you play a note. As you increase the pre-delay, the reverb is delayed a small amount to provide some separation between the notes you are playing and the reverb signal.

MIX - The Mix knob sets the ratio of dry to wet signal. At minimum, no reverb is heard. At maximum, no dry signal is heard. Equal parts dry and reverb can be found around the 3 o'clock position.

LEFT ENCODER - The Left encoder offers creative control over various ways to fine-tune each reverb program allowing you to creatively shape things like modulation, diffusion, ducking, and more. Cycle through each option by pressing down on the encoder until you reach the desired control, then turn the encoder knob to adjust. Alternatively, press and hold down the encoder and then turn to scroll through options then release to select. Note that not every option listed below will apply to every program.

RATE: Adjust the speed of the modulation applied within the reverb.

DEPTH: Adjust the amount of the modulation applied within the reverb.

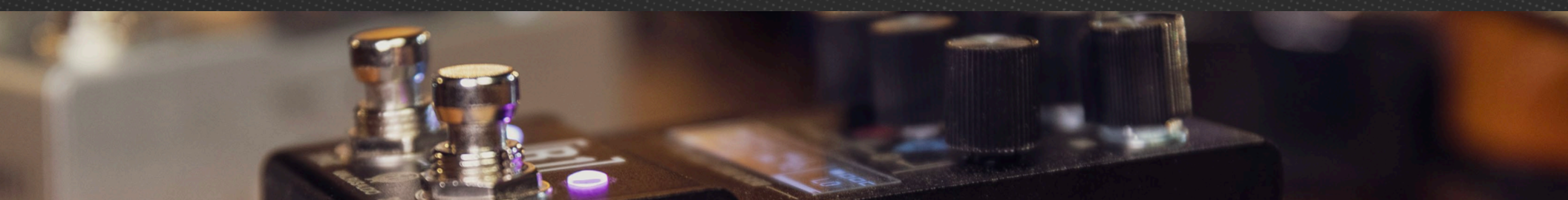
D/S (DUCK/SWELL): Rotate the Left encoder clockwise to apply a ducking effect to the reverb trails. The reverb signal will temporarily "duck" down to allow for just your dry signal to pass through. As you stop playing new notes and the ducking releases, your reverb will gently mix back in with your dry signal.

Rotate the Left encoder counterclockwise to apply a volume envelope applied to your wet signal as it passes through the R1 creating a gentle volume swell. This helps create unique moments of cinematic ambiance. The higher the swell number determines how long it takes to fade in the guitar and reverb signal after you play. To turn this swell effect off, return the D/S number to 0.

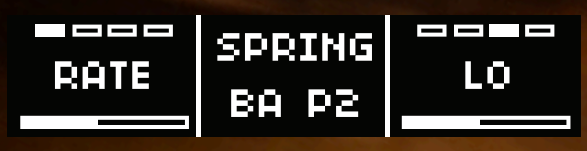
DIFFUSE: Controls the amount of diffusion applied to the reverb, at minimum less diffusion is applied, at maximum, more diffusion is applied for softer reverb trails. Note: Diffusion control is replaced with Shimmer control in the Air program only.

SHIMMR (SHIMMER): Applies to Air program only. Turn the Right encoder clockwise to increase the amount of shimmer apparent in the reverb decay.

OCTTYP: (Octave Type): This applies to the Air Program only. Use this function to choose if the shimmer effect happens pre or post the reverb tank.



RIGHT ENCODER - Use the Right encoder to fine-tune the EQ of the reverb decay. Cycle through each option by pressing down on the encoder until you reach the desired control, then turn the encoder knob to adjust. Alternatively, press and hold down the encoder and then turn to scroll through options then release to select. Note that not every option listed below will apply to every program.



LO: Adjust the amount of low frequencies in the reverb. Turn up for a thicker reverb and down for a thinner sound.

HIGH: Adjust the amount of high frequencies in the reverb. Turn up for a brighter sound and down for a darker sound.

SIZE: Sets the acoustic space size of the reverb. At minimum you can "shrink" the reverbs to sound like a smaller space with a bit higher pitch tonality, and at maximum you can "stretch" out the reverbs to sound like a large space with a bit lower tonality..

FB EQ: A bipolar filter that uses two individual high and low shelves to attenuate lows above 0.5 display setting and attenuate highs below the 0.5 display setting. In other words, set low for a darker or high for a brighter reverb decay. No effect at noon setting

PRESETS

The pedal includes 128 total preset slots. Good luck using them all! Access them by pressing the Left and Center encoders simultaneously. The first 9 presets are accessible from the pedal in Banks A, B, and C and can be cycled through three at a time by pressing both stomp switches simultaneously. All 128 are accessible by manually selecting in the preset menu or via MIDI Program Change messages, which are outlined in the MIDI section.

o To recall a preset bank:

1. Enter the global sound menu by pressing the Left and Center encoders simultaneously.
2. With "Preset" highlighted in the first column, turn the Center encoder to select the preset bank.
   Press down on the Center encoder to select the bank.
3. Scroll through the presets in that bank by turning the Right encoder. Press down on the Right encoder to select your preset number.
4. Press the Left and Center encoders simultaneously to exit the menu.

o To save a preset:

1. Scroll to the preset color (red, green, blue) in the bank you want to save a new sound by pressing Bypass and Sus/Latch simultaneously.
2. Using the knobs and switches, dial in the desired modulation sound. The Sus/Latch LED will turn purple indicating the preset has been modified.
3. To save, hold down the Bypass and Sus/Latch switches until the preset LED blinks. The preset is now saved and the LED will return to the preset color.

PRESET COPY/PASTE

Any preset can be copied and placed into another preset slot. While in the preset menu, press and hold down the Right encoder for three seconds to enter the copy/paste menu. You will have the following options:

- **COPY**:
  1. Scroll to the preset you want to copy then press and hold down the Right encoder to open the copy/paste menu.
  2. Select copy.
  3. The menu will now return to the preset menu.
- **PASTE:**
  1. Scroll to the preset you want to paste then press and hold down the Right encoder to open the copy/paste menu.
  2. Scroll to the Paste option. You will now see the number of the slot that you have copied and will be replacing in the new slot.
  3. Select Paste to confirm. The menu will now return to the preset menu.
- **OVERWRITE:**
  1. Overwrite saves the current parameter values into the preset (this is the same thing as pressing and holding both stomp switches to save a preset).
- **SWAP:**
  1. Scroll to the preset you want to swap then press and hold down the Right encoder to open the copy/paste menu.
  2. Scroll to the Swap option and press down on the Right encoder to select Swap. This will return you to the preset menu.
  3. Scroll to the preset slot you wish to swap with and press and hold down the Right encoder to enter the preset/swap menu.
  4. Scroll to the Swap option. You will now see the number of the slot that you will be swapping presets with.
  5. Press down on the Right encoder to confirm. The menu will now return to the preset menu.
- **BACK:** Returns to the preset menu without making changes.

INPUTS AND OUTPUTS

The R1 offers multiple input and output configurations and features true bypass circuity.

- Mono In / Mono Out
- Mono In / Stereo Out
- Stereo In / Stereo Out

USB-C - Used to update firmware via computer through walrusaudio.io and a web browser using Chrome.

MIDI

The R1 can be controlled via standard MIDI messages. Simply connect your MIDI controller to the R1 MIDI "IN". Downstream MIDI devices can be connected to the MIDI "THRU" which simply lets all incoming MIDI messages pass through to your other devices. The R1 ships with the MIDI channel set to 1 by default.

PRESET	MIDI PROGRAM CHANGE (PC)
Bank A (Red)	0
Bank A (Green)	1
Bank A (Blue)	2
Bank B (Red)	3
Bank B (Green)	4
Bank B (Blue)	5
Bank C (Red)	6
Bank C (Green)	7
Bank C (Blue)	8
Accessible via MIDI	0-127

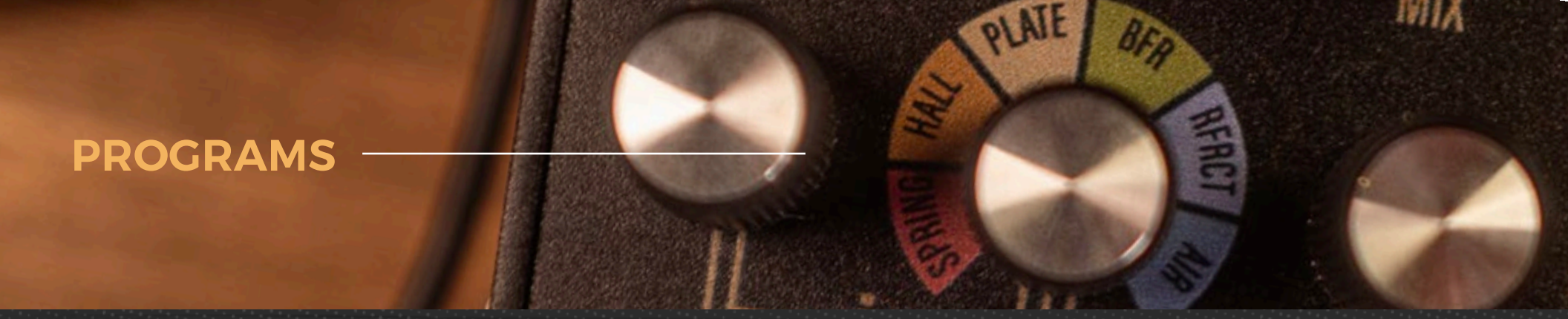
o **MIDI CC –** Most parameters on the R1 can be controlled via MIDI CC messages. The list below shows all applicable MIDI CC numbers and their associated parameters and control values.

PARAMETER / MIDI CC # / VALUES / MIDI Range			
Decay	3	0.0 - 1.0	0-127
Pre Delay	9	0.0 - 1.0	0-127
Mix	14	0.0 - 1.0	0-127
Rate	15	0.0 - 1.0	0-127
Depth	20	0.0 - 1.0	0-127
Swell	21	0.0 - 1.0	0-127
Duck	22	0.0 - 1.0	0-127
EQ Low	23	0.0 - 1.0	0-127
EQ High	24	0.0 - 1.0	0-127
Size	25	0.0 - 1.0	0-127
Diffuse	26	0.0 - 1.0	0-127
↳(Shimmer amount for Air program)			
Feedback EQ	27	0.0 - 1.0	0-127
Program	28	0 - 5	0 - 5
Bypass	30	0 || 1	0 || 127
Sustain	31	0 || 1	0 || 127
Width	35	0 || 1	0 || 127
Octave Type	81	0.0 - 1.0	0 - 127

o MIDI In – Connect upstream MIDI devices or your MIDI controller to the M1 MIDI "IN".

o MIDI Thru – Connect downstream MIDI devices to the M1 MIDI "THRU".

o MIDI PC – Presets on the M1 are able to be recalled via MIDI program change messages. To recall a preset, simply send a program change message corresponding to the desired preset to be recalled on the M1 MIDI channel.



PROGRAMS

SPRING

The Spring program emulates an excited spring reverb commonly found in tube amps with loads of bouncy drip. Easily go from subtle to full-on surf rock and beyond. Experiment with the decay knob to get more than normal amounts of reverb not found in traditional amp spring reverb tanks.

SPRING PARAMETERS LEFT ENCODER

1. **RATE** - Modulation Rate
2. **DEPTH** - Modulation Depth
3. **D/S (DUCK/SWELL)** - Rotate encoder left for ducking or right for swell.
4. **DIFFUSE** - Change diffusion amount in the reverb.

SPRING PARAMETERS RIGHT ENCODER

1. **LO**
2. **HIGH**
3. **SIZE** - Change the "acoustic space" size of the reverb.
4. **FB EQ** - Add highs above 0.5, add lows below 0.5. At 0.5 no change is applied.
5. **WIDTH** - Adjusts width of stereo image.

HALL

The Hall program provides the acoustics of large live sound spaces like concert halls to arenas. Longer decays and higher Size settings (via the right encoder) result in a massive wash of ambiance. Shorter decay and lower Size settings allow for a more intimate reverb expression.

HALL PARAMETERS LEFT ENCODER

1. **RATE** - Modulation Rate
2. **DEPTH** - Modulation Depth
3. **D/S (DUCK/SWELL)** - Rotate encoder left for swell or right for ducking.
4. **DIFFUSE** - Change diffusion amount in the reverb.

HALL PARAMETERS RIGHT ENCODER

1. **LO**
2. **HIGH**
3. **SIZE** - Change the "acoustic space" size of the reverb.
4. **FB EQ** - Add highs above 0.5, add lows below 0.5. At 0.5 no change is applied.
5. **WIDTH** - Adjusts width of stereo image.

PLATE

The Plate program emulates a smooth analog plate reverb with nice even diffusion inspired by famous plates like the EMT 140.

PLATE PARAMETERS LEFT ENCODER

1. **RATE** - Modulation Rate
2. **DEPTH** - Modulation Depth
3. **D/S (DUCK/SWELL)** - Rotate encoder left for swell or right for ducking.
4. **DIFFUSE** - Change diffusion amount in the reverb.

PLATE PARAMETERS RIGHT ENCODER

1. **LO**
2. **HIGH**
3. **SIZE** - Change the "acoustic space" size of the reverb.
4. **FB EQ** - Add highs above 0.5, add lows below 0.5. At 0.5 no change is applied.
5. **WIDTH** - Adjusts width of stereo image.

BFR

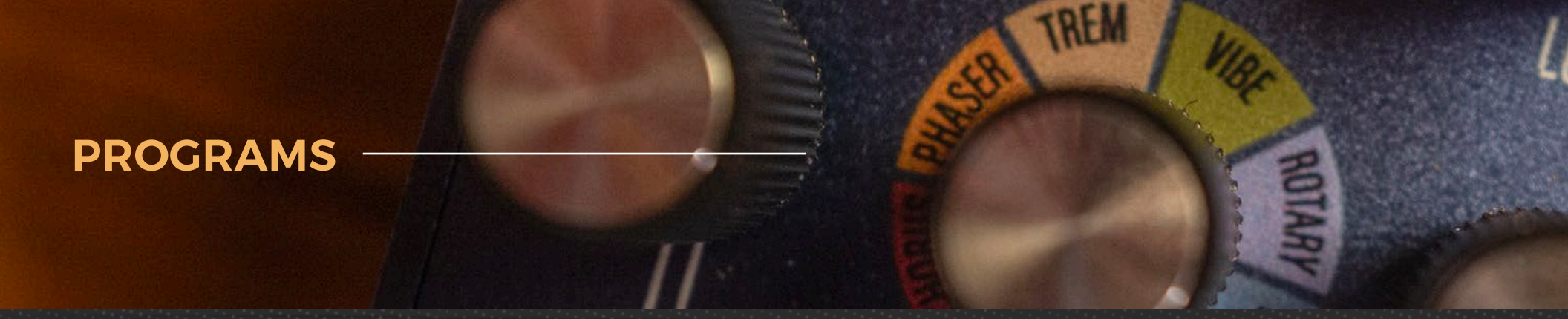
BFR is a no holds barred, big, f_____, reverb. This is more than a giant arena reverb. It's a hall-esque reverb with rich and lush decay in a vast cavern filled with choirs of angels.

BFR PARAMETERS LEFT ENCODER

1. **RATE** - Modulation Rate
2. **DEPTH** - Modulation Depth
3. **D/S (DUCK/SWELL)** - Rotate encoder left for swell or right for ducking.
4. **DIFFUSE** - Change diffusion amount in the reverb.

BFR PARAMETERS RIGHT ENCODER

1. **LO**
2. **HIGH**
3. **SIZE** - Change the "acoustic space" size of the reverb.
4. **FB EQ** - Add highs above 0.5, add lows below 0.5. At 0.5 no change is applied.
5. **WIDTH** - Adjusts width of stereo image.



PROGRAMS

RFRCT

The RFRCT program allows for lovely, charming, and glitch-like textures by generating a granular delay module with a controllable amount of reverb. Use the diffuse control to set the Reverb amount from dry to largely diffused. The Rate control under the Left encoder sets how often new grains are triggered. The Depth control under the Left encoder sets modulation applied to the grains, including reversing, re-generating more grains, and modulation.

RFRCT PARAMETERS LEFT ENCODER

1. **RATE** - Frequency of new grains generated.
2. **DEPTH** - Modulation applied to grains.
3. **DIFFUSE** - Change diffusion amount in the reverb.
4. **D/S (DUCK/SWELL)** - Rotate encoder left for swell or right for ducking.

RFRCT PARAMETERS RIGHT ENCODER

1. **LO**
2. **HIGH**
3. **SIZE** - Set delay time for grains. Increase for extended buffer size and audible choppiness.
4. **FB EQ** - Add highs above 0.5, add lows below 0.5. At 0.5 no change is applied.
5. **WIDTH** - Adjusts width of stereo image.

AIR

The Air program offers a larger diffused reverb with a subtle shimmer but has a more “crisp” clarity to its decay. Explore slow-building sounds that don’t get in the way of your playing. Air complements keys and synths as well.

AIR PARAMETERS LEFT ENCODER

1. **RATE** - Modulation Rate
2. **DEPTH** - Modulation Depth
3. **D/S (DUCK/SWELL)** - Rotate encoder left for swell or right for ducking.
4. **SHIMMER** - Change the amount of shimmer in the reverb.
5. **OCTTYP: (Octave Type):** Choose if the shimmer effect happens pre or post the reverb tank.

AIR PARAMETERS RIGHT ENCODER

1. **LO**
2. **HIGH**
3. **SIZE** - Change the “acoustic space” size of the reverb.
4. **FB EQ** - Add highs above 0.5, add lows below 0.5. At 0.5 no change is applied.
5. **WIDTH** - Adjusts width of stereo image.

MOMENTARY SUSTAIN / LATCH

The Sus/Latch switch allows you to momentarily sustain the current reverb sound by pressing and holding on the switch. You can also latch the sound by clicking this switch on and clicking again to unlatch. Due to the powerful architecture of the R1, anytime you sustain a reverb, your guitar signal is rerouted through an identical reverb so anything you play over the sustained sound will have the same reverb applied to it that was sustained.

GLOBAL PREFERENCES

Access the global settings menu by simultaneously pressing down on the Middle and Right encoders. Each encoder then cycles through the column of options directly below it on the screen.

Note that the solid white bar behind the text indicates which row of text you have selected.

Press down on the Right encoder to confirm your selection in the 3rd column. Press down on the Middle and Right encoders again to return to the home screen.

Bypass Mode
The R1 offers three bypass modes. Relay Bypass, Hybrid Bypass, and Buffer Bypass.

In **Relay Bypass mode**, the R1 uses relays to bypass the pedal.

In **Hybrid Bypass mode**, the R1 uses relays to bypass the pedal after the reverb decay dies out. Use this mode to keep trails on after bypassing.

In **Buffered Bypass mode**, the R1 locks the relays on and uses the DSP to bypass the pedal. Use this mode to keep trails on after bypassing.

The R1 ships in Hybrid mode by default.

Display
Adjust the screen brightness level.

MIDI
Chnl - Select MIDI channel.

About
Shows the current firmware version.

GLOBAL SOUND PREFERENCES

Access the global sound settings menu by simultaneously pressing down on the Left and Middle encoders. Each encoder then cycles through the column of options directly below it on the screen.

Note that the solid white bar behind the text indicates which row of text you have selected.

Press down on the Right encoder to confirm your selection in the 3rd column. Press down on the Left and Middle encoders again to return to the home screen.

Preset
Manually select the bank and preset slot you wish to use. After selecting a bank, presets can be cycled through by pressing the Bypass and Boost switches simultaneously. Each bank can store three presets. Up to 128 can be used via MIDI.

FACTORY RESET

Use the following procedure to restore the pedal to its factory settings.

1. Hold both stomp switches while applying power. The screen will read “Factory reset, hold both stomps 10 seconds.”

2. After 10 seconds the screen will read “Factory reset, now resetting, release both stomps.”

3. Release both stomp switches. After releasing the stomp switches the screen will read “Factory reset, now resetting, keep power on.”

4. Next, the display will read “Updating preset storage.” This will take about 45 seconds. Once the pedal is done, the screen will return to the home screen and the Bypass LED will return to white and the Sus/Latch LED will return back to red.

Note: Performing a factory reset will cause any custom stored presets to be erased back to the factory default.

WALRUSAUDIO.IO

Walrusaudio.io is a simple interface to update your pedal's firmware.

*Note - Connecting a USB C cable to your R1 allows you to access firmware updates using your computer with a Chrome-based web browser.

TECHNICAL INFO

Input Impedance: 1.1M Ohms

Output Impedance: 220 Ohms

Frequency Response: 20Hz To 20kHz

Inputs: 2, 1/4" unbalanced TS

Outputs: 2, 1/4" unbalanced TS

USB Type C: For firmware updates via walrusaudio.io

Power Requirement: Isolated 9VDC, center-negative, 300mA minimum

Size Including Knobs/Jacks:

Height: 2.48" / 63.15mm

Width: 2.9" / 74.33mm

Depth: 4.89" / 124.37mm

Weight: .8 lbs

WALRUSAUDIO
MAKO MKII