

User's Manual

ALTO PATCH.B

Multi-Function
48 - Point Patchbay



www.altoproaudio.com
Version 1.0 September 2003
— English —

SAFETY RELATED SYMBOLS



This symbol, wherever used, alerts you to the presence of un-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.

WARNING

Describes precautions that should be observed to prevent the possibility of death or injury to the user.

CAUTION

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

WARNING

• Power Supply

Ensure that the mains source voltage (AC outlet) matches the voltage rating of the product. Failure to do so could result in damage to the product and possibly the user.

Unplug the product before electrical storms occur and when unused for long periods of time to reduce the risk of electric shock or fire.

• External Connection

Always use proper ready-made insulated mains cabling (power cord). Failure to do so could result in shock/death or fire. If in doubt, seek advice from a registered electrician.

• Do Not Remove Any Covers

Within the product are areas where high voltages may present. To reduce the risk of electric shock do not remove any covers unless the AC mains power cord is removed.

Covers should be removed by qualified service personnel only.

No user serviceable parts inside.

• Fuse

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.

• Protective Ground

Before turning the product ON, make sure that it is connected to Ground. This is to prevent the risk of electric shock.

Never cut internal or external Ground wires. Likewise, never remove Ground wiring from the Protective Ground Terminal.

• Operating Conditions

Always install in accordance with the manufacturer's instructions.

To avoid the risk of electric shock and damage, do not subject this product to any liquid/rain or moisture. Do not use this product when in close proximity to water.

Do not install this product near any direct heat source.

Do not block areas of ventilation. Failure to do so could result in fire.

Keep product away from naked flames.

IMPORTANT SAFETY INSTRUCTIONS

Read these instructions

Follow all instructions

Keep these instructions. Do not discard.

Heed all warnings.

Only use attachments/accessories specified by the manufacturer.

• Power Cord and Plug

Do not tamper with the power cord or plug. These 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.

• Cleaning

When required, either blow off dust from the product or use a dry cloth.

Do not use any solvents such as Benzol or Alcohol. For safety, keep product clean and free from dust.

• Servicing

Refer all servicing to qualified service personnel only.

Do not perform any servicing other than those instructions contained within the User's Manual.

PREFACE

Dear Customer:

Thanks for choosing ALTO PATCH.B Multi-Function 48 Point Patchbay and thanks for choosing one of the results of ▲LTO AUDIO TEAM job and researches.

For our ▲LTO AUDIO TEAM, music and sound are more than a job...are first of all passion and let us say...our obsession!

We have been designing professional audio products for a long time in cooperation with some of the major brands in the world in the audio field.

The ▲LTO line presents unparalleled analogue and digital products made by Musicians for Musicians in our R&D Centres in Italy, Netherlands, United Kingdom and Taiwan. The core of our digital audio products is a sophisticated DSP (Digital sound processor) and a large range of state of the art algorithms which have been developed by our Software Team for the last 7 years.

Because we are convinced you are the most important member of ▲LTO AUDIO TEAM and the one confirming the quality of our job, we would like to share with you our work and our dreams, paying attention to your suggestions and your comments.

Following this idea we create our products and we will create the new ones! From our side, we guarantee you and we will guarantee you also in future the best quality, and the best fruits of our continuous researches and the best prices.

Our ALTO PATCH.B Multi-Function 48 Point Patchbay is the result of many hours of listening and tests involving common people, area experts, musicians and technicians.

The result of effort this is the sophisticated circuit design featuring high power and superb quality together with superior reliability and stability to provide the highest possible audio performance.

Nothing else to add, but that we would like to thank all the people that made the ALTO PATCH.B Multi-Function 48 Point Patchbay a reality available to our customers, and thank our designers and all ▲LTO staff, there to make possible the realization of products containing our idea of music and sound and there to support you, our customers, in the best way, conscious that you are our best richness.

Thank you very much.

▲LTO AUDIO TEAM

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1. INTRODUCTION

Tired of getting lost with a spider web made of input, output and link cables?

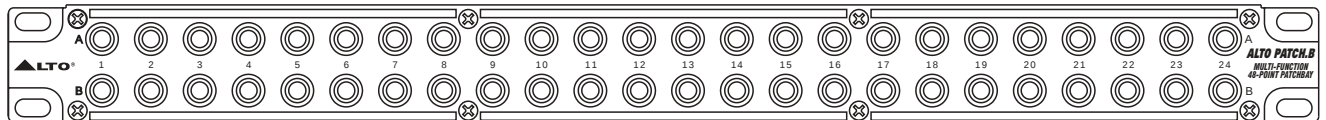
Do you wish to work with a clean desk and organise your gear without spending a full afternoon? ▲LTO has produce for you a fantastic tool to organise the audio signal of your studio gear. It is easy to be used, includes 48 multifunction points and it is provided with four different operating modes.

2. FEATURE LIST

- Mountable in one unit 19" rack space
- Very easy to operate and to install. Only 4 screws
- Fully equipped with phone jacks, 48 points
- Sophisticated electronic components. Strong metal chassis for noise reduction and aluminium front. Metal-ring jacks
- Four different configurations are available: parallel, normalled, half-normalled, de-normalled
- Highly reliable

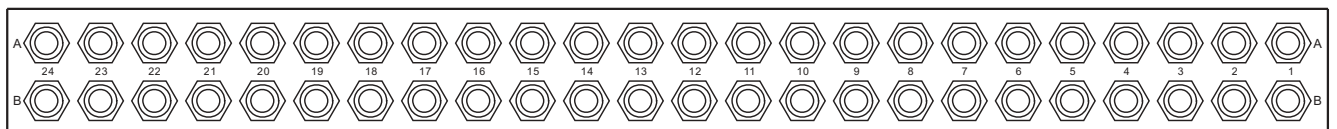
3. CONTROL ELEMENTS

3.1 The Front Panel



Your ALTO PATCH.B front panel includes 2 rows with 24 phone jacks each. You can input and output the audio signal in four different modes as we will explain later in this Manual.

3.2 The Rear Panel



Also the rear panel includes 2 rows with 24 phone jacks each. You can input and output the audio signal in four different modes as we will explain later in this Manual.

NOTE: 2 jacks from the front panel and 2 jacks on the rear panel form a MODULE. When you turn individual Modules or insert jumpers you will change the configuration of the patchbay.

4. INSTALLATION & CONNECTION

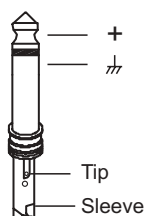
4.1 Audio Connection

The ALTO PATCH.B Multi-Function 48 Point Patchbay presents with balanced 1/4" TRS phone jack and it can be interfaced by several ways to support a variety of applications without any signal loss.

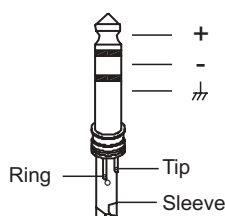
a. Wiring Configuration

Either the 1/4" TRS (Tip-Ring-Sleeve) phone jack can be wired in balanced or unbalanced modes, which will be determined by the actual application status. Please wire your systems as the following examples:

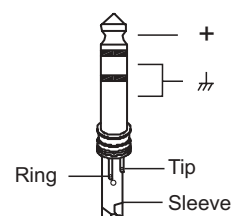
- For 1/4" Phone jack



TS Type Unbalanced



TRS Type Balanced

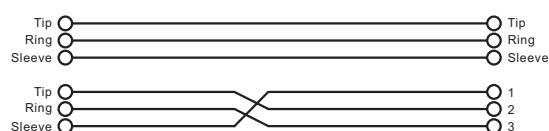
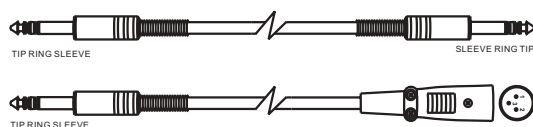


TRS Type Unbalanced

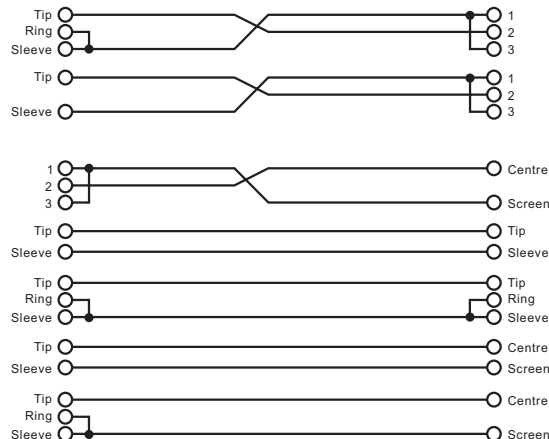
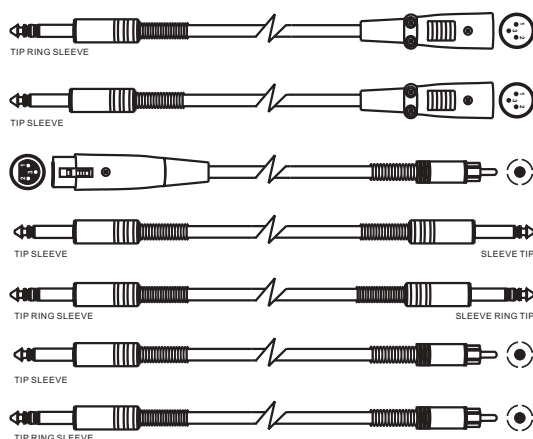
b. In Line Connection

For these applications the ALTO PATCH.B Multi-Function 48 Point Patchbay provides 1/4" TRS phone jack to easily interface with most any professional audio device. Follow the configuration examples below for your particular connection.

- Balanced



- Unbalanced



4.2 Rack Mounting

The most secure mounting is on a universal rack shelf available from various rack manufactures or your music dealer. The ALTO PATCH.B Multi-Function 48 Point Patchbay fits into one standard 19" rack unit of space.

5. APPLICATION

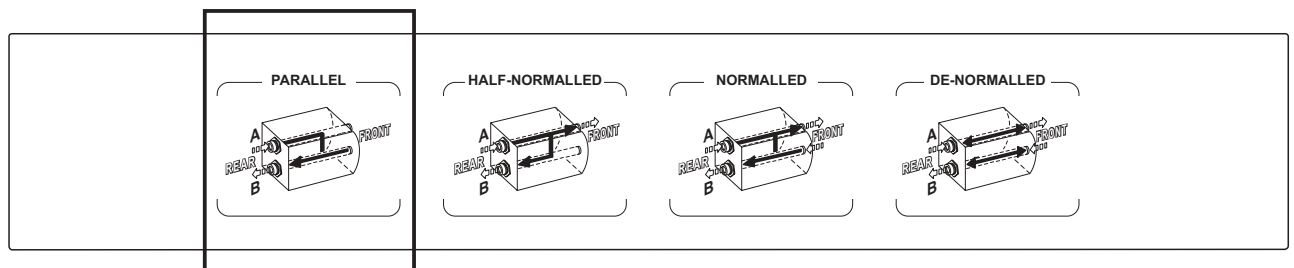
5.1 Patchbay Configuration

Now we will show you how to use your ALTO PATCH.B Multi-Function 48 Point Patchbay more effectively in the various configurations:

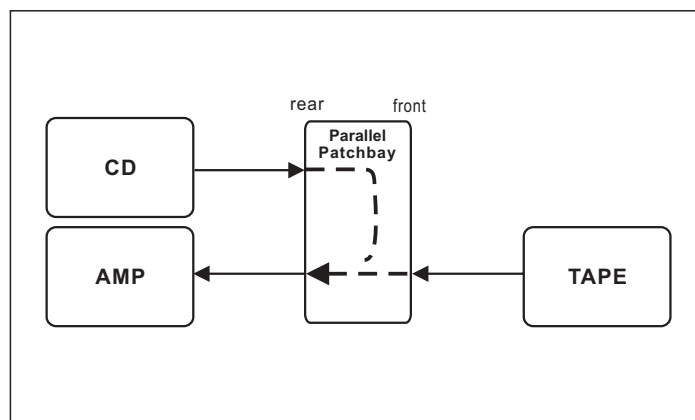
- Parallel
- Half-normalled
- Normalled
- De-normalled

-. Parallel

For the following picture, the upper rear jack and lower rear jack are interconnected, the signal flows from upper rear jack to lower rear jack. If you feed another signal to corresponding the lower front jack, then the original signal path will be broken, new signal path will flow from lower front jack to lower rear jack. For further details, please refer to the following illustration.

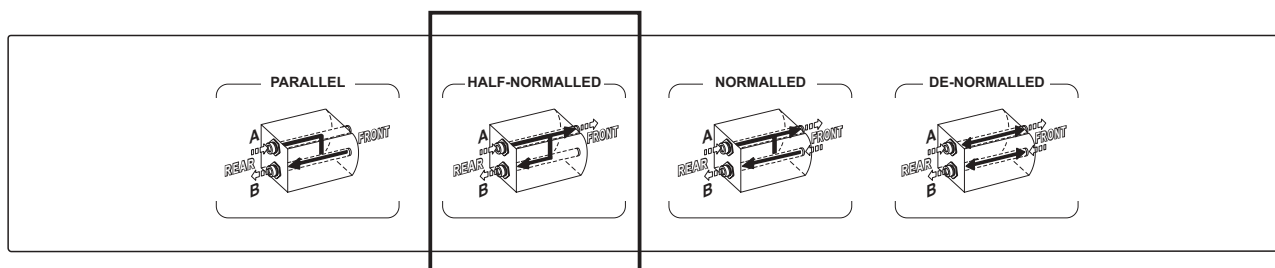


For example: You can patch a signal from a CD Player in the upper rear jack and route it to an amplifier through the lower rear jack. But in this configuration you can break the signal via inserting a Tape recorder to counterpart lower front jack. You can refer to the following figure:

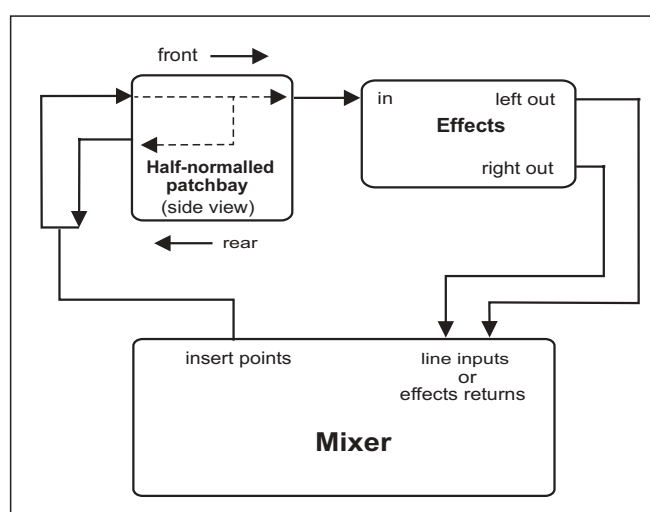


- Half-normalled

In this configuration the upper rear jack is interconnected with its lower counterpart. But if you insert a jack in the upper jack of the front panel (of course of the same MODULE) the path of the signal (on the rear panel) is not interrupted. If you wish to break the signal path on the rear panel you should insert a jack in the lower front jack of the same module so upper-rear will be connected with upper-front and lower-rear will be connected with lower-front.

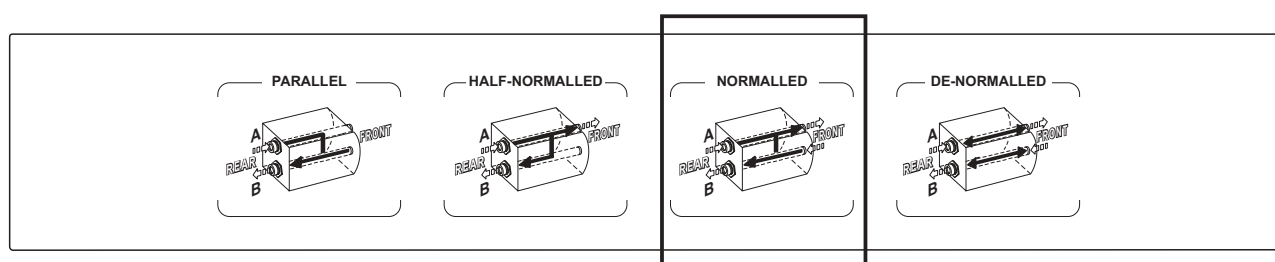


For example: you can apply this configuration to a complex system. The details are as follows:

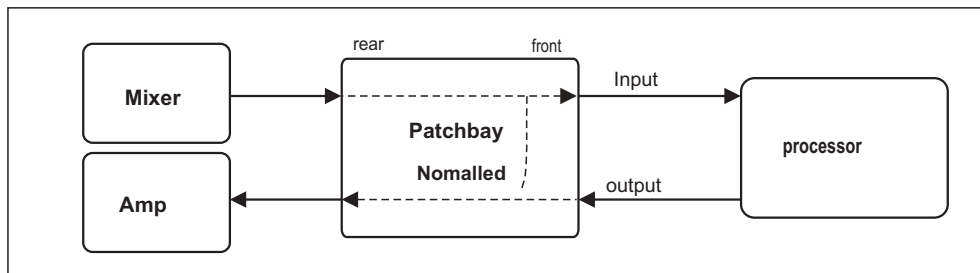


- Normalled

Unlike the half-normalled configuration the audio signal on the rear jack is interrupted but only when you insert a jack BOTH in upper and lower FRONT jacks of the same module.

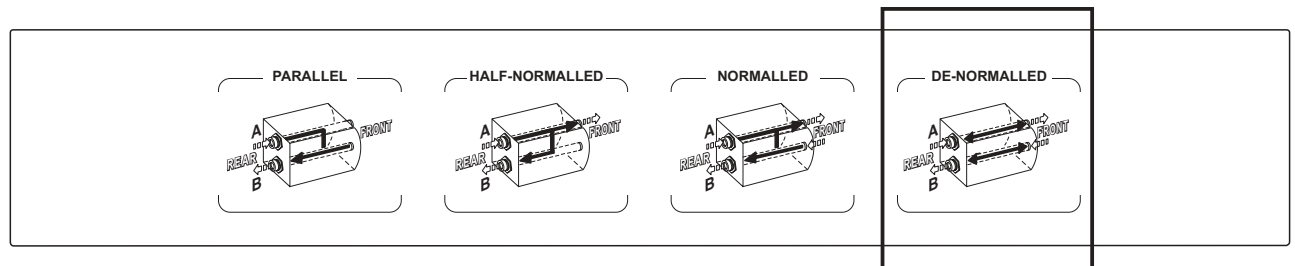


For example, the front panel lower jack input can be used to alter its corresponding rear panel upper jack input when the board assembly is correctly patched to a signal processor. Start with a mixer and amplifier connected to one vertical pair of the patchbay's rear panel jacks, as described before. Then, connect the front panel upper patchbay jack (it has the mixer's signal) to the processor's input and connect the processor's output to the front panel lower jack input which feeds the amplifier (see following figure).



- De-Normalled

In this configuration upper front is routed directly into upper rear and lower front is routed directly into lower rear. With this configuration unwanted signal loops with consequent oscillations are avoided. You will use this configuration with effect and processors.



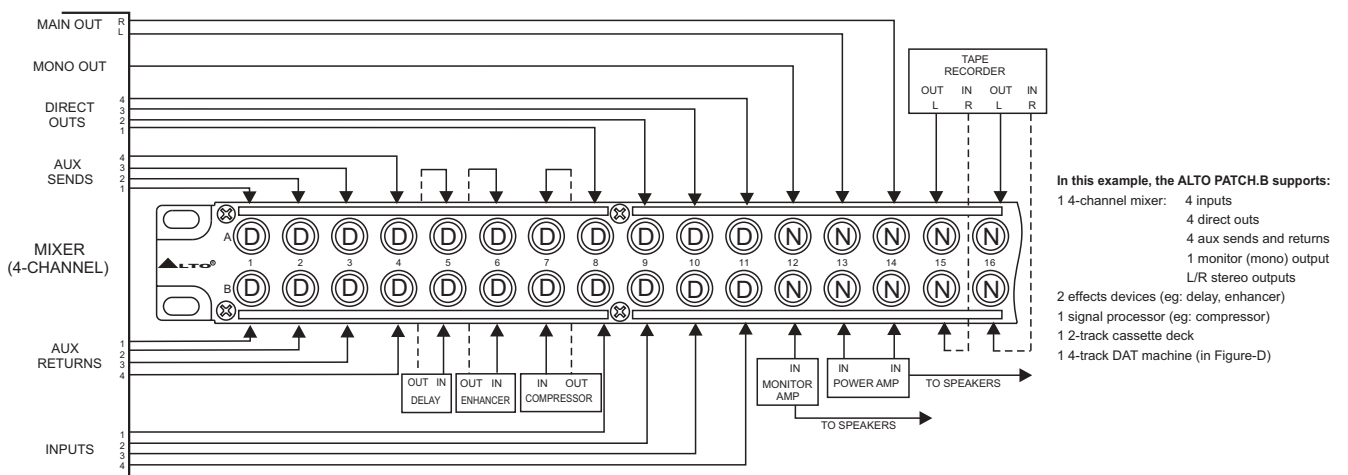
5.2 Patchbay Organization

It is common method to set up your patchbay with some modules Normalled and others De-Normalled.

For example, to compress a mixer's mono out signal, consider the following (as shown in following figure): keep one module Normalled (#12), and connect the mixer's mono output to its rear upper jack, then connect the power amp input to its rear lower jack; De-Normalize a different module (#7) and add a compressor to this module by connecting the compressor input to its rear lower jack and the compressor output to its rear upper jack.

To compress the mono output via the ALTO PATCH.B's front panel patch points, connect the mono output to the compressor input with a patch cable from the Normalled (#12) front upper jack to the De-Normalled (#7) front lower jack, then connect the compressor output to the power amp with a patch cable from the De-Normalled (#7) front upper jack to the Normalled (#12) front lower jack.

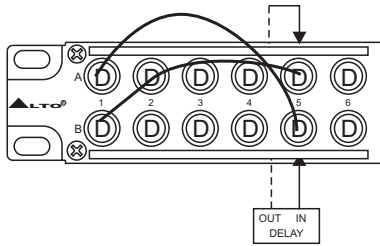
For further details, please refer to the following figure:



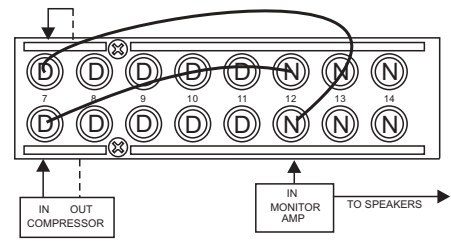
NOTES: 1: D=DE-NORMALLED; N=NORMALLED
2: ALL CONNECTIONS TO REAR OF PATCHBAY

Figure: Possible Initial Patchbay Setup

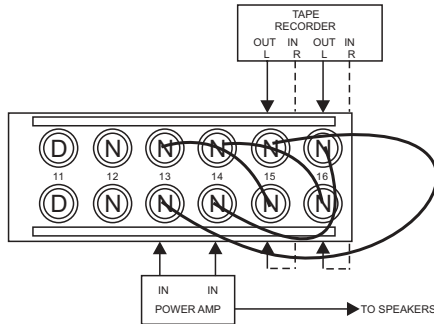
(Examples of Patch points for this setup are shown below)



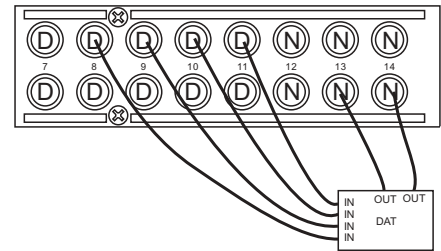
(A) Patching an Effects Device to a Main Aux Channel



(B) Patching a Compressor to a Monitor (Mono) Mix



(C) Patching a Tape Recorder to the Main Outs



(D) Patching a Multitrack Tape Recorder into the System

6. TECHNICAL SPECIFICATIONS

PHYSICAL		
	Dimension (W×H×D)	483×44×85mm(19.02"×1.73"×3.23")
	Net weight	Approx.1.9kg (Approx. 4.19lb)
	Connectors	1/4" jack balanced

7. 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 purport 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.

MEMO:

MEMO:

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