LIMITED WARRANTY

This product is warranted to the original consumer purchaser to be free from defects in materials and workmanship under normal installation, use and service for a period of one (1) year from the date of purchase as shown on the purchaser's receipt.

The obligation of Rolls Corporation under this warranty shall be limited to repair or replacement (at our option), during the warranty period of any part which proves defective in material or workmanship under normal installation, use and service, provided the product is returned to Rolls Corporation, TRANSPORTATION CHARGES PRE-PAID. Products returned to us or to an authorized Service Center must be accompanied by a copy of the purchase receipt. In the absence of such purchase receipt, the warranty period shall be one (1) year from the date of manufacture.

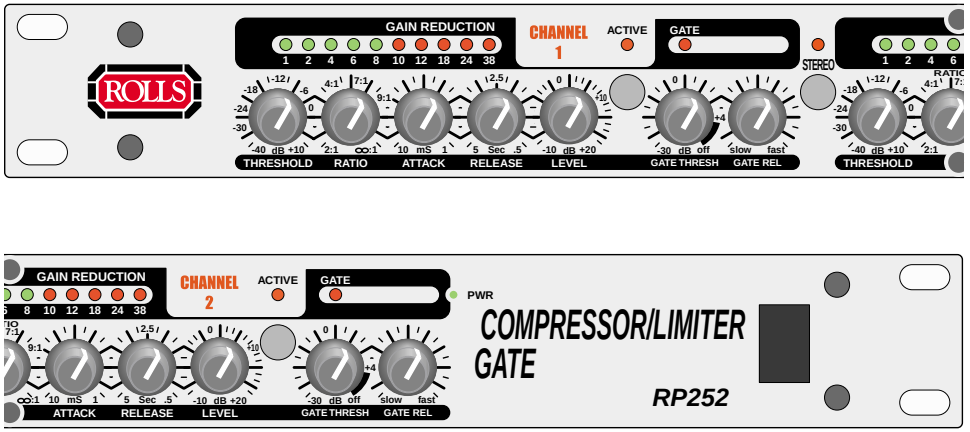
This warranty shall be invalid if the product is damaged as a result of defacement, misuse, abuse, neglect, accident, destruction or alteration of the serial number, improper electrical voltages or currents, repair, alteration or maintenance by any person or party other than our own service facility or an authorized Service Center, or any use violative of instructions furnished by us.

This one-year warranty is in lieu of all expressed warranties, obligations or liabilities. ANY IMPLIED WARRANTIES, OBLIGATIONS, OR LIABILITIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED IN DURATION TO THE ONE YEAR DURATION OF THIS WRITTEN LIMITED WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

IN NO EVENT SHALL WE BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, WHATSOEVER. Some states do not allow the exclusion or limitation of special, incidental or consequential damages so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

ROLLS CORPORATION
SALT LAKE CITY, UTAH
11/01

RP252
Compressor/Limiter/Gate



OWNERS MANUAL

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INSPECTION

1. Unpack and Inspect the RP252 package

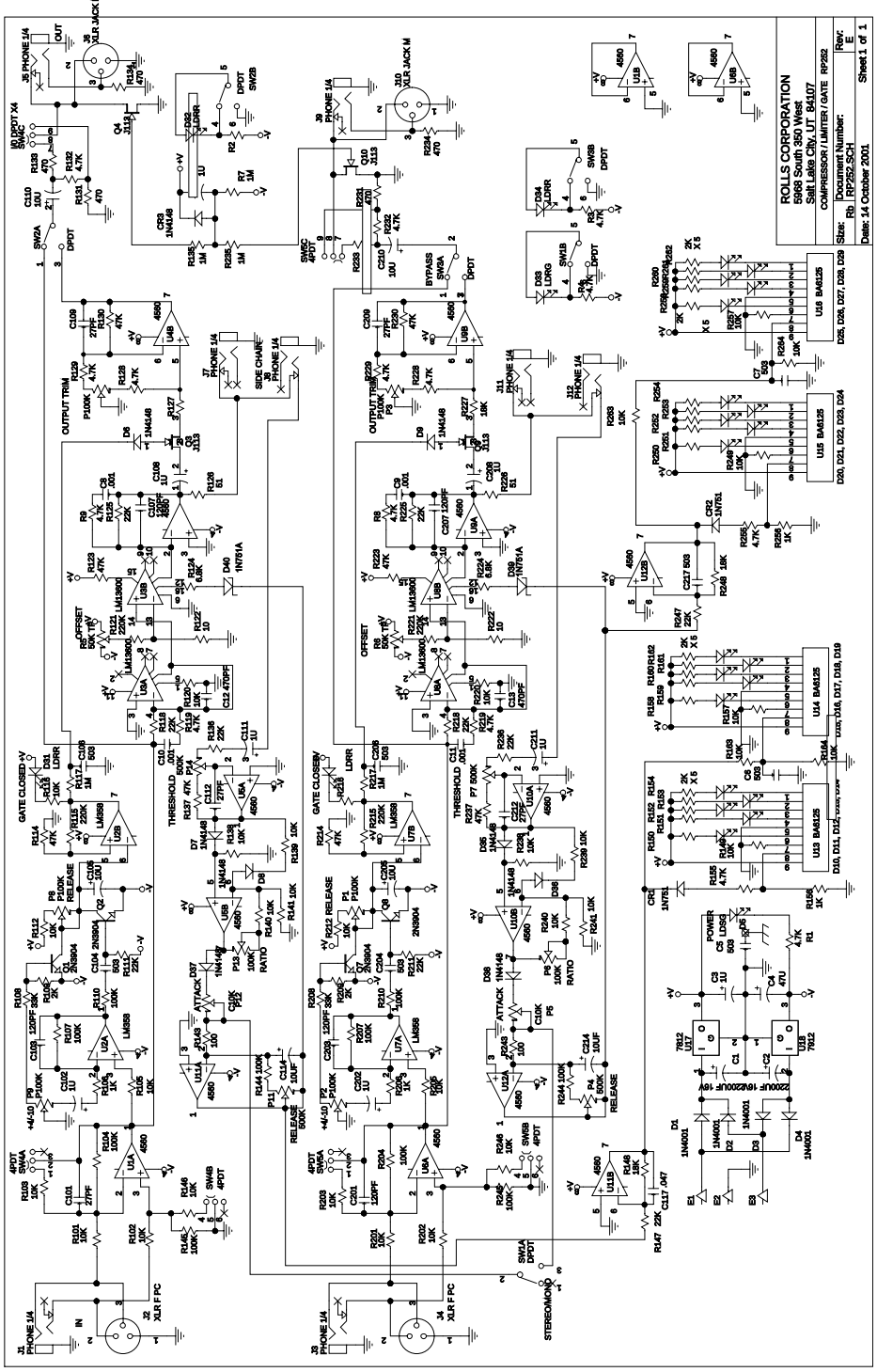
Your RP252 was carefully packed at the factory in a protective carton. Nonetheless, be sure to examine the unit and the carton for any signs of damage that may have occurred during shipping. If obvious physical damage is noticed, contact the carrier immediately to make a damage claim. We suggest saving the shipping carton and packing materials for safely transporting the unit in the future.

2. Please complete the Warranty Registration Card and return it to the factory.

SPECIFICATIONS

Input Impedance:	10kΩ balanced
Max Input Level:	+21 dBu
THD:	.05% typical
Threshold range:	-40dBu to +10dBu
Attack Time:	1 - 10ms.
Release Time:	0.5 - 5 Sec.
Compression Ratio:	2:1 - infinity:1
Gate Threshold:	-30 to +4 dB, and Off.
Output Gain:	-10 - +20dB
Dimensions:	1.75" x 6" x 19"
	(44mm x 152mm 483mm)

SCHEMATIC



Raising the Signal Out of a Mix

Since reducing dynamic range can increase the average signal level and meter readings, a single track can be brought up out of a mix by boosting its level slightly and applying compression. Set the Threshold for 4 dB to 6 dB of compression.

Preventing Sound System Overload (Limiting)

Applications where an abolute maximum signal level must be set to avoid distortion or speaker damage, set the RP252 for Limiting. Limiting has been defined as a signal-to-compression ratio of 10:1 or more. Start with the Ratio at infinity:1, use a fast Attack and set the Threshold at 15 dB of compression or just a few dB below the clipping point of the sound system. At low levels the RP252 won't do anything, but at higher levels the peaks will be limited to the Threshold point. Often, it is recommended the compressor/limiter be inserted just before the power amp, some systems even have a separate compressor/limiter on each output of the crossover.

Thank you for choosing the ROLLS RP252 Compressor/Limiter/Gate. We recommend you take a moment and read through this manual as it provides information that will assist you in using your unit to it's fullest potential.

The RP252 provides clear sonic quality and performance for the working musician, DJ, studio operator, or anyone needing a friendly Compressor/ Limiter/Gate. The RP252 incorporates "soft-knee" compression and a 100 dB log averaging detector for amazing accuracy and smooth performance. The input connectors on the rear are designed to be used with -10 dB to +4 dB signal levels.

UNDERSTANDING COMPRESSION

The primary purpose of a compressor is to reduce and control the dynamic range of a program; from gentle narrowing of overall levels to limiting of peaks, to squashing all dynamics. Control is the main idea.

Another major use for compressors is to add punch to sloppy sounds. A compressor can do this by making the level of an instrument or a sound more consistent, or by reducing the volume of the more sustained sections of a note, which comparatively accentuates the leading edge (Attack).

Sustain of instruments, especially guitars and bass can be achieved by raising the volume of low-level trailing edges of a note, which gives solid presence to the instrument. It also makes the note-by-note volume more even. All this is done by changing the gain in response to the signal. When the input is low in level, the compressor gain remains fixed, usually at 0 dB (unity gain) or greater. When the input increases above the threshold set by the compressor, the gain begins to decrease (i.e., the amount of gain reduction increases). For very large inputs, the gain can decrease considerably, Therefore, as signals get larger, the gain reduction will increase, depending where the Threshold, Ratio and Output Level are set.

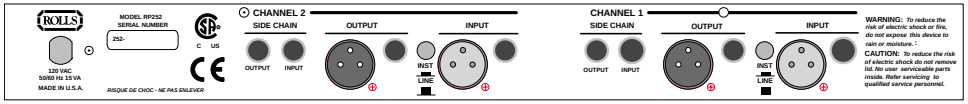
GATING

Gating is used to cut noise or "hiss" when there is no signal, or when the signal is below a certain threshold. Sometimes, such as with drums, the gate is used to stop all sound except when the drum is played, to remove background noise.

FRONT PANEL
NOTE: Descriptions are identical for both Channels One and Two

THRESHOLD: Sets the level at which the RP252 becomes active. When the signal level is below the threshold point, the signal is unprocessed. When the signal level is above the threshold point, there may be compression/limiting.
RATIO: This sets the ratio of input signal to signal compression. Called 'signal-to-compression ratio, at 1:1 the signal is left unprocessed and at infinity:1, no matter how much the input increases, the output will not be above the threshold - this is called limiting.
ATTACK: Adjusts how fast the control circuits respond to the dynamics of the input. If this is set longer, it will take more time for gain reduction to occur, so rapidly rising inputs will go through for a short period of time.
RELEASE: Adjusts how long before the control circuits return to a steady state. A short release time can make sound be choppy and gated. A long release time can make music seem to rise and fall as a wave. It is recommended to start with a long Release time, then shorten it if necessary.
OUTPUT LEVEL: Sets the output level to help compensate for compression losses. If the Threshold is set low, more output level may be needed because gain reduction starts at a low level.
GATE THRESHOLD: Included in the RP252 is a noise gate circuit which is accessed with the two gate controls. The Gate Threshold sets the point at which the gate "opens" to let the sound through. Below this level, the entire signal is shut off. When the GATE LED is off there is enough level to operate the gate.
GATE RELEASE: As before, this adjusts how long until the gate closes or stops sound after the signal has fallen below the threshold.
ACTIVE SWITCH: Pressing this switch inward activates the compressor.
STEREO SWITCH: This switch joins the control circuits of the two channels so they operate together. When processing a stereo signal, this helps maintain a more natural sound because both sides are processed exactly the same.
GAIN REDUCTION LEDs: These 10 LEDs display, in dB, how much the signal is being compressed (i.e., how much gain reduction).
GATE LED: When this is lit, no signal passes through the processing circuits and the sound is muted.

REAR PANEL
NOTE: Descriptions are identical for both Channels One and Two



INPUT: Use mono (or TRS) 1/4" phone connectors or balanced XLR inputs from your line-level audio source.
OUTPUT: Use mono (or TRS) 1/4" phone connectors or balanced XLR to connect to the line inputs on the next device (i.e., mixer, recording device, amplifier, etc.)
SIDE CHAIN: The side chain ins/outs are 1/4" unbalanced jacks used for controlling the gain reduction circuits with an external signal. This is for special effects such as "ducking".
INST/LINE SWITCH: This switch changes the RP252 dynamic range by 20 dB. In for instrument level, out for line level signals.

OPERATION

Smoothing Out Electric Bass

Bass lines often are inconsistent in level and lack the sustain needed to give a solid bottom end. Set the Threshold so that peaks cause 10 dB to 12 dB of compression. Use more for increased sustain and for more percussive attacks on the trainsients.

Fattening Kick Drums and Compressing Other Drum Sounds

Weak, flabby kick drums often have too much boom and not enough slap. Tighen them up by increasing the Attack time and setting the threshold for 15 dB of compression on the peak of the kick. Because the RP252 takes time to react, this will emphasize the slap at the beginning of the note and reduce the boominess of its body. The RP252 also works well for tightening snare drums and tom toms and can be used with drum machines to effectively alter the character of any electronic drum sound.

Variations in Mic Levels

In musical applications, paging systems, churches, speaking events, etc., as the distance between the microphone and the speaker or the vocalist changes, signal levels change. To keep the level near constant, set the threshold and ratio so an average of 6 - 8 dB of compression is established.