

**QSC**<sup>®</sup>

---



# DPM Series

---

## CINEMA AUDIO PROCESSOR/MONITOR/CROSSOVER

Complete digital audio signal processing with monitoring, network control, and Intrinsic Correction™ for QSC cinema loudspeakers.

---

## DPM Series

DPM Series processors are a powerful solution for today's D-Cinema audio systems. DPM offers a complete set of tools to facilitate all the signal processing, audio routing, monitoring and automation control required in a modern D-Cinema sound system.



### Features

- Digital inputs accept AES-3 audio from a D-Cinema server or other digital audio source
- Analog inputs accept 7.1 audio from film processors or alternate content sources
- Additional analog inputs accommodate non-sync and Mic/Line sources
- Additional digital inputs include HDMI® (DPM 300H only) and SPDIF
- DPM 300H includes Dolby Audio™ (featuring Dolby Digital Plus™ and Dolby® Surround 7.1) and DTS-HD® decoding
- QSC Intrinsic Correction™ settings for optimal performance of QSC cinema speakers
- Master volume and cinema processor EQ on all channels
- Booth monitor with front panel control for easy operation
- Three screen channels with passive or 2-, 3-, or 4-way crossovers
- Control and monitoring via Ethernet including full SNMP support

The DPM builds on the legacy of QSC's DCM and DCP products to provide all audio signal processing and monitoring functions for Digital Cinema in a single integrated system. Designed to be used with QSC's Digital Cinema Amplifiers (DCA) and featuring advanced Intrinsic Correction settings for QSC's Digital Cinema Speakers (DCS), the DPM optimizes loudspeaker performance while simplifying cinema sound system wiring and configuration. The DPM is configurable for passive, bi-, tri-, or quad-amp operation and 2 or 4 surround channels (5.1 or 7.1). Though optimized to receive audio content directly from a D-Cinema server, the DPM is also compatible with all analog cinema processor formats and features an 8 channel analog input which offers up to 7.1 capability.

### Digital Signal Processing

The DPM 300/300H digital signal processing capability outperforms traditional analog crossovers and equalizers for optimized speaker performance. Crossover frequency, 1/3 octave graphic EQ, parametric equalization, polarity, delay and gain can be precisely adjusted for each speaker in your system. Passive or active 2-, 3-, or 4-way crossovers are available for three screen channels. QSC's proprietary Intrinsic Correction adjusts for the intrinsic behavior of loudspeakers, removing any anomalies from the equation of factors that affect measured response and, ultimately, the quality of sound. The result is optimal "out of the box" performance while minimizing on-site room tuning.

### Configuration and Networking

The DPM offers a variety of options for configuring and managing the product and an entire cinema sound system locally or remotely. Local DPM configuration and system management are provided through directly applied connections to the DPM via universal serial bus (USB), the DPM front panel LCD and buttons or through a local Ethernet link. Remote and system-wide management are possible through more sophisticated network implementations and/or via wide area network (WAN) topologies, Internet access or 3rd party subscription services that make use of the DPM third-party API or SNMP.

Basic configuration of the DPM product is performed through the USB interface on the product front panel or via the Ethernet connection on the rear panel. The system designer connects to the DPM's USB or ethernet port with a Windows or MAC laptop or PC running the DPM Manager™ software application. DPM Manager offers all the setup tools and system management objects to configure the auditorium audio format, selection of audio source material, configure the DSP signal path, apply crossovers, EQ etc., define the routing of audio to the amplifiers, define the system speakers and speaker processing etc. Once the basic configuration is complete, the system designer can define up to 16 custom Presets that can be recalled for different auditorium setups. For example, a Preset can be created for the primary presentation content. Another Preset can be created for non-sync or alternative content. And yet another Preset can be created for live application use such as seminars or corporate events. Once these Presets are created they become accessible via the DPM front panel user interface. In addition to basic configuration, DPM Manager can be used to monitor health, status and performance of the system via the product's USB or Ethernet interface.

## Multiple functions, flexible options



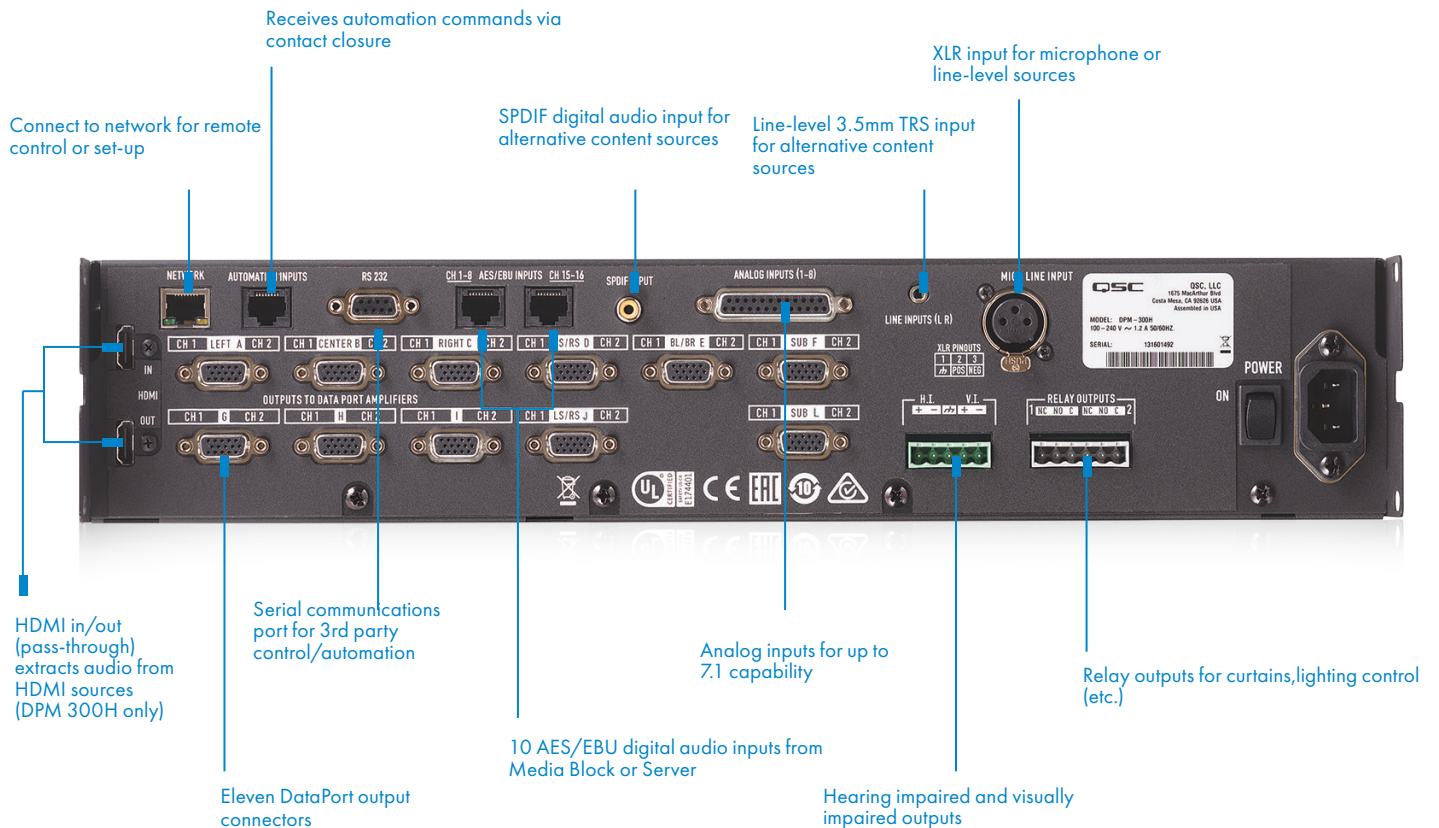
DPM features a built-in loudspeaker for booth monitoring.



DPM 300H includes HDMI inputs and outputs which can be used with alternative content sources such as a Blu-ray Disc™ player.



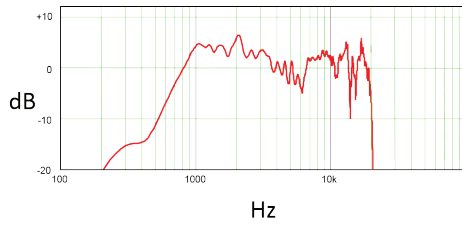
DPM Manager™ is the software application that's used for system set-up and configuration, as well as monitoring system operation.



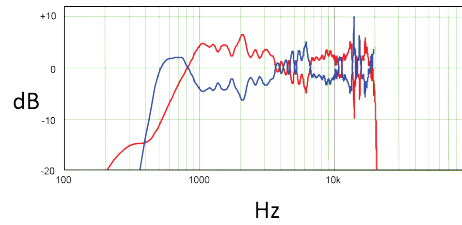
---

## Intrinsic Correction™

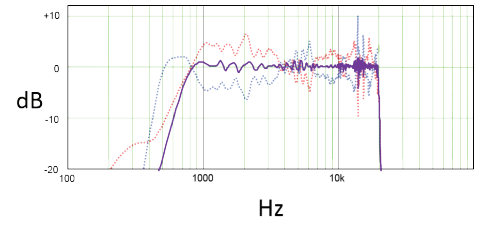
Intrinsic Correction corrects the intrinsic behaviors of cinema loudspeakers, removing any anomalies from the equation of factors that affect measured response and, ultimately, the quality of sound. It involves a set of laboratory derived settings which are implemented in the DPM Series processors. Intrinsic Correction optimizes performance and minimizes the amount of on-site room tuning, because many response anomalies are corrected before the loudspeakers are installed. Settings for most QSC cinema loudspeakers are already available in every DPM processor.



Lab measurements produce a response curve of the loudspeaker.



Then, an inverse of that response is created using FIR filters



When the two are combined, the result is a much flatter response (purple line).



When the whole is greater than the sum of the parts, that's synergy. When a sound system uses all QSC components, that's SystemSynergy. The result is a complete cinema sound system that is easier to set-up, configure, and operate than any collection of components from different brands. QSC products are designed with the complete system in mind, so that all parts perform optimally when used together as whole system. To put it simply: a system comprised of QSC processors, amplifiers, and loudspeakers will outperform any other system.

DPM Series processor/monitors are designed with this same philosophy. With QSC innovations like Intrinsic Correction, DataPort connectors, integrated monitoring, along with the reliability upon which we've built our reputation over the last half-century, DPM Series processors optimize the performance of QSC amplifiers and loudspeakers. The DPM 300 and DPM 300H are the most cost-effective and high performance cinema processors available today.

# Specifications

System Details	DPM 300 /300H
Dimensions (HxWxD)	3.5"(2 RU) x 19" x 15"
Line voltage requirements	100 VAC – 240 VAC, 50/60 Hz
Accessories included	6 ft UL/CSA line cord, Connector Kit
<b>Front Panel Controls and Indicators</b>	
Monitor Volume/parameter adjust	Rotary encoder
LCD	128 x 64 Monochrome LCD
Master Mute	Push button
Master Volume	Rotary encoder
USB Type B port	Config and management interface
Monitor output	3.5 mm TRS
<b>Rear Panel Connectors</b>	
Network RJ45	10/100 Mbps network management
Automation Inputs	RJ45 – 6 contact closure inputs
RS232	DB-9 Serial Interface
Channels 1-8 AES3/EBU Inputs	RJ45
Channels 15-16 AES3/EBU Inputs	RJ45
SPDIF Input	RCA – Stereo digital audio interface and Lt/Rt Matrix
Analog Inputs (1-8)	DB-25
Line Inputs	3.5 mm TRS – Stereo Left and Right and Lt/Rt Matrix
Mic/Line input	XLR – Mic (+ phantom pwr) or line level
HDMI input/output (DPM 300H)	Type A female connectors
DataPort connectors	HD-15 (11) – QSC amplifier interface
H.I./V.I. output	5-pin Euro-style (x1) – common GND
Relay outputs	3-pin Euro-style (x2) – max 30 VDC
Power switch	Rocker switch
<b>Monitor Speaker</b>	
Speaker	2"x 3.5" full-range
Amplifier output power	10 watts Class D
<b>Audio Performance</b>	
A/D conversion	24-bit delta-sigma, 48 kHz
Frequency response	20 Hz to 20 kHz (+/- .5dB)
<b>Main Analog Input</b>	
Connector	DB25F - 8 channel
Input stage type	Active balanced input
Input impedance	20k Ohms
Max analog input level	+14.2 dBu (4.0 Vrms)
THD+N at 2 dB below clip	< 0.003%
<b>Mic/Line Input (XLR)</b>	
Input stage type	Active balanced input
Input impedance	2.2k Ohms
Max analog input level	26 dBu

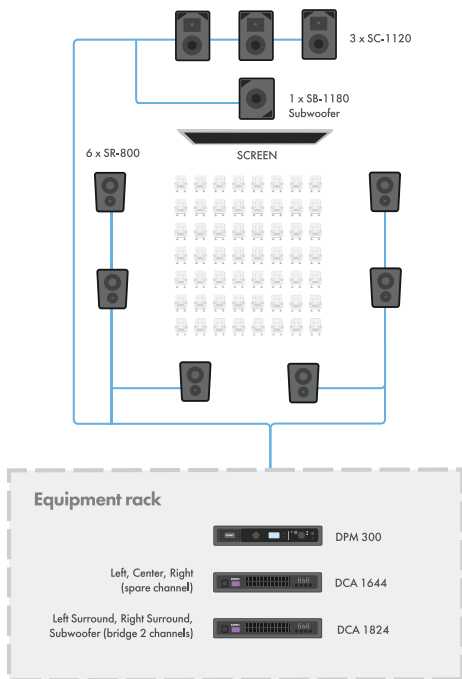
Input gain	0 to 60dB in 1 dB steps
Phantom power voltage	15V
<b>Stereo Line Inputs</b>	
Connector	3.5mm TRS mini jack
Input stage type	Unbalanced input
Input impedance (4dBu sens)	> 10k Ohms
Max analog input level (4dBu sens)	14 dBu (4.2 Vrms)
Input impedance (-10dBV sens)	2.7k Ohms
Max analog input level (-10dBV sens)	0 dBV (1 Vrms)
Headroom (all sens)	> 10dB
<b>DataPort Outputs (HD15)</b>	
Max output level	14 dBu
Dynamic range (unweighted)	> 109 dB
THD+N at 2dB below clip	< .002 %
<b>HI/VI Outputs</b>	
Connector	5-pin Euro-style with common GND
Output stage type	Balanced output
Max output level	18 dBu (adjustable)
Dynamic range (unweighted)	> 109 dB
THD+N at 2 dB below clip	< 0.003%
<b>Monitor Headphone Output</b>	
Connector	Front Panel 3.5mm mini jack
Output stage type	Unbalanced output
Max output level	21 dBu
Dynamic range (unweighted)	> 109 dB
<b>AES/EBU Digital Inputs (RJ45)</b>	
Input stage type	Balanced input
Input sample rate	48 kHz or 96 kHz
<b>SPDIF Digital Inputs (Mono RCA)</b>	
Input stage type	Unbalanced input
Stereo PCM or Dolby Digital Plus (DPM300H only)	
<b>HDMI Input/Output (DPM300H only)</b>	
HDMI Type A Connector	
PCM, DTS-HD, or Dolby Digital Plus	
<b>Other</b>	
Relay outputs (2)	3-pin Euro-style
	Normally open (NO), normally closed (NC), and common
	Max 30 VDC @ 1A
Automation inputs (RJ45 - 6 GPI)	Max input voltage 5V (3.3V typical)
	TTL compatible dry contact closure

As part of QSC's ongoing commitment to product development, specifications are subject to change without notice.

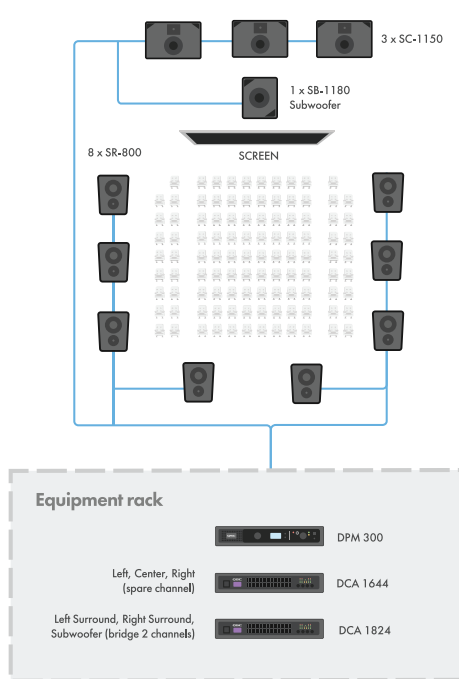
# Sample Systems

The following diagrams are examples of product applications using DPM. When specifying any system, it's important to make sure that the appropriate model and quantity of loudspeakers and amplifiers are selected for your specific application. Final system designs may vary depending on actual room dimensions and room proportions.\*

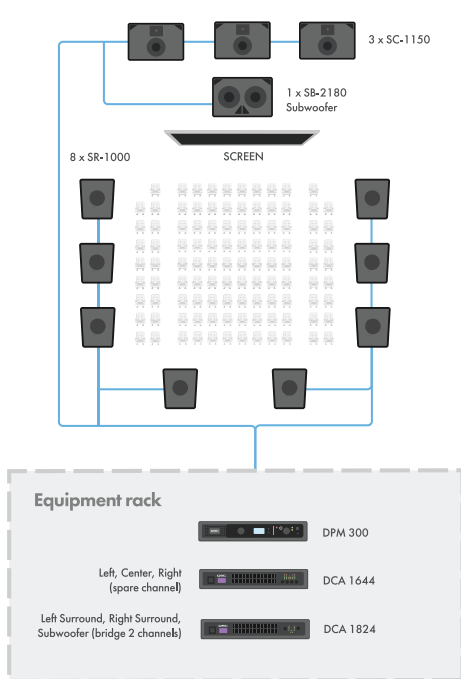
Up to 35 feet (10.6 meters) 5.1 system



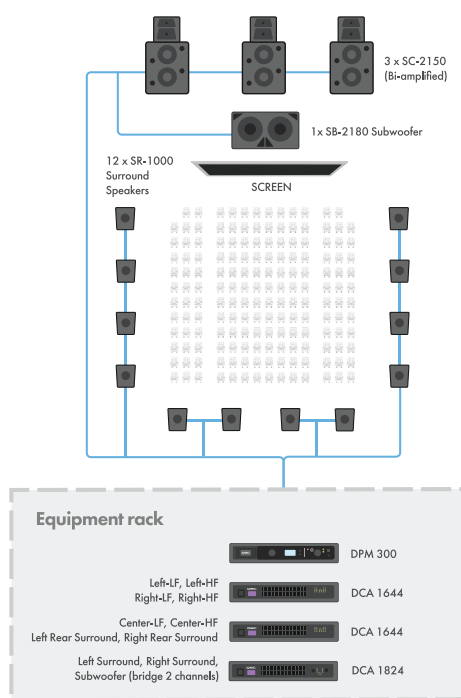
Up to 40 feet (12.2 meters) 5.1 system



Up to 45 feet (13.7 meters) 5.1 system

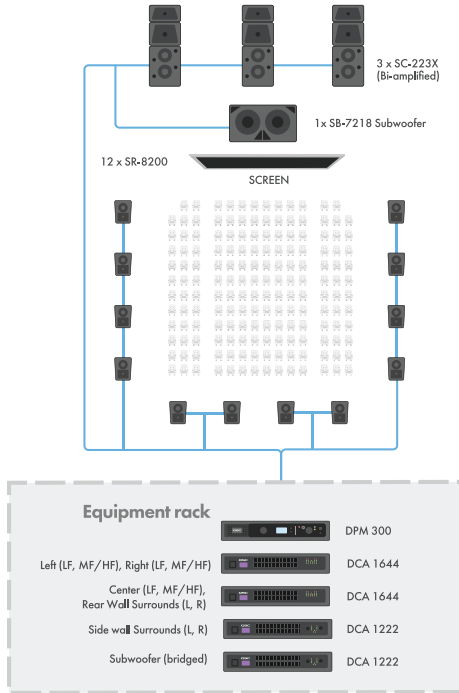


Up to 55 feet (16.8 meters) 7.1 system

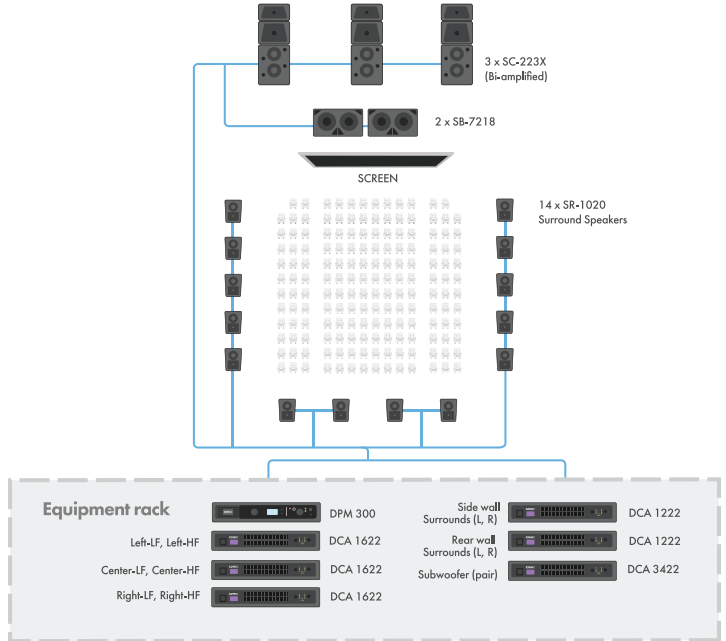


\*Actual surround speaker counts may vary depending on actual room circumstances and architectural detail. All surrounds to be wired in parallel.

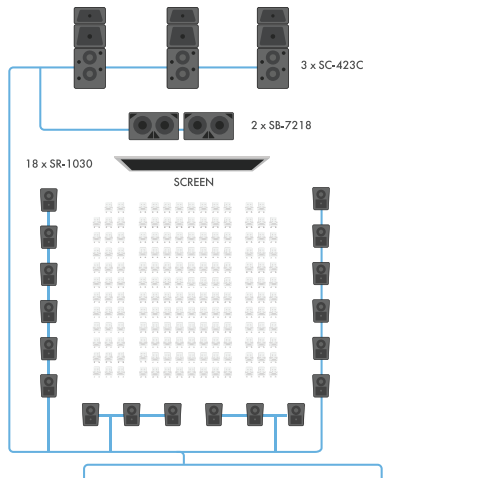
**Up to 60 feet (18.2 meters) 7.1 system**



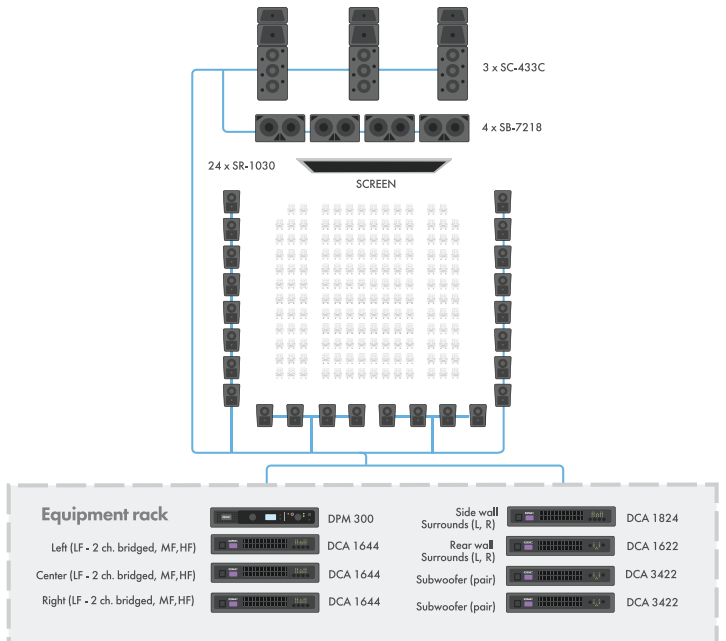
**Up to 70 feet (21.4 meters) 7.1 system**



**Up to 80 feet (24.4 meters) 7.1 system**



**Up to 100 feet (30.4 meters) 7.1 system**



# QSC Cinema Processing Options



**DCM 300**

**DPM 300/300H**

**Q-SYS™ Core with DCIO**

Type	Crossover/Monitor	Cinema Processor and Crossover/Monitor	Immersive Sound & Multi-Room Cinema Processor with Crossover/Monitor Lobby, Sound Reinforcement
Typical Use	For use with non-QSC Cinema Processor	Small to Large 5.1/7.1 Theaters	5.1/7.1 Atmos, Whole complex, Entertainment Centers
Built-in booth monitor	✓	✓	External speaker output on DCIO
Network	✓	✓	✓
Audio format	5.1/7.1	5.1/7.1	5.1/7.1 + Le/Re Dolby Atmos
Crossovers	Up to 3 screen channels Quad, tri-amp, bi-amp	Up to 3 screen channels Quad, tri-amp, bi-amp	Configurable and expandable
Non-sync audio processing	none	AC-3, DTS-HD, Lt/Rt Decode	Lt/Rt Decode, AC-3, DTS with DCIO-H
Room Equalization	EQ, delay, gain, bass, management	EQ, delay, gain, bass management	Abundant user-configurable DSP
Speaker DSP	<ul style="list-style-type: none"> <li>Intrinsic Correction for QSC loudspeakers</li> </ul> OR <ul style="list-style-type: none"> <li>Configurable settings for non-QSC loudspeaker models</li> </ul>	<ul style="list-style-type: none"> <li>Intrinsic Correction for QSC loudspeakers</li> </ul> OR <ul style="list-style-type: none"> <li>Configurable settings for non-QSC loudspeaker models</li> </ul>	<ul style="list-style-type: none"> <li>Intrinsic Correction for QSC loudspeakers</li> </ul> OR <ul style="list-style-type: none"> <li>Configurable settings for QSC or non-QSC loudspeaker models</li> </ul>
Compatible QSC Amps	DCA, ISA	DCA, ISA	CX-Q, DCA



+1.800.854.4079  
 Outside the U.S. +1.714.754.6175  
 Fax +1.714.754.6174  
 1675 MacArthur Boulevard  
 Costa Mesa, CA 92626

©2022 QSC, LLC all rights reserved. QSC, the QSC logo, and Q-SYS are registered trademarks of QSC, LLC, in the US and other countries. Dolby and Dolby Atmos are registered trademarks of Dolby Laboratories. All other trademarks are the property of their respective owners.

*As part of QSC's ongoing commitment to product development, specifications are subject to change without notice.*

