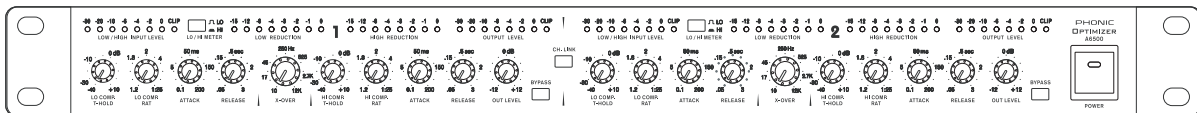


PHONIC

A6500 OPTIMIZER



ENGLISH

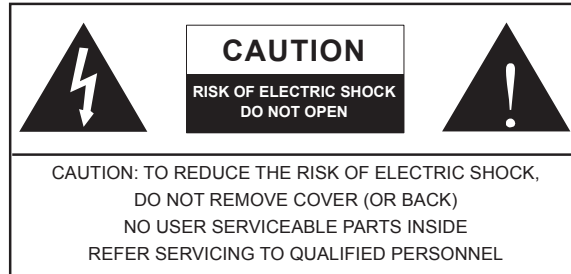
User's Manual

IMPORTANT SAFETY INSTRUCTIONS

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus. The MAINS plug is used as the disconnect device, the disconnect device shall remain readily operable.

Warning: the user shall not place this apparatus in the confined area during the operation so that the mains switch can be easily accessible.

1. Read these instructions before operating this apparatus.
2. Keep these instructions for future reference.
3. Heed all warnings to ensure safe operation.
4. Follow all instructions provided in this document.
5. Do not use this apparatus near water or in locations where condensation may occur.
6. Clean only with dry cloth. Do not use aerosol or liquid cleaners. Unplug this apparatus before cleaning.
7. Do not block any of the 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 is 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 plug, 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.



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.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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

CAUTION: Use of controls or adjustments or performance of procedures other than those specified may result in hazardous radiation exposure.

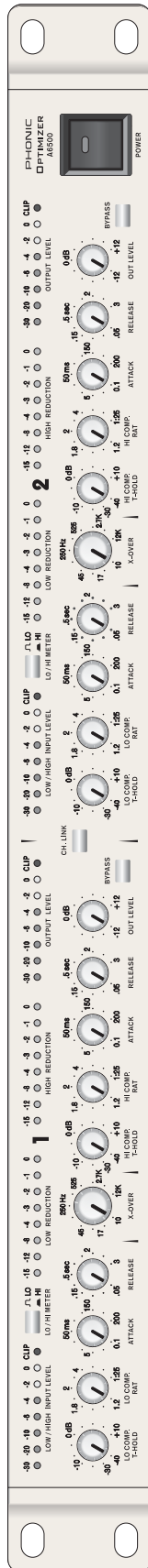


OPTIMIZER A6500

USER'S MANUAL

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INTRODUCTION

Thank you for choosing a Phonic professional audio product. The A6500 OPTIMIZER is a new generation two-channel audio compressor featuring dual-band controls with variable crossover frequency. Each band has its own independent controls for compression threshold, ratio, and attack time. The LED meters provide immediate display of the input, output, and gain reduction levels. A bypass switch in each channel allows quick comparison between the processed and unprocessed signals. The LINK option allows simultaneous control of both channels.

The dynamic controls on the OPTIMIZER effectively eliminate the excessive signal level from microphones or other sources in a live event or studio recording session, making this compressor an indispensable tool for any professional audio engineer.

This manual is designed to be both concise and comprehensive. It is concise, so you can quickly start using your new gear. It is also comprehensive, so you can gain a full understanding of the fine equipment that you have just purchased. We hope you will soon discover that you have made a wise investment in buying a Phonic product.

FEATURES

Full-feature two-channel dual-band compressor

Variable crossover for user-defined frequency bands

Independent compression controls for low and high bands

8-segment LED meters for displaying channel output level and band-specific input and gain reduction levels

Illuminated function buttons

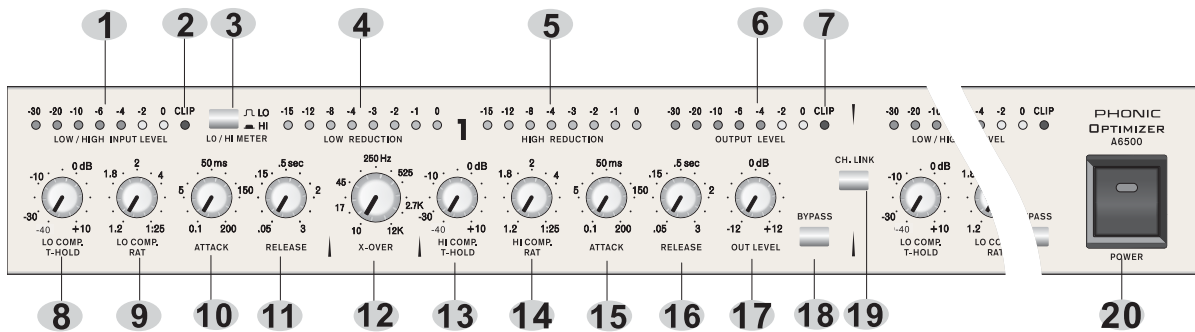
Channel-link function

Relay controlled bypass

Balanced XLR and 1/4" TRS connectors for input and output

Operating levels of +4 dBu and -10 dBV independently selectable for input and output

Shielded toroidal power transformer guarantying minimal interference noise



CONTROLS & CONNECTIONS

The OPTIMIZER has two channels which have identical controls and connections. The following descriptions apply to both channels.

Front Panel

1. LOW/HIGH INPUT LEVEL meter

This 8-segment LED meter displays the input level of either the low band or the high band, depending on the setting of the **LO/HI METER** button.

2. (Input) CLIP indicator

This LED indicator lights up when clipping occurs at either the low band or the high band, depending on the setting of the **LO/HI METER** button. If this indicator lights up frequently, reduce the input level from the source device to prevent audio distortion.

3. LO/HI METER button

When this toggle button is depressed, the **LOW/HIGH INPUT LEVEL** meter and the (input) **CLIP** indicator display the status of the high band. When the button is released, the **LOW/HIGH INPUT LEVEL** meter and the (input) **CLIP** indicator display the status of the low band.

4. LOW REDUCTION meter

This 8-segment LED meter displays the amount of gain reduction occurring at the low band.

5. HIGH REDUCTION meter

This 8-segment LED meter displays the amount of gain reduction occurring at the high band.

6. OUTPUT LEVEL meter

This 8-segment LED meter displays the level of the channel output.

7. (Output) CLIP indicator

This LED indicator lights up when clipping occurs at the channel output. If this indicator lights up frequently, reduce the output level to prevent audio distortion.

8. LO COMP. T-HOLD control

This control knob adjusts the compression threshold of the low band. All signals above the set level are compressed. The threshold for the low band can be set at any level between -40 and +10 dB.

9. LO COMP. RAT control

This control knob determines the compression ratio for the low band, ranging from 1:1.2 to 1:25.

10. (Low) ATTACK control

This control knob determines the speed with which the compression for the low band begins after the input level has exceeded the threshold. The range of control is from 0.1 to 200 milliseconds.

11. (Low) RELEASE control

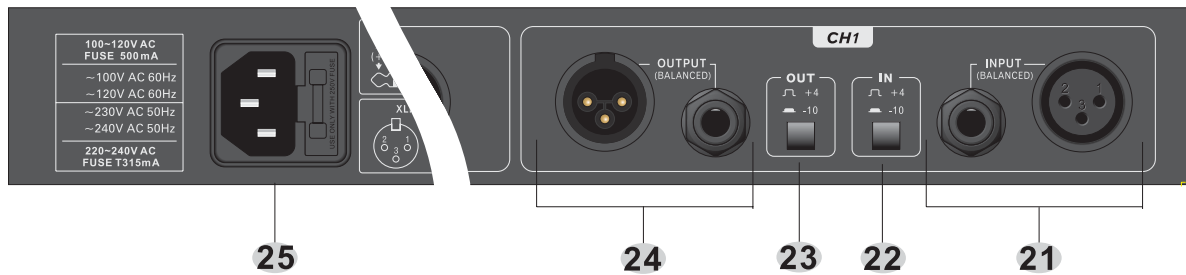
This control knob determines the speed with which the compression for the low band ceases after the input level has fallen below the threshold. The range of control is from 0.05 to 3 seconds.

12. X-OVER control

This control knob determines the crossover frequency, or the frequency at which the low and high bands are separated. The crossover can be set at any frequency between 10 Hz and 12 kHz.

13. HI COMP. T-HOLD control

This control knob adjusts the compression threshold of the high band. All signals above the set level are compressed. The threshold for the high band can be set at any level between -40 and +10 dB.



14. HI COMP. RAT control

This control knob determines the compression ratio for the high band, ranging from 1:1.2 to 1:25.

15. (High) ATTACK control

This control knob determines the speed with which the compression for the high band begins after the input level has exceeded the threshold. The range of control is from 0.1 to 200 milliseconds.

16. (High) RELEASE control

This control knob determines the speed with which the compression for the high band ceases after the input level has fallen below the threshold. The range of control is from 0.05 to 3 seconds.

17. OUT LEVEL control

This control knob adjusts the level of the channel output. The range of control is from -12 to +12 dB.

18. BYPASS button

This toggle button determines whether the signal from the channel input should be processed (released) or unaltered (depressed) before it is sent to the channel output. The bypass function is useful for a quick comparison between processed and unprocessed sounds.

19. CH. LINK button

This toggle button determines whether Channel 1 and Channel 2 are to be controlled separately (released) or in sync (depressed). When the button is depressed, the settings for Channel 1 are applied to both channels.

20. POWER button

This toggle button turns on the OPTIMIZER when depressed, and turns it off when released.

Back Panel

21. INPUT connectors

The input connection is equipped with a female XLR and a 1/4" TRS jack. Both connectors are balanced.

22. Nominal operating level (IN)

This toggle button determines the nominal operating level of the input (-10 dBV when depressed, and +4 dBu when released). This setting should match the nominal operating level of the source device. In general, consumer products use -10 dBV, while professional products use +4 dBu.

23. Nominal operating level (OUT)

This toggle button determines the nominal operating level of the output (-10 dBV when depressed, and +4 dBu when released). This setting should match the nominal operating level of the target device. In general, consumer products use -10 dBV, while professional products use +4 dBu.

24. OUTPUT connectors

The output connection is equipped with a male XLR and a 1/4" TRS jack. Both connectors are balanced.

25. Power inlet and fuse holder

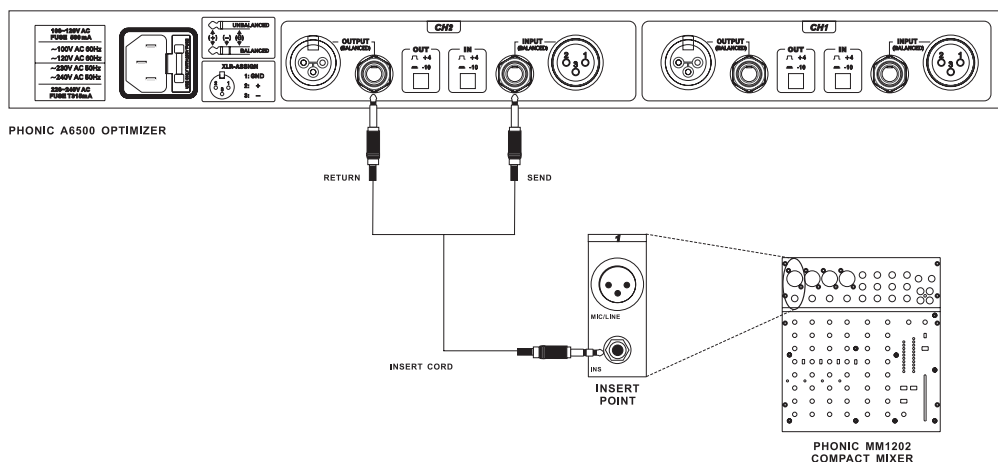
Use the supplied power cord to connect the OPTIMIZER to an AC power outlet of a suitable voltage. To change the fuse, use a screwdriver to slide open the fuse cover, then replace the fuse with one that is of identical type.

APPLICATIONS

This section presents two typical methods for connecting the OPTIMIZER to a mixer.

By using a insert point

If your mixer has an insert point, you can process the signal from that insert point by connecting the OPTIMIZER to the insert point via an insert cord. See “Appendix: Typical Connectors” for an illustration of some insert cords.

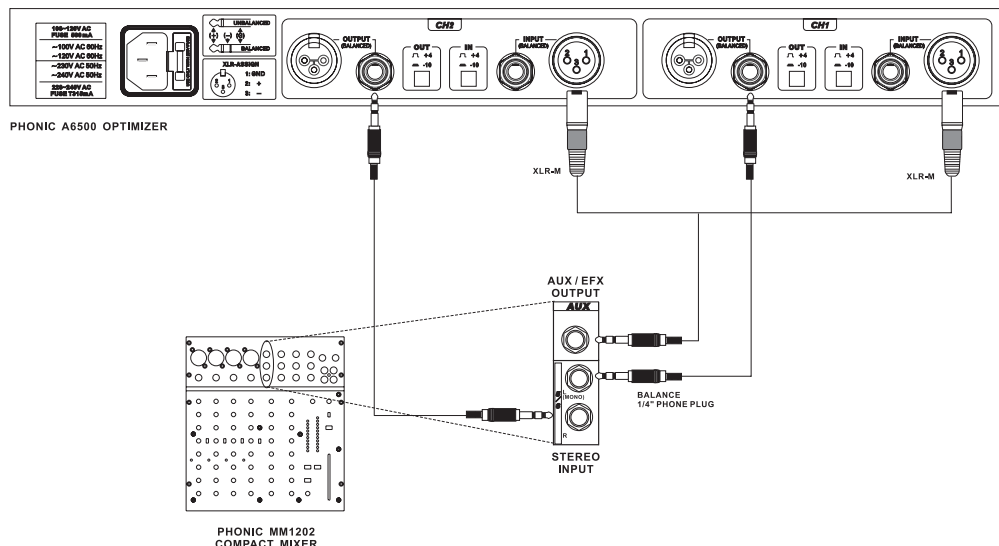


By using an input channel

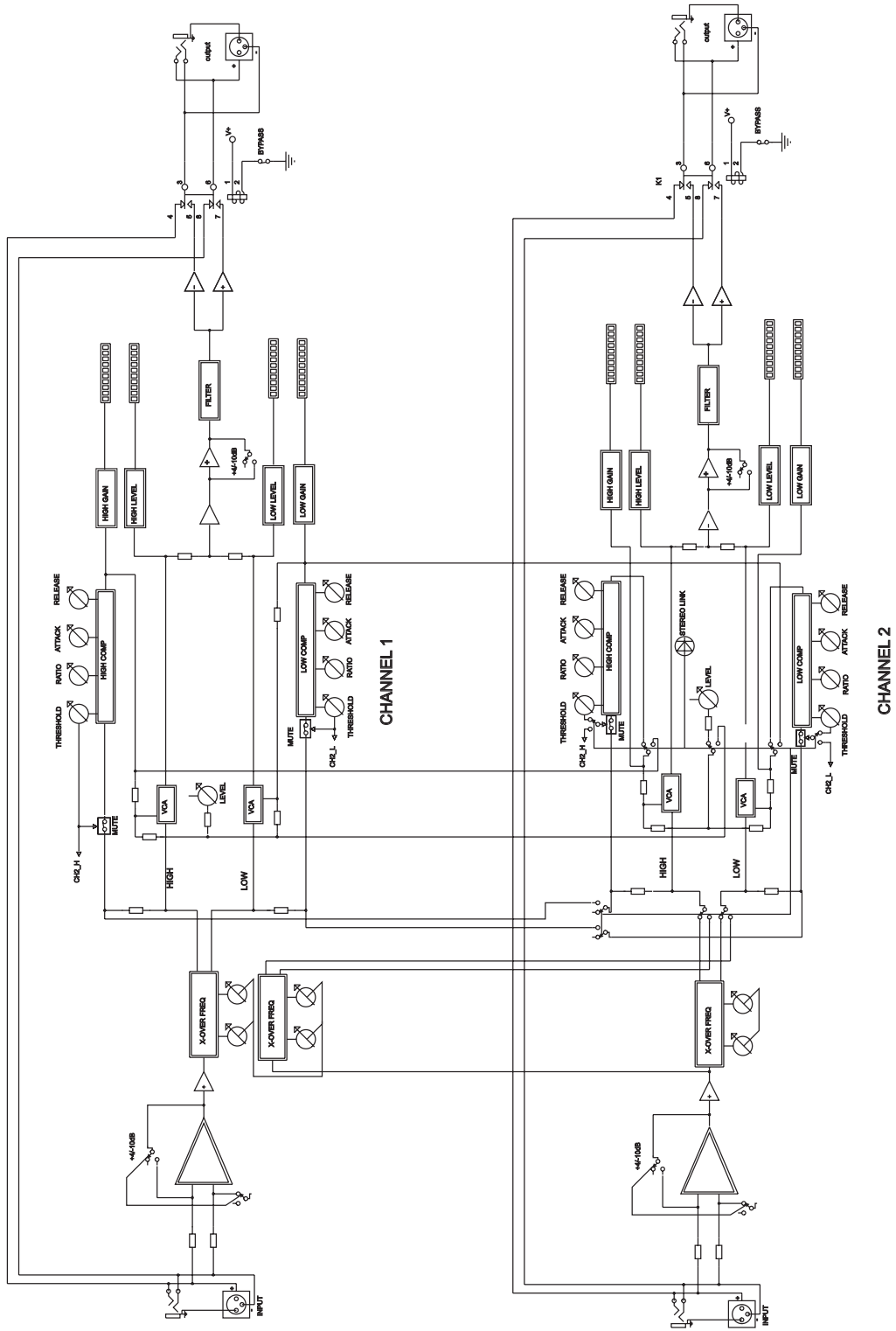
If your mixer does not have an insert point, or if you have used all available insert points, you may use one of the input channels as a return input. Follow these steps:

1. Connect the AUX (or EFX) output of your mixer to the input of the OPTIMIZER.
2. Connect the output of OPTIMIZER to one of the input channels of the mixer.
3. To prevent feedback, mute the AUX-send (or EFX-send) of the channel that is receiving its input from the OPTIMIZER.

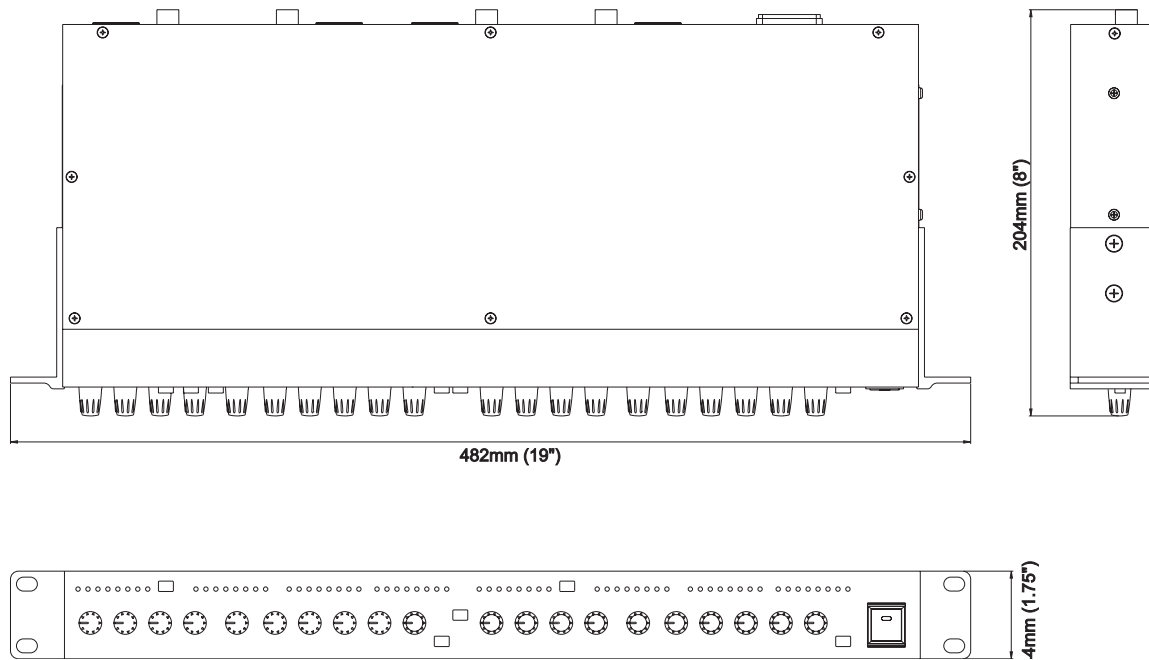
Through this routing, the original signal is sent from the mixer to the OPTIMIZER for processing. The processed signal is then sent back to the mixer for mixing.



BLOCK DIAGRAM



DIMENSIONS



SPECIFICATIONS

Input

Connectors	XLR and 1/4" TRS
Type	RF filtered, balanced input
Impedance	20k ohms balanced, 10k ohms unbalanced
Nominal Operating Level	-10 dBu and +4 dBu, selectable
Maximum Input Level	+14 dBu

Output

Connectors	XLR and 1/4" TRS
Type	RF filtered, balanced output
Impedance	200 ohms balanced, 100 ohms unbalanced
Nominal Operating Level	-10 dBu and +4 dBu, selectable
Maximum Output Level	+14 dBu

System

Bandwidth	20 Hz to 20 kHz, 0 dB/-0.5 dB
Noise	< -90 dB
THD + Noise	0.04% at 0 dB, 1 kHz
Crosstalk	< -80 dB

Compressor

Crossover	10 Hz to 12 kHz
Threshold	Low/High variable from -30 dB to +10 dB
Attack	Variable (0.1 ms/20 dB to 200 ms/20 dB)
Release	Variable (0.05 ms/20 dB to 3 s/20 dB)
Ratio	Low/High 1:2 to 1:25
Output Level	+/- 12 dB

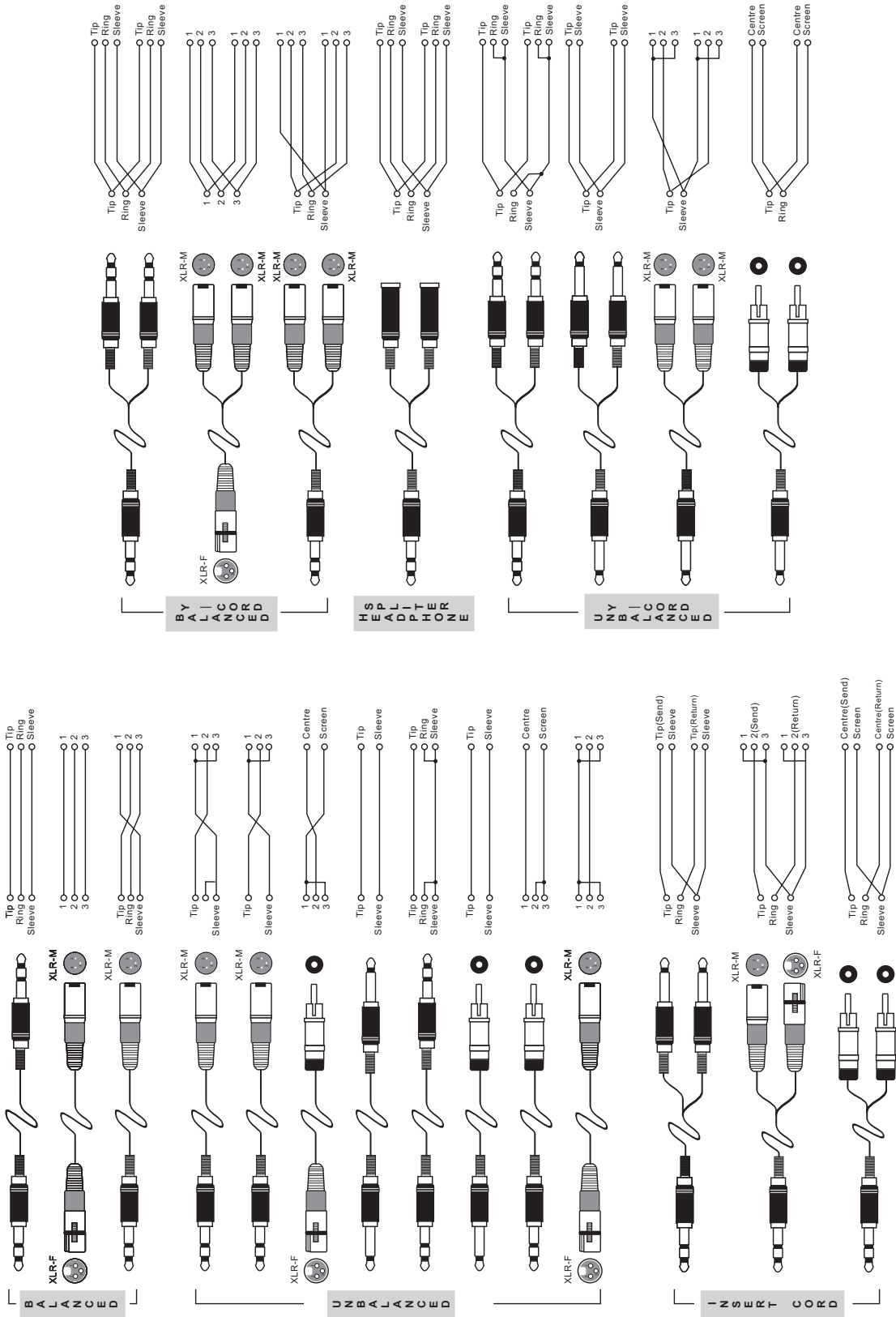
Power Supply

Power Consumption	10 W
Power Connector	Standard IEC connector
Operating Voltages	100V AC 50/60Hz, 120V AC 60Hz, 240V AC 50Hz
Fuse	100-120 V: 1 A / 250 V 200-240 V: 500 mA / 250 V

Physical

Dimension (W x H x D)	Approx. 482 x 44 x 204 mm (19 x 1.75 x 8 in.)
Weight	Approx. 2.7 kg (6.0 lbs.)

APPENDIX: TYPICAL CONNECTORS



TO PURCHASE ADDITIONAL PHONIC GEAR AND ACCESSORIES

To purchase Phonic gear and optional accessories, contact any authorized Phonic distributor. For a list of Phonic distributors please visit our website at www.phonic.com and click on Get Gear. You may also contact Phonic directly and we will assist you in locating a distributor near you.

SERVICE AND REPAIR

Phonic has over 100 service centers worldwide. For replacement parts, service and repairs please contact the Phonic distributor in your country. Phonic does not release service manuals to consumers, and advice users to not attempt any self repairs, as doing so voids all warranties. You can locate a dealer near you at www.phonic.com.

WARRANTY INFORMATION

Phonic stands behind every product we make with a no-hassles warranty. Warranty coverage may be extended, depending on your region. Phonic Corporation warrants this product for a minimum of one year from the original date of purchase against defects in material and workmanship under use as instructed by the user's manual. Phonic, at its option, shall repair or replace the defective unit covered by this warranty. Please retain the dated sales receipt as evidence of the date of purchase. You will need it for any warranty service. No returns or repairs will be accepted without a proper RMA number (return merchandise authorization). In order to keep this warranty in effect, the product must have been handled and used as prescribed in the instructions accompanying this warranty. Any tempering of the product or attempts of self repair voids all warranty. This warranty does not cover any damage due to accident, misuse, abuse, or negligence. This warranty is valid only if the product was purchased new from an authorized Phonic dealer/distributor. For complete warranty policy information, please visit <http://www.phonic.com>.

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We encourage you to visit our online help at <http://www.phonic.com/help/>. There you can find answers to frequently asked questions, tech tips, driver downloads, returns instruction and other helpful information. We make every effort to answer your questions within one business day.

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