EXPLANATION OF SYMBOLS

The term "WARNING!" indicates instructions regarding personal safety. If the instructions are not followed the result may be bodily injury or death.

The term "CAUTION!" indicates instructions regarding possible damage to physical equipment. If these instructions are not followed, it may result in damage to the equipment that may not be covered under the warranty.

The term "IMPORTANT!" indicates instructions or information that are vital to the successful completion of the procedure.

The term "NOTE" is used to indicate additional useful information.

The intent of the lightning flash with arrowhead symbol in a triangle is to alert the user to the presence of un-insulated "dangerous" voltage within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.

The intent of the exclamation point within an equilateral triangle is to alert the user to the presence of important safety, and operating and maintenance instructions in this manual.

What's in the Box

<table>
<thead>
<tr>
<th>SPA2-60</th>
<th>SPA2-200</th>
<th>SPA4-60</th>
<th>SPA4-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC Power Cord, US (1x)</td>
<td>Rack Ear QSC P/N CH-001344-00 (1x)</td>
<td>Joining Plate QSC P/N CH-001345-00 (2x)</td>
<td></td>
</tr>
<tr>
<td>Rack Ear Cover Label QSC P/N LB-001138-00 (1x)</td>
<td>Phillips Pan Head M4 x 7 mm (6x)</td>
<td>Phillips Flathead M3 x 6 mm (6x)</td>
<td>Foam Spacer QSC P/N PL-001023-00 (4x)</td>
</tr>
<tr>
<td>Rack-Ear Spacer QSC P/N CH-001386-00 (2x)</td>
<td>Euro Plug 3.5 mm, 4 pos, grn QSC P/N CO-000646-00 (SPA 2-channel) (1x)</td>
<td>Euro Plug 3.5 mm, 5 pos, grn QSC P/N CO-000644-00 (SPA 2-channel) (1x)</td>
<td>Euro Plug 3.5 mm, 4 pos, blk QSC P/N CO-000645-00 (SPA 2-channel) (1x)</td>
</tr>
<tr>
<td>SPA 4-channel (1x)</td>
<td>Warranty TD-000453 (1x)</td>
<td>Safety Information TD-000337 (1x)</td>
<td></td>
</tr>
<tr>
<td>Plug 3.5 mm, 10 pos, grn QSC P/N CO-000647-00 (SPA 4-channel) (1x)</td>
<td></td>
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</tbody>
</table>
Installation

Ventilation

- Recommend 1RU (1.75 in / 44.45 mm) space above the amplifier.
- Minimum open space of 6 inches measured from back of amplifier.

**NOTE:** QSC System Power Amplifiers contain advanced protection circuitry which allows them to reduce output power in order to maintain safe operating temperatures. Insufficient ventilation may result in the amplifier reducing output power during normal operation (indicated by Limiter/Protect LEDs illuminating red). To reduce the possibility of thermal limiting, and allow proper heat dissipation, we recommend that you keep the space directly above and to the rear of these amplifiers free of obstacles.

![Figure 1](image_url)

Select the Amplifier Installation Configuration

Choose one of the following configuration options:

A. One Amplifier 19-inch Rack (Left or Right Mount) on page 3
B. Two Amplifiers 19-inch Rack (Front or Rear Facing Out) on page 3
C. One Amplifier Half Rack (Front or Rear Facing Out) on page 4
D. Under Table or on Wall on page 4
E. Free-Standing on Desk/Table on page 5
F. Plenum Installation on page 5
A. One Amplifier 19-inch Rack (Left or Right Mount)

Figure 2
1. (1)
2. (2)
3. (5)
4. (1)

— Figure 2 —

B. Two Amplifiers 19-inch Rack (Front or Rear Facing Out)

Figure 3
1. (2)
2. (2)
3. (2)
4. (6)
5. (1)
6. (6)

— Figure 3 —
C. One Amplifier Half Rack (Front or Rear Facing Out)

Figure 4

1. (1)

2. (2)

3. (6)

--- Figure 4 ---

D. Under Table or on Wall

Figure 5.

1. (1)

2. (2)

3. (6)

4. (4) Not supplied – use appropriate screws for mounting surface.

5. Mounting Surface

--- Figure 5 ---
E. Free-Standing on Desk/Table

Figure 6
1. (1)
2. (4)

F. Plenum Installation

Configure amplifier per option D Under Table or on Wall.

Figure 7
1. (1)
2. (1) Plenum Kit - Suitable for Air Handling Spaces only when used with optional Plenum Kit (FG-000995-00) sold separately.

Rack-Mounting Options

All Configurations

Figure 8
Using the examples shown, you can mount any of the amplifier configurations. The example at the lower right of Figure 8 can be flipped to accommodate a single amplifier on the left side.

1. Equipment Rack (not supplied)
2. (2) Optional – to bring flush with Q-Sys Core 110
3. (2)
4. (4) Rack-Mounting Screws and Washers (not supplied)
Front Panel

2 CHANNEL AMPLIFIER SPA2

2 CHANNEL AMPLIFIER SPA4

Limiter / Protect
Red – Protect / Mute
Orange – Limiter on

Input Signal
Blue – Present

Power
Blue – On
Orange – Standby

Limiter / Protect
Red – Protect / Mute
Orange – Limiter on

Input Signal
Blue – Present

Power
Blue – On
Orange – Standby

Rear Panel

1. Output Channels 1 & 2
2. Remote Control Channels 1 & 2
3. Input Channels 1 & 2
4. Channel 1 thru Channel 4 Status LEDs
   a. Green – Normal Signal Level
   b. Amber – Input or Output Overload/Clipping or Thermal Limiting
   c. Red – Limit or Protect Mode
   d. Red – Thermal Limit or Protect Mode
   e. Red – Mute

5. Channel 1 Attenuator Control
6. Channel 2 Attenuator Control
7. Mode Configuration Switches Channel 1 & 2
8. AC Power Connection
9. Output Channels 3 & 4
10. Remote Control Channel 3 & 4
11. Input Channels 3 & 4
12. Mode Configuration Switches Channel 3 & 4
13. Channel 3 Attenuator Control
14. Channel 4 Attenuator Control

1 No signal for 10 minutes, amplifier outputs are muted (LEDs are red). No signal for 25 minutes, amplifier is put in Standby Mode (Rear LEDs are off).
Connections

**Wire**

![Diagram of wire length]

**IMPORTANT:** Class 2 Wiring

Strip Length = 5mm

DO NOT TIN!

---

**Output Connectors**

**IMPORTANT:** Class 2 Wiring

---

**SPA 2-channel**

(1)

---

**SPA 4-channel**

(2)

---

**Input Connectors**

---

**SPA 2-channel Connector**

(1)

---

**SPA 4-channel Connector**

(1)
Balanced and Unbalanced Inputs

Figure 18

Balanced

Unbalanced

Unbalanced Inputs: jumper between (-) negative and ground.

Stereo Mode

Figure 19 – Figure 21

CAUTION!: Do not connect any output to ground.
4 or 8-ohm Bridged Mode
Figure 22 – Figure 25

CAUTION! Do not connect any output to ground.

IMPORTANT: When using 4 or 8-ohm Bridged Mode, use both signal inputs of a channel pair (for example parallel CH1&2 inputs and parallel CH3&4 inputs), and set the attenuation for each channel pair to the same level.

70V / 100V Bridge Mode

NOTE: 80 Hz (high-pass filter) is auto-engaged in bridged 70 V and 100 V modes

Minimum Load Impedance:
• 70V Bridged = 16 Ω
• 100V Bridged = 26 Ω
When the potentiometer is at the minimum position, the amplifier goes into Mute mode. On the SPA 4-channel amplifier, the remote level controls for channel 1 & 2 are independent from channels 3 & 4 remote level control.

On the SPA 4-channel model, closing the "Standby Switch" between the first two pins of either Ch1-Ch2 or Ch3-Ch4 causes all four channels to go into Standby.
## Specifications

<table>
<thead>
<tr>
<th></th>
<th>SPA2-60 2 Channels</th>
<th>SPA4-60 4 Channels</th>
<th>SPA2-200 2 Channels</th>
<th>SPA4-100 4 Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stereo Mode (all channels driven)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Ω</td>
<td>60 W</td>
<td>60 W</td>
<td>200 W</td>
<td>100 W</td>
</tr>
<tr>
<td>4 Ω</td>
<td>60 W</td>
<td>60 W</td>
<td>200 W</td>
<td>100 W</td>
</tr>
<tr>
<td>Bridged Outputs (per bridged output pair)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Ω and 4 Ω</td>
<td>200 W</td>
<td>200 W</td>
<td>400 W</td>
<td>200 W</td>
</tr>
<tr>
<td>70 V</td>
<td>250 W</td>
<td>250 W</td>
<td>350 W</td>
<td>350 W</td>
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<tr>
<td>100 V</td>
<td>250 W</td>
<td>250 W</td>
<td>350 W</td>
<td>350 W</td>
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<tr>
<td>Frequency Response (4 Ω and 8 Ω)</td>
<td>20 Hz - 20 kHz +/- 0.1 dB</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Signal to Noise (20 Hz - 20 kHz)</td>
<td>&gt;100 dB</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Input Sensitivity</td>
<td>1.23 V (+4 dBu)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gain at 8 Ω</td>
<td>25 dB</td>
<td>25 dB</td>
<td>30 dB</td>
<td>27 dB</td>
</tr>
<tr>
<td>Output Circuitry</td>
<td>Class D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Impedance</td>
<td>&gt;10k, balanced or unbalanced</td>
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<td></td>
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<tr>
<td>Maximum Input Level</td>
<td>12.3 V (+24 dBu)</td>
<td></td>
<td></td>
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<tr>
<td>Cooling</td>
<td>Convection</td>
<td></td>
<td></td>
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<tr>
<td>Input Connectors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPA 2-channel</td>
<td>3.5 mm Euro, 5 pin (green)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPA 4-channel</td>
<td>3.5 mm Euro, 10 pin (green)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remote Connectors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPA 2-channel</td>
<td>3.5 mm Euro, 5 pin (black)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPA 4-channel</td>
<td>3.5 mm Euro, 10 pin (black)</td>
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<td></td>
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</tr>
<tr>
<td>Output Connectors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPA 2-channel</td>
<td>One 5 mm Euro, 4 pin (green)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPA 4-channel</td>
<td>Two 5 mm Euro, 4 pin (green)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Panel Indicators</td>
<td>Power, Signal (per channel), Limit/Mute/Protect (per channel)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear Panel Indicators</td>
<td>Two-colored LED Signal/Limit/Mute/Protect (per channel)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User-configurable Operating Modes (4-channel or equivalent operating mode can be independently configured per channel pair)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Impedance 4 Ω and 8 Ω operation, or High-impedance bridged direct drive of 70V &amp; 100V distributed audio systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Purpose Inputs (GPI)</td>
<td>Remote Volume, Remote Standby, on 3.5 mm connectors (10k potentiometer is not included)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highpass Filter</td>
<td>80 Hz auto-engaged in Bridged 70 V &amp; 100 V modes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>1.7” x 8.7” x 9.5” (43 mm x 220 mm x 241 mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Weight</td>
<td>3.5 lb (1.6 kg)</td>
<td>4.0 lb (1.8 kg)</td>
<td>3.5 lb (1.6 kg)</td>
<td>4.0 lb (1.8 kg)</td>
</tr>
<tr>
<td>Shipping Weight</td>
<td>6 lb (2.7 kg)</td>
<td>6.5 lb (3.0 kg)</td>
<td>6 lb (2.7 kg)</td>
<td>6.5 lb (3.0 kg)</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>Universal Power Supply (with active power factor correction), 100 - 240 VAC, 50 - 60 Hz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency Approvals</td>
<td>UL, CE, Energy Star, RoHS/WEEE compliant, FCC Class B (Conducted and Radiated emissions), UL 2043 with PL-KIT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carton Contents</td>
<td>IEC Cable, Installation Guide, Connector Pack, Rack Mount Ears, Mounting Brackets</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Peak Power – dependent on channel loading
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