

# 5057 ORBIT

16 x 2 Summing Mixer

RUPERT NEVE DESIGNS



# Operations Manual

# Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This apparatus shall not be exposed to dripping or splashing, and no object filled with liquids, such as vases or beer glasses, shall be placed on the apparatus.
16. Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
17. This apparatus has been designed with Class-I construction and must be connected to a mains socket outlet with a protective earthing connection (the third grounding prong).
18. This apparatus has been equipped with a rocker-style AC mains power switch. This switch is located on the rear panel and should remain readily accessible to the user.
19. The MAINS plug or an appliance coupler is used as the disconnect device, so the disconnect device shall remain readily operable.



**20. NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**CAUTION:** Changes or modifications to this device not expressly approved by Rupert Neve Designs LLC, could void the user's authority to operate the equipment under FCC rules.

**21.** This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

**ATTENTION** — *Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le règlement sur le brouillage radioélectrique édicté par les ministere des communications du Canada.*

**22.** Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a period of time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible noise level exposures shown in the following chart. According to OSHA, any exposure in excess of these permissible limits could result in some hearing loss. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels use hearing protectors while the equipment is in operation. Ear plugs or protectors in the ear canals or over the ears must be worn when operating the equipment in order to prevent permanent hearing loss if exposure is in excess of the limits set forth here:



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.  
Le symbole éclair avec point de flèche à l'intérieur d'un triangle équilatéral est utilisé pour alerter l'utilisateur de la présence à l'intérieur du coffret de "voltage dangereux" non isolé d'ampleur suffisante pour constituer un risque d'électrocution.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.  
Le point d'exclamation à l'intérieur d'un triangle équilatéral est employé pour alerter les utilisateurs de la présence d'instructions importantes pour le fonctionnement et l'entretien (service) dans le livret d'instruction accompagnant l'appareil.

Duration, per day in hours	Sound Level dBA, Slow Response	Typical Example
8	90	Duo in small club
6	92	
4	95	Subway Train
3	97	
2	100	Typical music via head phones
1.5	102	
1	105	Siren at 10 m distance
0.5	110	
0.25 or less	115	Loudest parts at a rock concert

**WARNING** — To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

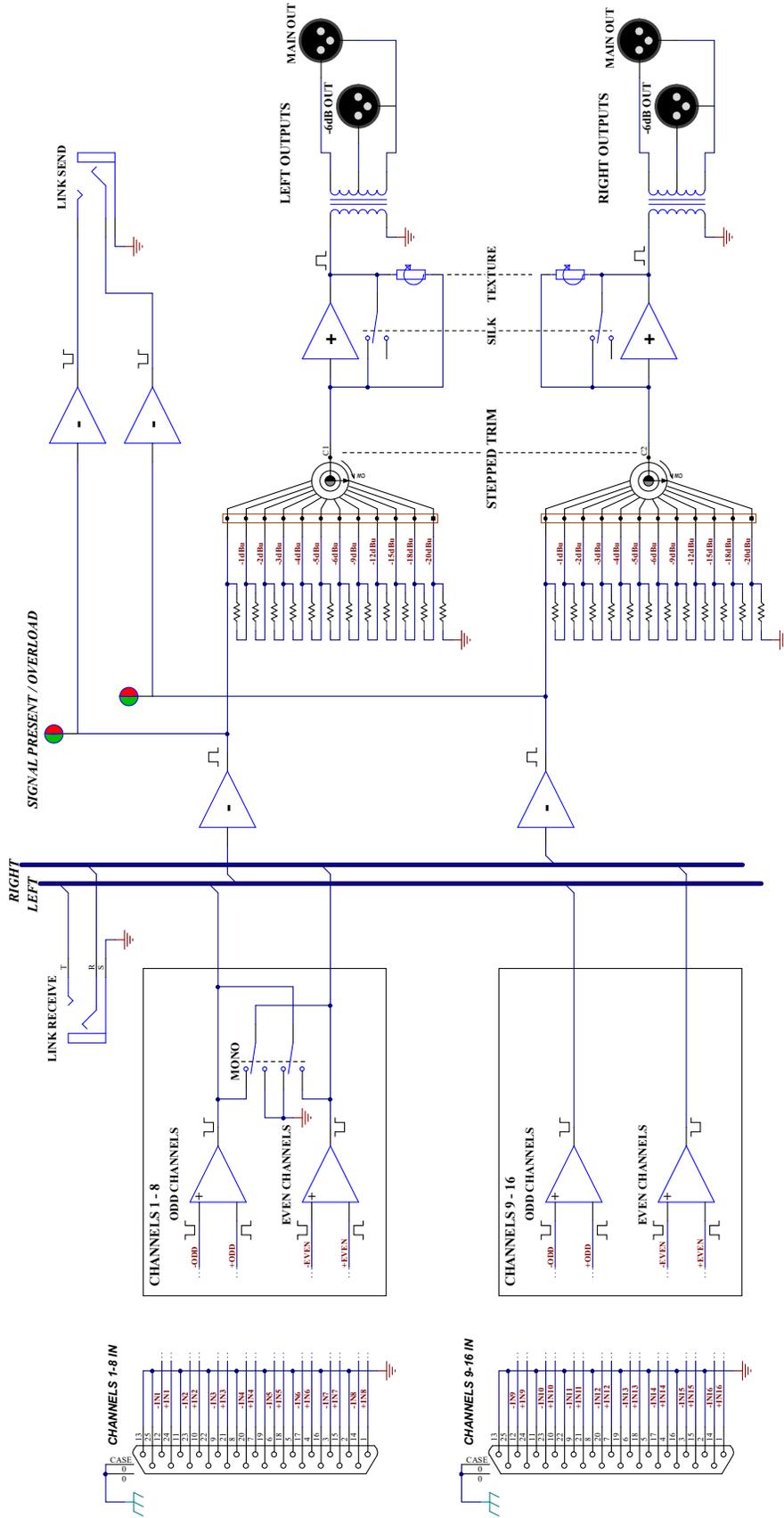
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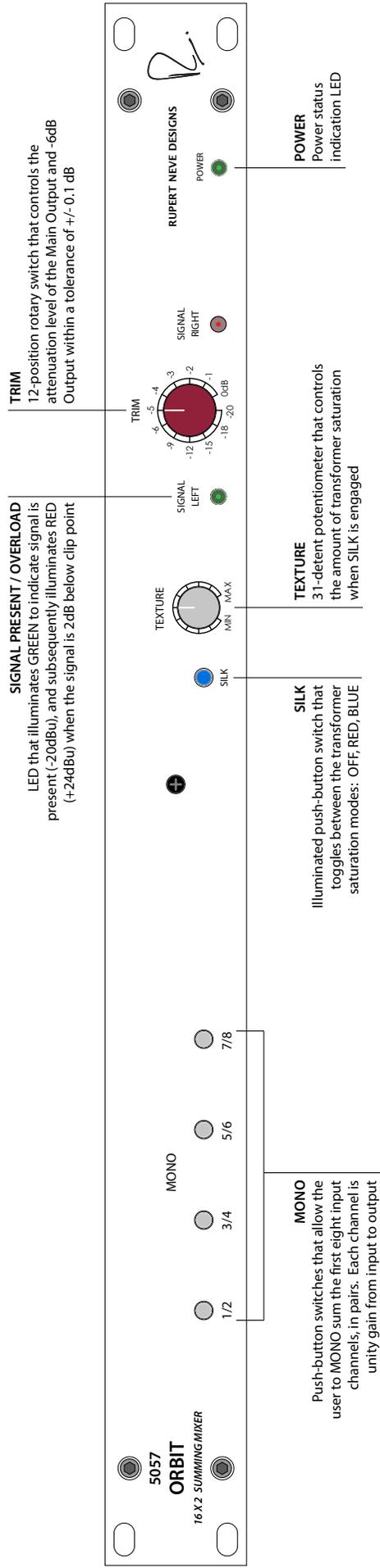
# 5057 Block Diagram

## Rupert Neve Designs 5057 ORBIT: 16 x 2 Summing Mixer

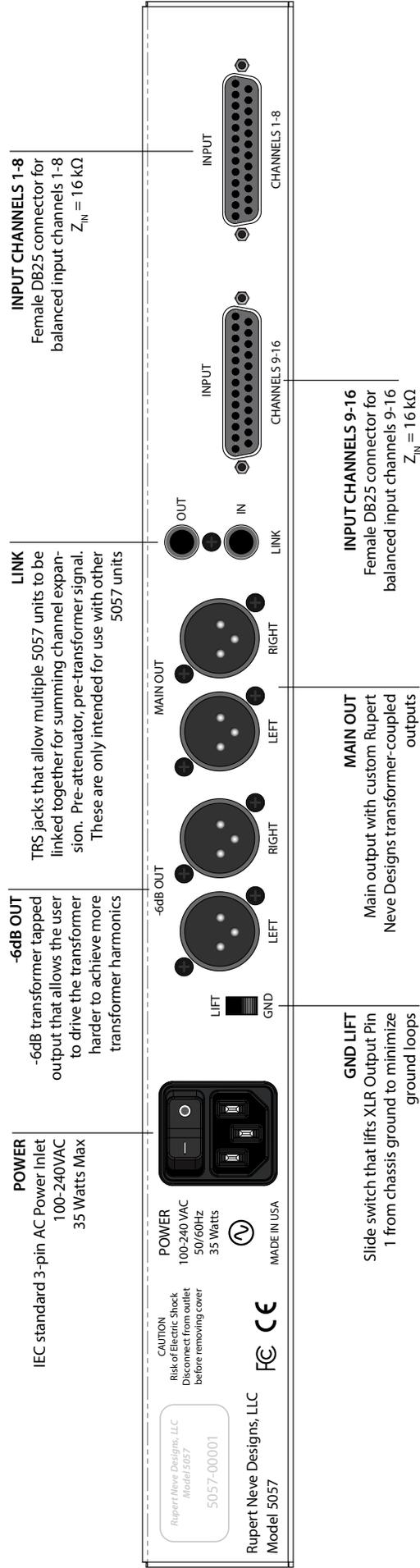
Thank you for purchasing the Rupert Neve Designs 5057 ORBIT. We hope you enjoy using this product as much as we have enjoyed designing and building it. The 5057 features Class-A analog signal paths, custom Rupert Neve Designs transformer-coupled outputs, and a high-accuracy stepped attenuator for mix output level control.



# 5057 Front Panel



# 5057 Rear-Panel



# 5057 Front-Panel Features

## Mono

These four push-button switches allow the user to input mono signals for equal summing to the left and right mix buss outputs. Each individual channel gets summed to mono at unity gain from input to output (0dBu In = 0dBu Out). There is no pan law associated with this feature. If an input signal is connected to Channel 1 *or* Channel 2, and the MONO 1/2 button is depressed, that signal will be equally summed to the left and right mix buss outputs. If two *identical* input signals are connected to Channels 1 *and* 2, the output will be +6dB due to standard voltage summing laws.

## Silk

The SILK illuminated push-button switch allows the user to toggle between OFF, RED and BLUE SILK transformer modes. Red SILK has adds high-frequency emphasis to the transformer harmonic content. Blue SILK adds low-frequency emphasis to the transformer harmonic content.

## Texture

This 31-detent potentiometer allows the user to control the amount of harmonic saturation added to Main Out and -6dB Out signal path. The texture potentiometer is only functional when Red or Blue SILK modes are engaged.

## Signal Present / Overload (Left and Right)

The Signal Present / Overload LEDs illuminate green to show Signal Present conditions (-20dBu) and subsequently illuminate Red to indicate Overload conditions (+24dBu). The Overload LED illuminates when the signal is 2dB below clip point in order to warn the user that the signal peaks are close to actual clip point so that the user can adjust accordingly.

## Trim

This 12-position rotary switch allows the user to accurately adjust the desired attenuation level for the mix output. The TRIM control is accurate to within +/- 0.1dB of the labeled attenuation steps on the front panel control. (see pg. 2)

## Power

The front-panel POWER LED illuminates GREEN to provide the user with power status of the 5057.

# 5057 Rear-Panel Features

## Power

An IEC 3-Pin grounded AC inlet with power switch is provided on the back of the 5057. The 5057 can accept an input range of 100-240VAC, and draws a maximum of 35 Watts. There are no user-accessible fuses, they are integrated within the internal power supplies.

## GND Lift

This slide switch lifts XLR Output Pin 1 from chassis ground. This switch enables the user to more effectively eliminate ground loops if they are present.

## -6dB Out

This output is fed from the custom Rupert Neve Designs tapped transformer output. This lower level output allows the user to drive the transformer harder, achieving more harmonic saturation, without having to worry about clipping the inputs of their DAW or other successive piece of gear. The -6dB Output and the Main Output can be connected simultaneously to feed two different destinations.

# 5057 Rear-Panel Features

## Main Out

The Main Output features a custom Rupert Neve Designs transformer and is capable of a maximum output level of +26dBu. The transformer outputs on the 5057 maintain excellent signal to noise performance, wide bandwidth and are driven by a fully Class-A signal path.

## Link

The Link TRS jacks on the 5057 rear-panel allow the user to link multiple 5057 summing mixers for expansion of summing channel count. The Link input and output jacks are solely intended to be used to connect other 5057 summing mixers. **DO NOT** use these jacks for any other purpose.

*Note:* Each TRS link jack (IN and OUT) connects to the Left (Tip) and Right (Ring) UNBALANCED mix buss paths. It is therefore important to **ONLY** use a TRS cable to connect 5057 units.

## Input Channels 1-8

The first group of eight balanced Class-A input channels are made available on this rear-panel female DB25.

## Input Channels 9-16

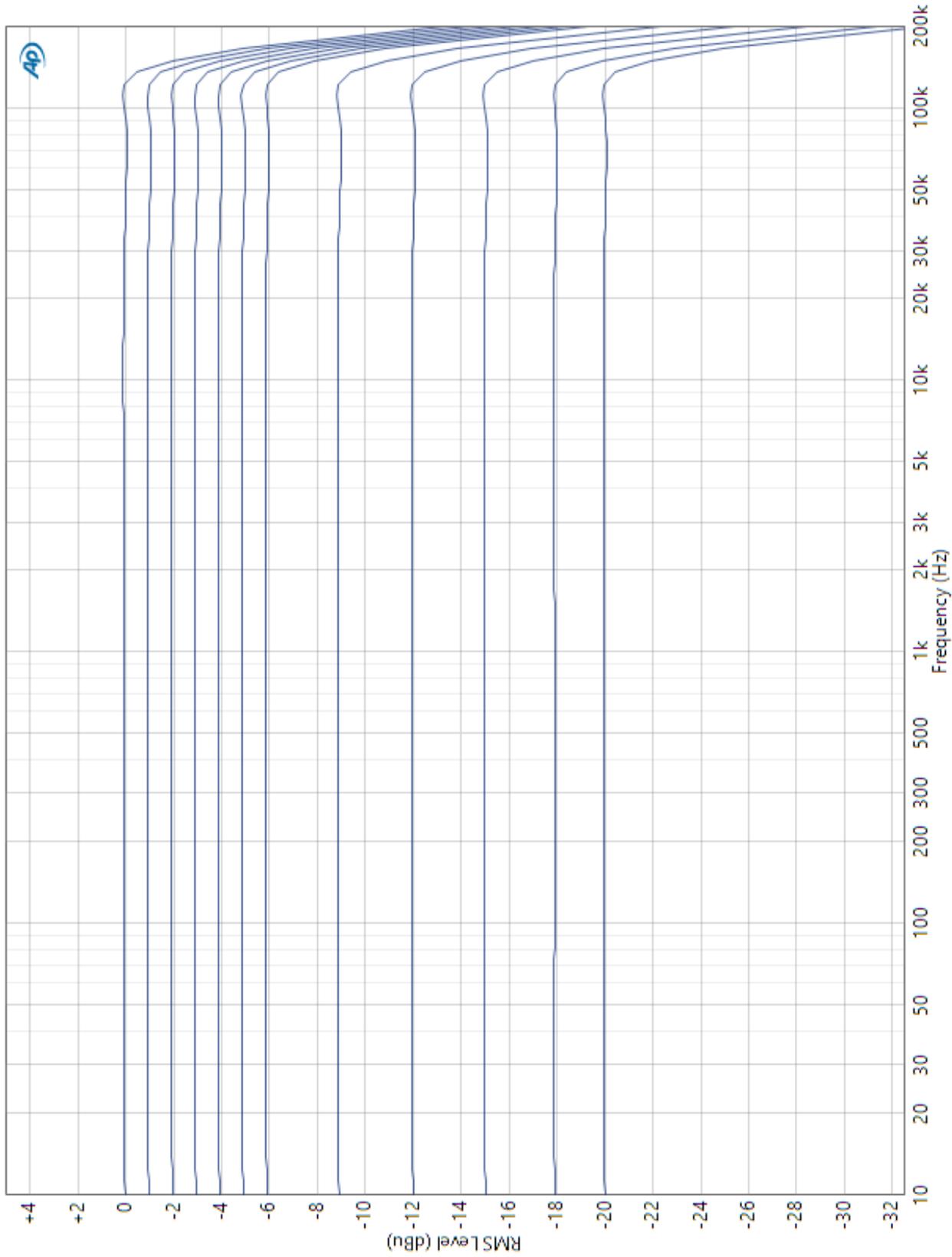
The second group of eight balanced Class-A input channels are made available on this rear-panel female DB25.

# 5057 Specifications

Input Impedance	16 k $\Omega$
Frequency Response	$Z_{SOURCE} = 40\Omega$ Balanced, 30 ft. XLR Output Cable, 200k Termination
10 Hz to 50 kHz	+/- 0.1dB typical
150 kHz	-3dB typical
Noise (BW 22 Hz - 22 kHz, Un-terminated)	-90 dBu typical
Maximum Input Level @ 1 kHz	+26dBu typical
Maximum Output Level @ 1 kHz	+26dBu typical
THD+N%	BW 22 Hz - 22 kHz, Balanced Input to Main Out
0 dBu @ 1kHz	0.003% typical
+20 dBu @ 1kHz	0.0006% typical
Crosstalk	BW 22 Hz - 22 kHz, Balanced Input to Main Output
1 kHz	-103 dBu typical
10 kHz	-93 dBu typical
Product Dimensions (W x D x H)	19" (48.3 cm) x 9" (22.9 cm) x 1.65" (4.2 cm)
Shipping Dimensions (L x W x H)	24" (61 cm) x 13" (33 cm) x 4" (10.2 cm)
Shipping Weight	10 lbs (4.5 kg)

# 5057 Frequency Response

RMS Level - 5057 Attenuator Levels, 30ft. cable on Main Out, 0dBu input



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## **PRODUCT WARRANTY**

Rupert Neve Designs warrants this product to be free from defects in materials and workmanship for a period of one (1) year from date of purchase, and agrees to remedy any defect identified within such one year period by, at our option, repairing or replacing the product.

## **LIMITATIONS AND EXCLUSIONS**

This warranty, and any other express or implied warranty, does not apply to any product which has been improperly installed, subjected to usage for which the product was not designed, misused or abused, damaged during shipping, damaged by any dry cell battery, or which has been altered or modified in any way. This warranty is extended to the original end user purchaser only. A purchase receipt or other satisfactory proof of date of original purchase is required before any warranty service will be performed. THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, TO THE EXTENT ALLOWED UNDER APPLICABLE STATE LAW. IN NO EVENT SHALL RUPERT NEVE DESIGNS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT. Some states do not allow the exclusion or limitation of consequential damages or limitations on how long an implied warranty lasts, so this exclusion may not apply to you.

## **WARRANTY SERVICE**

If you suspect a defect in this product, please call us at 512-847-3013 or email us at [service@rupertneve.com](mailto:service@rupertneve.com) to discuss the suggested defect (it is possible that a suspected defect could be due to improper usage) and to obtain a return authorization number. It shall be your responsibility to pay for shipping the product to us, and, if the product is determined to be defective, our responsibility to pay for shipping the product back to you.



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