



User's Manual

MISTRAL 400

STEREO POWER AMPLIFIER





www.altoproaudio.com
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English

IMPORTANT SAFETY INSTRUCTION



TO REDUCE THE RISK OF ELECTRIC SHOCK PLEASE DO NOT REMOVE THE COVER OR THE BACK PANEL OF THIS EQUIPMENT. THERE ARE NO PARTS NEEDED BY USER INSIDE THE EQUIPMENT. FOR SERVICE, PLEASE CONTACT QUALIFIED SERVICE CENTERS.

 This symbol, wherever used, alerts you to the presence of an insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.


 This symbol, wherever used, alerts you to important operating and maintenance instructions. Please read.

- ⊕ Protective Ground Terminal
- ~ AC mains (Alternating Current)
- ⚡ Hazardous Live Terminal

ON: Denotes the product is turned on.
OFF: Denotes the product is turned off.

CAUTION

Describes precautions that should be observed to prevent damage to the product.


1. Read this Manual carefully before operation.
2. Keep this Manual in a safe place.
3. Be aware of all warnings reported with this symbol. 
4. Keep this Equipment away from water and moisture.
5. Clean it only with dry cloth. Do not use solvent or other chemicals.
6. Do not damp or cover any cooling opening. Install the equipment only in accordance with the Manufacturer's instructions.
7. Power Cords are designed for your safety. Do not remove Ground connections! If the plug does not fit your AC outlet, seek advice from a qualified electrician. Protect the power cord and plug from any physical stress to avoid risk of electric shock. Do not place heavy objects on the power cord. This could cause electric shock or fire.
8. Unplug this equipment when unused for long periods of time or during a storm.
9. Refer all service to qualified service personnel only. Do not perform any servicing other than those instructions contained within the User's Manual.
10. To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

WARNING

To reduce the risk of electric shock and fire, do not expose this equipment to moisture or rain.



Dispose of this product should not be placed in municipal waste and should be separate collection.

11. Move this Equipment only with a cart, stand, tripod, or bracket, specified by the manufacturer, or sold with the Equipment. When a cart is used, use caution when moving the cart / equipment combination to avoid possible injury from tip over. 

12. Permanent hearing loss may be caused by exposure to \ extremely high noise levels. The US. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible exposure to noise level.

These are shown in the following chart:

HOURS X DAY	SPL	EXAMPLE
8	90	Small gig
6	92	train
4	95	Subway train
3	97	High level desktop monitors
2	100	Classic music concert
1,5	102	
1	105	
0,5	110	
0,25 or less	115	Rock concert

According to OSHA, an exposure to high SPL in excess of these limits may result in the loss of heat. To avoid the potential damage of heat, it is recommended that Personnel exposed to equipment capable of generating high SPL use hearing protection while such equipment is under operation.

The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

The mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

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1. INTRODUCTION

Thank you for your purchasing the MISTRAL 400.

The MISTRAL 400 is a line of high power, low profile, professional Power Amplifiers with advanced features and great reliability. It delivers tremendous power in only one rack space, providing high level performance under the most demanding conditions. The amplifier contains two independent channels, each channel with separate AC transformer secondaries and LED indicators for limit, power on and clip. The Power outputs employ standard power connectors and all the inputs are electronically balanced.

Enjoy your MISTRAL 400 and make sure to read this Manual carefully before operation.

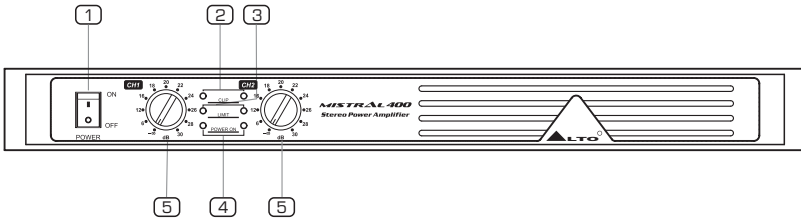
2. FEATURES

- ▲ Mountable in a 19" unit (1U), stereo high power amplifier
- ▲ Fantastic audio quality even with extremely high volume levels
- ▲ Solid and durable can be mounted into a cabinet
- ▲ User-controllable clip limiter
- ▲ 2 × 100 Watt EIAJ on 4 ohms for MISTRAL 400
- ▲ Stereo (dual-channel) or bridge mono operating modes
- ▲ Balanced XLR inputs to ensure noiseless long wiring
- ▲ Neutrik Speak-on connectors for output
- ▲ Single channel, bridge and bi-amp output wiring possibility
- ▲ Front panel LED indicators for limit, power on and clip
- ▲ Accurate gain control
- ▲ Manufactured under QS9000, VDA 6.1 certified management system



3. CONTROL ELEMENTS

Front panel



1. POWER SWITCH

It switches the amplifier ON and OFF.

2. CLIP LED

When the signal distortion reaches or surpasses 0.5% , the LED lights up. This means the output level of signal source is too high and it is time to reduce the input level until the LED turns off.

3. OUTPUT LIMITER LED

When the unit limits the output signal, the LED lights up.

4. POWER LED

This LED lights up when the unit is powered on.

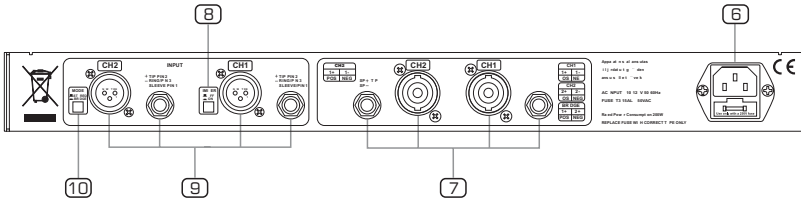
5. LEVEL CONTROLS (For CH 1 & CH 2)

Adjust the output signal level to avoid signal distortion.



3. CONTROL ELEMENTS

Rear panel



6. AC INLET AND FUSE HOLDER

Connect the supplied main cord. Do not insert the power cord into the MISTRAL 400 amplifier and into the AC Outlet until voltage has been correctly set. If the fuse blows, replaced with a fuse of the correct type only.

7. OUTPUT CONNECTOR

These connectors have two kinds: 1/4 TRS jack and Neutrik connector. You can choose proper connectors according to practical need. For your safety, please be careful when do connecting work.

8. LIMITER SWITCH

Set the switch at "ON" position, if a very high level signal is driven into the amplifier, the clip begins, thus keeping consistent output level for protecting apparatus. If the switch is set at "OFF" position, this clip function doesn't work.

9. BALANCED INPUT CONNECTOR

These connectors are used to connect the input signal of CH 1 and CH 2 separately.

10. MODE SELECTOR

The MISTRAL 400 power amplifier presents two operating modes:

- Stereo Mode

In this mode, CH 1 and CH 2 operate independently (as a normal stereo amplifier). The CH 1 input signal will be output from the CH 1 output connector, and CH 2 input signal will be output from the CH 2 output connector.

- Bridge Mode

In this mode, CH 1 input signal will be output from the bridge-mono output connector. On the other hand, the output level control of CH 2 should be turned to the minimum.

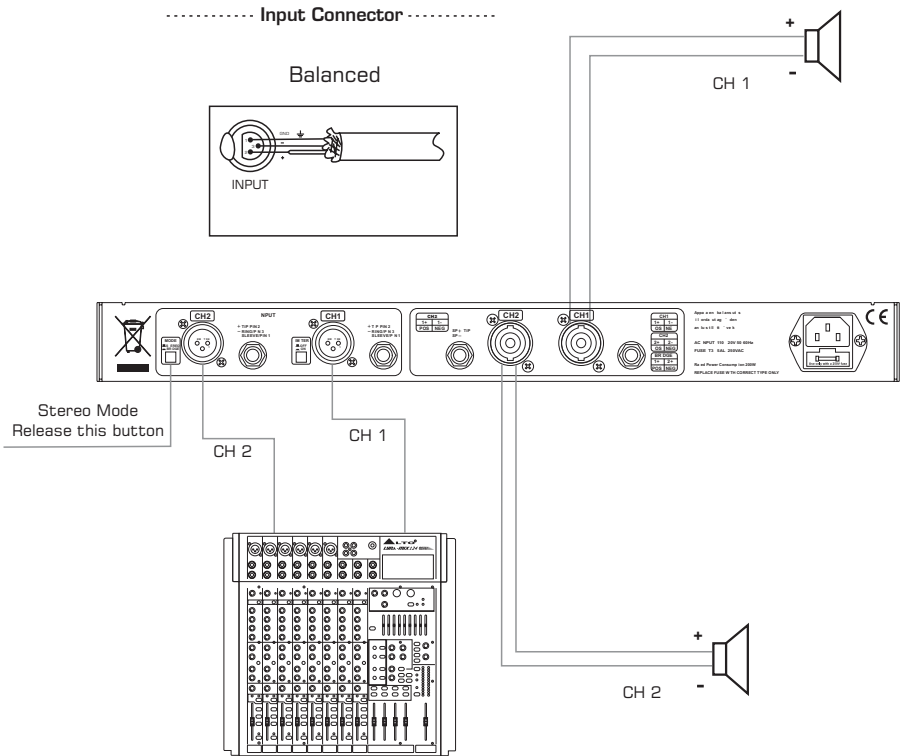


4. APPLICATION

The MISTRAL 400 amplifier provides two operating modes: stereo mode and bridge mode, you can decide each specific operating mode according to your actual application circumstance. Please see following diagram for connecting the power amplifier into your audio system.

- Stereo Mode

In this mode, CH 1 and CH 2 operate independently (as a normal stereo amplifier). The CH 1 input signal will be output from the CH 1 output connectors, and the CH 2 input signal will be output from the CH 2 output connectors.



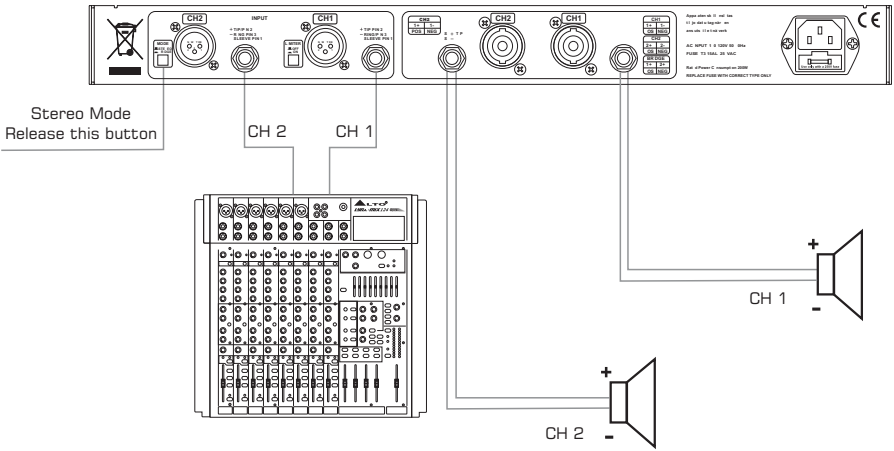
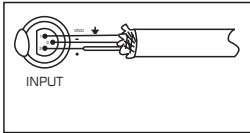


4. APPLICATION

- Stereo Mode

..... Input Connector

Balanced





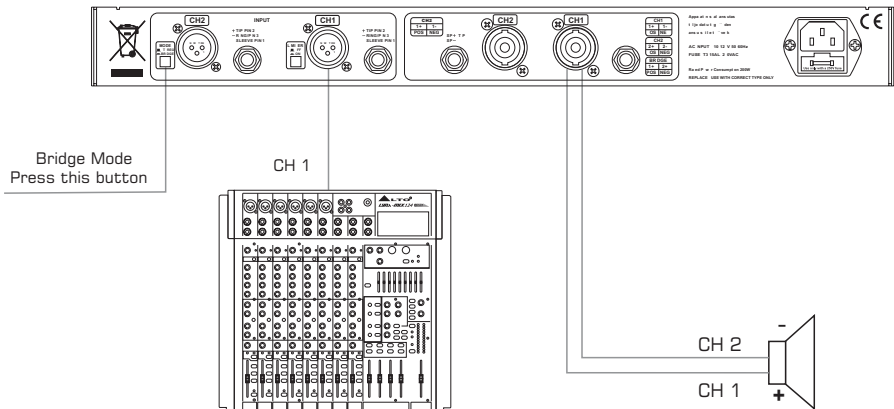
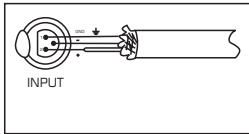
4. APPLICATION

- Bridge Mode

In this mode, the CH 1 input signal will be output from the bridge output connector. On the other hand, the output level control of CH 2 should be turned down to minimum (turn the volume control at counterclockwise). Only the volume control of CH 1 is used to control the volume of the whole system.

..... Input Connector

Balanced



5. TECHNICAL SPECIFICATIONS

TYPE	MISTRAL 400
Stereo Mode - (4 ohms EIAJ)	100W x 2
Stereo Mode - (4 ohms RMS)	70 W x 2
Stereo Mode - (8 ohms EIAJ)	60 W x 2
Stereo Mode - (8 ohms RMS)	50 W x 2
Bridge Mode - (8 ohms EIAJ)	200W x 1
Bridge Mode - (8 ohms RMS)	100W x 1
Distortion (SMPTE-IM)	<0.05%
Frequency Response	20 Hz-20 kHz±0.1/-3 dB
Damping Factor, 1 kHz and below	>300 at 8 ohms
Signal to Noise, 20 Hz-20 kHz	102 dB
Voltage Gain	40 x (32 dB)
Input Sensitivity @ 4 ohms	1 Vrms
Input Clipping	10 Vrms (+22 dB)
Input Impedance	10K ohms unbalanced, 20K ohms balanced 56 (36 dB)
Controls	FRONT: AC SWITCH, CH1 & CH2 GAIN KNOBS REAR: LIMITER, BRIDGE SELECTOR
Indicators (1 per channel)	Power-On: Blue LED Limit: Yellow LED Clip: Red LED
Connectors, each channel	Input: Active balanced XLR and 1/4" TRS jack Output: NEUTRIK Speakon and 1/4" TRS jack
Load Protection	On/off muting, DC-fault load grounding relay, internal fault fuses
Power Requirements	220-240 (110-120) Vac 50~60 Hz
Dimensions	19" (48,3 cm) rack mounting, 1.7" (4,4 cm) tall (1 rack spaces) 11" (28 cm) deep (rack mounting to rear support ears)
Net Weight	6.5 Kg

6. WARRANTY

1. WARRANTY REGISTRATION CARD

To obtain Warranty Service, the buyer should first fill out and return the enclosed Warranty Registration Card within 10 days of the Purchase Date.

All the information presented in this Warranty Registration Card gives the manufacturer a better understanding of the sales status, so as to provide a more effective and efficient after-sales warranty service. Please fill out all the information carefully and genuinely, miswriting or absence of this card will void your warranty service.

2. RETURN NOTICE

- 2.1 In case of return for any warranty service, please make sure that the product is well packed in its original shipping carton, and it can protect your unit from any other extra damage.
- 2.2 Please provide a copy of your sales receipt or other proof of purchase with the returned machine, and give detail information about your return address and contact telephone number.
- 2.3 A brief description of the defect will be appreciated.
- 2.4 Please prepay all the costs involved in the return shipping, handling and insurance.

3. TERMS AND CONDITIONS

- 3.1 ▲LTO warrants that this product will be free from any defects in materials and/or workmanship for a period of 1 year from the purchase date if you have completed the Warranty Registration Card in time.
- 3.2 The warranty service is only available to the original consumer, who purchased this product directly from the retail dealer, and it can not be transferred.
- 3.3 During the warranty service, ▲LTO may repair or replace this product at its own option at no charge to you for parts or for labor in accordance with the right side of this limited warranty.
- 3.4 This warranty does not apply to the damages to this product that occurred as the following conditions:
 - Instead of operating in accordance with the user's manual thoroughly, any abuse or misuse of this product.
 - Normal tear and wear.
 - The product has been altered or modified in any way.
 - Damage which may have been caused either directly or indirectly by another product / force / etc.
 - Abnormal service or repairing by anyone other than the qualified personnel or technician.

And in such cases, all the expenses will be charged to the buyer.

- 3.5 In no event shall ▲LTO be liable for any incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.
- 3.6 This warranty gives you the specific rights, and these rights are compatible with the state laws, you may also have other statutory rights that may vary from state to state.

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