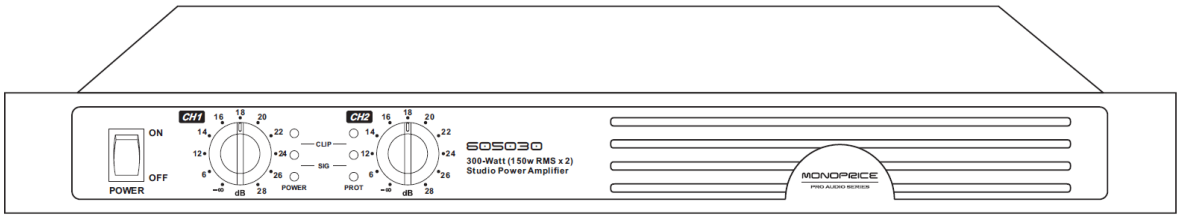
MONOPRICE

300-Watt Studio Audio Amplifier



P/N 605030

User's Manual

CONTENTS

SAFETY WARNINGS AND GUIDELINES

Please read this entire manual before using this device, paying extra attention to these safety warnings and guidelines. Please keep this manual in a safe place for future reference.

- This device is intended for indoor use only.
- Do not expose this device to water or moisture of any kind. Do not place drinks or other containers with moisture on or near the device. If moisture does get in or on the device, immediately unplug it from the power outlet and allow it to fully dry before reapplying power.
- Do not touch the device, the power cord, or any other connected cables with wet hands.
- Do not install this device on an unstable surface where it could fall and cause either personal injury or damage to the device and/or other equipment.
- Do not subject the product to extreme force, shock, or fluctuations in temperature or humidity.
- Do not expose this device to excessively high temperatures. Do not place it in, on, or near a heat source, such as a fireplace, stove, radiator, etc. Do not leave it in direct sunlight.
- This device ventilates excessive heat through the slots and openings in the case. Do not block or cover these openings. Ensure that the device is in an open area where it can get sufficient airflow to keep from overheating.
- Do not place or install this device in an area where it can be exposed to excessive amounts of dust, humidity, oil, smoke, or combustible vapors.
- Use only in a well-ventilated area. Do not use in close, confined spaces.
- Prior to operation, check the unit and power cord for physical damage. Do not use if physical damage has occurred.
- Before plugging the unit into a power outlet, ensure that the outlet provides the same type and level of power required by the device.

- This device uses a grounded power cord and requires a ground connection for safe operation. Ensure that the power source has a proper ground connection. Do not modify the plug or use a "cheater" plug to bypass the ground connection.
- Disconnect the unit from the power source when replacing the fuse. Replace the fuse only with the same type.
- Unplug this device from the power source when not in use.
- Take care to prevent damage to the power cord. Do not allow it to become crimped, pinched, walked on, or become tangled with other cords. Ensure that the power cord does not present a tripping hazard.
- Never unplug the unit by pulling on the power cord. Always grasp the connector head or adapter body.
- Ensure that power is turned off and disconnected before making any electrical connections.
- Clean using a soft, dry cloth only. Do not use chemical cleaners, solvents, or detergents. For stubborn deposits, moisten the cloth with warm water.
- This device has no user serviceable parts. Do not attempt to open, service, or modify this device.

INTRODUCTION

This 300-Watt Studio Audio Amplifier packs 300 watts of power into a compact form factor, which takes up only 1U of rack space. It can be used as a stereo amplifier or can be bridged for mono mode. In stereo mode it produces 150 watts per channel RMS (300 watts per channel peak) into a 4-ohm load. It is stable when using reactive or mismatched loads, so for example, you can connect a 2-ohm speaker to one channel and an 8-ohm speaker to the other without any problems. It features an extremely flat 20Hz ~ 20kHz (+0, -1dB) frequency response with less than 0.05% THD+N and more than 96dB signal-to-noise ratio. Built-in protection circuitry includes full short circuit, open circuit, thermal, ultrasonic, and RF protection. It also features a power on/off muting function to prevent popping in the speakers when power is turned on or off. There is a selectable limiter, which serves as a brick wall on volume to prevent high volume levels from driving the amplifier into clipping.

FEATURES

- Class D amplifier
- High current switching power for high power output, low noise, and low distortion
- Extremely flat 20Hz ~ 20kHz (+0, -1dB) frequency response with less than 0.05% THD+N
- Balanced 1/4" TRS and XLR inputs
- Unbalanced 1/4" TS and NL4 speaker outputs
- Built-in optional limiter helps prevent clipping
- Short circuit, open circuit, thermal, ultrasonic, and RF protection
- Stable with reactive and mismatched loads
- Power on/off muting function
- Separate gain controls for each channel
- Signal and clipping LEDs for each channel
- Power and protection LEDs
- Bridgeable for high-power mono operation
- 1U height
- Includes rack mount ears

CUSTOMER SERVICE

The Monoprice Customer Service department is dedicated to ensuring that your ordering, purchasing, and delivery experience is second to none. If you have any problem with your order, please give us an opportunity to make it right. You can contact a Monoprice Customer Service representative through the Live Chat link on our website **www.monoprice.com** or via email at **support@monoprice.com**. Check the website for support times and links.

PACKAGE CONTENTS

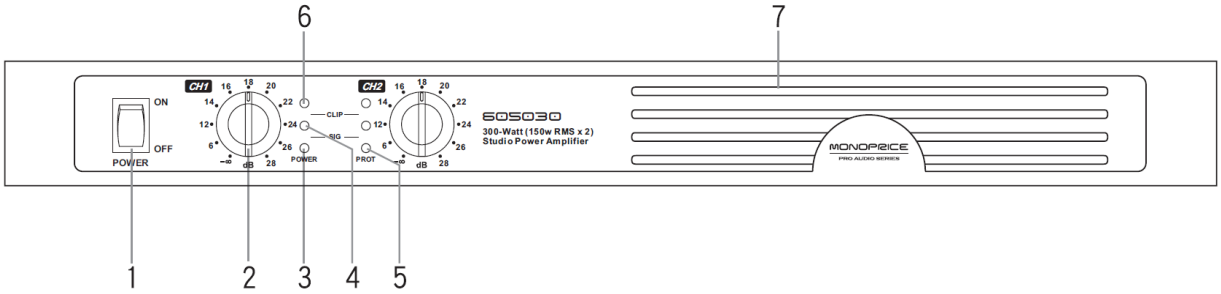
Please take an inventory of the package contents to ensure you have all the items listed below. If anything is missing or damaged, please contact Monoprice Customer Service for a replacement.

1x 300-Watt Studio Audio Amplifier

1x AC Power Cord

PRODUCT OVERVIEW

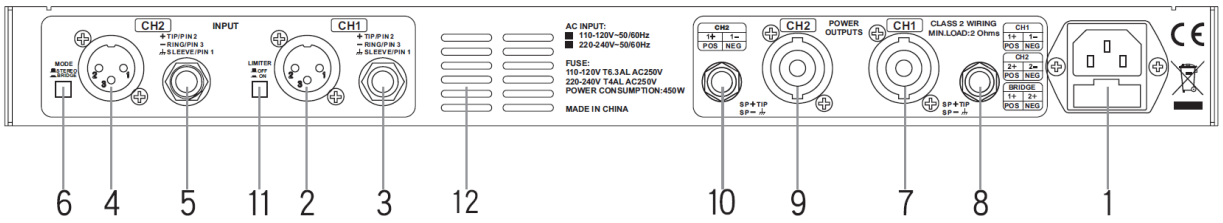
Front Panel



1. **POWER:** The rocker switch turns the amplifier on or off.
2. **CH1/CH2:** Level control knobs allow independent volume control for each channel.
3. **POWER LED:** The LED illuminates blue when the amplifier is powered on.
4. **SIG LEDS:** Two LEDs, one for each channel, illuminate green when a signal is detected.
5. **PROT LED:** The LED illuminates red when the amplifier is in thermal protection mode. When thermal protection is active, the speaker system is disconnected from each channel's amplifier. Once the amplifier has cooled sufficiently, the LED will turn off and the speaker system will be reconnected to the amplifiers. To prevent the thermal protection circuit from activating, improve cooling/ventilation and/or lower the volume levels.
6. **CLIP LEDS:** Two LEDs, one for each channel, illuminate red when the amplifier is clipping. Lower the volume levels until the LEDs no longer illuminate.

7. **INTAKE VENT:** The amplifier draws in cooling air through the vent on the front panel and exhausts it through the vents on the rear and side panels.

Rear Panel



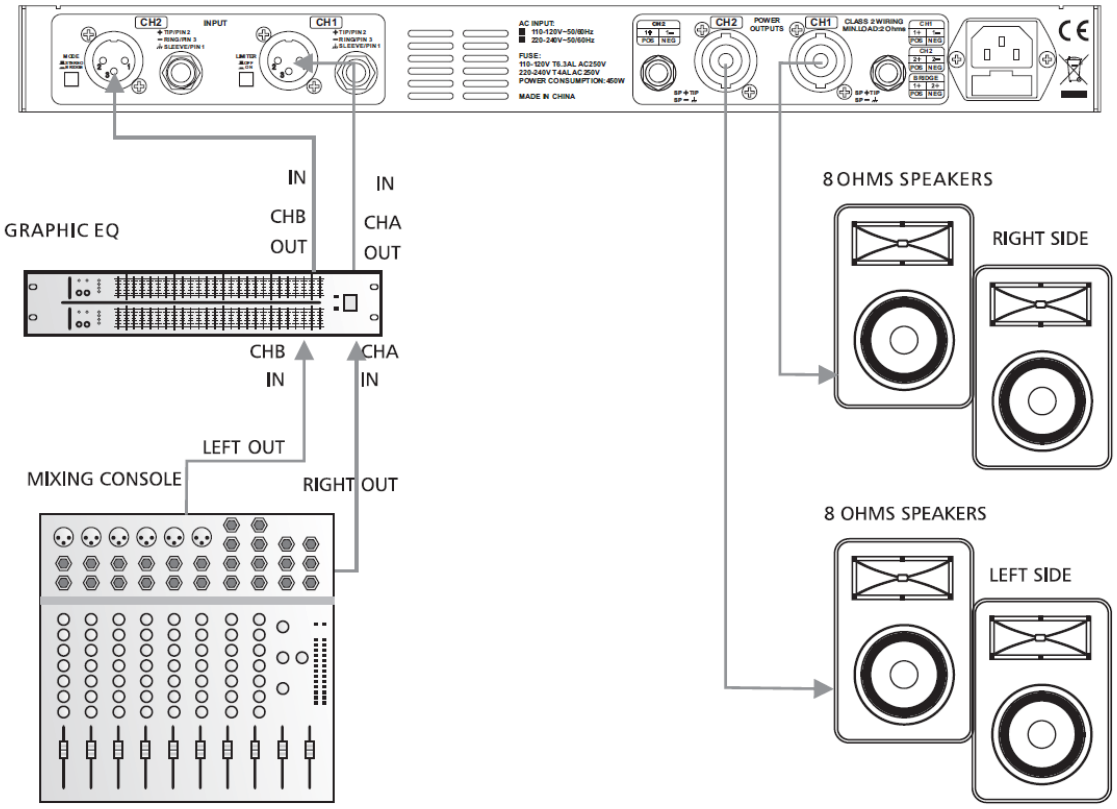
1. **AC INPUT/FUSE HOLDER:** Grounded panel connector for connecting the included AC power cord. The fuse holder is inset in the lower half of the connector.
2. **CH1 XLR INPUT:** The XLR input accepts any balanced or unbalanced low impedance line level source. The XLR jack is wired in parallel with the TRS jack to allow daisy chaining this amplifier to another amplifier's input.
3. **CH1 TRS INPUT:** The 1/4" TRS input accepts any balanced or unbalanced low or high impedance line level source. The TRS jack is wired in parallel with the XLR jack to allow daisy chaining this amplifier to another amplifier's input.
4. **CH2 XLR INPUT:** The XLR input accepts any balanced or unbalanced low impedance line level source. The XLR jack is wired in parallel with the TRS jack to allow daisy chaining this amplifier to another amplifier's input.
5. **CH2 TRS INPUT:** The 1/4" TRS input accepts any balanced or unbalanced low or high impedance line level source. The TRS jack is wired in parallel with the XLR jack to allow daisy chaining this amplifier to another amplifier's input.
6. **MODE:** Use this button to select stereo or mono bridge mode. When in the **STEREO** position, the channel 1 input connects to the channel 1 amp and the channel 2 input connects to the channel 2 amp. When in the **BRIDGE** position, the channel 1 input is connected to the mono bridged amps. See the *BRIDGED OPERATION* section for more details.
7. **CH1 NL4 OUTPUT:** 2-pin NL4 unbalanced speaker output connector.
8. **CH1 TS OUTPUT:** 2-pin 1/4" TS unbalanced speaker output connector.

9. **CH2 NL4 OUTPUT:** 2-pin NL4 unbalanced speaker output connector.
10. **CH2 TS OUTPUT:** 2-pin 1/4" TS unbalanced speaker output connector.
11. **LIMIT:** Use this button to turn the built-in limiter on or off.
12. **EXHAUST VENT:** The amplifier draws in cooling air through the vent on the front panel and exhausts it through the vents on the rear and side panels.

STEREO OPERATION

The amplifier can be operated as a standard, 2-channel stereo amplifier. To enable stereo operation, the **MODE** button (6) on the rear panel must be set to the **STEREO** position (out). When in stereo mode, each channel operates independently, with its own dedicated input connectors, sensitivity level controls, signal indicator LEDs, automatic limiter, fault protection circuitry, power amp, and speaker outputs. Stereo mode supports speaker loads down to 2 ohms.

Following is a sample connection diagram for basic stereo operation.

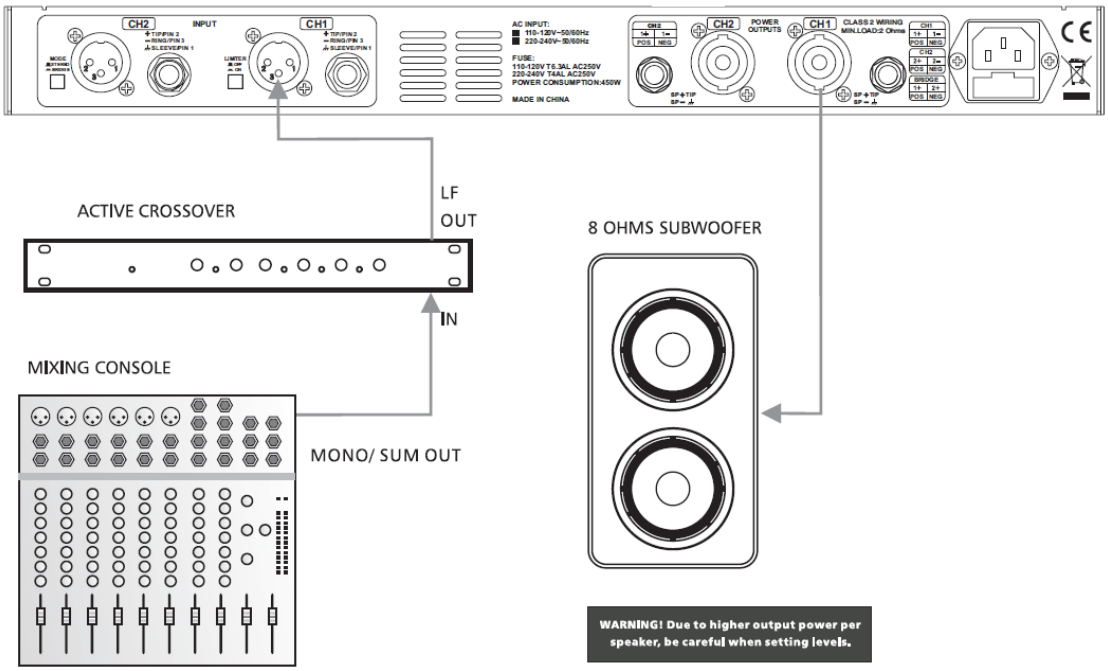


BRIDGED OPERATION

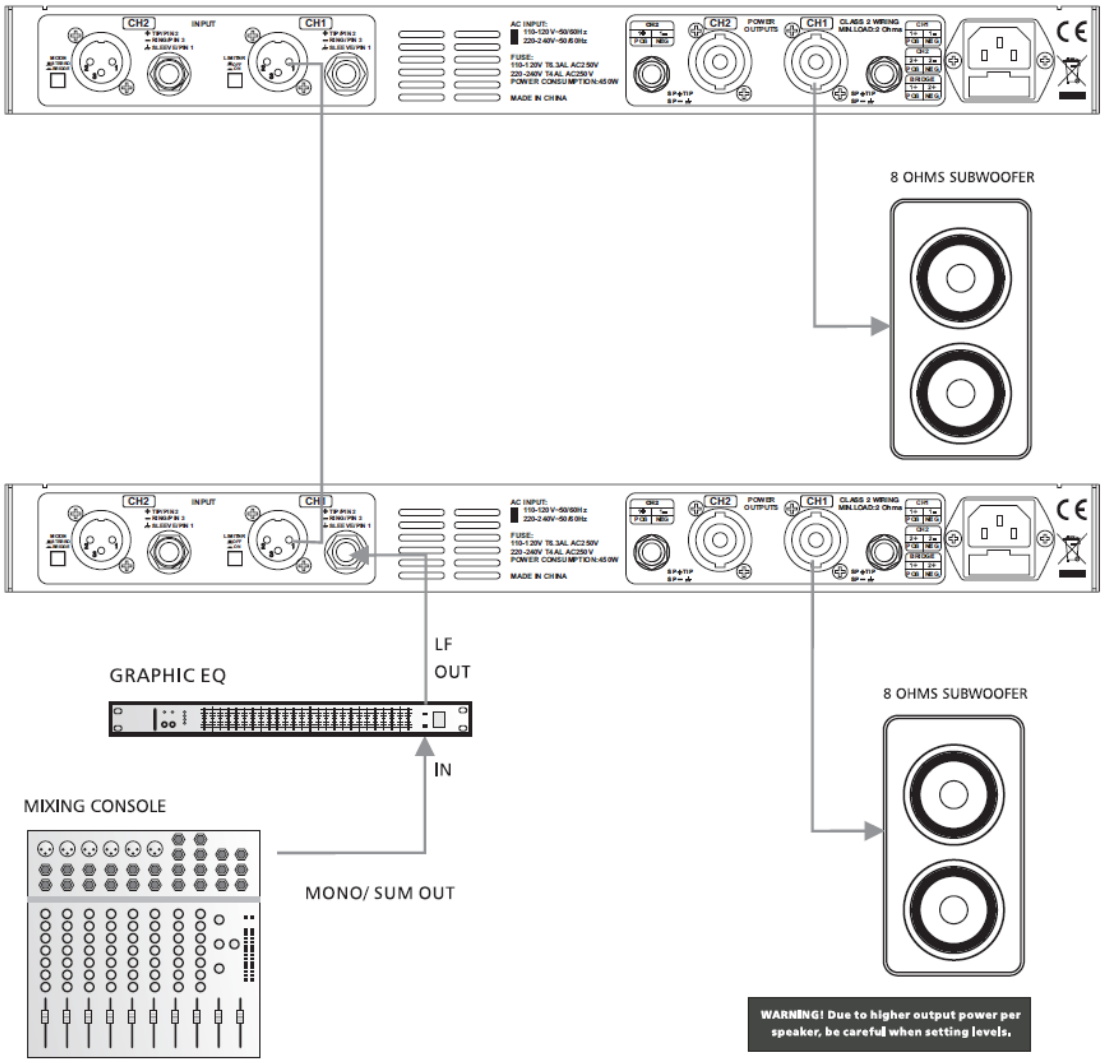
The amplifier can be operated as a single, mono amplifier with more power than either single channel in stereo mode. To enable mono bridged operation, the **MODE** button (6) on the rear panel must be set to the **BRIDGE** position (in). When in mono mode, the amplifier uses the CH1 input jacks and level control, although each channel retains its own protection modes. Mono bridged mode supports speaker loads down to 4 ohms.

Unlike stereo operation, which uses each channel's output connectors to connect the speakers, mono bridge operation uses a single pin from each output connector to connect the speaker. When in mono bridged mode, connect the positive pin on the channel 1 output connector to the speaker's positive connection and the positive pin on the channel 2 output connector to the speaker's negative connection.

Following is a sample connection diagram for using a single 605030 amplifier for mono bridged operation to drive a single speaker, such as a subwoofer.

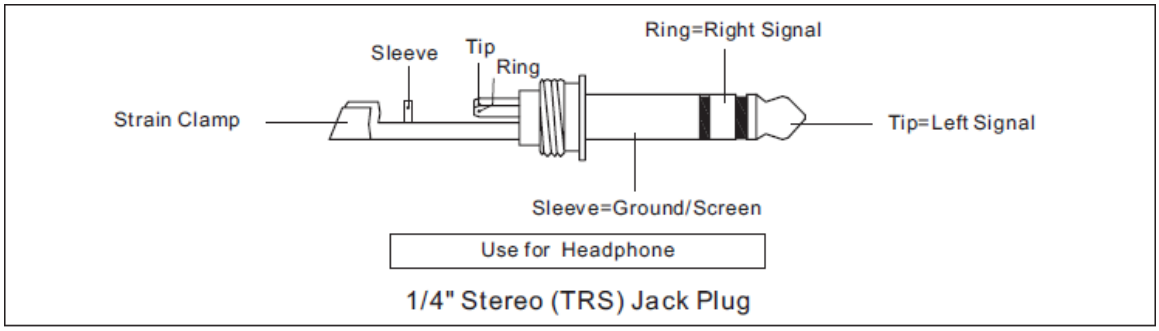


Following is a sample connection diagram for using two 605030 amplifiers, each in mono bridged mode, for stereo operation. Note that in this operating example, the second amplifier's input is daisy chained to the first amplifier's inputs. The two input connectors for each channel on the amplifier are wired in parallel to allow daisy chaining multiple amplifiers.

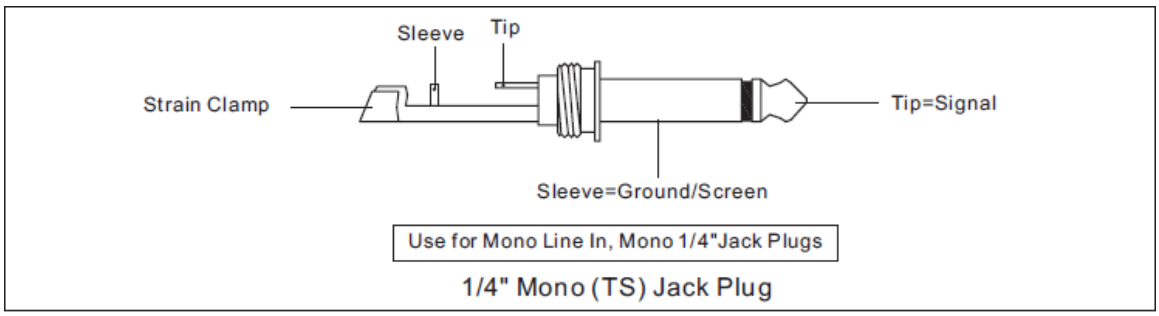


CONNECTOR WIRING

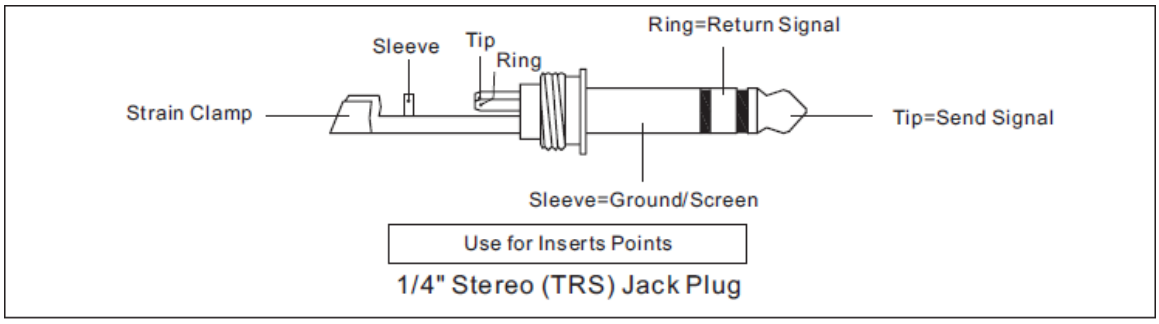
The following diagrams illustrate the proper wiring for TRS, TS, and XLR connectors for various functions.



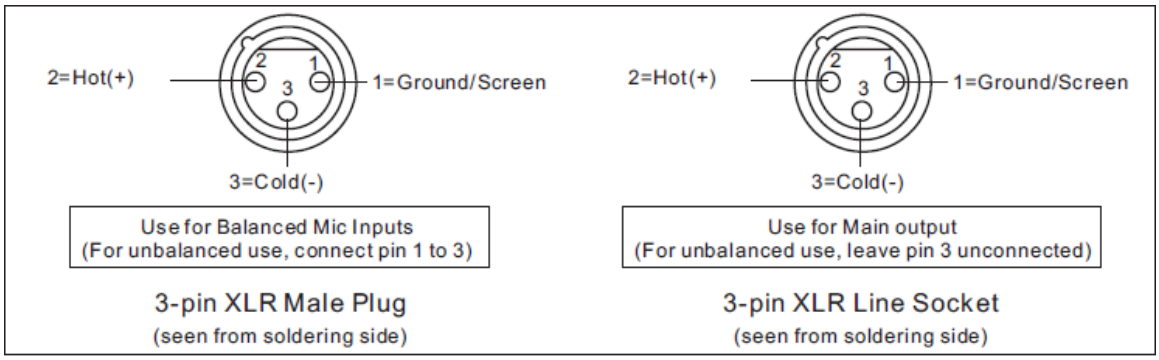
1/4" Stereo (TRS) Jack Plug



1/4" Mono (TS) Jack Plug

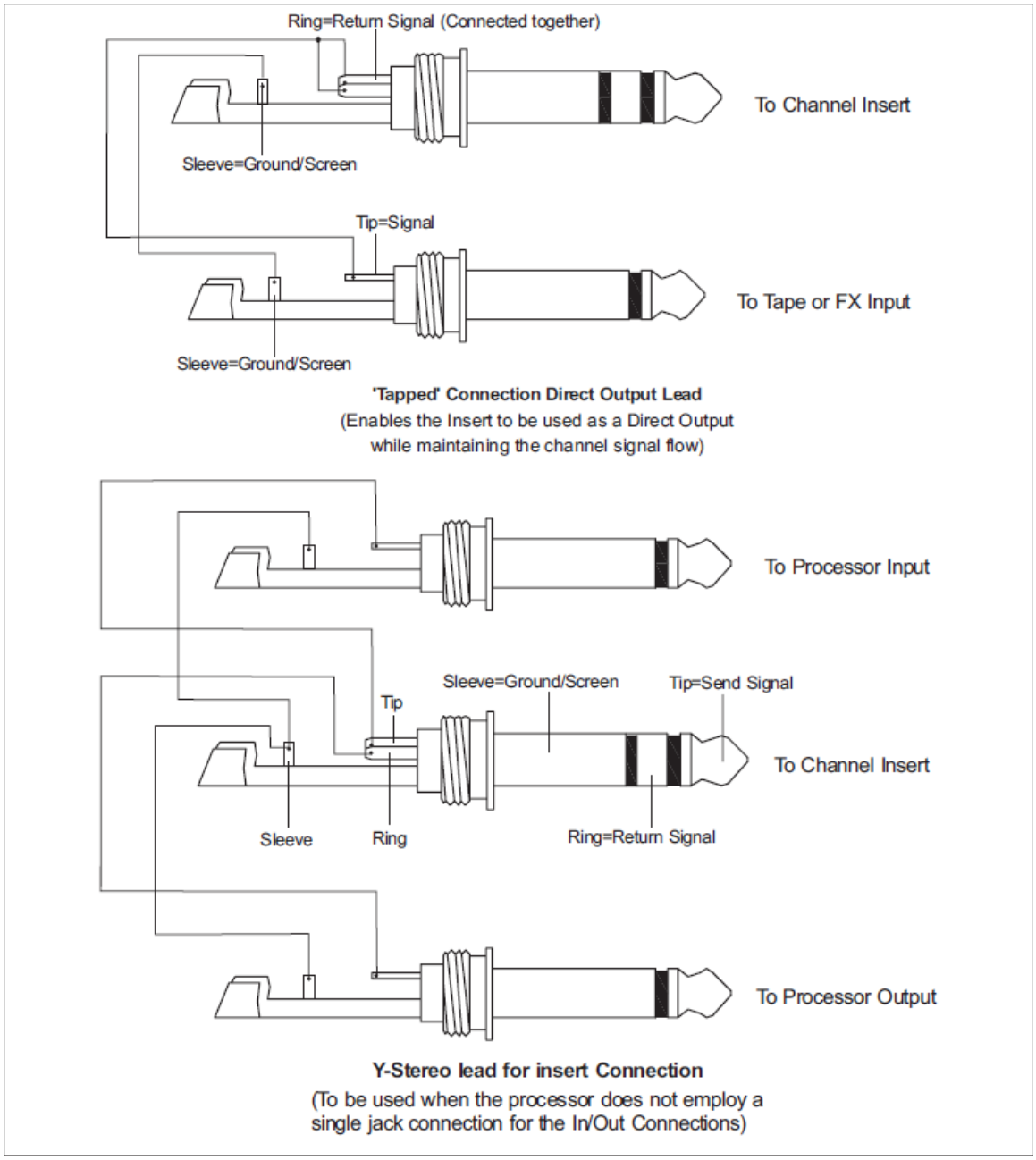


1/4" Stereo (TRS) Jack Plug



3-pin XLR Male Plug
(seen from soldering side)

3-pin XLR Line Socket
(seen from soldering side)

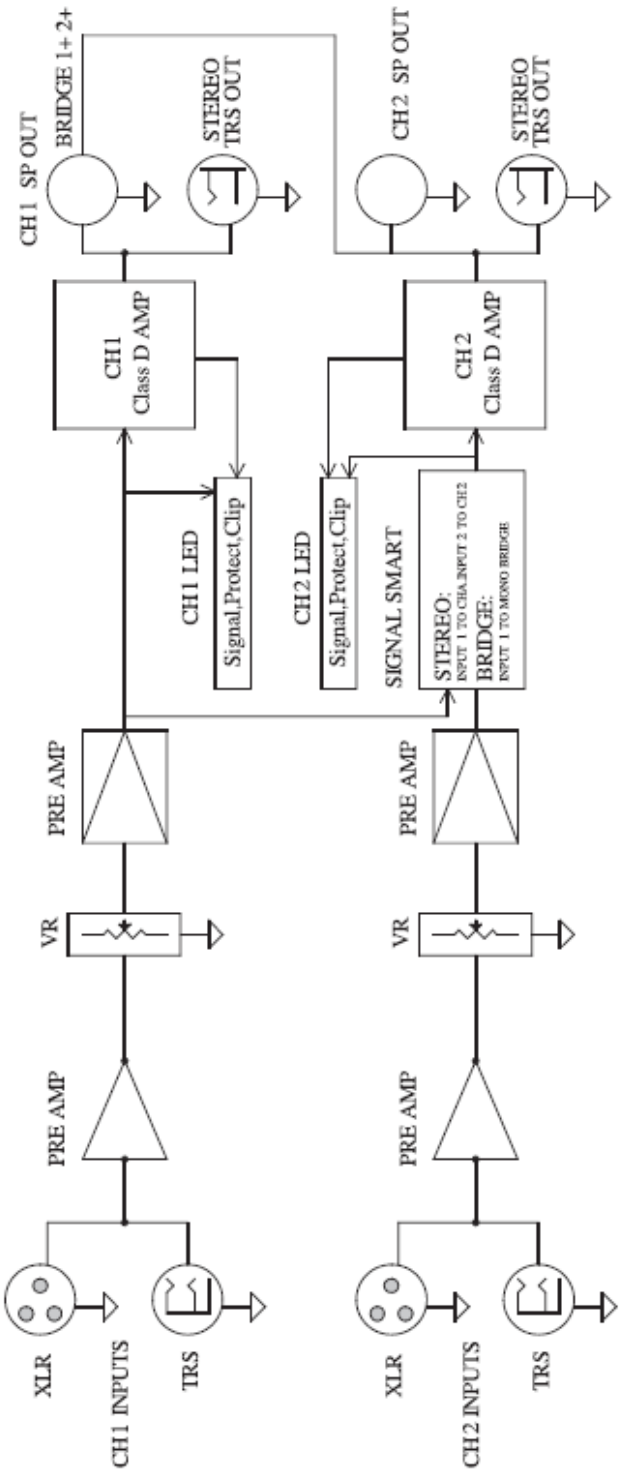


'Tapped' Connection Direct Output Lead
(Enables the Insert to be used as a Direct Output while maintaining the channel signal flow)

Y-Stereo lead for insert Connection
(To be used when the processor does not employ a single jack connection for the In/Out Connections)

BLOCK DIAGRAM

The following block diagram illustrates the amplifiers internal circuitry.



TECHNICAL SUPPORT

Monoprice is pleased to provide free, live, online technical support to assist you with any questions you may have about installation, setup, troubleshooting, or product recommendations. If you ever need assistance with your new product, please come online to talk to one of our friendly and knowledgeable Tech Support Associates. Technical support is available through the online chat button on our website **www.monoprice.com** or through email by sending a message to **tech@monoprice.com**. Check the website for support times and links.

SPECIFICATIONS

Model	605030
Operating Modes	2-channel stereo and mono bridged
Stereo Output Power (RMS/Peak) (Both Channels Driven)	2-ohm load: 2x 250W/500W 4-ohm load: 2x 150W/300W 8-ohm load: 2x 100W/200W
Mono Bridged Output Power (RMS/Peak)	4-ohm load: 1x 500W/1000W 8-ohm load: 1x 360W/720W
Input Sensitivity (Limiter Off)	0.9 ~ 1.1V (±1 dBv)
Input Impedance	20 kΩ balanced or 10 kΩ unbalanced
Frequency Response (at 10dB Rated Output Power)	20Hz ~ 20kHz (+0, -1 dB)
Voltage Gain	28 ±0.5dB
THD+N (Ref. 1kHz, 12.5% Rated Power, A-weighted)	< 0.05%
Signal-to-Noise Ratio (Ref. Rated Power, A-weighted)	> 96dB

Protection Features	Full short circuit, Open circuit, Thermal, Ultrasonic, and RF protection; stable into reactive or mismatched loads; power on/off muting
Controls	Front: Power on/off switch, Channel 1 level, Channel 2 level Rear: Stereo/Bridge switch, Limiter on/off switch
LED Indicators	Green signal for each channel, Red clipping for each channel, Blue power, Red protection
Input Connectors	1/4" TRS balanced, XLR balanced
Output Connectors	1/4" TS unbalanced, NL4 unbalanced
Input Power	110 ~ 120 VAC, 50/60Hz ±10% 220 ~ 240 VAC, 50/60Hz ±10%
Maximum Power Consumption	450 watts
Fuse Type	110 ~ 120 VAC: T6.3AL AC250V 220 ~ 240 VAC: T4.0AL AC250V
Dimensions	19.0" x 11.1" x 1.7" (483 x 281 x 44 mm)
Weight	8.2 lbs. (3.7 kg)

REGULATORY COMPLIANCE

Notice for FCC

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must

accept any interference received, including interference that may cause undesired operation.

Modifying the equipment without Monoprice's authorization may result in the equipment no longer complying with FCC requirements for Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

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 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.

Notice for Industry Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.