Q-SYS™ ECOSYSTEM

audio | video | control | processing | networking | integration | monitoring

QSC

imagine if ...

> ... I could **standardize** on a single audio, video and control (AV&C) ecosystem.
> Provide consistent support and user experience across our global organization.
>
> ... our AV&C ecosystem could **integrate seamlessly.**
> Native QSC and third-party audio, video and control without cumbersome integration workarounds to tie all components together.
>
> ... I could **remotely monitor & manage** my entire AV&C ecosystem.
> Painless AV monitoring and management lets you gain peace-of-mind for your out-of-sight Cores and manage 1000s of devices across the globe.
>
> ... our AV&C ecosystem was **prepared for tomorrow's challenges.**
> Software-based architecture enables feature updates at the software layer without the need for additional hardware.

Q-SYS™ ECOSYSTEM

AUDIO | VIDEO | CONTROL | PROCESSING | NETWORKING | INTEGRATION | MONITORING

The Q-SYS Ecosystem is the world's only integrated audio, video and control platform that's built on standard off-the-shelf IT hardware/network infrastructure, allowing it to easily integrate with other IT platforms. The flexible software foundation of the Q-SYS Ecosystem scales simply and cost effectively, reducing the need for dedicated hardware and eliminating complex integration workarounds that are common to traditional AV&C solutions.

faster installation, simplified configuration

The Q-SYS Ecosystem lets system designers take full advantage of its software-based architecture, native devices and drag-and-drop control programming to enable a smoother, expedited installation process. This also eliminates additional costs and effort required to tie disparate components together.

greater system stability and uptime

Native Q-SYS Ecosystem components work flawlessly together, which provides tighter integration and reduces possible points of failure. Q-SYS also offers remote monitoring and management of every native Q-SYS device and connected third-party peripheral. This will equip your AV/IT staff with the tools to diagnose system issues while ultimately increasing AV system uptime.

maximized performance, born under one roof

QSC engineers design components across the signal chain that draw the very best performance from each other, creating a synergy that makes a QSC system far more than the sum of its parts. Said more plainly, when a Q-SYS Core processor and touch screen controller are paired with a Q-SYS network amplifier and QSC loudspeaker, the system can deliver more value with less effort and a uniquely optimized user experience.
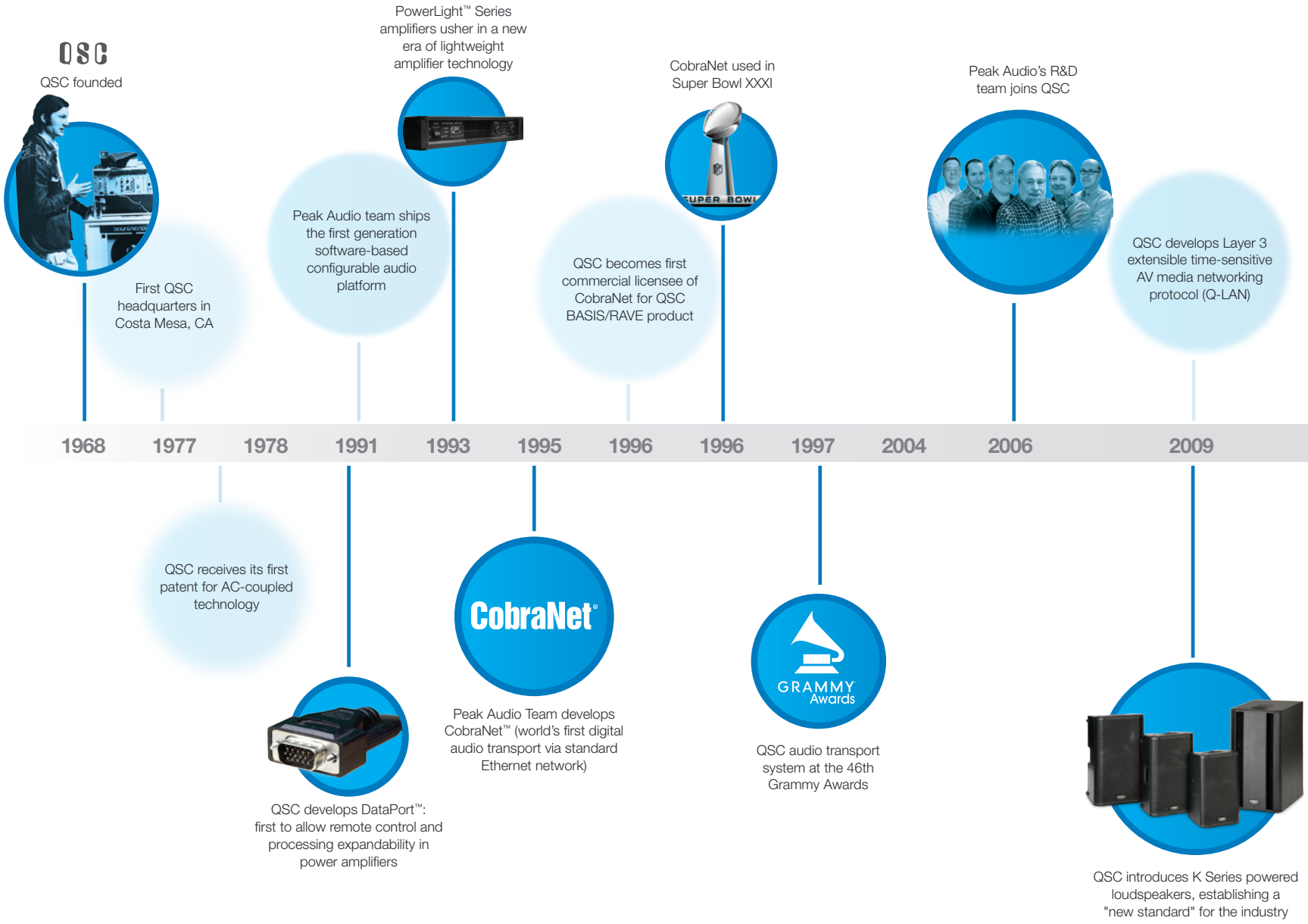
future ready, software-based architecture

Its flexible foundation provides a cost-effective opportunity to scale your system. Whether you start with a small installation or apply it to a large enterprise, the philosophy remains the same – the software-based architecture allows Q-SYS to accommodate the growth of your system while supporting your desired business outcomes as they change.

QSC history in systems solutions

QSC founded

First QSC headquarters in Costa Mesa, CA

PowerLight™ Series amplifiers usher in a new era of lightweight amplifier technology

Peak Audio team ships the first generation software-based configurable audio platform

CobraNet used in Super Bowl XXXI

QSC becomes first commercial licensee of CobraNet for QSC BASIS/RAVE product

Peak Audio's R&D team joins QSC

QSC develops Layer 3 extensible time-sensitive AV media networking protocol (Q-LAN)

| 1968 | 1977 | 1978 | 1991 | 1993 | 1995 | 1996 | 1996 | 1997 | 2004 | 2006 | 2009 |

QSC receives its first patent for AC-coupled technology

QSC develops DataPort™: first to allow remote control and processing expandability in power amplifiers

Peak Audio Team develops CobraNet™ (world's first digital audio transport via standard Ethernet network)

QSC audio transport system at the 46th Grammy Awards

QSC introduces K Series powered loudspeakers, establishing a "new standard" for the industry

Q-SYS™

2009 — Initial launch, focused on the largest and most complex projects

2011 — QSC adds Q-SYS Integrated Core processors for midsized channel projects

2012 — Q-SYS becomes the standard in cruise ships, airports, stadiums and theme parks

2013 — QSC introduces 2nd generation AcousticDesign™ Series

2014 — QSC adds software-based echo cancellation & software-based VoIP connectivity for meeting room applications

2014 — QSC release first native network amplifiers for Q-SYS

2015 — QSC launches Q-SYS Web Conference Integration solution

2015 — QSC introduces Q-SYS Core 110f processor for smaller, single room applications

2016 — QSC deploys world's first AV&C RTOS on common off-the-shelf server

2017 — QSC focuses on software-based control within the Q-SYS Ecosystem

2018 — QSC releases Premium Business Music Solutions

Q-SYS —REFLECT— ENTERPRISE MANAGER

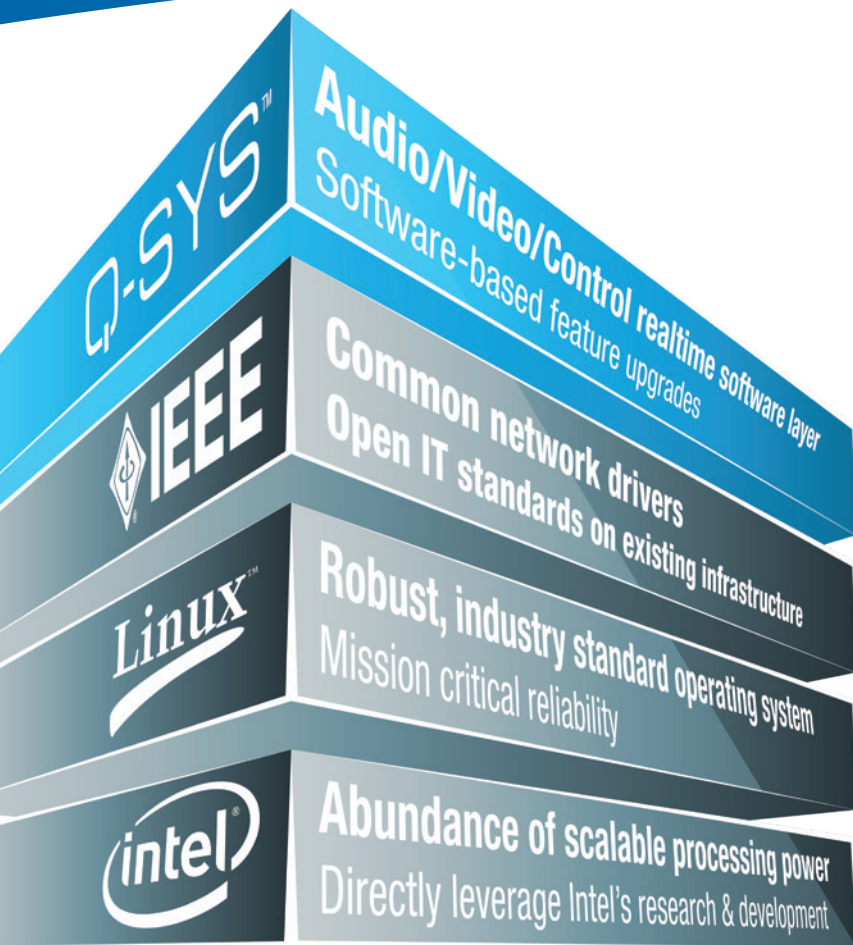**2018** — QSC adds remote monitoring and management to the Q-SYS Ecosystem

2019 — QSC adds network video distribution to Q-SYS Ecosystem

2020 — QSC introduces Software-based Dante® and AES67 integration

7

processing

Q-SYS has no equal from a processing and architecture perspective. The capabilities of Q-SYS software-based processing and control transcend the limitations found in traditional, hardware-based, single-purpose AV products.

Intel processing

By standardizing on Intel processing, QSC takes full advantage of Intel's current and future chipset roadmap, while giving Q-SYS enough processing headroom to handle features at the software level, rather than relying on dedicated hardware.

Realtime AV&C operating system

Q-SYS Realtime operating system (RTOS) allows QSC to place Q-SYS on purpose-built hardware from QSC or on mainstream commercial IT servers.

Linux backbone and IEEE compliant drivers

Standard Layer 3 networking allows for converged AV data on an existing IT infrastructure, as well as non-proprietary switch hardware. Modern programming architecture enables rapid software development and deployment, while allowing for simpler communication with third-party devices and other IT platforms.

software-based features include ...

- acoustic echo cancellation
- robust scripting engine
- remote monitoring
- scheduling

- VoIP interface
- multi-track playback
- touch screen processing
- wide-area paging

- audio and video bridging
- third-party device control

... and many more

Q-SYS Core processors

The Q-SYS Core processor is the heart of the system. Three Core processing tiers provide options for any installation type, based on I/O requirements and scale. However, regardless of Q-SYS Core model, the breadth of software features and design environment remains constant throughout the processor line.
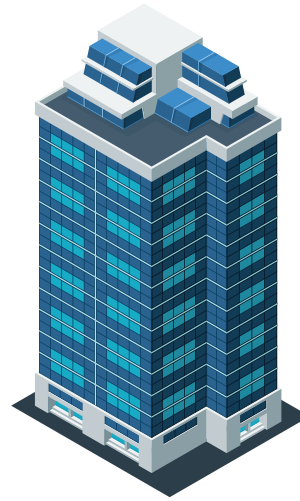
Enterprise Cores
entire building installations

Integrated Cores
multi-room or divisible spaces

Unified Cores
small/single rooms

Core 110f Unified	128 x 128 networked audio I/O | 24x local I/O | 16 AEC processors
Core 510i Integrated	256 x 256 networked audio I/O | 128 x 128 local I/O | 64 AEC processors
Core 5200 Enterprise	512 x 512 networked audio I/O | 160 AEC processors

processing architecture for any installation type

distributed
separated systems with siloed processing and endpoints

centralized
shared processing with distributed endpoints

hybrid
separate systems with centralized oversight

networking

you have options.

Q-SYS was built on standard IT networking protocols, which means your system can be deployed on common off-the-shelf networking hardware.

▶ **Configure any modern switch**

If you have experience with custom network configurations, QSC provides all of the necessary resources to manually configure your network for the Q-SYS Ecosystem.

▶ **Use existing network infrastructure**

If you have a preferred network switch or if you need assistance configuring existing IT network infrastructure, QSC has partnered with University of New Hampshire InterOperability Laboratory (UNH-IOL) to provide independent switch qualification services for peace of mind with your Q-SYS system.

iol
University of New Hampshire
InterOperability
Laboratory

Plug-and-play networking solution

Q-SYS NS Series network switches

NS Series network switches offer a turnkey solution for installers deploying Q-SYS on local AV networks. QSC has partnered with Dell to provide enterprise-grade network switches that are preconfigured specifically to meet the performance requirements of the Q-SYS Ecosystem.

They support Q-LAN, AES67 and Dante™ audio streams, in addition to Q-LAN video streaming and distribution simultaneously within the same VLAN, without the need for manual configuration of switches or endpoint devices.

audio

a legacy
of music experiences

Since 1968, QSC has delivered on a promise to provide unparalleled audio experiences for customers all over the world. From the meeting space to the world's largest theme parks, from the cinema to your favorite restaurants, and from the concert venue to the sports stadium, QSC has been enabling these experiences for decades.

QSC audio solutions offer simple integration into the Q-SYS Ecosystem, while QSC-developed technologies, such as Intrinsic Correction™ and Directivity Matched Transition™ (DMT) enable those solutions to work together in perfect harmony.

agnostic I/O

When it comes to audio, QSC can handle it. The Q-SYS Ecosystem supports analog and digital audio standards along with edge networks and is prepared for new digital audio standards that may arise in the future.

analog / digital

Q-SYS networked I/O peripherals allow for seamless integration of analog or digital audio peripherals. Additionally, Q-SYS offers the ability to stream audio between Q-SYS Core processors or between a Core and other devices over wide area networks (WAN).
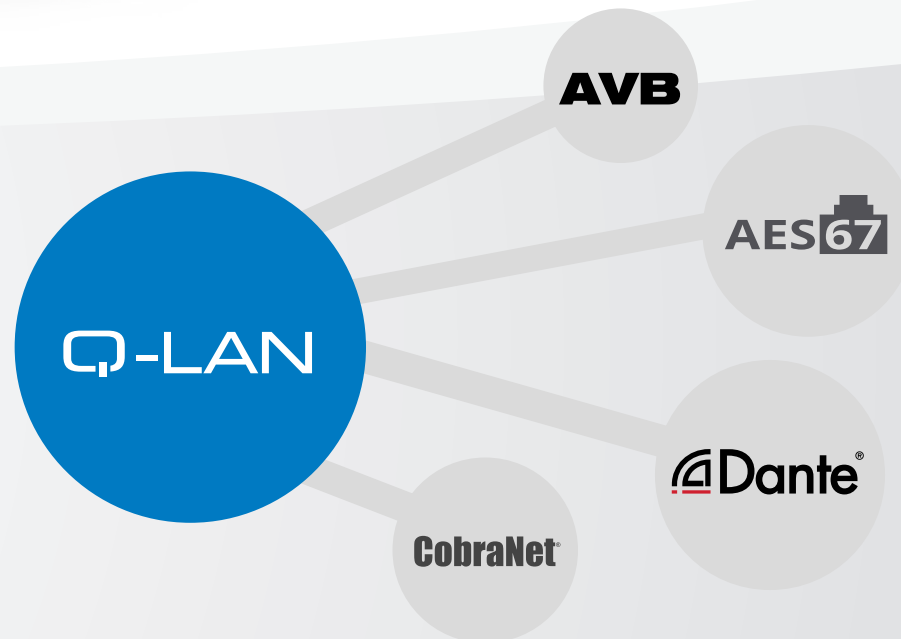

native

Q-LAN is the native protocol suite for audio and video distribution as well as device discovery, synchronization, control and management.

edge network

Q-SYS is truly an open platform, offering software-based integration for open standards like AES67 amd Dante® as well as hardware-based support for CobraNet™ and AVB.

amplifiers

our 50-year heritage with power amplifiers delivers unmatched audio quality and reliability. The complete portfolio includes 70+ models for installed AV, live sound and cinema applications.

"
what's past is **prologue.**

William Shakespeare

featured amplifiers

CX-Q Series network amplifiers

Four- and eight-channel network amplifiers designed specifically for the Q-SYS Ecosystem. Robust, high-efficiency power amplifiers with native Q-SYS transport, control and monitoring capabilities.

- **Q-SYS Ecosystem integration:** Simple drag-and-drop design integration, enabling networked audio routing, advanced processing and real-time control and monitoring.

- **Legacy of power redefined:** Fifth-generation, high-efficiency, Class-D hybrid powertrain design, built upon the dependable PL380 PowerLight™ amplifier platform.

- **Flexible & efficient channel power distribution:** CX-Q Series network amplifiers feature FlexAmp™ and FAST (Flexible Amplifier Summing Technology™), which combine to provide extreme power flexibility in output deployment.

MP-A Series music and paging amplifiers

- FlexAmp™ allows for pairs of channels to be combined to deliver up to 400 W of output power in any ratio per channel.

- Two-, four- and eight-channel models, able to drive 4 Ω, 8 Ω, 70 V or 100 V loads on each channel.

SPA Series small power amplifiers

- Half-RU power amplifiers for virtually any meeting space or single BGM zone.

- Two- and four-channel models, provide up to 200 W per channel into 4 Ω or 8 Ω.

- EnergyStar® qualified, class-D amplifiers conserve energy and require no active cooling.

For the full amplifier portfolio listing, visit qsc.com

loudspeakers

engineered for a uniquely optimized performance within the Q-SYS Ecosystem, QSC loudspeakers elevate the listening experience to a higher level.

we've got you **covered.**

featured loudspeakers

AcousticDesign™ Series

Specifically tailored for the demands of high-fidelity applications, AD Series loudspeakers deliver pristine audio reproduction for a wide range of installation applications.

- **Consistent tonal characteristics** across the entire AcousticDesign™ Series family, including surface-mount, ceiling-mount and pendant-mount enclosure types.

- **Directivity Matched Transition™ (DMT)** waveguide ensures smooth, uniform frequency response over the coverage area.

- **Intrinsic Correction™** optimizes the auditory experience and loudspeaker protection when pairing QSC loudspeakers with QSC amplifiers.

AcousticCoverage™ Series

Cost-effective solution for applications where voice reinforced coverage is of primary concern, while providing a high level of musicality not often seen in typical paging or BGM class products.

K.2 Series™

The world's best-selling active loudspeaker series, featuring advanced on-board DSP and installed mounting options.

For the full loudspeaker portfolio listing, visit qsc.com

video

seamless meeting experience

native control and management of these video peripherals simplifies the user experience without the need for additional control and management hardware.

Q-SYS network video endpoints

NV Series provides high-quality (resolutions up to 4K60 4:4:4), low-latency and network-efficient video distribution across a standard gigabit infrastructure.

Unique flexibility in a single device
High-density I/O enables emerging design scenarios, such as simultaneous streaming for dual-monitor rooms.

Network optimized compression scheme
Dynamically adjusts network bandwidth consumption based on video content, without compromising quality.

Q-SYS web conference integration
Plug-and-play access to Q-SYS audio and camera feeds for web conferencing applications.

Q-SYS PTZ-IP conference cameras

Native Q-SYS cameras deliver professional quality conference video feeds for small- and medium-sized rooms. These cameras quickly integrate into the Q-SYS system via standard PoE network cable - no USB extenders, HDMI switches or power cables required, and no programming to integrate them.

universal compatibility

 Skype for Business

 GoToMeeting

 Google Cloud

 Microsoft Teams

 zoom

 Cisco **webex**

 BlueJeans

control

software-based control

Q-SYS leverages its powerful processing capabilities to offer a full-featured, scalable control environment without dedicated control processors. Single-platform, integrated audio, video and control eliminates unnecessary programming and costly points of failure.

Q-SYS Scripting Engine*

Modern, agile and widely-used programming technologies to help you quickly integrate third-party devices into your Q-SYS system.

* Optional software license required

Visual coding tool offers simple, drag-and-drop method for building control scripts. No programming knowledge required.

Growing library of third-party control plugins enable quick integration of common devices.

Full featured scripting component lets programmers program with Lua, a modern, accessible scripting language.

Q-SYS UCI Editor*

Quickly deploy custom user control interfaces for your customers. Simple, drag-and-drop GUI design tools let you create a fully customized, functional and aesthetic user experience without the need for programming experience.

* Optional software license required

Q-SYS TSC Series
native touch screens

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

integration

Attero Tech is now a part of QSC

The rapidly growing portfolio of the Q-SYS Ecosystem is now combined with Attero Tech's highly innovative portfolio of networked AV endpoints and I/O peripherals. Seamless integration of Dante, AES67 and Bluetooth into the Q-SYS Ecosystem with full control via QSC-developed Q-SYS control plugins.

ATTEROTECH®
by QSC®

AES67   Dante®   Bluetooth®

key technology collaborations

ZOOM

Zoom recommends Q-SYS for integrating with their Zoom room hardware in medium to large conference rooms. This is further expedited with the Zoom Room control plugin for Q-SYS.

Google Cloud

Q-SYS Core 110f processor is certified for Google Hangouts Meet Hardware Peripheral Qualification Program.

Dante®

QSC collaborated with Audinate to develop software-based Dante integration for Q-SYS.

open framework
for third-party plugin development

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.

SHURE®   SURGEX®   PJLink™

NEC   Fusion Research   Roku   Global Caché

universal compatibility

Skype for Business   Cisco webex   ZOOM   Google Cloud

BlueJeans   Microsoft Teams   GoToMeeting

monitoring

done simply. done right.

remotely monitor and manage your AV&C systems.

Powerful, simple-to-use monitoring and management platform with secure web technologies to assist in the fundamental support needs of IT/AV system administrators.

Simply register each Q-SYS Core with Q-SYS Reflect Enterprise Manager, and Cores will automatically report data on all connected Q-SYS native and third-party peripherals.
No programming required.

Q-SYS
—REFLECT—
ENTERPRISE
MANAGER

system 1

system 2

system 3
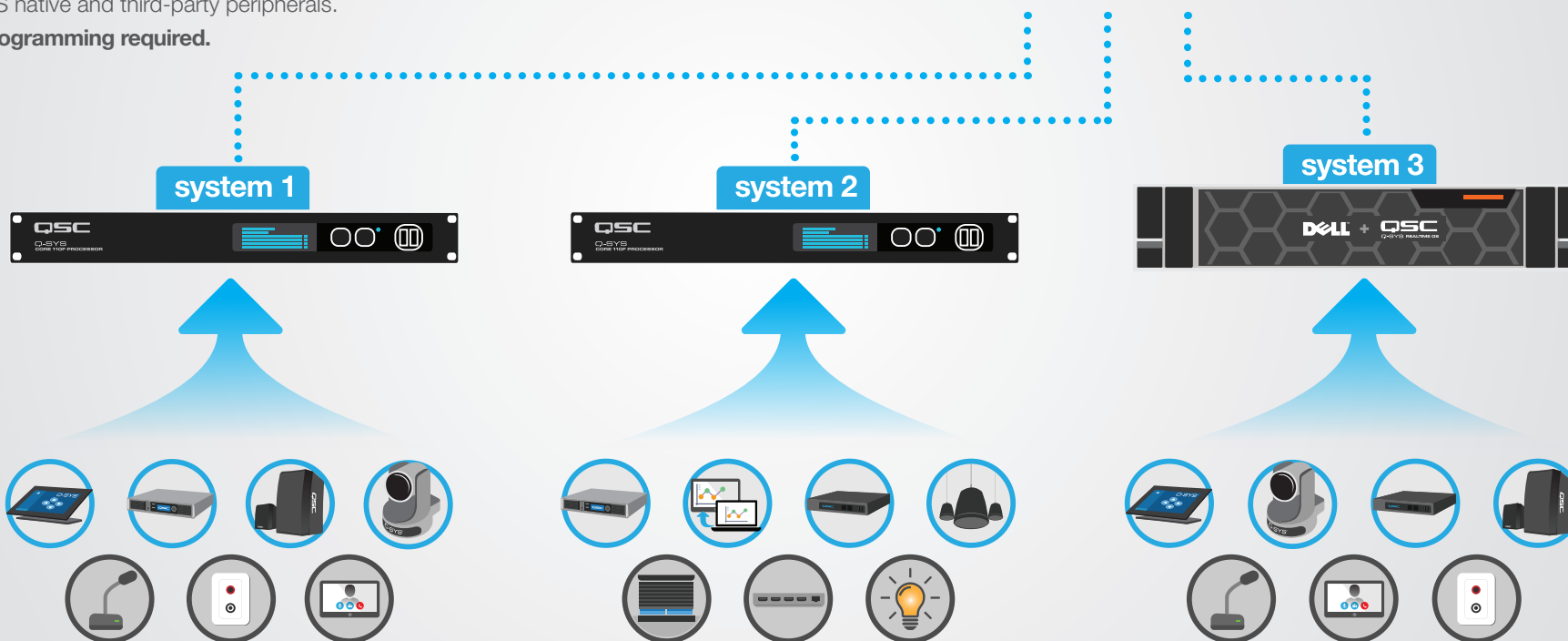
native Q-SYS devices   third-party peripherals

Q-SYS REFLECT RESTful API

splunk> solarwinds others

view, monitor and manage, your way

Manage and monitor your AV devices directly from Q-SYS Reflect Enterprise Manager or use the 3rd party API to present real-time Status and Eventlog data to any software application for a single-pane-of-glass view of your entire AV / IT architecture.

one place (free)
for all your Cores

peace-of-mind
for out-of-sight Q-SYS Cores
verify your Cores are up and running with the correct design and check/change network settings remotely

feature license
centralized activation & management
add more Dante channels to your system or upgrade Q-SYS Control capabilities in seconds!

painless
remote AV monitoring **&** management

monitor 1000s of devices
across the globe
focus your daily support team activities on the right tasks and access **real-time status** and **event logs** from all AV devices

centralize management
for dynamic, global AV environments
manage security profiles on remote hardware, change audio playlists and update visual signage for meeting room displays

integrate AV assets
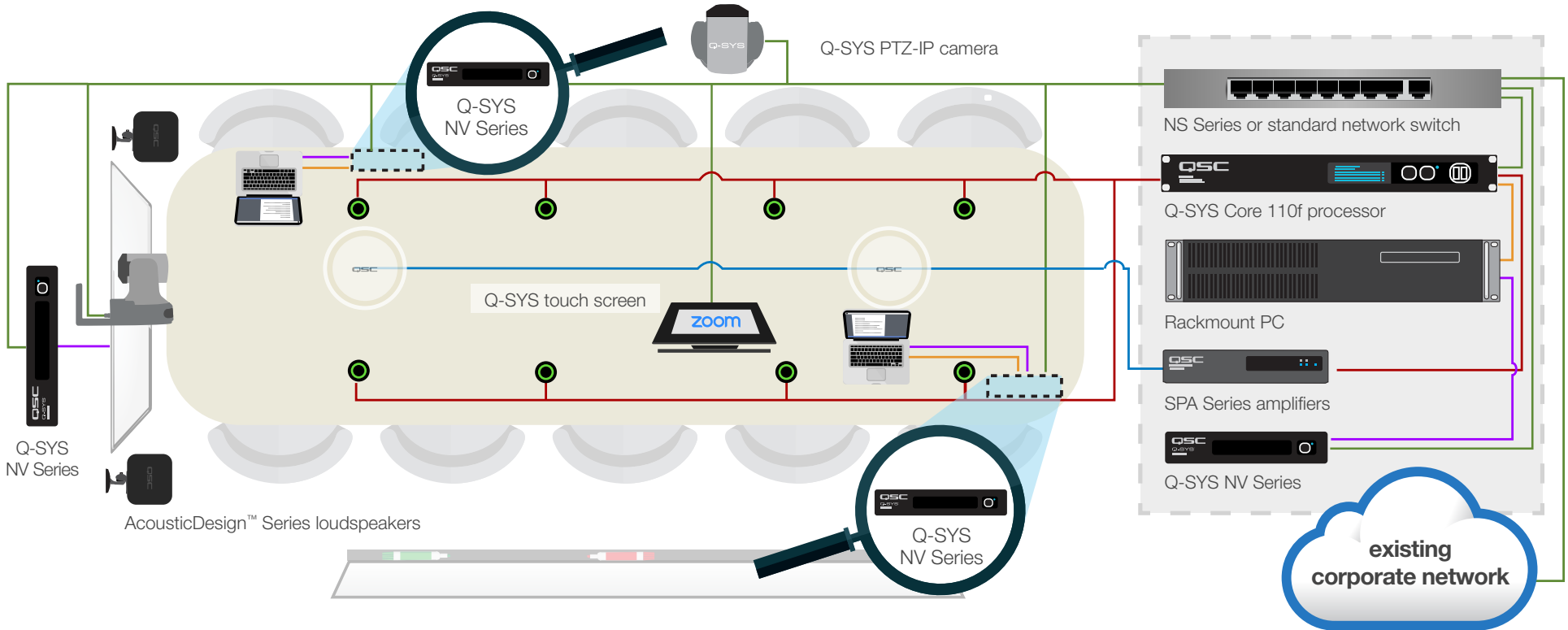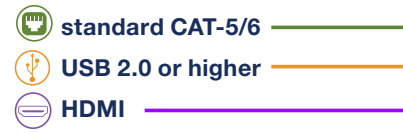### with IT systems
stop jumping between different software apps and get a **single pane of glass**

Q-SYS connected meeting room
applications

- Platform-agnostic web conferencing integration via Q-SYS NV Series
- Fully integrated network video streaming without the need for additional control processors or complicated programming
- Q-SYS touch screen with Zoom Room control plugin to provide Zoom Room experience plus in-room device control without additional hardware
- Multiple PTZ conferencing cameras without the need for a dedicated video switcher
- Enterprise connectivity for fault monitoring and usage analytics
- Standards-based networking for IT-friendly deployment

standard CAT-5/6

USB 2.0 or higher

HDMI

signal line

output load

Q-SYS PTZ-IP camera

Q-SYS
NV Series

Q-SYS touch screen

zoom

Q-SYS
NV Series

Q-SYS
NV Series

AcousticDesign™ Series loudspeakers

Q-SYS
NV Series

NS Series or standard network switch

Q-SYS Core 110f processor

Rackmount PC

SPA Series amplifiers

Q-SYS NV Series

existing
corporate network

small meeting room

wide area audio & paging distribution
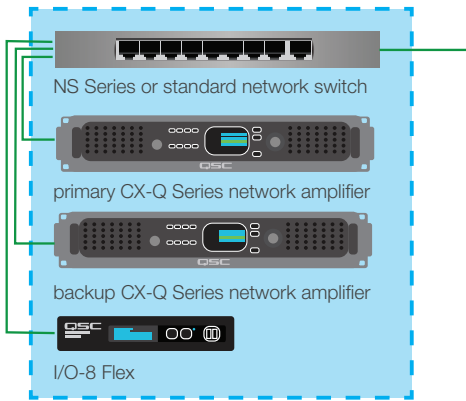applications

- Robust multi-zone paging platform including live and delayed paging, page routing, event scheduling and store-and-forward.

- Q-SYS accommodates centralized processing as well as full redundancy, including backup failover options for processing, peripheral, amplification and networking.

- Enlist a full portfolio of dedicated Q-SYS paging peripherals or utilize virtual paging station options.
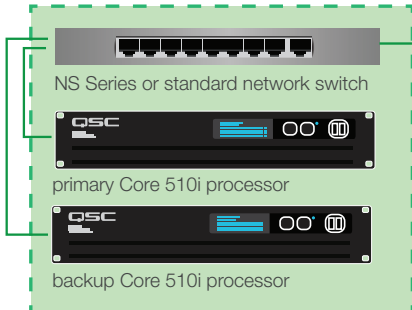
zone rack

NS Series or standard network switch

primary CX-Q Series network amplifier

backup CX-Q Series network amplifier

I/O-8 Flex

centralized processing rack

NS Series or standard network switch

primary Core 510i processor

backup Core 510i processor
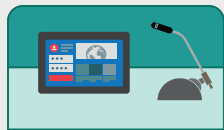
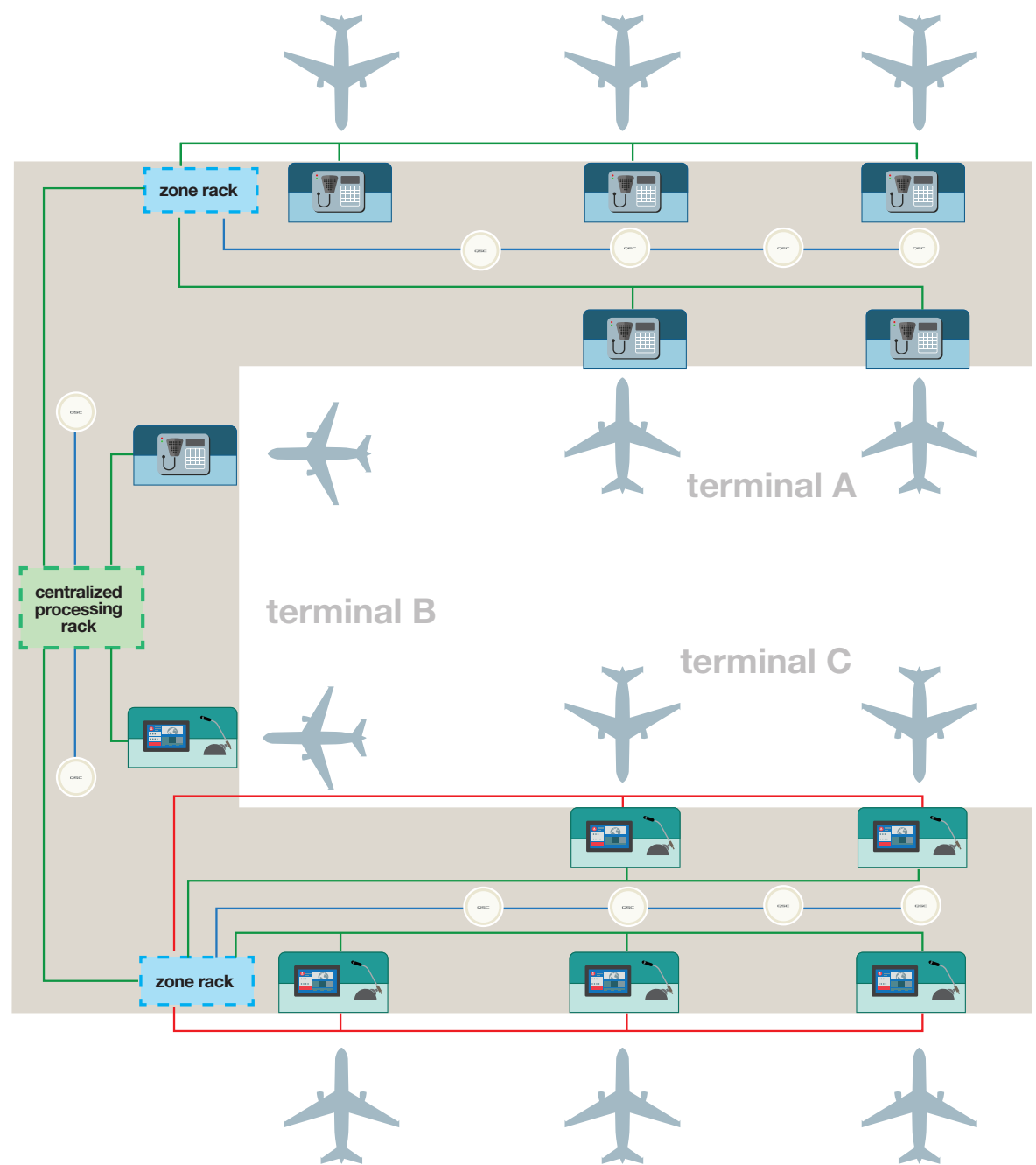### Q-SYS page station options
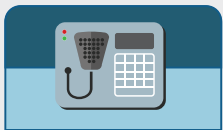
hardware-based paging solution
with Q-SYS network page station
with built-in microphone and keypad

software-based paging solution
with virtual page station via
Q-SYS touch screen and
separate microphone

airports

zone rack

terminal A

terminal B

terminal C

centralized
processing
rack

zone rack

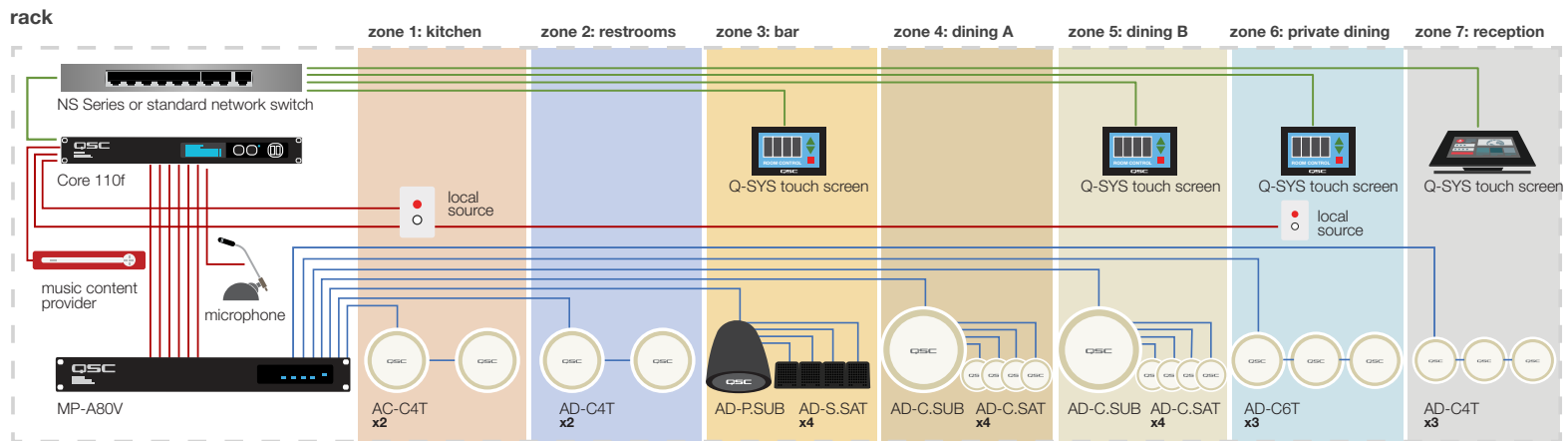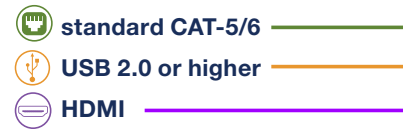# hospitality & retail
applications

- Multi-zone background music and paging solution

- Q-SYS touch screen enables full zone audio control via custom user control interface (UCI)

- Kitchen and private dining area allow for local audio source (phone, MP3 player, etc.)

- AcousticDesign™ Series loudspeakers allow for mix-and-match of enclosure types without any noticeable audio transition between zones

standard CAT-5/6   **signal line**

USB 2.0 or higher   **output load**

HDMI

bar

Q-SYS touch screen

AC-C4T

AC-C4T

kitchen

AD-C4T

restrooms

AD-C4T

AD-S.SAT x4

AD-P.SUB

dining A

dining B

AD-C.SAT x4

AD-C.SUB

AD-C.SAT x4

AD-C.SUB

AD-C4T x3

reception

Q-SYS touch screen

Q-SYS touch screen

AD-C6T x3

Q-SYS touch screen   **private dining**

rack

zone 1: kitchen   zone 2: restrooms   zone 3: bar   zone 4: dining A   zone 5: dining B   zone 6: private dining   zone 7: reception

NS Series or standard network switch

Core 110f

local source

music content provider

microphone

local source

Q-SYS touch screen   Q-SYS touch screen   Q-SYS touch screen   Q-SYS touch screen

MP-A80V

AC-C4T **x2**

AD-C4T **x2**

AD-P.SUB   AD-S.SAT **x4**

AD-C.SUB   AD-C.SAT **x4**

AD-C.SUB   AD-C.SAT **x4**
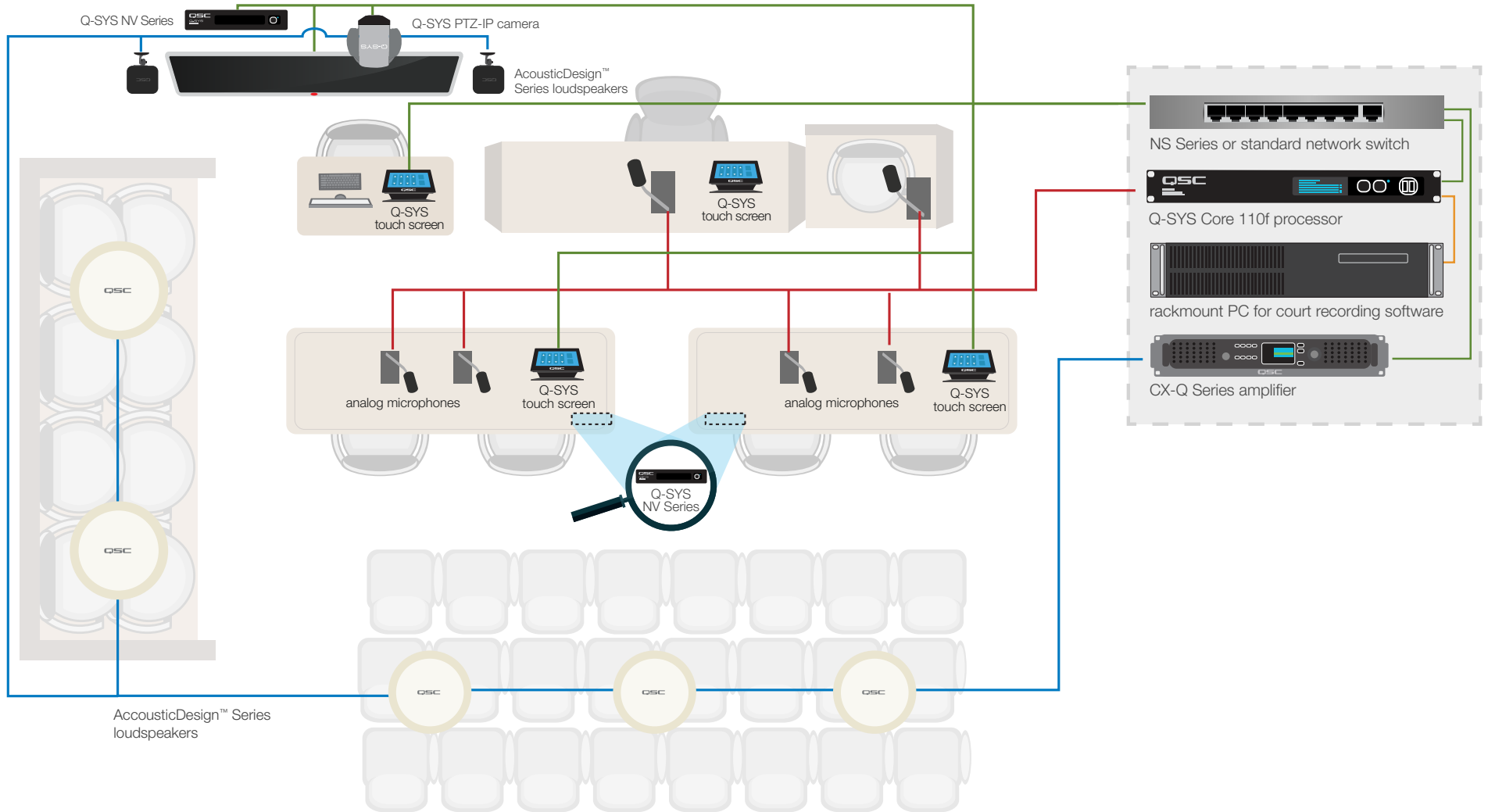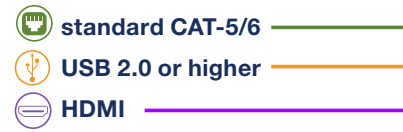
AD-C6T **x3**

AD-C4T **x3**

fine dining restaurant

31

courtroom & government
applications

- Fully integrated network video distribution and PTZ conference cameras without the need for additional control processors or complicated programming

- Custom user control interfaces (UCI) deployed on Q-SYS touch screen controllers

- Mix-minus processing for larger chamber scenarios

- USB audio output (via Core or Q-SYS AV endpoint) for court recording software

standard CAT-5/6

USB 2.0 or higher

HDMI

signal line

output load

Q-SYS NV Series

Q-SYS PTZ-IP camera

AcousticDesign™
Series loudspeakers

Q-SYS
touch screen

Q-SYS
touch screen

NS Series or standard network switch

Q-SYS Core 110f processor

rackmount PC for court recording software

CX-Q Series amplifier

analog microphones

Q-SYS
touch screen

analog microphones

Q-SYS
touch screen

Q-SYS
NV Series
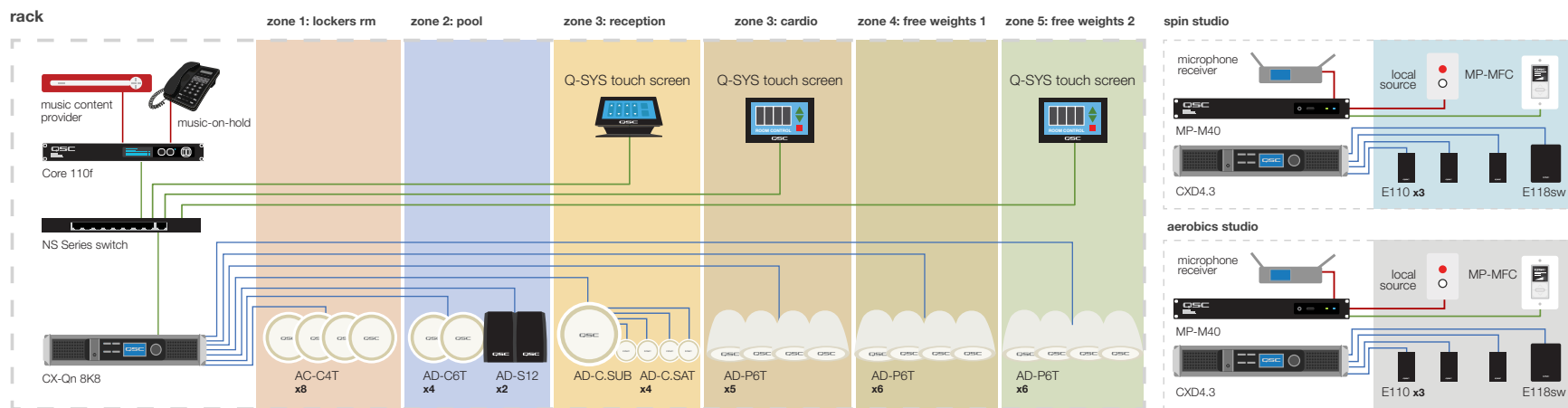
AccousticDesign™ Series
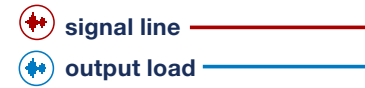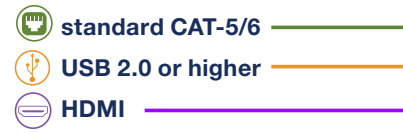loudspeakers

courtroom

Q-SYS + QSC Premium Business Music Solutions
applications

Depending on the needs of your installation, you may want to combine elements of the QSC Premium Business Music Solutions with the Q-SYS Ecosystem.

- Customized user control interfaces & touch screen controllers
- Third-party device control (video switching for displays, environmental controls, room automation)
- Cloud-based remote monitoring and management of multiple Q-SYS installations via Q-SYS Reflect™ Enterprise Manager
- Support for standard AV network distribution, networked amplifiers, higher channel/zone counts and advanced audio processing and distribution

standard CAT-5/6 signal line
USB 2.0 or higher output load
HDMI

reception

AC-C6T x4

rooms

Q-SYS touch screen

AD-C.SUB
AD-C.SAT x4

AD-P6T x5

locker

Q-SYS touch screen

AC-C6T x4

cardio

pool

AD-S12 x2   AD-C6T x4 (for paging)

AD-P6T x6   **free weights 1**

AD-P6T x6   **free weights 2**

Q-SYS touch screen

spin studio

MP-MFC   E110 x3   E118sw

aerobics studio

MP-MFC   E110 x3   E118sw

rack

zone 1: lockers rm | zone 2: pool | zone 3: reception | zone 3: cardio | zone 4: free weights 1 | zone 5: free weights 2 | spin studio

music content provider   music-on-hold

Core 110f

NS Series switch

CX-Qn 8K8

Q-SYS touch screen (reception, cardio, free weights 2)

AC-C4T x8 | AD-C6T x4 | AD-S12 x2 | AD-C.SUB AD-C.SAT x4 | AD-P6T x5 | AD-P6T x6 | AD-P6T x6

microphone receiver   local source   MP-MFC
MP-M40
CXD4.3   E110 x3   E118sw

aerobics studio
microphone receiver   local source   MP-MFC
MP-M40
CXD4.3   E110 x3   E118sw

fitness studio

35

go **native.**

www.qsc.com/qsys

QSC®