

# **Application Guide** WL2082i (Installed Line Array)

with CXD Series Power Amplifiers





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# **1. Introduction**

QSC's Installed Line Array (ILA) system, based on the WL2082i line array loudspeaker and the WL118-sw subwoofer, is a versatile system whose performance is on a par with the highest quality concert line array systems but is designed solely for permanent installation applications. An installed line array system does not have to be constantly taken down, dismantled, and rehung, so there are substantial economies that can be made in the construction and the rigging hardware. This allows the ILA system to have such a spectacular ratio of audio performance to price.

ILA really shines when paired with QSC Intrinsic Correction<sup>™</sup> voicings, which can be found in QSC processing amplifiers (PLD and CXD Series) and Q-SYS networked audio systems. This application guide will explore pairing ILA and CXD amps.

# The ILA loudspeakers

### WL2082i

The loudspeaker system that makes ILA a line array is the WL2082i. This system comprises an enclosure with two 8-inch drivers. Two neodymimum compression drivers with 1.75-inch voice coils, coupled to a high-frequency multiple-aperture waveguide, are centered between them. The waveguide provides an extremely wide horizontal coverage angle of 140 degrees.

The 8-inch transducers may be used as two low-frequency drivers in a biamp arrangement, or as one low-frequency and one mid (more accurately, a shaded low-frequency driver) in a triamp one. *NOTE: In biamp mode, the shading on one driver is done by an internal passive filter.* We recommend that you use specific QSC processing for the ILA system, especially when triamping. This is available as QSC Intrinsic Correction<sup>™</sup> in PLD Series and CXD Series processing power amplifiers, and in the stand-alone QSC SC28 loudspeaker processor. This guide will focus mainly on using the CXD Series amplifiers with an ILA system.



The WL2082i enclosures have built-in attachment and rigging points, with multiple pin holes for selecting splay angles from box to box. The enclosures can be flown or ground stacked, as circumstances demand.

Achieving the actual benefits of line-array performance requires a vertical line of multiple enclosures. Three is a typical minimum number, but four is better, and even more will bring about truer line array patterns. For proper in-close audience coverage, most good line array designs incorporate splaying at the bottom of the array, so the array takes on something of a partial J shape when viewed from the side. For this reason, large arrays are almost always flown instead of ground stacked, allowing the bottom enclosures to be properly splayed.

#### **Mid-frequency shading**

In the WL2082i enclosure, both 8-inch drivers handle low frequencies. However, the spacing between the drivers presents a problem for horizontal dispersion with the shorter wavelengths of mid frequencies. Therefore, the mid frequencies on one driver are shaded so that only the other handles them, thus preserving a wide dispersion angle. (NOTE: What we call "MF" in this guide is actually "LF + MF.")

In biamp mode, an internal passive filter shades the mids on one driver. A switch on the enclosure's rear panel allows you to select



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which driver-right or left-to shade. For maintaining optimal stereo imaging with a left and right array arrangement, select the shaded sides so that they are symmetrical-i.e., either all on the outside or all on the inside.

In triamp mode, this shading must be provided by QSC Intrinsic Correction<sup>™</sup> processing in the power amplifiers (as in the CXD Series) or upstream (Q-SYS or SC28). With left and right arrays, the shading must also be horizontally symmetrical to preserve good stereo imaging.

### WL118-sw

The WL118-sw is a single 18-inch subwoofer enclosure meant for use with the WL2082i loudspeaker system. Its rigging system is designed mechanically to mate with the WL2082i enclosures in either flown or ground stacked configurations.

Typically, in a flown system the line of WL2082i enclosures would hang beneath the subwoofer (below, left), but in situations where vertical space is limited, the subwoofer can also hang behind the line array (below, right).



# **The Rigging Hardware**

The ILA system uses specially designed rigging hardware for flying and ground stacking. For safety reasons and to prevent damage to equipment, use only QSC ILA hardware with the ILA loudspeaker systems.

### FB2082-i Array Frame

The array frame is for hanging the array of WL2082i enclosures or the WL118-sw subwoofer. It features two shackle holes in the center bar for suspending the array. Use only the shackle holes to attach the frame to the suspension rigging above.

- 1. Shackle holes-accept 3/4" (20 mm) screw pin anchor shackle
- 2. Center support bar
- 3. Rigging plates
- 4. Rigging plate retaining bolts
- 5. Rigging plate attachment holes

#### PB2081-i Pull-Back Bar

Use the pull-back bar to pull the bottom array element for aiming or stabilizing. For small arrays it can also be used at the top in place of an array frame. Use only the shackle hole for suspension or pulling.

- 1. Shackle hole-accepts 5/8" (16 mm) screw pin anchor shackle
- 2. Rigging plate attachment holes
- 3. Rigging plates
- 4. Rigging plate retaining bolts

#### EB2082-i Extension Bar

Use the extension bar with the array frame when the center of gravity of the array is beyond what the array frame can handle. Use it also with an additional array frame to fly subwoofers behind the array hang.

- 1. Extension bar
- 2. Rigging plate retaining bolts
- 3. Shackle holes-accept 3/4" (20 mm) screw pin anchor shackle
- 4. Rigging plates

### Things to Keep in Mind

Always employ the services of a rigging professional who has all the appropriate training and certifications for hoisting, positioning, and attaching the equipment to the supporting structure.

Consult a professional mechanical or structural engineer who has appropriate licnses to review, verify, and approve all attachments to the building or structure.

Read and follow the Rules for Suspension in the ILA user manual.







# **Ground Stacking**

Just as the components of an ILA system can be flown, so also can they be ground stacked on a stage or floor. An ILA ground stack is essentially a flown system turned upside-down, with one or more subwoofers and the line of WL2082i enclosures attached on top to its rigging hardware.

To ground stack the ILA system, start by turning a WL118-sw subwoofer upside-down and positioning it in its desired location. Use a sheet of cardboard, carpet, or other material underneath the subwoofer to protect its finish.

Using their rigging attachments, attach another upside-down WL118-sw subwoofer, if desired, and then the WL2082i enclosures on top. Just as it is in flying, the splay angle at each WL2081i enclosure is adjustable.



# **2D Acoustic Modeling**

QSC publishes a full set of EASE Focus data files to allow design and modeling of ILA systems. The EASE Focus 2 software itself is also available to download from the QSC web site www.qsc.com.



EASE Focus 2 models 2D horizontal and vertical coverage of ILA line arrays, allowing you to try out various array lengths, postions, splays, etc.

# 2. CXD Series power amplifiers

# Powerful, flexible amplification with built-in processing

The CXD Series power amps are multi-channel models with special features that make them ideal for powering the ILA Series loudspeakers:

- The four channels, A through D, can be combined in virtually any combination (see examples at right)—even in parallel to deliver adequate current into low-impedance loads.
  - Four channels separate.
  - Two channels bridged.
  - Two, three, or all four channels in parallel.
  - Two channel pairs in parallel, then the two pairs bridged. In addition, a channel pair can be bridged or paralleled while the other two channels remain separate, or a pair can be bridged and the other pair paralleled.

QSC calls this Flexible Amplifier Summing Technology (FAST).

- The CXD Series amplifiers have built-in digital signal processing (DSP) to provide precise Intrinsic Correction voicing and protection for specific loudspeaker models, including the ILA Series.
- The CXD Series amplifiers utilize state-of-the-art Class D output topologies to attain extremely high electrical efficiencies, even at levels well below full output power.
- The CXD Series amps use a power supply that can run equally well on either 120 or 230 volts AC. Except for the CXD4.2, they also have power factor correction to help reduce losses in power mains wiring that arise from current draw peaks.

With CXD amps you have the option of using the front display panel menu or a computer (connected via a USB cable) running QSC Amplifier Navigator<sup>™</sup> software to select and configure loudspeaker profiles and other DSP settings as well as the channel allocations and summing.



# Amplifier Navigator™

QSC's exclusive Amplifier Navigator<sup>™</sup> software is a versatile utility for configuring, and managing CXD Series amplifiers. It connects to the amplifier via a USB cable (included with the amplifier); and with a USB hub, a single computer can connect to multiple (as many as 20) amplifiers at the same time.

USB hub

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Computer running Amp Navigator™

Amplifier Navigator offers a complete selection of operations:

- Amp firmware check and update
- Input configuration
- Output configuration (including preset selection, editing, and saving)
- Selecting and editing loudspeaker profiles
- Copying and transferring configurations among amps
- Logging of AC mains, heat sink temperatures, run time, load impedances, etc.
- Diagnosis

Amplifier Navigator is available for both Mac and the Windows operating system and is downloadable for free from the QSC web site.



Logging of amp parameters.



Configuring amp channel filtering, EQ, delay, limiting, etc.

Multiple CXD amplifiers

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Amp firmware check and updating.

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# **CXD Series amplifier presets**

Presets are snapshots of the amp's configuration, including its input, FAST, output, and DSP settings. Twenty factory presets pre-installed in the amp offer all the different combinations of amp channels that FAST allows. Internal relays connect the channel outputs in accordance with how FAST has them arranged. For example, if A and B are parallel, you can use either output connector—A or B—or both of them to connect the loudspeakers.

Presets F1 through F9 set up only the amp's output configuration. F10 through F20 provide output configuration along with basic DSP settings for the application described. You can modify or set any parameters and save the configuration in in any of the 50 user preset slots.

The factory presets are identified by the prefix F and the user presets by the prefix U.

Factory Preset	Display	Description
<b>F1</b> Four separate output channels	F1: A B C D F1: A B C D	Suitable for as many as four different signals into as many as four different loudspeaker loads. Load impedances may vary from one channel to another, as long as they are $2\Omega$ or higher.
		Input 1 goes to channel A; Input 2 to channel B; Input 3 to channel C; and Input 4 to channel D.
<b>F2</b> Channels A and B parallel; C and D	F2: AB C D F2: AB C D	Suitable for a high-power full-range loudspeaker load as low as $2\Omega$ (AB) and two separate full-range loudspeaker loads of any impedance $4\Omega$ or higher (C and D).
separate	I AB 3 C 4 D	Input 1 goes to the parallel channels A and B; Input 3 to channel C; and Input 4 to channel D.
<b>F3</b> Channels A and B bridged; C and D	F3: A+B C D F3: A+B C D	Suitable for a high-power full-range loudspeaker load of $4\Omega$ or higher (A+B) and two separate full-range loudspeaker loads of any impedance $4\Omega$ or higher (C and D).
separate	1 A+B 3 C 4 D	Input 1 goes to the bridged channels A and B; Input 3 to channel C; and Input 4 to channel D.
<b>F4</b> Channels A and B	F4: AB CD F4: AB CD	Suitable for two high-power full-range loudspeaker loads as low as $2\Omega$ .
parallel; channels C and D parallel		Input 1 goes to the parallel channels A and B; Input 3 goes to the parallel channels C and D.
<b>F5</b> Channels A and B parallel; channels C	F5: AB C+D	Suitable for a high-power full-range loudspeaker load as low as 252 (AB) and a high-power full-range loudspeaker load $4\Omega$ or higher (C+D).
and D bridged	1 AB 3 C+D	Input 1 goes to the parallel channels A and B; Input 3 goes to the bridged channels C and D.
<b>F6</b> Channels A and B	F6: A+B C+D F6: A+B C+D	Suitable for two high-power full-range loudspeaker loads of $4\Omega$ or higher.
and D bridged	1 A+B 3 C+D	Input 1 goes to the bridged channels A and B; Input 3 goes to the bridged channels C and D.

Factory Preset	Display	Description
<b>F7</b> Channels A, B, and C parallel; D separate	F7: ABC D F7: ABC D 1 ABC 4 D	Suitable for a high-power $4\Omega$ (or higher) full-range loudspeaker load (D) and a separate loudspeaker load of any impedance as low as $2\Omega$ , particularly a subwoofer (ABC). Input 1 goes to the parallel channels A, B, and C, and also to channel D.
<b>F8</b> Channels A and B parallel, bridged with channels C and D parallel	F8: AB+CD F8: AB+CD 1 AB+CD I Bub LF MF HF Full	Suitable for a high-power 4–8Ω (or higher) full-range loudspeaker load. Use Input 1.
<b>F9</b> Channels A, B, C, and D parallel.	F9: ABCD F9: ABCD 1 ABCD Imput Sub LF MF HF Full	Suitable for a high-power full-range loudspeaker load of $4\Omega$ or lower. Use Input 1.
<b>F10</b> Four separate channels, all full range	F10: 4CH Full Range F10: 4CH Full Range 1 A 2 B 3 C 4 D	This is the same as F1. Input 1 goes to channel A; Input 2 to channel B; Input 3 to channel C; and Input 4 to channel D.
<b>F11</b> Dual bi-amp mode: Channel A LF plus channel B HF; channel C LF plus channel D HF	*F11: 2-Way Speakers F11: 2-Way Speakers 1 A 1 B 2 C 2 D I A 1 B C 2 D	<ul> <li>This preset uses all four output channels separately, with these input and DSP settings:</li> <li>Input 1 feeds channels A and B; input 2 feeds channels C and D.</li> <li>The crossover filter parameters are 1.5 kHz Butterworth, with slopes of 48 dB/octave.</li> <li>These parameters are only a starting point; you can alter any of them and save the configuration into a user preset.</li> </ul>
<b>F12</b> Channels A and B bridged for 4–8Ω subwoofer; channels C and D separate full range	F12: 8ohm Sub Dual FR F12: 8ohm Sub Dual FR 1 A+B 1 C 2 D 1 mput Sub LF MF HF Full	<ul> <li>This is similar to F3, with these additions:</li> <li>Channels A and B are bridged, with a 48 dB/octave Butterworth low-pass filter at 80 Hz. The signal is summed from inputs 1 and 2.</li> <li>Channels C and D are separate, suitable for stereo mains, with 48 dB/octave Butterworth high-pass filters at 80 Hz, which perfectly complements the subwoofer filtering in A and B. Channel C's signal is from input 1 and D's is from input 2.</li> <li>These parameters are only a starting point; you can alter any of them and save the configuration into a user preset.</li> </ul>

Factory Preset	Display	Description
<b>F13</b> Channels A and B parallel for $2-4\Omega$ subwoofer; channels C and D separate full range	*F13: 4ohm Sub Dual FR F13: 4ohm Sub Dual FR 1 + AB 1 C 2 D 2 Bub LF MF HF Full	<ul> <li>This is similar to F2, with these additions:</li> <li>Channels A and B are parallel, with a 48 dB/octave Butterworth low-pass filter at 80 Hz. The signal is summed from inputs 1 and 2.</li> <li>Channels C and D are separate, suitable for stereo mains, with 48 dB/octave Butterworth high-pass filters at 80 Hz, which perfectly complements the subwoofer filtering in A and B. Channel C's signal is from input 1 and D's is from input 2.</li> </ul>
		and save the configuration into a user preset.
<b>F14</b> Channels A and B bridged, full range; channels C and D bridged, full range	*F14: Dual Full Range F14: Dual Full Range 1 A+B 2 C+D	<ul> <li>This is similar to F6, with this addition:</li> <li>Input 1 goes to the bridged channels A and B; Input 2 goes to the bridged channels C and D.</li> <li>These parameters are only a starting point; you can alter any of them and save the configuration into a user preset.</li> </ul>
<b>F15</b> Single bi-amp mode: Channels A and B bridged for $4-8\Omega$ LF; channels C and D bridged for $4-8\Omega$ HF	F15: 8ohm 2-Way F15: 8ohm 2-Way 1 A+B 3 C+D 1 A+B 3 C+D	<ul> <li>This is similar to F6, with these additions:</li> <li>Input 1 goes to the bridged channels A and B, with a 48 dB/ octave Butterworth low-pass filter at 1.5 kHz.</li> <li>Input 2 goes to the bridged channels C and D, with a 48 dB/ octave Butterworth high-pass filter at 1.5 kHz.</li> <li>These parameters are only a starting point; you can alter any of them and save the configuration into a user preset.</li> </ul>
<b>F16</b> Single bi-amp mode: Channels A and B parallel for $2-4\Omega$ LF; channels C and D parallel for $2-4\Omega$ HF	<ul> <li>F16: 4ohm 2-Way</li> <li>F16: 4ohm 2-Way</li> <li>1 AB 2 CD</li> <li>1 AB 2 CD</li> <li>Input Sub LF MF HF Full</li> </ul>	<ul> <li>This is similar to F4, with these additions:</li> <li>Channels A and B are parallel, with a 48 dB/octave Butterworth low-pass filter at 1.5 kHz. The signal source is Input 1.</li> <li>Channels C and D are parallel, with a 48 dB/octave Butterworth high-pass filter at 1.5 kHz. The signal source is Input 2.</li> <li>These parameters are only a starting point; you can alter any of them and save the configuration into a user preset.</li> </ul>
<b>F17</b> Channels A and B bridged for $8\Omega$ subwoofer; channels C and D bridged for $8\Omega$ full range	F17: 8ohm Sub FR Top F17: 8ohm Sub FR Top 1 A+B 3 C+D Input Sub LF MF HF Full	<ul> <li>This is a mono preset geared toward "subs on aux" arrangements.</li> <li>Channels A and B are bridged for use with an 8Ω subwoofer system; their signal comes from Input 1 and has a 48 dB/octave Butterworth low-pass filter at 80 Hz.</li> <li>Channels C and D are bridged for use with a high-power 8Ω full-range loudspeaker system; their signal comes from Input 2 and goes through a 48 dB/octave Butterworth low-pass filter at 80 Hz.</li> <li>These parameters are only a starting point; you can alter any of them and save the configuration into a user preset.</li> </ul>

Factory Preset	Display	Description
<b>F18</b> Single three-way mode: Channels A and B bridged LF; channel C MF; channel D HF	F18: 3-Way F18: 3-Way 1 A+B 3 C 4 D I A+B 3 C 4 D	<ul> <li>This is similar to F3, with these additions:</li> <li>Channels A and B are bridged, with a 48 dB/octave Butterworth low-pass filter at 400 Hz.</li> <li>Channel C is bandpassed from 400 Hz (48 dB/octave Butterworth high-pass) to 1.5 kHz (24 dB/octave Butterworth low-pass).</li> </ul>
		<ul> <li>Channel D has a high-pass filter at 1.5 kHz (48 dB/octave Butterworth).</li> <li>All the shappeds get their signal from laput 1.</li> </ul>
		<ul> <li>All the channels get their signal from input 1.</li> <li>These parameters are only a starting point; you can alter any of them and save the configuration into a user preset.</li> </ul>
<b>F19</b> Channels A and B bridged for $4-8\Omega$ subwoofer; channels C and D bridged for $8\Omega$ subwoofer	F19: Dual 8ohm Subs F19: Dual 8ohm Subs 1 A+B 3 C+D	<ul> <li>This is similar to F6, with these additions:</li> <li>Channels A and B are bridged, with a 48 dB/octave Butterworth low-pass filter at 80 Hz.</li> <li>Channels C and D are bridged, with a 48 dB/octave Butterworth low-pass filter at 80 Hz.</li> </ul>
		These parameters are only a starting point; you can alter any of them and save the configuration into a user preset.
<b>F20</b> Channels A and B parallel for $2-4\Omega$ subwoofer; channels C and D parallel for $2-4\Omega$ subwoofer	F20: Dual 4ohm Subs F20: Dual 4ohm Subs 1 AB 3 CD	<ul> <li>This is similar to F4, with these additions:</li> <li>Channels A and B are parallel, with a 48 dB/octave Butterworth low-pass filter at 80 Hz.</li> <li>Channels C and D are parallel, with a 48 dB/octave Butterworth low-pass filter at 80 Hz.</li> </ul>
		These parameters are only a starting point; you can alter any of them and save the configuration into a user preset.
<b>ILA loudspea</b> The six ILA loudspeak filtering and voicing fo drivers but also protec	<b>ker profiles in CXD</b> er profiles listed in the table below r the loudspeakers used in an ILA et them from excessive long-term	<b>Series amplifiers</b> <i>w</i> are available in the CXD Series power amplifiers. They set appropriate system. They also provide limiting tailored to get high output from the and peak power.
	Maximum volt	age and power allowed by limiter, per driver
	Long-term avera	age Peak
	Voltage Pov	ver in watts Voltage Power in watts

100 (16Ω)

50 (16Ω)

100 (16Ω)

100 (16Ω)

50 (16Ω)

400 (8Ω)

113

80

113

113

80

160

WL2082i 2-way LF

WL2082i 2-way HF

WL2082i 3-way LF

WL2082i 3-way MF

WL2082i 3-way HF

WL118-sw

40

28

40

40

28

57

800 (16Ω)

400 (16Ω)

800 (16Ω)

800 (16Ω)

400 (16Ω)

3200 (8Ω)

# 3. Application examples

#### **Speaker Profile** В С Model Preset Channel 🗰 Α D WL2082i CXD4.3 F7 Speaker: WL2082i 1 Band: 2-way LF 2-way HF WL2082i CXD4.3 F7 Speaker: WL2082i 2 Band: 2-way LF 2-way HF 2 × CXD4.3 Two 3 × WL2082i line arrays ABC Left LF Left main ' 2.70 1 1 **Amplifier 1** D Left HF Right mai 5.3Ω 2 2 ABC Right LF 3 3 **Amplifier 2** D Right HF 5.3Ω Max current draw: ~9 A @120V ~4.8 A @230V

## Stereo three-box hangs, biamp, no subwoofer

## Stereo three-box hangs, triamp, no subwoofer

			Speaker Profile				
	Model	Preset	Channel 🖦	A B	C D		
1	CXD4.3	F4	Speaker:	WL2082i	WL2082i		
			Band:	3-way LF	3-way MF		
2	CXD4.3	F4	Speaker:	WL2082i	WL2082i		
			Band:	3-way LF	3-way MF		
3	CXD4.2	F4	Speaker:	WL2082i	WL2082i		
			Band:	3-way HF	3-way HF		



				Spea	ker Pro	file	
	Model	Preset	Channel 🖦	A	В	С	D
1	CXD4.3	F7	Speaker:		WL2082i		WL2082i
			Band:		2-way LF		2-way HF
Main			CXD4	Amplifier 1	4 × ABC LF 2Ω D HF 4Ω	WL2082i line array	1 2 3 4

# Mono four-box hang, biamp, no subwoofer

# Mono four-box hang, biamp, one subwoofer





Max current draw: ~9 A @120V ~4.8 A @230V

# Stereo four-box hangs, biamp, no subwoofer







# Stereo four-box hangs, triamp, no subwoofer



			Speaker Profile					
	Model	Preset	Channel 🖦	Α	В	С	D	
1	CXD4.5	F1	Speaker:	WL2082i	WL2082i	WL2082i	WL2082i	
			Band:	3-way LF	3-way MF	3-way LF	3-way MF	
2	CXD4.5	F4	Speaker:	WL2082i		WL2	2082i	
			Band:	3-way HF		3-wa	ay HF	
3	CXD4.3	F12	Speaker:	WL118-sw				
			Band:	Si	ub			

## Stereo four-box hangs, triamp, one subwoofer

### 2 × CXD4.5 + CXD4.3



## Stereo five-box hangs, triamp, no subwoofer

			Speaker Profile					
	Model	Preset	Channel 🖦	A B	C D			
1	CXD4.5	F4	Speaker:	WL2082i	WL2082i			
			Band:	3-way LF	3-way HF			
2	CXD4.5	F4	Speaker:	WL2082i	WL2082i			
			Band:	3-way LF	3-way HF			
3	CXD4.2	F4	Speaker:	WL2082i	WL2082i			
			Band:	3-way HF	3-way HF			





# Stereo five-box hangs, triamp, one subwoofer

## Stereo six-box hangs, triamp, no subwoofer

			Speaker Profile					
	Model	Preset	Channel 🖦	A B	C D			
1	CXD4.5	F4	Speaker:	WL2082i	WL2082i			
			Band:	3-way LF	3-way MF			
2	CXD4.5	F4	Speaker:	WL2082i	WL2082i			
			Band:	3-way LF	3-way MF			
3	CXD4.2	F4	Speaker:	WL2082i	WL2082i			
			Band:	3-way HF	3-way HF			



			Speaker Profile				
	Model	Preset	Channel 🖦	A B	C D		
1	CXD4.5	F4	Speaker:	WL2082i	WL2082i		
			Band:	3-way LF	3-way MF		
2	CXD4.5	F4	Speaker:	WL2082i	WL2082i		
			Band:	3-way LF	3-way MF		
3	CXD4.3	F4	Speaker:	WL2082i	WL2082i		
			Band:	3-way HF	3-way HF		
4	CXD4.3	F20	Speaker:	WL118-sw	WL118-sw		
			Band:	Sub	Sub		

# Stereo six-box hangs, triamp, two subwoofers



			Speaker Profile				
	Model	Preset	Channel 🖦	A B	C D		
1	CXD4.5	F4	Speaker:	WL2082i	WL2082i		
			Band:	3-way LF	3-way MF		
2	CXD4.5	F4	Speaker:	WL2082i	WL2082i		
			Band:	3-way LF	3-way MF		
3	CXD4.3	F4	Speaker:	WL2082i	WL2082i		
			Band:	3-way HF	3-way HF		
4	CXD4.3	F9	Speaker:	WL118-sw			
			Band:	S	ub		

# **Stereo six-box hangs, triamp, four subwoofers**



			Speaker Profile					
	Model	Preset	Channel 🖦	Α	В	С	D	
1	CXD4.5	F4	Speaker:		WL2082i		WL2082i	
			Band:		3-way LF		3-way MF	
2	CXD4.5	F4	Speaker:		WL2082i		WL2082i	
			Band:		3-way LF		3-way LF	
3	CXD4.3	F4	Speaker:		WL2082i		WL2082i	
			Band:		3-way HF		3-way HF	

# Stereo eight-box hangs, triamp, no subwoofer



Left mai

Right ma



			Speaker Profile				
	Model	Preset	Channel 🖦	Α	В	С	D
1	CXD4.5	F4	Speaker:	WL2082i WL2082i		82i	
			Band:	3-way LF		3-way	MF
2	CXD4.5	F4	Speaker:	r: WL2082i WL2082		82i	
			Band:	3-way LF		3-way	MF
3	CXD4.3	F4	Speaker:	WL2082i WL2082i		82i	
			Band:	3-way HF		3-way	/ HF
4	CXD4.3	F8	Speaker:	WL118-sw			
			Band:	Sub			

# Stereo eight-box hangs, triamp, two subwoofers



			Speaker Profile				
	Model	Preset	Channel 🖦	A B	C D		
1	CXD4.5	F4	Speaker:	WL2082i	WL2082i		
			Band:	3-way LF	3-way MF		
2	CXD4.5	F4	Speaker:	peaker: WL2082i WL2082i			
			Band:	3-way LF	3-way MF		
3	CXD4.3	F4	Speaker:	WL2082i WL2082i			
			Band:	3-way HF	3-way HF		
4	CXD4.3	F8	Speaker:	WL118-sw			
			Band:		Sub		
4	CXD4.3	F8	Speaker:	WL118-sw			
			Band:		Sub		

# Stereo eight-box hangs, triamp, four subwoofers



# **Specifications**

	WL2082i	WL118-sw	
Loudspeaker	Dual 8-inch + compression driver; biamp or triamp	Single 18-inch	
Power Continuous / Program; RMS Voltage	HF: 100 W / 400 W / 40V LF, MF: 200 W / 800 W / 57 V	850 W/3400 W/82 V	
Impedance	HF: 16Ω LF biamp: 8Ω LF, MF triamp: 16Ω	28	
Peak SPL	132 dB	134.5 dB	
Input Connectors	Two NL8	Two NL8	
Dimensions (H × W × D)	11.8 × 27 × 13.4 in 300 × 686 × 340 mm	22.1 × 27.6 × 30.3 in 562 ×702 × 771 mm	
Net Weight	37 lb/16.8 kg	111 lb/50.4 kg	





(800) 854-4079 or (714) 957-7100 Outside the U.S. +1 (714) 754-6175 Fax: +1 (714) 754-6174 QSC, LLC 1675 MacArthur Boulevard Costa Mesa, CA 92626 USA

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