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.

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
cautions 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:

<table>
<thead>
<tr>
<th>HOURS X DAY</th>
<th>SPL</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>90</td>
<td>Small gig</td>
</tr>
<tr>
<td>6</td>
<td>92</td>
<td>train</td>
</tr>
<tr>
<td>4</td>
<td>95</td>
<td>Subway train</td>
</tr>
<tr>
<td>3</td>
<td>97</td>
<td>High level desktop monitors</td>
</tr>
<tr>
<td>2</td>
<td>100</td>
<td>Classic music concert</td>
</tr>
<tr>
<td>1.5</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>0,25 or less</td>
<td>115</td>
<td>Rock concert</td>
</tr>
</tbody>
</table>

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.
1. INTRODUCTION

Thank you for expressing your confidence in LTO products by purchasing one or more of our D series power amplifiers. The D range includes D1, D2, D3 and D4. There are 2 channels for the D1/D3, and 4 channels for D2/D4. All models are rugged, 2 rack-unit amplifiers fan-cooled. They provide a lot of power and a high value performance. They are all designed for heavy-duty application and they all can drive 4 ohm loads for long periods without overheating. Therefore they are suited to drive subwoofers with a minimum load of 8 ohm when working in Bridge Mode.

Enjoy your D amplifier and make sure to read this manual carefully before operation!

2. FEATURES

- Illuminated Power Switch
- Automatic Clip-limiter circuit
- Switchable low-frequency filter at 30 Hz
- Operating Mode is: Stereo, Parallel or Bridge
- Balanced Combo input connectors
- Output connectors are speak-on jacks and binding post terminals
- Low-noise, variable speed fan
- Front panel LED indicating Signal and Clipping and Protection Status
- Class D technology, switch power, light weight and high power
- Manufactured under TS16949, ISO14001 certified management system
**STEREO MODE**

In this mode 2 independent channels are sent to 2 separate speakers.

**PARALLEL MODE**

One mono signal is input to CH A or CH B of the D series amplifier and then output to 2 separate speakers. Each speaker volume can be set separately.
The stereo or mono signal input to CH A and CH B is combined on the BRIDGE MONO connector. Only CH A Gain control is active. The power at the output will be combined power of the two channels.

This application is only for D1 or D3. For the D2 or D4, it has four channels so only use one amplifier. The Main Mix signal is routed into an electronic crossover. CH A drives the woofer and CH B drives the high frequency driver in a 2-way enclosure.
3. CONTROL ELEMENTS

Front Panel:

1. POWER SWITCH & INDICATOR LED
   It powers the D amplifier ON and OFF. When the D amplifier is turned on the power switch illuminates blue.

2. SIGNAL LED
   This LED will light up green when the signal at the output is at least -20 dB.

3. CLIP LED
   This LED will flash when distortion reaches a level of 0.5%. Turn the relative GAIN control down so that the CLIP LEDs only flash occasionally.

4. PROTECTION LED
   It will light up when the unit is in Protection Mode due to short circuit, low impedance load or other causes.

5. GAIN CONTROLS
   These controls are used to adjust the output signal level.

6. COOLING VENTS
   Allow air circulation from front to back of the amplifier.
Rear Panel:

7. CIRCUIT BREAKER
   This is an electronic fuse for protecting the unit from possible damage. When the unit is overloaded or the temperature inside the unit is too high, this push-type button will spring out and disconnect the power supply. Push the Breaker to restore normal working conditions.

8. IEC socket for AC power cable
   Connect the supplied main cord. Do not insert the power cord into the D amplifier and into the AC Outlet until voltage has been correctly set.

9. COMBO BALANCED INPUT CONNECTORS
   Each Channel features balanced combo connector that used to input the signal to the amplifier.

10. SPEAKON OUTPUTS
    These connectors are specifically designed to connect high power speakers. The correct polarity is secured automatically, they prevent shock hazard and they lock-in securely.

11. BINDING POST OUTPUTS
    Please make sure to respect the speaker polarity when using binding post. **Caution:** Turn off the unit before connecting an audio signal to the binding post to avoid any electric shock!
12 LOW FREQUENCY FILTER
This Filter rolls off audio signals below 30Hz. In this way bass performance will be improved, because the subsonic motion of the cone will be cut out and more power is made available to the woofer in the audible range of frequencies. If you want our view: Keep the Filter ON most of the time unless you are filtering the signal before the input of the amplifier. Especially vented speakers (bass-reflex) are very sensitive to subsonic frequencies (below 30Hz).

13 OUTPUT MODE SELECTOR
The D series power amplifier presents three operating modes:
- Stereo Mode
In this mode, CH A and CH B operate independently (as a normal stereo amplifier). The CH A input signal will be output from the CH A output connector, and CH B input signal will be output from the CH B output connector.

- Parallel Mono Mode
In this mode, CH A input signal will be output from the output connectors of both channels. Detail wiring diagram you can refer to chapter 4.

- Bridged Mode
In this mode, CH A input signal will be output from the bridge-mono output connector. Detail wiring diagram you can refer to chapter 4.

14 COOLING FAN
This fan secures enough cooling for your amplifier. The airflow is front-to-rear. The fan speed is electronically regulated depending on the temperature of the power devices.
The D series power amplifiers provide three operating modes: stereo mode, parallel (mono) mode and bridged mode, you can decide each specific operating mode according to your actual application circumstance.

In this mode, channel A and channel B operate independently (as a conventional stereo amplifier). The channel A input signal will be output from the channel A output connectors, and the channel B input signal will be output from the channel B output connectors.

**4. OPERATION-In Stereo Mode**

For **D1/D3** (2-CHANNEL)

For **D2/D4** (4-CHANNEL)

Use either the binding post or the speak on
In this mode, the channel A input signal will be output from the output connectors of both channels. The channel B input jack is not used; the channel A and B volumes can be adjusted independently. Use the Parallel Mode when you want to drive two speakers with only one input signal keeping separate control of the volume of the two channels.

**NOTE:** since you are not using the channel B input you can use this socket to "daisy-chain" the signal to another amplifier.

**For D1/D3 (2-CHANNEL)**

**For D2/D4 (4-CHANNEL)**

Use either the binding post or the speak on
4. OPERATION—In Bridged Mode

In this mode, the channel A input signal will be output from the bridge output connectors. (The 2 RED binding post) In this case, use the channel A volume control to adjust the volume, keep the volume control of channel B turned completely down (counter clockwise). Bridged mode is intended for driving loads with a total impedance of 8 ohms or greater. In Bridge Mode you will combine the power of both channels into one speaker. You will have available massive amount of power so check carefully the power handling of your speaker before operation.

For D1/D3(2-CHANNEL)

For D2/D4(4-CHANNEL)

Use either the binding post or the speak on
5. BLOCK DIAGRAM
## 6. TECHNICAL SPECIFICATIONS

### POWER SPECIFICATIONS

<table>
<thead>
<tr>
<th>Power Continuous @0.5% THD</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both channels driven 230V</td>
<td>2 CH Amplifier</td>
<td>4 CH Amplifier</td>
<td>2 CH Amplifier</td>
<td>4 CH Amplifier</td>
</tr>
<tr>
<td>4 Ohms</td>
<td>2 X 390 W</td>
<td>4 X 390 W</td>
<td>2 X 540 W</td>
<td>4 X 540 W</td>
</tr>
<tr>
<td>8 Ohms</td>
<td>2 X 240 W</td>
<td>4 X 240 W</td>
<td>2 X 340 W</td>
<td>4 X 340 W</td>
</tr>
<tr>
<td>Power EIAJ@1% THD</td>
<td>2 CH Amplifier</td>
<td>4 CH Amplifier</td>
<td>2 CH Amplifier</td>
<td>4 CH Amplifier</td>
</tr>
<tr>
<td>Both channels driven 230V</td>
<td>2 X 500 W</td>
<td>4 X 500 W</td>
<td>2 X 750 W</td>
<td>4 X 750 W</td>
</tr>
<tr>
<td>4 Ohms</td>
<td>2 X 270 W</td>
<td>4 X 270 W</td>
<td>2 X 370 W</td>
<td>4 X 370 W</td>
</tr>
<tr>
<td>Bridged Mode</td>
<td>8 Ohms</td>
<td>1 X 1000 W</td>
<td>2 X 1000 W</td>
<td>1 X 1500 W</td>
</tr>
<tr>
<td></td>
<td>16 Ohms</td>
<td>1 X 520 W</td>
<td>2 X 520 W</td>
<td>1 X 740 W</td>
</tr>
</tbody>
</table>

### ELECTRICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>INPUT SENSITIVITY</th>
<th>1Vrms</th>
</tr>
</thead>
<tbody>
<tr>
<td>INPUT IMPEDANCE</td>
<td>10 kohms unbalanced, 20 kohms balanced</td>
</tr>
<tr>
<td>FREQUENCY RESPONSE</td>
<td>20 Hz-20 kHz +/- 0.1dB, -3 dB points: 10 Hz - 60kHz</td>
</tr>
<tr>
<td>INPUT CLIPPING</td>
<td>10 Vrms (+22 dB)</td>
</tr>
<tr>
<td>VOLTAGE GAIN</td>
<td>32dB</td>
</tr>
<tr>
<td>DISTORTION(SMPTE-1M)</td>
<td>&lt;0.5%</td>
</tr>
<tr>
<td>S/N RATIO</td>
<td>&gt;105dB</td>
</tr>
</tbody>
</table>

### GENERAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PROTECTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/off muting, DC-fault load grounding relay, Internal fault fuses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONTROLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front: AC switch, gain knobs</td>
</tr>
<tr>
<td>Rear: low pass filter, mode selector</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIGNAL: green LED, CLIP: red LED, POWER: blue LED, PROTECTION: red LED</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONNECTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>INPUT: balanced combo, OUTPUT: &quot;Touch-proof&quot; binding posts and speak-on jacks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POWER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available for AC230V,AC115V, 50-60Hz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIMENSIONS(Wx Dx H)</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>483x285x88.8 mm</td>
<td>483x376x88.8 mm</td>
<td>483x285x88.8 mm</td>
<td>483x376x88.8 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5 Kg</td>
</tr>
</tbody>
</table>
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.