ROCKMAN

STEREO ECHO

OPERATING MANUAL

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Front Panel Overview

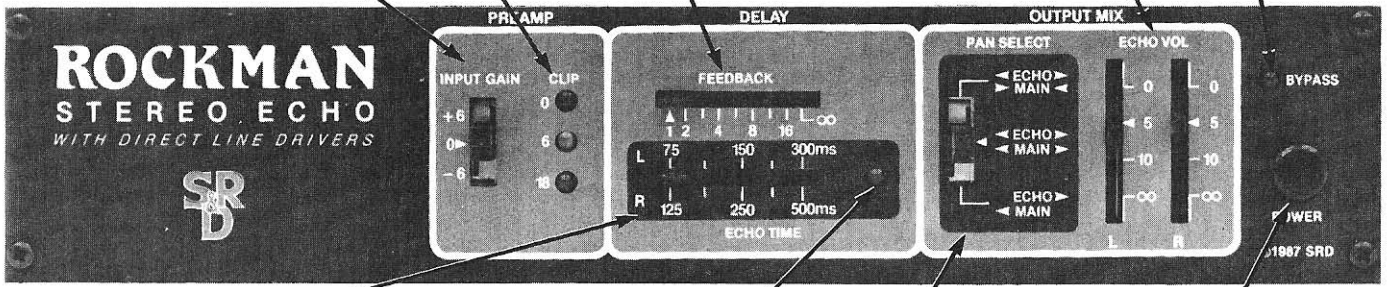
HEADROOM LED's: monitor internal signal levels. With the proper setting of the drive level switch, the YELLOW LED should light often, the RED LED should light rarely.

ECHO VOLUMES: allow independent left and right echo volume control.

FEEDBACK: adjusts to number of repeats. CAUTION: max or (∞) setting will cause loud echo runaway.

BYPASS LED: indicates bypass mode. Can be activated only by FOOTSWITCH.

INPUT GAIN: provides optimum operating level for internal circuitry, to minimize both distortion and background noise. Does not change output levels.



ECHO TIME: controls left and right delay times simultaneously to maintain proper stereo imaging. NOTE: delay times are purposely staggered asymmetrically to allow for a more uncluttered direct/echo sound.

ECHO TIME LED: flashes at Long (Right side) echo rate.

PAN SELECT: provides 3 separate stereo output mixes. Top position: stereo echoes with main signal in mono; middle position: stereo echoes with main signal in stereo; and lower position: main signal panned at 9 o'clock, Long echo panned at 3 o'clock.

POWER CAUTION: Turn STEREO ECHO "ON" before power amp. If no LED's are lit, the unit is OFF.

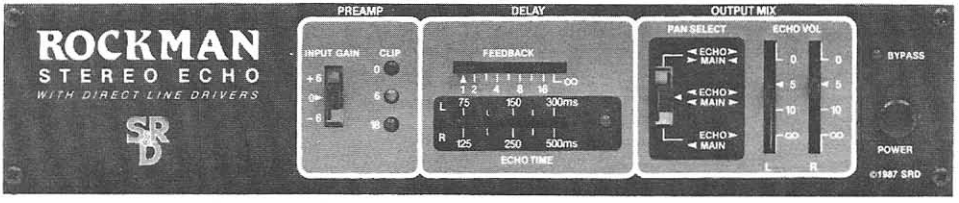
General Operating Instructions

These General Operating Instructions will get you started using your ROCKMAN™ STEREO ECHO right away. We urge you to read the rest of the manual soon, so that you will fully understand and be able to enjoy all the capabilities of this sophisticated signal processor.

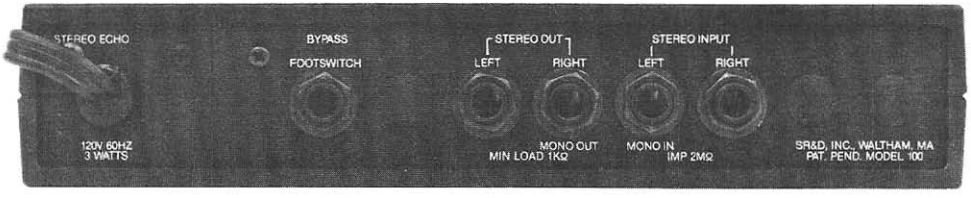
1. Check that the STEREO ECHO power switch is off (out), and then connect the power cord to an AC outlet. CAUTION: line voltage must match the voltage requirement printed on the rear panel of the unit.
2. Using two cables, connect the rear-mounted STEREO ECHO output jacks to two channels of a stereo power amp, stereo mixer, or two guitar amps.

   For mono output applications, use the right (mono) output jack, and run a single cable to your sound system. The right output echo slider will then control the echo output volume.
3. Move all sliders and switches to their normal positions, as marked by the small triangles. Set the feedback slider to the extreme left and the ECHO TIME slider to the extreme right. The PAN SELECT switch should be set in the middle position.
4. Plug your instrument into the rear mono input jack. If you are using a ROCKMAN SUSTAINOR™, plug the SUSTAINOR output into the mono input of the STEREO ECHO. If you are using a stereo input source such as a ROCKMAN STEREO CHORUS, both rear panel inputs should be used.
5. Set the volume control on your sound system to a normal volume setting, as the STEREO ECHO is a unity gain device adding no amplification to its input signal.

You are now ready to use the ROCKMAN STEREO ECHO. Adjust the level switch so the YELLOW INPUT GAIN LED lights often and the RED LED lights rarely.

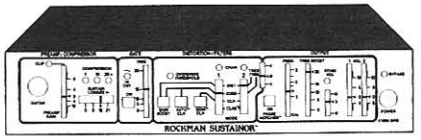


FRONT PANEL

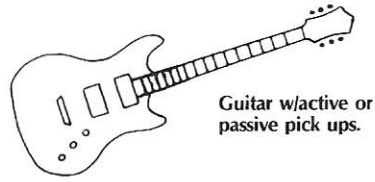


REAR PANEL

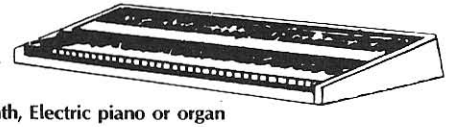
In/Out



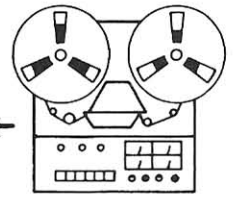
SUSTAINOR or DISTORTION GENERATOR with instrument source



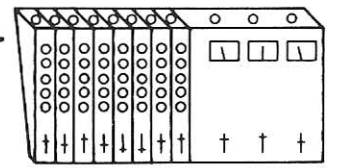
Guitar w/active or passive pick ups.



Synth, Electric piano or organ

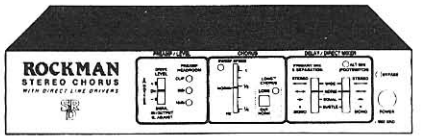


Record tracks "dry" in mono, then use the STEREO ECHO to create stereo during mix down.



Use mixer's effects send for easy selection of various instruments and recorded tracks.

Input



ROCKMAN STEREO CHORUS

Stereo Outputs

INPUTS

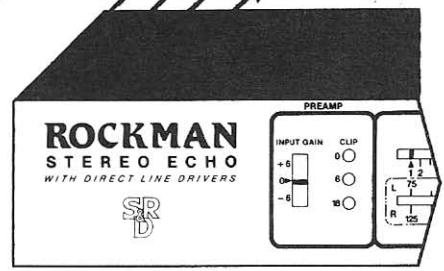
Left (mono)

Right

OUTPUTS

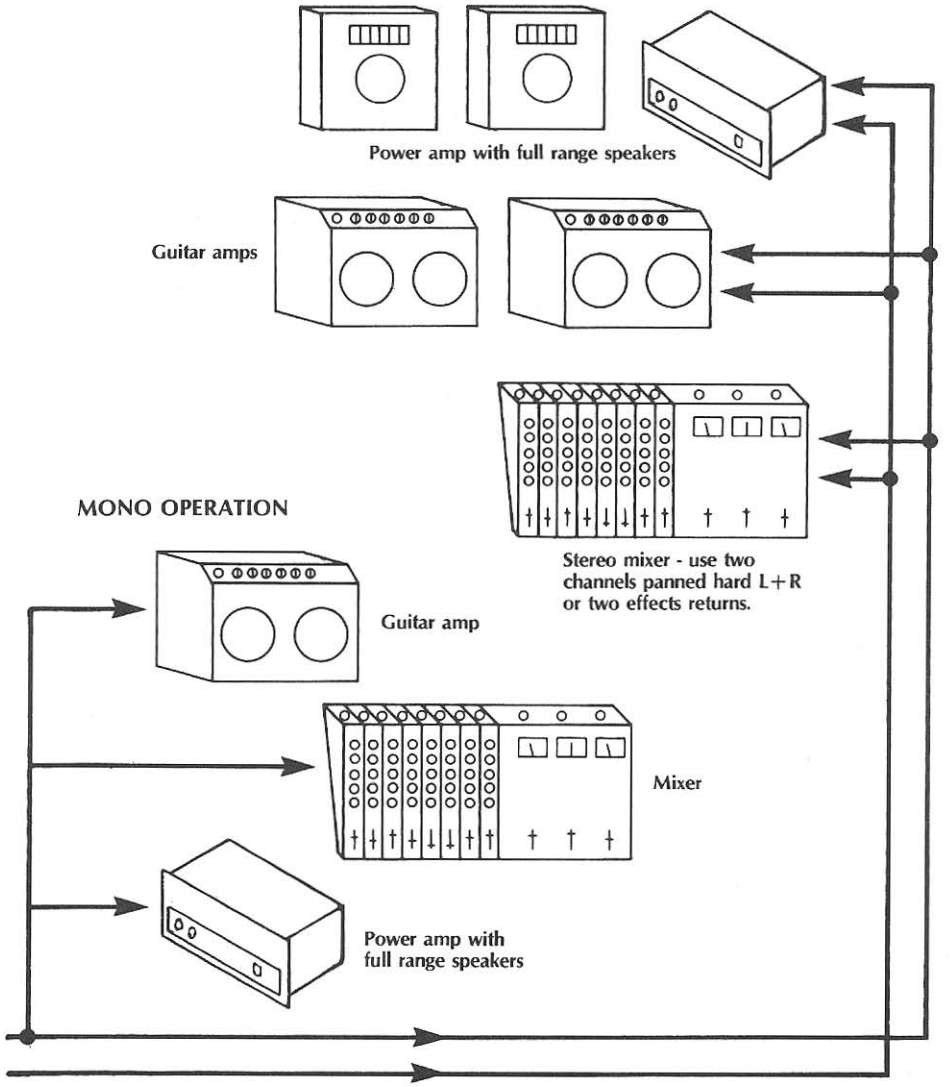
Right (mono)

Left

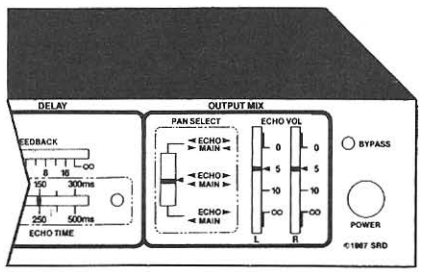


Note:
If using a stereo input source use both inputs on STEREO ECHO. If using a mono input source, use the left or mono input.

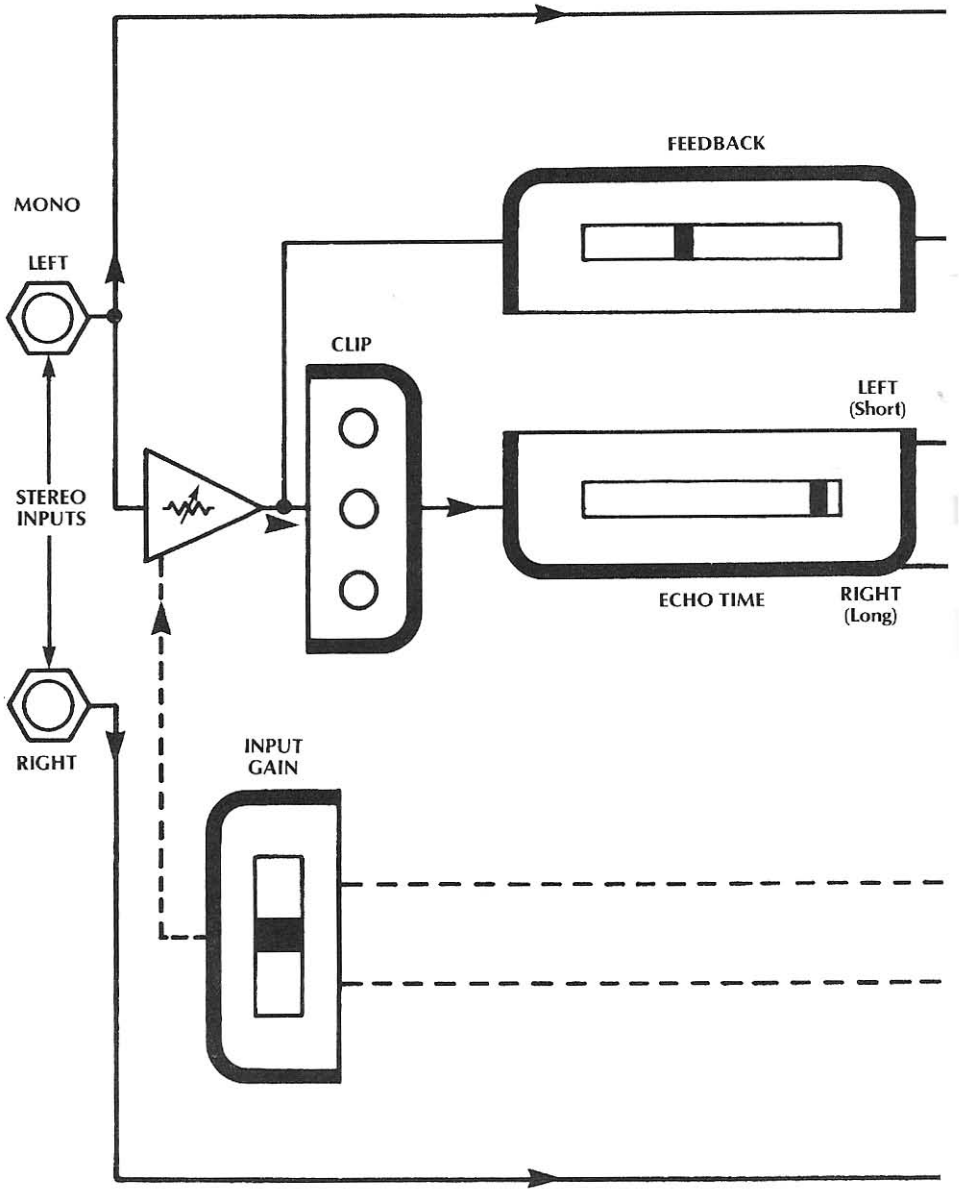
Connections

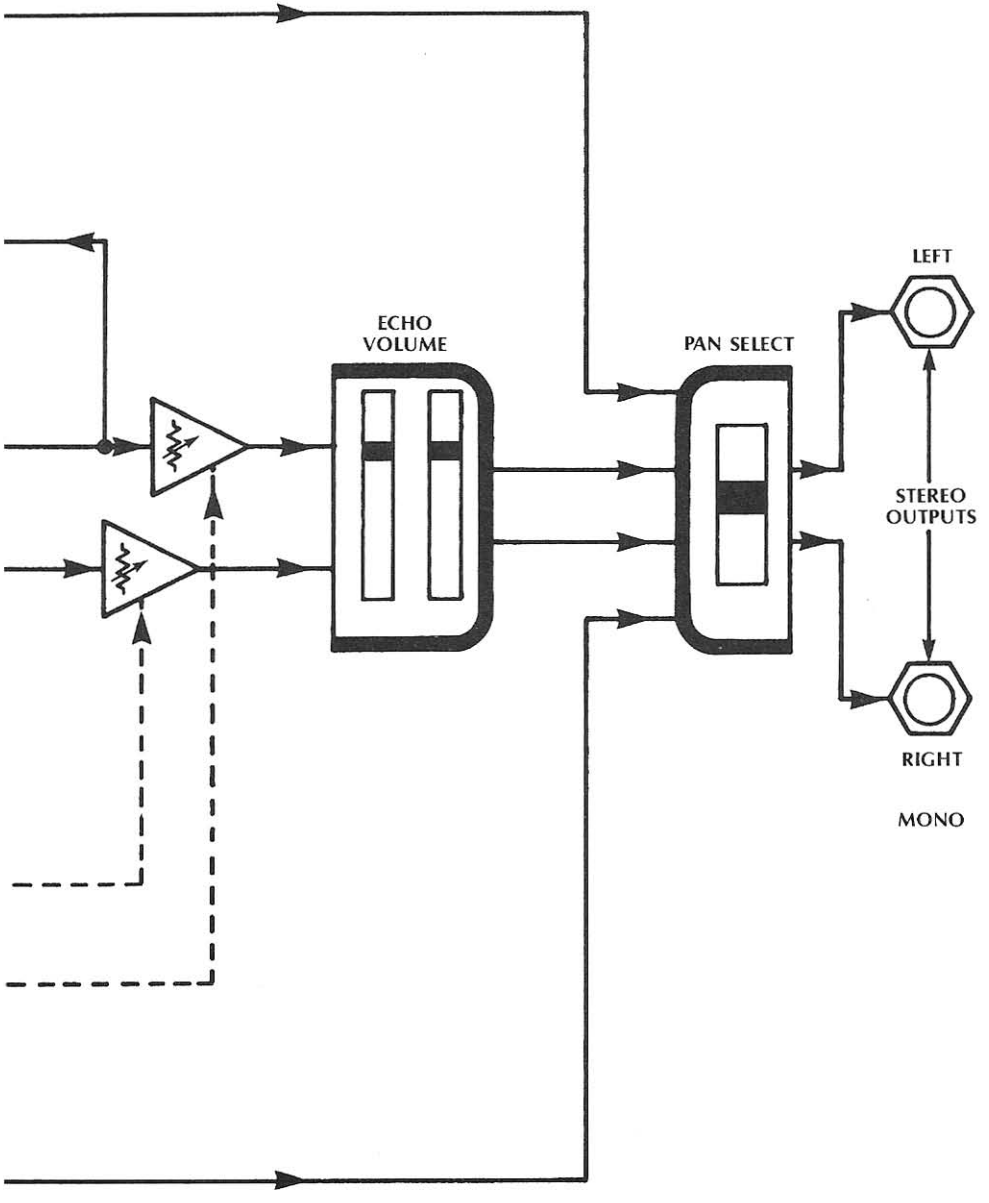


Stereo operation makes fullest use of the ROCKMAN STEREO ECHO's capabilities.



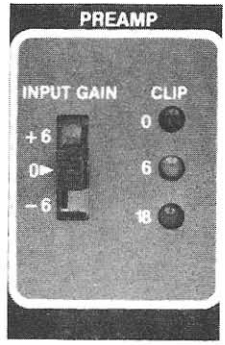
Signal Path


FEEDBACK
MONO
LEFT
CLIP
LEFT
(Short)
STEREO
INPUTS
ECHO TIME
RIGHT
(Long)
RIGHT
INPUT
GAIN


ECHO
VOLUME
PAN SELECT
LEFT
STEREO
OUTPUTS
RIGHT
MONO

Detailed Function Description

PREAMP INPUT GAIN: matches the STEREO ECHO internal gain to the audio signal you are providing. The optimum setting will minimize both distortion and background noise. In any switch position, the output level remains unchanged.



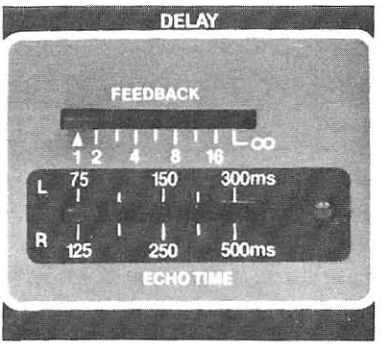
The CLIP LED's indicate the signal level in the circuitry. The RED LED indicates the level is approaching distortion, and should light infrequently. If the RED LED is on often, lower the INPUT GAIN switch one notch. The YELLOW LED indicates the best signal level for minimum noise. If the YELLOW LED does not light at all, raise the INPUT GAIN switch one notch. For a typical line level signal, the "0" switch position is probably the best. For a straight guitar input, you may need the +6 position. When using a ROCKMAN SUSTAINOR, set the INPUT GAIN switch to −6. Be sure to monitor the LED's and adjust the switch for the optimum operating point.

NOTE: If the RED LED is lit often, even in the −6 position, you must lower the signal level at its source.

Delay Controls

The FEEDBACK slider determines the number of echo repeats. At the far left position, a single echo is heard, with no regeneration. As the slider echo is moved to the right, multiple repeats will appear. The feedback path is from the long (right side) delay. A gentle treble roll-off filter of −6dB per octave above 3.5kHz in the feedback circuit provides a natural sounding echo similar to a concert hall or tape echo.

Setting the FEEDBACK slider at ∞ (maximum) will cause notes to feedback indefinitely. CAUTION: the infinite repeat setting can cause sounds that might damage your ears or your speakers. By backing off slightly from feedback, you can set the delay for many repeats without fear of "echo runaway".



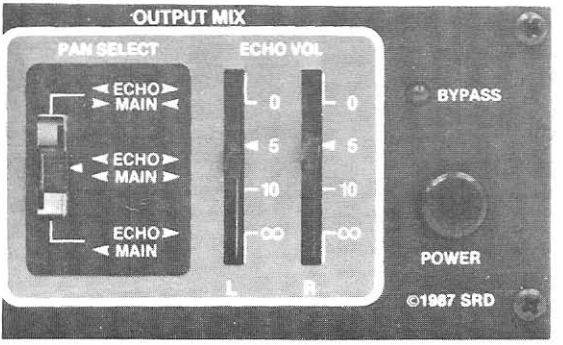
The ECHO TIME slider simultaneously adjusts the left and right side delay times to maintain the proper stereo imaging at all time settings. The delay range is 75 to 300 milliseconds on the left, and 125 to 500 milliseconds on the right. A variable filter assures maximum frequency response for any given delay time.

NOTE: The reason for the left side delay time being slightly greater than one-half of the right side delay time, is to allow space in the mix for the main signal before being echoed. This provides for a more uncluttered and defined direct/echo sound.

The ECHO RATE LED provides visual indication of delay times. Its flashing corresponds to the Long (right side) echo setting.

Output Mix

The PAN SELECT switch allows access to 3 preset stereo output modes. The upper position mixes the echoed signal in stereo with the main signal panned down the center, in mono.The middle position pans both the echoed and main signals in stereo.



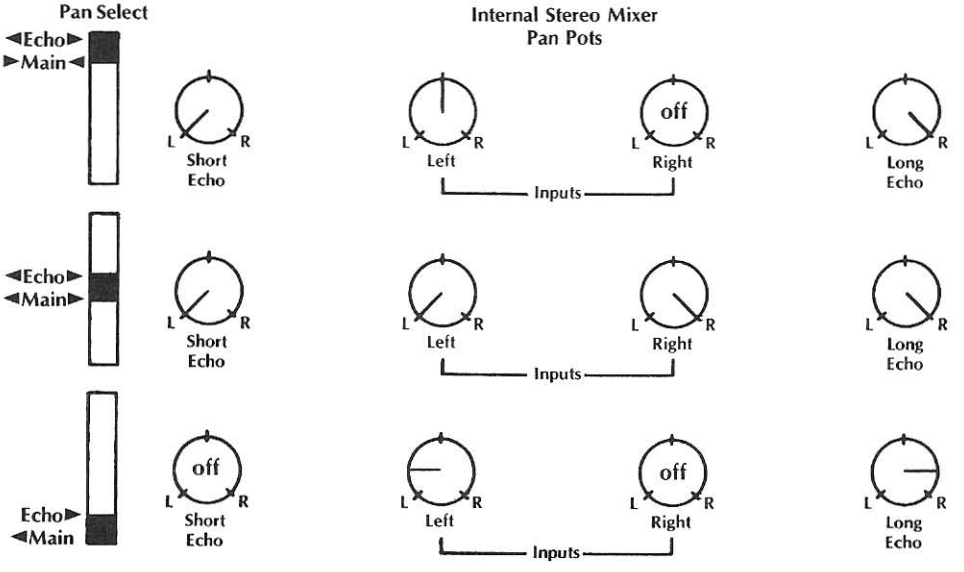
The bottom switch position mixes the main signal left at 9 o'clock and the echoed signal panned right at 3 o'clock. In this mode, only the right side echo time and OUTPUT slider are operative.

The two ECHO VOLUME sliders provide individual left/right echo volume controls relative to the direct signal. At the lowest setting, "∞", all echo signal is bypassed.

BYPASS LED: indicates bypass mode. This can only be activated by the rear panel FOOTSWITCH jack.

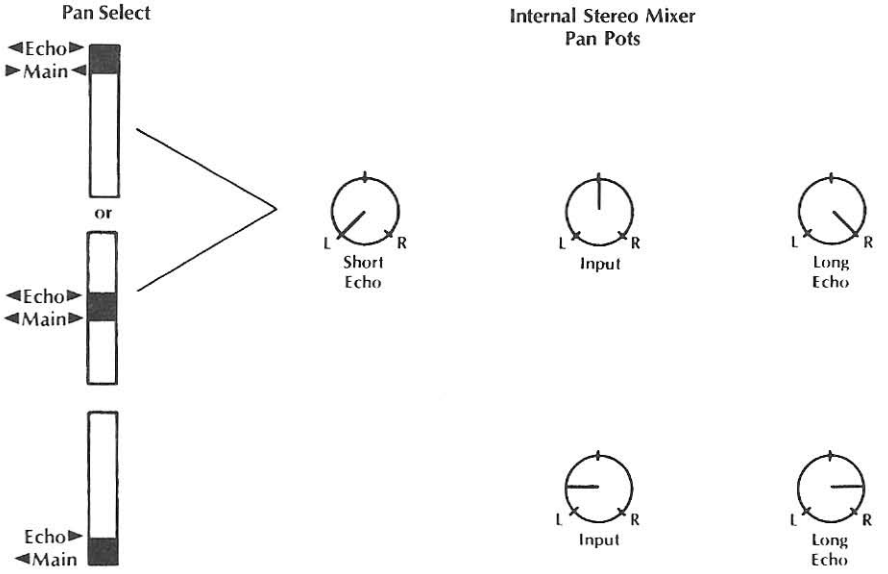
Stereo Operation

The PAN SELECT output mix section can best be understood by picturing the internal stereo mixer presets.



Mono In, Stereo Out Operation

Use the rear panel input marked mono (left), and both outputs



Mono In, Mono Out Operation

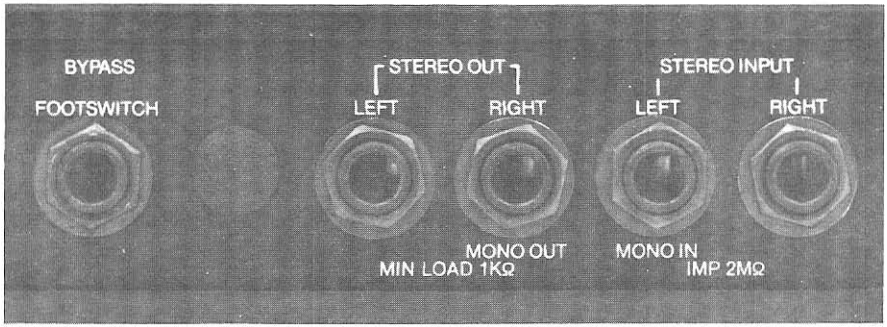
To operate the STEREO ECHO in mono, simply use the rear panel input marked mono (left) and the output marked mono (right).

The PAN SELECT front panel switch should be placed in either the top or middle position. In this mono mode, only the right side echo times (125 to 500 milliseconds) and the right ECHO VOLUME slider are operative.

To Get Processed Only Output

Set the PAN SELECT switch to the middle position. Use the left (mono) input and the right output. A shorted dummy jack (any ¼" phono jack) should then be inserted into the right input jack. The use of this signal requires external mixing equipment to obtain useful effects.

Footswitching



The BYPASS FOOTSWITCH allows cancelling of any effects set up on the STEREO ECHO. The audio signal still passes through a low noise buffer circuit, so power to the STEREO ECHO must be on for the signal to flow.

The rear-mounted ¼" mono footswitch jack is designed to work with any push on/push off footswitch (short to ground), or the ROCKMAN FOOTSWITCH.

"Y" Cord Switching

One footswitch can perform more than one on-off function by splitting its control into two paths with a "Y" cord. By carefully choosing which functions to turn on and off simultaneously, you can greatly simplify the use of multiple ROCKMODULES in live performance situations. Any combination of ROCKMODULE footswitch functions can be "Y"ed together.

Use a Y cord that has a single female ¼" mono jack splitting off to two ¼" male mono plugs. The kind of cable used is not critical, as there is no audio signal passing through this circuit.

Applications

Use medium delays of 75/125 to 125/200 milliseconds at normal delay volume with no feedback to simulate "slap back" echo. This effect sounds great with vocals and with heavy distortion guitar. Whammy bar effects and synth note bends take on a new dimension with slap back.

Add feedback to longer delays of 150/250 to 300/500 milliseconds to obtain standard echo effects that are great for guitar solos. A little echo will add density to thin mixes, and can increase the perceived volume of an instrument. Generally speaking, the short delays work best for percussive sounds while more legato vocals and instrument parts do better with longer echos.

Specifications

INPUT	Impedance:. . . . . Over 2MΩ Maximum Level:. . . . . 4.5Vrms (+13dBv)
DELAY	Left Echo:. . . . . 75 to 300 ms Right Echo:. . . . . 125 to 500 ms Feedback:. . . . . variable, 0 to ∞ Frequency Response:. . . . variable 15kHz to 4kHz
STEREO OUTPUTS	Impedance:. . . . . 100Ω Maximum Level:. . . . . 4.5Vrms (+13dBv)
SIGNAL TO NOISE RATIO:	Over 90dB
DIMENSIONS:	8½"W, 5½"D, 1¾"H. . (Standard half-rack width)
POWER REQUIREMENTS:	3-watts, line voltage: see rear panel
ACCESSORIES: Purchased Separately	19" ROCKMODULE RACKMOUNT (holds two units) ROCKMAN FOOTSWITCH

Specifications subject to change without prior notification.