

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 PREPAID. 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.

RFX
Salt Lake City, UT
8/01



RFX147 ROTORHORN Rotating Speaker Simulator



OWNERS MANUAL

Thank you for your purchase of the RFX147 Rotorhorn. This unit is a line level rack mount signal processor for duplicating the sound of a rotating horn speaker cabinet electronically. It has a two-way crossover network to produce the effect of bass and treble "rotors". The unit is housed in a single space 19" rack painted steel chassis and is intended for live performance or studio work. The RFX147 is simple to use and is ready to work on power up.

FEATURES

- Accurate simulation of "Leslie" fast and slow speeds
- Front panel and footswitch control of all functions
- Smooth sounding CHORUS effect
- Mono VIBRATO effect

INSPECTOR

1. Unpack and Inspect the RFX147 package

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.

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WARRANTY

BACK COVER

Input:	Dual 1/4" unbalanced
Output:	Dual 1/4" unbalanced
Input Impedance:	50k Ohms
Output Impedance:	100 Ohms
Output Level:	+5 dB max
Delay Time:	6 mS
Crossover Freq.	800 Hz

Size:	19 x 1.75 x 6 inches
Weight:	7 lbs

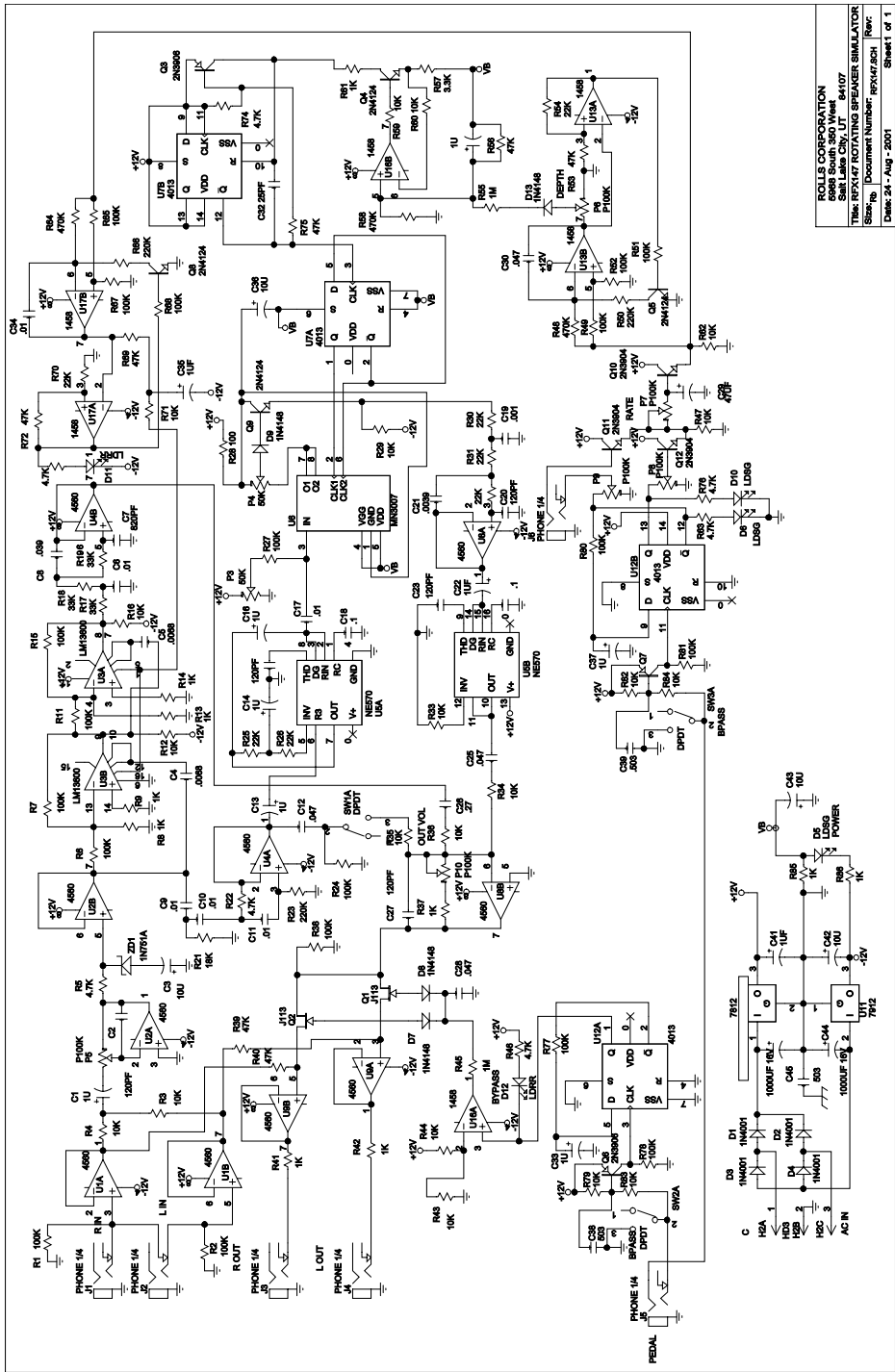
BRIEF HISTORY OF THE ROTATING SPEAKER

Electronic devices that produce a "Leslie-like" sound have been available since the sixties. Cheap solid state components and the need for more portable equipment led to the development of numerous "electronic Leslies" and tremolo-vibrato add-on devices. Few early Leslie simulators were authentic enough to fool even causal listeners and rarely sounded like a real Leslie Speaker. Most relied on simple phase-shift circuitry and their primary advantages were compactness and low cost. Current equipment is much improved and it's often difficult to tell the difference between a real Leslie and a simulator, especially on recordings.

All mechanical rotary tremolo systems are based on the Doppler-effect. Discovered by Austrian mathematician and physicist Christian Doppler (1803-1853) in the early nineteenth century, the Doppler-effect is the apparent variation in pitch that a stationary listener hears from a moving sound source. In practice, the loudness of the sound also appears to vary and it is this combination of frequency (vibrato) and amplitude (tremolo) modulation that give rotating speaker and other Doppler-effect systems their characteristic sound.

Basic Doppler characteristics are easily created electronically. However, most simulators don't reflect sound or produce the unique audio characteristics of mechanical systems. Rotating speaker elements also direct sound out the sides and back of the cabinet which is reflected off nearby walls and surfaces. The listener hears this combination of primary and reflected sound as a moving audio field. Adding a second cabinet further enhances the effect. Even when the audio source (organ) is mono, the rotating speaker elements and reflected sound create a realistic stereo effect.

The RFX147 Rotorhorn simulates the Leslie speaker effect unlike any other electronic simulator by utilizing an internal crossover. This provides a way to effect the upper and lower frequencies differently much like a real rotating speaker. A more authentic effect is thus produced.



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 Sheet 1 of 1

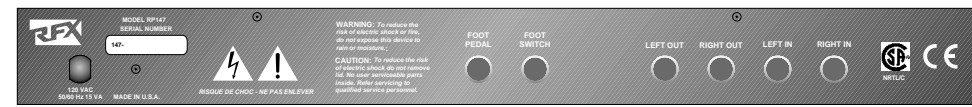
FRONT PANEL



- INPUT LEVEL:** Adjusts the amount of signal from your instrument to the RFX147 input circuitry.
- OUTPUT LEVEL:** Controls the amount of signal from the RFX147.
- CHORUS/VIBRATO SWITCH:** Selects between the Chorus/Rotating Speaker effect mode and the mono Vibrato mode.
- DEPTH:** Controls the delay time of the modulation circuitry. It essentially adjusts the amount of effect.
- RATE:** Adjusts the amount of time taken to switch between Speed 1 and Speed 2.
- SPEED 1:** Adjusts the first modulation speed
- SPEED 2:** Adjusts the second modulation speed
- ON/OFF SWITCH:** Selects either the effected mode or bypass.
- SPD SELECT SWITCH:** Selects Speed 1 or Speed 2.
- PWR LED:** Indicates the RFX147 is connected to a power source and the Power Switch is in the ON position.

POWER SWITCH: Applies power to the RFX147.

REAR PANEL



120 VAC 50/60HZ: Power cord - connect to a properly grounded AC outlet.

FOOT PEDAL: 1/4" Tip Sleeve jack for connection to the optional RFX402 passive volume/panner/control pedal, for adjusting SPEED 2. **NOTE; WHEN THIS PEDAL IS CONNECTED, THE FRONT PANEL SPEED 2 KNOB IS BYPASSED.**

FOOT SWITCH: 1/4" TRS jack - connect to the provided RP8 two-button switch for selecting Effect/Bypass and Speed1/Speed2. The EFFECT 1 switch bypasses the effect, EFFECT 2 selects Speed1 and Speed 2.

LEFT OUT: 1/4" unbalanced jack for connection to an amplifier or mixer.
RIGHT OUT: 1/4" unbalanced jack for connection to an amplifier or mixer.
NOTE: WHEN OPERATING IN MONO USE THIS JACK.

LEFT IN: 1/4" unbalanced jack for connection to your keyboard, sound module, or other instrument you wish to have the Rotorhorn effect.
RIGHT IN: 1/4" unbalanced jack for connection to your keyboard, sound module, or other instrument you wish to have the Rotorhorn effect.
NOTE: WHEN OPERATING IN MONO USE THIS JACK.

Shown below in Fig 1 is a connection example for the RFX147.
NOTE: IF YOU ARE CONNECTING IN MONO, USE THE RIGHT INPUT AND OUTPUT.

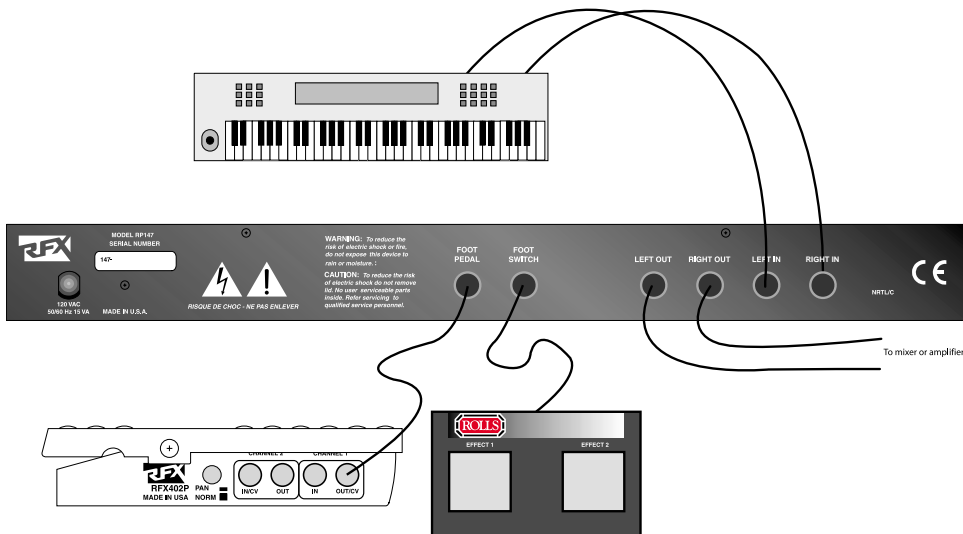
Connect the keyboard or module output(s) to the RFX147 INPUT(S), and the RFX147 OUTPUT(S) to an amplifier, mixer, snake, etc.

Connect the RP8 footswitch to the FOOTSWITCH jack via a stereo 1/4" TRS to 1/4" TRS cable.

If you have the optional RFX402p pedal, connect the CV OUT to the FOOTPEDAL input via a stereo 1/4" TRS to 1/4" TRS cable.

Plug the power cord into a properly grounded AC outlet and switch the RFX147 power switch to the ON position.

Fig 1.



To begin operating your Rotorhorn, first make sure all proper connections are made, and the unit is on. We recommend mounting the unit in a secure 19" rack.

Press the effect ON/OFF switch, or press the EFFECT 2 switch on the RP8 footswitch to the OFF or bypassed mode so when you send signal to the unit you hear an un-effected signal. Adjust the INPUT level control for maximum input without distortion, adjust the OUTPUT level control to provide the proper amount of signal for the next device. *Remember that the more INPUT signal the RFX147 has to work with, the less OUTPUT is needed and thus there will be much less noise created. The bypass level should match the effected level as closely as possible.*

Press in the CHORUS/VIBRATO switch so the RFX147 is in CHORUS mode. This is the most effective rotating speaker effect. The VIBRATO is a mono effect.

Now engage the effect by pressing the ON/OFF switch or pressing the EFFECT 2 switch again on the RP8 footswitch. You should hear the effect. Use the RP8 EFFECT 1 switch or the SPD SELECT on the front panel of the RFX147 to switch between the two speeds. This emulates the two speeds of the rotating speakers.

Figure 1 shows sample settings for the Rotorhorn. The DEPTH control is set for a full sounding effect and the RATE control is set for a fairly quick change from SPEED 1 to SPEED 2. SPEED 1 is set for a slow modulation and speed 2 is set for the fastest modulation.

This is just a starting place. Experiment with different settings to acheive a sound you like.

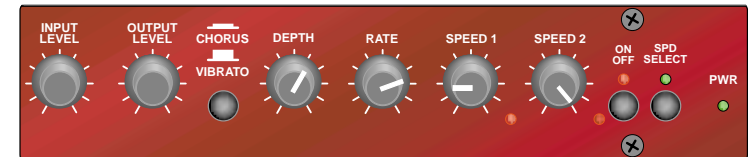


Fig 2.

USING THE FOOT PEDAL - RFX402p

If you have the optional RFX402p, connecting it via the FOOTPEDAL jack on the RFX147 rear panel will bypass the SPEED 2 control. The RFX402p will then become the control for SPEED 2.