

Portico II

Master Buss Processor



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.



**CAUTION AVIS**
RISK OF ELECTRIC SHOCK. DO NOT OPEN RISQUE DE
CHOC ELECTRIQUE. NE PAS OUVRIR
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.
ATTENTION: POUR EVITER LES RISQUES DE CHOC ELECTRIQUE, NE PAS ENLEVER LE COUVERCLE. AUCUN
ENTRETIEN DE PIECES INTERIEURES PAR L'USAGER.
CONFIER L'ENTRETIEN AU PERSONNEL QUALIFIE.
AVIS: POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, N'EXPOSEZ PAS CET ARTICLE A LA PLUIE
OU A L'HUMIDITE



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 livre d'instruction accompagnant l'appareil.



This symbol indicates that this product must not be disposed of with other waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city recycling office or the dealer from whom you purchased the product.

- 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:

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

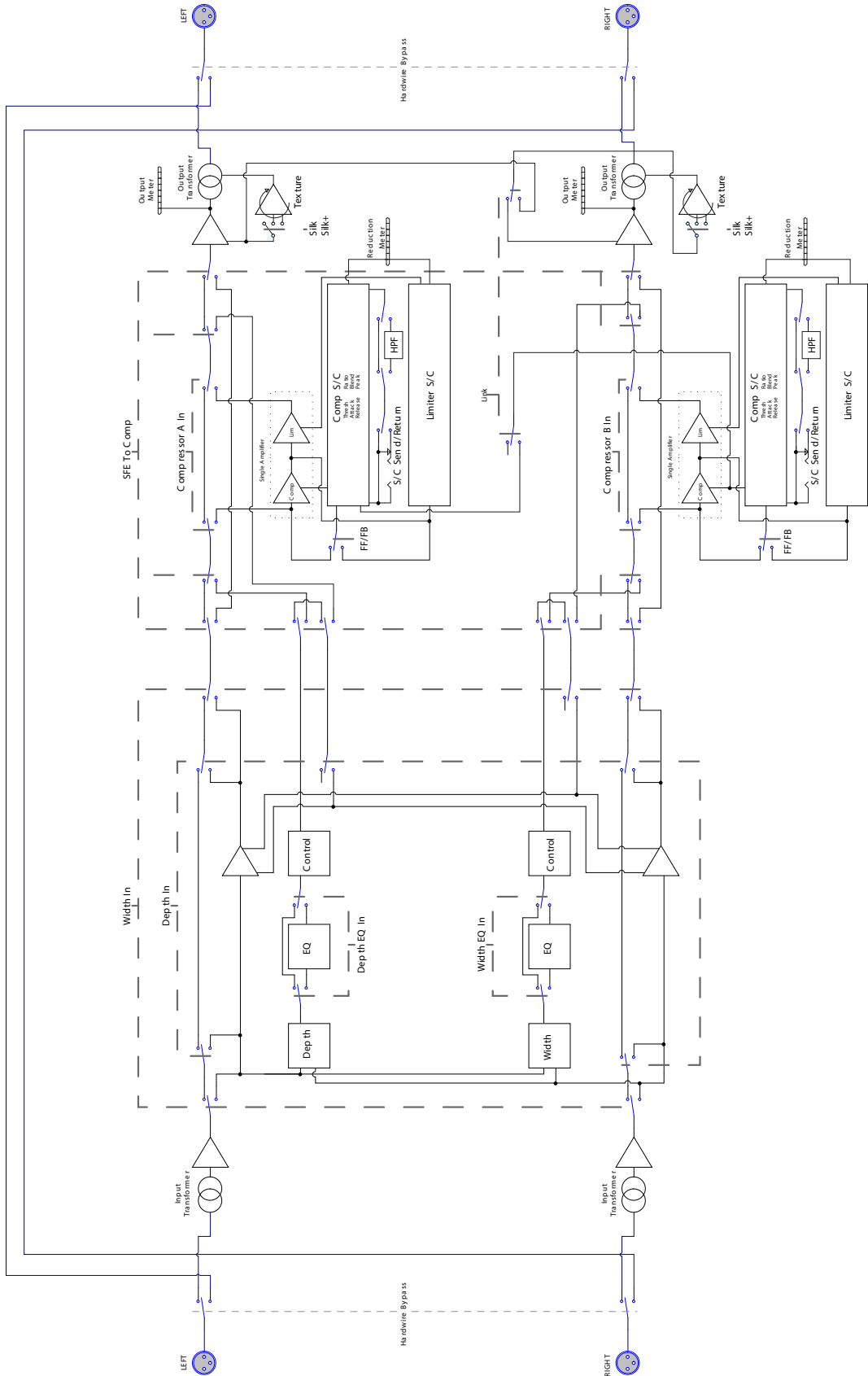
WARNING — To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

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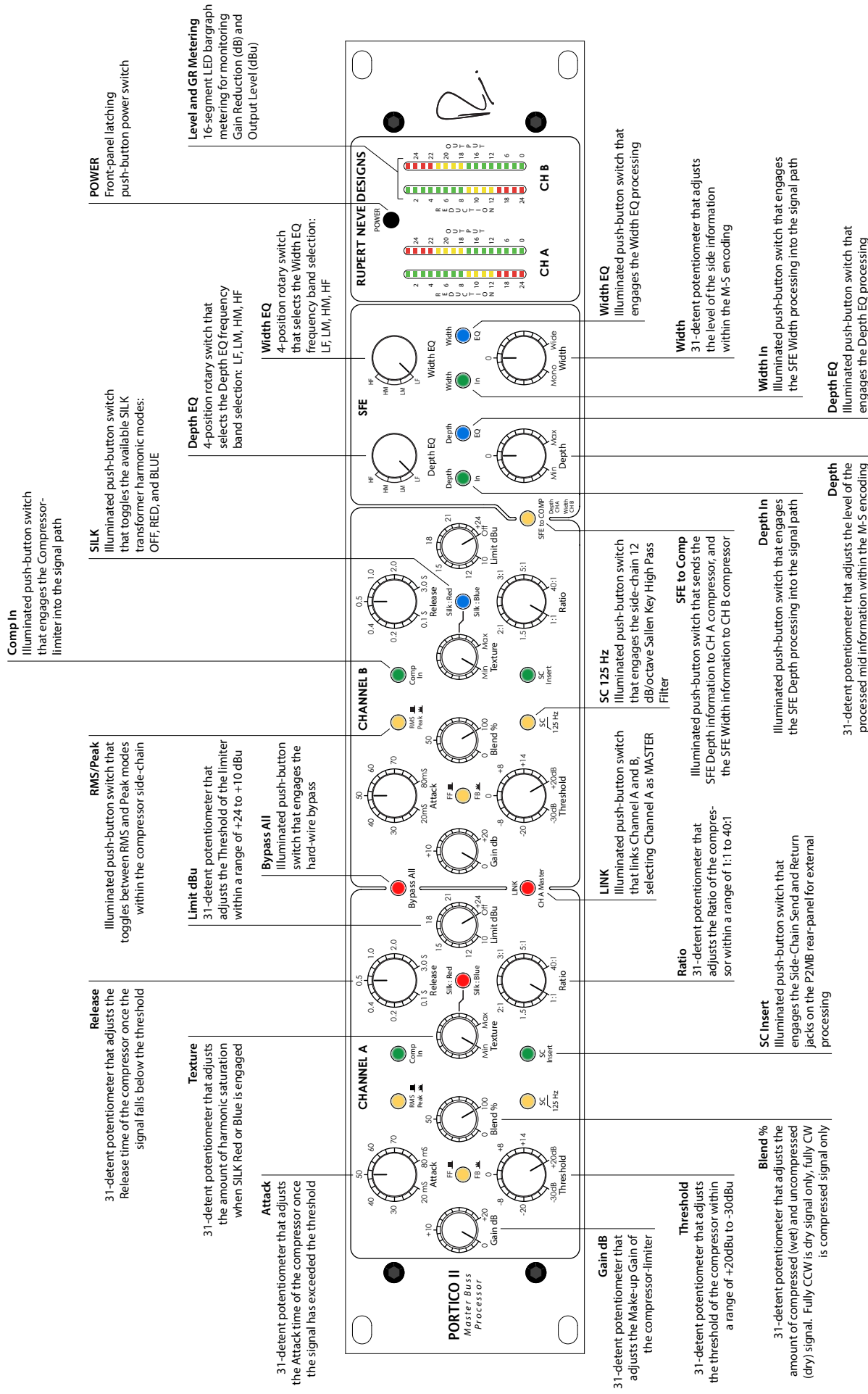
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Rupert Neve Designs Portico II: Master Buss Processor

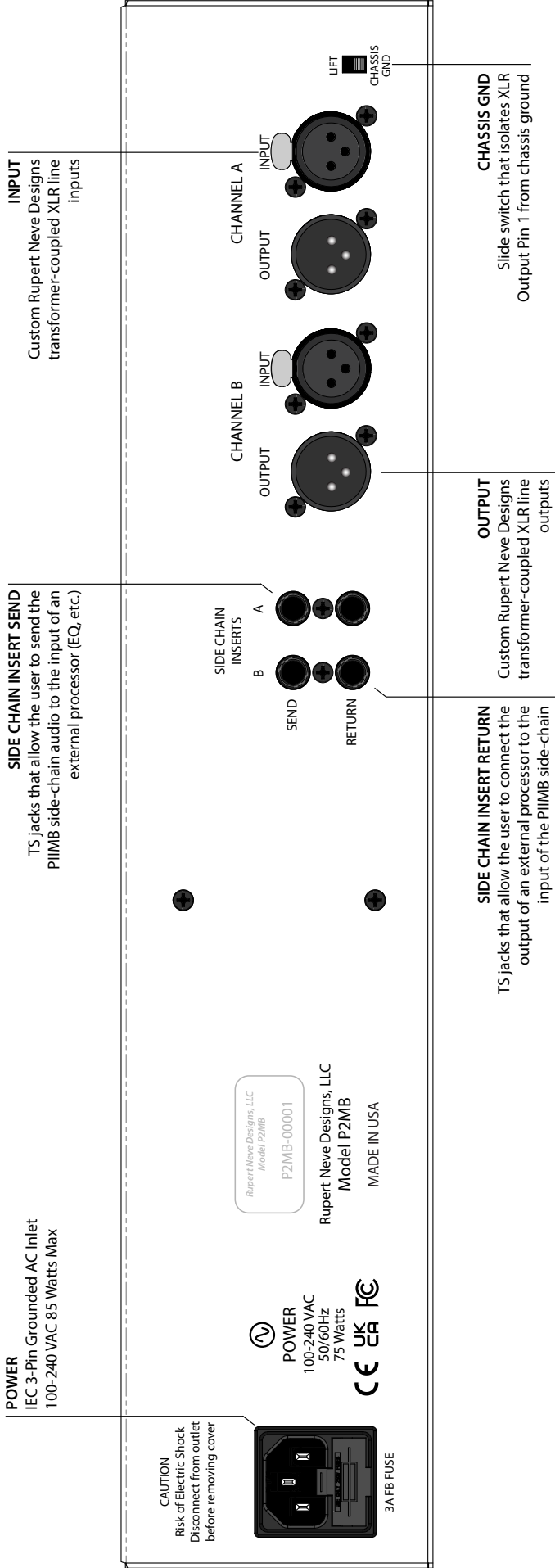
Thank you for purchasing the Portico II Master Buss Processor. We hope you enjoy using this tool as much as we have enjoyed designing and building it. The Portico II Master Buss Processor features high-voltage discrete Class-A amplifiers, custom-wound Rupert Neve Designs input and output transformers, a stereo VCA compressor & limiter, a Stereo Field Editor and dedicated SILK texture controls for each channel.



MBP Front Panel



MBP Rear Panel



MBP Front Panel Features

COMPRESSOR

GAIN

31-detent potentiometer that provides two different functions. When used with the compressor, the GAIN control adjusts the 'Make-Up Gain' of the compressed signal as needed. When used with the limiter, the GAIN control allows the user to set the desired "ceiling" of their mix (in dBu) with the "Limit" potentiometer. Once the Limit potentiometer is set to the desired maximum level, the user can increase the Gain until the average mix level hits the desired loudness. The Gain control will drive the level of the mix up to the set Limiter threshold, but will not exceed it.

ATTACK

31-detent potentiometer that adjusts the Attack time of the compressor once the signal has exceeded the threshold. When set to its fastest setting (20 ms), the compressor will usually attenuate the leading edge of a fast transient. When set to slower attack settings, the compressor will ignore most of a fast transient and attenuate the transient's decay instead.

FF/FB

This illuminated push-button switch toggles between two different compression modes: Feed Forward and Feed Back. When in OUT/FF mode, the side-chain detector of compressor is fed from the compressor input, before the gain control. When in IN/FB mode, the side-chain detector of the compressor is fed from the compressor output, after the gain control.

Note: The printed values for RATIO settings on the MBP apply to OUT/FF mode. IN/FB mode will reduce the overall compression ratio range.

THRESHOLD

31-detent potentiometer that adjusts the threshold of the compressor within a signal level range of +20dBu to -30 dBu.

RMS / PEAK

This illuminated push-button switch toggles between two different types of compressor side-chain detection: RMS (Root Mean Square) and PEAK. OUT/RMS mode will use an average loudness reading over time, while PEAK mode responds more directly to the incoming compressor audio signal, which may be more effective to prevent clipping and maximize overall loudness.

BLEND

31-detent potentiometer that controls the wet/dry mix ratio of the uncompressed (0%) signal with the compressed (100%) signal.

S/C 125 Hz

This illuminated push-button switch engages a 125Hz 12dB/octave high pass filter into the compressor side-chain. Removing low frequency information from the compressor side-chain detector can help to minimize compressor 'pumping', resulting in an overall smoother compression.

MBP Front Panel Features (continued)

COMP IN

This illuminated push-button switch engages the compressor-limiter section on its respective channel. Engaging or disengaging the “Comp In” button never affects SILK status and will not affect SFE status unless SFE to COMP is engaged.

S/C INSERT

Push-button switch that engages the S/C Insert SEND & RETURN jacks on the rear panel for external side-chain processing.

RELEASE

This 31-detent potentiometer adjusts how fast the compressor will return to unity gain after the signal level crosses below the threshold. Generally, slower release times will minimize compression artifacts, especially when combined with slower attack times. Faster release times can be utilized to maximize apparent loudness. It is important to exercise caution with fast release times, fast attack times, and high ratios, since combinations of these three can cause intermodulation distortion, resulting in undesired compression artifacts.

RATIO

31-detent potentiometer that adjusts the Ratio of the compressor within a range of 1:1 to 40:1

Note: The printed values for RATIO settings on the MBP apply to OUT/FF mode. IN/FB mode will reduce the overall compression ratio range.

SILK

Illuminated push-button switch that toggles through the three available SILK modes: OFF, RED, and BLUE. RED enhances harmonic content in high mid and high frequencies. BLUE enhances harmonic content in low and low mid frequencies.

TEXTURE

This 31-detent potentiometer allows the user to adjust the amount of SILK transformer saturation added to the signal path when either SILK Red or Blue modes are engaged.

LIMITER

LIMIT

This 31-detent potentiometer controls the threshold of the soft-clip limiter section. The limiter is disengaged until the user rotates the Limit potentiometer past the 3rd detent (+24dBu) from the fully clock-wise (OFF) position. The limiter's release time will gradually increase as the threshold control is rotated further counter clock-wise. The limiter can also be utilized as a maximizer by setting the Limit potentiometer to the desired maximum level in dBu, then increasing the amount of Gain until the desired program loudness is achieved.

MBP Front Panel Features (continued)

GLOBAL CONTROLS

BYPASS ALL

This illuminated push-button switch toggles the PIIMB's true, hard-wire bypass on both channels.

LINK

The link control sums the side-chain information from both compressor-limiter channels, enabling Channel A's controls as MASTER. While linked, both channels are directly controlled by Channel A's controls, including: COMP IN, ATTACK, RELEASE, RMS/PEAK, THRESHOLD, RATIO, FF/FB, GAIN, BLEND, SILK MODE, TEXTURE, LIMITER, S/C INSERT, and S/C HPF.

SFE (STEREO FIELD EDITOR)

DEPTH IN

Illuminated push-button switch that engages the Stereo Field Editor "Depth" pot and allows for A-B comparison.

DEPTH

31-detent potentiometer that adjusts the overall level of the center (mid) information within the SFE's M-S encoding. The MIN (fully CCW) position will de-emphasize the center information within the stereo image, whereas the MAX (fully CW) position will emphasize the center information. If the Depth control is at the 12 o'clock "0" position, no Depth processing will be audible.

WIDTH IN

This illuminated push-button switch engages the Stereo Field Editor "Width" pot and allows for A-B comparison.

WIDTH

This 31-detent potentiometer adjusts the overall level of the side information within the SFE's M-S encoding. The MIN (fully CCW) position will de-emphasize the side information within the stereo image, whereas the MAX (fully CW) position will emphasize the side information. If the Width control is at the 12 o'clock "0" position, no Width processing will be audible.

DEPTH EQ

Illuminated push-button switch that engages the 4-position rotary switch that allows the user to select between four different EQ settings for Depth processing: Low Frequency (LF), Low Mid (LM), High Mid (HM), and High Frequency (HF).

WIDTH EQ

Illuminated push-button switch that engages the 4-position rotary switch that allows the user to select between four different EQ settings for Width processing: Low Frequency (LF), Low Mid (LM), High Mid (HM), and High Frequency (HF).

SFE to COMP

Illuminated push-button switch that routes the DEPTH and WIDTH information to the Channel A and Channel B compressor paths, allowing the user to manipulate the dynamic content of the Mid and Side information. When engaged, the width and depth controls allow the user to blend the amount of compressed Mid and Side information that is mixed back into the audio path.

NOTE: When SFE to COMP is engaged, the stereo compressor is only available for SFE dynamic processing and is not operational within the main audio path.

MBP Front Panel Features (continued)

Gain Reduction Meter

This 16 segment LED bar-graph meter indicates compressor-limiter gain reduction, indicated in dB. After 4 dB of attenuation, the LEDs turn to amber and after 8 dB, the LEDs turn red.

Output Meter

This 16-segment LED bar-graph meter indicates output level, indicated in dBu. The top-most red LED is calibrated to illuminate at +25dBu, corresponding to the maximum output level of the PIIMB.

MBP Rear-Panel Features

Power

The PIIMB has an IEC Standard 3-Pin grounded fused AC inlet with 100-240VAC 50/60Hz input range, 85 Watts max power AC consumption. The fuse is located directly above the rear-panel AC Inlet (see fuse type specifications on pg. 8). The corresponding power switch is located on the PIIMB front panel.

Side Chain Insert Send

This TS jack is provided on the PIIMB rear panel to allow the user to send the PIIMB side-chain audio to an external processor like an EQ. The PIIMB Side-chain Insert Send should be connected to the input of the chosen external processor.

Side Chain Insert Return

This TS jack is provided on the PIIMB rear panel to allow the user to return the processed side-chain audio to the PIIMB's sidechain input. The PIIMB Side-chain Insert Return should be connected from the output of the chosen external processor.

Inputs

A stereo pair of female Neutrik XLR's are provided on the rear panel for connection to the PIIMB's custom Rupert Neve Designs transformer-coupled discrete Class-A inputs.

Outputs

A stereo pair of male Neutrik XLR's are provided on the rear panel for connection to the PIIMB's custom Rupert Neve Designs transformer-coupled discrete Class-A outputs.

GND LIFT

This rear-panel slide switch allows the user to isolate XLR Output Pin 1 from chassis ground. This is useful for troubleshooting ground loops, if they arise in a studio configuration.

Specifications

Frequency Response (Compressor and SFE Bypassed, Unloaded)

5 Hz to 100 kHz	+/- 0.5 dB typical
120 kHz	-3 dB typical

Maximum Output Level (Compressor and SFE Bypassed, Unloaded)

20 Hz to 40 kHz	+25 dBu typical
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Total Harmonic Distortion and Noise

1 kHz, +20 dBu	Less than 0.003% typical
20Hz, +20 dBu	Less than 0.10% typical
20 kHz, +20 dBu output	Less than 0.010% typical

Compressor

Threshold	-30 dBu to +20 dBu
Ratio	1.1:1 to 40:1
Blend	0% to 100% Compressor
Gain	0 dB to +20 dB
Attack	20 mS to 80 mS
Release	100 mS to 3.0 S

AC Power Consumption	85 Watts Max
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Fuse	5 x 20mm Bussman type GDA 2.5A, Fast Acting, Ceramic
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Product Dimensions (H x W x D)	3.5" (8.9 cm), 19" (48.3 cm), 12" (30.5 cm)
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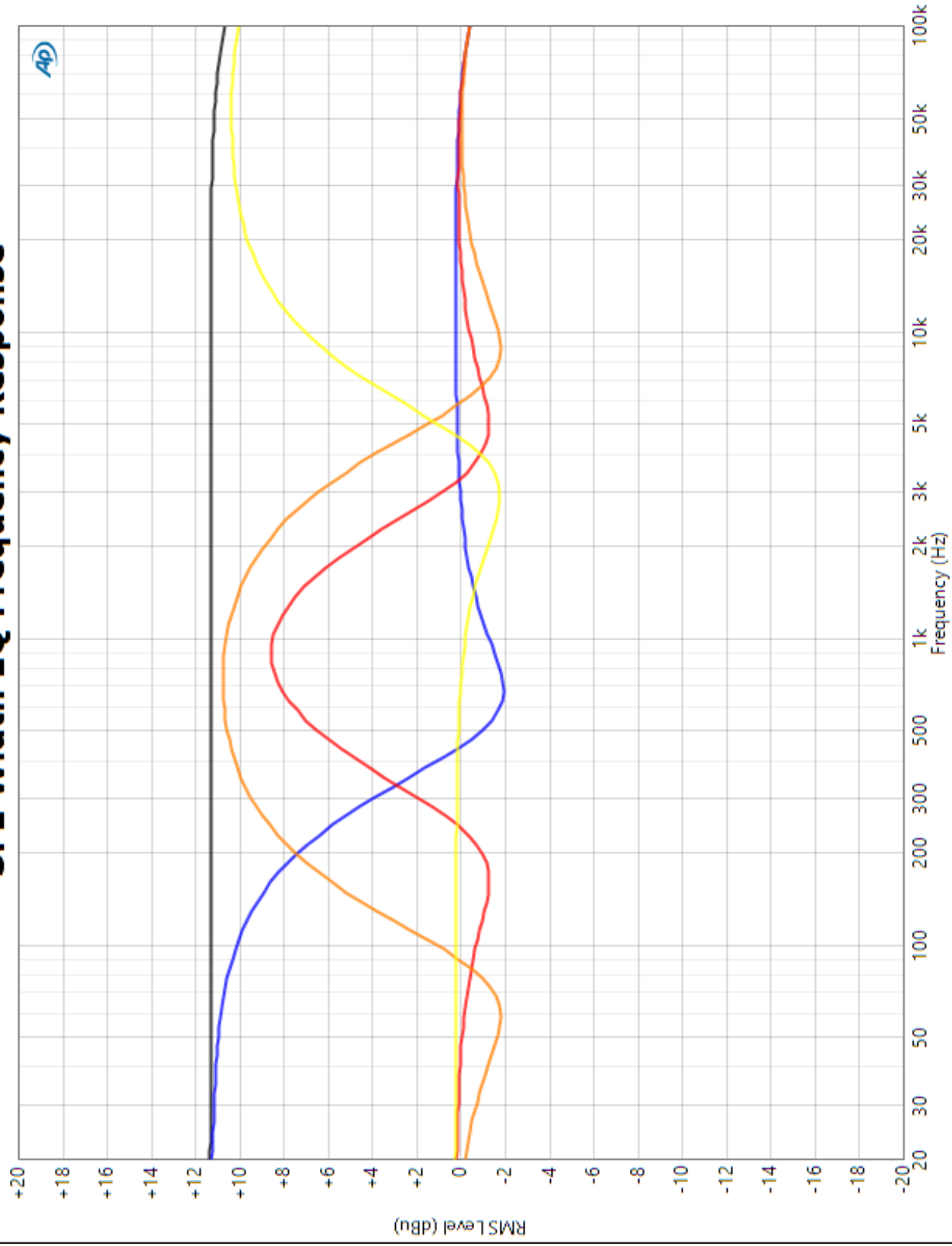
Shipping Dimensions (H x W x D)	5" (12.7 cm), 23" (58.5 cm), 12" (31 cm)
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Shipping Weight	20 lbs (9.1 kg)
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SFE Depth EQ Frequency Response



SFE Width EQ Frequency Response



PRODUCT WARRANTY

Rupert Neve Designs warrants this product to be free from defects in materials and workmanship for a period of three (3) years from date of purchase, and agrees to remedy any defect identified within such three 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 contact our support staff for troubleshooting by phone (512-847-3013) or email (service@rupertneve.com). If it is determined that the device is malfunctioning, we will issue a Return Material Authorization and provide instructions for shipping the device to our service department.



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775-00008 Rev L2