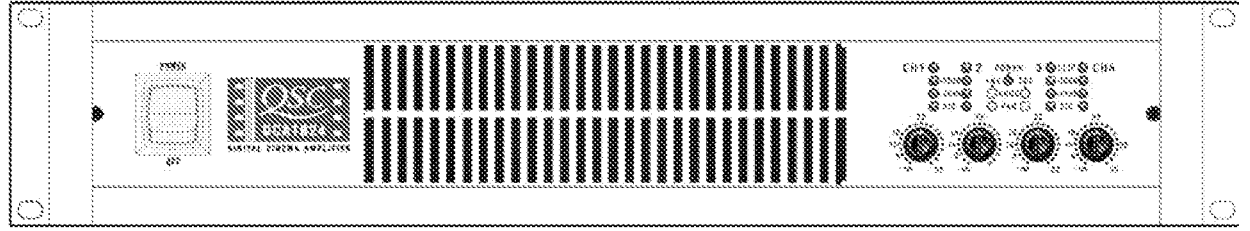


User Manual

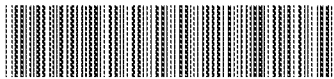
用户手册



- DCA1222
- DCA1622
- DCA2422
- DCA3022
- DCA3422
- DCA1824
- DCA1644

DCA™ Digital Cinema Amplifiers

DCA™ 数字影院功放放大器



TD-000075-05-A

Important Safety Precautions & Explanation of Symbols

- 1- Read these instructions.
- 2- Keep these instructions.
- 3- Heed all warnings.
- 4- Follow all instructions.
- 5- **WARNING:** To prevent fire or electric shock, do not expose this equipment to rain or moisture. Do not use this apparatus near water.
- 6- Clean only with a dry cloth.
- 7- Do not block any ventilation openings.
- 8- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician for the replacement of the obsolete outlet.
- 10- Protect the power cord from being walked on or pinched, particularly plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11- Use only attachments/accessories specified by QSC Audio Products, LLC.
- 12- Use only with hardware, brackets, stands, and components sold with the apparatus or by QSC Audio Products, LLC.
- 13- Unplug the apparatus during lightning storms or when unused for long periods of time.
- 14- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in this manual.



The lightning flashes printed next to the OUTPUT terminals of the amplifier are intended to alert the user to the risk of hazardous energy. Output connectors that could pose a risk are marked with the lightning flash. Do not touch output terminals while amplifier power is on. Make all connections with amplifier turned off.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous" voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.



WARNING: To prevent fire or electric shock, do not expose this equipment to rain or moisture.

CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

重要的安全预防措施和符号说明

- 1- 阅读这些说明。
- 2- 遵照这些说明。
- 3- 注意所有警告。
- 4- 遵守所有说明。
- 5- 警告：为避免火灾或电击，不要将设备暴露于雨中或潮湿环境中。请不要在靠近水的地方使用本设备。
- 6- 只能用于布擦拭。
- 7- 不要堵塞通风口。
- 8- 不要安装在会产生热量的设备附近，如散热器、热调节装置、炉子或者其他设备（包括放大器）。
- 9- 请勿使极化或接地插头的安全性失效。极化插头有两个叶片，一个较宽，另一个较窄。接地插头有两个叶片以及一个接地爪。较宽的叶片或第三个爪是为了人身安全而设。如果所提供的插头和您的插座不匹配，请向电工咨询了解如何更换该旧插座。
- 10- 防止电线被踩踏或挤压，尤其要注意插头、电源插座及其与设备的连接点。
- 11- 仅限使用 QSC Audio Products, LLC 指定的附件或配件。
- 12- 仅限使用随本设备或由 QSC Audio Products, LLC 出售的硬件、托架、支架和元件。
- 13- 在雷电发生期间或长时间不用时，请拔下本设备的插头。
- 14- 由合格人员进行维护。如果本设备损坏，必须进行维修，比如电源线或插头损坏，液体溅到或物体落入本设备，设备遭受雨淋或受潮，不能正常工作，或曾跌落等情况。



等边三角形内的惊叹号是提醒用户本手册中重要的操作和维护（维修）说明。



放大器输出端旁边的闪电符号警告用户有触电危险。有可能造成危险的输出连接器都标有闪电符号。放大器电源打开时切勿接触输出端子。进行所有连线之前先关闭放大器电源。



小心：为避免电击危险，请不要卸下盖板。内部无用户可以维修的零件。请联系合格的专业人士进行维修。



警告：为避免出现火灾或电击情况，请不要让此设备淋雨或受潮。

小心

**电击危险
请勿打开**

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FCC INTERFERENCE STATEMENT:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

EC Declaration of Conformity

for Model PLX, DCA, and CX Professional Power Amplifiers

Including the models PLX1202, PLX1602, PLX2402, PLX3002, PLX3402, DCA1222, DCA1622, DCA2422, DCA3022, DCA3422, CX032, CX502, CX702, CX902, CX1102, CX302V, CX602V, and CX1202V.

QSC Audio Products, LLC, declares as its sole responsibility that the above named products are in compliance with the Council Directive 89/336/EEC on the harmonization of the laws of the Member States relating to electromagnetic compatibility, as well as requirements of the harmonized product standards EN55103-1:1997 (Emissions) and EN55103-2:1997 (Immunity), which include: EN55013, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, AND EN61000-4-11.

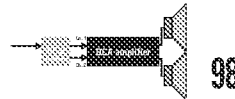
QSC Audio Products, LLC, further declares as its sole responsibility that the above named product is in compliance with the Council Directive 73/32/EEC of 19 February 1973 on the harmonization of the laws of the Member States relating to electrical equipment for use within certain voltage limits and the Council Directive 93/68/EEC of 22 July 1993 which amends the previously mentioned directive, as well as requirements of the harmonized product standard EN 60065, related to safety requirements for mains operated electronic and related apparatus for household and similar general use.

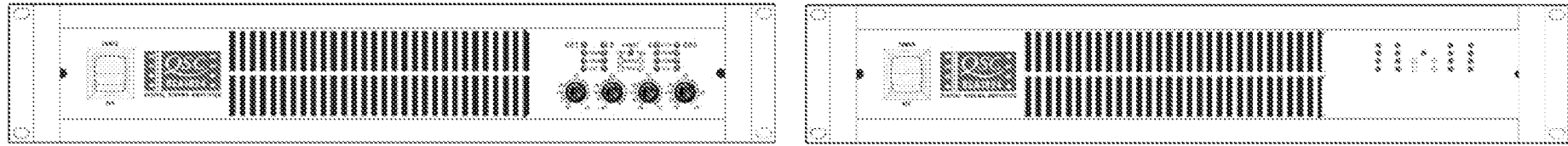
Manufacturer: QSC Audio Products, LLC
1675 MacArthur Blvd.
Costa Mesa, California 92626
USA

Signed: Patrick H. Quilter, VP/Engineering, David W. Ishmael, Sr. Sustaining Engineer

Date: 1 September 1999

Year of marking:





Left: the front panel of a DCA amplifier

左边: **DCA** 放大器的前面板

Right: a DCA amplifier with security panel installed

右边: 安装了安全面板的 **DCA** 放大器

Specially designed for cinema applications, the **DCA Series Digital Cinema Amplifiers** combine QSC's PowerLight technology and a refined audio structure to provide studio-quality performance with touring-quality reliability. These fan-cooled, 2-RU, amps provide unprecedented power in a strong, compact chassis.

In addition to the five two-channel models, two new full-featured four-channel models offer very compact solutions for multi-channel cinema audio amplification. The four channels of the DCA 1824 and DCA 1644 are arranged so that like the two-channel versions, they can be operated in parallel and bridged mono, pairing Channel 1 with Channel 2, and Channel 3 with Channel 4.

为影院用途专门设计的 **DCA** 系列数码影院放大器 将 QSC 的 PowerLight 技术与优化的音频结构结合起来, 可提供播音室质量的音响, 并具有卓越的可靠性。用风扇散热的 2-RU 放大器通过结实和紧凑的机架提供卓越的功能。

除了五个双声道型号, 两个新增全功能四声道型号能为多声道影院音频用途提供非常紧凑的解决方案。DCA 1824 和 DCA 1644 的四个声道的排列方式使它们与双声道版本一样, 能够将声道 1 与声道 2 配对, 声道 3 与声道 4 配对, 以并行或桥式单声方式操作。

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"QSC" and the QSC logo are registered with the U.S. Patent and Trademark Office.

All other trademarks are the property of their respective owners.

INTRODUCTION

简介

Model	Channels	Power 8 Ohms/Ch. 20-20 kHz, 0.03% THD	Power 4 Ohms/Ch. 20-20 kHz, 0.05% THD	Power 2 Ohms/Ch. 1 kHz, 1% THD
DCA1222	2	170 W	290 W	600 W
DCA1622	2	250 W	450 W	900 W
DCA2422	2	375 W	625 W	1200 W
DCA3022	2	500 W	825 W	1500 W
DCA3422	2	650 W	1050 W	1700 W
DCA1824	4	145 W	240 W	450 W
DCA1644	4	225 W	450 W*	—

** 20 Hz–20 kHz @ 1% THD*

Features

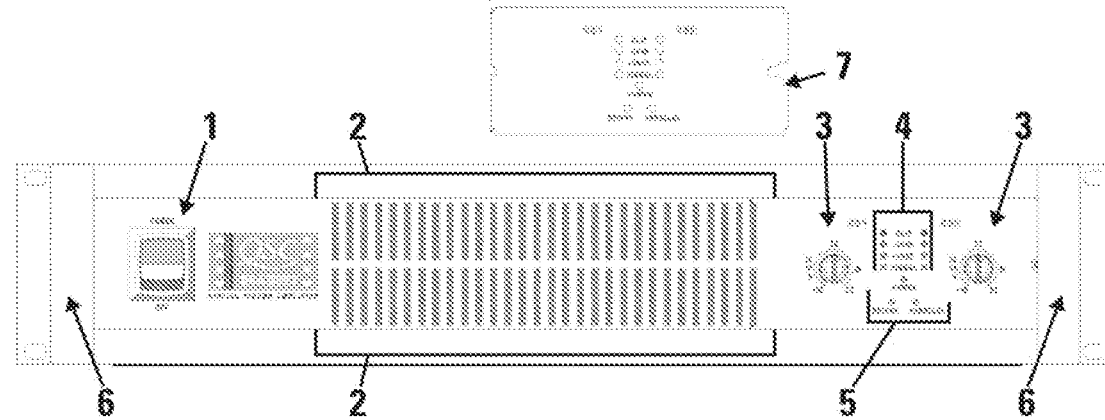
- Five 2-channel and two 4-channel models
- Barrier strip and Neutrik Speakon™* output connectors
- Zero inrush current to prevent tripping circuit breakers at turn-on
- Data port for crossovers and monitoring
- Independent, user-defeatable clip limiters
- Fully selectable low-frequency filter-ing; choice of 30 or 50 Hz roll-off
- Stereo (dual-channel), parallel-input, or bridged mono operating modes
- Balanced inputs: XLR*, ¼" (6.3 mm) TRS* and "Euro-style" detachable terminal blocks
- Recessed, detented gain controls with security cover
- Front panel LED indicators for power, signal, -20 and -10 dB, clip/protect, parallel inputs, and bridged mono mode
- QSC's exclusive high-performance PowerLight switching technology power supply

特性

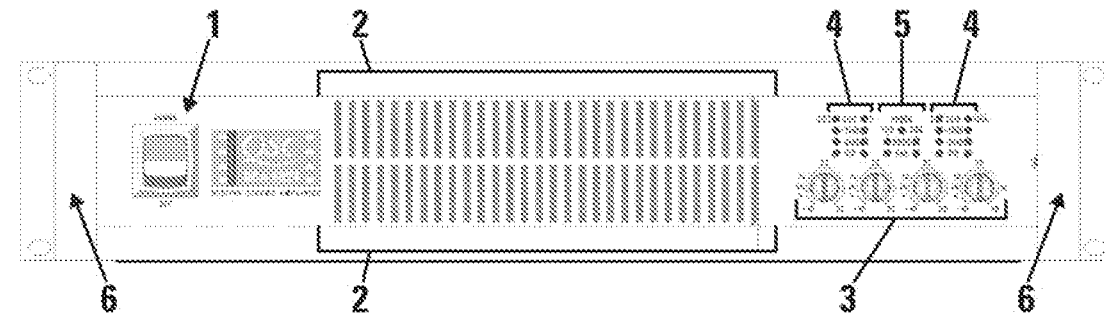
- 五个双声道和两个四声道型号
- 屏蔽带和 Neutrik Speakon™* 输出端连接器
- 零涌入电流，以防止在打开时激发断路器
- 用于跨接和监视的数据埠
- 独立和用户可控的削波限制器
- 完全可选低频滤波：30 或 50 Hz 滚降选择
- 立体声（双声道）、并行输入或桥式单声操作模式
- 平衡输入端：XLR，¼" (6.3 mm) TRS* 和“欧式”可隔离接线盒
- 带有安全盖的凹进式平缓增益控制器
- 电源、信号、-20 和 -10 dB、削波/保护、并行输入端和桥式单声模式的前面板 LED 指示灯
- 采用 QSC 专有高性能 PowerLight 开关技术的电源

** 2-channel models only* • 仅限双声道型号

Two-channel models
双声道型号



Four-channel models
四声道型号



Front panel

1. Power switch
2. Cooling vents
3. Gain control (1 per channel)
4. **CLIP**, **-10 dB**, **-20 dB** and **SIGNAL** indicator LEDs, all channels
5. **POWER**, **BRIDGE**, and **PARALLEL** indicator LEDs
6. Handles
7. Security panel

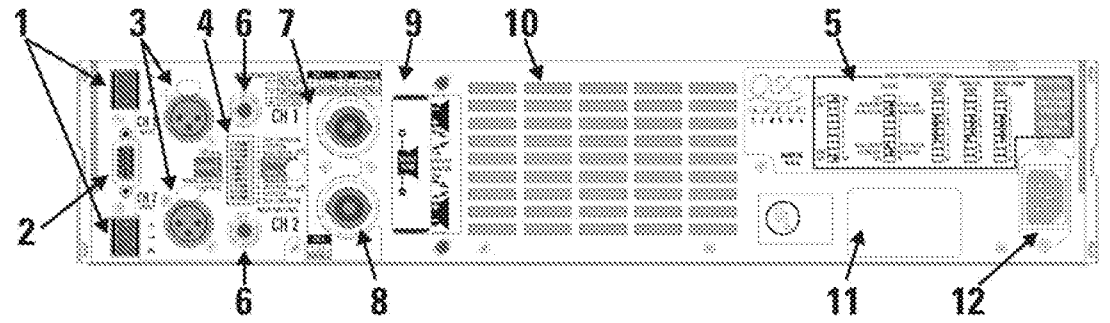
前面板

1. 电源开关
2. 散热口
3. 增益控制器（每声道1个）
4. 削波，-10 dB、-20 dB 和信号 指示灯 LED，所有声道
5. 电源、桥接 和 并行 指示灯 LED
6. 把手
7. 安全面板

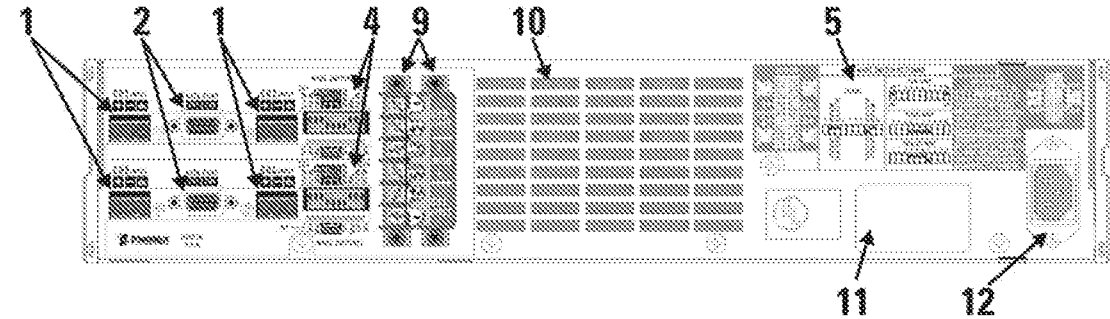
INTRODUCTION

简介

Two-channel models
双声道型号



Four-channel models
四声道型号



Rear panel

1. Terminal block inputs
2. DataPort
3. XLR inputs
4. Configuration switch
5. Configuration switch chart
6. TRS inputs
7. Speakon output, Channel 1 plus Channel 2 (4-wire)
8. Speakon output, Channel 2
9. Barrier strip outputs
10. Cooling air inlet vents
11. Serial number label
12. IEC connector for AC power cable

后面板

1. 接线盒输入端
2. 数据埠
3. XLR 输入端
4. 配置开关
5. 配置开关示意图
6. TRS 输入端
7. Speakon 输出端、声道 1 和声道 2 (4 线路)
8. Speakon 输出端，声道 2
9. 屏蔽带输出端
10. 散热空气进气口
11. 系列号标签
12. AC 电源线的 IEC 连接器

Clip limiter

Description

When the audio signal drives the amp's output circuit beyond its power capability, it clips, flattening the peaks of the waveform. The clip limiter detects this and quickly reduces the gain to minimize the amount of overdrive. To preserve as much of the program dynamics as possible, limiting occurs only during actual clipping.

Each channel has its own clip limiter, and you can switch it on or off independently, as shown at left.

When to use it

When driving full-range speakers, clip limiting reduces high frequency distortion caused by bass overloads. It also protects high frequency drivers from excess overdrive and harsh clipping harmonics.

We recommend using the clip limiters in all cinema applications.

CAUTION: Clip limiting reduces extreme overdrive peaks, allowing a higher average signal level without audible distortion. However, increasing the gain with the clip limiter engaged, until clipping is again audible, can double the average output power. Be careful not to exceed the power rating of your speakers.

削波限制器

说明

当音频信号驱动的放大器输出电路超过其电源容量时，它将削减波峰，使波形变平。削波限制器检测到此情况并快速降低增益，以尽量减少过载量。为尽可能多地保留程序动态，限制仅在实际削波期间发生一次。

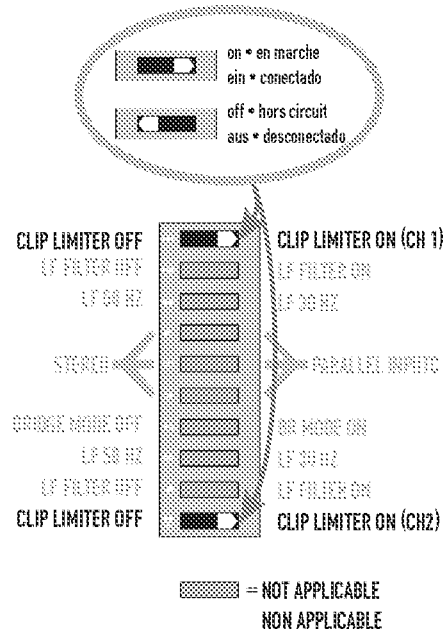
每个声道都有自己的削波限制器，可以独立地打开或关闭，如左图所示。

何时使用

驱动全频程扬声器时，削波限制降低低音过载造成的高频失真。还能使高频驱动器免受过度超速驱动和苛刻的削减谐波损害。

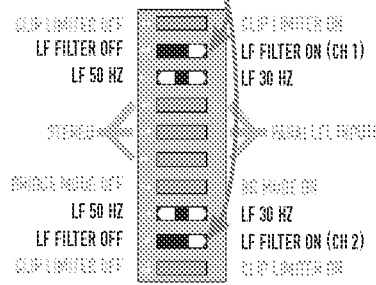
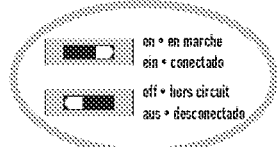
我们建议在所有影院应用中使用削波限幅器。

小心：削波限制将降低极端过载峰值，允许较高平均信号水平，而不产生音频失真。但如果通过使用削波限制器提高增益，直至可以再次听到削波为止，则可能会将平均输出功率增加一倍。请注意不要超过扬声器的额定功率。

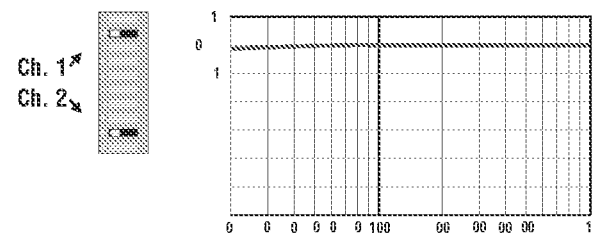
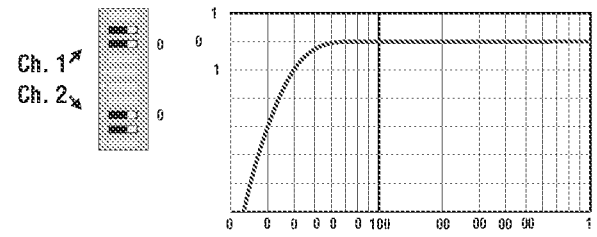
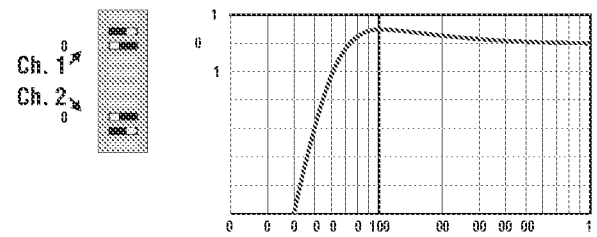


FEATURES & SETUP

功能与设置



■ = NOT APPLICABLE
□ = NON APPLICABLE



Input filter

Description

The low-frequency (LF) filter rolls off signals below either 30 Hz or 50 Hz. This improves bass performance by limiting sub-audio cone motion, making more power available for the speakers' rated frequency range.

The filter settings for each channel are controlled individually through the DIP switch settings shown. When the filter is turned off, a 5 Hz rolloff protects against DC or deep sub-audio inputs.

When to use it

As a rule, your speakers will sound better with proper filtering. Unless you already have filtering in a preceding device, match the setting to the low frequency rating of your speakers. Vented (bass reflex, ported, etc.) speakers are especially sensitive to cone over-exursion at frequencies below their rated limit.

The 50 Hz filter works well with most compact full-range speakers, such as surround systems. It has a slight boost at 100 Hz for greater fullness. The 30 Hz filter is intended for woofers and large full-range screen channel speakers. The "off" position should be used only for subwoofer systems capable of response below 30 Hz, or if preceding devices such as crossovers already provide adequate filtering.

输入滤波器

说明

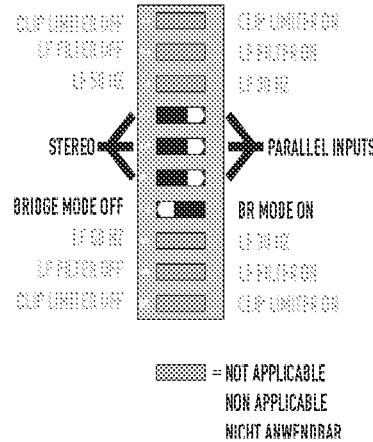
低频 (LF) 滤波器可滚降低于 30 Hz 或 50 Hz 的信号。这样就通过限制亚音频锥形扬声器引动提高了低音表现, 让更多功率用于扬声器的额定频率范围。

每个声道的滤波器设置均由所示的 DIP 开关设置分别控制。当过滤器关闭时, 5 Hz 滚降可防止出现 DC 或较深的亚音频输入。

何时使用

通常情况下, 您的扬声器如果滤波适当, 将能更好地发音。除非之前的设备中已有过滤, 否则请将设置与扬声器的低频级别匹配。当频率低于额定限制时, 通风的 (低音反射、带孔) 扬声器对锥形扬声器过度偏移尤其敏感。

50 Hz 滤波器可以与大多数紧凑型全频扬声器 (比如环绕系统) 良好地兼容操作。它在 100 Hz 时会稍微升压, 以提高完整性。30 Hz 滤波器旨在用于低频扬声器和大型全频屏蔽声道扬声器。“关闭”位置应仅用于能够响应 30 Hz 以下频率的亚低音扬声器系统, 或对已提供足够滤波的之前的设备 (比如分频器) 使用。



Parallel input mode

Description

The "Parallel Input" switches let you operate the amplifier in parallel mode, delivering the same signal to two channels without using a Y-cable. Each channel drives its own speaker load, with independent gain, filtering, and clip limiting.

Set switch positions 4, 5, and 6 "ON" to couple the inputs together. **Turn the switches off for stereo, bi-amping, or other 2-channel modes.** The yellow **PARALLEL** LED indicator on the front panel warns you when the switches are set to parallel.

1 signal / 2 channels

Parallel the inputs when you need to drive two amp channels with one input signal (*parallel mode*) while keeping separate control of both channels' gain, filtering, and limiting, such as in a surround system.

On four-channel DCA models, the upper set of parallel input DIP switches join Channels 1 and 2 in parallel, and the lower set join Channels 3 and 4.

1 signal / 4 channels

Four-channel models can be operated in parallel, with channels 1 and 2 and/or 3 and 4 linked together.

To operate all four channels in parallel, run a pair of wire jumpers between the corresponding + and - inputs of Channel 2's and Channel 3's detachable terminal blocks. Set both of the amp's DIP switches to "Parallel inputs." Use Channel 1 as the signal input.

Route the four amplifier channel outputs to their respective speaker loads. The load impedances do not have to be the same on all channels.

并行输入模式

说明

使用“并行输入”开关可以在并行模式中对放大器进行操作，无需使用 Y 型电缆即可将相同信号发送到两个声道。每个声道均通过独立的增益、滤波和削波限制来驱动其自身的扬声器负载。

将开关位置 4、5 和 6 设置为“打开”，使输入成对。对于立体声、双放大器或其他双声道模式，请关闭开关。前面板上的黄色并行 LED 指示灯将在开关设置为并行时向您发出警告。

1 信号/2 声道

需要使用单个输入信号驱动两个放大器声道（并行模式），同时保持对两个声道的增益、滤波和限制的控制（比如在环绕系统中）时，请使输入端保持并行。

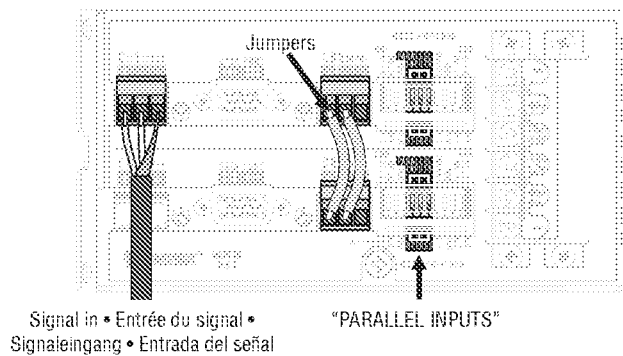
在四声道 DCA 型号上，上方组合的并行输入 DIP 开关将声道 1 和声道 2 并行合并起来，下方组合则将声道 3 和声道 4 合并起来。

1 信号/4 声道

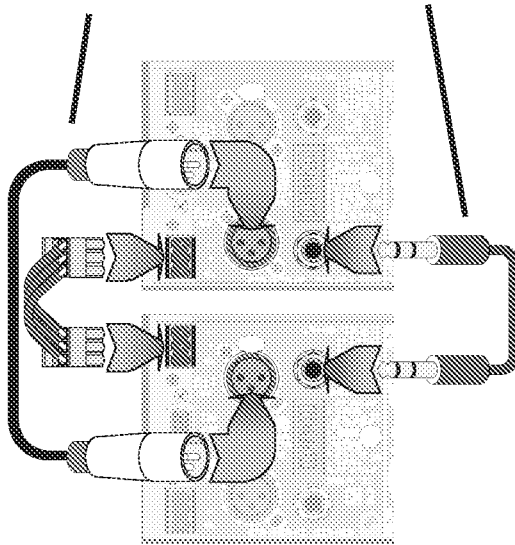
四声道型号可以将声道 1 和 2 和/或 3 和 4 链接起来，以并行方式操作。

要以并行方式操作所有四个声道，请在声道 2 和声道 3 的可隔离接线盒的对应 + 和 - 输入端之间布置一对跳线。将两个放大器的 DIP 开关都设置为“并行输入”。使用声道 1 作为信号输入端。

将四个放大器的声道输出都连接到其各自的扬声器负载。所有声道上的负载阻抗无需相同。



Two-channel models only • 仅限双声道型号



Branching to another amp • 分接到其他放大器

Parallel input mode (continued)

Branching to other amps

In addition to parallel mode, you can parallel the inputs in *bridged mono mode* to carry the signal to additional amplifiers through the unused extra input jacks. This is often called a "daisy-chain." See page 14 for an explanation of amp operating modes.

With two-channel models you can use any of the three ways shown at left to patch between amplifiers. Four-channel models have only terminal block inputs.

NOTE: If you're using a balanced signal, use only balanced patch cables; even one unbalanced cable will unbalance the entire signal chain, possibly causing hum.

NOTE: Turn off the "Parallel Inputs" switches when feeding two separate signals to the two channels.

并行输入模式 (续)

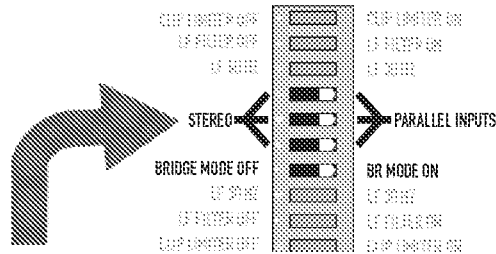
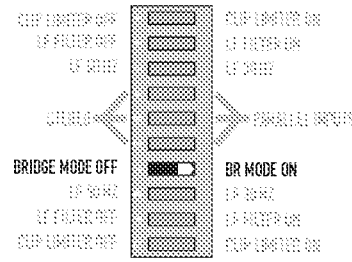
分接到其他放大器

除了并行模式，您还可以在桥式单声模式中使输入保持并行，以通过未使用的额外输入插孔将信号传输到其他放大器。这通常称为“菊链”。请参阅第 14 页有关放大器操作模式的说明。

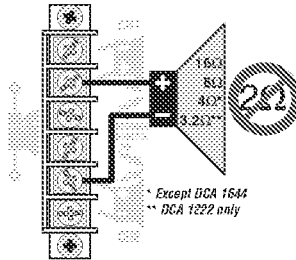
通过双声道型号，您可以使用左边所示任何一种方式之一来在放大器之间进行添加。四声道型号只有接线盒输入端。

注：如果您正使用平衡信号，请仅使用平衡连接线缆；即使是一根非平衡线缆也将使整个信号链失去平衡，甚至可能导致嗡嗡声。

注：向双声道输送两个独立的信号时，请关闭“并行输入”开关。



To patch the signal to additional amplifiers, use the parallel input switches described on page 10. 要将信号添加到其他放大器，请按第 10 页上的说明并行输入开关设置。



Bridge mono mode

Description

Bridged mono mode combines the power of two amplifier channels (Channels 1 & 2, and/or 3 & 4) into one speaker load, resulting in twice the voltage swing, four times the peak power, and approximately three times the sustained power of a single channel. This mode uses the input, gain control, input filter, and clip limiter of Channel 1 or Channel 3; Channel 2's or Channel 4's have no effect.

The **BRIDGE** LED on the front panel indicates when the amp is in bridged mono mode.

When to use it

Use bridged mono to deliver the power of two channels to a **single** 8- or 4-ohm load, such as a subwoofer. Set switch position 7 to "BRIDGE MONO ON." Use Channel 1's (or Channel 3's) input, and connect the speaker as shown.

桥式单声模式

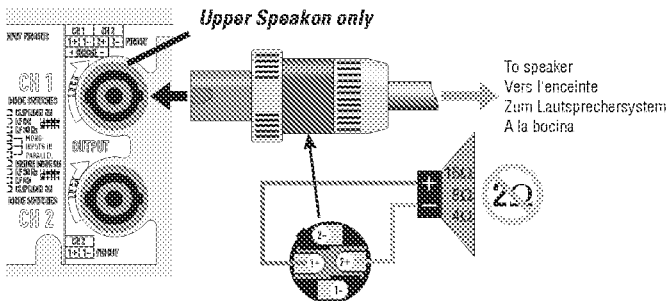
说明

桥式单声模式将放大器两个声道（声道 1 和 2 和/或 3 和 4）的功率组合到一个扬声器负载中，产生相当于单个声道两倍的电压摆幅、四倍的峰值功率和近三倍的稳定功率。这种模式将使用声道 1 或声道 3 的输入端、增益控制器、输入滤波器和削波限制器；声道 2 或声道 4 的相应设备没有效果。

前面板的桥式 LED 指示放大器何时处于桥式单声模式。

何时使用

使用桥式单声模式将双声道的功率传递到单个 8- 或 4 ohm 欧姆负载，比如亚低音扬声器。将开关位置 7 设置为“打开桥式单声”。使用声道 1（或声道 3）的输入端，并按图所示连接扬声器。



Bridged mono • 桥式单声



Bridge mono mode (continued)

BRIDGED-MONO PRECAUTIONS:

This mode puts a high demand on the amplifier and speaker, Excessive clipping may cause protective muting or speaker damage. Be sure the speaker has a sufficient power rating.

Output voltages greater than 100 Volts are available between the amplifier's bridged terminals. Class 3 wiring methods, as specified in accordance with national (NEC) and local codes, must be used to connect the loudspeaker.



DCA3022, DCA3422:

Class 3 Wiring shall be used for bridged mono outputs.

DCA1222, DCA1622, DCA2422, DCA1824, DCA1644:

Class 2 wiring shall be used.

桥式单声模式（续）

桥式单声模式注意事项：

此模式下的放大器与扬声器均高负荷运转，过度的削波可能会产生防御性的静音或导致扬声器损坏。请确保扬声器有足够的额定功率。

放大器的桥接终端之间会出现大于 100 伏特的输出电压。根据国家标准（NEC）以及地方标准规定，必须用 3 类配线方法连接扬声器。

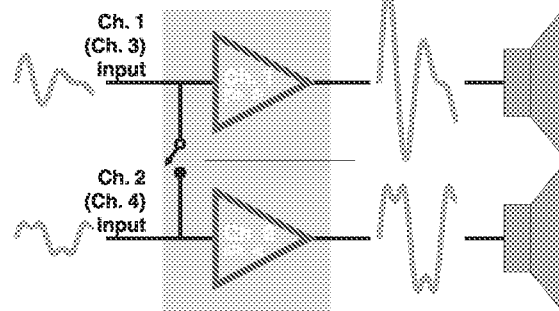
DCA3022、DCA3422:

对于桥式单声输出，应使用 3 类配线。

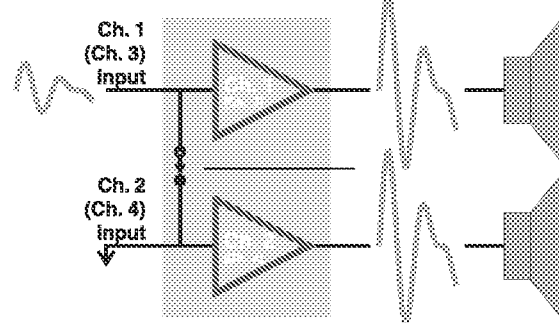
DCA1222、DCA1622、DCA2422、DCA1824、DCA1644:

应使用 2 类配线。

Stereo, bi-amp, 2-channel



Parallel



What are the differences among Stereo, Parallel Input, and Bridge Mono modes?

Stereo mode

This is the "normal" way of using the amplifier, in which each channel is fully independent. Separate signals connect at the inputs, the gain knobs control their respective channels, and separate speakers connect to each output.

Examples:

- Two-channel (stereo) or multi-channel playback.
- Bi-amped operation, with the low frequencies in Channel 1 (or 3) and the highs in Channel 2 (or 4).

Parallel input mode

This mode is just like Stereo mode, except that the inputs for Channels 1 and 2 or 3 and 4 are internally connected together. A signal into any input jack will therefore drive both channels directly. Each channel's gain control still functions as usual, and each channel feeds its own speaker load.

You can patch the input signal on to additional amplifiers by using any of the remaining input jacks.

Example:

- One surround channel signal driving both channels, with independent gain control for each speaker system.

立体声、并行输入或桥式单声操作模式之间有何区别？

立体声模式

这是使用放大器的“标准”方式，在该方式中每个声道都完全独立。各种信号在输入端处连接，增益旋钮控制它们各自的声道，各个扬声器连接至各个输出端。

示例：

- 双声道（立体声）或多声道播放。
- 双放大器操作，声道 1（或 3）使用低频，声道 2（或 4）使用高频。

并行输入模式

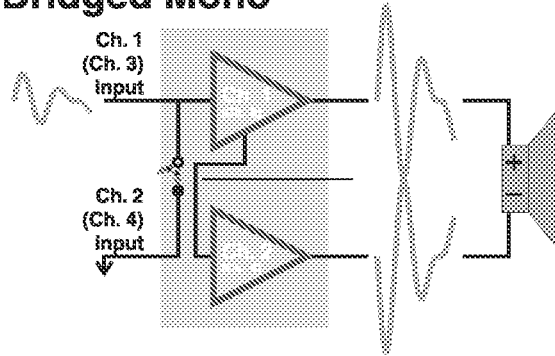
此模式类似于立体声模式，但声道 1 和声道 2 或者声道 3 和 4 的输入端是内部相连。一个进入任何输入插孔的信号因此将直接驱动两个声道。每个声道的增益控制器仍像往常一样工作，并且每个声道输送其各自的扬声器负载。

您可以使用剩下输入插孔中的任一个，将输入信号添加到其他放大器中。

示例：

- 一个环绕声道信号驱动两个声道，每个扬声器系统都具有独立的增益控制器。

Bridged Mono



Minimum bridge mono load on DCA1644 is 8 ohms.

DCA1644 上的最小桥式单声负载为 **8** 欧姆。

Bridge Mono mode

This mode combines the full power capabilities of both channels into a single speaker system. The amplifier internally re-configures so that both channels operate as a unit. This delivers double the output voltage, resulting in four times the peak power and three times the sustained power into a single 8- or 4-ohm speaker load. The Bridge Mono mode section on page 11 describes the special speaker connection used.

Examples:

- Driving a single 8-ohm speaker with the combined 4-ohm power of two channels.
- Driving a single 4-ohm speaker with the combined 2-ohm power of both channels.

Precautions:

- Bridge Mono mode makes it possible to drive thousands of watts into a single speaker. AC current consumption will usually be higher. Avoid excessive signal level, and make sure the wiring and speaker can handle the power.
- If the load is less than 4 ohms, or prolonged overloads occur, the amplifier will probably mute for several seconds during peaks.
- Do not use 2-ohm loads.

SEE THE ADDITIONAL BRIDGE MONO MODE WARNINGS ON PAGE 11.

桥式单声模式

此模式将两个声道的完整功率功能整合到一个扬声器系统中。放大器内部重新配置，这样两个声道便作为一个单元操作。此操作可使输出电压加倍，导致单个 8 或 4 欧姆扬声器负载中功率峰值增加四倍，稳定功率增加三倍。第 11 页中的桥式单声模式部分介绍了所使用的特殊扬声器连接。

示例：

- 使用两个声道的合并 4 欧姆功率驱动单个 8 欧姆扬声器。
- 使用两个声道的 2 欧姆功率合并驱动一个 4 欧姆扬声器。

注意事项：

- 您可以通过桥式单声模式将成千上万瓦特功率驱动到一个扬声器中。AC 电流消耗通常会更高。避免过度信号电平，并确保接线和扬声器能在该功率下正常工作。
- 如果负载小于 4 欧姆，或出现长期超载的情况，则放大器可能在出现峰值时静音几秒钟。
- 请勿使用 2 欧姆负载。

请参见第 11 页上的其他桥式单声模式注意事项。



INSTALLATION

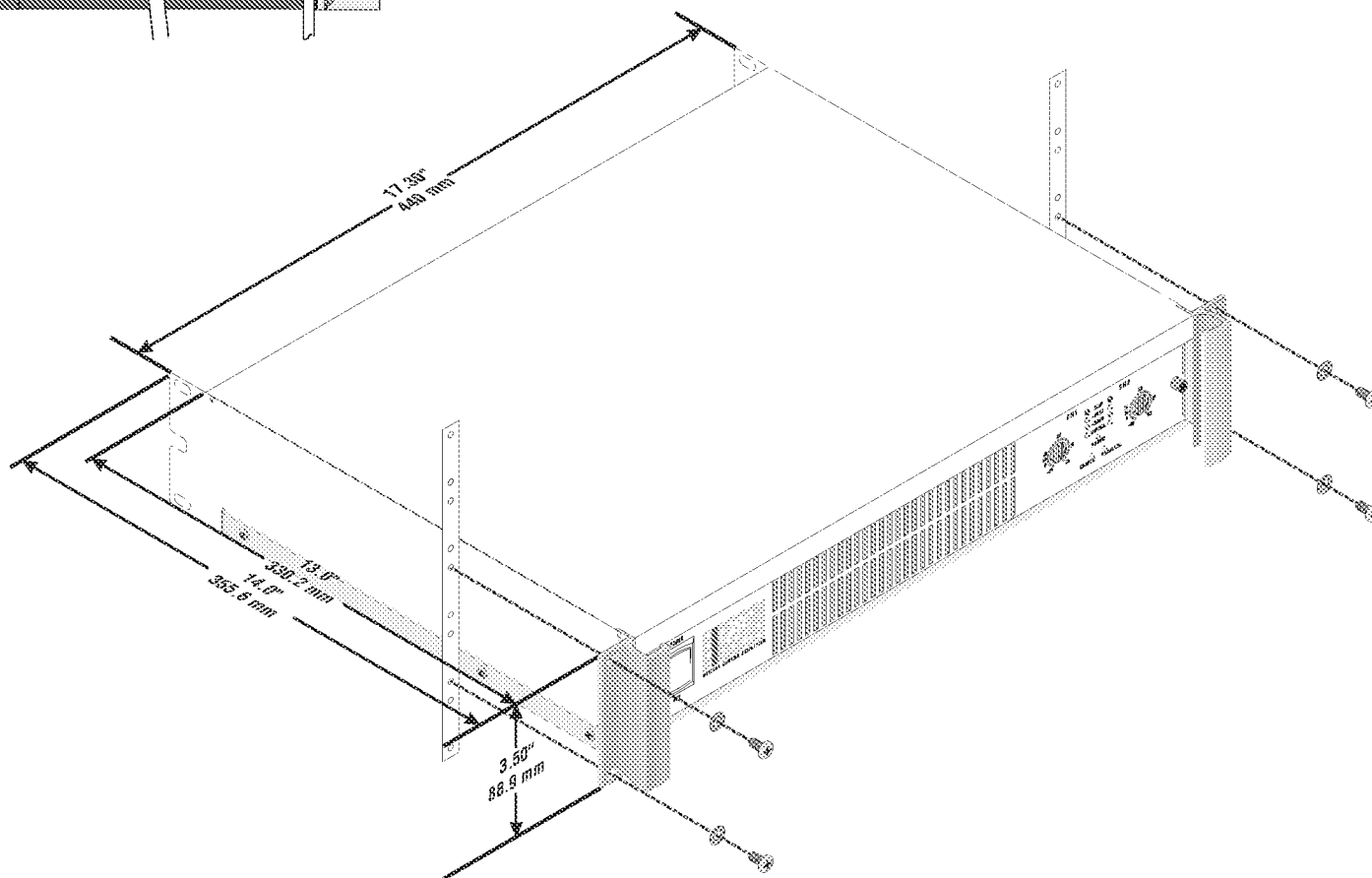
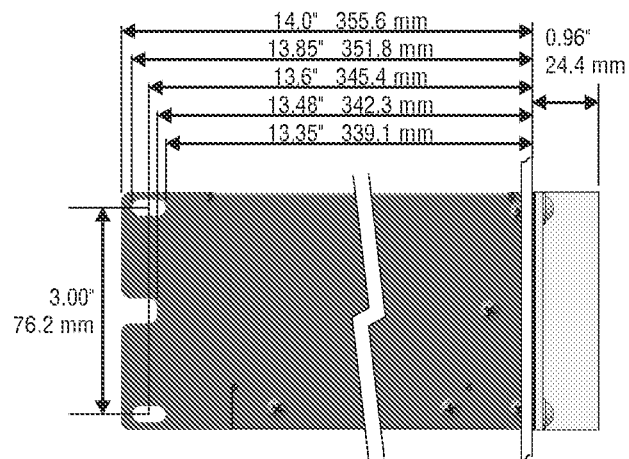
Use four screws and washers when mounting the amplifier to the front rack rails.

Support the amp at the rear also, especially in mobile and touring use; rear rack mounting ear kits are available from QSC's technical services department or by special order from your dealer or distributor.

安装

使用四颗螺钉和垫圈将放大器安装到前机架导轨上。

还需背后对放大器进行支撑，尤其是在移动使用中；QSC 技术服务部提供后机架柄安装件，也可从您的经销商或分销商处特别订购。

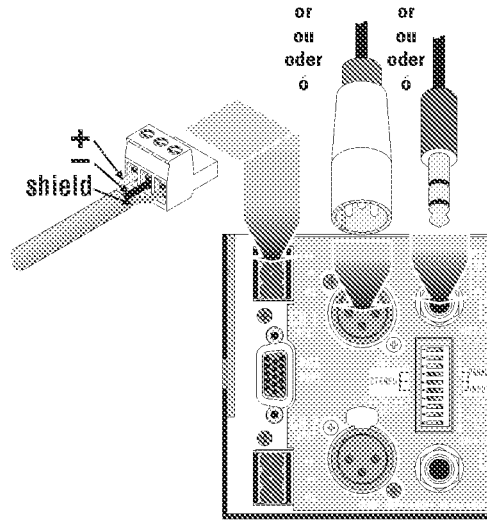


CONNECTIONS

Inputs

Each channel has an active balanced "Euro-style" terminal block input with an impedance of 20K ohms balanced or 10K ohms unbalanced. Two-channel models also have XLR and ¼-inch (6.3 mm) TRS jacks wired in parallel to the terminal block input.

Balanced signals are less prone to AC hum, but unbalanced signals can be suitable for short cable runs. The signal source's output impedance should be less than 600 ohms to avoid high frequency loss in long cables.



连接

输入端

每个声道都具有活动的平衡“欧式”接线盒输入端，该输入端带有 20,000 欧姆的平衡阻抗或 10,000 欧姆的非平衡阻抗。双声道型号还具有并行连接到接线盒输入端的 XLR 和 ¼ 英寸（6.3 毫米）TRS 插孔。

平衡信号不容易产生交流杂声，但非平衡信号适合短电缆布线。信号源的输出阻抗应低于 600 欧姆才能避免长电缆中的高频损耗。

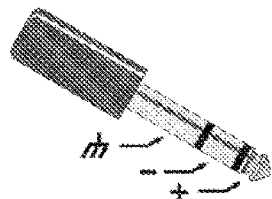
XLR balanced/XLR 平衡



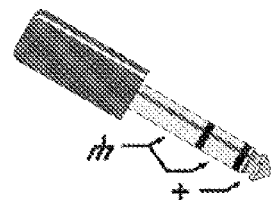
XLR unbalanced/XLR 非平衡



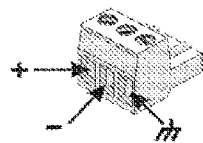
TRS balanced/TRS 平衡



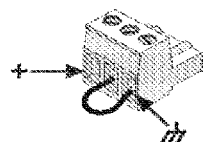
TRS unbalanced/TRS 非平衡



Terminal block balanced • 平衡接线盒



Terminal block unbalanced • 非平衡接线盒



CONNECTIONS

Inputs (continued)

Balanced inputs: Use the XLR or ¼-inch (6.3 mm) TRS input jacks, or the detachable terminal blocks.

Unbalanced inputs: Connect the unused side of the balanced input to ground, as shown at left. A tip-sleeve ¼-inch (6.3 mm) connector will correctly terminate the unused side of the input without modification.

For two-channel (stereo) operation, use the inputs for both Channel 1 and Channel 2 (or Channels 3 and 4); for parallel or bridged mono operation, use only the Channel 1 input (or the Channel 3 input). See the section on operating modes for more explanation. To patch the audio signal to other amps (parallel and bridged modes only), see the instructions for using parallel inputs on page 16.

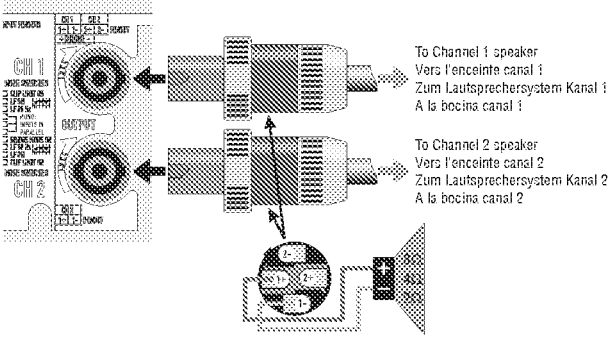
连接

输入端 (续)

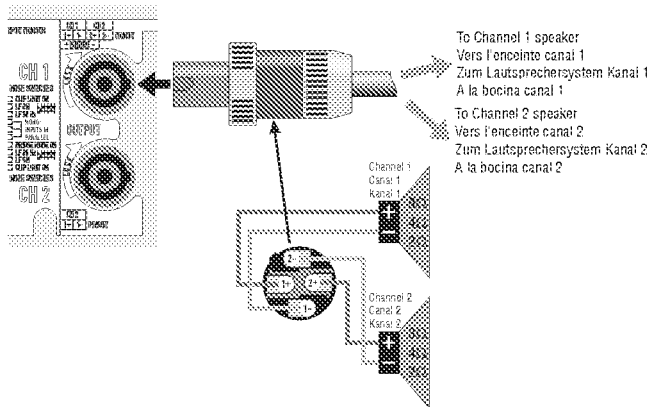
平衡输入端: 使用 XLR, ¼ 英寸 (6.3 毫米) TRS 输入插孔或可隔离接线盒。

非平衡输入端: 如左图所示, 将平衡输入端的未使用一侧接地。尖型套管 ¼ 英寸 (6.3 毫米) 连接器将正确终止未使用的输入端, 无需加以线路修改。

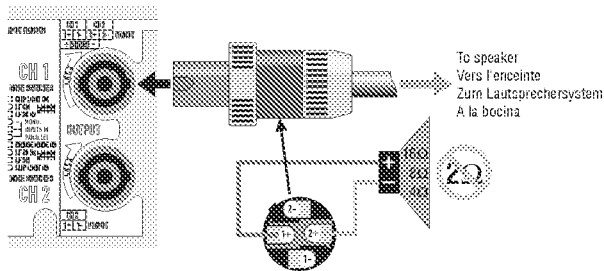
对于双声道 (立体声) 操作, 请同时使用声道 1 和声道 2 (或声道 3 和 4) 的输入端; 对于并行或桥式单声操作, 请仅使用声道 1 输入端 (或声道 3 输入端)。有关更多说明, 请参见操作模式部分。要将音频信号添加到其他放大器 (仅并行和桥式模式), 请参见第 10 页上的使用并行输入的说明。



2 channels & 2 Speakons/2 声道和 2 Speakon
(Stereo, bi-amp, or parallel mode; 立体声、双放大器或并行模式)



2 channels & 1 Speakon/2 声道和 1 Speakon
(Stereo, bi-amp, or parallel mode; 立体声、双放大器或并行模式)



Bridged mono • 桥式单声

CONNECTIONS

Speakon™ Outputs (two-channel models)

The two-channel DCA amplifiers offer a choice of output connections: two Neutrik NL4MD Speakon jacks and a barrier strip with screw terminals.

The Speakon connector is designed specially for high-power speaker connections. It locks in place, prevents shock hazard, and assures the correct polarity.

The upper Speakon jack has both Channel 1 and Channel 2 outputs, so it is especially useful for parallel, bi-amp, or bridged mono operation (see bridged mono operating precautions on page 13). The other Speakon carries only Channel 2's output. See the illustrations at left.

For easier insertion, use the newer-style NL4FC Speakon connectors with quicklock thumb latches.

Speaker cabling

Larger wire sizes and shorter lengths minimize both loss of power and degradation of damping factor. Do not place speaker cables next to input wiring.

OUTPUT TERMINAL SAFETY WARNING! Do not touch output terminals while amplifier power is on. Make all connections with amplifier turned off. Risk of hazardous energy!

连接

Speakon™ 输出端 (双声道型号)

双声道 DCA 放大器提供以下输出连接选择: 两个 Neutrik NL4MD Speakon 插孔和一个具有螺纹终端的屏蔽带。

Speakon 连接器专为高功率扬声器连接而设计。它锁定就位, 可防止电击危险, 并确保电极正确。

上面的 Speakon 插孔同时具有声道 1 和声道 2 输出端, 因此对并行、双放大器或桥式单声模式操作特别有用 (请参见第 13 页上的桥式单声模式操作注意事项)。另一个 Speakon 提供声道 2 输出端。请参见左边的插图。

请使用新款的 NL4FC Speakon 连接器, 该连接器拥有快速锁定的指按栓, 可以更方便地进行插接。

扬声器布线

更粗的电缆和更短的长度能使功率损耗和阻尼因数的降低最小。不要使扬声器电缆靠近输入线缆。

输出端子安全警告! 放大器电源打开时切勿接触输出端子。进行所有连线之前先关闭放大器电源。电击危险!

CONNECTIONS

Barrier strip outputs

(all models)

Turn the amplifier off before touching the output connections. Use spade lugs with insulated barrels to prevent electric shock. Close the shroud over the screw terminals before turning the amplifier on again.

OUTPUT TERMINAL SAFETY WARNING! Do not touch output terminals while amplifier power is on. Make all connections with amplifier turned off. Risk of hazardous energy!

Connections for stereo and parallel operations.

The special high-current design of the DCA1222 allows it to drive load impedances as low as 1.6 ohms (equivalent to five 8-ohm speakers in parallel) per channel, or 3.2 ohms bridged. The minimum load impedance of the DCA 1644 is 4 ohms per channel, or 8 ohms bridged.

Connections for bridged mono operation. See bridged mono operating precautions on page 11.

Speaker cabling

Larger wire sizes and shorter lengths minimize both loss of power and degradation of damping factor. Do not place speaker cables next to input wiring.

Speaker monitor

Each channel has an extra screw terminal, which is a monitor output for use with a cinema monitor panel. The monitor panel is usually located within the same rack as the amps.

连接

屏蔽带输出端

(所有型号)

请在接触输出端连接前关闭放大器。请使用具有绝缘套管的扁平接线片，以防止电击。再次打开放大器前请裹住螺丝端子。

输出端子安全警告！放大器电源打开时切勿接触输出端子。进行所有连线之前先关闭放大器电源。电击危险！

立体声和并行操作的连接。

DCA1222 的特别高电流设计使其能够驱动每个声道低至 1.6 欧姆（或桥式模式的 3.2 欧姆）的负载阻抗（相当于并行模式的五个 8 欧姆扬声器）。DCA 1644 的最低负载阻抗为 4 欧姆（声道）或 8 欧姆（桥式模式）。

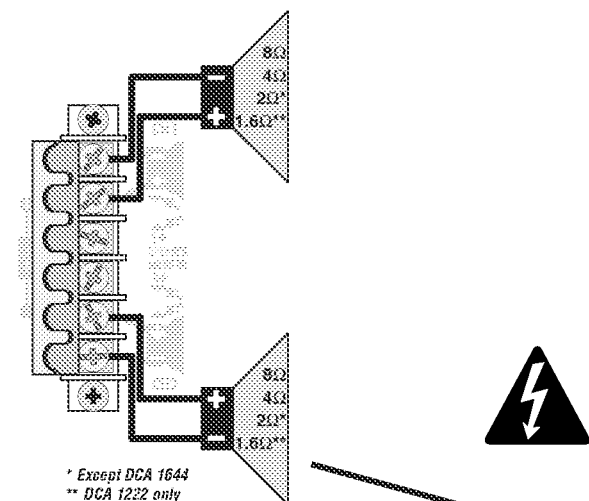
桥式单声操作的连接。请参阅第 11 页上的桥式单声操作注意事项。

扬声器布线

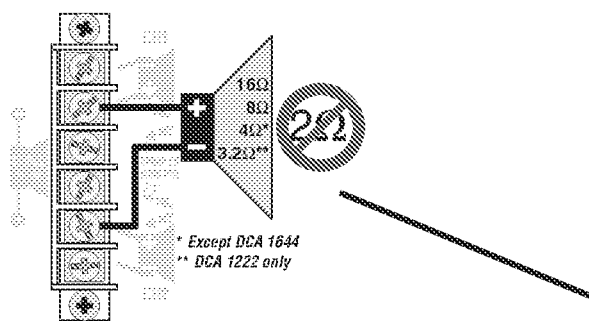
更粗的电缆和更短的长度能使功率损耗和阻尼因数的降低最小。更粗的电缆和更短的长度能使功率损耗和阻尼因数的降低最小。

扬声器监视器

每个声道具有额外螺纹端子，它是与影院监视面板仪器结合使用的监视器输出端。监视面板通常与放大器位于相同的机架内。



* Except DCA 1644
** DCA 1222 only



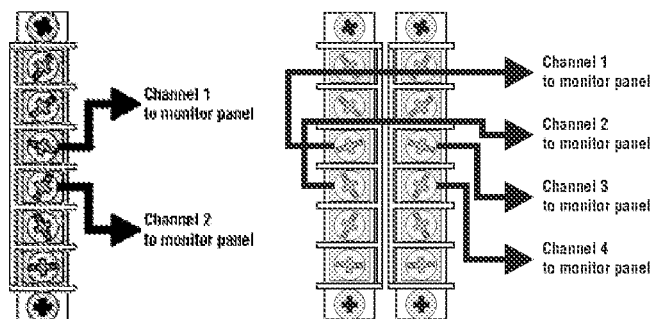
* Except DCA 1644
** DCA 1222 only

Two-channel models •

双声道型号

Four-channel models •

四声道型号



CONNECTIONS

Operating voltage (AC mains)

The power cord is removable and attaches to the IEC connector on the rear panel. Use the cord supplied with the amplifier, or an equivalent. Make sure you connect the amplifier to the correct AC line voltage, which is shown on the serial number label. Connecting to the wrong line voltage is dangerous and may damage the amplifier.

DataPort

The amplifier features a DataPort, which connects to a QSCControl MultiSignal Processor, DCM Digital Cinema Monitor, or other QSC cinema accessories via the HD-15 connector.

Accessories

Cinema accessories for the DCA amplifiers include crossover and filter modules that mount directly to the rear panel of a two-channel amplifier.

These accessories include the XC-3, a 2-way crossover; the SF-3 Subwoofer Filter; and the LF-3 Low-Frequency filter. You can use these accessories in various combinations with your amplifiers to create 2-way, 3-way, and 4-way (3-way plus subwoofer) active systems.

Other accessories for all DCA amps are the DCM Digital Cinema Monitors, which provide DSP crossover, EQ, filtering, and output monitoring functions for an entire cinema sound system. Contact QSC Audio (<http://www.qscaudio.com>) for details.

连接

操作电压 (AC 电源)

电源线可以拔下，也可以连接到后面板上的 IEC 连接器。请使用放大器随附的电源线或同等电源线。确保将放大器连接到正确的交流线电压，如序列号标签上所示。如果连接到错误的线电压，则非常危险，并可能会损坏放大器。

数据埠

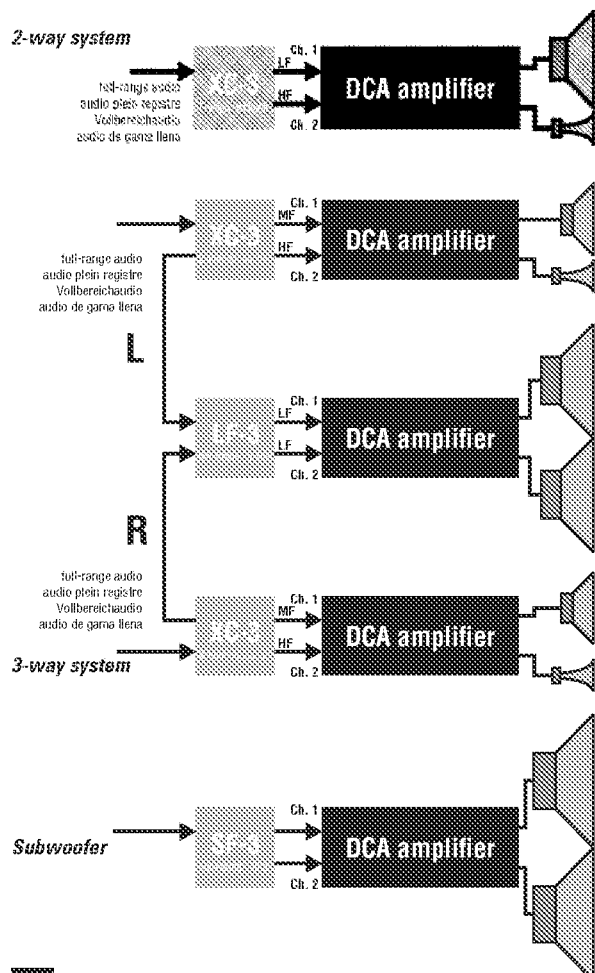
放大器具有一个通过 HD-15 连接器连接到 QSCControl 多信号处理器、DCM 数码影院监视器或其他 QSC 影院附件的数据埠。

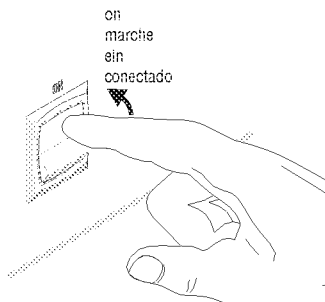
附件

DCA 放大器的影院附件包括分频和滤波器模块，这些模块直接安装在双声道放大器的后面板上。

这些附件包括 XC-3（一个双向分频器）、SF-3 亚低音扬声器滤波器和 LF-3 低频滤波器。您可以将这些附件与放大器进行各种形式的组合，以创建 2 向、3 向和 4 向（3 向加上亚低音扬声器）活动系统。

所有 DCA 放大器的其他附件都包含 DCM 数码影院监视器，这些监视器为整个影院音响系统提供 DSP 分频器、EQ、滤波和输出监视功能。有关详细信息，请联系 QSC Audio (<http://www.qscaudio.com>)。





OPERATION

AC power switch

Before applying power, check all connections and turn down the gain controls. The "soft start" sequence starts with the **POWER** indicator LED at half brightness. A couple seconds later the fan starts and the amplifier cycles through one second of protective muting, indicated by the **CLIP** LEDs glowing bright red. The **POWER** indicator then changes to full brightness and the amplifier is ready.

LED indicators

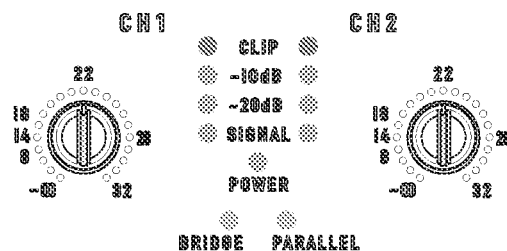
At full brightness, the green **POWER** LED indicates that the amplifier is operating. Half brightness means the amp is in its startup sequence.

As the signal increases, the green **SIGNAL**, **-20dB**, and **-10dB** LED indicators light respectively at 0.1%, 1% and 10% of full power.

The red **CLIP** LED indicator flashes during overload (clipping). A bright, steady glow indicates protective muting. If this occurs during use, see Troubleshooting.

The yellow **BRIDGE** LED indicates the amp is in bridged mono mode.

The yellow **PARALLEL** LED indicates the Parallel Input switches are set.



Gain controls

The gain controls are detented for repeatable adjustment. The actual voltage gain of the amplifier is shown in dB. Maximum gain is 40x, or +32 dB.

操作

交流电源开关

接通电源前，请检查所有连接，并关闭增益控制器。“软启动”顺序从一半亮度的电源指示灯 LED 开始。几秒钟后风扇启动，并且放大器会经过一秒钟的保护性静音，如亮红色发光的削波 LED 所指示。然后电源指示灯将变为全亮度，放大器至此已就绪。

LED 指示灯

在全亮度下，绿色电源 LED 表示放大器正在运行中。一半亮度表示放大器处于启动过程中。

随着信号的增强，绿色信号、-20dB 和 -10dB LED 指示灯将依次在接通全电源的 0.1%、1% 和 10% 时点亮。

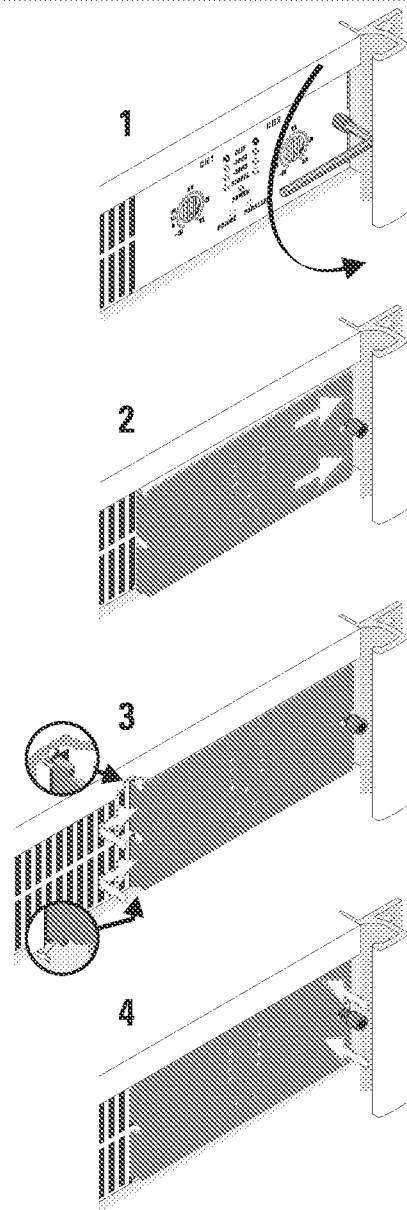
过载时，红色 LED 削波指示灯会闪动（正在削波）。明亮稳定发光表示处于保护性静音模式中。如果使用中发生此情况，请参阅“故障排除”部分。

黄色桥接 LED 表示放大器处于桥接单声模式。

黄色并行 LED 表示设置了并行输入开关。

增益控制器

使用增益控制器可平缓进行重复调整。放大器的实际电压增益以 dB 为单位显示。最大增益为 40 倍或 +32 dB。



Security panel

After setting the gain controls, you can install the security panel to prevent tampering and accidental misadjustment.

Installing the security panel

1. Use a 9/64" or 3.5 mm hex key to back the screw out several turns.
2. Slide the right end of the security panel just under the screw head.
3. There are tabs on the left end of the security panel. Insert them into the keyed portion of the rightmost ventilation slots, then slide the panel to the right so it locks in the slot.
4. Now insert the tabs on the right end of the security panel into the pair of slots at that end, then tighten the screw to secure the panel. Do not overtighten.

Removing the security panel

1. Use an angle 9/64" or 3.5 mm hex key to back the screw out several turns.
2. Use a small flat screwdriver to lift the right end of the security panel so that its tabs are free of the slots in the front panel.
3. Slide the security panel to the left until you can lift the left end free of the slots, then slide the panel to the left to remove it from behind the screw.

安全面板

设置增益控制器后，就可以安装安全面板，以防止误用和意外错误调整。

安装安全面板

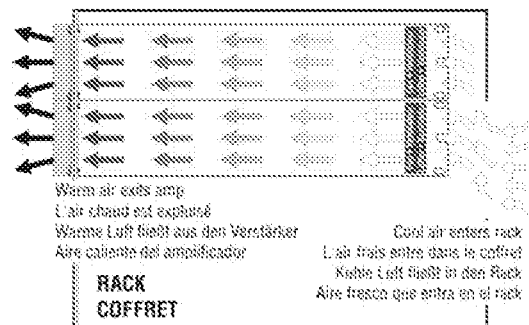
1. 使用 9/64 英寸或 3.5 毫米六角扳手将螺丝松开几圈。
2. 将安全面板右端滑动到刚好螺丝头下方。
3. 安全面板的左端上有接头。将接头插入最右端通风插槽的键控部分，然后将面板向右滑动，以使其锁定在插槽中。
4. 现在，将接安全面板右端的接头插入右端的那对插槽，然后旋紧螺丝，以固定面板。不要拧得过紧。

拆除安全面板

1. 使用 9/64 英寸或 3.5 毫米的六角扳手将螺丝松开几圈。
2. 使用小扁平螺丝刀撬起安全面板右端，以使其接头脱离前面板中的插槽。
3. 将安全面板向左滑动，直到可以左端移离插槽，然后将面板向左滑动，以将其从螺丝后方拆除。

OPERATION

操作



Fan cooling

The fan varies speed automatically to maintain safe internal temperatures and minimize noise. Keep the front and rear vents clear to allow full air flow.

Hot air exhausts out the front of the amp so it does not heat the interior of the rack. Make sure that plenty of cool air can enter the rack, especially if there are other units which exhaust hot air into it.

风扇冷却

风扇速度会自动变化，以保持安全的内部温度，并将噪音降至最低。保持前后通风口畅通，让空气充分流动。

热空气从放大器前面排出，不会使机架内部变热。确保足够的冷空气能进入机架，尤其是周围有其他设备向机架排放热空气。

Safe operating levels

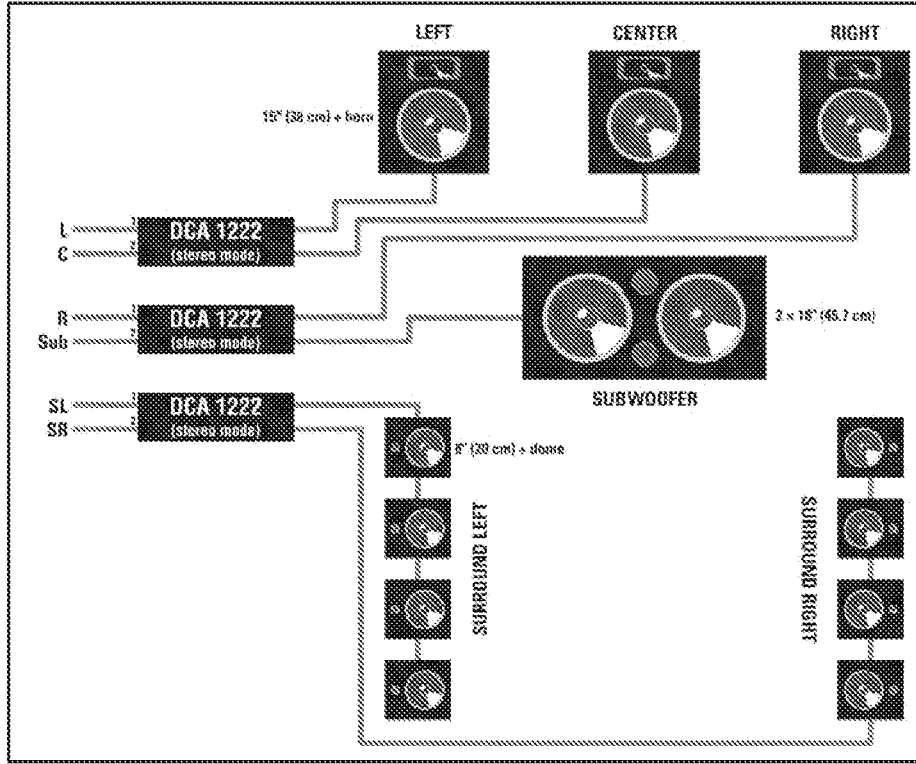
The amp's protective muting system guards against excessive internal temperatures. With normal ventilation and 4- to 8-ohm loads, the amplifier will handle any signal level including overdrive—but make sure that the speakers can handle the full power! However, lower load impedances and higher signal levels produce more internal heating. Into 2-ohm loads, frequent or prolonged clipping (indicated by constant flashing of the red **CLIP** LED) may trigger power cutback or even protective muting.

Bridged mono mode doubles the output impedance of the amp; 4 ohms (DCA1644: 8 ohms) is the minimum load impedance. Heavy clipping may cause muting. If this happens, see Troubleshooting, page 29.

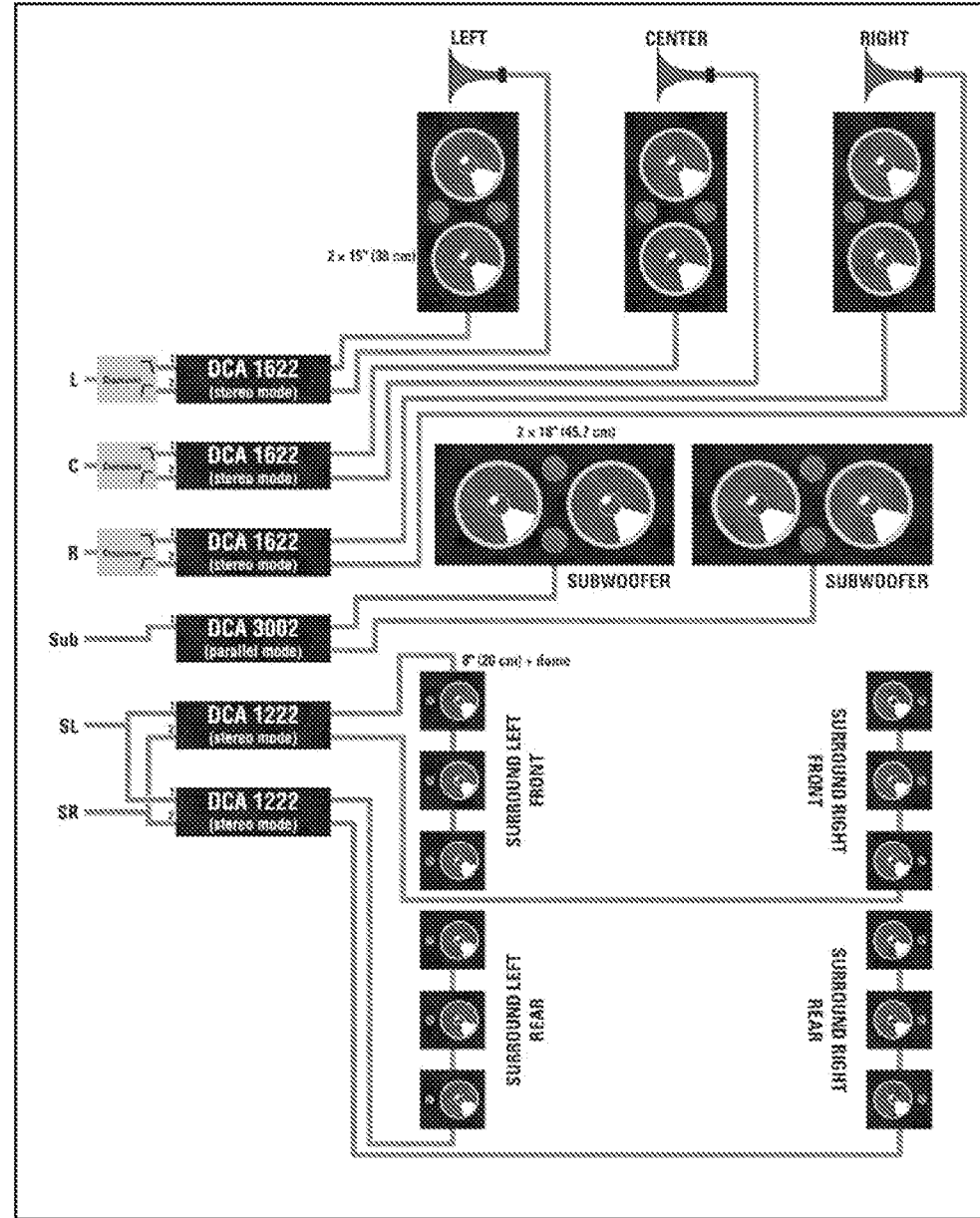
安全操作级别

放大器的保护性静音系统可防止出现内部温度过高的情况。在正常通风且负载在 4 至 8 欧姆范围内时，本放大器可处理任何信号级别（包括超速驱动），当然，前提是确保扬声器能够处理全功率！但是，较低负载阻抗以及较高信号级别可产生更多内部热量。负载达到 2 欧姆时，频繁或长期的削波（由红色削波 LED 指示灯稳定发光表示）会触发功率降低，或甚至保护性静音。

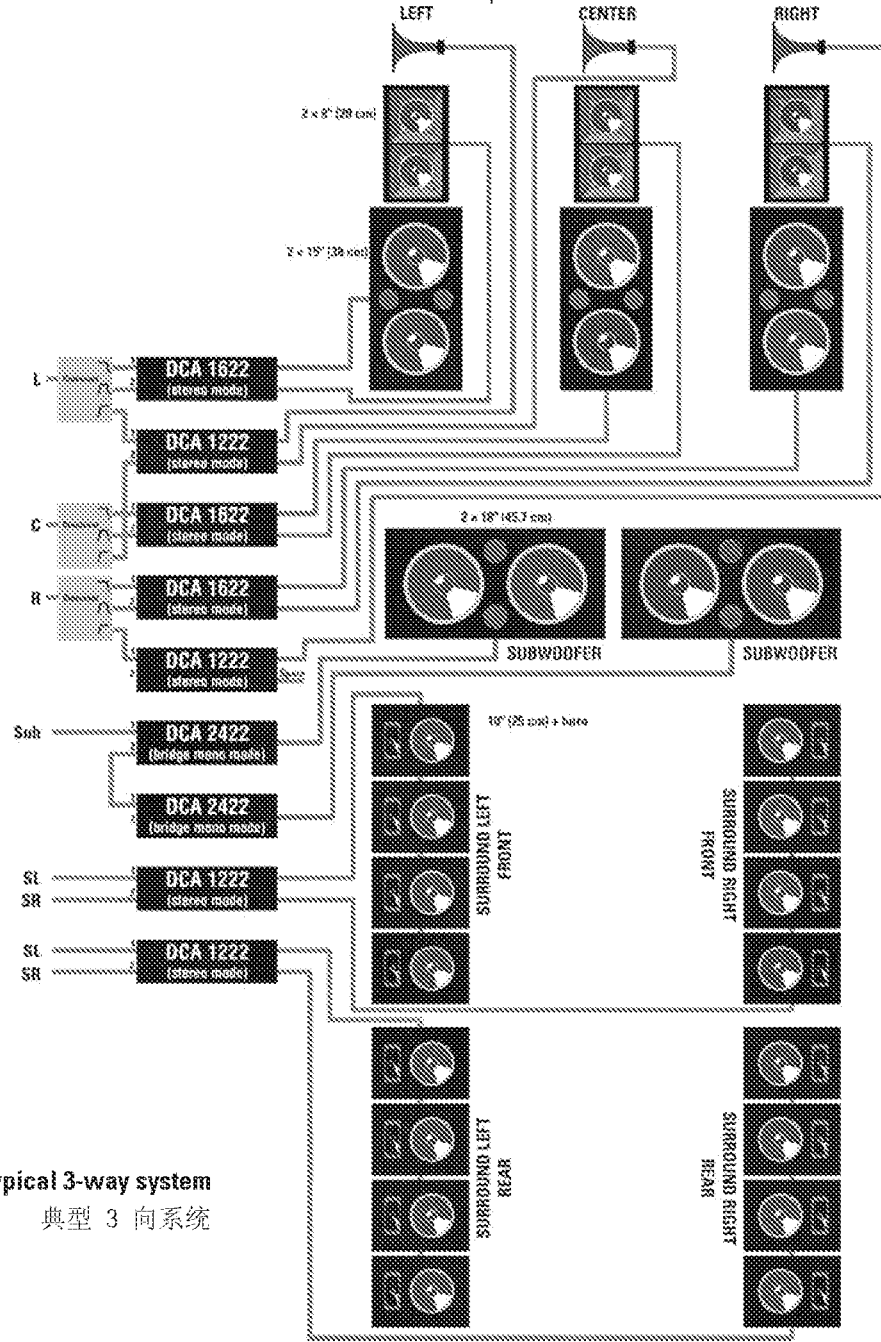
桥式单声模式使放大器输出阻抗加倍；4 欧姆（DCA1644：8 欧姆）是最小负载阻抗。大幅度削波可能导致静音。如果发生此种情况，请参阅第 29 页的“故障诊断”。



A small passive system
小型被动系统

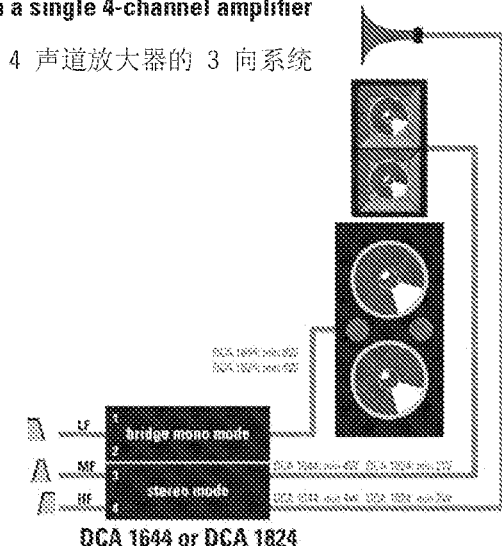


A typical 2-way system
典型 2 向系统



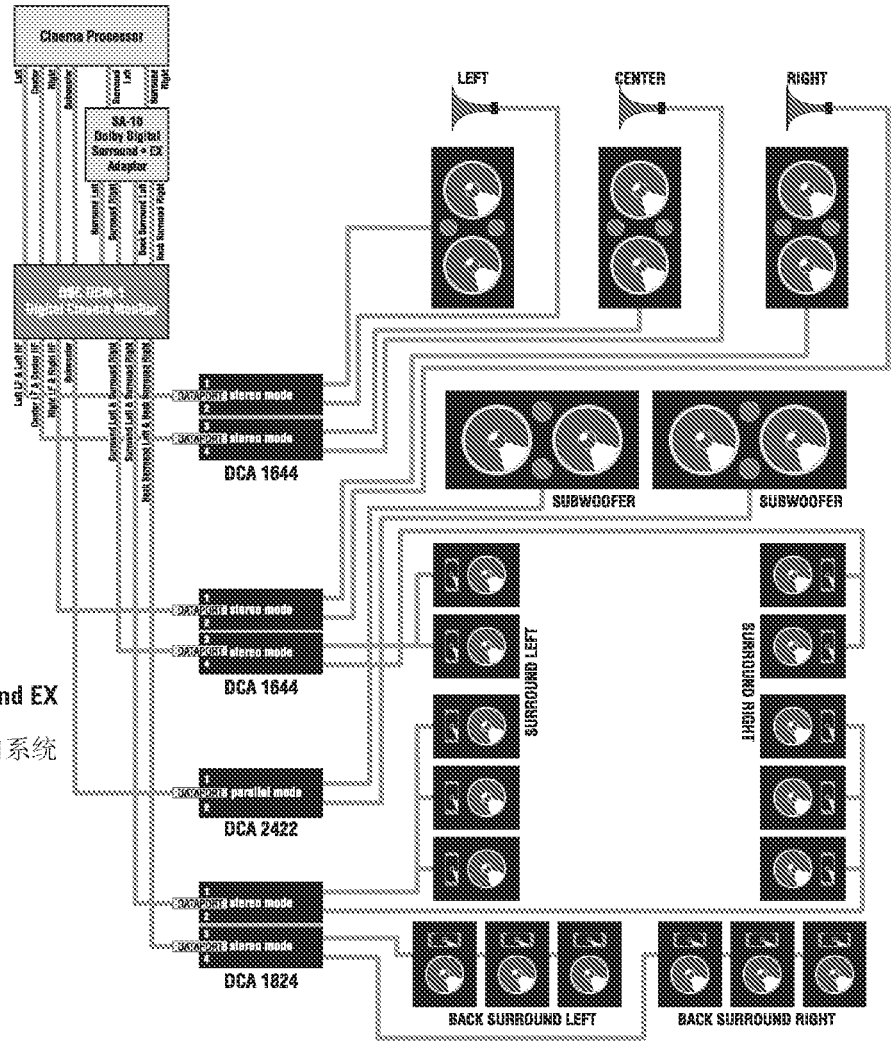
A typical 3-way system
典型 3 向系统

Going 3 ways with a single 4-channel amplifier
采用具有单个 4 声道放大器的 3 向系统



A typical 2-way system with Dolby Digital - Surround EX

带有 Dolby 数码 - 环绕 EX 的典型 2 向系统



TROUBLESHOOTING

故障排除

Problem: no sound

问题：没有声音

Indication: POWER indicator not lit

现象：电源指示灯未亮

- Check the AC plug.
- Confirm that the AC outlet works by plugging in another device. If too many amplifiers are used on one outlet, the building's circuit breaker may trip and shut off power.
- An overload in *bridged mono* mode may cause the amplifier to click off for three seconds, indicated by the half-bright **POWER** LED, followed by a normal restart cycle. Check the load impedance (4 ohms minimum), or reduce signal level. **CLIP** LEDs glowing bright red indicate a thermal shutdown.
- An amplifier which keeps shutting off may have a serious internal fault. Turn it off, remove AC power, and have the amplifier serviced by a qualified technician.

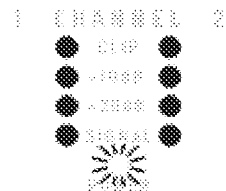
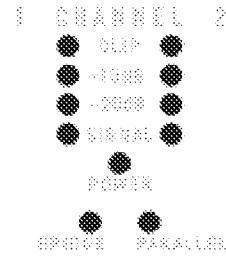
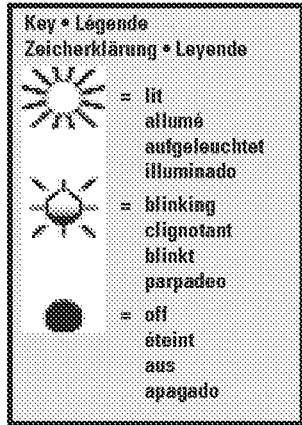
- 检查 AC 插头。
- 通过插入另一个设备，确认交流电源插座可用。如果在一个插座上使用过多放大器，所在建筑的断路器可能会断开并关闭电源。
- 桥式单声模式中的过载可能导致放大器断开三秒钟，如一半亮度的电源 LED 所示，接着开始正常的重启过程。请检查负载阻抗（至少 4 欧姆），或降低信号水平。削波 LED 以亮红色发光，这表示热量关闭。
- 如果放大器经常关闭，则可能是内部出现严重故障。请关闭放大器，断开交流电源，由合格的技术人员对放大器进行维修。

Indication: signal LED not lit

现象：信号 LED 指示灯不亮

- If the green **POWER** indicator LED is at full brightness, yet the signal LEDs indicate no signal, check the input. Make sure the signal source is operating and try another input cable. Connect the source to another channel or amplifier to confirm its operation.

- 如果绿色的电源 LED 指示灯全亮度发光，而信号 LED 指示灯不指示信号，请检查输入端。确保信号源正在工作，换一根输入电缆再试。将信号源连接至另一个声道或放大器，确认其正常工作。



TROUBLESHOOTING

故障排除

No sound (continued)

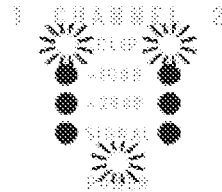
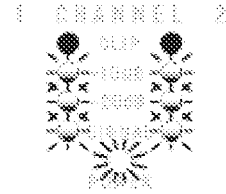
没声音 (续)

Indication: signal LEDs responding to signal level

现象：信号 LED 指示灯对信号水平有反应

- If the green **SIGNAL**, **-20 dB**, and **-10 dB** indicators are lighting normally, the fault is somewhere between the amp and the speaker. Check the speaker wiring for breaks. Try another speaker and cable.

- 如果绿色的信号、-20 dB 和 -10 dB 指示灯正常亮起，则可能是放大器与扬声器之间的某个位置出现故障。请检查扬声器接线是否断开。用另一个扬声器和线缆试一下。



INDICATION: CLIP LEDs bright and steady

现象：削波 LED 指示灯发光且稳定

The amplifier is in protective muting.

放大器处于保护性静音模式中。

- One second of muting is normal when the amp is turned on or off.
- Overheating will cause protective muting. The fan will be running at full speed and the chassis will be hot to the touch; sound should resume within a minute as the amplifier cools to a safe operating temperature. Check for proper ventilation. If the fan isn't running at all, the amplifier requires servicing.

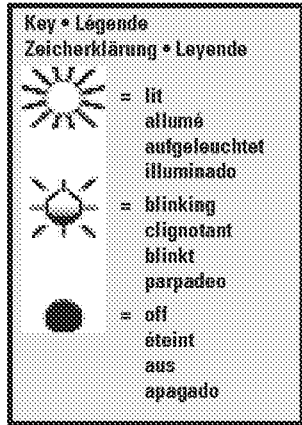
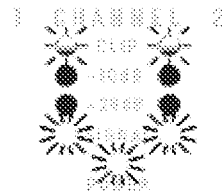
- 打开或关闭放大器时，会出现一秒钟的静音，这是正常现象。
- 过热会导致保护性静音。风扇将全速运行，底盘发烫；声音应该在放大器冷却到安全工作温度一分钟之内恢复。检查保证正常通风。如果风扇完全没有运行，则放大器需要维修。

INDICATION: Clip LED flashing

现象：削波 LED 指示灯闪烁

- If the red **CLIP** indicator flashes when signal is applied, the amplifier output may be shorted. Check the speaker wiring for stray strands or breaks in the insulation.

- 如果输入信号时红色削波 指示灯闪烁，可能是放大器输出短路。检查扬声器导线有无缠绕或绝缘破裂。

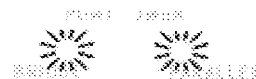
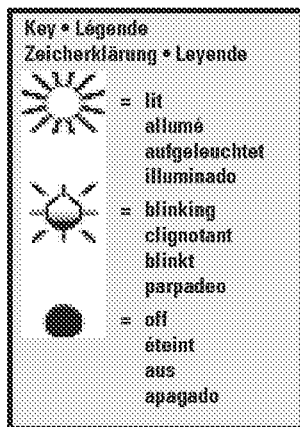
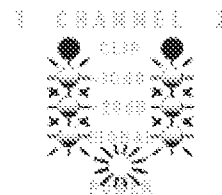
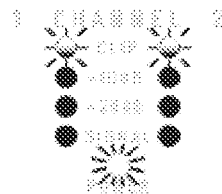


TROUBLESHOOTING

Problem: distorted sound

INDICATION: CLIP LED flashing

- If the red **CLIP** indicator flashes before all three signal indicators do, the load impedance is abnormally low or shorted. Unplug each speaker one-by-one at the amplifier. If the **CLIP** LED goes out when you disconnect a cable, that cable or speaker is shorted. Try another cable and speaker to locate the fault.



Problem: no channel separation

- Check the yellow **PARALLEL** or **BRIDGE MONO** LEDs on the front panel, which indicate the switch settings on the back of the amplifier. Neither should be lit in dual-channel, bi-amp, or stereo use where different signals go to each channel. Make sure the "Parallel Input" and "Bridge Mode" switches are *Off*.
- Make sure other equipment in the signal path, such as mixers, preamps, etc., are set for stereo, not mono.

故障排除

问题：声音失真

现象：削波 LED 指示灯闪烁

- 如果在所有的三个信号指示灯闪烁之前，红色的削波 指示灯闪烁，则负载阻抗可能低于正常水平或短路。逐一拔出放大器上的扬声器。如果断开某根电缆时削波 指示灯熄灭，则说明该电缆或扬声器短路。试着用另一个线缆和扬声器查找故障。

现象：削波 LED 指示灯不闪烁

- 可能是因为扬声器出现故障或连接松动。请检查接线情况并用另一个扬声器试一下。
- 信号源可能被削减。保持放大器增益控制器至少位于中间点上方，以使信号源不致超速驱动。

问题：没有声道隔离

- 请检查前面板上的并行 或桥式单声 LED，这些 LED 指示放大器背面的开关设置。向每个声道传输不同信号的双声道、双放大器或立体声用途的指示灯都不会点亮。确保“并行输入”和“桥式单声”开关已关闭。
- 请确保信号路径中的其他设备（如混音器、前置放大器等）均设为立体声而不是单声道。

TROUBLESHOOTING

Problem: hum

- The PowerLight supply eliminates internal hum fields, but AC transformers in other devices may cause hum. Move cabling and signal sources to identify "hot spots" in the system. Cables with faulty shielding are a frequent entry point for hum.

Problem: hiss

- Unplug the amplifier input to confirm that the hiss is coming from the source or a device upstream; erratic or popping noises indicate an electronic fault in the offending unit.
- To keep the normal noise floor low, operate the primary signal source at full level, without clipping, and avoid boosting the signal further between the source and the amplifier.

Problem: squeals and feedback

- Microphone feedback should be controlled with mixer controls. If noise continues to build up with zero mic gain, there is a serious fault in the signal processors or cables. Working in succession from the signal source towards the amplifier, check each device in the signal path by reducing its gain or unplugging it.

故障排除

问题：噪声

- PowerLight 电源消除了内部噪音磁场，但其他设备的 AC 转换器可能会导致噪声。移动线缆和信号源，以识别系统中的“热点”。噪声经常从保护层有缺陷的线缆处进入。

问题：嘶嘶声

- 拔掉放大器输入端，检查嘶嘶声是来自源还是来自设备上游；奇怪的声音或砰砰声说明该故障单元中的电子出现问题。
- 要保持较低的正常固有噪声电平，请在完整级别上操作主要信号源而无需削波，并避免将信号提高到源与放大器之间的更深处。

问题：刺耳声和回声

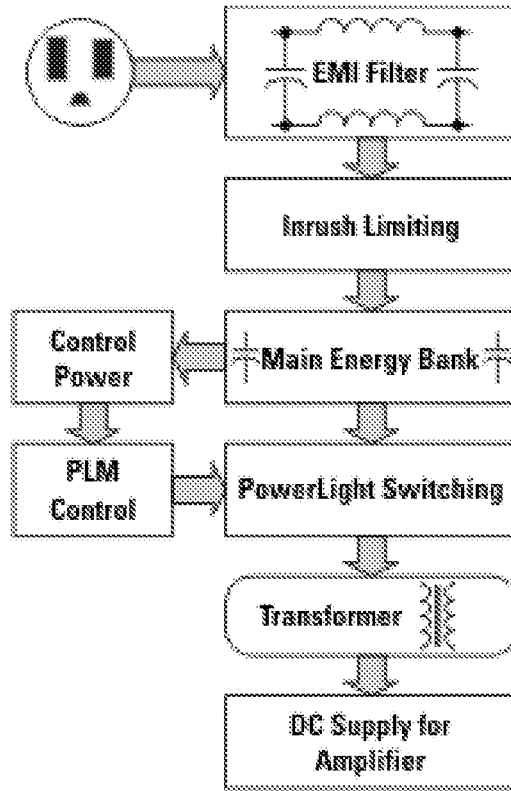
- 应通过混频器控件来控制麦克风的回声。如果将麦克风增益调至零时，噪声依然持续，则说明信号处理器或线缆有严重故障。持续从信号源朝放大器作用时，请通过减小其增益或将其拔掉的方式检查信号路径中的每个设备。

INNER WORKINGS

An impressive amount of technology is packed "under the hood" of a DCA Series amplifier. Thousands of watts of power flow inches away from state-of-the-art low noise inputs. Precise circuit layout and thorough protection assure that all of this activity occurs smoothly and safely. So, what actually happens when you turn on the power switch?

Soft Start Sequence. The first task is to charge the primary energy reservoir without drawing a large surge current. A special inrush limiter allows just enough current to charge the energy bank in three seconds. Meanwhile, a low-power switching supply provides power to start up the main supply. After three seconds, a relay bypasses the inrush limiting and full power operation is enabled. The audio circuitry mutes for one second to eliminate start-up thumps. When the red **CLIP** lights go out, the amplifier is ready for action.

PowerLight Technology. High current switching devices draw over 10,000 watts of peak power from the main energy reservoir, which is replenished directly from the AC line for maximum stiffness. Conventional amplifiers must isolate the energy bank with a large AC transformer, which weakens the flow of current, allows greater sag under load, and produces hum. The PowerLight supply performs voltage conversion at a very high frequency, allowing better coupling through a much smaller isolation transformer.



Basic Functional Block Diagram of PowerLight™ Supply

内部工作元件

DCA 系列放大器的“罩壳下”包含相当多的技术。数千瓦的功率将逐渐通过最先进的低噪音降低输入端。精确的电路布局 and 彻底的保护可保证所有活动顺利和安全地进行。因此，当您打开电源开关时，实际上会发生什么呢？

软启动顺序。第一个任务是为主要电能池充电，而不吸收大量涌流。特别的涌入限制器使刚好足够的电流对电能池充电三秒钟。同时，低功率开关电源为主电源提供启动电源。三秒钟后，继电器绕过涌入限制并启用全功率操作。音频电路静音一秒钟，以消除启动噪音。红色削波指示灯熄灭时，放大器就准备好开始工作了。

PowerLight 技术。高电流切换设备从主电能池吸收超过 10,000 瓦的峰值功率，主电能池则直接从 AC 线路补充电能，以保持最大电容。传统放大器必须使用大型 AC 转换器隔离电能池，这会削弱电流，使电流在负载下进一步降低，并产生噪声。PowerLight 电源用超高频率执行变压，通过更小的隔离变压器实现更好的耦合。

INNER WORKINGS

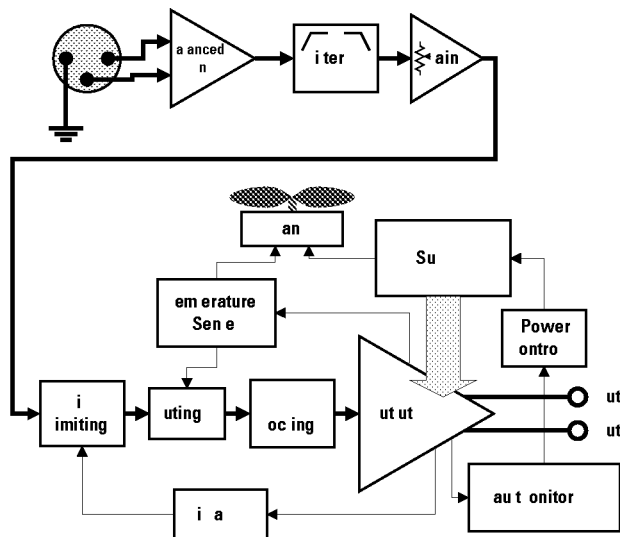
High Performance Audio. High speed power transistors convert this DC power into the full range audio output which drives the speakers. High-current design and special dual-sense output feedback corrects errors on both sides of the speaker terminals, improving damping and control of speaker motion. The power devices are directly mounted to isolated heat sinks, which form a short, wide air tunnel in front of the fan for optimum cooling.

A thermal sensor embedded in each channel's heat sink monitors the temperature and controls fan speed, thermal shutdown, and bias control, assuring maximum audio clarity at all temperatures and signal levels. A circuit monitors transistor dissipation and triggers protective cutback only when actually needed.

The output circuitry is actively clamped during clipping for smooth and very fast recovery. The clamp also feeds a proportional clip limiter, which actually senses the depth of clipping and responds accordingly.

The balanced inputs use premium 0.1% precision resistors for very high noise rejection. The precision components used in the input filters and all other circuitry ensure accurate performance.

Shutdown. The amplifier mutes as soon as power is shut off, preventing turn-off noises. Serious faults trigger a shutdown of the power supply; the high switching frequency cuts off power within microseconds to limit damage.



内部工作元件

高性能音频。高速功率晶体管可以将此 DC 电源转换为驱动扬声器的全频音频输出。高电流设计和特别双传感输出反馈可纠正扬声器端子两侧的误差，改进扬声器运行的阻尼和控制。电源设备直接安装在隔离的吸热器上方，在风扇前方形成短而宽的气流通道，从而实现最佳散热效果。

每个声道的吸热器中嵌入的热量传感器都可以监控温度并控制风扇速度、热量降低和偏压控制，确保在所有温度和信号水平下的最大音频清晰度。还有一个电路用于监视晶体管散热，并只有在实际需要时才触发保护性降低。

输出电路在削波期间得到主动钳位，以实现顺利和非常快速的恢复。钳位电路还可馈送到比例削波限制器，这实际上检测到削波深度并相应地做出响应。

平衡输入端使用顶级 0.1% 精确度电阻，可杜绝大部分噪音。输入滤波器和所有其他电路中使用的精确组件可确保精准的性能。

关闭。放大器在电源关闭后就处于静音状态，从而避免关闭噪音。严重故障将触发电源关闭；高开关频率可在几微秒内切断电源，以限制损坏程度。

SPECIFICATIONS

	DCA1222	DCA1622	DCA2422	DCA3022	DCA3422
OUTPUT POWER in watts					
<i>FTC: 20 Hz–20 kHz @ 0.03% THD, all channels driven</i>					
8 ohms per channel	170	250	375	500	650
<i>FTC: 20 Hz–20 kHz @ 0.05% THD, all channels driven</i>					
4 ohms per channel	290	450	625	825	1050
<i>EIA: 1 kHz @ 1% THD, one channel driven</i>					
8 ohms per channel	190	300	425	575	750
4 ohms per channel	350	550	775	1025	1250
2 ohms per channel	600	800	1200	1500	1700
<i>Bridge Mono:</i>					
16 ohms, 20 Hz–20 kHz, 0.1% THD	360	575	800	1050	1350
8 ohms, 20 Hz–20 kHz, 0.1% THD	650	1000	1350	1800	2100
4 ohms, 1 kHz, 1% THD	1200	1600	2400	3000	3400
DYNAMIC HEADROOM	2 dB @ 4 ohms				
DISTORTION					
SMPTE-IM	< 0.01%	< 0.01%	< 0.02%	< 0.02%	< 0.02%
FREQUENCY RESPONSE 20 Hz–20 kHz, ±0.15 dB (at 10 dB below rated output power)	-3 dB points: 5 Hz and 100 kHz				
DAMPING FACTOR	> 500 @ 8 ohms				
NOISE (unweighted 20 Hz to 20 kHz, below rated output)	106 dB	107 dB	108 dB	107 dB	107 dB
VOLTAGE GAIN	40× (32 dB)				
INPUT SENSITIVITY, V RMS					
full rated power @ 8 ohms	1.0v (+2.2 dBu)	1.2v (+3.9 dBu)	1.5v (+5.5 dBu)	1.7v (+6.8 dBu)	1.9v (+7.7 dBu)
full rated power @ 4 ohms	0.9v (+1.3 dBu)	1.1v (+3.2 dBu)	1.3v (+4.6 dBu)	1.5v (+5.7 dBu)	1.7v (+6.6 dBu)
INPUT IMPEDANCE	10K ohms unbalanced 20K ohms balanced				
# OF CHANNELS	2	2	2	2	2
CONTROLS	Front: AC switch, Ch. 1 and Ch. 2 gain knobs with 21 detents Rear: 10-position DIP switch				
INDICATORS	POWER: Green LED CLIP: Red LED, 1 per channel PARALLEL: Yellow LED -10 dB: Green LED, 1 per channel BRIDGED: Yellow LED -20 dB: Green LED, 1 per channel SIGNAL: Green LED, 1 per channel				
CONNECTORS	Input: XLR and ¼" (6.3 mm) TRS, tip and pin 2 positive; detachable "Euro-style" terminal blocks Output: Barrier strip and Neutrik Speakon™ HD-15 female connector for QSCControl, DCM Digital Cinema Monitor, or accessories (XC-3, LF-3, or SF-3)				
COOLING	Forced-air, with variable-speed fan; back-to-front air flow				
AMPLIFIER PROTECTION	Full short circuit, open circuit, thermal, ultrasonic, and RF protection Stable into reactive or mismatched loads				

规格

	DCA1222	DCA1622	DCA2422	DCA3022	DCA3422
输出功率(瓦) FTC: 20 HZ--20 KHZ @ 0.03% THD. 全声道驱动 每声道 8 欧姆 FTC: 20 HZ--20 KHZ @ 0.05% THD. 全声道驱动 每声道 4 欧姆 EIA: 1 KHZ @ 1% THD. 单声道驱动 每声道 8 欧姆 每声道 4 欧姆 每声道 2 欧姆 桥式单声: 16 欧姆, 20 HZ--20 KHZ, 0.1% THD 8 欧姆, 20 HZ--20 KHZ, 0.1% THD 4 欧姆, 1 KHZ, 1% THD	170	250	375	500	650
290 190 350 600	450 300 550 800	625 425 775 1200	825 575 1025 1500	1050 750 1250 1700	
360 650 1200	575 1000 1600	800 1350 2400	1050 1800 3600	1350 2100 3400	
动态净空	2 dB @ 4 欧姆				
失真 SMPTE-IM	< .01%	< .01%	< .02%	< .02%	< .02%
频率响应 20 Hz--20 kHz, ±0.15 dB (比额定输出功率低 10 dB)	-3 dB 点: 5 Hz 至 100 kHz				
阻尼因数	> 500 @ 8 欧姆				
噪音 (未加权 20 HZ 到 20 KHZ, 低于额定输出)	106 DB	107 DB	108 DB	107 DB	107 DB
电压增益	40x (32 dB)				
输入灵敏度, V RMS 全额定功率 @ 8 欧姆 全额定功率 @ 4 欧姆	1.0V (+2.2 DBU) 0.9V (+1.3 DBU)	1.2V (+3.9 DBU) 1.1V (+3.2 DBU)	1.5V (+5.5 DBU) 1.3V (+4.6 DBU)	1.7V (+6.8 DBU) 1.5V (+5.7 DBU)	1.9V (+7.7 DBU) 1.7V (+6.6 DBU)
输入阻抗	10K 欧姆 (不平衡) 20K 欧姆 (平衡)				
声道数	2	2	2	2	2
控件	前部: AC 开关, 声道 1 和声道 2 增益旋钮, 带有 21 个卡槽 后部: 10 位置 DIP 开关				
指示灯	电源: 绿色指示灯 削波: 红色指示灯, 每声道 1 个 并口: 黄色指示灯 -10 dB: 绿色指示灯, 每声道 1 个 桥接: 黄色指示灯 -20 dB: 绿色指示灯, 每声道 1 个 信号: 绿色指示灯, 每声道 1 个				
连接器	输入: XLR 和 ¼ 英寸 (6.3 毫米) TRS, 针尖和针脚 2 正极, 可隔离“欧式”接线端子 输出: 屏蔽带和 Neutrik Speakon™ 用于 QSCControl、DCM 数字影院显示器或配件的 HD-15 母接头 (XC-3、LF-3、或 SF-3)				
冷却	强制气流, 变速风扇, 后方到前方气流				
放大器保护	全方位的短路、开路、热、超声和 RF 防护 稳定到电抗或不匹配负载				

SPECIFICATIONS

	DCA1824	DCA1644																
OUTPUT POWER <i>in watts</i>																		
<i>FTC: 20 Hz–20 kHz @ 0.03% THD, all channels driven</i>	145	225																
8 ohms per channel																		
<i>FTC: 20 Hz–20 kHz @ 0.05% THD, all channels driven</i>	240																	
4 ohms per channel																		
<i>FTC: 20 Hz–20 kHz @ 1% THD, all channels driven</i>		400																
4 ohms per channel																		
<i>EIA: 1 kHz @ 1% THD, one channel driven</i>																		
8 ohms per channel																		
4 ohms per channel		450																
2 ohms per channel	450																	
<i>Bridge Mono.</i>																		
16 ohms, 20 Hz–20 kHz, 0.1% THD	300	500																
8 ohms, 20 Hz–20 kHz, 0.1% THD	500	800																
4 ohms, 1 kHz, 1% THD	900																	
(both channel pairs driven, 4Ch. models)																		
DYNAMIC HEADROOM	2 dB @ 4 ohms																	
DISTORTION																		
SMPTE-IM	< 0.01%	< 0.01%																
FREQUENCY RESPONSE 20 Hz–20 kHz, ±0.15 dB (at 10 dB below rated output power)	-3 dB points: 5 Hz and 100 kHz																	
DAMPING FACTOR	> 500 @ 8 ohms																	
NOISE (unweighted 20 Hz to 20 kHz, below rated output)	106 dB	107 dB																
VOLTAGE GAIN	40× (32 dB)																	
INPUT SENSITIVITY, V RMS																		
full rated power @ 8 ohms	0.93v (+1.6 dBu)	1.12v (+3.2 dBu)																
full rated power @ 4 ohms	0.90v (+0.3 dBu)	1.00v (+2.2 dBu)																
INPUT IMPEDANCE	10K ohms unbalanced 20K ohms balanced																	
# OF CHANNELS	4	4																
CONTROLS	Front: AC switch, Ch. 1–4 gain knobs with 21 detents Rear: two 10-position DIP switches																	
INDICATORS	<table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">POWER:</td> <td style="width: 25%;">Green LED</td> <td style="width: 25%;">CLIP:</td> <td style="width: 25%;">Red LED, 1 per channel</td> </tr> <tr> <td>PARALLEL:</td> <td>Yellow LED</td> <td>-10 dB:</td> <td>Green LED, 1 per channel</td> </tr> <tr> <td>BRIDGED:</td> <td>Yellow LED</td> <td>-20 dB:</td> <td>Green LED, 1 per channel</td> </tr> <tr> <td>SIGNAL:</td> <td colspan="3">Green LED, 1 per channel</td> </tr> </table>		POWER:	Green LED	CLIP:	Red LED, 1 per channel	PARALLEL:	Yellow LED	-10 dB:	Green LED, 1 per channel	BRIDGED:	Yellow LED	-20 dB:	Green LED, 1 per channel	SIGNAL:	Green LED, 1 per channel		
POWER:	Green LED	CLIP:	Red LED, 1 per channel															
PARALLEL:	Yellow LED	-10 dB:	Green LED, 1 per channel															
BRIDGED:	Yellow LED	-20 dB:	Green LED, 1 per channel															
SIGNAL:	Green LED, 1 per channel																	
CONNECTORS	Input: Detachable "Euro-style" terminal blocks (1 per channel) Output: Two barrier strips Two HD-15 female connector for QSControl or DCM Digital Cinema Monitor																	
COOLING	Forced-air, with variable-speed fan; back-to-front air flow																	
AMPLIFIER PROTECTION	Full short circuit, open circuit, thermal, ultrasonic, and RF protection Stable into reactive or mismatched loads																	

规格

	DCA1824	DCA1644	
输出电源(瓦)			
FTC: 20 HZ--20 KHZ @ 0.03% THD. 全声道驱动 每声道 8 欧姆	145	225	
FTC: 20 HZ--20 KHZ @ 0.05% THD. 全声道驱动 每声道 4 欧姆	240		
FTC: 20 HZ--20 KHZ @ 1% THD, 全声道驱动 每声道 4 欧姆		400	
EIA: 1 KHZ @ 1% THD. 单声道驱动 每声道 8 欧姆 每声道 4 欧姆 每声道 2 欧姆	450	450	
桥式单声: 16 欧姆, 20 HZ--20 KHZ, 0.1% THD	300	500	
8 欧姆, 20 HZ--20 KHZ, 0.1% THD	500	800	
4 欧姆, 1 KHZ, 1% THD (驱动两个声道对, 4 声道型号)	900		
动态净空	2 DB @ 4 欧姆		
失真			
SMPTE-IM	< .01%	< .01%	
频率响应	20 HZ--20 KHZ, ±0.15 DB -3 DB 点: 5 HZ 至 100 KHZ		
(比额定输出功率低 10 DB)			
阻尼因数	> 500 @ 8 欧姆		
噪音 (未加权 20 HZ 到 20 KHZ, 低于额定输出)	106 DB	107 DB	
电压增益	40x (32 DB)		
输入灵敏度, V RMS			
全额定功率 @ 8 欧姆	0.93V (+1.6 DBU)	1.12V (+3.2 DBU)	
全额定功率 @ 4 欧姆	0.80V (+0.3 DBU)	1.00V (+2.2 DBU)	
输入阻抗	10K 欧姆 (不平衡) 20K 欧姆 (平衡)		
声道数	4	4	
控件	前部: AC 开关, 声道 1--4 增益旋钮, 带有 21 个卡销 后部: 两个 10 位置 DIP 开关		
指示灯	电源: 绿色指示灯 并口: 黄色指示灯 桥接: 黄色指示灯 信号: 绿色指示灯, 每声道 1 个	削波: -10 DB: -20 DB:	红色指示灯, 每声道 1 个 绿色指示灯, 每声道 1 个 绿色指示灯, 每声道 1 个
连接器	输入: 可隔离“欧式”接线端子 (每声道 1 个) 输出: 两条屏蔽带 两个用于 QSCONTROL 或 DCM 数字影院监视器的 HD-15 母接头		
冷却	强制气流, 变速风扇, 后方到前方气流		
放大器保护	全方位的短路、开路、热、超声和 RF 防护 稳定到电抗或不匹配负载		

SPECIFICATIONS

DCA1222 DCA1622 DCA2422 DCA3022 DCA3422

LOAD PROTECTION

OUTPUT CIRCUIT TYPE AB

Turn-on/turn-off muting, DC-fault power supply shutdown, clip limiting

AB H H H H

AB: Class AB complementary linear output
 H: Class AB complementary linear output with Class H 2-step high efficiency circuit

DIMENSIONS

19.0" (48.3 cm) wide, 3.5" (8.9 cm) tall (2 rack spaces)
 14.0" (35.6 cm) deep (rack mounting to rear support ears)

WEIGHT

Shipping: 28.2 lbs (12.9 kg) Net: 22.2 lbs (10.1 kg)

POWER REQUIREMENTS

Available for 120 or 220–240 VAC, 50/60 Hz

**POWER CONSUMPTION @ 120 VAC
 (both channels driven)**

Multiply currents by 0.5 for 230V units

		T ¹ F ² M ³					T ¹ F ² M ³					T ¹ F ² M ³					T ¹ F ² M ³					T ¹ F ² M ³										
I		0.8 A			I		0.9 A			I		0.9 A			I		0.9 A			I		0.9 A										
	Ω	3.9 A	5.4 A	8.4 A		Ω	5.6 A	8.0 A	12.5 A		Ω	5.0 A	8.4 A	15.8 A		Ω	6.0 A	11 A	20 A		Ω	6 A	13.1 A	25 A								
		4Ω	6.9 A				8.9 A	4Ω	9.0 A			13.3 A	4Ω	9 A			13.5 A	4Ω	9.5 A			1 A	4Ω	11.6 A		20 A	4Ω	39 A				
			9.6 A				14.3 A*		23 A*			2Ω		14 A			21 A*		2Ω			11.8 A		27 A*	2Ω	14 A		2 A*	2Ω	16.6 A		2Ω

POWER CONSUMPTION NOTES

- ¹ 1/8 power with pink noise represents typical program with occasional clipping.
- ² 1/3 power with pink noise represents severe program with heavy clipping.
- ³ Continuous sine wave at 1% clipping.
- * Thermal or overcurrent cutback limits duration.

US patents pending

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

规格

DCA1222 DCA1622 DCA2422 DCA3022 DCA3422

负载保护

输出电路类型 AB

打开/关闭静音，DC 故障电源关闭、削波限制

AB H H H H

AB: AB 类辅助线性输出

H: AB 类辅助线性输出，使用 H 类 2 步阶高频电路

尺寸

19.0 英寸 (48.3 厘米) 宽，3.5 英寸 (8.9 厘米) 高 (双机架空间)

14.0 英寸 (35.6 厘米) 深 (机架安装到后部支架端)

重量

运输: 28.2 磅 (12.9 千克) 净重: 22.2 磅 (10.1 千克)

电源要求

适用于 120 或 220-240 VAC, 50/60 Hz

功耗 @ 120 VAC
(双声道驱动)

将 230V 单元的电流乘以 0.5

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3
	0.8 A				0.9 A				0.9 A				0.9 A				0.9 A		
Ω	3.9 A	5.4 A	8.4 A	Ω	5.6 A	8.0 A	12.5 A	Ω	5.0 A	8.4 A	15.8 A	Ω	6.0 A	11 A	20 A	Ω	6 A	13.1 A	25 A
4Ω	6.9 A	8.9 A	14.6 A	4Ω	9.0 A	13.3 A	21 A	4Ω	9 A	13.5 A	26 A	4Ω	9.5 A	1 A	33 A	4Ω	11.6 A	20 A	39 A
2Ω	9.6 A	14.3 A*	23 A*	2Ω	14 A	21 A*	34 A*	2Ω	11.8 A	22 A*	42 A*	2Ω	14 A	2 A*	50 A*	2Ω	16.6 A		

功耗说明

- ¹ 1/8 功率，刺耳噪音表示偶尔削波的典型程序。
- ² 1/3 功率，刺耳噪音表示重度削波的严重程序。
- ³ 1% 削波时连续余弦波。
- * 热量或过电流削减限定运行时间。

美国专利待批
产品规格如有改变恕不另行通告。

SPECIFICATIONS

DCA1824

DCA1644

LOAD PROTECTION

OUTPUT CIRCUIT TYPE AB

DIMENSIONS

WEIGHT

POWER REQUIREMENTS

POWER CONSUMPTION @ 120 VAC
(both channels driven)

Multiply currents by 0.5 for 230V units

POWER CONSUMPTION NOTES

Turn-on/turn-off muting, DC-fault power supply shutdown, clip limiting
AB

AB: Class AB complementary linear output
H: Class AB complementary linear output with Class H 2-step high efficiency circuit

19.6" (49.3 cm) wide, 3.5" (8.9 cm) tall (2 rack spaces)
14.6" (35.6 cm) deep (rack mounting to rear support ears)

Shipping: 28.2 lbs (12.9 kg) Net: 22.2 lbs (10.1 kg)

Available for 120 or 220–240 VAC, 50/60 Hz

	T	¹ F	² M
I	0 A		
Ω	5.8 A	8.8 A	14.8 A
4Ω	9.2 A	14.2 A	24 A
2Ω	14.3 A	22 A	38 A

	T	¹ F	² M
I	0 A		
Ω	8.1 A	12.2 A	22 A
4Ω	12.4 A	19.3 A	33 A
2Ω	N/A	N/A	N/A

- ¹ 1/8 power with pink noise represents typical program with occasional clipping.
- ² 1/3 power with pink noise represents severe program with heavy clipping.
- ³ Continuous sine wave at 1% clipping.
- * Thermal or overcurrent cutback limits duration.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

规格

DCA1824

DCA1644

负载保护
输出电路类型 AB

尺寸

重量

电源要求

功耗@ 120 VAC
(双声道驱动)

将 230V 单元的电流乘以 0.5

功耗说明

打开/关闭静音, DC 故障电源关闭、削波限制
AB

AB: AB 类辅助线性输出

H: AB 类辅助线性输出, 使用 H 类 2 步阶高频电路

19.0 英寸 (48.3 厘米) 宽, 3.5 英寸 (8.9 厘米) 高 (双机架空间)

14.0 英寸 (35.6 厘米) 深 (机架安装到后部支架端)

运输: 28.2 磅 (12.9 千克) 净重: 22.2 磅 (10.1 千克)

适用于 120 或 220-240 VAC, 50/60 Hz

	1	2
	0 A	
Ω	5.0 A	14.8 A
4Ω	9.2 A	24 A
2Ω	14.3 A	39 A

	1	2
	0 A	
Ω	8.1 A	22 A
4Ω	12.4 A	33 A
2Ω	/A	/A

¹ 1/8 功率, 刺耳噪音表示偶尔削波的典型程序。

² 1/3 功率, 刺耳噪音表示重度削波的严重程序。

³ 1% 削波时连续余弦波。

* 热量或过电流削减限定运行时间。

产品规格如有改变恕不另行通告。

WARRANTY INFORMATION

(USA only; see your dealer or distributor)

保修信息

(仅限美国：请联系您的经销商或分销商)

Disclaimer

QSC Audio Products, LLC is not liable for any damage to speakers, amplifiers, or any other equipment that is caused by negligence or improper installation and/or use of the DCA amplifier.

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QSC Audio Products, LLC ("QSC") guarantees its products to be free from defective material and / or workmanship for a period of three (3) years from date of sale, and will replace defective parts and repair malfunctioning products under this warranty when the defect occurs under normal installation and use - provided the unit is returned to our factory or one of our authorized service stations via pre-paid transportation with a copy of proof of purchase (i.e., sales receipt). This warranty provides that the examination of the return product must indicate, in our judgment, a manufacturing defect. This warranty does not extend to any product which has been subjected to misuse, neglect, accident, improper installation, or where the date code has been removed or defaced. QSC shall not be liable for incidental and/or consequential damages. This warranty gives you specific legal rights. This limited warranty is freely transferable during the term of the warranty period.

Customer may have additional rights, which vary from state to state.

In the event that this product was manufactured for export and sale outside of the United States or its territories, then this limited warranty shall not apply. Removal of the serial number on this product, or purchase of this product from an unauthorized dealer, will void this limited warranty.

Periodically, this warranty is updated. To obtain the most recent version of QSC's warranty statement, please visit www.qscaudio.com.

Contact us at 800-854-4079 or visit our website at www.qscaudio.com.

免责声明

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QSC Audio Products 3 年有限质保

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How to Contact QSC Audio Products

如何联系 QSC Audio Products



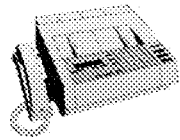
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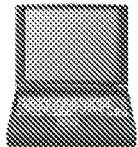
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