User's Guide

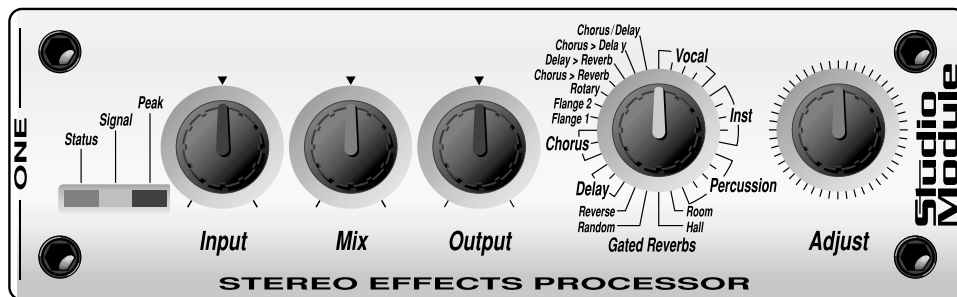### for the

CRATE PRO AUDIO

SM1-SP

Studio Module

Stereo Effects Processor

Congratulations!

You now hold a World of Effects in the palm of your hand – Crate's SM1-SP Effects Processor combines simplicity of operation with great sounding, "useable" effects. Compact, rugged and quiet, the SM1-SP is equally at home on the stage, on the road, or in the studio.

In order to achieve maximum performance from your SM1-SP and to better understand and appreciate its flexibilty and operation, please read this user's guide prior to its use.

And "Thank You" from **CRATE** *Pro Audio*

CRATE *Pro Audio* **SM1-SP** **Stereo Effects Processor**

Contents:

SM1-SP Stereo Effects Processor

The Front Panel:
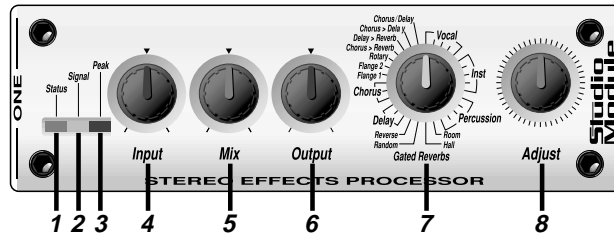
Please see page 7 for additional information

1: Status LED: Lights when the unit is on and functioning properly.

2: Signal LED: Lights when the input signal is within 20dB of the maximum input level.

3: Peak LED: Lights when the input signal is within 6dB of clipping.

4: Input Level Control: Allows adjustment of the level of the signal going into the processor. For the best signal to noise ratio, adjust this control until the Peak LED flashes on strong signal peaks.

5: Mix Control: Allows variation of the amount of effect applied to the overall audio output. Adjust to taste.

6: Output Level Control: Allows adjustment of the audio level coming out from the processor. Use this as your master volume control.

7: Select Control: Allows selection of effects.

8: Adjust Control: Allows changes to be made on one parameter of the selected effect. These changes remain active until another effect is selected.

The Rear Panel:
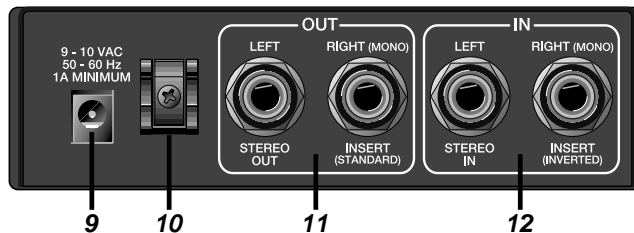
Please see pages 4 & 5 for additional information

9: Power Supply Jack: Plug the small metal barrel connector of the AC power adapter here.

10: Cord Cinch: Use this clip to secure the cable of the power pack to the chassis of the unit.

11: Output Jacks: These jacks carry the left and right output signals from the unit to their destinations.

12: Input Jacks: These jacks receive the input signal(s) into the unit.

Basic Connections:

Connecting the AC power pack to the SM1-SP:

NOTE: Since the SM1-SP is "always on" when the power pack is plugged in, it is advised that the user unplug the power pack or turn off the AC source when not using the unit for extended time periods.
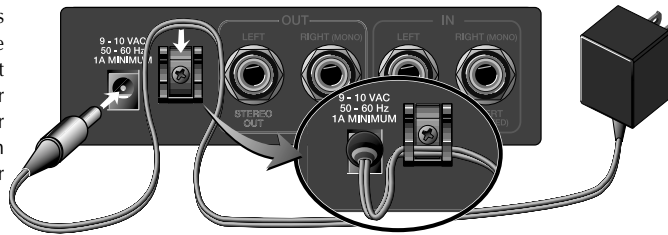
Patching into an amplifier's effects loop:
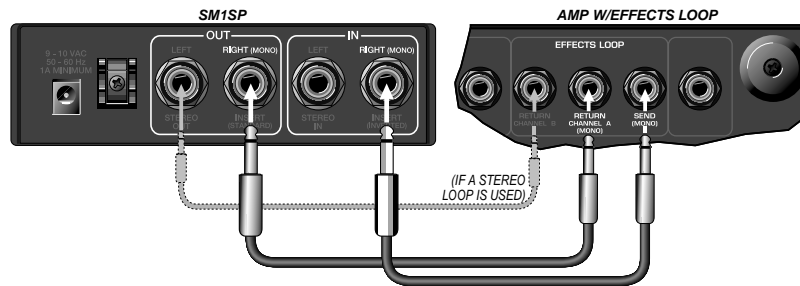
Patching into the insert jack of an amplifier or a mixer channel:
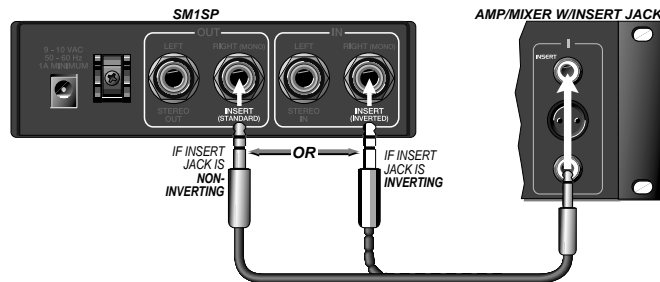
Basic Connections, continued:

Patching into a mixer's mono effects loop (Aux In/Aux Out):

In this configuration set mix control fully clockwise

Mix
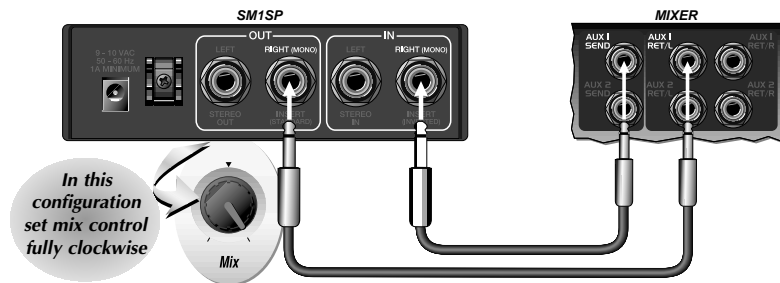
Patching into a mixer's stereo effects loop (Aux In/Aux Out):

In this configuration set mix control fully clockwise

Mix
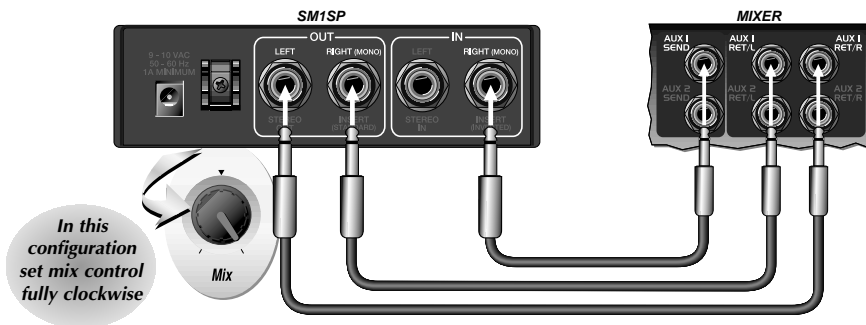
Patching in line with a preamp:

(IF USED IN STEREO)

(IF USED IN STEREO)
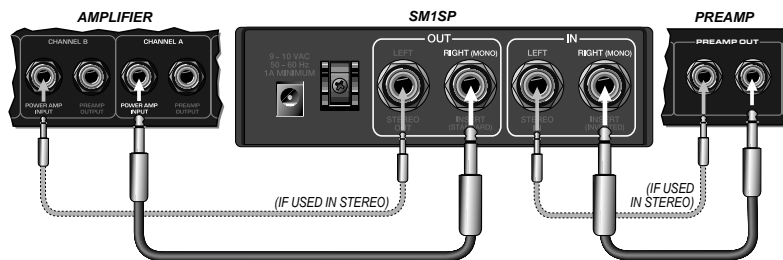
CRATE Pro Audio SM1-SP Stereo Effects Processor

Program Charts / Adjustable Parameters:

Prog.#	Type	Adjustable Parameter	Default
1	Vocal Reverb 1 – Bright	Decay	Short
2	Vocal Reverb 2 – Warm,15mS pre-delay	Decay	Medium
3	Vocal Reverb 3 – Dark, 30mS pre-delay	Decay	Long
4	Vocal Reverb 4 – Warm w/Low Cut,15mS pre-delay	Decay	Medium
5	Vocal Reverb 5 – Bright w/Low Cut	Decay	Long
6	Instrument Reverb 1 – Bright	Decay	Short
7	Instrument Reverb 2 – Warm,15mS pre-delay	Decay	Medium
8	Instrument Reverb 3 – Dark, 30mS pre-delay	Decay	Long
9	Instrument Reverb 4 – Warm w/Low Cut,15mS pre-delay	Decay	Medium
10	Instrument Reverb 5 – Bright w/Low Cut	Decay	Long
11	Plate Reverb 1 – Bright	Decay	Short
12	Plate Reverb 2 – Warm,15mS pre-delay	Decay	Medium
13	Plate Reverb 3 – Dark, 30mS pre-delay	Decay	Long
14	Plate Reverb 4 – Warm w/Low Cut,15mS pre-delay	Decay	Medium
15	Plate Reverb 5 – Bright w/Low Cut	Decay	Long
16	Gated Room Reverb	Gate	Long
17	Gated Hall Reverb	Gate	Long
18	Gated Random Reverb	Gate	Long
19	Gated Reverse Reverb	Gate	Long
20	Delay 1 – No Regen	Time	Long
21	Delay 2 – 25% Regen	Time	Long
22	Delay 3 – 50% Regen	Time	Long
23	Chorus 1 – Moderate	Speed	Medium
24	Chorus 2 – w/43mS Delay	Speed	Medium
25	Chorus 3 – w/63% Feedback	Speed	Medium
26	Flange 1 – Moderate	Speed	Medium
27	Flange 2 – High Q	Speed	Medium
28	Rotary Speaker	Speed	Medium
29	Dual-Effect: Chorus --> Reverb	Rvb Decay	Medium
30	Dual-Effect: Delay --> Reverb	Rvb Decay	Medium
31	Dual-Effect: Chorus --> Delay	Delay Time	Long
32	Dual Mono Effects: Chorus / Delay	Delay Time	Long

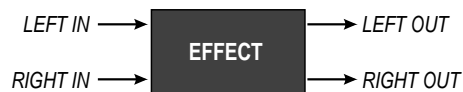# CRATE Pro Audio SM1-SP Stereo Effects Processor

Basic Operation:

The SM1-SP processor is simple to use. After connecting the unit to your system, plug in the AC power pack. The Status LED (#1) will light (if it fails to light, check the outlet and adapter – if both seem functional, contact the factory for service information). Set up the signal source (instrument, vocal mic) to your normal playing level and adjust the Input level control (#4) until the Signal LED (#2) stays lit and the Peak LED (#3) flashes on strong signals. Adjust the Mix control (#5) to taste (except as noted on page 5) and use the Output control (#6) as your master volume level control.

Adjusting an Effect Parameter:

Rotate the Select control (#7) to the desired effect. (The chart on page 6 characterizes each of the effects.) Use the Adjust control (#8) to change the factory-selected parameter of the selected effect (see the chart on page 6). The changes will remain active until the Select control is rotated to a different effect.

Block Diagrams:

1) Programs 1– 28, single effect:

LEFT IN →　**EFFECT**　→ LEFT OUT
RIGHT IN →　　　　　→ RIGHT OUT

2) Programs 29– 31, dual effect:

LEFT IN →　**EFFECT 1** →　**EFFECT 2** → LEFT OUT
RIGHT IN →　　　　→　　　　→ RIGHT OUT
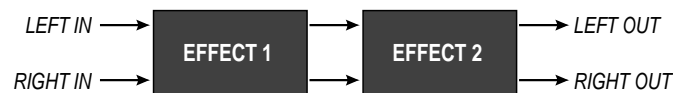
3) Program 32, dual mono effects:

LEFT IN → **EFFECT 1** → LEFT OUT
RIGHT IN → **EFFECT 2** → RIGHT OUT
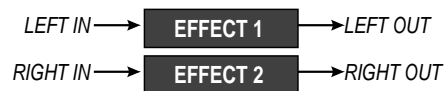
CRATE Pro Audio — SM1-SP Stereo Effects Processor

Features:

- 32 "real world" effects including reverb, delay, chorus, flange, rotary, and gated reverbs
- Stereo effects, multi-effects and dual mono effects
- 1 easily editable parameter for each effect
- Adjustable input gain, output gain and effect mix
- Independent Status, Signal and Peak LED indicators
- 1 bit Sigma-Delta converters
- Compact 1/3 rack space size
- Rack mountable via universal rack tray (available through your Crate Pro Audio dealer)
- Made with pride in the U.S.A. and backed by Crate's 5-Year Warranty (U.S. only)

Technical Specifications:

Frequency Response[1]	Effect only: 10Hz - 16.4kHz, +1/–3dB
	Dry signal only: 10Hz - 40kHz, +1/–3dB
Dynamic Range[1]	Effect only: 81dB, A-weighted
	Dry signal only: >90dB, A-weighted
Idle Channel Noise[1]	Effect only: –81dB, A-weighted
	Dry signal only: <–90dB, A-weighted
Distortion[2]	Effect only (@ 1kHz): 0.24%, 20Hz – 20kHz
	Dry signal only (@ 1kHz): 0.06%, 20Hz – 20kHz
Crosstalk[1]	Dry signal only (@ 1kHz): –70dB, A-weighted
Maximum Output Level	0dBV rms
Input Impedance	50k ohms
Output Impedance	470 ohms
Peak Indicator Threshold	6dB below input clipping
Signal Indicator Threshold	20dB below input clipping
Conversion Precess	Stereo 1 bit Sigma-Delta w/16 bit resolution & 64X oversampling
Processor Throughput	18.432 million instructions/second
Memory Size	16k x 16 bit
Power Supply Requirements	9-10 VAC, 1A
Size and Weight	1.6" H x 5.6" W x 5.5" D; 1.5 lbs (without power adapter)

[1]Typical measurement, 0dB below digital max. • [2]Typical measurement, 6dB below digital max.

Specifications subject to change without notice.

CRATE Pro Audio — Studio Module