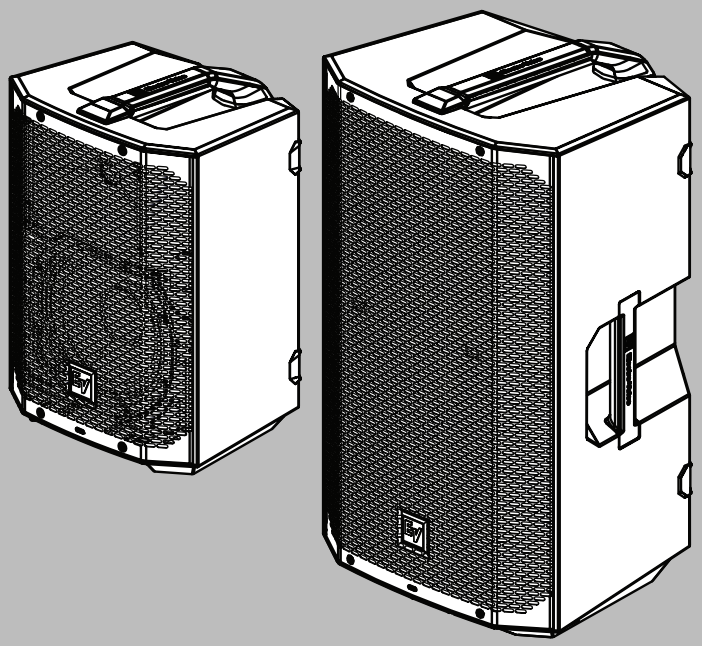
Electro-Voice

# EVERSE Battery-powered Loudspeaker

EVERSE8-US, EVERSE8-EU, EVERSE8-W, EVERSE12-EU, EVERSE12-US



**zh-CHS** 用户手册

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# 1 安全标准

## 1.1 重要安全说明

<table>
<tr>
<td>

<br>警告：为了降低火灾和电击风险，应避免设备被雨水打湿或受潮<br>AVIS: RISQUE DE CHOC ELECTRIQUE, NE PAS OUVRIR.<br>警告：电源插座或AC插头用作断路装置。断路装置应保持操作简便性。<br>警告：只能连接到带保护接地的电源插座。<br>警告：为降低电击风险，请勿拆下外盖（或后盖），因为设备内部没有用户可维修的部件。维修服务请咨询有关合格人员。</td>
<td> </td>
<td>内含带箭头闪电符号的等边三角形用于提醒用户：产品箱体内部存在未绝缘的“危险电压”，其能量级别足以对人造成电击伤害。</td>
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<td>内含感叹号的等边三角形用于提醒用户：产品随附的文档资料中介绍了重要的操作和维护（保养）说明，请仔细阅读。</td>
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<td>内含星号的等边三角形用于告知用户有关设备的必要安装或拆卸说明或系统相关的硬件使用。</td>
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</table>

1. 阅读并保存这些安全说明。遵循所有说明并留意所有警告。
2. 从www.electrovoice.com下载最新版本的安装手册，获取安装说明。

**信息**
请参阅《安装手册》查看说明。

3. 遵循所有安装说明并留意以下警示标志：

**注意!**
包含附加信息。未遵守“注意”通常不会导致设备损坏或人员受伤。

**小心!**
如果未遵守此警示，可能会造成设备损坏、财产损失或人员受伤。

**危险!**
电击风险。

4. **只能使用干软布清洁。-** 清洁前从插座上取下本设备的插头。请勿使用液体清洁剂或喷雾清洁剂。
5. **冷凝 -** 为了避免冷凝，当设备从温度较低的地方转移到温度较高的地方时，等待几个小时再打开设备电源。
6. 不要将本设备暴露在滴水或溅水的环境下，并且不要在本设备上放置装有液体的物体（如花瓶）。

**危险!**
为降低火灾和触电风险，应避免设备过度被雨水打湿或受潮。

7. **不要阻塞各个通风孔。遵照制造商的说明进行安装。-** 外壳上的开口（如有）用于通风，以确保设备可靠运行并防止设备过热。不得阻塞或盖住这些开口。此设备不应采用嵌入式安装，除非提供适当通风或遵守制造商的说明。

8. 请勿在靠近热源的地方安装，例如，散热器、贮热器、火炉或其它生热装置（包括放大器）或阳光直射的区域。
9. 不要将裸露的火源如点燃的蜡烛放在设备上。
10. **电源线选项**:

- **电源插头**
  - 使用在安全机构注册的3针电源插头。
  - 使用经认证[1]符合EN 50075/IEC 60083标准的C5式2针电源插头（可见新加坡《消费者保护（安全要求）注册计划》信息，附录S）。
- **软线**
  - 使用经认证[1]符合相关IEC标准的双层绝缘软线。

    [1]经IECEE CB体系成员认证。
- **设备连接器**
  - 使用经认证[1]符合IEC 60320标准的设备连接器。

    [1]经IECEE CB体系成员认证。

11. **不要破坏极化或接地型插头的安全功效。**- 极性插头配有两个接线片，其中一片比另一片宽。接地型插头配有两个接线片以及一个接地插脚。宽接线片或接地插脚均用于保护您的人身安全。如果提供的插头无法插入插座，请联系电工更换老式插座。
12. 由市电供电的设备应连接到具有保护性接地连接的电源插座。必须安装随时可操作的外置电源插头或全极电源开关。
13. 要将本设备完全断电，则必须拔掉电源线插头。

**警告!** 为防止触电，请先断开所有电源连接，再安装系统。

14. 在雷雨期间或长期不用时，请拔下本设备电源插头。
15. 请勿踩踏或挤压电源线，特别注意保护插头、便捷插座以及设备接出点位置。

**危险!**

**过载 -** 请勿让插座和延长电线负荷过重；否则，可能导致火灾或电击。

16. **仅用制造商指定的附件/配件。-** 安装各种设备均应遵循制造商的说明，并且应使用制造商推荐的安装附件。
17. **仅使用制造商指定的或者设备附带的推车、托台、三角架、支架或桌台。**- 使用推车时，请小心移动装有设备的推车，避免翻倒而造成人身伤害。停止过猛、用力过度和表面不平整均可能会导致装有电器的推车翻倒。

**小心!**

对于本扬声器，没有评估三脚架的安全性。检查三脚落地支架的规格，确保其可支撑扬声器的重量。

18. 只能由合格的人员根据适用的当地规定进行系统安装和维修。用户不得维修内部部件。
19. 若高度超过2米，设备掉落时可能会造成人身伤害。因此应采取预防措施。
20. **替换部件 -** 需要更换部件时，维修人员应使用制造商指定的替换部件，或与原部件具有相同特性的部件。擅自使用其它部件进行更换可能导致火灾、遭受电击或发生其它危险。
21. 设备电源保险丝只能使用相同类型的产品进行更换。
22. **安全检查 -** 维修本设备之后，请让维修人员执行安全检查，以确保本设备能正常工作。

**预防措施:**

- 如果晴天在户外使用Electro-Voice扬声器，请将扬声器放在背阴处或有遮挡的区域。扬声器功率放大器带有保护电路，当达到相当高的温度时，保护电路会暂时关闭扬声器。在炎热的天气中，当扬声器受到阳光直射时，可能会出现这种情况。
- 请勿在温度低于0°C (32°F)或高于+35°C (95°F)的环境中使用Electro-Voice扬声器。
- Electro-Voice扬声器很容易产生足以让正常覆盖距离内的所有人听力永久受损的声压级。应小心避免长时间暴露在声压级超过90 dB的环境中。为了防止听力损伤，请不要长时间收听高音量。

**吊挂:**

**警告!**

各种设备的吊挂都存在潜在危险，只能由充分了解高空吊挂技术和法规的人员来执行。Electro-Voice强烈建议在吊挂所有的扬声器时都应考虑当前所有的国家/地区以及地方的法律和法规。安装人员有责任确保所有扬声器都按照该要求进行安装。扬声器吊挂完成后，Electro-Voice强烈建议至少按每年一次的频率或根据法律法规的要求对该系统进行检查。如果发现存在薄弱或损坏的迹象，应立即采取补救措施。用户有责任确保墙壁、天花板或结构能够支撑所有吊挂其上的设备。用于吊挂与Electro-Voice无关的扬声器的各种硬件由其他方负责。

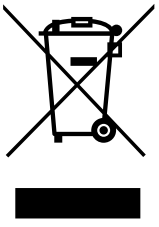
**警告!**

不要以本手册或Electro-Voice安装指南中明确说明的方式之外的任何方式悬挂本产品。悬挂任何物体（扬声器）都可能有危险，只应由充分了解在空中悬挂物体的技术、材料和法规的人员来执行。只能使用Electro-Voice手册和安装指南中所述的附件和硬件悬挂Electro-Voice扬声器。**不要使用把手来悬挂扬声器。Electro-Voice扬声器上的把手仅供相关人员临时运输之用。纤维绳、钢丝绳、电缆等物体或其他类型的材料不能用于从把手悬挂扬声器。**用于吊挂与Electro-Voice无关的扬声器的所有硬件由其他方负责。

**警告!**

您可以自行决定是否将非授权配件或附件与此产品或各种Electro-Voice产品搭配使用。使用非授权配件或附件可能会造成产品故障，导致人身伤害或死亡。
用户需承担所有责任，同时这还可能导致保修失效。

**旧电气和电子设备**



此类产品及或电池应与生活垃圾分开处理。请按照当地法律法规处理此类设备，以便重新使用及或回收。这将有助于节约资源并保护人类健康和环境。

## 1.2 电池和内部充电器安全规则

**电池和内部充电器安全规则**

1. 在使用Electro-Voice内部电池充电器为电池充电之前，请阅读(1)电池、(2)扬声器上的所有说明和警告标记。
2. 为降低受伤风险，请仅对指定用于扬声器的Electro-Voice电池组充电。其他类型的电池可能会爆裂，造成人身伤害和损坏。
3. 只能在0°C (+32°F)至35°C (+95°F)的温度范围内为电池组充电。避免在阳光直射下为电池充电。将扬声器和电池组存放在温度不会超过45°C (113°F)的地方。这对于避免电池芯严重损坏非常重要。
4. 在使用经认可的附件时，除非Electro-Voice另有规定，否则请勿在潮湿的环境中为电池充电，并且在插入电源时请勿将扬声器暴露在雨雪中。水进入充电器可能会导致触电或火灾。

**小心!**
在潮湿环境中务必使用随附的防风雨罩和/或Electro-Voice认可的防雨罩附件。

5. 切勿将电池组或扬声器浸入任何类型的液体中或让液体进入其中。腐蚀性或导电性流体（如海水或含有工业化学品或漂白剂的产品等）会引起短路，从而导致火灾、人身伤害和财产损失。
6. 在过度使用时或极端温度条件下可能会发生电池泄漏。避免与皮肤和眼睛接触。电池液体具有腐蚀性，可能会导致组织化学灼伤。如果液体接触到皮肤，请迅速用肥皂和水清洗。如果液体接触到您的眼睛，请用水冲洗至少10分钟并就医。
7. 使用电池组或为电池组充电时，请将扬声器放在平坦的非易燃表面上并远离易燃材料。地毯和其他隔热表面会阻碍正常的空气流通，从而导致充电器和电池组过热。如果观察到扬声器或电池组冒烟或熔化，请立即拔下扬声器电源插头，不要使用电池组或扬声器。立即联系客户服务部门。
8. 确保适当布置电源线，使其不会将人绊倒，不会被踩到，或以其他方式受到损坏或挤压。损坏的插头和电源线可能会导致触电或火灾。
9. 断开扬声器连接时，请拔下插头，而不要拉拔电源线。请勿使用损坏的电源线或插头操作扬声器。请立即将它们更换。损坏的插头或电源线可能会导致触电或火灾。
10. 如果电池组外壳破裂或明显损坏，请勿将电池组插入扬声器。使用损坏的电池组可能会导致触电或火灾。
11. 如果扬声器受到猛烈撞击、坠落或以其他方式损坏，请勿拆卸或操作扬声器。不正确的重新组装或损坏可能会导致触电或火灾。
12. 每次使用前，请检查扬声器、电缆、插头和电池组。如果检测到损坏，请勿使用。切勿自行打开电池组，请将其送到Electro-Voice服务中心，只能使用原装更换零件。不正确的重新组装或使用损坏的产品可能会导致触电或火灾。
13. 仅使用Electro-Voice推荐或销售的附件或电池。使用非推荐的附件可能会导致触电或火灾。
14. 在进行存放、尝试进行任何维护或清洁之前，请从插座上拔下扬声器插头。此类预防性安全措施可降低触电或火灾风险。
15. 如果每次充电后都观察到运行时间显著下降，请更换电池组。电池组使用寿命可能即将到期。

**电池保养**

**警告!**
**当电池未安装在扬声器中时，请使其远离金属物体。**例如，为防止端子短路，**请勿**将电池放入装有钉子、螺丝、钥匙等的工具箱或口袋中。可能会导致火灾或受伤。
**不要将电池投入火中**或暴露在高温下。它们可能会爆炸。

**警告!**
**请勿尝试拆卸电池或移除电池端子上凸出的任何组件。**可能会导致火灾或受伤。在丢弃之前，请用厚绝缘胶带保护暴露的端子以防止短路。

**警告!**
如果未按照用户手册正确安装随附的防风雨罩或Electro-Voice认可的防雨罩，请勿在潮湿的环境中使用扬声器。
务必确保连接到扬声器的任何设备、电缆或乐器也得到适当的防潮保护，正确接地并配备接地故障断路器，并按照各自制造商的说明使用。

**注意!**
Electro-Voice电池组
使用非由Electro-Voice销售的电池组将使保修失效。

**注意!**

电池保护模式

锂离子电池通过“电池保护模式”进行深度放电保护。当电池电量耗尽时，扬声器会进入电池保护模式。提供的电池已部分充电。首次使用扬声器之前，请将电池完全充满电。锂离子电池可随时充电，不会降低其使用寿命。中断充电过程不会损坏电池。

**注意!**

电池处置

请勿将电池丢弃在生活垃圾中。仅可将电池丢弃至合适的收集点，对于锂电池，用电工胶带或其他电绝缘材料覆盖电池端子。必须以对环境无害的方式收集、回收或处置锂离子电池。

**警告!**

航空运输警告

请遵守所有适用于锂离子电池和供电设备的航空货运和乘客行李规定。

**警告!**

爆炸或烧伤危险

本设备包括一个锂离子电池组。为降低火灾或烧伤风险，请勿尝试打开、拆卸或维修电池组。请勿挤压、刺穿、短接外部触点或将其投入火中或水中。仅在0°C (32°F)至35°C (95°F)的温度范围内使用本设备。回收或妥善处置。

# 2 说明

感谢您选择Electro-Voice有源扬声器系统。请仔细阅读本手册，了解Electro-Voice系统具备的所有功能，从而充分利用其性能。
EVERSE是一款用途广泛、使用方便、结构紧凑的电池供电扬声器系统。它提供专业级性能，并安装在坚固的防风雨外壳中。EVERSE扬声器为音乐表演、讲话扩音和音频播放提供真正的专业性能。
EVERSE扬声器利用数十年的Electro-Voice和Dynacord专业音频和电子专业知识，以及全新的技术进步，提供真正便携和无线的音频解决方案。
EVERSE 8采用两分频配置，配备8英寸低音单元。它包括一个高输出、钛、铁磁流体冷却高音单元，具有高能钕磁铁，输出更大且重量更轻。该设计是在获得Electro-Voice专利的SST恒定指向性波导上安装高音单元，可产生非常高的声压级（覆盖范围甚至可达100° x 100°），并改进了声学对齐效果和低音扩展。
EVERSE 12采用两分频配置，配备12英寸低音单元和安装在Electro-Voice专利SST挡板上的高效钛质压缩驱动单元。相较于EVERSE 8，其覆盖范围为100° x 60°，产生的声压级要高5 dB，同时低音更深沉。
坚固的聚丙烯外壳为输入端口处配备了防风雨输入保护罩，使扬声器符合IP43等级（防溅和防小雨），可由电池供电并进行蓝牙流式传输。提供的防雨护罩附件可以在需要时提供额外的防风雨保护。
EVERSE扬声器采用Electro-Voice的QuickSmart DSP并且采用**POWERED BY DYNACORD**技术，内置4通道数字调音台和FX、反馈抑制和强切功能。该扬声器采用定制设计并针对音频使用进行全面优化的高容量电池组。电池组可提供足够的功率来完成演出，包括一个12 V直流附件端口，可为RE3或R300无线话筒系统供电。
EVERSE 8有白色和黑色两种颜色可供选择。EVERSE 12仅提供黑色款式。

## 2.1 简短信息

下表列出了EVERSE系列产品，并提供了CTN（商用型号）和用于标识产品名称的说明。

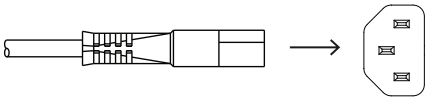
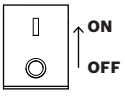
| CTN | 说明 |
|---|---|
| EVERSE8-US | 8"两分频扬声器（电池），黑色，美国 |
| EVERSE8-EU | 8"两分频扬声器（电池），黑色，欧盟 |
| EVERSE8-W | 8"两分频扬声器（电池），白色，美国和欧盟 |
| EVERSE8-TRAY-B | EVERSE 8托架，12V DC电缆，黑色 |
| EVERSE8-TRAY-W | EVERSE 8托架，12V DC电缆，白色 |
| EVERSE8-RAINCVR | 适用于EVERSE 8的防雨护罩 |
| EVERSE8-TOTE | 适用于EVERSE 8的带衬垫托特包 |
| EVERSE-BAT-B | 电池组组件，EVERSE，黑色 |
| EVERSE-BAT-W | 电池组组件，EVERSE，白色 |
| EVERSE12-US | 12"两分频扬声器（电池），黑色，美国 |
| EVERSE12-EU | 12"两分频扬声器（电池），黑色，欧盟 |
| EVERSE12-TRAY-B | EVERSE 12托架，12V DC电缆，黑色 |
| EVERSE12-RAINCVR | 适用于EVERSE 12的防雨护罩 |
| EVERSE-DUFFEL | 适用于EVERSE的带衬垫托特包 |

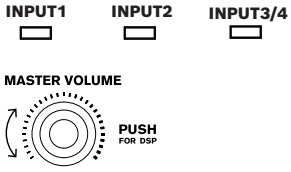
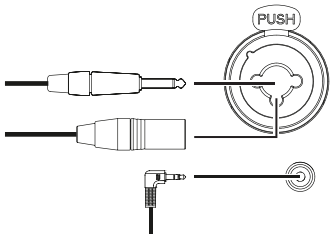
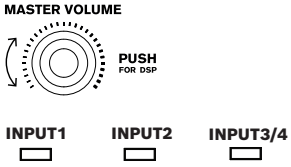
## 2.2 系统特性

- **运行时间长的可拆卸和可更换电池组**
  EVERSE电池组在最大输出音量下可持续播放6小时以上的音乐，或在95 dB声压级平均音量(EVERSE 8)和100 dB声压级平均音量(EVERSE 12)下可持续播放12小时以上的音乐。EVERSE扬声器自带节能功能，可在无信号时延长电池寿命。EVERSE扬声器上的12 V直流插孔可用于为Electro-Voice RE3或R300等无线话筒接收器供电。
- **真正的专业级输出和Electro-Voice音质**
  EVERSE 8采用带有SST端口的8英寸低音单元和1英寸钛质球顶高音单元，可产生121 dB的最大声压级，频率范围为50-20 kHz。EVERSE 12采用带有SST端口的12英寸低音单元和1英寸钛质压缩驱动单元，可产生超过126 dB的最大声压级，频率范围为45-20 kHz。EVERSE 8的波导形成的覆盖范围为100° x 100°（水平x垂直），EVERSE 12的波导形成的覆盖范围为100° x 60°（水平x垂直）。EVERSE 8和EVERSE 12包括两个监听角度（25°和55°），可确保在各种情况下都能提供适当的覆盖范围和位置。
- **采用QuickSmart Mobile应用程序和Electro-Voice的直观用户界面，使用简便**
  EVERSE扬声器采用Electro-Voice的直观QuickSmart DSP，带有单个编码器和按键界面，可以简单、快速地进行设置。EVERSE扬声器可以通过蓝牙与安装了QuickSmart Mobile应用程序的移动设备配对，使您轻松地远程操控所有音频功能。QuickSmart Mobile应用程序允许以任意组合对多达六个扬声器进行配对和分组，包括EVERSE、ELX200供电系列和EVOLVE系列。
- **高品质立体声蓝牙流式传输**
  EVERSE扬声器具有蓝牙流式传输功能。可以配对两个EVERSE扬声器以实现从移动设备进行真无线立体声(TWS)流式传输。
- **采用POWERED BY DYNACORD技术，内置数字4通道调音台**
  EVERSE扬声器采用内置4通道调音台，具有FX、EQ、自动反馈抑制和强切功能。该调音台包含两个XLR/TRS多功能插孔，**INPUT 1** (XLR)上具有48 V幻象电源，同时**INPUT 2** (TRS)上可兼容Hi-Z。该调音台还包括立体声蓝牙和3.5毫米连接。
- **自动待机**
  EVERSE扬声器提供可调节的自动待机功能。这会在不使用扬声器的情况下延长电池运行时间。默认值为15分钟。通过按下面板上的按钮或使用应用程序，可以重新激活扬声器以完全运行。
- **牢固而美观的工业设计**
  两种型号均配备方便握持的把手和柔软橡胶，EVERSE 12还增添了侧面把手，以提高便携性。EVERSE 12虽然相较于EVERSE 8体积较大，也是同级产品中最大的12英寸扬声器之一，但其重量不到14公斤（29.8磅）。EVERSE 8和EVERSE 12配有防风雨输入保护罩，防水性能符合IP43标准。

## 2.3 快速安装

要设置扬声器，请执行以下操作：

| 步骤 | 图示 |
|---|---|
| 1. 将交流电源线从带接地的插座连接到**MAINS IN 电源输入** 以确保电池电量充足。<br>**注意：** 建议首次使用扬声器时插入电源并充电24小时。 |  |
| 2. 将电源开关切换到**ON**. |  |

| | |
|---|---|
| 3. 将音量(**VOL**)调整为0 dB（使用**MASTER VOL** 旋钮）。 | |
| 4. 按下输入选择软键以选择**INPUT 1** 或**INPUT 2**（如果使用XLR或¼英寸（6.35毫米）电缆），或者按输入选择软键以选择**INPUT 3/4**（如果使用蓝牙或3.5毫米小型插孔）。<br>使用**MASTER VOL** 旋钮将**INPUT LEVEL** 更改为**MUTE**. |  |
| 5. 使用XLR、TRS或TS电缆将音频源连接到**INPUT 1**,**INPUT 2**，或者将3.5毫米小型插孔连接到**INPUT 3/4**.确保音频源是**MUTE** 或处于低电平，然后再进行连接。建立连接后，将音源输出音量增大到合理水平。 |  |
| 6. 调节**INPUT LEVEL**，直到信号峰值刚好低于最大电平，或者直到达到所需的输出。如果出现**PK** (PEAK)指示，则将电平调低，直到**PK** 指示消失。<br>再次按下输入选择软键以退出通道菜单。 |  |
| 7. 使用**MASTER VOL** 旋钮，调节音量(**VOL**)，直到获得所需的扬声器输出。 | |

# 3 对QuickSmart Mobile应用程序进行配对

EV QuickSmart Mobile应用程序适用于平板电脑和智能手机，可通过Apple App Store和Google Play Store下载。

**注意!**

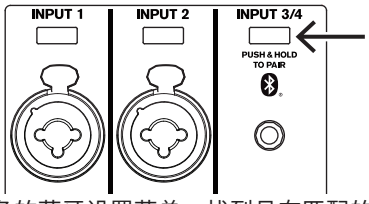
经设计，EV QuickSmart Mobile应用程序仅查找具有蓝牙控制功能的Electro-Voice扬声器。
EV QuickSmart Mobile应用程序不显示其他类型的蓝牙设备，例如手机、笔记本电脑、平板电脑或耳麦。

在将EV QuickSmart Mobile应用程序与Electro-Voice扬声器配对之前，请执行以下操作:

1. 确保在智能手机或平板电脑上启用蓝牙。
2. 确保在扬声器上启用配对模式。

将扬声器置于配对模式以进行控制和流式传输，请执行以下操作:

1. 按住**INPUT 3/4**，直到LCD上显示**Pairing Mode On**和4位数字的ID。
   可以通过LCD菜单分别针对控制和流式传输启用配对模式。



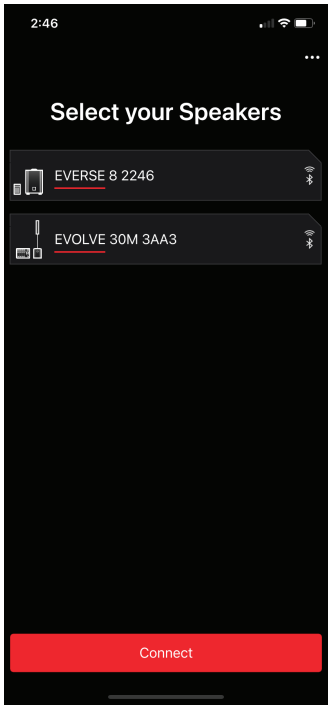

2. 导航到移动设备的蓝牙设置菜单，找到具有匹配的4位数字ID的EVERSE扬声器并确保与该扬声器配对。
   这会将移动设备与EVERSE扬声器配对，从而进行音频流式传输。
3. 继续执行下一步，针对控制进行配对。

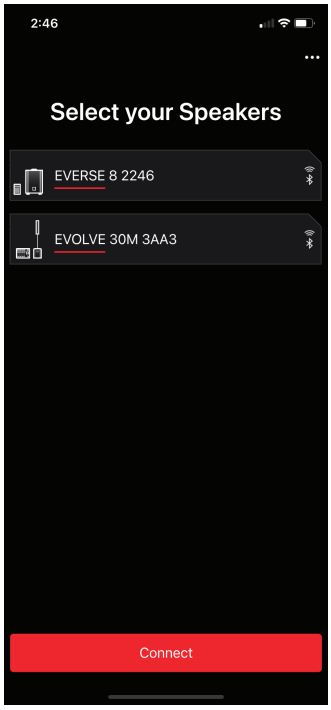
**注意!**

对于Android设备，请确保允许位置服务。Electro-Voice不会收集、存储或跟踪用户位置数据或个人信息。

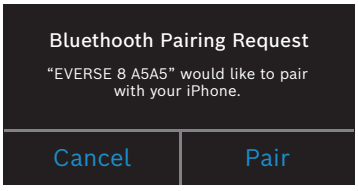
**初次配对**

1. 打开EV QuickSmart Mobile应用程序。
2. 屏幕上将显示**Select your Speakers**。
   EV QuickSmart Mobile应用程序将查找启用了蓝牙的可用Electro-Voice扬声器。
   此时屏幕上将显示可用的扬声器。
3. 点击要与该应用程序配对的扬声器。
   选定扬声器的下方将显示一条线，确认它被选中。
4. 重复上一个步骤，直到选择了所有的所需扬声器。
5. 点按**CONNECT**按钮。




6. 应用程序将与所选扬声器连接。
   您的iOS/iPadOS/Android设备上将显示一条请求与每个设备配对的消息，必须接受该消息。
7. 在设备上点按**PAIR**以接受与扬声器的配对。
   应用程序最多可以连接六个扬声器。




**后续配对**

要将其他扬声器与EV QuickSmart Mobile应用程序配对，请执行以下操作：

1. 点按EV QuickSmart Mobile应用程序图标。
2. 屏幕上将显示**选择您的扬声器**。
   EV QuickSmart Mobile应用程序将查找启用了蓝牙的可用Electro-Voice扬声器。此时屏幕上将显示可用的扬声器。
3. 点击要与该应用程序配对的扬声器。
   选定扬声器的下方将显示一条线，确认它被选中。
4. 重复上一个步骤，直到选择了所有的所需扬声器。
5. 点按**CONNECT**按钮。
   应用程序将与所需扬声器连接。
   应用程序最多可以连接六个扬声器。

# 4 操作

## 4.1 电池组的安装和充电

EVERSE扬声器附带预安装的高容量锂离子电池组。在首次使用之前，请将电池充电24小时，以确保理想的电池运行时间和预期寿命。

要为电池充电，请执行以下操作：

- 将电池安装入EVERSE扬声器，然后插上**MAINS IN**插头。

在首次完全充满电后，电池的预期充电时间如下：

– 在无信号且关机的情况下为4小时或以下。

– 在打开电源并以高输出音量播放音频的情况下为6小时或以下。

在关机情况下对电池充电时，LCD将显示 CHARGING 。电池充满电时，LCD将显示 FULL 。

**注意！**

电池自放电

所有锂离子电池都会在较长时间（几个月）内自行放电。如果电池长时间放置而不充电，电池可能会完全放电。完全充电可能需要比平时更长的时间。如果发生这种情况，请在使用前再次让电池充电至少24小时。

每月检查一次扬声器和电池，并为电池充电。这有助于维护电池正常运行时间并延长其使用寿命。

**注意！**

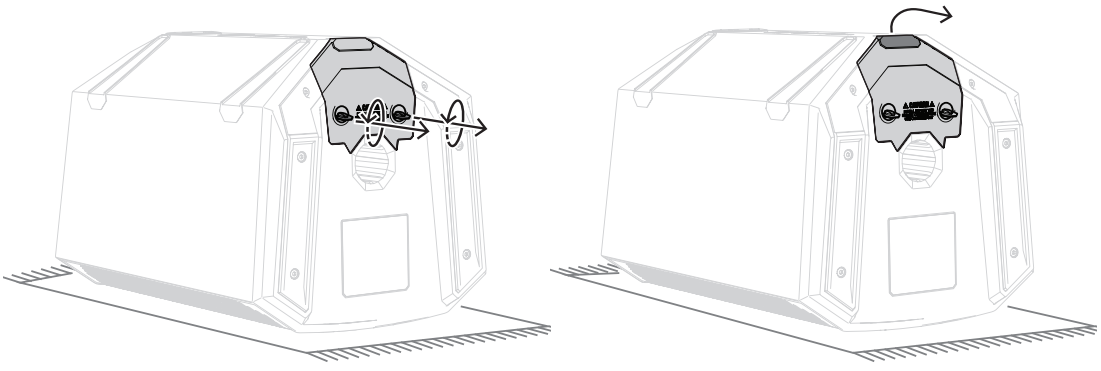
电池运行时间

通过直流电源插孔、USB连接和/或幻象电源为外部设备供电将缩短电池运行时间，具体取决于所需的电源。一般使用情况下可能会使总运行时间减少25%到50%。不同用户的结果可能会有所不同。

输出电平、电源材料、环境温度和电池放电次数等其他因素，也会影响锂离子电池系统的运行时间。

要取下并重新安装电池以进行检查或更换，请执行以下操作：

1. 使扬声器网罩侧面向下同时电池盖朝向您，将其放置在不会造成划伤的平坦表面上，如铺有橡胶垫的工作台。
2. 将两个指旋螺丝逆时针旋转，彻底卸下。
3. 轻轻用力拉动电池盖背面的拉手，拉出电池组。

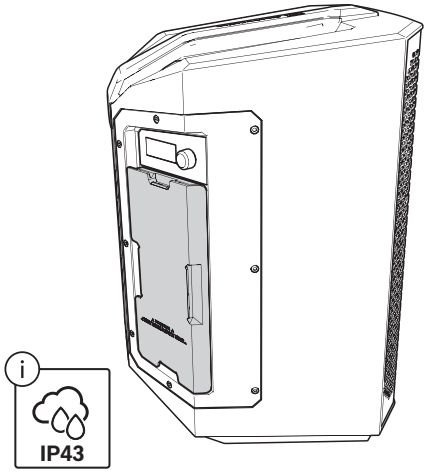


4. 要装回电池组，请按相反顺序执行前面的步骤。

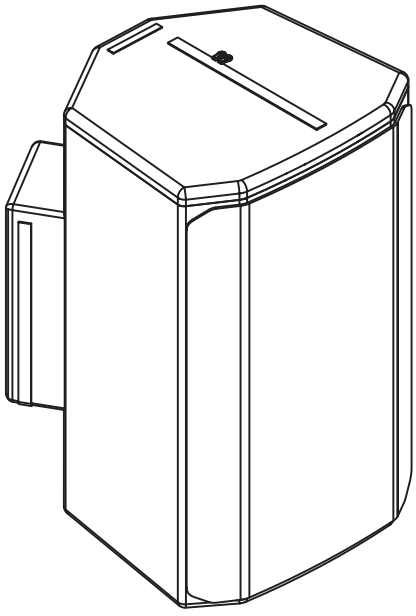
**注意!**
在拧紧指旋螺丝之前，确保电池盖完全到位。仅用手拧紧，直到贴合。不要过度拧紧或使用过大的扭矩。这可能会造成损坏。

## 4.2 防风雨

在安装了防风雨输入保护罩的情况下，EVERSE扬声器的防风雨性能可以达到IP 43标准，但不防水。损坏、维修、不当拆卸和正常磨损可能会降低防风雨性能。每次使用EVERSE和附件之前和之后，请务必进行检查。在存放之前或在使用后、下次使用前，对扬声器及其组件进行干燥处理。
安装了防风雨输入保护罩的EVERSE扬声器仅适合在潮湿环境下短时间使用。扬声器并不适合长时间持续暴露于潮湿环境。请勿使其和盐水或喷雾接触，请勿将其暴露于氯气或在高氯环境中使用。
要在潮湿环境中安全使用扬声器，请按照下面的说明操作:




使用电池电源工作时以及使用蓝牙流式传输和控制功能时，使用防风雨输入保护罩。请参见防风雨输入保护罩的安装, 页面 *18*。



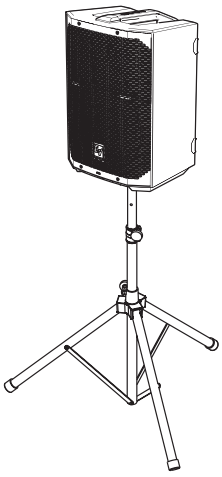
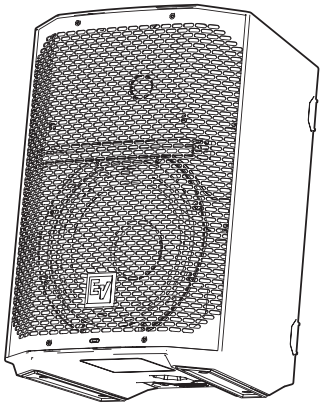
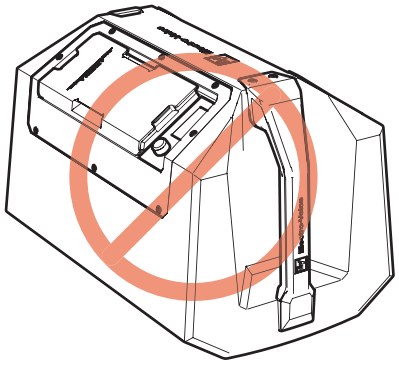
使用市电电源工作时或需要使用任何I/O连接器时，使用Electro-Voice认可的防雨罩附件。有关正确安装和使用防雨罩的信息，请参见该附件的用户指南。

**警告!**
仅以本节中明确要求的方式使用EVERSE产品。否则可能导致产品故障或严重的人身伤害。

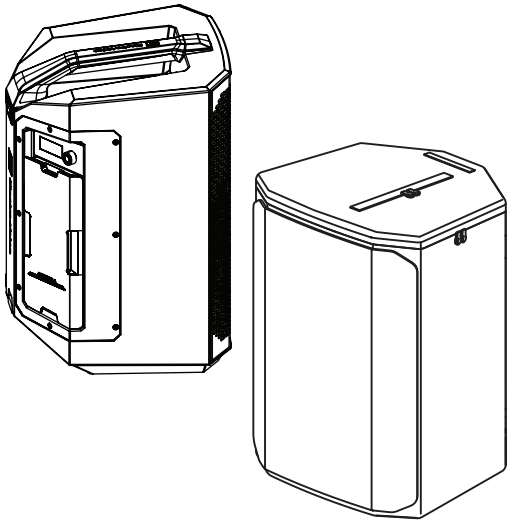
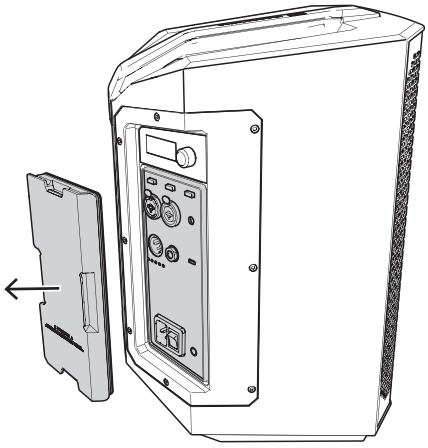
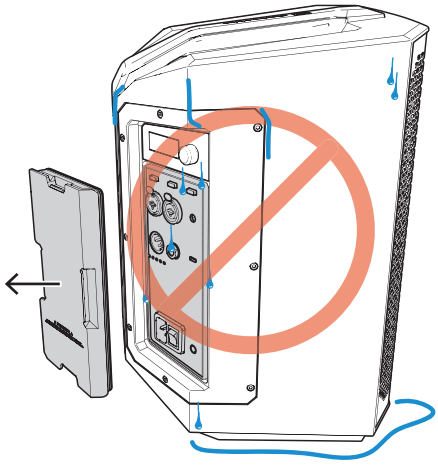
**警告!**
仅使用Electro-Voice认可的附件。

**在潮湿环境中安全使用扬声器**

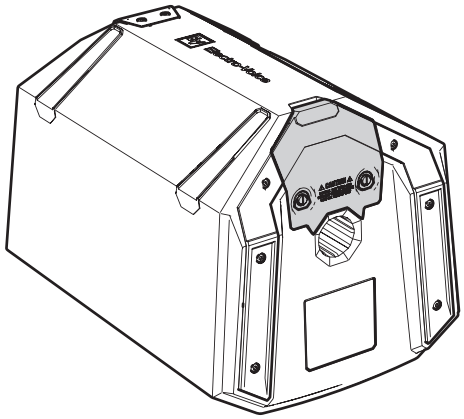
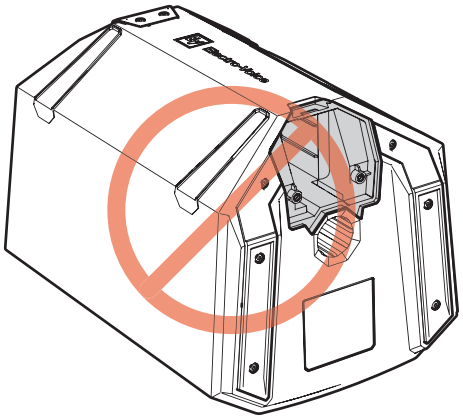
| 正确 | 不正确 |
|---|---|
| 将扬声器放在高处平坦稳定的平面上，或放在三脚架上。 | 请勿将扬声器放在水坑或积水位置当中。 |

| 正确 | 不正确 |
| --- | --- |
|  | |
| 处于**KICKBACK**模式或**MONITOR**模式时，务必将扬声器竖直放置。<br>  | 请勿将扬声器倒立放置或运输，也不要将放大器面板侧朝下放置，以防进水。<br>  |

| 正确 | 不正确 |
| --- | --- |
| 在潮湿环境中务必使用随附的防风雨输入保护罩（请参见防风雨输入保护罩的安装, 页面 *18*）或Electro-Voice认可的防雨罩附件。 | 在未安装防风雨输入保护罩或防雨罩附件的情况下，请勿在潮湿环境中使用EVERSE。 |

| 正确 | 不正确 |
| --- | --- |
|  | |
| 使用后晾干产品和防风雨输入保护罩，然后取下防风雨输入保护罩。<br>  | 请勿在防风雨输入保护罩仍旧潮湿的情况下将其取下。否则，水可能会进入IO面板。<br>  |

| 正确 | 不正确 |
| --- | --- |
| 在潮湿环境中操作时，请务必确保正确安装电池。 | 在未安装电池时，请勿在潮湿环境中使用。这可能导致水汽进入电池盒。 |

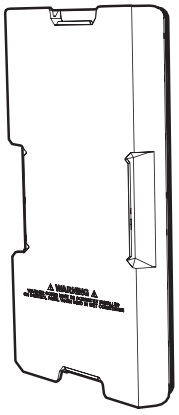
| 正确 | 不正确 |
| --- | --- |
|  |  |

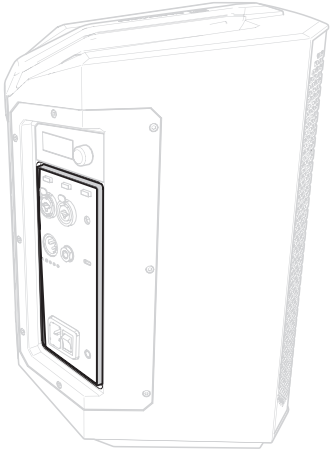
## 4.3 防风雨输入保护罩的安装

当要在潮湿条件下使用EVERSE扬声器时，必须安装防风雨输入保护罩。在安装防风雨输入保护罩后，EVERSE扬声器的防水性能将会达到IP43标准。安装防风雨输入保护罩后，EVERSE扬声器能够使用电池电源工作，并使用蓝牙流式传输和控制音频。

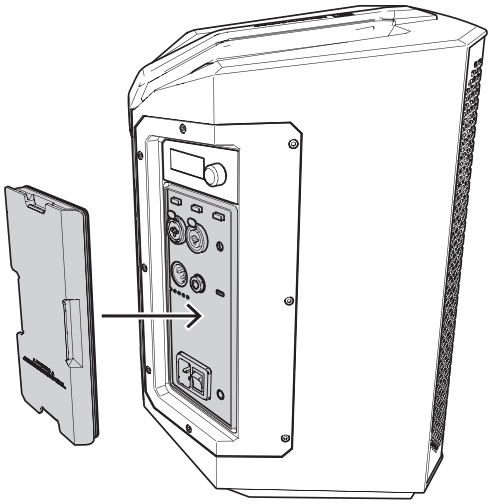
**要安装防风雨输入保护罩，请执行以下操作：**

1. 确保防风雨输入保护罩完好无损、干燥、洁净，并且垫圈状况良好。
2. 确保EVERSE扬声器上的输入面板干燥、清洁，并且输入连接器周围的配合通道干燥，没有灰尘或碎屑妨碍密封效果。



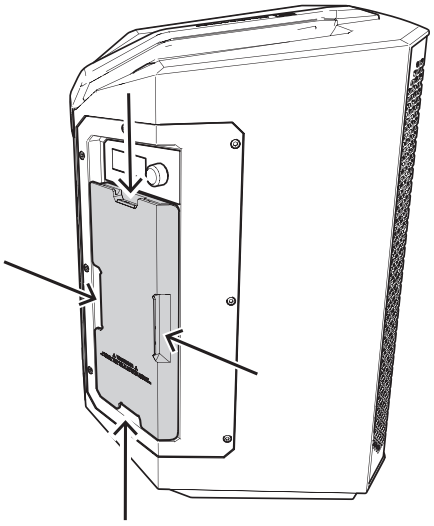


3. 打开扬声器电源。
4. 用力按压以安装防风雨输入保护罩，以将垫圈完全固定在放大器输入面板上的配合通道中。防风雨输入保护罩应与扬声器的相邻面板齐平。



**要取下防风雨输入保护罩，请执行以下操作：**

- 使用拉手小心、均匀地拉动护罩。



## 4.4 三脚架或立杆安装

EVERSE扬声器安装在三脚架或低频扬声器上方的立杆上。

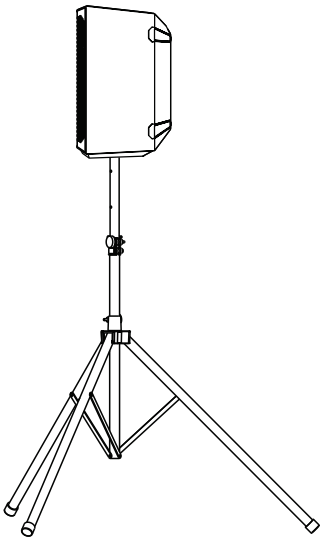
**在三角落地支架上安装扬声器**

**小心！**
对于本扬声器，没有评估三脚架的安全性。检查三脚落地支架的规格，确保其可支撑扬声器的重量。

要将扬声器安装在三脚架上，请执行以下操作：

1. 将三角落地支架放在平坦稳定的平面上。
   - 将三角落地支架的支脚完全展开。
   - 请不要尝试让支架立得过高，这样将损坏三角落地支架的结构。
   - 若支架原本设计为只能安装单台扬声器，则请勿尝试安装多台扬声器。
2. 请用两只手提举扬声器。

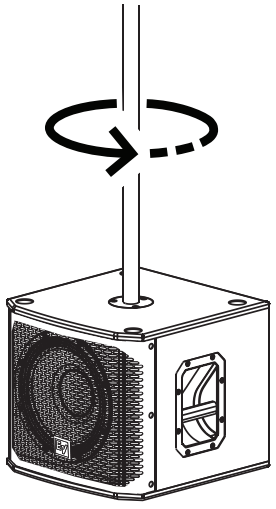
3. 将扬声器底部的连接杆顶帽套到连接杆上。



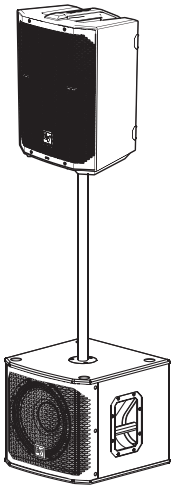
**在立杆上安装扬声器**

要将扬声器安装在立杆上，请执行以下操作：

1. 将低频扬声器放在平坦稳定的平面上。
2. 将M20螺纹连接杆插入低频扬声器顶部的多功能连接杆顶帽。
3. 顺时针转动M20螺纹连接杆，将连接杆固定到低音扬声器上。



4. 请用两只手提举扬声器。
5. 在DSP控制菜单中将扬声器位置设置为**TRIPOD**。
6. 为低频扬声器选择相应的**LOW PASS**设置。



**注意!**
在菜单或应用程序中选择**LOCATION TRIPOD**以获得理想音质。

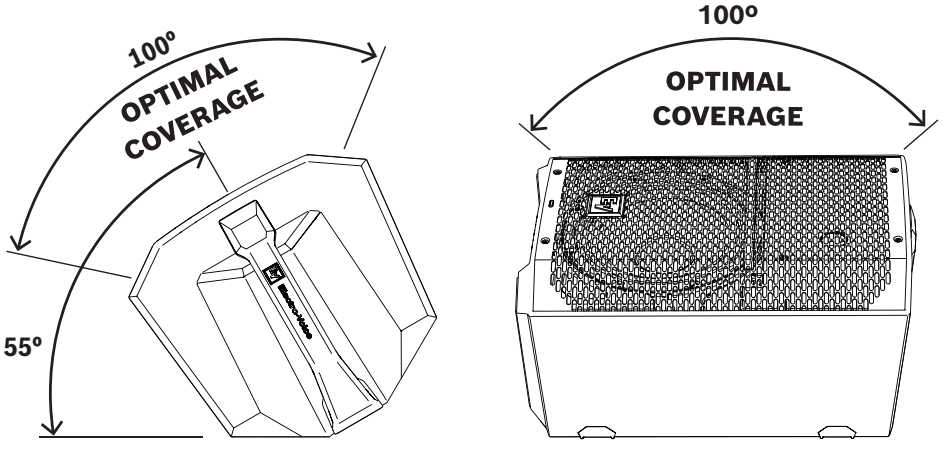
## 4.5 落地监听音箱和反冲

EVERSE扬声器如果以两个一体化监听音箱角度之一放置，则可用作落地监听音箱或用于反冲位置。

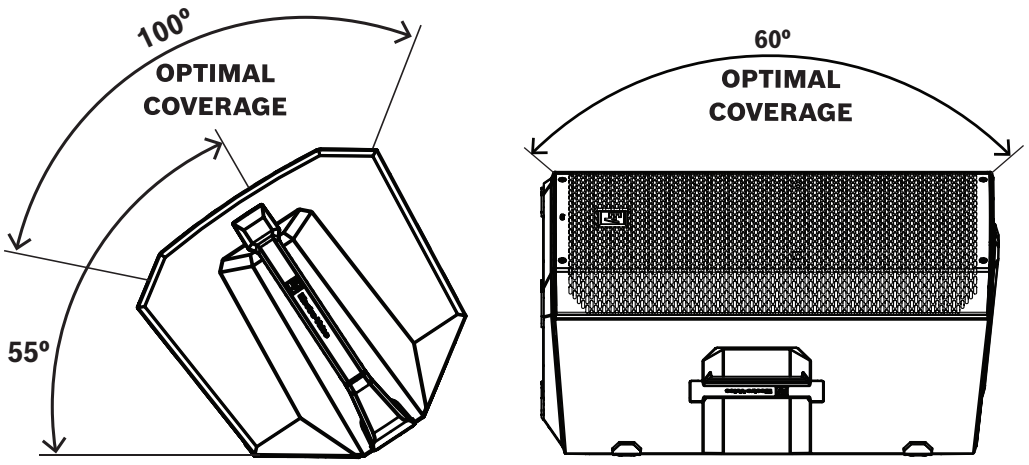
**将扬声器设置为落地监听音箱**

要将扬声器设置为落地监听音箱，请执行以下操作:

1. 将扬声器放在平坦稳定的平面上。
2. 安全地布设电缆以防止对表演者、制作团队和观众造成人身伤害。
3. 在DSP控制菜单中将扬声器位置设置为**MONITOR**。




**图片 4.1:** EVERSE 8监听音箱位置的理想覆盖范围（左侧为侧视图，右侧为前视图）

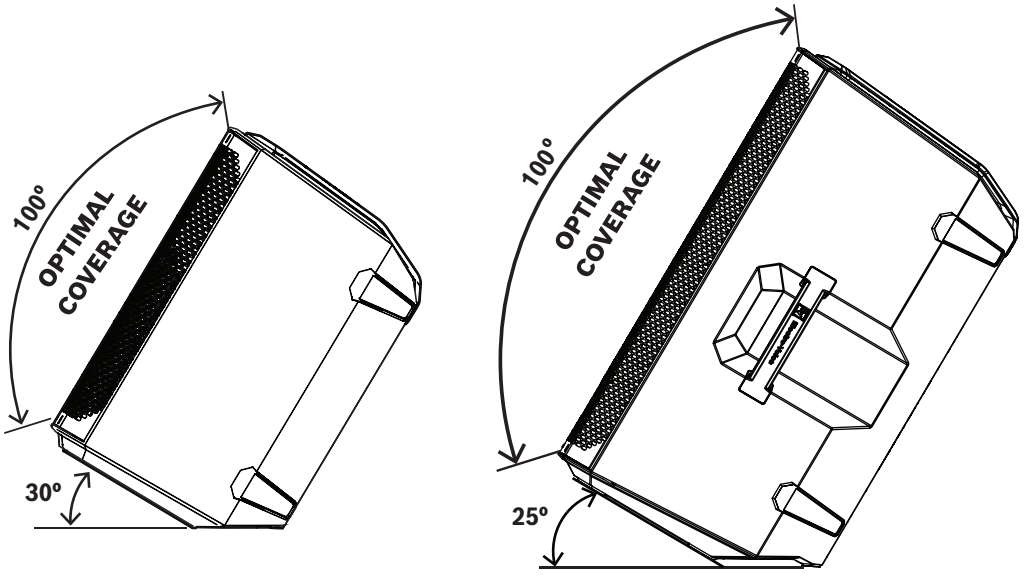



**图片 4.2:** EVERSE 12监听音箱位置的理想覆盖范围（左侧为侧视图，右侧为前视图）

**将扬声器设置为反冲位置**

要将扬声器设置为反冲位置，请执行以下操作：

1. 将扬声器放在平坦稳定的平面上。
2. 向后倾斜扬声器，使其固定在反冲位置。
3. 安全地布设电缆以防止对表演者、制作团队和观众造成人身伤害。
4. 在DSP控制菜单中将扬声器位置设置为**KICKBACK**。




**图片 4.3:** EVERSE 8和EVERSE 12反冲位置的理想覆盖范围

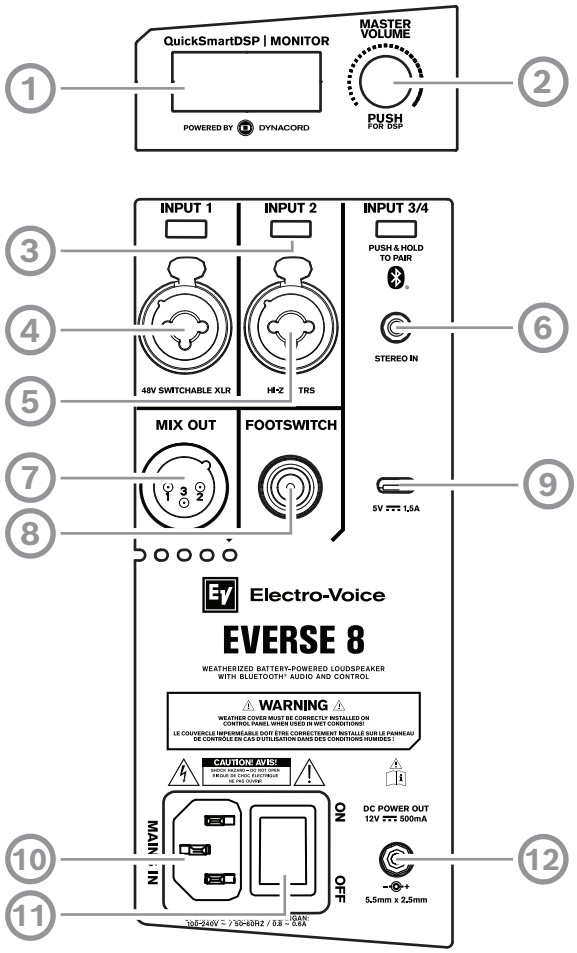
# 5 放大器DSP

## 5.1 放大器DSP控制

功率放大器拥有多种控制和连接器，以确保扬声器系统具有最广泛的用途。

**扬声器控制和监视界面**

这些DSP控制菜单选项适用于EVERSE。




**图片 5.1:** 扬声器放大器面板

1. **LCD** - DSP控制和监视界面。
2. **MASTER VOL** - 调整音量并导航DSP控制菜单。
   **DSP** - 滚动浏览菜单并选择可用选项。按下**MASTER VOL**旋钮可进入DSP控制菜单。
3. **输入选择软键** - 按下软件可选择输入并访问该通道的DSP控制菜单。第二次按下软件可取消选择通道并返回到主DSP。
4. **INPUT 1** - 用于混音台、乐器或话筒等信号源的平衡输入。可使用¼英寸TRS或XLR连接器建立连接。可为48V幻象电源选择XLR连接器。
5. **INPUT 2** - 用于通过XLR连接器连接混音台或话筒等输入源或通过TRS连接Hi-Z乐器的平衡输入。
6. **INPUT 3/4** - 用于音频流式传输的蓝牙立体声输入或通过3.5毫米小型插孔提供模拟立体声输入。
7. **MIX OUT** - XLR输出将混合的所有输入信号或立体声左声道或立体声右声道信号发送到其他扬声器或低频扬声器。
8. **FOOTSWITCH** - 用于连接脚踏开关控制以打开/关闭FX的¼英寸TRS连接器。
9. **移动设备充电端口** - 用于移动设备的5 V 1.5 A充电。
10. **MAINS IN** - AC连接通过IEC连接器建立。

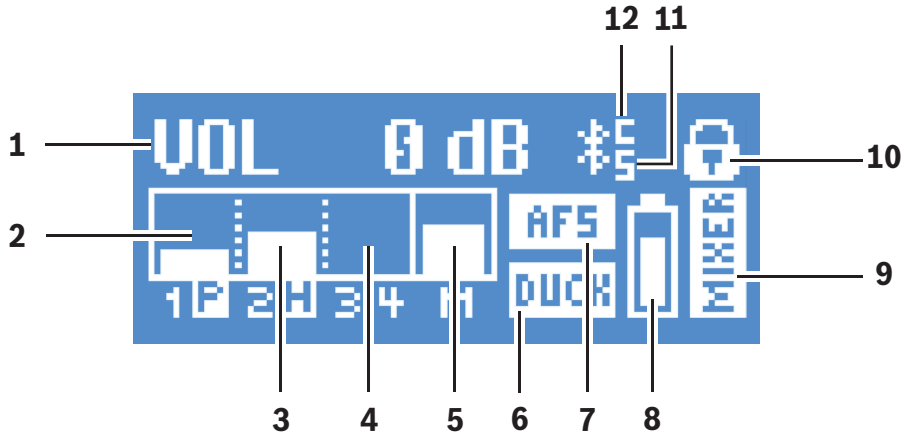
11. **POWER** - 用于打开(**ON**)或关闭(**OFF**)扬声器电源的开关。当打开(**ON**)电源时，在大约三秒后，LCD屏幕将亮起。
12. **DC POWER OUT** - 直流电源输出插孔，可供EVERSE-TRAY附件中包含的5.5毫米外径和2.5毫米内径直流电源线使用。DC POWER OUT插孔能够为使用中心正极插针并在12 V直流电时消耗500mA或更少电流的无线话筒接收器供电，例如Electro-Voice RE3或R300无线话筒接收器。

**警告!**

直流电源插孔用于电源输出。**这不是充电端口。请勿**连接直流电源适配器或尝试使用此连接器为EVERSE扬声器的电池充电。否则可能会导致扬声器损坏和保修失效。

## 5.2 系统状态

**正常**




1. **VOL** - 指示系统的总增益（以dB为单位）。范围为-80 dB至+10 dB，以1 dB为增量。
2. **INPUT 1** - VU音量表显示INPUT 1到放大器INPUT 1连接器的信号音量。显示的**P**表示打开了48 V幻象电源。
3. **INPUT 2** - VU音量表显示INPUT 2到放大器INPUT 2连接器的信号音量。显示的**H**表示INPUT 2 TRS连接器上存在Hi-Z乐器连接。
4. **INPUT 3/4** - VU音量表显示INPUT 3/4到放大器的信号音量，该音量来自蓝牙流式传输或3.5毫米小型插孔连接。
5. **MAIN** - VU表显示MAIN输出的信号音量。
6. **DUCK** - 在INPUT 1和/或INPUT 2上激活了强切。
7. **AFS** - 启用自动反馈抑制。
8. **电池状态** - 指示扬声器的电池电量水平以及电池是否在充电（当连接了**MAINS**时）。
9. **功能指示器** - 指示系统是处于**MIXER**模式还是处于**BASIC**模式。
10. **Status display** - 交替显示以下状态:
    **1** - 指示所选的预设编号。提供五种用户定义的预设。
    **E** - 已编辑。指示预设未保存。如果保存了预设，则不显示**E**。
    **Lock status** - 表示已锁定LCD显示屏和控件。按**MASTER VOL**旋钮或通道选择软键可以解锁。
11. **S** - 音频流式传输。可用的选项是:
    **关闭 - 禁用**
    **闪烁 - 配对模式(120s)**
    **常亮 - 已连接**
12. **C** - 控制应用程序。可用的选项是:
    **关闭 - 禁用**
    **闪烁 - 配对模式**
    **常亮 - 已连接**

**系统保护**

当系统超过建议的使用范围时，系统保护限幅器就会在LCD显示屏上显示输入**CLIP**或输出**LIMIT**。

**CLIP (削波)**

**CLIP**指示输入到扬声器的信号太强，导致信号削波。

如果显示**CLIP**:

- 请降低**INPUT GAIN**和/或混音器或声源设备上的信号。

**LIMIT**

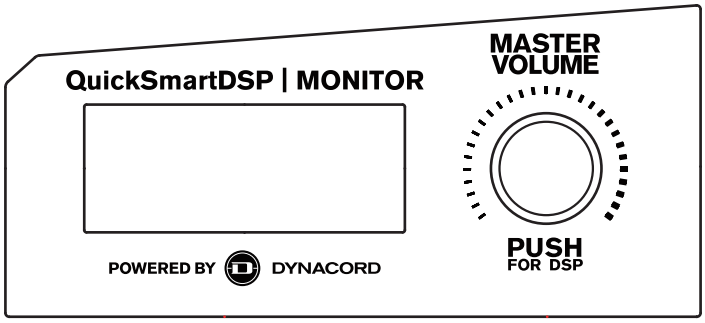
**LIMIT**可保护扬声器免受可能导致失真的短期峰值和长期过载损害。当屏幕上显示**LIMIT**时，限幅器处于活动状态。

如果经常或持续显示**LIMIT**指示:

- 请调低输出音量(**MASTER VOL**)。强烈建议执行此操作。

## 5.3 DSP控制

利用集成的DSP控制菜单，用户可以在扬声器上选择多个DSP系统设置。




**访问DSP控制菜单**

要访问DSP控制菜单，请执行以下操作:

1. 按下**MASTER VOL**旋钮。
   此时将出现DSP控制菜单。
2. 使用**MASTER VOL**旋钮，滚动浏览菜单项。
3. 按下**MASTER VOL**旋钮以选择要修改的菜单项。
   此时，光标将移动到DSP控制菜单右侧的参数。
4. 使用**MASTER VOL**旋钮，滚动浏览参数。
5. 按下**MASTER VOL**旋钮以确认所选参数。
   设置将进行保存。光标将回到DSP控制菜单左侧的菜单项。
6. 重复步骤2至步骤5以修改其他DSP和系统设置。
7. 选择**EXIT**以返回主屏幕。

### 5.3.1 扬声器DSP控制菜单

扬声器DSP控制菜单选项适用于EVERSE扬声器。

**MIXER模式的DSP控制菜单**

| | | |
|---|---|---|
| VOLUME | | 0 dB（默认值） |
| | | MUTE，-80 dB - +10 dB (1 dB) |

| | | | |
|---|---|---|---|
| | EXIT | | |
| | FUNCTION | | MIXER（默认值） |
| | | | BASIC |
| | MODE | | MUSIC（音乐）（默认值） |
| | | | LIVE |
| | | | SPEECH |
| | | | CLUB |
| | MAIN LEVEL | | 0 dB（默认值） |
| | | | MUTE，-80 dB - +10 dB (1 dB) |
| | LOCATION（位置） | | TRIPOD (三脚架)（默认值） |
| | | | KICKBACK |
| | | | MONITOR（监听） |
| | SUB（低频） | | OFF（默认值） |
| | | | 100 Hz |
| | | | 120 Hz |
| | | | 150 Hz |
| | | | ELX200-12SP |
| | | | ELX200-18SP |
| | | | EKX-15SP |
| | | | EKX-18SP |
| | TREBLE | | 0 dB（默认值） |
| | | | -12 dB - +6 dB |
| | MID | | 0 dB（默认值） |
| | | | -12 dB - +6 dB |
| | BASS | | 0 dB（默认值） |
| | | | -12 dB - +6 dB |
| | MAIN PEQ | BACK | |
| | | ENABLE ALL | ON（开）（默认值） |
| | | | OFF(关) |
| | | RESET ALL | NO（否）（默认值） |
| | | | 是 |
| | | PEQ # | 1（默认值） |

| | | | |
|---|---|---|---|
| | | | 1 - 7 |
| | | FILTER ENABLE（滤波器启用） | OFF (关)（默认值） |
| | | | ON |
| | | TYPE | PEQ (关)（默认值） |
| | | | LOW SHELF |
| | | | HI SHELF |
| | | | LOW PASS (低通) |
| | | | HI PASS |
| | | Q（仅PEQ） | 0.7（默认值） |
| | | | 0.5 - 10.0 |
| | | FREQ | 120 Hz（默认值） |
| | | | 50 - 20 kHz |
| | | GAIN（仅PEQ、LOW SHELF和HI SHELF） | 0 dB（默认值） |
| | | | -12 dB - +6 dB |
| | | RESET | NO（默认值） |
| | | | 是 |
| | | BACK | |
| | MAIN GEQ | BACK | |
| | | 63 Hz | 0 dB（默认值）<br>-12 dB - +12 dB (1 dB) |
| | | 160 Hz | 0 dB（默认值） |
| | | 400 Hz | -12 dB - +12 dB (1 dB) |
| | | 1 kHz | 0 dB（默认值） |
| | | 2.5 kHz | -12 dB - +12 dB (1 dB) |
| | | 6 kHz | 0 dB（默认值） |
| | | 12 kHz | -12 dB - +12 dB (1 dB) |
| | | RESET | RESET ALL BANDS?<br>YES/NO |
| | | BACK | |
| | FX | | 01（默认值） |
| | | | 00至30 |

| | | |
|---|---|---|
| FX Delay<br>（仅FX 20） | | 427 ms（默认值） |
| | | 30 ms - 550 ms |
| FX ENABLE | | ON（默认值） |
| | | OFF(关) |
| AFS（自动反馈抑制） | | OFF（默认值） |
| | | ON |
| MIX OUT | | L+R（默认值） |
| | | L |
| | | R |
| BLUETOOTH | BACK | |
| | BLUETOOTH | ON（默认值） |
| | | OFF |
| | ID（4位数字的唯一设备编号） | |
| | CONTROL PAIR | |
| | AUDIO PAIR | |
| | LINK SPEAKERS | |
| | LINK ROUTE | L+R（默认值） |
| | | L |
| | | R |
| | BACK | |
| LED | | ON（默认值） |
| | | OFF |
| | | LIMIT |
| DISPLAY | BACK | |
| | LCD DIM（屏幕渐暗） | ON（默认值） |
| | | OFF |
| | BRIGHT | 5（默认值） |
| | | 1 - 10 |
| | CONTRAST（对比度） | 5（默认值） |
| | | 1 - 10 |
| | BACK | |
| STORE | | BACK、1、2、3、4、5、BACK |

| | | | |
|---|---|---|---|
| | RECALL | | BACK、1、2、3、4、5、6（默认值）、BACK |
| | STANDBY | | 15 min（默认值） |
| | | | 15 min - 60 min、OFF |
| | RESET | DEFAULT SETTINGS? | NO（默认值） |
| | | | YES |
| | | ERASE USER PRESETS? | NO（默认值） |
| | | | YES |
| | INFO | | [固件版本] |
| | | | ©2021 Electro-Voice |
| | EXIT | | |

**表格 5.1:** 扬声器DSP控制菜单（MIXER模式）

**BASIC模式的DSP控制菜单**

| | | |
|---|---|---|
| VOLUME | | 0 dB（默认值） |
| | | MUTE，-80 dB - +10 dB (1 dB) |
| | EXIT | |
| | FUNCTION | MIXER（默认值） |
| | | BASIC |
| | MODE | MUSIC（音乐）（默认值） |
| | | LIVE |
| | | SPEECH |
| | | CLUB |
| | LOCATION（位置） | TRIPOD (三脚架)（默认值） |
| | | KICKBACK |
| | | MONITOR（监听） |
| | SUB（低频） | OFF（默认值） |
| | | 100 Hz |
| | | 120 Hz |
| | | 150 Hz |

| | | |
|---|---|---|
| | | ELX200-12SP |
| | | ELX200-18SP |
| | | EKX-15SP |
| | | EKX-18SP |
| DELAY | | OFF（默认值） |
| | | 0.1 m - 100.0 m |
| TREBLE | | 0 dB（默认值） |
| | | -12 dB - +6 dB |
| MID | | 0 dB（默认值） |
| | | -12 dB - +6 dB |
| BASS | | 0 dB（默认值） |
| | | -12 dB - +6 dB |
| MIX OUT | | L+R（默认值） |
| | | L |
| | | R |
| BLUETOOTH | BACK | |
| | BLUETOOTH | ON（默认值） |
| | | OFF |
| | ID（4位数字的唯一设备编号） | |
| | CONTROL PAIR | |
| | AUDIO PAIR | |
| | LINK SPEAKERS | |
| | BACK | |
| LED | | ON（默认值） |
| | | OFF |
| | | LIMIT |
| DISPLAY | BACK | |
| | DIM | ON（默认值） |
| | | OFF |
| | BRIGHT | 5（默认值） |
| | | 1 - 10 |
| | CONTRAST（对比度） | 5（默认值） |
| | | 1 - 10 |
| | BACK | |

| | | |
|---|---|---|
| STORE | | BACK、1、2、3、4、5、BACK |
| RECALL | | BACK、1、2、3、4、5、6（默认值）、BACK |
| STANDBY | | 15 min（默认值） |
| | | 15 min - 60 min、OFF |
| RESET | DEFAULT SETTINGS? | NO（默认值） |
| | | YES |
| | ERASE USER PRESETS? | NO（默认值） |
| | | YES |
| INFO | | [固件版本] |
| | | ©2021 Electro-Voice |
| EXIT | | |

**表格 5.2:** 扬声器DSP控制菜单（BASIC模式）

**EXIT（退出）菜单**
**EXIT**菜单用于返回主屏幕。

**注意!**
在30秒钟无动作后，显示屏将回到主屏幕。

**FUNCTION菜单**
**FUNCTION**菜单用于配置**MIXER**功能和**BASIC**功能：
- **BASIC** - 提供输入和输出增益控制、3段均衡器和系统延迟，以简化音频设置或用作卫星或R通道立体声设置。
- **MIXER** - 可完全访问和控制混音器。

**MODE（模式）菜单**
**MODE**菜单用于配置扬声器发送的声音的类型。
该项可选择：**MUSIC**、**LIVE**、**SPEECH**和**CLUB**。
- **MUSIC** - 用于录制音乐的播放和电子舞曲应用场合。
- **LIVE** - 用于现场扩声应用场合。
- **SPEECH** - 用于人声语言应用场合。
- **CLUB** - 用于录制的电子音乐重放。

默认值为**MUSIC (音乐)**。

**LOCATION（位置）菜单**
**LOCATION**菜单用于针对不同的边界优化扬声器。
该项可选择：**TRIPOD**、**KICKBACK**、**MONITOR**。
- **TRIPOD** - 在将扬声器放在三脚架或立杆上时使用。
- **KICKBACK** - 在将扬声器放在后部倾斜反冲位置时使用。此设置补偿了将扬声器放在平坦稳定水平表面上时产生的低频提升。

– **MONITOR** - 在将扬声器放在倾斜监听面的监听位置时使用。此设置补偿了将扬声器放在平坦稳定水平表面上时产生的低频提升。

默认值为**TRIPOD (三脚架)**。

**SUB（低频）菜单**

**SUB**菜单用于选择与低频扬声器共同使用时的高通频率。

该项可选择：**OFF**、**100 Hz**、**120 Hz**、**150 Hz**、**ELX200-12SP**、**ELX200-18SP**、**EKX-15SP**和**EKX-18SP**。**100 Hz**、**120 Hz**和**150 Hz**这几个选项是用于与其他低音扬声器配套使用时的一般高通设置。**ELX200-12SP**、**ELX200-18SP**、**EKX-15SP**和**EKX-18SP**设置专门针对低频扬声器进行了优化（包括通过延时来实现理想叠加效果）。

默认值为**OFF**。

**TREBLE控件**

**TREBLE**控件用于针对不同的应用场合或个人喜好调整扬声器的高频效果。该参数控制高频搁架滤波器。

默认值为**0 dB**。

**MID控件**

**MID**控件用于针对不同的应用场合或个人喜好调整扬声器的中频效果。

默认值为**0 dB**。

**BASS控件**

**BASS**控件用于针对不同的应用场合或个人喜好调整扬声器的低频效果。该参数控制低频搁架滤波器。

默认值为**0 dB**。

**MAIN PEQ（混音输出）菜单**

**MAIN PEQ**用于针对不同的应用场合或个人喜好调整扬声器的频率响应。有七种均衡滤波器。

可在以下类型中选择滤波器类型：

**PEQ** - 参数均衡滤波器，使用具有三个控件的波峰/波谷钟形滤波器调整声音波形。

– **Q** - 品质因数，定义滤波器的带宽。**Q**越低，带宽越宽，**Q**越高，带宽越窄。
– **FREQ** - 选择EQ滤波器的中心频率。
– **GAIN** - 设置均衡滤波器的增加或减少量。

**LOW/HI SHELF** - 使用搁架滤波器调整声音波形，该滤波器可使用以下两个控件应用于低频或高频响应：

– **FREQ** - 设置滤波器的中心频率。对于**LOW SHELF**滤波器，滤波器的**GAIN**在所选频率以上逐渐减小。对于**HIGH SHELF**滤波器，滤波器的**GAIN**在所选频率以下逐渐减小。
– **GAIN** - 设置信号在**FREQ**设置以下或以上的增加或减少量。

**LOW/HI PASS** - 带通滤波器，仅通过所选频率以上或以下的信号，从而调整声音波形。

– **FREQ** - 设置带通滤波器的转角频率。对于**HI PASS**滤波器，高于所选频率的所有频率都将通过。低于设置的频率将逐渐减小。对于**LOW PASS**滤波器，低于所选频率的所有频率都将通过。高于所选频率的频率将逐渐减小。

**MAIN GEQ（混音输出）菜单**

**MAIN GEQ菜单**用于针对不同的应用场合或个人喜好调整扬声器的频率响应。有七种不同的EQ滤波器，集中在以下频率：63、160、400、1.0K，2.5K，6.0K和12K Hz。如果**AUX OUT**设置为**MAIN MIX**，则滤波器还不受**MAIN GEQ**设置影响。

每个滤波器的范围是-12 dB至+12 dB。

每个滤波器的默认值为**0 dB**。

**FX和FX ENABLE**

**FX**控件用于选择要应用于FX发送的所需效果（例如混响、合唱、延迟等）。FX发送音量通过INPUT 1和INPUT 2 FX控件独立控制。**FX ENABLE**可全局打开(**ON**)或关闭(**OFF**)该效果。可通过脚踏开关切换**FX ENABLE**的状态。

**AFS（自动反馈抑制）**

使用具有拾音器的话筒或乐器时，可以启用12波段自动反馈抑制(AFS)以减少不需要的反馈频率。当扬声器发出的声音进入话筒或拾音器并由扬声器放大后再次播放时，便会发生反馈。高音量或长时间的反馈可能会损害听力和损坏设备。

该项可选择**OFF**和**ON**。

**减少反馈**

要减少反馈，请执行以下操作：

1. 按照您的表演要求设置扬声器和话筒或乐器。遵循适当的话筒放置和使用惯例：
   - 请勿将话筒直接放在扬声器前面。请参见话筒用户手册，以了解话筒的拾音和抑制模式。
   - 避免在话筒附近放置乐谱架、平板电脑或其他大型扁平物体，此类物体可能对话筒造成音频反射。
   - 在讲话、唱歌或放置乐器时使用适当的话筒技术，避免造成过大的输入增益。例如，表演时嘴部过于靠近话筒。
   - 针对应用场合使用适当的输入通道**PRESET**：**LOW CUT 80 Hz**、**LOW CUT 120 Hz**、**VOCAL MIC**、**VOICE FILTER**、**SPEECH**、**ACOUSTIC GUITAR**等。请参见*INPUT DSP*控制菜单, 页面 *36*。
   - 请勿在讲话或唱歌时用手罩住话筒头。请按照话筒制造商的建议，仅握住话筒的手柄或主体。
2. 在DSP控制菜单中或在QuickSmart Mobile应用程序的FX部分启用自动反馈抑制(AFS)。这会在**INPUT 1**和**INPUT 2**上启用**AFS**。
1. 缓慢调高扬声器的输出，并开始对话筒或乐器进行声音检查。
2. 当您听到反馈音时，请等待几秒时间让自动反馈抑制(AFS)检测并减少反馈。
3. 继续声音检查，直到不再产生反馈音。

**MIX OUT（混音输出）菜单**

**MIX OUT**菜单用于选择应在**MIX OUT**处输出哪个信号，以及哪个信号应由扬声器播放。

- **L+R** - 所有输入的左右信号进行叠加。**MIX OUT**输出叠加音频信号，并由扬声器播放（默认值）。
- **L** - 只有所有输入的左声道信号才在**MIX OUT**处输出。扬声器只播放右声道信号。
- **R** - 只有所有输入的右声道信号才在**MIX OUT**处输出。扬声器只播放左声道信号。

**BLUETOOTH菜单**

**BLUETOOTH**菜单用于设置扬声器的蓝牙功能。

**ON/OFF** - **ON/OFF**菜单控制扬声器上是启用还是禁用蓝牙功能。

**CONTROL PAIR** - **CONTROL PAIR**菜单用于启用QuickSmart Mobile无线控制和监控应用程序。该项可选择：ON或OFF。

默认值为**OFF**。

**AUDIO PAIR** - **AUDIO PAIR**菜单用于将音频从启用蓝牙功能的设备流式传输到扬声器系统。该项可选择：**PAIRING**、**ON**或**OFF**。

默认值为**OFF**。

**LINK SPEAKERS**

**LINK SPEAKERS**功能允许在真无线立体声模式下通过蓝牙链接两个EVERSE扬声器。

要链接两个EVERSE扬声器，请执行以下操作：

1. 通过蓝牙功能将一个EVERSE扬声器与移动设备配对。有关配对说明，参见对*QuickSmart Mobile*应用程序进行配对, 页面 *12*。
2. 在两个EVERSE扬声器中，导航到主DSP菜单中的**BLUETOOTH**菜单。
3. 在两个EVERSE扬声器中，选择**LINK SPEAKERS**。
   在两个EVERSE扬声器之间建立连接时，LCD显示屏将显示**LINKING SPEAKERS...**。建立连接后，菜单将显示**UNLINK SPEAKERS**。
   在**LINKING SPEAKERS**下面的**BLUETOOTH**菜单中，将会显示立体声通道选项。

4. 为每个EVERSE扬声器选择相应的立体声通道选项：**L+R**（单声道）、**L**或**R**。
   **注意：**从听众角度来说，这是立体声像，也称为House L和R。

**LED菜单**

**LED**菜单显示电源开启情况并指示限幅状态。该项可选择：**ON**、**OFF**或**LIMIT**。

- **ON** - 当电源开关设置为ON且系统未处于待机模式时打开LED。
- **OFF** - 关闭LED。
- **LIMIT** - 正常工作时关闭LED。LED短暂闪烁表示限幅器正在工作。短时间闪烁不是严重问题，因为集成的限幅器会有效控制失真。LED常亮表示声音受到了负面影响。如果LED一直亮起，请查看背板LCD屏幕以了解更多信息。强烈建议降低输出音量。

默认值为**ON**。

**DIM（退出）菜单**

**DIM**菜单用于在显示屏处于空闲状态30秒钟后让其变暗。该项可选择：**ON**或**OFF**。
默认值为**ON**。

**BRIGHT菜单**

**BRIGHT**菜单用于确定LCD的亮度。
范围为1（最暗）至10（最亮）。
默认值为**5**。

**CONTRAST（对比度）菜单**

**CONTRAST**菜单用于根据照明条件增减LCD屏幕的可见度。
范围为1（较低对比度）至10（较高对比度）。
默认值为**5**。

**STORE（存储）菜单**

利用**STORE**菜单，您可以创建多达五个自定义用户设置。该项可选择：**BACK**、**1**、**2**、**3**、**4**和**5**。

**注意!**
自定义用户设置名称可组合使用字母数字字符（包括空格）。字母数字字符范围为A - Z和0 - 9。
名称字段长度为12个字符。

**存储自定义用户设置**

要存储自定义用户设置，请执行以下操作：

1. 在DSP控制菜单中，滚动到**STORE**。
2. 按下**MASTER VOL**旋钮以选择**STORE**。
   此时将显示**STORE**屏幕。
3. 按下**MASTER VOL**旋钮以选择**1**。
   此时会显示**Enter name for 1**屏幕。
4. 使用**MASTER VOL**旋钮滚动浏览字符。
   此时将显示若干字符。
5. 按下**MASTER VOL**旋钮以选择所需的字符。
6. 转动**MASTER VOL**旋钮以移动至下一个字符进行输入。
   继续选择字符，直到输入所需的名称。
7. 使用**MASTER VOL**旋钮滚动到**SAVE**。
8. 按下**MASTER VOL**旋钮以选择**SAVE**。
9. 重复步骤3至8以存储更多自定义用户设置。
10. 选择**EXIT**以返回主屏幕。

**RECALL（调用）菜单**

利用**RECALL**菜单，您可以检索多达五个自定义用户设置。该项可选择：**BACK**、**1**、**2**、**3**、**4**和**5**。此外，设置**6**可以用来调用一个默认设置。此设置不能用于存储用户设置。

**调用自定义用户设置**

要调用自定义用户设置，请执行以下操作：

1. 在DSP控制菜单中，滚动到**RECALL**。
2. 按下**MASTER VOL**旋钮以选择**RECALL**。
   此时将显示**RECALL**屏幕。
3. 按下**MASTER VOL**旋钮以选择**1**。
   如此便会加载所选项。
4. 加载预设后，菜单将返回主屏幕。

**STANDBY菜单**

为了延长电池寿命，EVERSE扬声器将在设置的一段时间后进入**STANDBY**模式。利用**STANDBY**菜单，您可以设置扬声器进入**STANDBY**模式之前的空闲时间（不存在音频或控制信号的时间）。

要返回正常操作模式，请执行以下操作：

- 通过QuickSmart Mobile应用程序应用蓝牙音频信号、BLE控制信号。

或

- 按下扬声器上的任一按钮。

**注意！**

模拟输入信号不会使扬声器从**待机**模式恢复正常运行。

**RESET（重置）菜单**

**RESET**菜单用于将扬声器重置为原始出厂设置。该项可选择：**NO**或**YES**。

**重置系统**

要将系统重置为原始出厂设置，请执行以下操作：

- 在DSP控制菜单中，选择**RESET**。
  此时将显示**DEFAULT SETTINGS?**消息。
- 选择**YES**。
  此时将显示**ERASE USER PRESETS?**消息。
- 选择**YES**。

**注意！**

**RESET**菜单项用于将扬声器恢复为原始出厂默认设置。

**INFO（信息）菜单**

**INFO**菜单用于显示固件版本。

**参阅**

– 效果*(FX)*列表, 页面 *49*

# 6 输入和混音器操作

## 6.1 INPUT DSP控制菜单

扬声器INPUT DSP控制菜单选项适用于EVERSE扬声器。

要控制混音器通道，请执行以下操作:

1. 按下输入选择软键以选择输入通道。
   选择后，软键将会亮起。
2. 使用**MASTER VOL**旋钮调整音量。
3. 按下**MASTER VOL**旋钮以进入该输入通道的DSP控制菜单。
4. 再次按下输入选择软键以取消选择进行控制的输入通道。
   该软键将不再亮起。

**MIXER模式的INPUT DSP控制菜单**

| **INPUTS 1和2** | | |
|---|---|---|
| LEVEL | | 0 dB（默认值） |
| | | MUTE、-80 dB - +42 dB |
| | EXIT | |
| | 48V<br>（仅限INPUT 1） | OFF（默认值） |
| | | ON |
| | PRESET | FLAT (关)（默认值） |
| | | LOW CUT 80 |
| | | LOW CUT 120 |
| | | VOCAL MIC |
| | | VOICE FILTER |
| | | ND76 VOCAL |
| | | RE520 |
| | | ND86 VOCAL |
| | | ND86 VOCAL |
| | | SPEECH |
| | | ACOUST GUITAR |
| | | ND66 A-GTR |
| | | ELECTRIC GUITAR |
| | | BASS GUITAR |
| | | PERCUSSION |
| | | LINE INPUT |
| | COMP | OFF（默认值） |
| | | OFF、1 - 100 |
| | TREBLE | 0 dB（默认值） |

| | | |
|---|---|---|
| | | -12 dB - +12 dB |
| | MID | 0 dB（默认值） |
| | | -12 dB - +12 dB |
| | BASS | 0 dB（默认值） |
| | | -12 dB - +12 dB |
| | FX | 0 dB（默认值） |
| | | -80 dB - +10 dB |
| | PAN | C（默认值） |
| | | 10 L - 10 R |
| | DUCKER | OFF（默认值） |
| | | OFF、-1 - -40 |
| | EXIT | |

**表格 6.3:** INPUTS 1和2 DSP控制菜单（MIXER模式）

| **INPUT 3/4** | | | |
|---|---|---|---|
| LEVEL | | | 0 dB（默认值） |
| | | | MUTE、-80 dB - +42 dB |
| | EXIT | | |
| | TREBLE | | 0 dB（默认值） |
| | | | -12 dB - +12 dB |
| | MID | | 0 dB（默认值） |
| | | | -12 dB - +12 dB |
| | BASS | | 0 dB（默认值） |
| | | | -12 dB - +12 dB |
| | BAL（仅立体声操作） | | C（默认值） |
| | | | 10 L - 10 R |
| | BLUETOOTH | BACK | |
| | | BLUETOOTH | ON（默认值） |
| | | | OFF |
| | | ID（4位数字的唯一设备编号） | |
| | | CONTROL PAIR | |
| | | AUDIO PAIR | |
| | | LINK SPEAKERS | |

| | | |
|---|---|---|
| | | BACK |
| | EXIT | |

**表格 6.4:** INPUT 3/4 DSP控制菜单（MIXER模式）

### BASIC模式的INPUT DSP控制菜单

1) 默认值

2) 仅限INPUT 1

| INPUTS 1 & 2 | | |
|---|---|---|
| LEVEL | MUTE<br>-80 dB<br>0 dB [1]<br>+42 dB | |
| INPUT 1 | EXIT | |
| | 48V [2] | OFF [1] |
| | | ON |
| | EXIT | |

1) 默认值

2) 4位数字的唯一设备编号

| INPUT 3/4 | | |
|---|---|---|
| LEVEL | MUTE<br>-80 dB<br>0 dB [1]<br>+42 dB | |
| | BACK | |
| | BLUETOOTH | OFF |
| | | ON [1] |
| | BACK | |

BACK
ID [2]
CONTROL PAIR
AUDIO PAIR
LINK SPEAKERS
BACK

**调整传入声音**

建议在调整传入声音时多加小心。通常，微小的变化便足以使整体音效达到理想效果。

要调整传入声音，请执行以下操作:

– 将所有EQ控件均设置为**0 dB**或**FLAT**。
– 避免将EQ控件设置到极端位置。
– 首先自然地重现声音。
– 依靠受过音乐训练的耳朵辨别。

**INPUT LEVEL控制**

**INPUT LEVEL**控件可将传入信号的灵敏度调整为混音器的内部操作音量。

要获得良好的信号输入音量，请执行以下操作:

1. 通过**MASTER VOL**旋钮将音量(**VOL**)设置为**MUTE**。
2. 按下输入选择软键并使用**MASTER VOL**旋钮将**INPUT LEVEL**设置为**MUTE**。

3. 将声源（话筒、乐器等）连接到所选输入。
4. 以预期最高音量水平启动声源。直接（靠近）对着话筒尽可能大声地唱歌或讲话。
5. 在播放声源或对着话筒唱歌的同时：
   - 使用输入选择软键选择输入通道并使用**MASTER VOLUME**旋钮增加**INPUT LEVEL**，使其在音量最高时不会显示**CLIP**。再次按下输入选择软键取消选择该输入通道。
   - 提高**MASTER VOLUME**，直到从扬声器获得所需的输出。这是基本的通道设置。

如果需要进一步调整通道的EQ设置，请再次执行这些步骤。声音调整过程作出的更改也会影响通道的整体音量。

**48V（仅限INPUT 1）**

+48V直流幻象电源仅在**INPUT 1**的XLR连接器上可用。幻象电源可用于为某些设备供电，如DI盒和电容式话筒（非驻极体）。使用前请查询设备的用户手册。TRS连接器上没有幻象电源。幻像电源是可切换的。

**注意!**

对于不需要幻像电源的设备（例如，动圈话筒、混音器输出等），请关闭幻象电源（默认值）。

**注意!**

在激活幻象电源的情况下，切勿将移动设备连接到**INPUT 1**。

**PRESET**

输入**PRESET**可调整EQ和压缩器设置，以便开始调整不同输入类型的声音。

**COMP控制**

**COMP**控件可控制板载压缩器，从而在操作过程中调整输入信号的处理。压缩器可用于**INPUT 1**和**INPUT 2**。

- 使用**COMP**控件可同时调整压缩器阈值和压缩比。

在0至100范围内调整**COMP控件**会产生以下效果:

- 低于阈值的增益将从0 dB增加到+6 dB。
- 压缩比将从1:1增加到8:1。
- 压缩器将按压缩器设置成比例减小音频信号的动态范围。

一旦信号超过某个阈值，信号就会被压缩。大幅度的输入音量变化仅会导致小幅度的输出音量变化。缩小动态范围通常可以更轻松地录制或混合音频信号。建议从中低等压缩幅度(25-40)开始，并在必要时缓慢提高。

**TREBLE/MID/BASS控制**

输入通道的EQ部分可对三个频段内的输入音频信号进行大幅度调整:

- **TREBLE**控件 - 使钹声和人声的高音更高，音色更通透。
- **MID**控件 - 提供更高的输出，并通过降低音量而减少声反馈。
- **BASS**控件 - 使底鼓更具力度或使人声更具厚度。

**FX**

**FX**控件用于设置您在该通道上需要的效果幅度。使用**FX**控件，您可以轻松地为乐器组或人声组分配效果。

要确定所需的声效音量，请执行以下操作:

1. 将控件设置为最小值。
2. 单独逐渐增加音量，直到得到所需的声效。

**PAN**

**PAN**控件可调整立体声设置中立体声L或立体声R扬声器输出的信号大小。单声道（单扬声器）设置不使用**PAN**。

**DUCKER**

每当所选MIC/LINE输入（**INPUT 1**或**INPUT 2**）处检测到信号时，**DUCKER**可降低其他输入上的信号音量。如果未在所选MIC/LINE输入处检测出信号，则其他输入上的信号音量将恢复为之前设置的音量。

**DUCKER**可用于在有背景音乐时讲话:

– 当所选MIC输入上检测到信号时，其他输入通道上的音乐音量将会降低。
– 当所选MIC输入上不再检测到信号时，音乐将恢复为之前的音量。

**启用DUCKER**

要启用DUCKER，请执行以下操作:

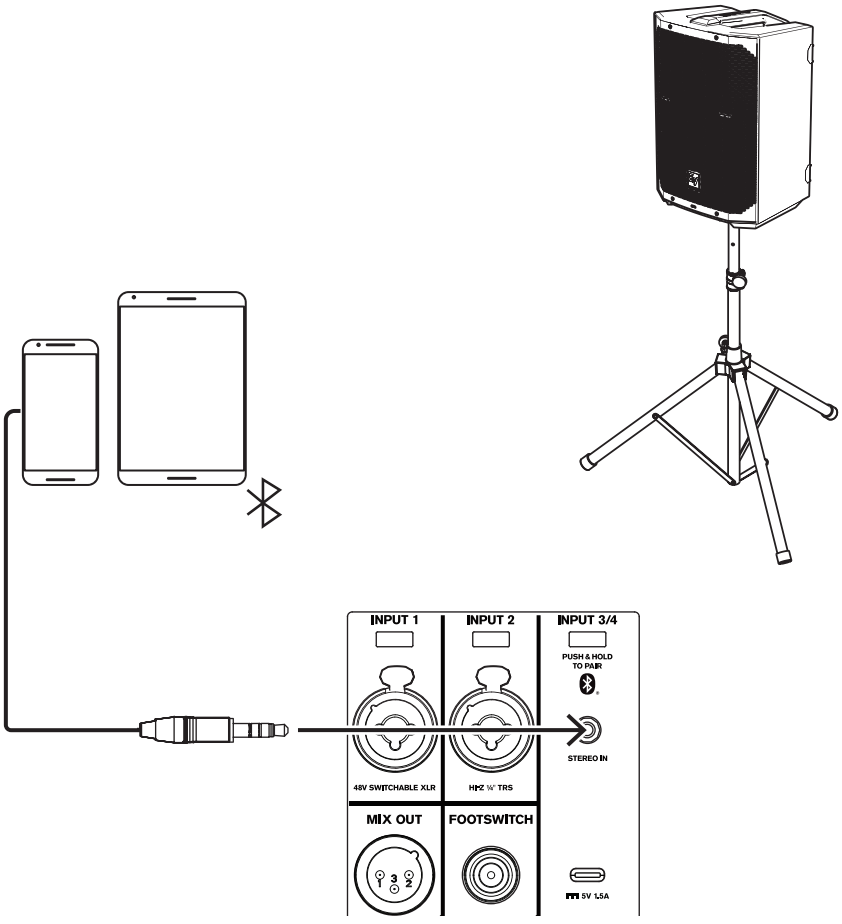
1. 选择**INPUT 1**和/或**INPUT 2**。
2. 调整**DUCKER**水平，设置所选输入通道的检测阈值。当在所选输入通道检测到信号时，其他输入的信号将减少12 dB。典型值为-10至-20 dB。

下表说明了**DUCKER**操作逻辑。**DUCKER**设置是**INPUT 1**和/或**INPUT 2**上所选的检测阈值。强切通道是降低了12 dB的输入信号。

| | **INPUT 1** | **INPUT 2** | **降低的通道** |
|---|---|---|---|
| DUCKER SETTING | -1 dB - -40 dB | 关闭 | INPUT 2和INPUT 3/4 |
| | 关闭 | -1 dB - -40 dB | INPUT 1和INPUT 3/4 |
| | -1 dB - -40 dB | -1 dB - -40 dB | INPUT 3/4 |
| | 关闭 | 关闭 | 无 |

# 7 推荐配置

## 7.1 连接移动设备

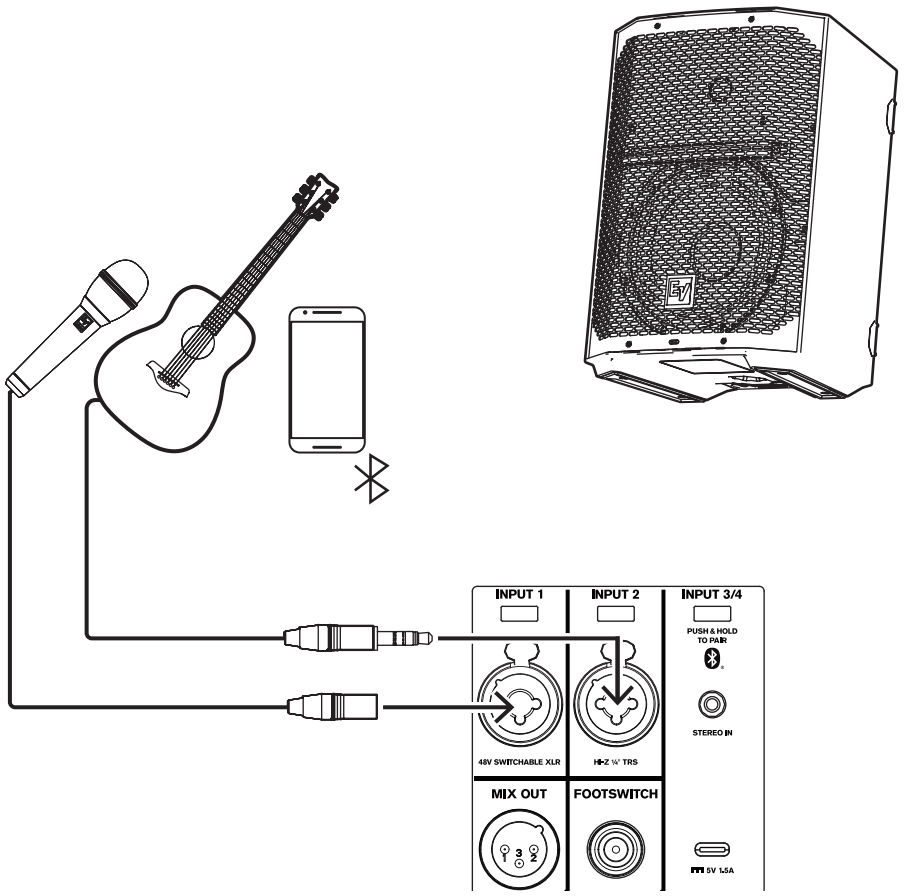



**注意!**
箭头的方向表示信号路径。

| | |
|---|---|
| MODE | MUSIC |
| LOCATION（位置） | TRIPOD |
| SUB（低频） | OFF |

**表格 7.5:** 三脚架上扬声器的DSP设置

## 7.2 街头音乐家音效

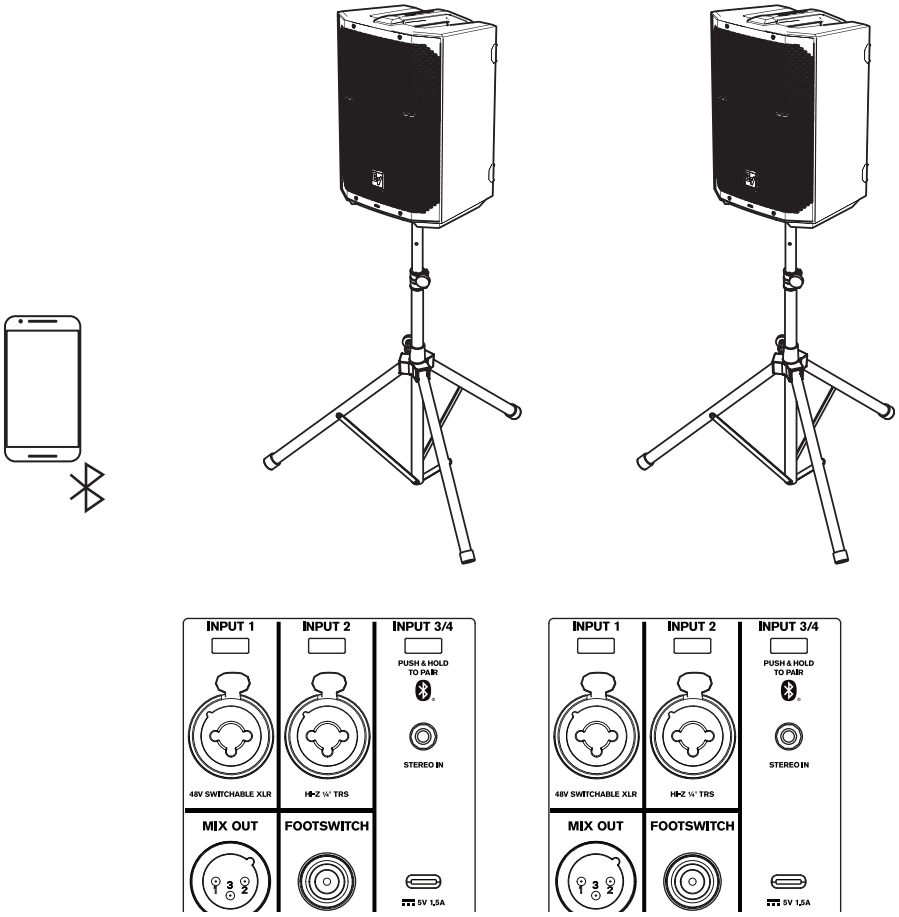



**注意!**
箭头的方向表示信号路径。

| | |
|---|---|
| MODE | LIVE |
| LOCATION（位置） | KICKBACK |
| SUB（低频） | OFF |
| INPUT 1 PRESET | VOCAL MIC |
| INPUT 2 PRESET | ACOUSTIC GTR |

**表格 7.6:** 反冲位置扬声器的DSP设置

## 7.3 蓝牙真无线立体声(TWS)



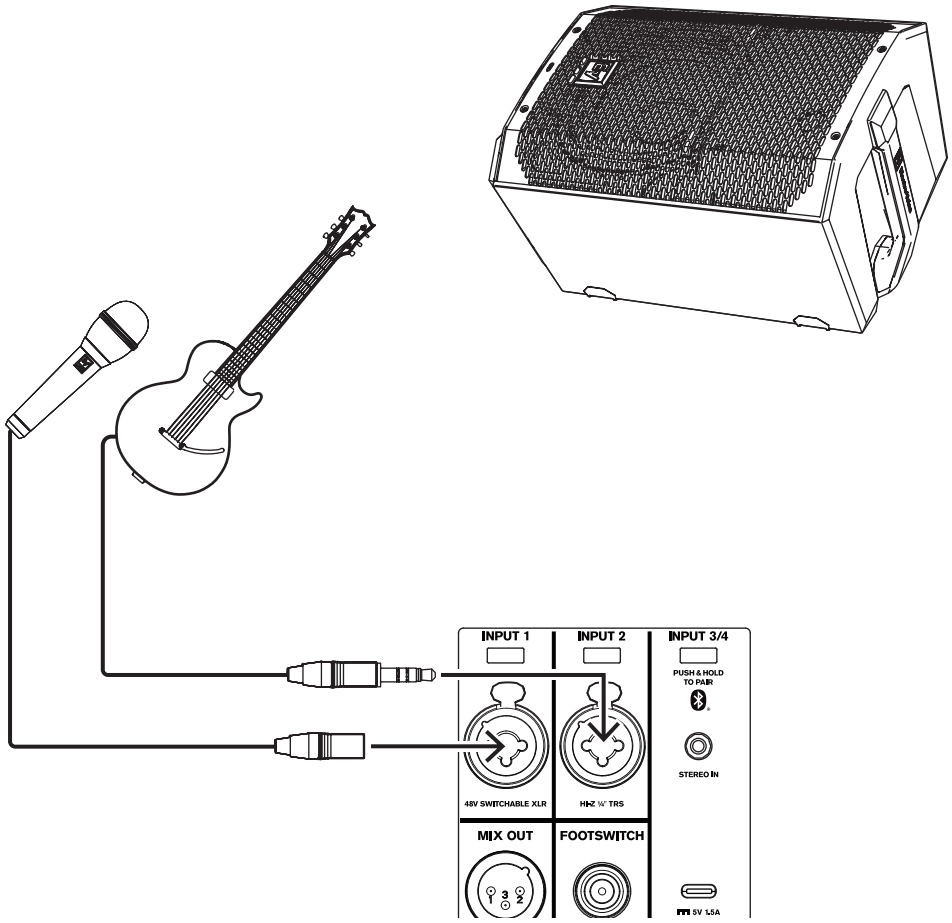

| | |
|---|---|
| MODE | MUSIC |
| LOCATION（位置） | TRIPOD |
| SUB（低频） | OFF |
| INPUT PRESET | NONE |

**表格 7.7:** 三脚架上扬声器的DSP设置

**要通过TWS连接两个扬声器，请执行以下操作：**

1. 通过蓝牙功能将一个扬声器连接到流式传输设备。
2. 在两个扬声器的**BLUETOOTH**控制菜单中选择**LINK SPEAKERS**。

## 7.4 用作监听音箱




**注意!**
箭头的方向表示信号路径。

| | |
|---|---|
| MODE | LIVE |
| LOCATION（位置） | MONITOR（监听） |
| SUB（低频） | OFF |
| INPUT 1 PRESET | VOCAL MIC |
| INPUT 2 PRESET | ELECTR GUIT |

**表格 7.8:** 作为监听器的扬声器的DSP设置

# 8 故障排除

| 问题 | 可能的原因 | 操作(A) |
|---|---|---|
| 1. 没有声音 | 增益不正确 | 核查所有声源是否均已接通。如果声源是电容话筒，请确保通过XLR将话筒插入**INPUT 1**并在菜单中启用幻象电源。在LCD或应用程序中检查VU音量表。如果VU音量表上有信号，请将输入和增益控件提高到所需音量。如果VU音量表上没有信号，则检查布线。 |
| | 未连接声源 | 用万用表或电缆测试仪检查声源和扬声器之间的所有电缆。用已知良好的电缆更换任何可能有问题的电缆。 |
| 2. 低频响应不佳 | 激活了**SUB**菜单的分频频率 | 如果没有低频扬声器与系统一起使用，请选择**OFF**位置。 |
| | **SPEECH**模式处于激活状态 | 在DSP控制菜单中，将**MODE**更改为**MUSIC**、**LIVE**或**CLUB**。有关详细信息，请参见*DSP*控制, 页面 *25*。 |
| | 输入**PRESET**未设置为**FLAT** | 在INPUT DSP控制菜单中，将**PRESET**更改为**FLAT**。有关详细信息，请参见*INPUT DSP*控制菜单, 页面 *36*。 |
| | **EQ**处于激活状态 | 在INPUT和DSP控制菜单中，使用低频重置所有EQ。有关更多详细信息，请参见*DSP*控制, 页面 *25*和*INPUT DSP*控制菜单, 页面 *36*。 |
| 3. 间歇输出，例如破裂音或失真 | 连接故障 | 检查扬声器上的所有连接，确保干净、牢固。如果问题仍然存在，请检查接线。参阅问题1。 |
| 4. 持续噪音，例如嗡嗡声、嘶嘶声或蜂鸣声 | 音源或其他电子设备有缺陷 | 如果未播放任何节目源但杂音存在，则根据需要评估每个组件以发现问题。此时很有可能是因为信号通道中断。 |
| | 系统接地或接地环路不良 | 按照要求，检查并更正系统接地。 |
| | 输入增益不适合话筒音量。 | 慢慢调高INPUT LEVEL以匹配话筒前置放大器。 |
| | 同时通过USB和3.5毫米插孔连接了移动设备。 | 如果扬声器通过3.5毫米音频输入插孔连接了移动设备并同时为其充电，则某些移动设备（例如笔记本电脑和手机）可能会引入接地回路。请通过蓝牙功能连接音频，或断开USB插孔连接。 |
| 5. 话筒已连接到**INPUT 1**或**INPUT 2**，但没有产生声音 | 话筒需要幻象电源。 | 使用不需要幻象电源的动圈话筒。如果使用的是需要幻象电源的话筒，则需要通过XLR连接器将其连接到**INPUT 1**并启用幻象电源。有关详细信息，请参见*INPUT DSP*控制菜单, 页面 *36*。 |
| | 输入增益太低 | 慢慢调高输入增益音量以匹配话筒前置放大器。 |
| 6. 声音失真，前**LED**处于**OFF**状态，LCD屏幕**LIMIT**处于**ON**状态 | **INPUT LEVEL**过高 | 调低**INPUT LEVEL**或扬声器音量旋钮以防止出现限幅。 |
| | 增益结构不正确或音源输入（混音台/前置放大器）负载过大 | 使用LCD屏幕上的VU音量表指示器验证音频源音量控件是否正确。如果VU音量表指示恒定不变或系统指示**LIMIT**，则表示输入音量或声源音量过高。 |
| 7. 在放大**INPUT LEVEL**时，话筒产生声反馈 | 自动反馈抑制处于**OFF**状态 | 在DSP控制菜单中启用自动反馈抑制。有关详细信息，请参见*DSP*控制, 页面 *25*。 |

| 问题 | 可能的原因 | 操作(A) |
|---|---|---|
| | 增益结构不正确 | 在混音台或输入源处降低话筒音量。如果话筒直接连接到扬声器，请降低扬声器上的**INPUT LEVEL**。将话筒靠近音源放置将增大啸叫前增益。参阅问题6。 |
| | **MODE**设置为**MUSIC** | 将**MODE**更改为**LIVE**或**SPEECH**。 |
| | 话筒位置过于靠近扬声器前部 | 安装扬声器时，尽可能让话筒位于其后部。如果在监听音箱位置使用扬声器，则将扬声器对准话筒的后部。 |
| 8. DSP控制菜单被锁定 | 菜单**LOCK**功能已开启。LCD屏幕上显示锁定符号。 | 按**MASTER VOL**旋钮或输入选择软键进行解锁。 |
| 9. QuickSmart Mobile应用程序检测不到扬声器 | 启用蓝牙 | 确保在扬声器上启用蓝牙。对于Android：确保激活位置服务。<br>从iOS/Android的设备设置中删除扬声器（有时称为“忘记”）。<br>重新开始配对。<br>确保手机/平板电脑已安装所需的操作系统版本和最新更新。确保安装最新的QuickSmart Mobile应用程序。确保同一个扬声器上未连接其他手机/平板电脑。 |
| 10. 扬声器对用户交互或断电后再重新通电没有反应 | 意外内部操作故障 | 断开电源和电池，然后将电池放回扬声器。<br>或<br>将**INPUT 1**和**INPUT 2**软键按住至少10秒。 |
| 如果这些建议未能解决您的问题，请联系离您最近的Electro-Voice经销商或Electro-Voice分销商。 | | |

# 9 技术参数

1) 使用音乐DSP预设的全空间测量。

2) 1米处的半空间测量。

3) 最大声压级为在1米处使用最大输出下的宽带粉红噪声测量得到的数值

4) 额定电流为1/8功率

5) 播放常见音频内容时出现扬声器限幅指示之前的最大输出

6) 播放常见音频内容时的中等输出

7) 通过直流电源插孔、USB连接和/或幻象电源为外部设备供电将缩短电池运行时间。

| | **EVERSE8-EU 8"两分频扬声器（电池），黑色，欧盟** | **EVERSE12-EU 12"两分频扬声器（电池），黑色，欧盟** |
|---|---|---|
| 频率响应 (-3 dB) (Hz)[1] | 60 Hz – 20,000 Hz | 55 Hz – 20,000 Hz |
| 频率范围(-10 dB) (Hz)[2] | 50 Hz – 20,000 Hz | 45 Hz – 20,000 Hz |
| 1米处最大声压级 (dB)[3] | 121 dB | 126 dB |
| 水平x垂直覆盖角度(°) | 100° x 100° | 100° x 60° |
| 放大器等级(W) | 400 W | 400 W |
| 低频换能器大小 (英寸) | 8 in | 12 in |
| 低频换能器磁性材料 | 铁氧体 | 铁氧体 |
| 高频换能器大小 (in) | 1 in | 1 in |
| 高频换能器类型 | 压缩驱动单元 | 压缩驱动单元 |
| 高频换能器振膜材料 | 钛 | 钛 |
| 高频换能器磁性材料 | 钕 | 铁氧体 |
| 分频频率(kHz) | 2.25 kHz | 2 kHz |
| 连接器类型 | 3.5 mm stereo jack; XLR/TRS combo jack；充电端口；TRS脚踏开关；12V直流电源输出 | 3.5 mm stereo jack; XLR/TRS combo jack；充电端口；TRS脚踏开关；12V直流电源输出 |
| 外壳 | 聚丙烯 | 聚丙烯 |
| 格栅材料 | 粉末涂层钢 | 粉末涂层钢 |
| USB充电 | 最大电流为1.5 A，取决于设备 | 最大电流为1.5 A，取决于设备 |
| 颜色 | 黑色或白色 | 黑色 |
| 尺寸(高x宽x深) (毫米) | 400 mm x 275 mm x 272 mm | 597 mm x 345 mm x 347 mm |
| 尺寸(高x宽x深) (英寸) | 15.75 in x 10.83 in x 10.71 in | 23.50 in x 13.58 in x 13.66 in |
| 重量(千克) | 7.60 kg | 14.16 kg |
| 重量(磅) | 16.80 lb | 31.22 lb |
| 装运重量(千克) | 11 kg | 16.34 kg |

| | **EVERSE8-EU 8"两分频扬声器（电池），黑色，欧盟** | **EVERSE12-EU 12"两分频扬声器（电池），黑色，欧盟** |
|---|---|---|
| 装运重量(磅) | 24.30 lb | 36.02 lb |
| 功耗（V，Hz，A）[4] | 100 - 240 V~，50 - 60 Hz，0.8 - 0.6 A | 100 - 240 V~，50 - 60 Hz，1.2 - 0.6 A |
| 电池容量(Wh) | 86.4 Wh | 86.4 Wh |
| 电池运行时间（最大输出时）[5,7]： | 6小时以上 | 6小时以上 |
| 电池运行时间（95 dB声压级）[2、6、7]： | 12小时以上 | 14小时以上 |
| 电池运行时间（100 dB声压级）[2、6、7]： | 9小时以上 | 12小时以上 |

# 10 附录

## 10.1 效果(FX)列表

注意：如有更改，恕不另行通知

| 值 | 名称（应用） | 名称(LCD) |
|---|---|---|
| 0 | OFF | OFF |
| 1 | Echo+ReverbShort | ECHO+REVERB S |
| 2 | Reverb Room | REV ROOM |
| 3 | Reverb Concert Hall | REV CONCERT |
| 4 | Reverb Large Hall | REV HALL |
| 5 | Reverb Church | REV CHURCH |
| 6 | Reverb Room Soft | REV ROOM S |
| 7 | Reverb Concert Hall Soft | REV CONCERT S |
| 8 | Reverb Large Hall Soft | REV HALL S |
| 9 | Reverb Church Soft | REV CHURCH S |
| 10 | Reverb Cathedral Soft | REV CATHEDRAL S |
| 11 | Reverb Plate Medium | PLATE MEDIUM |
| 12 | Reverb Plate Long | PLATE LONG |
| 13 | Reverb Plate Medium Soft | PLATE MEDIUM S |
| 14 | Reverb Plate Long Soft | PLATE LONG S |
| 15 | Reverb+ChorusSlow | REV+CHORUS SLOW |
| 16 | Reverb+ChorusMedium | REV+CHORUS MEDIUM |
| 17 | Reverb+ChorusFast | REV+CHORUS FAST |
| 18 | Delay Short | DELAY SHORT |
| 19 | Delay Long | DELAY LONG |
| 20 | Delay Tap | DELAY TAP |
| 21 | Chorus Slow | CHORUS SLOW |
| 22 | Chorus Medium | CHORUS MEDIUM |
| 23 | Chorus Fast | CHORUS FAST |
| 24 | Chorus+Echo Slow | CHORUS+ECHO S |
| 25 | Chorus+EchoMedium | CHORUS+ECHO M |
| 26 | Chorus+Echo Fast | CHORUS+ECHO F |
| 27 | Slap Back+EchoSlow | SLAPBACK+ECHO S |
| 28 | Slap Back+EchoFast | SLAPBACK+ECHO F |
| 29 | Doubling Narrow | DOUBLING NARROW |
| 30 | Doubling Wide | DOUBLING WIDE |

## 10.2 FCC信息

**重要注意事项**：请勿改装本设备！任何未经制造商明确许可的更改或改装均可能导致用户失去FCC授予的操作本设备的权利。

**注意!**

本设备经测试符合FCC规则第15部分中关于B类数字设备的限制规定。这些限制的目的是为了在居住区安装本设备时，可以提供合理的保护以防止有害干扰。本设备会产生、使用和辐射射频能量。此外，如果未遵照相关说明进行安装和使用，可能会对无线电通信造成干扰。但是，这并不能保证在某些特定的安装环境中绝对不会产生干扰。

如果本设备确实对无线电或电视接收造成了有害干扰，或者受到无线电、电视或通信设备的声音干扰，而这可以通过关闭和打开本设备来确定，则建议用户尝试采取以下一种或多种措施来排除干扰:

- 重新调整接收天线的方向和位置。
- 增加设备与接收器之间的距离。
- 将本设备的电源连接到与接收器不同的供电回路上。
- 咨询经销商或有经验的无线电/电视/通信设备技术人员。

本设备已经过FCC和IC以及FCC ID:ESVEVERSE和IC:1249A-EVERSE认证。
请注意，未经合规责任方明确许可，擅自改动或改装本设备可能会导致用户失去操作该设备的权利。
本设备在安装和操作时，辐射板与身体之间必须至少保持20厘米的距离。
本设备符合加拿大工业部免许可证RSS标准。本设备的操作必须满足以下两个条件:
(1) 本设备不会引起有害的干扰，并且
(2) 本设备必须能够承受相当的干扰，包括可能引起设备意外操作的干扰。
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radioexempts de licence.L'exploitation est autorisée aux deux conditions suivantes:
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

根据加拿大工业部规定，该无线电发射器只能使用加拿大工业部批准用于该发射器的天线类型和被允许的最大（或较小）增益进行工作。为了减少对其他用户造成的潜在无线电干扰，天线类型及其增益应选择等效全向辐射功率(e.i.r.p.)不超过成功进行通信所需的功率。
Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada.Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

## 10.3 简化符合性声明(sDoC)

| | |
|---|---|
| BG | С настоящото Bosch Security Systems, LLC декларира, че този тип радиосъоръжение EVERSE8-EU, EVERSE8-W, EVERSE12-EU е в съответствие с Директива 2014/53/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес: www.electrovoice.com |
| CS | Tímto Bosch Security Systems, LLC prohlašuje, že typ rádiového zařízení EVERSE8-EU, EVERSE8-W, EVERSE12-EU je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese: www.electrovoice.com |

| | |
|---|---|
| DA | Hermed erklærer Bosch Security Systems, LLC , at radioudstyrstypen EVERSE8-EU, EVERSE8-W, EVERSE12-EU er i overensstemmelse med direktiv 2014/53/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: www.electrovoice.com |
| DE | Hiermit erklärt Bosch Security Systems, LLC , dass der Funkanlagentyp EVERSE8-EU, EVERSE8-W, EVERSE12-EU der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.electrovoice.com |
| EL | Με την παρούσα ο/η Bosch Security Systems, LLC , δηλώνει ότι ο ραδιοεξοπλισμός EVERSE8-EU, EVERSE8-W, EVERSE12-EU πληροί την οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: www.electrovoice.com |
| EN | Hereby, Bosch Security Systems, LLC declares that the radio equipment type EVERSE8-EU, EVERSE8-W, EVERSE12-EU is in compliance with Directive 2014/53/EU and the relevant statutory requirements. The full text of the EU declaration of conformity and the UK declaration of conformity are available at the following internet address: www.electrovoice.com. |
| ES | Por la presente, Bosch Security Systems, LLC declara que el tipo de equipo radioeléctrico EVERSE8-EU, EVERSE8-W, EVERSE12-EU es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente: www.electrovoice.com. |
| ET | Käesolevaga deklareerib Bosch Security Systems, LLC , et käesolev raadioseadme tüüp EVERSE8-EU, EVERSE8-W, EVERSE12-EU vastab direktiivi 2014/53/EL nõuetele. ELi vastavusdeklaratsiooni täielik tekst on kättesaadav järgmisel internetiaadressil: www.electrovoice.com |
| FI | Bosch Security Systems, LLC vakuuttaa, että radiolaitetyyppi EVERSE8-EU, EVERSE8-W, EVERSE12-EU on direktiivin 2014/53/EU mukainen. EU-vaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: www.electrovoice.com |
| FR | Le soussigné, Bosch Security Systems, LLC , déclare que l'équipement radioélectrique du type EVERSE8-EU, EVERSE8-W, EVERSE12-EU est conforme à la directive 2014/53/UE. Le texte complet de la déclaration UE de conformité est disponible à l'adresse internet suivante: www.electrovoice.com |
| HR | Bosch Security Systems, LLC ovime izjavljuje da je radijska oprema tipa EVERSE8-EU, EVERSE8-W, EVERSE12-EU u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: www.electrovoice.com |
| HU | Bosch Security Systems, LLC igazolja, hogy a EVERSE8-EU, EVERSE8-W, EVERSE12-EU típusú rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU-megfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: www.electrovoice.com |
| IT | Il fabbricante, Bosch Security Systems, LLC , dichiara che il tipo di apparecchiatura radio EVERSE8-EU, EVERSE8-W, EVERSE12-EU è conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet: www.electrovoice.com |

| | |
|---|---|
| LT | Aš, Bosch Security Systems, LLC , patvirtinu, kad radijo įrenginių tipas EVERSE8-EU, EVERSE8-W, EVERSE12-EU atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo interneto adresu: www.electrovoice.com |
| LV | Ar šo Bosch Security Systems, LLC deklarē, ka radioiekārta EVERSE8-EU, EVERSE8-W, EVERSE12-EU atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: www.electrovoice.com |
| MT | B'dan, Bosch Security Systems, LLC , niddikjara li dan it-tip ta' tagħmir tar-radju EVERSE8-EU, EVERSE8-W, EVERSE12-EU huwa konformi mad-Direttiva 2014/53/UE. It-test kollu tad-dikjarazzjoni ta' konformità tal-UE huwa disponibbli f'dan l-indirizz tal-Internet li ġej: www.electrovoice.com |
| NL | Hierbij verklaar ik, Bosch Security Systems, LLC , dat het type radioapparatuur EVERSE8-EU, EVERSE8-W, EVERSE12-EU conform is met Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring kan worden geraadpleegd op het volgende internetadres: www.electrovoice.com |
| PL | Bosch Security Systems, LLC niniejszym oświadcza, że typ urządzenia radiowego EVERSE8-EU, EVERSE8-W, EVERSE12-EU jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod następującym adresem internetowym: www.electrovoice.com |
| PT | O(a) abaixo assinado(a) Bosch Security Systems, LLC declara que o presente tipo de equipamento de rádio EVERSE8-EU, EVERSE8-W, EVERSE12-EU está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: www.electrovoice.com |
| RO | Prin prezenta, Bosch Security Systems, LLC declară că tipul de echipamente radio EVERSE8-EU, EVERSE8-W, EVERSE12-EU este în conformitate cu Directiva 2014/53/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet: www.electrovoice.com |
| SK | Bosch Security Systems, LLC týmto vyhlasuje, že rádiové zariadenie typu EVERSE8-EU, EVERSE8-W, EVERSE12-EU je v súlade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: www.electrovoice.com |
| SL | Bosch Security Systems, LLC potrjuje, da je tip radijske opreme EVERSE8-EU, EVERSE8-W, EVERSE12-EU skladen z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: www.electrovoice.com |
| SV | Härmed försäkrar Bosch Security Systems, LLC att denna typ av radioutrustning EVERSE8-EU, EVERSE8-W, EVERSE12-EU överensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EU-försäkran om överensstämmelse finns på följande webbadress: www.electrovoice.com |

**对于欧洲：**

工作频段2400至2483.5 MHz。

最大发射功率小于20 dBm EIRP。

## 10.4 认证

**阿根廷：**
EVERSE8

证书编号：RA 4184063 E

EVERSE12

证书编号：

**巴西：**
Após uma perturbação da rede elétrica, o EVERSE8 e o EVERSE12 podem entrar em estado de segurança.Neste caso, você deve desligar e ligar os dispositivos novamente.
Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.
Para mais informações, consulte o site da ANATEL: www.anatel.gov.br.

**柬埔寨：**
EVERSE8
TRC识别码：RF-TA-2022-0373

EVERSE12
TRC识别码：RC-TA-2023-0703

**马来西亚：**
EVERSE8 和 EVERSE12

**墨西哥：**
“La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada”
EVERSE8

IFETEL ID：ROELEV22-22223

EVERSE12

IFETEL ID：ROELEV23-41397

**巴基斯坦：**

EVERSE8

EVERSE12

**韩国：**

EVERSE8 和 EVERSE12

**R-R-B6S-ESVEVERSE**

| | |
|---|---|
| 기자재명칭: | 특정소출력 무선기기(무선데이터통신시스템용 무선기기 |
| 모델명: | EVERSE8 또는 EVERSE12 |
| 정격: | 100-240 Vac，50-60 Hz，400 W |
| 수입업체(상호)명: | 로버트보쉬코리아(유) |
| 제조자: | Bosch Security Systems, LLC. |
| 제조연월: | 별도표기 |
| 제조국: | 중국 |
| A/S: | 02-702-2846 |

해당 무선설비는 운용 중 전파혼신 가능성이 있음

해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다。

**泰国：**

**เครื่องโทรคมนาคมและอุปกรณ์นี้มีความสอดคล้องตามมาตรฐานหรือข้อกำหนดทางเทคนิคของกสทช.**

**阿拉伯联合酋长国:**

EVERSE8

TDRA - UNITED ARAB Emirates

**Dealer ID:** DA45733/15
**TA RTTE:** ER10360/22
**Model Name:** EVERSE 8
**Product Type:** Bluetooth

EVERSE12

TDRA - UNITED ARAB Emirates

**Dealer ID:** DA0086756/12
**TA RTTE:** ER28300/24
**Model Name:** EVERSE 12
**Product Type:** Bluetooth

## 10.5 OSS Licenses

### 10.5.1 Components overview

| Component | Copyright | License |
|---|---|---|
| CMSIS | ARM Limited | Apache License 2.0 |
| CMSIS Device | ARM Limited - STMicroelectronics | Apache License 2.0 |
| STM32F4 HAL | STMicroelectronics | BSD-3-Clause |
| QTIL Firmware | Multiple | Multiple |
| QTIL Audio | Multiple | Multiple |

### 10.5.2 The Licenses

**Apache License 2.0**

**CMSIS and CMSIS Device**

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

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| 换能器 | X | O | O | O | O | O |
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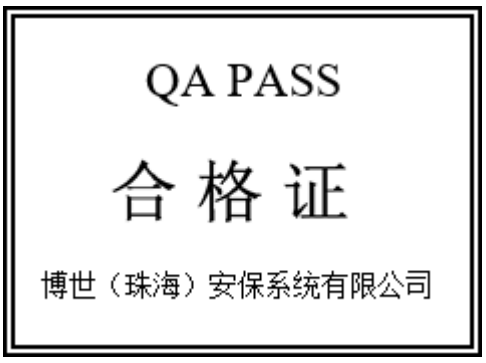

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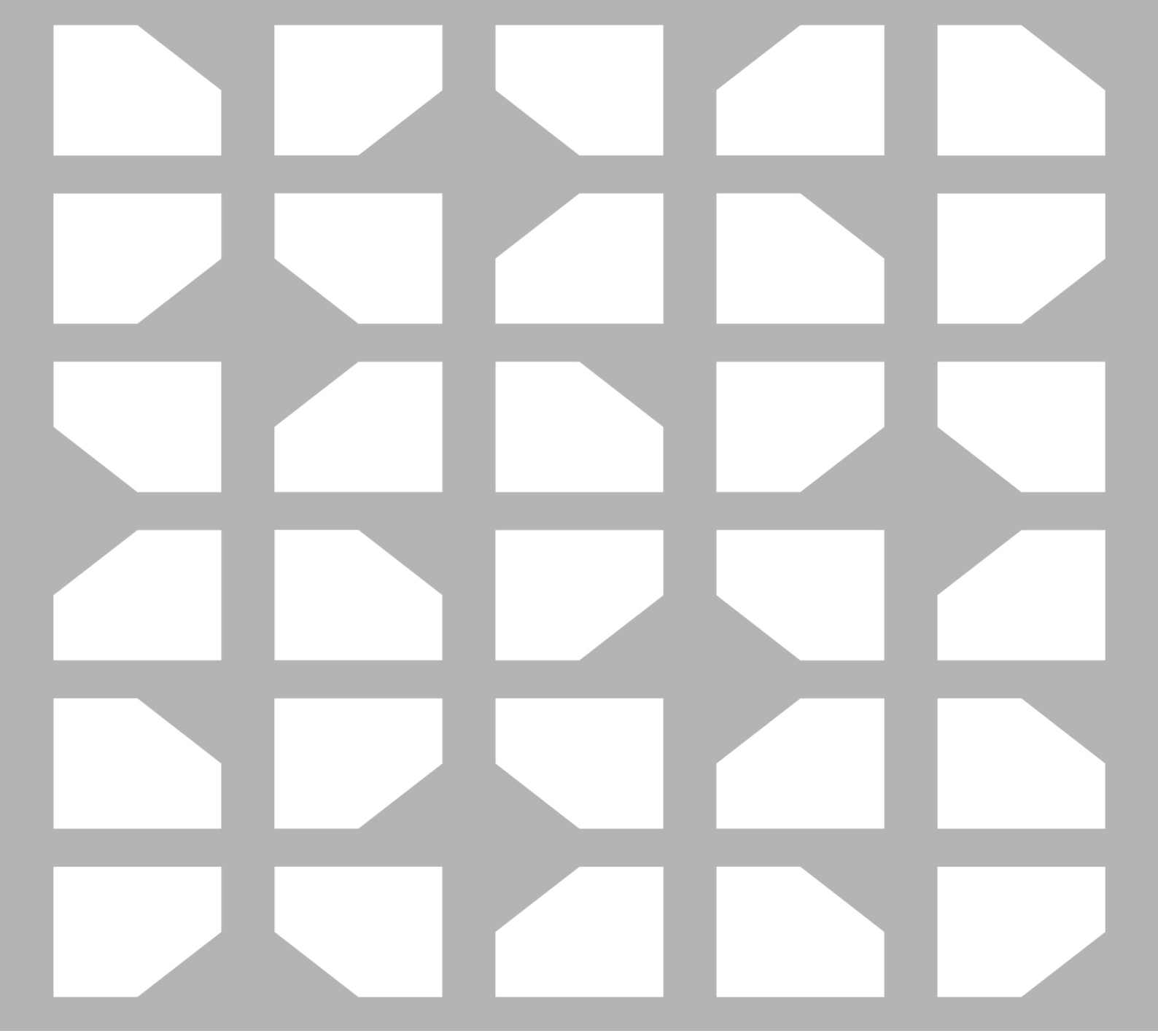

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