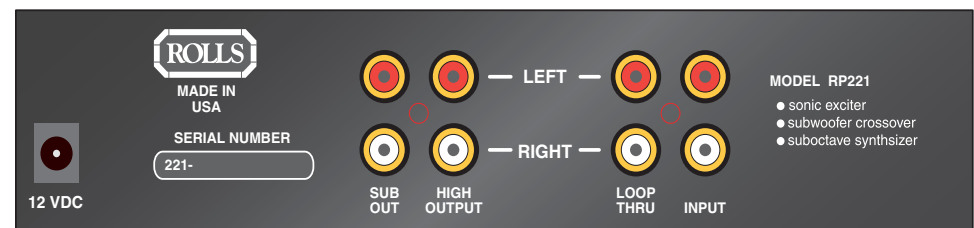


ROLLS

RP221 Bottom Feeder Crossover / Sonic exciter



Congratulations and thank you for your purchase of the RP221 Bottom Feeder - Crossover, sub-sonic synthesizer, and Sonic Exciter. The outputs are not only separate high and low frequencies, but enhanced for crystal clear highs and lows worthy of Richter scale measurements. You've now got complete control over the tone of your sound.

Please review this manual carefully as it contains the information necessary for the proper setup and operation of your new RP221 Bottom Feeder.

THE ROLLS SONIC EXCITER - SCE PROCESSING

The human ear can detect a frequency range of roughly 20Hz to 20kHz. However, the frequency response that a normal speaker can effectively reproduce is much, much less. Additionally, speakers add distortion and phase changes that make the sound quite different from that of the original material.

A sonic exciter restores clarity and presence to the processed signal by correcting phase changes and harmonic structure differences. In other words, it puts the components of the sound back where they belong.

All of this magic is done by the use of all-pass filtering, frequency compensated gain adjustment, and compensated frequency domain delay. What this means to you is the elements of your sound are fanned out like a deck of cards, making each sound more audible and distinct, reducing the need for high volume and radical equalizer adjustment.

TABLE OF CONTENTS

Introduction	1
Table of Contents	1
Inspection	2
Specifications	2
Descriptions	
Front Panel	3
Rear Panel	3
Connection	4
Operation	4
Schematic	5
Warranty	6

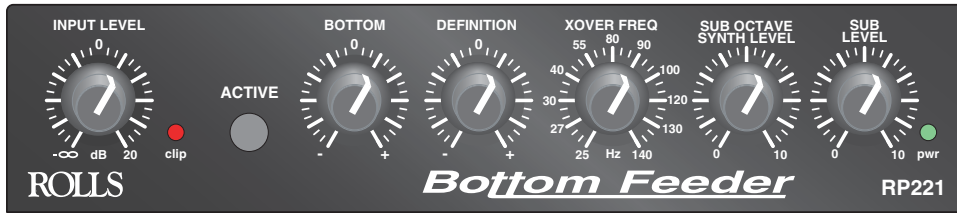
This product is warranted to the original consumer purchaser to be free from defects in materials and workmanship under normal installation, use and service for a period of one (1) year from the date of purchase as shown on the purchaser's receipt.

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.



INPUT LEVEL: Adjusts the amount of input signal to the RP221.

CLIP LED: Indicates overload in the input circuitry. If this LED lights, the INPUT LEVEL should be reduced.

ACTIVE switch: When pressed in, the sonic exciter and sub-synth circuits are engaged.

BOTTOM: Controls the low frequency cut/boost (flat or no cut/boost is at about 11 O'clock). There is a 0 to 1/2 turn spectrum spread from mid-range to bass with this control as well as amplitude control.

DEFINITION: Controls the amount of sonic clarity (sibilance) and sound spread. Setting it at 0 is flat response and minimal spread, 10 is maximum spread and definition.

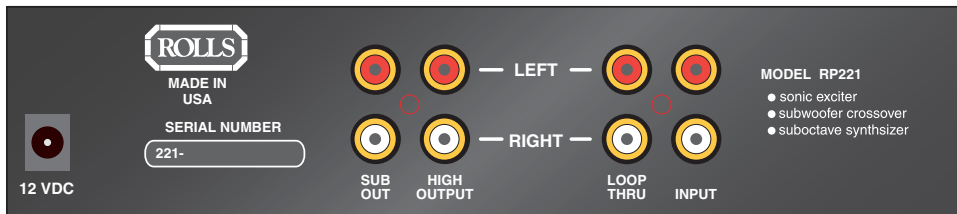
XOVER FREQUENCY: Sets the frequency point at which the high and low frequencies are split. The frequencies above the crossover point are sent to the High Outputs, the frequencies below this point are sent to the Sub Outputs.

SUB OCTAVE SYNTH LEVEL: Adjusts the amount of signal coming from the Sub-Octave synthesizer circuitry. The Sub-Octave Synth is a special circuit that divides the low frequency signal (after the crossover) in half, and produces a sub-octave harmonic. This level control then mixes the resulting signal with the Sub Level signal.

SUB LEVEL: Adjusts the output level from the Sub Outputs. This includes the low frequencies after the crossover, and the added Sub Octave Synth signals.

PWR LED: Indicates that the RP221 is connected to the power adapter, and to an AC outlet.

REAR PANEL DESCRIPTION



12 VDC: Connects to the Rolls PS27 (12 VDC, 150 mA, tip negative) power supply.

SUB OUT: Mono summed, dual RCA jacks containing the low frequencies (from the crossover frequency and below) portion of the signal.

HIGH OUTPUT: Stereo RCA jacks containing the high frequencies (from the crossover frequency and up) portion of the output signal.

LOOP THRU: Stereo RCA jacks directly connected to the INPUT jacks.

INPUT: Stereo RCA for connection to the signal source.

Connect your RP221 to the signal source you want processed such as a DJ mixer or Karaoke unit output for example. Connect the High Outputs to an amplifier and speaker combination designed to receive signals above at least 140 Hz. Connect the Sub Outputs to an amplifier/speaker combination designed to receive signals below 140 Hz. Remember to consult the speaker manufacturers owners manuals for proper crossover settings.

OPERATION

SETTING THE INPUT LEVEL

After proper setup and connection, play a sample of program material, and test any microphones for a normal operating output level. Adjust the RP221 INPUT LEVEL control to the point where the CLIP LED begins to light, then back off this control slightly until the CLIP LED only lights occasionally.

SETTING THE CROSSOVER

The XOVER FREQ control sets the frequency point at which the high and low frequencies are split. The frequencies above the crossover point are sent to the HIGH OUTPUT, the frequencies below the crossover point are sent to the SUB OUTPUT.

Consult the subwoofer speaker(s) owners manual for the suggested crossover frequency.

THE SONIC EXCITER

The two controls that make up the Sonic Exciter section of the RP221 are the Bottom and Definition. Start by setting these two controls at the 12 O'clock position. Turning the Bottom control clockwise increases the amount of sub-frequency enhancement, thereby increasing the level of low frequency sound. Turning the Definition control clockwise increases the high frequency enhancement, and increases the amount of high frequency sound (often referred to as sibilance or "sizzle"). Set each of these for the desired process amount.

THE SUB OCTAVE SYNTHESIZER/SUB LEVEL

This control will effect the Sub Output signal only, and must be set carefully. Increasing the amount of the Sub Octave Synthesizer adds extreme low frequencies to the sound. Begin with this control set at 0. With program material playing, slowly and carefully increase the Sub Octave Synth Level until you hear the desired amount of low-end enhancement.

Finally, adjust the Sub Level control to match the level of the High Frequency output for the desired mix of frequencies.

CAUTION: TO AVOID POSSIBLE SPEAKER OR AMPLIFIER DAMAGE, ALWAYS TURN ON THE RP221 AND OTHER PERIPHERAL EQUIPMENT BEFORE TURNING ON THE POWER AMPLIFIERS.

ALSO TURN OFF THE POWER AMPLIFIERS FIRST, BEFORE TURNING OFF THE RP221 AND OTHER EQUIPMENT.