

BlueTech[®]

Professional Power Amplifier

Owner's Manual



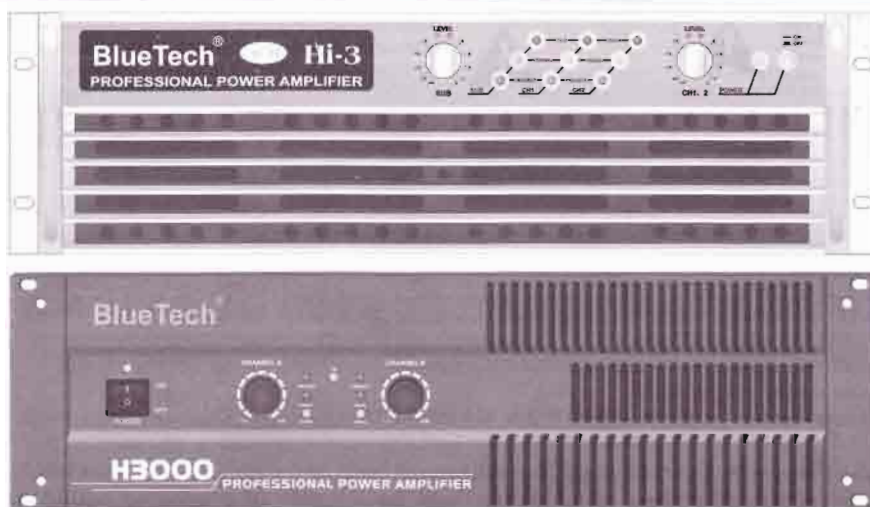
Hi/H Series

Professional Power Amplifier

Before attempting to connect, operate or adjust this product, please read these instructions completely

Hi/H Series

PROFESSIONAL POWER AMPLIFIER



Congratulations for choosing **BlueTech Hi/H Series** professional power amplifier. You purchased one of the finest stereo amplifiers on the market today. This unit was developed using the expertise of professional sound engineers and working musicians. You will find that your new **BlueTech Hi/H Series** amplifier has superior performance and greater flexibility than any other amplifiers in its price range. Please read this manual carefully to get the most out of your new unit.

FEATURES

Offering top power, superior performance and full professional operating features in a roadworthy compact chassis, the **Hi/H Series** are perfect for even the most demanding sound reinforcement installation and touring applications.

The operating amplifier instruction in this manual are for all the **Hi/H Series** professional power amplifiers. The operation and functions of these units are the same, except as noted.

- . Full operating features: detent volume controls; parallel balanced XLR and 1/4" TRS inputs; stereo (dual channel), parallel-input, or bridged mono operating modes with selector switch; Independent user defeatable clip limiters (compressor) 3 selectable input sensitivities, ground lift switch, binding post (banana plug) and speakon outputs.
- . Full safety/reliability features: 2 dual speed fans for cooling; soft start turn on, noise-free on-off; independent DC and thermal overload protection on each channel; short circuit and speaker protection; built-in current limiter.
- . Front panel led indicators: Active, Signal, Limit and protection
- . Roadworthy, rugged double rack space housing Series
- . ~220V(50Hz) AC select switch and IEC cord power

Table of contents

FEATURES	3
WARNING	4
INSTALLATION.....	4
FRONT & REAR PANEL CONNECTIONS (Hi-3).....	5
TYPICAL SET-UP(Hi-3).....	6
FRONT & REAR PANEL CONNECTIONS (H Series)....	7
CONNECTIONS (H Series).....	9
SPECIFICATIONS	11

For your records

Date of Purchase _____

Dealer's Name _____

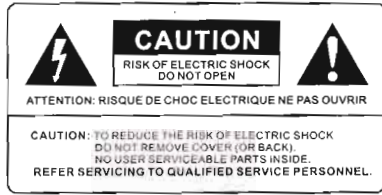
City _____

State _____ Zip _____

Model # _____

Serial # _____

WARNING



An equilateral triangle enclosing a lightning flash/arrowhead symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure which may be of sufficient magnitude to constitute a risk of electric shock.



An equilateral triangle enclosing an exclamation point is intended to alert the user to the presence of important operating and service instructions in the literature enclosed with this unit.

IMPORTANT SAFETY INSTRUCTIONS

When using this electronic device, basic precautions should always be taken, including the following:

1. Read all instructions before using the product.
2. Do not use this product near water (e.g., near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, etc.).
3. This product should be used only with a cart or stand that will keep it level and stable and prevent wobbling.
4. This product, in combination with headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be positioned so that proper ventilation is maintained.
6. The product should be located away from heat sources such as radiators, heat vents, or other devices (including amplifiers) that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product. Replace the fuse only with one of the specified type, size, and correct rating.
8. The power supply cord should: (1) be undamaged, (2) never share an outlet or extension cord with other devices so that the outlet's or extension cord's power rating is exceeded, and (3) never be left plugged into the outlet when not being used for a long period of time.
9. Care should be taken so that objects do not fall into, and liquids are not spilled through, the enclosure's openings.
10. The product should be serviced by qualified service personnel if:
 - A. The power supply cord or the plug has been damaged.
 - B. Objects have fallen into, or liquid has been spilled onto the product.
 - C. The product has been exposed to rain.
 - D. The product does not appear to operate normally or exhibits a marked change in performance.
 - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond what is described in the user maintenance instructions. All other servicing should be referred to qualified service personnel.

INSTALLATION

This manual contains important information on operating your **BlueTech** amplifier correctly and safely. Please read it carefully before operating your amplifier. If you have any questions, contact your **BlueTech** dealer.

UNPACKING

Carefully open the shipping carton and check for any noticeable damage. Every **BlueTech Hi/H** Series amplifier is completed tested and inspected before leaving the factory and should arrive in perfect condition. If you find any damage, notify the shipping company immediately. Be sure to save the carton and all packing materials for carrier inspection.

CONTENTS

- . Owner's manual
- . **Hi/H** Series amplifier (verify that the unit's serial number is same as shown on shipping carton)
- . AC Power cord

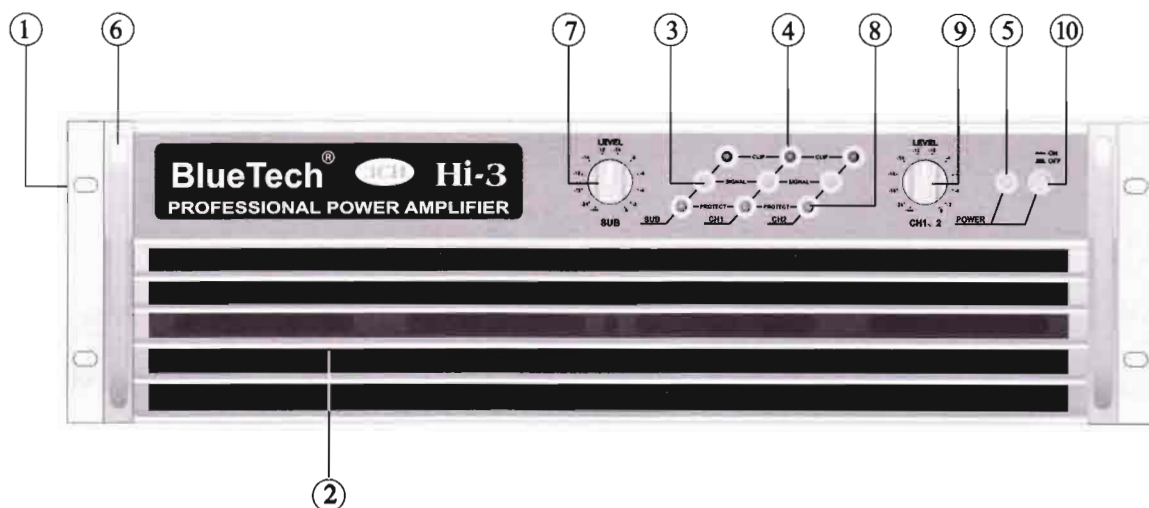
RACK MOUNTING

The **Hi/H** Series amplifiers are designed for standard 19" rack mounting as well as "stack" mounting without a cabinet. Use 4 screws and washers for mounting to the front rack rails. It is also a good idea to support the amps also in the rear, especially for mobile use where the amps will be subjected to strong vibrations.

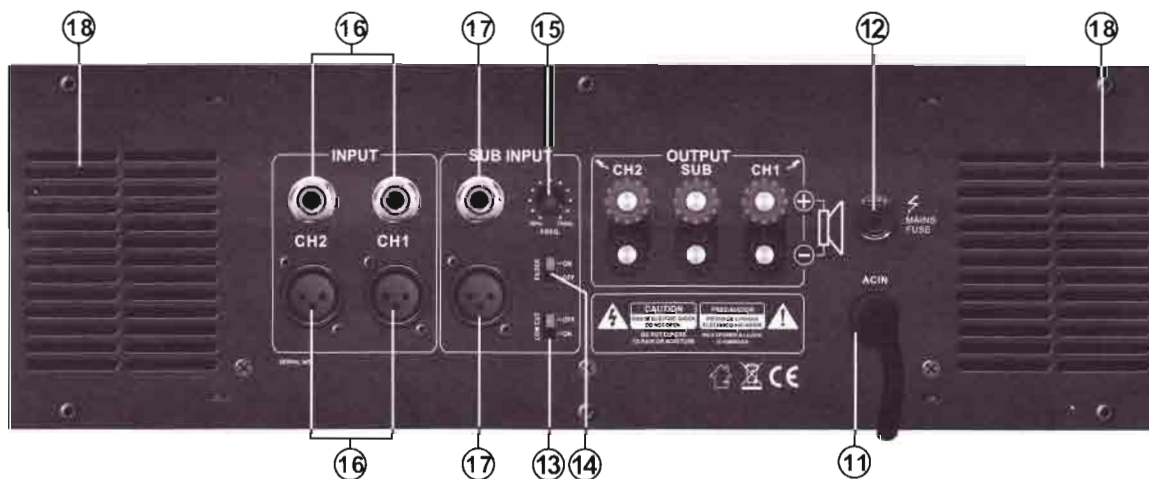
AMPLIFIER COOLING

Also pay close attention to the cooling requirements. Never block the air vents in the back side and front of the amplifier. Do not install the amplifier in a location that is exposed to direct rays of the sun, or near hot appliances or radiators. Excessive heat can adversely affect the cabinet and the internal components. Installation of the amplifier in a damp or dust environment may result in malfunction or accident. If installed in a rack please be sure to open completely the back door. Periodically remove the internal dust by using compressed air through the external ventilation holes.

FRONT & REAR CONNECTIONS (Hi-3)



- ① Installing hole
- ② Air cooling window
- ③ SIGNAL/loc
- ④ POWER/ODEP
- ⑤ Power indicator
- ⑥ Handle
- ⑦ SUB channel volume adjuster
- ⑧ Protect
- ⑨ CH1、CH2 channel volume adjuster
- ⑩ Power switch



REAR PANEL

11. POWER CONNECTOR

The cord connector is used to connect the AC power source to your power amplifier.

(CAUTION : Always operate the unit with the AC ground wire connected to the electrical system ground)

12. FUSE

Fuse holders for 5A-15A/250V fuses. If these fuses continuously blow, shut off the unit and have it serviced by qualified service personnel.

13. LOW CUT SWITCH

These insert low cut filters in each stereo channel with a 12dB/Octave, 30Hz HPF to minimize problems from subsonic frequencies in the signal, to suppress hum, and to prevent low frequency speaker resonance.

14. FILTER SWITCH

This unit will connect to the crossover subwoofer which inside this machine when this switch is moved to "ON".

15. SUB CROSSOVER FREQUENCY CONTRCL

This selects the crossover frequency of the SUB WOOFER signal path. The frequency is selectable between 50Hz and 250Hz.

16. CH1 CH2 INPUT CONNECTORS

Connect your CH1、CH2 stereo input signal to these balanced XLR input jacks.

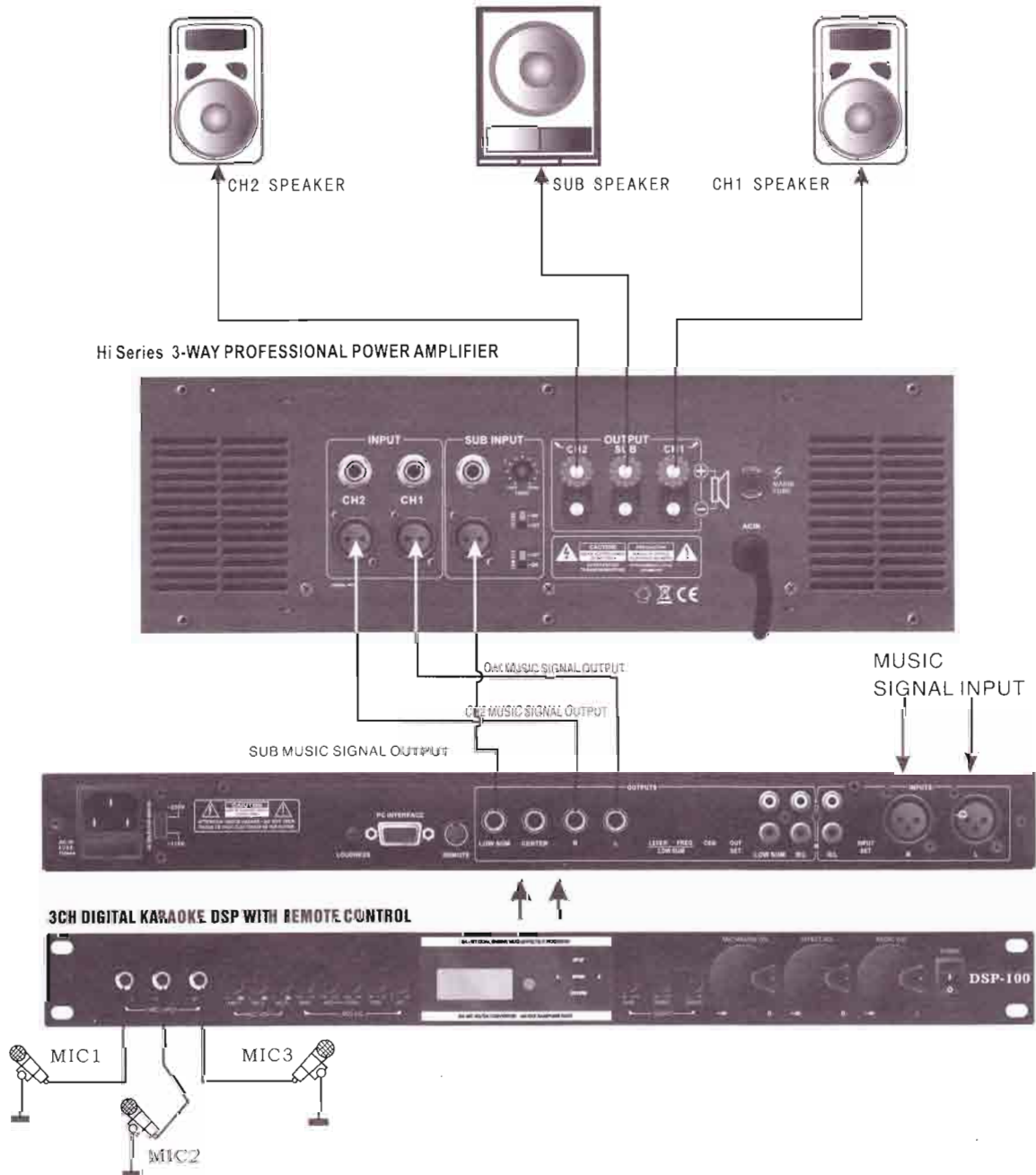
17. SUB INPUT CONNECTORS

Connect your SUB input signal to these balanced XLR input jacks.

18. VENTILATION HOLES

The fan speed is varied automatically to maintain the proper internal operating temperature.

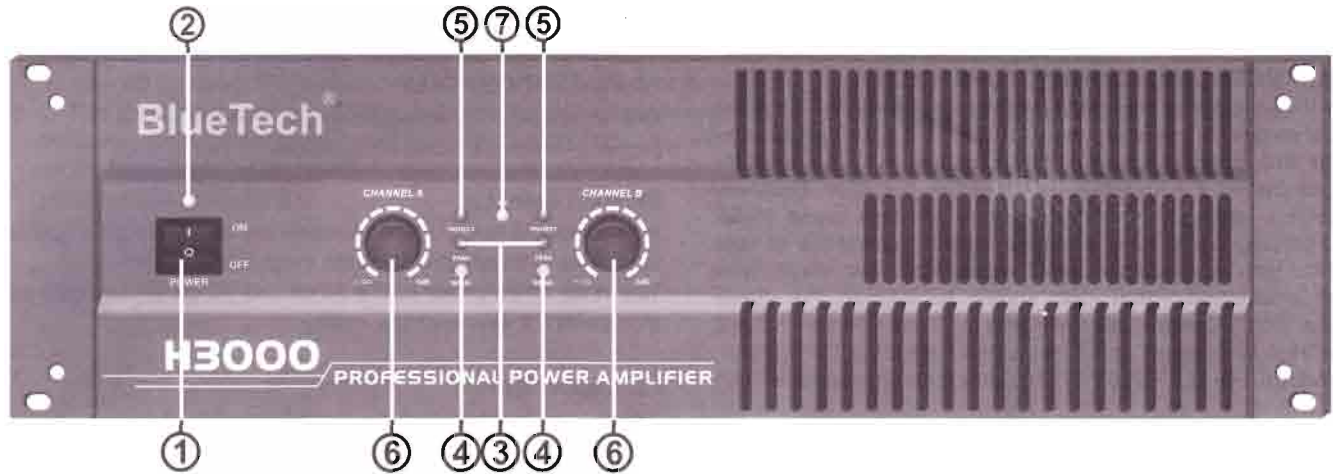
TYPICAL SET-UP (Hi-3)



SPECIFICATIONS

MODEL CHARACTERISTIC	Hi-3
Out Power (8Ω)	350W+350W+700W
Out Power (4Ω)	550W+550W+1000W
Crossover Point	50~250Hz
Height	3U

FRONT & REAR CONNECTIONS (H Series)



FRONT PANEL

1. POWER SWITCH

To turn the unit ON or OFF, press the upper or lower portion of this button. Before turning on the amplifier, check all connections and turn down the level controls. A momentary muting is normal when turning the amplifier on or off.

(Caution: Always turn on your power amplifier last, after all your other connected equipment, and always turn off your power amplifier before your other connected equipment.)

2. POWER LED INDICATORS

These LEDs illuminate when the power is turned "ON".

3. CLIP (PEAK) LED INDICATORS

These LEDs illuminate if any section of the power amplifier's output are within 3dB of clipping. Occasional blinking of the LEDs are acceptable, but if they remain on more than intermittently you should turn down either the power amplifier's level controls or reduce the output level of the preceding component to avoid audible distortion.

4. SIGNAL LED INDICATORS

These LEDs illuminate to confirm the presence of an input signal greater than 100 mV at that channel of the amplifier

5. PROTECT LED INDICATORS

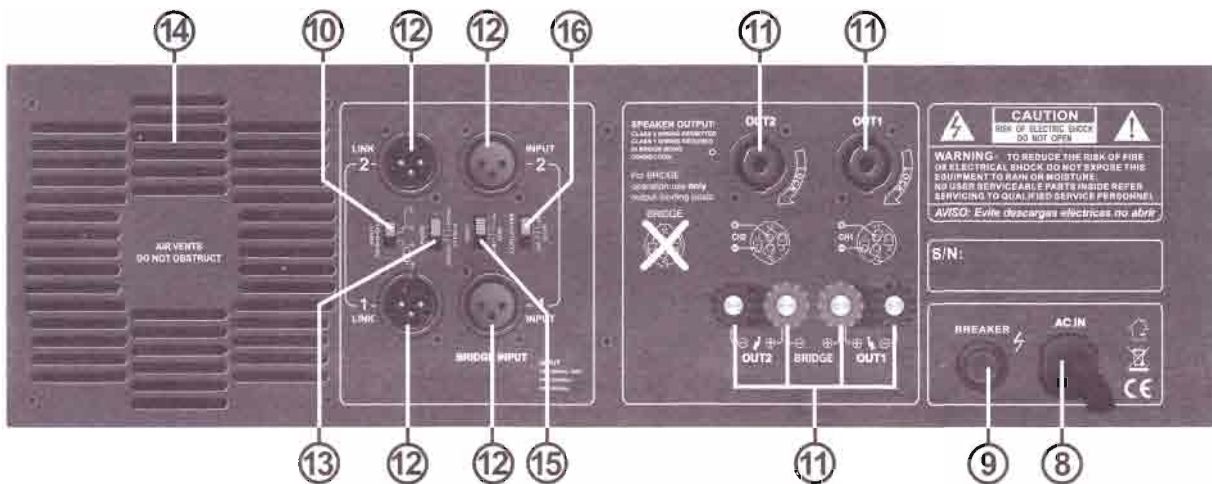
These LEDs illuminate if the power amplifier's output connection is shorted or the load impedance is too low. When either of these LEDs is lit up, turn OFF the power and check the output's connection to verify that it is correct, then turn ON the power again.

6. LEVEL CONTROLS

These control the level of signal coming into each channel. The actual voltage gain of the amplifier is shown in dB. Turn these controls counterclockwise if the peak LEDs illuminate steadily (indicating too strong an input signal).

7. DC PROTECT LED INDICATORS

These LEDs illuminate when the power amplifier is DC outputs.



BACK PANEL

8. POWER CONNECTOR

The cord connector is used to connect the AC power source to your power amplifier.

(CAUTION: DO NOT REMOVE THE CENTER GROUNDING PIN.)

9. BREAKER

AC circuit breaker. If the breaker continuously blow, shut off the unit and have it serviced by qualified service personnel.

10. GROUND LIFT SWITCH

Switch to right to disconnect the chassis from ground if necessary to eliminate hum caused by ground loops.

11. L/R CHANNEL OUTPUT CONNECTORS

Connections are as depicted on the rear panel and in the following **CONNECTIONS** section on page 9 of this manual.

FRONT & REAR CONNECTIONS (H Series)

12. BALANCED INPUT CONNECTORS (XLR)

The XLR connector is compatible with balanced inputs. Since the XLR connector is internally wired in parallel, you can parallel this unit with another amplifier by using the XLR to output the signal to the input connectors of the other amplifier. Balanced connections are recommended as they are less prone to AC hum. For long cable runs a source output impedance of less than 600 ohms is needed to avoid signal loss. For short cable runs an unbalanced signal input should be suitable. For stereo (two-channel) operation, use the inputs for both CH-1 and CH-2; for parallel or bridged mono operation, use only CH-1 input. (See MODE SELECTOR SWITCH below for more explanation.)

13. MODE SELECTOR SWITCH

The H Series amplifiers offer 3 modes of operation: PARALLEL, STEREO & BRIDGED. Slide the switch to one of the three positions for your application.

. PARALLEL (MONO) INPUT - This mode allows both channels to operate in parallel with the same signal and without requiring a Y-cord. In this mode the inputs for both channels are internally connected, so that you only need to feed a signal into one of the channels. This still allows independent level control of each channel. It also enables easy "daisy-chaining" with other amps by using the other channel of input connectors.

(Note: Do not select this "Parallel" mode when feeding the amplifier with 2 separate signals.)

(Note: Do not use both unbalanced and balanced cables in the same set-up as that can unbalance all the connections when daisy-chaining, resulting in hum.)

. STEREO INPUT - This is the most common mode generally used, and allows independent control of 2 separate signals such as stereo playback, main and monitor live mixes, and bi-amp operation (highs in one channel and lows in the other).

. BRIDGED MONO - This mode combines the power of both channels to drive a single speaker. In this mode the amp produces 4 times the peak power and 3 times the sustained power into a 4 or 8 ohm speaker than each channel can deliver separately in stereo or parallel mode.

(CAUTION: In this mode the amplifier can deliver high power into a speaker. Make sure that the speaker, connectors and wiring can handle this output. Note that for prolonged overdriven outputs into a 4 ohm speaker the mains fuse may blow, so care must be taken not to overload the amplifier in such operation.)

Connect the input signal to CH-1 input for bridged mono Operation.

14. VENTILATION HOLES

The fan speed is varied automatically to maintain the proper internal operating temperature.

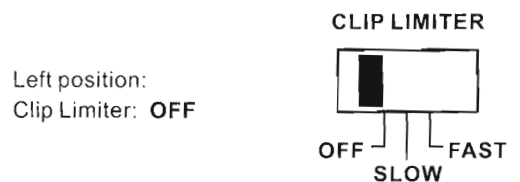
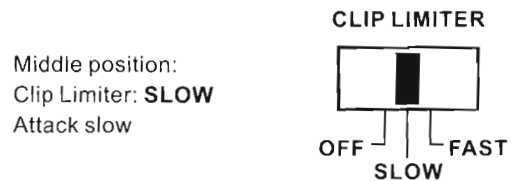
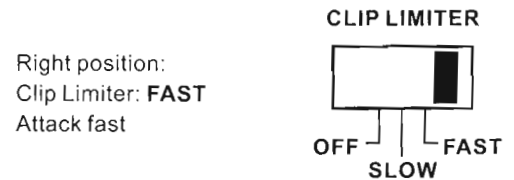
15. Gain Selector

A switch on the rear of the R series allows the maximum amplification attainable to be set directly in the input stage

The H series amplifier has a 26 dB and 32 dB voltage gain setting along with a 1,4V sensitivity setting.

16. Limiter Switch

This switch is located at the rear of H series. It allows you to set the mode of the limiter. There are three modes.

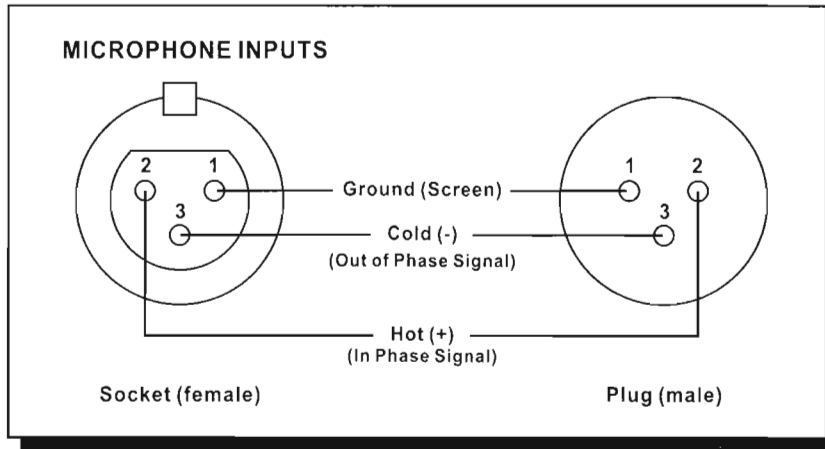


CONNECTIONS (H Series)

The following instructions describe the most common ways to install your amplifier into a sound system.

1. Turn off the amplifier power switch before making any connections.
2. The **H** series amplifiers may be operated in one of two modes (stereo and bridged-mono). Refer to the following wiring diagrams for the speaker connections you wish to make.

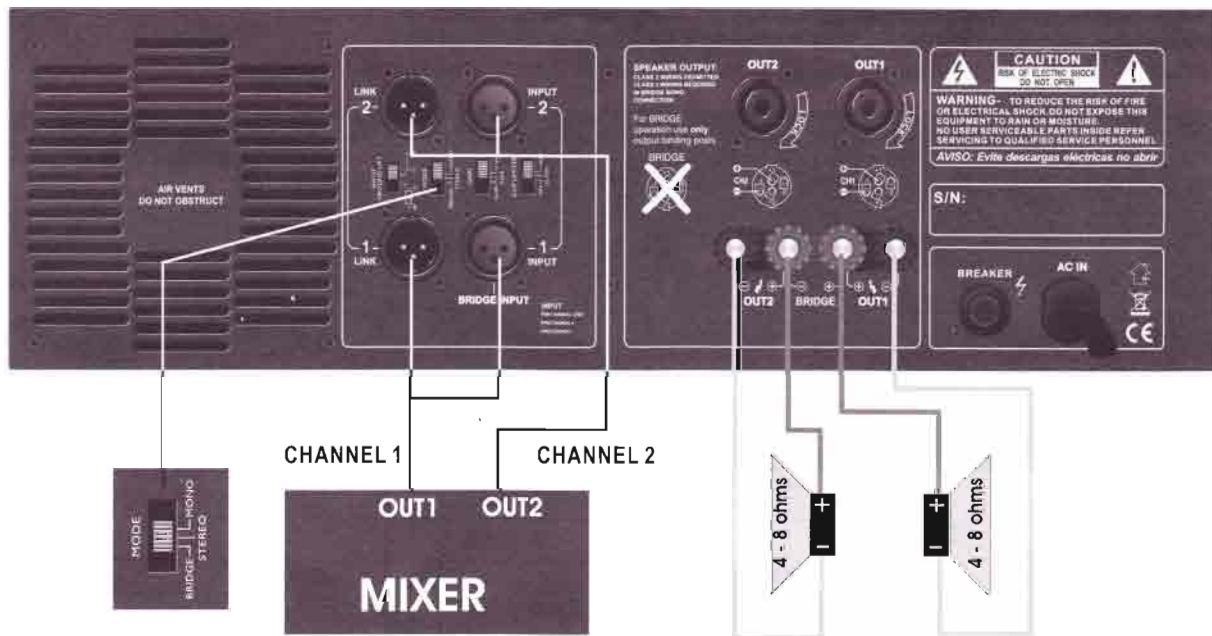
(Note: **BlueTech** assumes no liability for damaged speakers resulting from improper wiring, careless amplifier use, or over powering.)



Stereo (Two-Channel) Mode

To put the amplifier into stereo mode, first turn the amplifier off, then slide the **MODE SELECTOR SWITCH (13)** to the middle "STEREO" position, and properly connect the input/output wiring as shown.

(Note: Do not connect a speaker load less than 4ohms as it can damage your amplifier.)



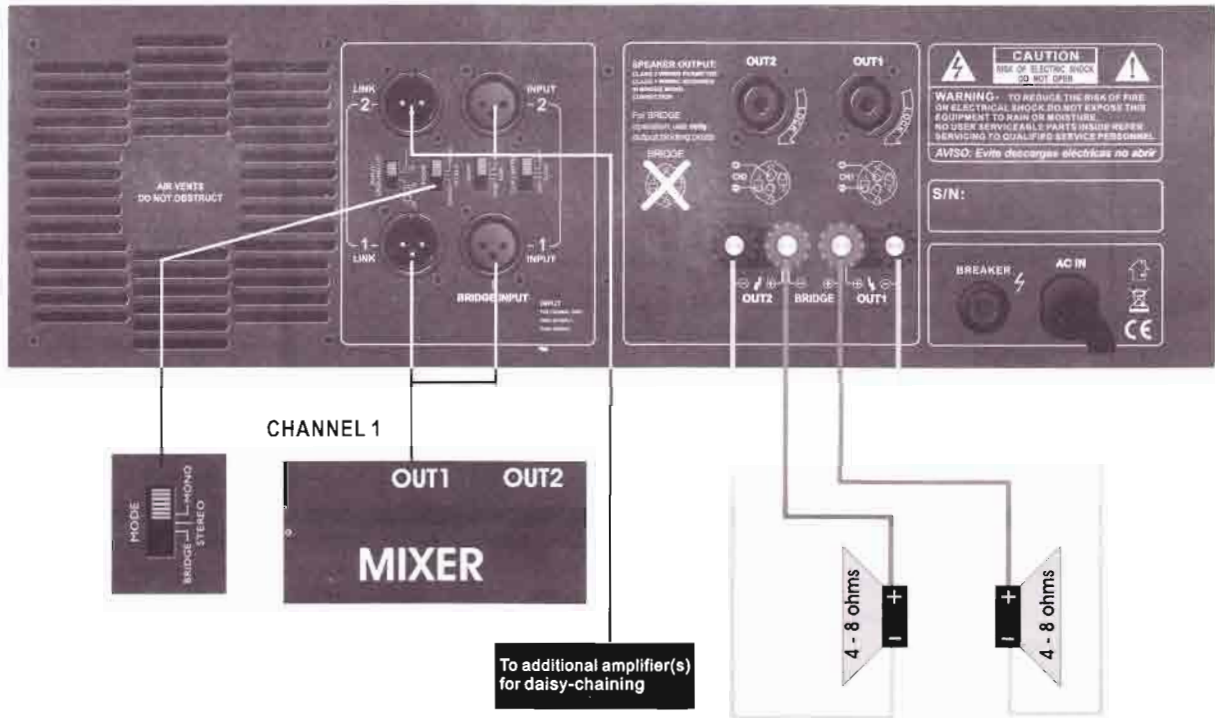
CONNECTIONS(H Series)

Parallel (Mono) Mode

To put the amplifier in parallel-mono mode, first turn the amplifier off, then slide the **MODE SELECTOR SWITCH (13)** to the top "PARALLEL (MONO)" position and properly connect the input/output wiring as shown. A signal into any input connector will drive both channels directly. You can patch the input signal on to any other amps using any of the remaining input jacks.

(Note: Do not connect a speaker load less than 4 ohms as it can damage your amplifier.)

[Note: Do not use the "PARALLEL (MONO)" switch when feeding the amp 2 separate signals.]

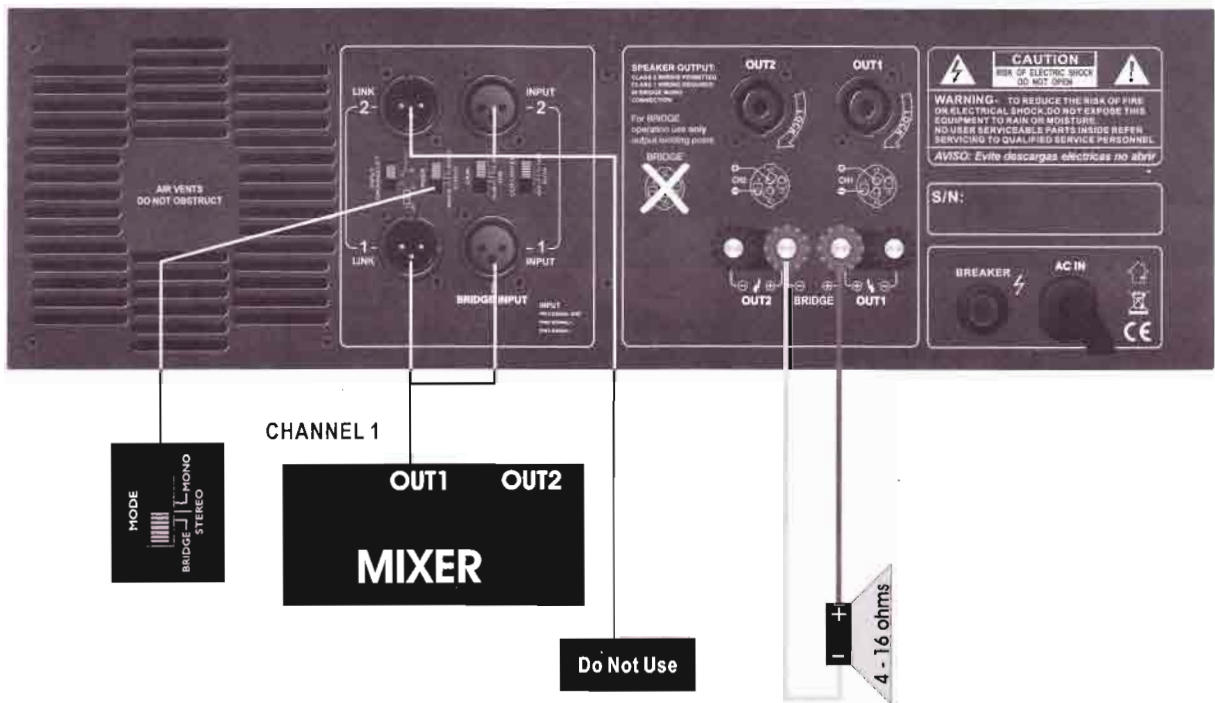


Bridged Mono Mode

To put the amplifier in bridged mono mode, turn the amplifier off and slide the **MODE SELECTOR SWITCH (13)** toward the bottom "BRIDGED" position and properly connect the input/output wiring as shown. The signal is input into CH-1. Keep the level control of channel "2" turned completely down (counter clock wise).

(Note: Do not connect a speaker load of less than 4 ohms as it can damage your amplifier.)

(Note: This mode produces a large amount of power. Be sure that your wiring and speaker can handle it.)



SPECIFICATIONS(H Series)

POWER SPECIFICATIONS	H1500	H2000	H3000	H4000	H5000
STEREO INTO (4Ω)	2x600W	2x900W	2x1200W	2x1400W	2x1700W
STEREO INTO (8Ω)	2x400W	2x600W	2x800W	2x1000W	2x1200W
BRIDGE-MONO INTO (4Ω)	1600W	2600W	3200W	4000W	5000W
BRIDGE-MONO INTO (8Ω)	1200W	1800W	2400W	2800W	3400W

POWER SPECIFICATIONS	H1500	H2000	H3000	H4000	H5000
INPUT SENSITIVITY	26dB/32dB voltage gain setting array 1.4V sensitivity setting				
INPUT IMPEDANCE	10kΩ Unbalanced & Balanced				
FREQUENCY RESPONSE (at 10db below rated output power)	25Hz~25KHz +0/-1dB -3dB points:5Hz~50KHz				
DISTORTION (SMPTE-1M)	<0.03%				
S/N RATIO	102dB				

GENERAL SPECIFICATIONS	H1500	H2000	H3000	H4000	H5000
PROTECTIONS	Full short circuit, open circuit, thermal, Ultrasonic, and RF Protection; stable into reactive or mismatched loads; ON/OFF muting; current limiter (crowbar)				
CONTROLS	Front: Power switch, 41 detent input level control for each channel. Rear Stereo/Mono Bridge selector, ground lift switch.				
INDICATORS	SIGNAL: 2 x green LED LIMIT: 2 x red LED POWER: 1 x blue LED PROTECT: 2 x red LED; 1 x yellow LED				
CONNECTORS	POWER: IEC power cord				
	INPUT: Active balanced XLR OUTPUT: "Touch-proof" binding posts & SPEAKON				
POWER SUPPLY	Voltage selectable: 220V AC 50Hz				
BREAKER (115V)	88-8A	88-12A	88-16A	88-20A	88-20A
BREAKER (250V)	88-5A	88-8A	88-12A	88-16A	88-16A
DIMENSIONS	19.0" x 17.9" x5.2" (482 x 455 x 132mm)				
WEIGHT	26Kg	27Kg	33Kg	33Kg	33Kg

The specifications above are correct at the time of printing of this manual. For improvement purposes, all specifications for this unit, including design and appearance, are subject to change without prior notice.