CS-1501
CS-1502
Phased-Array Sound Column

Operating Instructions

Welcome to use our Public Address System. For better use of this equipment, please read this manual thoroughly before use.

LY International Electronics Co., Ltd.
Http://www.lyintlcorp.com
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1. Product Description

The phased-array sound column is a new type of public address system. By applying the electronic and digital signal processing (DSP) technologies, it can simulate the directivity from different shapes of sound columns, while the inherent performances of the sound column will not be affected, e.g. rated power, range of effective frequency response and max. sound pressure level.

With DSP technologies, we may operate from the remote controller to change the directivity of speaker system at some extent. This is suitable for loud speaking in a hall where the building acoustics is poor (especially long reverberation time). This product is most suitable for the hardware (sound box, DSP processor) of the loudspeaker system in sports venues (where the volume is large, the building acoustics is poor, the reverberation time is long and the sound is muddy), so that it can be combined with special software to make the controllable sound cover useful area (auditoria, etc) correctly and prevent it from diffusion to useless area (e.g. ceiling, door or window). In this case, it can reduce the investment in acoustic decorations in venues and decrease the energy loss caused by loudspeaker system. This leads to reduced investment in both the acoustic decorations and sound system in the sports venue.

2. Functions

- Acoustically simulate the sound columns of different shapes, e.g. inclined, concave, convex and more complicates shapes.
- Active sound column with inbuilt digital signal processor and digital power amplifier, so that it is no need for external power amplifier.
- Compatible with line signal input (300mV), line signal output (200mV) and broadcasting power signal input with fixed voltage (70V or 100V).
- Volume, tone and other parameters of the sound column adjustable.
- The LED array screen on the right lower of the sound column can display different parameters and messages.
- Operate from infrared remote controller.
- Compact size, easy installation and high electroacoustic sensitivity.

3. Description of Remote Controller Keypad

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
<th>Operation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Power ON/OFF</td>
<td>One touch of this key slightly</td>
<td>It takes approx. 5s for startup.</td>
</tr>
<tr>
<td>😊</td>
<td>Sound ON or OFF</td>
<td>One touch of this key slightly</td>
<td></td>
</tr>
<tr>
<td>EQ</td>
<td>Equilibrium</td>
<td>One touch slightly to enter into equilibrium</td>
<td>14-section equilibrium; amplitude ±12dB</td>
</tr>
<tr>
<td></td>
<td>adjustment</td>
<td>interface.</td>
<td></td>
</tr>
<tr>
<td>🔺</td>
<td>Increase</td>
<td>One touch to increase by 1°. Hold down for 3s</td>
<td>Max. angle: +45°</td>
</tr>
<tr>
<td></td>
<td>directivity angle</td>
<td>to increase continuously</td>
<td></td>
</tr>
<tr>
<td>🔻</td>
<td>Decrease</td>
<td>One touch to decrease by 1°. Hold down for 3s</td>
<td>Min. angle: -45°</td>
</tr>
<tr>
<td></td>
<td>directivity angle</td>
<td>to decrease continuously</td>
<td></td>
</tr>
<tr>
<td>V+</td>
<td>Increase volume</td>
<td>One touch to increase by 1 level. Hold down for</td>
<td>Max. volume: 32 levels</td>
</tr>
<tr>
<td></td>
<td>for 3s to increase continuously</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V-</td>
<td>Decrease volume</td>
<td>One touch to decrease by 1 level. Hold down for</td>
<td>Min. value: 0</td>
</tr>
<tr>
<td></td>
<td>for 3s to decrease continuously</td>
<td></td>
<td></td>
</tr>
<tr>
<td>🔺</td>
<td>Focus backward</td>
<td>Every touch to move 1m backward. Hold down for</td>
<td>Nearest: -30m</td>
</tr>
<tr>
<td></td>
<td>Focus forward</td>
<td>3s to move continuously</td>
<td></td>
</tr>
<tr>
<td>🔻</td>
<td>Select sensitivity</td>
<td>One touch to view sensitivity; hold down for 3</td>
<td>0dB, -6dB and -10dB available for selection</td>
</tr>
<tr>
<td></td>
<td>Select sensitivity</td>
<td>s to select sensitivity value</td>
<td></td>
</tr>
</tbody>
</table>
4. Installation Schematics:
1. Select a proper position on the surface where the sound column is to be installed, and fix two screws ø8mm. As shown on right, mount the bracket and fix the sound column.

2. Connect the wire correctly as described in Section 5. Check if the sound column is secure and confirm that the connection is correct. Then, insert the power cable of sound column into AC electric grid.

5. Description of Back Ports

- Test port
- 300mV line audio output
- 70-100V fixed-voltage audio input
- Power fuse holder
- Output to other PA
- From PA
- From audio equipment
- AC Power input interface
6. Description of Remote Controller Keypad

1. Mute key
2. Sensitivity selection key (Sensitivity)
3. Volume / Setting Key (V+, V-) for left and right movement
4. Directivity / Setting Key (AN+, AN-) for up and down movement
5. Setting Confirmation Key (EQ)
6. Focus adjustment key (FOCUS+, -)
7. Treble adjustment key (TREBLE+, -)
8. Bass adjustment key (BASS+, -)
9. On/OFF Key (Note: The ON/OFF key can only switch off the current play status, but it cannot switch off the power of sound column). To switch off the power supply, please remove the power plug on sound column).
7. Operating Instructions

The lobe variable sound column is operated from infrared remote controller. The remote controller is effective when it operates within 180° in front of the sound column.

1. Switch on the unit (Firstly, the “UDE” will appear before entering this interface).

2. Adjust the volume
   Press “V+” or “V-” (Max. volume: 32 levels; Min. volume: 0).

3. Equilibrium Adjustment
   Press “EQ” (Range of adjustable frequency: 80Hz-20kHz)
   Press “V+” or “V-” to move left and right for selection of frequency band (14 bands in total)
   Press “AN+” or “AN-” to adjust the amplitude of selected band (Adjustable amplitude: ±12dB). After finishing the adjustment, press “EQ” to exit.

4. Directivity Adjustment
   Press “AN+” or “AN-” (Increase or decrease the directivity angle. The range of adjustment is as shown below).

5. Adjust Focus
   Press “FOCUS+” or “FOCUS-” “+” indicates forward movement of focus point. Max. forward movement: 99m;
   “-” indicates backward movement of focus point. Max. backward movement: 99m.
6. **Mute**

Press \[ \boxed{\text{MUTE}} \] \( \leftrightarrow \) Press \[ \boxed{\text{VOL}} \] again

7. **Select Input Sensitivity Value**

Press \[ \boxed{\text{S}} \] \( \leftrightarrow \) Hold down \[ \boxed{\text{S}} \] again

With \[ \boxed{\text{S}} \] key held down, the three sensitivity values, i.e. “00dB, -06dB and -10dB” will be displayed alternatively. When the desired sensitivity value appears, please release \[ \boxed{\text{S}} \] key, so that this sensitivity value will be effected.

8. **3-pin XLR-type connectors**

3-pin XLR-type connectors

[Diagram of 3-pin XLR-type connectors with labels: 1 (ground), 2 (signal), 3 (signal)]
8. Specifications

<table>
<thead>
<tr>
<th></th>
<th>CS-1501</th>
<th>CS-1502</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>CS-1501</td>
<td>CS-1502</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>100W</td>
<td>150W</td>
</tr>
<tr>
<td><strong>Input sensitivity</strong></td>
<td>300mV/70-100V</td>
<td></td>
</tr>
<tr>
<td><strong>Range of directivity angle</strong></td>
<td>±45º</td>
<td></td>
</tr>
<tr>
<td><strong>Size (mm)</strong></td>
<td>(L×W×H)146×132.5×1365</td>
<td>(L×W×H)154.5×153×1602</td>
</tr>
<tr>
<td><strong>Net Weight</strong></td>
<td>16.5kg</td>
<td>22kg</td>
</tr>
<tr>
<td><strong>Greet Weight</strong></td>
<td>20kg</td>
<td>26kg</td>
</tr>
</tbody>
</table>

The functions and parameters are subject to change without prior notice.

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