

**PRODUCT CATALOG** 

## **Cinema Solutions**





For over 50 years, QSC has earned a reputation for unmatched quality, performance, and reliability. As a recognized global leader in providing innovative cinema solutions - including processing, amplification and loudspeakers integrated into a seamless whole - QSC is the complete solution provider for all your cinema presentation needs.

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# **G-SYS**<br/> **For Cinema**

EXIT

![](_page_4_Picture_0.jpeg)

### **Q-SYS<sup>™</sup> for Cinema**

#### Q-SYS

...is a software-based audio, video and control (AV&C) platform built to run on standard off-the-shelf IT hardware and network infrastructure. The flexible software foundation of the Q-SYS Ecosystem scales up and scales out simply and cost effectively, reducing the need for additional dedicated hardware when additional features, capabilities or performance are required.

### What can Q-SYS do for you?

#### **Audio Signal Processing**

Q-SYS provides all of the signal processing for all loudspeakers and amplifiers. When paired with QSC loudspeakers it includes Intrinsic Correction<sup>™</sup>, which are laboratory derived processor settings specifically created to optimize the auditory experience and loudspeaker protection. There is also a comprehensive library of standard DSP-based audio signal processing components, like equalizers, crossovers, compressors, digital delays, and more.

#### **Signal Routing**

Signal routing between devices is a simple matter of graphical interconnections on the layout created in Q-SYS Designer. Since many of the most common audio devices are software-based, this minimizes the number of external boxes and interconnections, greatly simplifying physical wiring. Also, signal flow is not limited to existing audio formats. Signal routing can be easily changed as system needs change or when new formats are introduced.

#### Control

Q-SYS allows a vast array of control options, either on the network or by GPIO and RS-232. Nearly any device with an IP address can be controlled on the Q-SYS network. Control interfaces range from your PC to Q-SYS network touch screen controllers, or even mobile devices.

#### Monitoring

One of the greatest advantages of Q-SYS in cinemas is its ability to monitor the status of devices on the network. Your entire system can be monitored at any point in the signal chain for operational status. It also allows for automatic email or text alerts in the event of a fault or failure of any device.

#### Calibration

Q-SYS includes all of the standard audio calibration tools that cinema technicians need to properly set-up and "tune" a cinema sound system.

#### **Flexible System Design**

Q-SYS Designer Software is an intuitive system design tool that enables you to build your system from the ground up, including drag-and-drop user control interface (UCI) creation.

![](_page_5_Figure_16.jpeg)

J-SYS

### Cores

	Core Nano	Core 8 Flex	Core 110f	Core 510i
Total network I/O	64 x 64	64 x 64	128 x 128	256 x 256
Onboard I/O		8 flex	8x in, 8x out, 8x flex	128 x 128 (8x I/O card slots)
Software-based Dante capacity	8 x 8 included (up to 32 x 32)	8 x 8 included (up to 32 x 32)	8 x 8 included (up to 32 x 32)	8 x 8 included (up to 128 x 128)
USB audio channel count	8 × 8	8 x 8	16 x 16	
AEC processors	8	8	16	64
Universal web conferencing compatibility	1	1	1	1
VoIP instances	2	2	4	64
Onboard AV bridging (USB)	1	1	1	
Full-featured control engine	1	1	1	1
Onboard GPIO		8 x 8	16 x 16	16 x 16
Onboard RS232 control ports	2	2	1	1
Q-SYS peripheral limit	32	32		
Size	1/2 rack, 1RU	1/2 rack, 1RU	1RU	2RU

Q-SYS"

### **Q-SYS<sup>™</sup> for Cinema**

Optional I/O cards for Core 510i

![](_page_7_Figure_2.jpeg)

### CX-Q Network Amplifiers

CX-Q is a series of network amplifiers specifically designed for the Q-SYS Ecosystem. There are three 4-channel models and four 8-channel models, all featuring QSC's 5th generation high-efficiency, Class-D hybrid powertrain design.

![](_page_7_Picture_5.jpeg)

![](_page_7_Picture_6.jpeg)

### Network I/O Peripherals

Local or remote devices that serve as I/O on-ramps to the Q-SYS network

![](_page_7_Picture_9.jpeg)

DCIO/DCIO-H Digital Cinema Input/Output for Q-SYS

DCIO is a cinema-specific interface that serves as the audio I/O for each screen in a Q-SYS enabled cinema complex, by duplicating the connections you would expect on a typical cinema processor.

The DCIO – along with Q-SYS<sup>TM</sup> Cores, CX-Q amplifiers and DCS loudspeakers – provides a cost-effective way to realize the full benefits of a Q-SYS enabled cinema for every room in a multiplex, by delivering a full-system approach to cinema audio design. Using Q-SYS Designer and custom UCIs, touchpanels, and mobile apps, the user can configure, control, and monitor everything on the Q-SYS network through a seamless system view.

![](_page_7_Picture_13.jpeg)

I/O Frame

The I/O Frame provides additional points of connection for large immersive sound applications when not using our CX-Q network amplifiers.

![](_page_7_Picture_16.jpeg)

I/O-22

The I/O-22 provides two mic/line inputs and two line outputs. Designed for use when audio sources and destinations are physically spread out, the I/O-22 is also useful for remote booth monitoring.

![](_page_7_Picture_19.jpeg)

The rapidly growing portfolio of Q-SYS processors and peripherals now includes Attero Tech's highly innovative network AV endpoints and I/O devices.

Q-SYS Extensions allow integrators to drag-and-drop Attero Tech by QSC devices into their Q-SYS designs without the need for any complicated control programming. Extensions for Attero Tech by QSC devices can now be added from the inventory menu in Q-SYS Designer Software.

![](_page_8_Picture_2.jpeg)

#### unD6IO-BT and unDX2IO+

Dante/AES67 network audio wall plates allows you to put I/O access the inside the auditorium or in the lobby for events and presentations.

![](_page_8_Picture_5.jpeg)

4

platform.

**Zip4-3G** is a four-zone Dante/AES67 paging interface that can be placed in the office or at the guest services desk for paging in the lobby, bar, arcade, restaurant, or anywhere within the cinema complex.

**Synapse D16Mio** is a 16-channel Dante/AES67 interface, providing a viable option for interfacing non-network DCA or CX amplifiers with Q-SYS

SYNAF

![](_page_8_Picture_7.jpeg)

**Axon C1** network wall controller provides AV system control of volume, mute and preset recall.

![](_page_8_Picture_9.jpeg)

**unDIO2x2+ Dante/AES67** network audio interface is great for interfacing other analog I/O in the booth, and handy for things like non-sync inputs and HI/VI outputs.

![](_page_8_Picture_11.jpeg)

**Axon D2FLEXio** Dante<sup>TM</sup>/AES67 mic/line connectivity interface offers a low-cost two-channel option, ideal for bringing non-sync into Q-SYS.

![](_page_8_Picture_13.jpeg)

### **Q-SYS<sup>™</sup> for Cinema**

![](_page_9_Picture_1.jpeg)

### Touchscreen Controllers

Quickly deploy custom UCIs onto a portfolio of native Q-SYS touch screen controllers. Wall-mount and tabletop options available.

### NS Series Gen 2 Network Switches

Pre-configured specifically to meet the performance requirements of Q-SYS, these network switches eliminate the need for time-consuming network configuration, reducing labor costs, minimizing deployment time, and reducing the need for network support specialists

![](_page_9_Picture_6.jpeg)

![](_page_9_Picture_7.jpeg)

NV-32-H

Q-SYS™

### Network Video Endpoint

The NV-32-H (Core Capable) is a network video endpoint native to Q-SYS, serving as a multi-stream, softwareconfigurable HDMI encoder/decoder that enables network-based video distribution.

### "If it has an IP address, it can be controlled by Q-SYS"

The power of the Q-SYS goes far beyond its ability to serve as your cinema processor. With custom APIs and plugins, the unparalleled flexibility of Q-SYS extends its capabilities to other important functions and subsystems within the modern cinema complex.

![](_page_10_Figure_2.jpeg)

Q-SYS"

![](_page_11_Picture_0.jpeg)

### **Q-SYS Control Plugins**

As an open ecosystem, Q-SYS has the unique ability to offer simpler means of integrating common third-party devices. QSC works closely with third-party device manufacturers and cultivates an active community of Q-SYS programmers and integrators.

![](_page_11_Figure_3.jpeg)

![](_page_12_Picture_0.jpeg)

**Q-SYS**<sup>™</sup>

## Cinema Processing Solutions

![](_page_14_Picture_0.jpeg)

### **Processors**

### **DPM Series**

DPM Series processors are based on a whole new processing platform that builds on the legacy of QSC's DCM and DCP products to provide all 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<sup>TM</sup> settings for QSC's Digital Cinema Speakers (DCS), the DPM Series features models capable of passive, bi-, tri-, or quad-amp operation, and 2 or 4 surround channels (5.1 or 7.1).

	DPM 300	DPM 300H
Digital In Channels	10	10
Analog In Channels	8	8
DataPorts	11	11
Screen Channel Support	3	3
Screen Channel Operation	Passive, bi-, tri-, or quad-amp	Passive, bi-, tri-, or quad-amp
HDMI In/Out	no	yes

#### **Total System Flexibility**

- Ten digital inputs for 5.1 and 7.1 soundtracks and HI/VI
- HDMI input/output for non-sync sources (DPM 300H)
- Dolby Digital Plus<sup>™</sup> and DTS-HD<sup>®</sup>
- Network control and monitoring via Ethernet including full SNMP support
- Serial automation control via RS-232
- Analog Inputs for film processors, non-sync and Mic/Line
- Booth Monitor loudspeaker and headphone jack
- Digital Loudspeaker Crossovers
- Compatible with all existing DCA amplifiers thousands of DCA-equipped screens are ready for full network monitoring and control
- Bypass mode routes audio around failed components to ensure that the show will go on
- Intrinsic Correction<sup>™</sup> for DCS loudspeakers for optimal "out of box" performance and reduced set-up time

![](_page_15_Figure_16.jpeg)

![](_page_16_Picture_0.jpeg)

DPM 300 Series Processor

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![](_page_16_Picture_3.jpeg)

DPM 300H Series Processor

![](_page_16_Figure_6.jpeg)

### **Processors**

### **DCM Series Monitors**

	DCM 300
Analog In Channels	8
Screen Channel Support	3
Screen Channel Operation	Passive, bi-, tri- or quad-amp
Intrinsic Correction DSP	yes
Sub Output Channels (max)	4 to 8

![](_page_17_Picture_3.jpeg)

![](_page_17_Picture_4.jpeg)

DCM 200

DCM 300

QSC Digital Cinema Monitors integrate DSP crossovers, booth monitoring, and load fault detection into a single unit that provides exceptional performance and control while interfacing seamlessly with new or existing standalone cinema processors. By combining booth monitor and crossovers, the DCM Series monitors simplify system wiring and configuration, boosting your bottom line with faster setup and increased operational efficiency.

The DCM Series Monitors take full advantage of digital technology for both processing and control. Digital Signal Processing delivers the best possible sound quality and high dynamic range to outperform traditional analog crossovers. Our software lets you easily build and deploy configurations that combine all elements of system setup into configuration files that can be saved and transferred to other DCMs. Designed for use with QSC DCA Series amplifiers, DCM is the perfect choice for legacy film-only installations or for working with an existing cinema processor.

![](_page_17_Figure_8.jpeg)

#### **Audio Capabilities**

- Quad-, tri-, bi-amp, or passive operation (varies by model)
- Intrinsic Connection<sup>™</sup> to instantly optimize DCS speaker systems
- Precise adjustment of crossover frequencies, parametric EQ, polarity, and gain for each speaker in your system
- Monitor input, output, and amplifier output via front panel speaker

#### **Configuration Software**

- Easy intuitive system setup
- Configure parameter settings, routing, crossover filters, gains, delays, diagnostics, and monitoring
- Save configurations for backup and reuse
- Real-time software control from PC via USB or Ethernet

#### Connections

- 8 channel analog input over DB-25 connector
- DataPort amp connections (no barrier strips or XLRs required)

#### **Compatibility and Reliability**

- Support for all current cinema sound processor formats
- Load and amplifier fault monitoring reports opens and shorts for each channel
- Emergency bypass enables routing of LCR mix to all screen channels

![](_page_18_Figure_17.jpeg)

![](_page_19_Picture_0.jpeg)

![](_page_20_Picture_0.jpeg)

### **Amplifiers**

### **CX-Q Network Amplifiers**

The new CX-Q Series network amplifiers are the culmination of QSC's legacy of robust power amplifiers, advancements in high-efficiency output devices to provide dozens of channel configuration options, and the state-of-the-art network transport, control and monitoring of the Q-SYS Ecosystem for cinema applications.

The CX-Q line includes three 4-channel models and two 8-channel models, each capable of delivering robust, high-fidelity power to drive a wide range of loudspeaker configurations. By simply connecting the amplifiers via standard layer 3 Ethernet, the Q-SYS Core can route digital audio to/from the amps, as well as provide total control and monitoring of all amplifier functions.

![](_page_21_Picture_4.jpeg)

CX-Q Network Amplifiers **(new)** 

![](_page_21_Picture_6.jpeg)

![](_page_22_Picture_0.jpeg)

CX-Q Series

- Seamless Q-SYS integration with audio transport and control via standard gigabit Ethernet protocols and hardware
- Capable of providing up to 8,000 W of power
- Hybrid circuit topology mixing the robustness of the legendary PL380 with new high efficiency output devices
- Flexible Amplifier Summing Technology<sup>™</sup> (FAST) permits channels to be combined for higher output power
- FlexAmp<sup>™</sup> allows for asymmetric power distribution across all amplifier channels

- PowerLight universal switchmode power supply with PFC for highest efficiency, improved audio performance, and low weight
- Touch-proof Euroblock loudspeaker connections
- Eight bi-directional GPIO connections and one relay
- Automatic energy saving modes ensure that the amplifier will draw the minimum amount of AC power while still providing outstanding audio quality

#### **4 Channel Models**

	CX-Q 2K4	СХ-Q 4К4	CX-Q 8K4
Max Power (per channel)	800 W	1500 W	2400 W
Dimensions (H×W×D) mm	89 × 482 × 406	89 × 482 × 406	89 × 482 × 406
Dimensions (H×W×D) in	3.5 × 19 × 16	3.5 × 19 × 16	3.5 × 19 × 16
Weight Net	10.4 kg / 23 lb	11.3 kg / 25 lb	11.8 kg / 26 lb
Weight Shipping	12.2 kg / 27 lb	13.2 kg / 29 lb	13.2 kg / 29 lb

#### 8 Channel Models

	CX-Q 4K8	CX-Q 8K8
Max Power (per channel)	1000 W	1500 W
Dimensions (H×W×D) mm	89 × 482 × 406	89 × 482 × 406
Dimensions (H×W×D) in	3.5 × 19 × 16	3.5 × 19 × 16
Weight Net	11.3 kg / 25 lb	11.8 kg / 26 lb
Weight Shipping	13.2 kg / 29 lb	13.6 kg / 30 lb

Burst Power - 20 ms 1 kHz sine burst, all channels driven Continuous Power - EIA 1 kHz 1% THD, all channels driven

### **Amplifiers**

### **DCA Series**

![](_page_23_Picture_2.jpeg)

![](_page_23_Picture_3.jpeg)

DCA 2 Channel Amplifiers

![](_page_23_Picture_5.jpeg)

![](_page_23_Picture_6.jpeg)

DCA 4 Channel Amplifiers

![](_page_23_Figure_8.jpeg)

Built on a rugged tour-grade chassis, DCA 2-channel and 4-channel amps deliver heavyweight power in a light 2RU package. All models are equipped with our innovative DataPort interface, which makes hook-up fast, enables control and monitoring via QSC processors, and supports a range of useful accessories. All are safeguarded by protective circuitry that keeps them going strong over the long haul.

Using a standard VGA-style connector that simplifies wiring and speeds installation, the DCA DataPort interface provides single-cable integration with DCP, DPM, DCM and Q-SYS processors. Creating a smart, centrally controlled system that goes beyond simple audio connections, DataPort enables DSP crossovers, speakerspecific EQ, and monitoring and control of amplifier and loudspeaker functions.

A single QSC DataPort connection includes two channels of audio, output voltage monitoring (VMON), current monitoring (IMON), clip/protect monitoring, and thermal monitoring. DataPort also enables AC standby control and provides a 15 volt DC power supply for rear-panel accessories.

- QSC PowerLight<sup>™</sup> boosts reliability by cutting waste heat. Ultra-fast charging of supply rails results in tighter bass and clean, transparent highs.
- Extensive protection circuitry guards against failures such as DC, infrasonic, thermal overload, and short circuits.
- Active Inrush Limiting lets you turn amps on and off safely without expensive AC power sequencers.

#### **DCA Amp Chart**

2 Channel Models	DCA 1222	DCA 1622	DCA 2422	DCA 3022	DCA 3422
Power (per channel) <sup>1</sup>	325	500	700	900	1100
Dimensions (H×W×D) mm	89 x 483 x 356				
Dimensions (H×W×D) in	3.5 x 19 x 14				
Weight Net	9.5 kg/21 lb				
Weight Shipping	12.2 kg/27 lb				

x 356
14
l lb
27 lb

<sup>1</sup> Continuous average, 4 ohm, 20 Hz to 20 kHz, 0.05% THD <sup>2</sup> Continuous average, 4 ohm, 1 kHz, 0.1% THD <sup>3</sup> Continuous average, 4 ohm, 20 Hz to 20 kHz, 0.1% THD

![](_page_24_Picture_11.jpeg)

![](_page_24_Picture_12.jpeg)

![](_page_24_Figure_13.jpeg)

## Cinema Loudspeakers

![](_page_26_Picture_0.jpeg)

### Loudspeakers

### The World's Most Complete Cinema Loudspeaker Line

SC-223X

![](_page_27_Picture_3.jpeg)

QSC offers the industry's most varied and comprehensive line of cinema loudspeakers. While each of our loudspeakers is designed to handle a specific customer need, all are conceived and constructed to the same high standards. Not every room can justify a premium system, but every audience deserves loudspeakers that fully and accurately reproduce the soundtrack crafted by the filmmakers. And that's the only kind of loudspeakers we make.

The Digital Cinema Series (DCS) includes 2-, 3-, and 4-way screen channel loudspeakers as well as surrounds and subwoofers. It's a diverse collection, but every model embodies QSC attention to detail in design and construction. The result is the smartest loudspeaker line in cinema, starting with a host of innovations built into our screen channel lines:

- Easy pan-tilt assembly The pan-tilt mechanism for mid-high components makes quick work of assembling and aligning screen channel systems. The assembly is labeled for repeatability and features a notched tilt adjustment to maintain vertical alignment.
- CineSight<sup>™</sup> speaker aiming An exclusive integrated sight that works even after the screen has been installed, CineSight allows fast, accurate aiming without having to remove the driver.
- Maximum-intelligibility midrange The broad-range mid-frequency driver in 3- and 4-way DCS systems keeps key speech frequencies together for superb dialog intelligibility.
- Convergent mid-high coverage A built-in tilt to the high-frequency horns on 3- and 4-way systems provides more even convergence with the midrange pattern, ensuring optimum seatingarea coverage.
- Speaker-optimized EQ presets Model-specific DSP presets in ou DPM, DCM, and Q-SYS™ processors optimize our loudspeakers for great performance right out of the box.
- Driver protection and equalization The driver protection and equalization network in our screen channel systems improves reliability by protecting HF drivers against damaging DC or low frequency signals.

QSC design innovations aren't limited to our screen channel loudspeakers. We also offer industry-leading subwoofers and surround loudspeakers:

- Extended low-frequency response Most DCS subwoofers use B6 alignment for improved performance in the critical 20 to 40 Hz region. With boxes tuned to a lower frequency and filtering applied by QSC processors, our subs deliver the high-impact lows that today's audiences love.
- Big speaker, huge sound When 18-inch woofers aren't quite enough, QSC has the ultra bottom-end covered with the awe-inspiring 21-inch SB-15121.
- Versatile surround line From the smallest to the largest rooms, QSC has you covered. Choosing the right surround speaker is easy with QSC.
- Hands-free mounting A trapezoidal bracket design holds surround speakers in place during lock-screw insertion, allowing surround mounting by a single installer. Down-angles of both 15° and 23° are supported.

![](_page_28_Picture_5.jpeg)

SR-1030

![](_page_28_Picture_7.jpeg)

SB-7218

29

### Loudspeakers

### **Screen Channel Loudspeakers**

DCS Screen Channel 2-way Available in both passive and bi-amplified models, QSC 2-way DCS screen channel loudspeaker systems prove that limited budgets need not mean limited quality. With solid cabinet construction and smart horn design, our 2-way systems deliver exceptional clarity and coverage coupled with extended low-frequency response. Our six models vary by power handling and number of LF drivers, so you can select the 2-way system that's just right for your small to mid-size room.

![](_page_29_Picture_4.jpeg)

![](_page_30_Picture_0.jpeg)

![](_page_30_Picture_1.jpeg)

2-Way Passive

	SC-1120	SC-1150	SC-222X
Low Component	LF: 12" (305 mm) woofer, 2.5" voice coil	LF: 15 in. (380 mm) woofer	LF-222X
High Component	HF: Compression driver with 1.75" (44 mm) voice coil	HF: Compression driver with 1.75" (44 mm) voice coil	HF-75Cx2
Frequency Range (-6dB)	48 Hz to 19 kHz	43 Hz to 19 kHz	32 Hz - 16 kHz
Nominal Coverage	90° Axisymmetric	90° Axisymmetric	90° horizontal x +15° to -35° vertical
Impedance	8Ω	8Ω	4Ω
Rated Noise Power <sup>1</sup>	300 W RMS	400 W RMS	300 W RMS
Sensitivity <sup>2</sup>	95.5 dB	96 dB	97.5 dB
System Dimensions (HWD) inches	27.2 x 19.5 x 11.7	27.2 x 30 x 11.7	51.71 x 30 x 20.25
System Dimensions (HWD) mm	690 x 497 x 297	690 x 762 x 297	1313.5 x 762 x 514.4

 $^1$  8 hours of 6 dB crest factor IEC 268 noise spectrum / 2 hours of 6 dB crest factor pink noise, AES method.  $^2$  Based on nominal impedance, measured in half space 1 W @ 1 m

### Loudspeakers

### DCS Screen Channel

DCS 3-way screen channel systems are designed for impressive power and fidelity in bi- or tri-amp operation. A short vertical profile provides excellent stereo imaging and dialog localization. The SC-423C-F provides the same acoustical performance as the SC-423C screen channel loudspeaker in a safe and easy to suspend "flying" version, ideal for rigging above the screen or as a point source surround speaker. With eight models, our 3-way systems offers high performance for the full spectrum of auditorium sizes.

![](_page_31_Picture_3.jpeg)

3-Way Bi- or Tri-amp<sup>1,2</sup>

	SC-21501	SC-413C	SC-223X <sup>1</sup>	SC-423C
Low Component	2150-LF	LF-4115	LF-2215	LF-4215
High Component	2150-HF	MH-1075C	MH-1060X	MH-1075C
Frequency Range (-6dB)	38 Hz - 20 kHz	37 Hz - 16 kHz	35 Hz – 16 kHz	32 Hz - 16 kHz
Nominal Coverage	90° horizontal x 40° vertical	90° horizontal x +20° to -30° vertical	90° horizontal X +20° to -30° vertical	90° horizontal x +20° to -30° vertical
Crossover Frequency (Hz) 24 dB/octave	500/2200	250/1700	300	250/1700
System Dimensions (HWD) inches	55.6 x 30 x 14.5	57.43 x 30 x 20.25	74.55 x 30 x 20.25	74.55 x 30 x 20.25
System Dimensions (HWD) mm	1412 x 762 x 368	1458.7 x 762 x 514.4	1893.6 x 762 x 514.4	1893.6 x 762 x 514.4

<sup>1</sup> SC-2150 and SC-223X are passive or bi-amp only; not designed for tri-amp operation.

<sup>2</sup> SC-223 is bi-amp only.

![](_page_32_Picture_0.jpeg)

![](_page_32_Picture_1.jpeg)

![](_page_32_Picture_2.jpeg)

![](_page_32_Picture_3.jpeg)

Suspension hardware not included. Can be oriented vertically or horizontally.

	SC-423C-F	SC-433C	SC-443C
Low Component	LF-4215-F	LF-4315	LF-4215 x 2
High Component	MH-1075C-F	MH-1075C	MH-1075C
Frequency Range (-6dB)	32 Hz - 16 kHz	32 Hz - 16 kHz	32 Hz - 16 kHz
Nominal Coverage	90° horizontal x +20° to -30° vertical	90° horizontal x +20° to -30° vertical	90° horizontal x +20° to -30° vertical
Crossover Frequency (Hz) 24 dB/octave	250/1700	250/1700	250/1700
System Dimensions (HWD) inches	V: 80 x 31.5 x 19 H: 40 x 63 x 19	92 x 30 x 20.25	110.3 x 30 x 20.25
System Dimensions (HWD) mm	V: 2032 x 800 x 483 H: 1016 x 1600 x 483	2337 x 762 x 514.4	2801.7 x 762 x 514.4

![](_page_32_Picture_6.jpeg)

### Loudspeakers

DCS Screen Channel 4-way Systems When only a peak cinema experience will do, QSC 4-way screen channel systems provide the depth, brilliance, and intelligibility that will bring a great soundtrack to life. Designed for tri- or quad-amp operation, our 4-way systems feature the MHV-1090 HF/VHF driver, a unique 2-way design with concentric low-mass diaphragms that are acoustically centered for maximum wavefront coherence. With the VHF driver handling 6 kHz and above, the HF driver is optimized for the 1.7 to 6 kHz range - critical for dialog intelligibility. The SC-424-8F provides the same acoustical performance as the SC-424-8 screen channel loudspeaker in a safe and easy to suspend "flying" version, ideal for rigging above the screen or as a point source surround speaker.

![](_page_33_Picture_3.jpeg)

![](_page_33_Picture_4.jpeg)

#### 4-Way Tri-or Quad-amp

	SC-414	SC-424
Low Component	LF-4115	LF-4215
High Component	MHV-1090	MHV-1090
Frequency Range at -6dB (Hz)	33 Hz - 20 kHz	33 Hz - 20 kHz
Crossover Frequencies (Hz), 24 dB/octave	250, 1700, 6k	250, 1700, 6k
Nominal Coverage	90° H x +20° to -30° V	90° H x +20° to -30° V
System Dimensions (HWD) inches	57.43 x 30 x 20.25	74.55 x 30 x 20.25
System Dimensions (HWD) mm	1458.7 x 762 x 514.4	1893.6 x 762 x 514.4

![](_page_34_Picture_0.jpeg)

![](_page_34_Picture_1.jpeg)

4-Way Tri-or Quad-amp

Suspension hardware not included. Can be oriented vertically or horizontally.

	SC-424-8F'	SC-434	SC-444
Low Component	LF-4215-8F	LF-4315	LF-4215 x 2
High Component	MHV-1090F	MHV-1090	MHV-1090
Frequency Range at -6dB (Hz)	33 Hz - 22 kHz	33 Hz - 20 kHz	33 Hz - 20 kHz
Crossover Frequencies (Hz), 24 dB/octave	250, 1700, 6kHz	250, 1700, 6kHz	250, 1700, 6kHz
Nominal Coverage	90° H x +20° to -30° V	90° H x +20° to -30° V	90° H x +20° to -30° V
System Dimensions (HWD) inches	V: 80 x 31.5 x 19 H: 40 x 63 x 19	92 x 30 x 20.25	110.3 x 30 x 20.25
System Dimensions (HWD) mm	V: 2032 x 800 x 483 H: 1016 x 1600 x 483	2337 x 762 x 514.4	2801.7 x 762 x 514.4

<sup>1</sup> Tri-amp only; not designed for quad-amp operation.

![](_page_34_Picture_6.jpeg)

### Loudspeakers

#### DCS Screen Channel LF Components

Designed not only to deliver, but to thrive on today's pushed-to-the-max soundtracks, QSC low-frequency enclosures bring out the full richness of screen channel sound. Unlike repurposed rock and roll PA cabinets, our LF components are built from the ground up with cinema-specific details that speed installation, like offset terminal cups and pre-installed rubber feet. We also enhance performance with smart design, like using tight driver spacing in our multi-driver boxes to improve coupling and widen coverage angles. LF enclosures are the foundation of full, clear screen channel sound, and nobody builds better screen channel enclosures than QSC.

	LF-4115	2150-LF	LF-2215
System Models	2-way: SC-412C 3-way: SC-413C 4-way: SC-414	3-way: SC-2150	2-way: SC-222X 3-way: SC-223X
Drivers	1	2	2
Driver Information	15" (381 mm) high-efficiency, extended bass woofer, 4" copper voice coil	15" (381 mm) high-efficiency, extended bass woofer, 3" copper voice coil	15" (381 mm) high-efficiency, extended bass woofer, 3" copper voice coil
Impedance	4Ω	4Ω	4Ω
Rated Noise Power <sup>1</sup>	500 W RMS	500 W RMS <sup>3</sup>	600 W RMS
Sensitivity <sup>2</sup>	95.5 dB	100 dB	98 dB
Dimensions (HWD) inches	18.63 x 30 x 20.25	38.3 x 30 x 14.5	35.75 x 30 x 20.25
Dimensions (HWD) mm	473.2 x 762 x 514.4	972 x 762 x 368	908.1 x 762 x 514.4

<sup>1</sup> 2 hours of 6 dB crest factor pink noise, AES method.
 <sup>2</sup> Based on nominal impedance, measured in half space 1 W @ 1 m.
 <sup>3</sup> AES2-1984, 2 hrs, Power = Vrms<sup>2</sup>/Znom

LF enclosures connect with barrier strip screw terminals that accept up to #10 AWG stranded wire xcept for LF-4215-8F, which uses Neutrik Speakon™ NL4.

	LF-4215	LF-4215-F	LF-4215-8F	LF-4315	LF-4215 x 2
System Models	2-way: SC-422C 3-way: SC-423C 4-way: SC-424	3-way: SC-423C-F	4-way: SC-424-8F	3-way: SC-433C 4-way: SC-434	3-way: SC-443C 4-way: SC-444
Drivers	2	2	2	3	4
Driver Information	15" (381 mm) high-efficiency, extended bass woofer, 4" copper voice coil	15" (381 mm) high-efficiency, extended bass woofer, 4" copper voice coil	15" (381 mm) high-efficiency, extended bass woofer, 4" copper voice coil	15" (381 mm) high-efficiency, extended bass woofer, 4" copper voice coil	15" (381 mm) high-efficiency, extended bass woofer, 4" copper voice coil
Impedance	4Ω	4Ω	8Ω	5.5Ω	4Ω
Rated Noise Power <sup>1</sup>	1000 W RMS	1000 W RMS	1000 W RMS	1500 W RMS	2000 W RMS
Sensitivity <sup>2</sup>	99.5 dB	99.5 dB	99.5 dB	101 dB	102.5 dB
Dimensions (HWD) inches	35.75 x 30 x 20.25	40 x 31.5 x 19	40 x 31.5 x 19	53 x 30 x 20.25	72 x 30 x 20.25
	908.1 x 762 x 514.4	1016 x 800.1 x 482.6	1016 x 800.1 x 482.6	1346 x 762 x 514.4	1820 x 762 x 514.4

![](_page_36_Picture_1.jpeg)

### Loudspeakers

DCS Screen Channel Mid-High Components QSC mid-high components are all about intelligibility. The midrange element — a 10-inch, high-output, horn-loaded cone driver — places nearly the entire dialog range on a single element, helping audiences hear every word clearly. For high frequencies, our 3-way systems feature a high-performance titanium diaphragm compression driver. In 4-way systems, our proprietary HF/VHF driver uses coaxial diaphragms to provide superior fidelity. And because all systems include a passive crossover, we give you plenty of choices for bi-/tri-amp or tri-/quad-amp operation.

	2150-HF <sup>1</sup>	MH-1060X	MH-1075C	MH-1075C-F	MHV-1090	MHV-1090F <sup>2</sup>
Loudspeaker Models	3-way (shallow): SC-2150	3-way: SC-223X	3-way: SC-413C, SC-323C, SC-423C , SC-423C-8, SC-433C, SC-443C	3-way (flying): SC-423C-F	4-way: SC-324, SC-414, SC-424, SC- 424-8, SC-434, SC-444	4-way (flying): SC-424-8F
Impedance (Bi-Amp mode)	8Ω	8Ω	8Ω	8Ω (BI-AMP MODE)	8Ω	8Ω (TRI-AMP MODE)
Rated Noise Power <sup>3</sup>	80 W RMS 4	200 W RMS	Bi-amp: 350 W RMS Tri-amp: MF 275 W RMS HF 75 W RMS	Bi-amp: 350 W RMS	Tri-amp: MF 275 W RMS HF/ VHF 230 W RMS Quad-amp: MF 275 W RMS HF 150 W RMS VHF 80 W RMS 2	Tri-amp: MF 275 W RMS HF/ VHF 230 W RMS
Sensitivity <sup>5</sup>	102 dB	103.5 dB	Bi-amp: 105 dB Tri-amp: MF- 105dB HF- 107.5dB	Bi-amp: 105 dB Tri-amp: MF- 105dB HF- 107.5dB	Tri-amp: MF 105 dB, HF/VHF 110 dB, Quad-amp: MF 105 dB, HF 110 dB, VHF 110 dB	Tri-amp: MF 105 dB, HF/VHF 110 dB
Driver Information	6.5" high-efficiency mid range, 1" (25.4 mm) exit, 1.4" (35.5 mm) diaphragm compression driver	10" high efficiency mid- range, 1.4" (36mm) exit, 2.4" voice coil titanium compression driver	10" high-efficiency midrange, 1.5" (38 mm) exit, 3" (75 mm) titanium diaphragm compression driver	10" high-efficiency midrange, 1.5" (38 mm) exit, 3" (75 mm) titanium diaphragm compression driver	MF: 10" high-efficiency, horn-loaded cone HF/VHF: coaxial neodymium compression driver with 3.5" (90 mm) HF diaphragm and 1.75" (44 mm) VHF diaphragm	MF: 10" high-efficiency, horn-loaded cone HF/VHF: coaxial neodymium compression driver with 3.5" (90 mm) HF voice coil and 1.75" (44 mm) VHF voice coil
Dimensions (HWD) inches	17.3 x 16.3 x 6.8	38.8 × 30 × 20.25	38.8 x 30 x 20.25	40 x 31.5 x 19	38.8 x 30 x 20.25	40 x 31.5 x 19
Dimensions (HWD) mm	440 x 414 x 173	985.5 x 762 x 514.4	985.5 x 762 x 514.4	1016 x 800.1 x 482.6	985.5 x 762 x 514.4	1016 x 800.1 x 482.6

Not designed for tri-amp operation.
 Not designed for quad-amp operation.
 2 hours of 6 dB crest factor pink noise, AES method.
 4 Pink noise, 700 Hz - 20 kHz, 6 dB crest factor, 2 hrs, Power = Vrms<sup>2</sup>/Znom
 5 Based on nominal impedance, measured in half space 1 W @ 1 m.

MH and MHV systems connect with barrier strip screw terminals that accept up to #10 stranded wire except the 2150-HF and MHV-1090F, which use Neutrik Speakon™ NL4

### DCS Screen Channel HF Components

	HF-75Cx2	
System Type	2-way passive	
Loudspeaker Models	SC-222X	
Driver Information	1.5" (38 mm) exit, 3" (75 mm) titanium diaphragm compression driver	
Impedance	see SC-322XC	
Rated Noise Power <sup>1</sup>	see SC-222X	
Sensitivity <sup>2</sup>	see SC-222X	
Specifications common to all HF components		
Connectors	Dimensions (HWD) inches	Dimensions (HWD) mm
Barrier strip screw terminals accept up to #10 AWG stranded wire	15.96 x 30 x 20.25	405.4 x 762 x 514.4

 $^1$  Continuous IEC specified test signal, 2 hours unless otherwise stated.  $^2$  Based on nominal impedance, measured in full space. 1 W @ 1 m.

![](_page_38_Picture_3.jpeg)

### Loudspeakers

### **Surround Loudspeakers**

Surround channels draw the audience into the action by creating an immersive multidimensional soundscape. It takes power, fidelity, and coverage to accurately create that experience in an auditorium. QSC surround loudspeakers offer outstanding audio performance and styling to look as good as they sound. With three series to choose from, QSC offers the industry's widest selection of surround loudspeakers.

#### SR Series

Our SR Series surround loudspeakers are made from quality MDF and plywood enclosures that deliver extended bass response over wide coverage areas. And high-output drivers project cleanly to every seat. The uniform power response of these loudspeakers is a result of DMT<sup>™</sup> (Directivity Matched Transition), a design approach that matches LF and HF coverage in the crossover region. Pre-installed speaker-side hardware allows fast single-installer mounting, and brackets support down-angles of either 15° (standard) or 23° (optional).\*

\* Except on model SR-5152

![](_page_39_Picture_6.jpeg)

SR-1290 and SR-1590 surround loudspeakers feature a unique coaxial design, and are ideal for immersive sound applications.

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	SR-800	SR-1000	SR-8101	SR-8200	SR-1020	SR-1030	SR-1290	SR-1590	SR-5152
System Type	2-way	2-way	2-way	2-way	2-way	2-way	Coaxial 2-way	Coaxial 2-way	2-way
Frequency Range <sup>1</sup> at -10 dB (Hz)	60 Hz - 20 kHz	64 Hz - 20 kHz	54 Hz - 20 kHz	52 Hz - 20 kHz	50 Hz - 20 kHz	56 Hz - 20 kHz	50 Hz - 20 kHz	50 Hz - 20 kHz	44 Hz - 18 kHz
Nominal Coverage <sup>2</sup>	135° conical	90° conical	130° H×110o V	90° H x 90° V	90° H x 90° V	90° H x 90° V	90° H x 90° V	90° H x 90° V	75° H x 75° V
Nominal Impedance	8Ω	8Ω	8Ω	8Ω	8Ω	8Ω	4Ω	4Ω	8Ω
Rated Noise Power <sup>3</sup>	125 W	150 W	125 W	200 W	300 W	400 W	400 W	500 W	625 W
Sensitivity <sup>4</sup>	90 dB	94 dB	91 dB	94 dB	94 dB	95.5 dB	96 dB	98 dB	96 dB
Driver Information	8" low-frequency transducer, 1" soft dome tweeter	10" low-frequency transducer, 1" compression driver	8" low-frequency transducer 1" soft dome tweeter	8" long throw low-frequency transducer, 1.4" titanium diaphragm compression driver	10" low-frequency transducer, 1.4" titanium diaphragm compression driver	10" long throw low-frequency transducer, 1.75" titanium diaphragm compression driver	12" low-frequency transducer with coaxially-mounted 1.75" compression driver	1.5" low-frequency transducer with coaxially-mounted 3" voice coil compression driver	15" low-frequency transducer with 3" voice coil compression driver
Dimensions (HWD) inches <sup>5</sup>	14.4 x 11.7 x 9	19.5 x 11.7 x 11.5	19.5 x 12 x 9.6	19.5 x 14.3 x 9.6	19.5 x 15.8 x 10.2	19.5 x 15.8 x 10.2	20.25 x 15.75 x 12.75	23.62 x 19.69 x 13.78	32 x 17.5 x 15.2
Dimensions (HWD) mm <sup>5</sup>	365 x 298 x 228.5	495 x 298 x 291	495 x 305 x 244	495 x 363 x 244	495 x 401 x 259	495 x 401 x 259	515 x 400 x 325	600 x 500 x 350	813 x 445 x 386
Weight <sup>6</sup>	14.3 lb / 6.5 kg	19.8 lb / 9 kg	18.6 lb / 8.4 kg	24.5 lb / 11.1 kg	27.1 lb / 12.3 kg	32 lb / 14.5 kg	35 lb / 16 kg	48 lb / 22 kg	80 lb / 36.2 kg
Brackets <sup>7</sup>	QM-SW, QM-BW YM-300	QM-SW, QM-BW, YM-300	QM-SW, QM-BW YM-300,YM-46	QM-SW, QM-BW, YM-46	QM-SW, QM-BW, YM-400	QM-SW, QM-BW, YM-400	QM-SW, QM-BW, YM-400	QM-SW, QM-BW, YM-500	M10 eyebolts

All frequency ranges specified refer to measured ree field response (4 pi).
 Averaged from 1 kHz to 10 kHz, 6 dB except SR-8101, which is averaged from 1 kHz to 8 kHz.
 2 hours of 6 dB crest factor pink noise, AES method.
 4 Based on nominal impedance, measured in half space 1 W @ 1 m, except SR-1290, SR-1590 measured with 2.0V @ 1 m.

<sup>5</sup> Dimensions do not include pre-installed speaker mounting bracket.
 <sup>6</sup> Single unit net weight, all units are pair packed except SR-1290, SR-1590 and SR-5152 which are single packed.
 <sup>7</sup> QM-BW recommended for rear wall surrounds in steep stadium applications only. Sloped floor and moderate stadium applications should use the QM-SW on side and rear walls. Yoke mounts can be used when adjustable aiming is required.

All specs are subject to change. DCS surrounds connect with barrier strip screw terminals that accept up to  $\#10\;\text{AWG}$  stranded wire.

![](_page_40_Picture_10.jpeg)

![](_page_41_Picture_0.jpeg)

#### Surround Low Frequency Extension Loudspeakers

As new cinema audio formats evolve, there is growing demand for full-range sound in the surround channels. Yet for aesthetic reasons, surround loudspeakers are typically designed to be as visually unobtrusive and as small as possible—and deep bass for a large room usually requires a large loudspeaker. Using bass management processing found in many cinema processors, surround channel low-frequency extension (LFE) loudspeakers allow you to locate the cabinet where it's less visually invasive, like on the ceiling or along a rear wall. This relieves the surround loudspeakers from having to produce the very lowest bass frequencies, which allows them to produce greater overall output. Let a QSC Surround LFE Loudspeaker do the sonic heavy lifting.

![](_page_42_Picture_2.jpeg)

![](_page_42_Picture_3.jpeg)

![](_page_42_Picture_4.jpeg)

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SB-218F

AD-S112sw

AP-212sw

System Type	12" subwoofer	Dual 12" subwoofer	18" subwoofer	Dual 18" subwoofer
Frequency Range at -10 dB (Hz) <sup>1</sup>	30 Hz – 135 Hz	35 Hz – 250 Hz	32 Hz - 230 Hz	32 Hz - 230 Hz
Peak Output <sup>2</sup>	121 dB	127 dB	133 dB	139 dB
Rated Noise Power <sup>3</sup>	300 W	600 W	800 W	1600 W
Impedance	8Ω nominal	8Ω nominal	4Ω nominal	4Ω nominal
Sensitivity <sup>4</sup>	90 dB	93 dB	98 dB	101 dB
Driver Information	12" transducer, 2.5" voice coil, ferrite magnet	Dual 12" transducers, 2.5" voice coil	18" transducer, 4" voice coil	Dual 18" transducers, 4" voice coils
Driver Information Attachment Points	12" transducer, 2.5" voice coil, ferrite magnet Two (2), fits yoke bracket	Dual 12" transducers, 2.5" voice coil n/a	18" transducer, 4" voice coil Eight (8) × M10 threaded mounting points	Dual 18" transducers, 4" voice coils Eight (8) x M10 threaded mounting points
Driver Information Attachment Points Dimensions (HWD) inches	12" transducer, 2.5" voice coil, ferrite magnet Two (2), fits yoke bracket 23.5 x 13.9 x 12.7	Dual 12" transducers, 2.5" voice coil n/a 26 x 15 x 24	18" transducer, 4" voice coil Eight (8) × M10 threaded mounting points 23.2 × 24.2 × 23.6	Dual 18" transducers, 4" voice coils Eight (8) x M10 threaded mounting points 46.5 x 23.2 x 25.25
Driver Information Attachment Points Dimensions (HWD) inches Dimensions (HWD) mm	12" transducer, 2.5" voice coil, ferrite magnet Two (2), fits yoke bracket 23.5 x 13.9 x 12.7 596 x 354 x 323	Dual 12" transducers, 2.5" voice coil n/a 26 x 15 x 24 660 x 381 x 610	18" transducer, 4" voice coil         Eight (8) × M10 threaded         mounting points         23.2 × 24.2 × 23.6         590 × 616 × 615	Dual 18" transducers, 4" voice coils Eight (8) x M10 threaded mounting points 46.5 x 23.2 x 25.25 1180 x 595 x 640

<sup>1</sup> All frequency ranges specified refer to measured free field response (half space, 2 pi).
<sup>2</sup> Calculated SPI at 1m, (half space, 2 pi), speaker operating at rated RMS power with pink noise within specified frequency range.

<sup>3</sup> 2 hours of 6 dB crest factor pink noise, AES method.
<sup>4</sup> 1 wattr /1 meter, half space.
All models accept AD-S11 2sw connect with Barrier strip screw terminals that accept up to #10 AWG stranded wire. AD-S112sw uses a Euroblock connector

![](_page_42_Picture_17.jpeg)

### Loudspeakers

### **Subwoofers**

SB-2180 Subwoofer

![](_page_43_Picture_3.jpeg)

QSC Subwoofers bring earth-shaking realism to the cinema experience, driving home the impact of explosive soundtrack action. Our high quality MDF and plywood subwoofer enclosures feature large, fully radiused and flared ports that smooth airflow at high levels to minimize noise from port turbulence. Symmetrical spacing of ports relative to drivers creates uniform internal pressure to prevent distortion and damage. In dual-driver systems, the box is completely divided into single-woofer chambers for greater strength and rigidity, allowing each driver to function normally in the rare event that the other fails. With both single- and dual-driver models to choose from, our subwoofers excel at clean, punchy lows, delivering excitement you can feel to every seat.

![](_page_44_Picture_0.jpeg)

![](_page_44_Picture_1.jpeg)

![](_page_44_Picture_2.jpeg)

	SB-1180	SB-2180	SB-7118	SB-7218	SB-15121
System Type	18" subwoofer	2 x 18" subwoofer	18" subwoofer	2 x 18" subwoofer	21" subwoofer
Frequency Range at -10 dB (Hz) <sup>1</sup>	29 Hz - 170 Hz	25 Hz - 150 Hz	22 Hz - 100 Hz	22 Hz - 100 Hz	23.8 Hz - 100 Hz
Peak Output <sup>2</sup>	125 dB	136.4 dB	125 dB	137 dB	137 dB
Rated Noise Power <sup>3</sup>	550 W	1100 W	750 W	1500 W	2500 W
Nominal Impedance	8Ω	4Ω	8Ω	4Ω	4Ω
Sensitivity <sup>4</sup>	98 dB	100 dB	98 dB	101 dB	99 dB
Driver Information	18" (457 mm) 550 W high- efficiency subwoofer featuring 4" (100 mm) copper voice coil	Two 18" (457 mm) 500 W high-efficiency subwoofer transducers featuring 4" (100 mm) copper coils	18" (457 mm) 700 W high-efficiency subwoofer transducer featuring 4" (100 mm) copper voice coil	Two 18" (457 mm) 700 W high-efficiency subwoofer transducers featuring 4" (100 mm) copper coils	21" (533 mm) high efficiency subwoofer transducer featuring a vented 6" (153 mm) copper voice coil on a fiberglass former. High excursion/low distortion design, with extremely high power handling and low thermal compression. Neodymium magnet to provide a very high force factor and linear excursion.
Dimensions (HWD) inches	35.9 x 30 x 11.7	33.15 x 42 x 16.5	35.75 x 30 x 20.3	30 x 48 x 24	48.8 × 30 × 24
Dimensions (HWD) mm	912 x 762 x 297	842 x 1080 x 420	908.1 x 762 x 516	762 x 1220 x 610	1238 x 762 x 610
Weight	97 lb / 43.5 kg	187 lb / 89 kg	162 lb / 73.3 kg	210 lb / 95 kg	231 lb / 105 kg

<sup>1</sup> All frequency ranges specified refer to measured free field response (half space, 2 pi).
<sup>2</sup> Calculated SPL at 1m, (half space, 2 pi), speaker operating at rated RMS power with pink noise within specified frequency range.

<sup>3</sup> 2 hours of 6 dB crest factor pink noise, AES method.
<sup>4</sup> 1 watr /1 meter, half space.
All models except AD-S112sw connect with Barrier strip screw terminals that accept up to #10 AWG stranded wire. AD-S112sw uses a Euroblock connector

### Loudspeakers

### **Reference Monitor System**

The Reference Monitor System from QSC combines everything we know about achieving the best possible sound for critical listening situations. A collection of the best audio components is only part of the answer — the real secret is Total System Design. All parts are designed to work together in a system, as a system. It's what makes the QSC Reference Monitor System the new audio reference standard for the most demanding sound professionals and discriminating listeners.

![](_page_45_Picture_3.jpeg)

- Complete system including loudspeakers, signal processing, and power amplification
- For rooms up to 35 feet (11 meters) from screen to last row of seating
- New RSC-112 3-way loudspeaker for low, mid, and high frequencies
- New RSB-212 subwoofer featuring two high-excursion 12-inch drivers
- Q-SYS™ Core for digital signal processing, routing, and control

![](_page_45_Figure_9.jpeg)

	RSC-112	RSB-212
Rated Coverage Angle (-6 dB)	90 degrees Axisymmetric	Omnidirectional
Frequency Range <sup>1</sup> (-10dB)	55 Hz to 20 kHz	30 Hz to 80 Hz
Crossover Frequencies (up to 48 dB/oct using dedicated Q-SYS DSP)	LF: 80 to 120 Hz (selectable) MF: 1.2 kHz / HF: 7 kHz	N/A
Rated Noise Power (Voltage) <sup>2</sup>	LF: 500 W / 63 V MF: 80 W / 25 V HF: 55 W / 20 V	1000 W / 54.8 V
Sensitivity <sup>3</sup>	LF: 94 dB / MF: 107 dB / HF: 105 dB	96 dB
Maximum continuous SPL <sup>4</sup>	LF: 121 / MF: 126 / HF: 122	120.5 dB
Maximum peak SPL <sup>4</sup>	LF: 127 / MF: 132 / HF: 128	126.5 dB
Rated Impedance	LF: 8Ω, MF: 8Ω, HF: 8Ω	3Ω
Maximum Recommended Amplifier Power	LF: 1000 W / MF: 500 W / HF: 300 W	1000 W
Transducers	LF: 12 in. (305 mm) woofer MF/HF: coaxial neodymium compression driver with 3.5" (90mm) MF voice coil and 1.75" (44mm) HF voice coil	2 x 12 in. (305 mm) Kevlar-reinforced paper cone woofers, 3 in. voice coils
Enclosure Details		
Input Connector	Parallel NL8: 1/to sub, 2/LF, 3/MF, 4/HF	Parallel NL8: 1/to sub, 2/LF, 3/MF, 4/HF
Enclosure Material	15-ply Baltic birch plywood	15-ply Baltic birch plywood
Dimensions (HxWxD)	28.5 x 15.1 x 13.5 inches (725 x 383 x 344 mm)	28.5 x 15.1 x 13.5 inches (725 x 383 x 344 mm)
Net Weight	66.4 lb (30.1 kg)	89 lb (40.4 kg)
Optional Accessories	RBK-12 baffle wing kit	RBK-12 baffle wing kit
Subject to change without notice. <sup>1</sup> Free-field, unprocessed, -10 dB from on-axis sensitivity <sup>2</sup> AES2-1984 noise signal for 2 hrs <sup>3</sup> On-Axis, free-field sensitivity, 2.83V, 1 m <sup>4</sup> Calculated from rated noise voltage and sensitivity		

#### In Theatre/Behind Screen

Screen Channels and Subs

![](_page_46_Picture_3.jpeg)

3 x RSB-212

![](_page_46_Picture_5.jpeg)

Surrounds

#### Projection/Rack Room

Control / Processing

![](_page_46_Picture_8.jpeg)

![](_page_46_Picture_9.jpeg)

Min. 4 x CODP4 I/O cards (input cards as needed)

Amplifiers
3 x DCA 1222
3 x DCA 3022
1 x DCA 1824

....

![](_page_46_Picture_13.jpeg)

![](_page_46_Picture_14.jpeg)

### Loudspeakers

### **Outside The Auditorium**

There's nothing like the big screen experience of Cinema. But today, Cinema is so much more than the movies. It's a place to meet, eat, bowl a few frames, attend an event, and connect with people.

And Q-SYS is so much more than a cinema processor. Q-SYS is the technology platform that delivers sound to each theatre and every other space in the theatre complex where high quality sound is important.

Within the Q-SYS Ecosystem, QSC offers an extensive range of loudspeakers for other areas within a cinema complex where high quality sound is important. Ranging from lobbies and restaurants to bowling lanes and arcade gaming, QSC has it covered - and Q-SYS brings it all together.

![](_page_47_Figure_5.jpeg)

![](_page_47_Picture_6.jpeg)

### AcousticDesign<sup>™</sup> Series

AcousticDesign Series loudspeakers offer a wide range of models specifically tailored for the demands of higher fidelity applications. Designed for clarity and presence, all models feature Directivity Matched Transition (DMT<sup>™</sup>), and Intrinsic Correction<sup>™</sup>. To learn more, visit **qsc.com/solutions-products/loudspeakers/installed.** 

![](_page_48_Picture_2.jpeg)

### AcousticCoverage<sup>™</sup> Series

AcousticCoverage Series loudspeakers are designed to offer sound system designers and installers a cost effective solution for applications where voice reinforced coverage is of primary concern, while providing improved musicality not often seen in typical paging or background music products.

![](_page_48_Picture_5.jpeg)

#### Premium Business Solutions

QSC Premium Business Music Solutions offer complete range of audio products for background and foreground music reinforcement. Simplify the quoting and design process by choosing from a single catalog that offers a complete end-to-end audio solution for the entire cinema complex. To learn more, visit **qsc.com/solutions-products/solutions/applications/business-music-paging.** 

![](_page_48_Picture_8.jpeg)

## Accessibility Solutions

![](_page_50_Picture_0.jpeg)

### **Accessibility Solutions**

CCR-100

![](_page_51_Picture_2.jpeg)

#### CCR-100 Closed Caption Display

The CCR-100 seat mount closed caption receiver is a private display attached by gooseneck to the seat arm. It displays the user-defined welcome message until the presentation starts, then displays the closed captions delivered in the digital cinema package (DCP). With multi-language DCPs, the user can select which of up to four languages to view.

### IRH-280i/281i

![](_page_51_Picture_6.jpeg)

#### IRH-280i/281i Headphones

The IRH-280i/281i headphones receive audio from the IRC panels over infrared. The IRH-280i headphones include a channel switch which allows the user to select to hear either the film soundtrack (HI) or descriptive narration (VI-N) through both earcups. The IRH-281i headphones have individual volume controls for each channel, allowing the user to mix HI and VI-N to both ears at the same time.

### IRC-28/28C/28C-N

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#### IRC-28/28C/28C-N Infrared Audio and Caption Emitter

Using infra-red (IR) light, the IRC-28 emitter panel transmits two channels of audio (HI and VI-N), while the IRC-28C and IRC-28C-N transmit both audio and caption content. The IRC-28/28C panels distribute IR energy over a wide angle, enabling IR receivers to pick up signal both from behind (when the panel is mounted at the rear of the room) and from the front, reflected from the screen. The IRC-28C-N panel features a very narrow beam and coverage angle, focusing most of the IR energy to reflect from the screen – especially useful for rooms with obstructions or where fully-reclined seats may not easily receive IR energy coming from the rear of the room.

### **Test & Measurement**

![](_page_52_Picture_1.jpeg)

![](_page_52_Picture_2.jpeg)

#### LSS-200

The LSS-200 light and sound meter is designed for cinema auditorium quality control. It measures C-weighted sound pressure level (SPL) in dB, luminance in cd/m<sup>2</sup> and fL, chromaticity (x and y), correlated color temperature, and audio/video synchronization. The LSS-200 makes all of these measurements available on a web interface, through TCP commands over Ethernet, and by posting data to a remote web server for further analysis and display.

![](_page_52_Picture_5.jpeg)

## 

### Innovations

### **Technology Innovations for Cinema**

Providing optimal performance at the best possible value for your cinema investment is the result of a lot of innovation. At QSC, innovation is a combination of industry best practices and our own design inventions and lab-proven technology breakthroughs.

#### Directivity Matched Transition® (DMT<sup>™</sup>)

All woofers have wide coverage at lower frequencies that narrows as frequency increases. Many speaker designs ignore this acoustic principal and pretend that only the high frequency horn coverage matters. In reality, a smooth, directional transition from woofer to horn is important. QSC calls this technique Directivity Matched Transition (DMT). DMT matches the high-frequency coverage angle to the coverage angle of the woofer at the crossover frequency. The result is smooth, even coverage at all frequencies throughout the listening area.

#### Intrinsic Correction<sup>™</sup>

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 Q-SYS Core processor. Intrinsic Correction optimizes performance and minimizes the amount of on-site room-tuning, because many response anomalies are corrected before the loudspeakers are installed.

![](_page_55_Figure_7.jpeg)

Lab measurements produce a response curve of the loudspeaker.

![](_page_55_Figure_9.jpeg)

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

![](_page_55_Figure_11.jpeg)

![](_page_55_Figure_12.jpeg)

![](_page_55_Picture_13.jpeg)

#### Pre-installed speaker-side brackets

Our SR Series surround loudspeakers are packaged with pre-installed speaker-side hardware\*, which allows fast single-installer mounting. Brackets support down-angles of either 15° (standard) or 23° (optional).

\*Except SR-5152

![](_page_56_Picture_3.jpeg)

#### Digital Cinema Processors

QSC was the first company to combine all the essential functions of cinema audio into a single device: crossovers, booth monitor, routing, EQ, and status monitoring.

![](_page_56_Picture_6.jpeg)

DPM-100H

![](_page_56_Picture_8.jpeg)

DCP 300

#### **Coaxial Drivers**

When two drivers are spaced far apart relative to the wavelength of the crossover frequency, pattern interference occurs in the overlap region, resulting in audible effects like lobing and comb filtering. (Figure 1)

Coaxial drivers have the same origin, so they are aligned in both the horizontal and vertical planes. This eliminates interference and lobing/ comb filtering, producing even coverage throughout the listening area. (Figure 2) QSC's unique coaxial drivers align components in both time and space, eliminating phase cancellation and uneven frequency response.

![](_page_56_Figure_14.jpeg)

![](_page_56_Picture_15.jpeg)

### Innovations

#### Three-Point Pan-Tilt

The pan-tilt mechanism for mid-high components makes quick work of assembling and aligning screen channel systems. The assembly is labeled for repeatability and features a notched tilt adjustment to maintain vertical alignment.

![](_page_57_Picture_3.jpeg)

#### Axisymmetric Horn Design

The most natural sounding horns avoid parallel surfaces and abrupt changes in contour. Axisymmetrical horn design results in a coverage pattern that is the same in both the vertical and horizontal axes, ensuring that all listeners hear the same sound, everywhere.

### DataPort

Using a standard VGA-style connector that simplifies wiring and speeds installation, DataPort provides single-cable integration of our DCA amplifiers with QSC processors. DataPort enables DSP crossovers, speaker-specific EQ, and monitoring and control of amplifier and loudspeaker functions. A single QSC DataPort connection includes two channels of audio, output voltage monitoring (VMON), current monitoring (IMON), clip/protect monitoring, and thermal monitoring.

![](_page_57_Picture_8.jpeg)

![](_page_57_Picture_9.jpeg)

### Designed for Pallet Loading

Cost effective design goes beyond product performance and installation features. QSC takes special care when designing the dimensions of products and shipping cartons to ensure that when they're loaded on pallets, cargo and container space is utilized in the most efficient manner possible. You'll never pay for shipping "air".

![](_page_58_Figure_2.jpeg)

### $\mathsf{CineSight}^{{}^{\scriptscriptstyle{\mathsf{M}}}}$

CineSight<sup>™</sup> is an exclusive QSC-patented integrated sight that works even after the screen has been installed. CineSight allows fast, accurate aiming without having to remove the driver.

![](_page_58_Picture_5.jpeg)

### Notes


![](_page_61_Picture_0.jpeg)

![](_page_61_Picture_1.jpeg)

### qsc.com

![](_page_61_Picture_3.jpeg)

![](_page_61_Picture_4.jpeg)

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