



User Manual  
**SPECULAR** V2  
R E V E R B

**Chapter 1 - OVERVIEW**

In this new design, we've stayed true to the concept of the original pedal but pushed its potential to the limit, and at the same time addressed its weaknesses. New features include presets capability and 3 new atmospheric reverb modes. The overall reverb algorithms have also been redesigned and improved to allow very long decay time, while maintaining excellent definition and clarity.

Specular Reverb V2 offers one **normal reverb** mode plus six **atmospheric reverb** modes. Each one of the six atmospheres has the same 'basic *character*' as the normal reverb sound, while adding its own unique twists. This is the core concept of the pedal : *one great sounding reverb and the ability to add unique atmospheres to it.*

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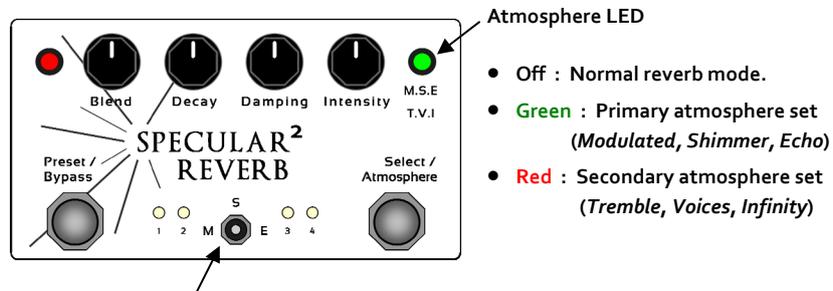
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Important - must read

The table below lists all available modes with their respective knob functions.

		MODES	DECAY	DAMPING	INTENSITY
Primary Atmosphere	[ M ]	Normal	<i>Decay</i>	<i>HF Damping</i>	<i>Pre-delay</i>
	[ S ]	Modulated	<i>Decay</i>	<i>HF Damping</i>	<i>Intensity</i>
	[ E ]	Shimmer	<i>Decay</i>	<i>HF Damping</i>	<i>Intensity</i>
Secondary Atmosphere	[ T ]	Echo	<i>Reverb Level</i>	<i>Echo Time</i>	<i>Echo Regen</i>
	[ V ]	Tremble	<i>Decay</i>	<i>Speed</i>	<i>Intensity</i>
	[ I ]	Voices	<i>Decay</i>	<i>HF Damping</i>	<i>Voice Select</i>
	[ I ]	Infinity	<i>Decay</i>	<i>Tone</i>	<i>Intensity</i>

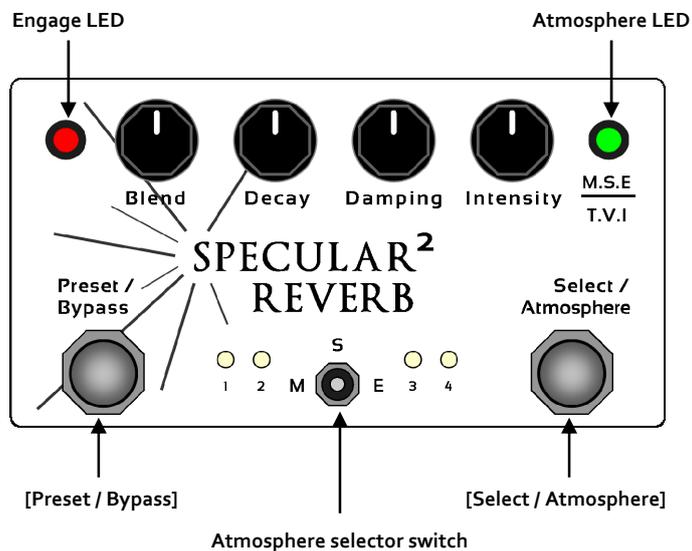


Use this selector switch to choose between *Modulated, Shimmer and Echo* (when you're in primary set) or between *Tremble, Voices, and Infinity* (when you're in secondary set)

See chapter 2 for details.

## ◆ Chapter 2 - Operation

All features and operations of the pedal are accessible through the 2 footswitches. Operation of the footswitches have been carefully designed to keep things as simple and intuitive as possible.



### Switching between Normal Reverb and Atmospheric Reverbs (M.S.E / T.V.I.)

1. Press both footswitches simultaneously (release immediately, don't hold).

Don't worry about doing this while playing live, the state of atmosphere can be stored in presets. Position of the Atmosphere selector switch determines which mode gets activated (this information is also stored in presets).

#### **Saving a preset**

1. Press [Select / Atmosphere] to select the desired preset location.
2. Press and hold [Preset / Bypass] until the Engage LED flashes.

#### **Loading a preset**

1. Press [Select / Atmosphere] to select the desired preset location.
2. Press [Preset / Bypass] to load the selected preset.

Presets are selected by going through each location in the 'Up' direction (1, 2, 3, ...), while going through these steps the sound does not get updated until selection is confirmed by pressing [Preset / Bypass].

#### **Bypassing or Engaging the pedal**

1. Press [Preset / Bypass].

#### **Toggling the Atmosphere Set**

*Primary set : M . S . E - Modulated, Shimmer, Echo*

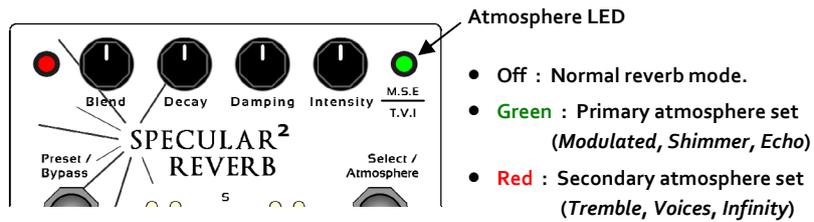
*Secondary set : T . V . I - Tremble, Voices, Infinity*

Only one set can be activated at a given time.

To go back and forth between the two atmosphere sets do the following :

1. Press and hold both footswitches until the Atmosphere LED changes its color and flashes 3x.

continued ➡



Each atmosphere set has its own preset space : so you have 4 available presets when using the primary atmosphere set, and another 4 presets when using the secondary atmosphere set.

M . S . E	T . V . I
Preset 1	Preset 1
Preset 2	Preset 2
Preset 3	Preset 3
Preset 4	Preset 4

For example, you can have preset arrangement like this :

	M . S . E	T . V . I
Preset location 1 -	Normal Reverb	Tremble (slow)
Preset location 2 -	Shimmer (low intensity)	Tremble (fast)
Preset location 3 -	Shimmer (high intensity)	Voices (perfect fifth)
Preset location 4 -	Echo	Voices (octave)

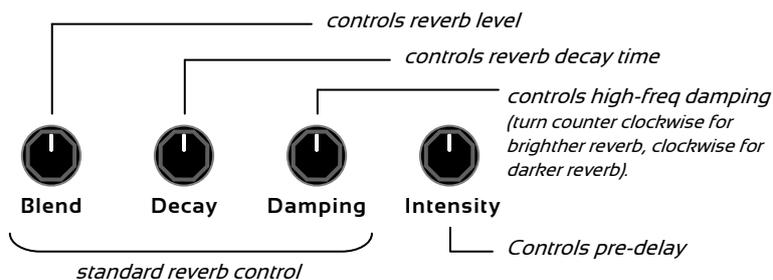
Let's say the current sound is *Shimmer (low intensity)*, to switch to the *Voices (octave)* sound do the following :

1. Switch to Secondary atmosphere set.
2. Select preset location 4.
3. Confirm the selection.

## ◆ Chapter 3 - The Algorithms

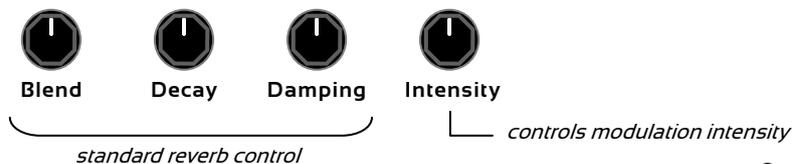
### Normal Reverb

This is the 'mother' reverb whose basic character is shared by all modes in this pedal. The design is influenced more by psychoacoustic principles rather than geometric representation (room, hall, chamber, etc.). In general, we thrived for a reverb that sounds good over the whole span of *Decay* settings, this yields a versatile reverb that can be used to achieve anything from subtle ambience, medium sized room, all the way to very large majestic spaces with seemingly endless reverb tails.



### Modulated

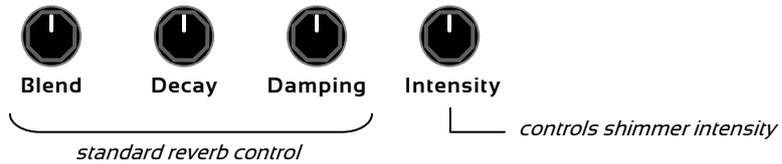
adds modulation to the late reverberation. As the Intensity knob is turned clockwise, both *depth* and *intensity* increases; approaching the maximum position a weird but beautiful swirling resonance starts to appear.



## ● The Algorithms

### Shimmer

adds regenerative octave components onto the reverberation. The harmonized decay emulates the presence of multiple strings pads accompanying your instrument. Used together with a volume pedal this atmospheric mode can work magic!

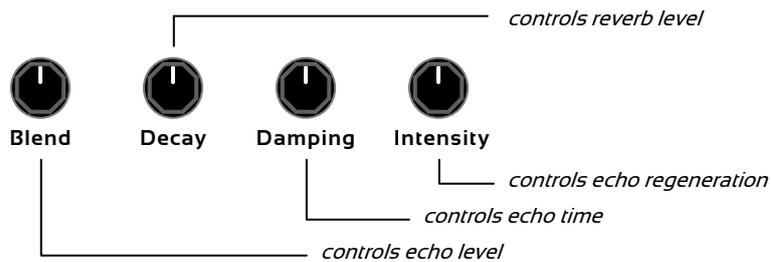


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### Echo

this mode is unique compared to the other atmospheres in the sense that it's not 'reverb with echoes added in', instead, it's a 'reverbed echo'. The effect that is in focus here is the echo, with reverb being the additive component.

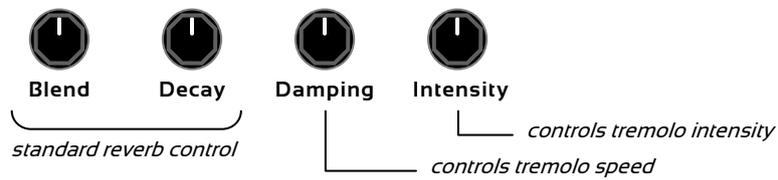
There is only one reverb parameter that is adjustable : *reverb level*. The *damping* parameter is fixed to a moderate setting, and *decay* parameter interacts with *echo regeneration* and *echo time* in a way that is pleasant and physically meaningful.



## ● The Algorithms

### Tremble

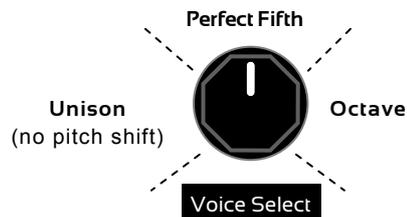
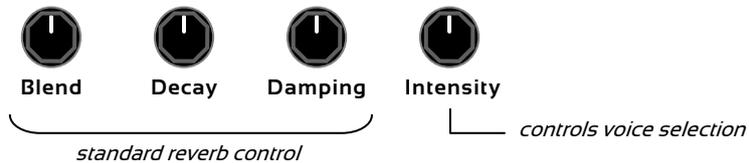
adds amplitude modulation (tremolo) to the reverb. Only the reverberated signal is affected, while the direct signal remains intact. The result is a very interesting pulsating ambience that injects rhythm to the standard reverb sound.



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### Voices

adds a pitch-shifted secondary voice on top of the late reverberation. There are three interval choices : *Unison* (no shift), *Perfect Fifth* (7 semitones), and *Octave* (12 semitones). The *Intensity* knob is partitioned into 3 regions, each region represents a distinct voice.



## ● The Algorithms

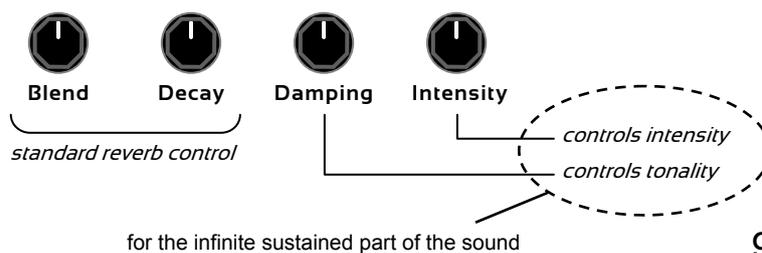
### Infinity

This mode allows you to capture a brief snapshot of the sound you are playing, and hold it indefinitely, then you can play over it (with reverberation). Later on, you can fade out the sustained sound, and immediately fade in a new one. Here's how you do it :

1. Adjust *Blend* and *Decay* knob to get the desired amount of reverb mix and reverb time. Leave *Damping* and *Intensity* knobs at midpoint.
2. Press and hold [Select / Atmosphere], when both LEDs starts flashing the pedal began to continuously capture a snapshot of whatever you are playing. When you release the footswitch, the pedal will take the last 0.25 seconds of the captured sound and hold it indefinitely.
3. Now adjust *Intensity* and *Damping* to get the desired level and tonality for the sustained sound. The Intensity knob runs backward : the sound gets more intense as you turn counter-clockwise.

*\* Do not turn the Intensity knob all the way to the right (clockwise), doing this will shutdown the sustained sound.*

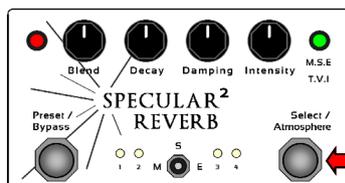
Now you can play over the sustained sound, and when you want to change the sustained sound with a new one, simply repeat step-2; the current sustained sound will fade out and then you can fade in a new one. The new sound will fade in to the level you've set previously.



## ◆ Chapter 4 - Auto Intensity Sweep

This feature is applicable only to **Modulated, Shimmer, Echo, Tremble, and Voices**.

When you activate this feature the pedal automatically sweeps the parameter controlled by the *Intensity* knob to the maximum value, hold it there, and sweeps it back to the previously set value - It's like having someone turn the Intensity knob while you're playing. Used judiciously, this feature introduces useful dynamic element to the ambience soundscape.



Press and hold [Select Atmosphere].



The parameter controlled by the Intensity knob gradually sweeps to maximum value (as if someone slowly turns the Intensity knob all the way up).



As long as you hold the footswitch down, the intensity parameter stays at its maximum value and both LEDs keep on flashing.



When you finally release the footswitch, the Intensity parameter slowly sweeps back to the previously set value.

**Try this out :**

1. Activate SHIMMER mode.
2. Set the *Intensity* knob to a low setting (about 9 o'clock).
3. Set *Blend*, *Decay*, and *Damping* as desired.
4. Start playing, a low level shimmer effect will be heard on top of the reverberation.
5. Execute auto intensity sweep.

**Here's another cool one :**

1. Activate VOICES mode.
  2. Set the *Intensity* knob to minimum (Unison voice mode).
  3. Set *Blend*, *Decay*, and *Damping* as desired.
  4. Start playing, the sound is similar to the normal reverb (Unison = no shift).
  5. Execute auto intensity sweep.
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**Features :**

- Pristine reverbs in a compact pedal.
- Fully programmable (4 x 2 presets).
- Normal reverb + 6 atmospheric reverbs.
- Stereo input and output.
- 24-bits signal processing.
- Analog Dry-thru.
- Reverb tails persistence.

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**Specifications :**

- Input impedance : 1 MOhm.
- Output impedance : 500 Ohm.
- Current consumption : ~ 100 mA.
- Weight : 0.6 Kg (1.2 lbs).
- Dimension : 12 (L) x 6.5 (W) x 3.6 (H) cm
- Powered by an external 9V DC Adaptor (sold separately).

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