

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.

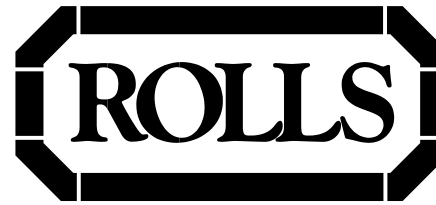
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IN NO EVENT SHALL WE BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, WHATSOEVER. Some states do not allow the exclusion or limitation of special, incidental or consequential 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.

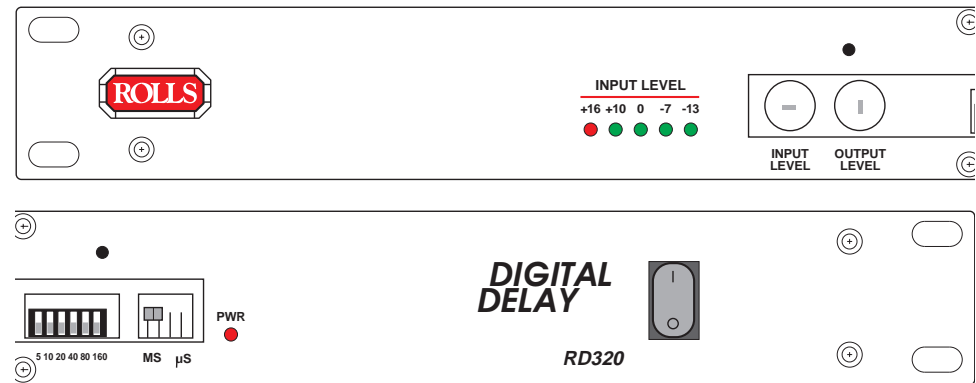


ROLLS CORPORATION
SALT LAKE CITY, UTAH

7/99



RD320 Digital Room Delay



SPECIFICATIONS

Max. Input:	+16 dBV
Input Impedance:	10k Ω balanced
Output Impedance:	50 Ω balanced
Delay Range (long):	.005 to .320 Sec.
Delay Resolution (long):	.005 Sec.
Delay Range (short):	.00004 Sec. to .00128
Delay Resolution (short):	.00004 Sec (Approx 1/2 the Long range and res.)
Frequency Response:	20Hz to 20kHz (+/-3 dB)
THD:	.09%
Size:	1.75" H x 19" W x 5.25" D.
Weight:	7 lbs.

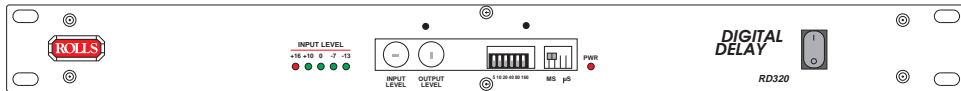
OWNERS MANUAL

INTRODUCTION

The RD320 Digital Delay is used for speaker distance delay or speaker time alignment. The RD320 is housed in a single rack space chassis, and has two delay modes selected by a shorting jumper behind the front panel security cover. It provides a delay range of either 5 - 320 milliseconds, or 40 - 1280 microseconds. The delay is easily set from the front panel by setting the DIP switches, and the input and output levels are adjusted via front panel trim potentiometers.

DESCRIPTION

FRONT PANEL



INPUT LEVEL LEDs: Indicate the amount of input signal level, in decibels.

INPUT LEVEL: Adjusts the amount of input signal.

OUTPUT LEVEL: Adjusts the amount of output signal.

DIP SWITCHES: Set the delay time

MS: If the shorting jumper is in this position, the long delay time has been selected.

μS: When the jumper is in this position, the short delay time has been selected.

PWR: Indicates that the RD320 has power and the power switch is in the ON position.

REAR PANEL



OUT: The "+" sign indicates the positive or non-inverting terminal, and the "-" indicates the negative or inverting terminal. Use these, along with the Ground terminal for a balanced output.

IN: The "+" sign indicates the positive or non-inverting terminal, and the "-" indicates the negative or inverting terminal. Use these, along with the Ground terminal for a balanced input.

OPERATION

Setting the Input and Output levels

Use the LED bargraph for setting the input level. With a typical sound level input, set the Input level as high as possible so the 0 dB LED is on approximately all the time, and the red +16 dB LED lights occasionally - only on the highest peaks. Set the output level to drive the power amp or signal processing that follows the delay. The input level range is from -infinity to unity gain. Remember to run the input level as high as possible without clipping to achieve the highest signal to noise ratio. The output level is from 0dB to 15dB gain. That means the output level never cuts off the input level.

OPERATION Cont.

Selecting the Delay range

Selecting the delay range is done by moving the shorting jumper on the front panel to the desired position. Either the long position (MS) for room time delay, or the short position (μS) for speaker driver alignment.

Figuring the Long Time Delay

Time delay in milliseconds (MS) is figured by adding the DIP switch ON (Switch Down) positions then add 5.

Example, If the 5 and 80 switches are down, the delay time is $5 + 80 + 5 = 90$ milliseconds of delay time.

Figuring the Short Delay Time

In the short position, figure the long time delay time, then divide by 128. For example, the minimum time delay is 5 milliseconds in the long position. In the short position it would be; $5 / 128 = 39 \mu\text{S}$ (or .000039 sec). The speed of sound at sea level is approximately 1100 feet/second. So that would be $1100 \times .000039 = .043$ feet, or multiplied by 12 inches = .51 inches.

SCHEMATIC

