



Q-SYS Core 5200 Processor
Enterprise Q-SYS Processor

Features

- 512x512 Networked Audio Channels
- 160 AEC Processors
- Up to 64 VoIP Lines
- Leveraging Industry Standard Dell Hardware
- Dual Redundant, Hot Swappable PSU's
- iDRAC Monitoring for integration with IT monitoring systems
- Onboard SSD Media Drive
- 3 Year Warranty



The Q-SYS Core 5200 Enterprise processor combines Q-SYS, the professional AV industry's first Intel® based real-time operating system purpose built for reconfigurable audio, video and control (AV&C), with the robustness of Dell™ hardware and their most prolific and world renowned server platform. The Q-SYS Core 5200 is the first professional AV&C product available that illustrates the transition away from proprietary, single-use hardware devices to modern, software-based appliances leveraging the power of commercial off-the-shelf server hardware. As an extension to the existing Q-SYS Platform, the Core 5200 provides a modern, IT centric solution for companies or projects wishing to take advantage of centralized signal processing and control while leveraging modern IT network infrastructure to distribute those services project-wide.

The Core 5200 processor provides incredible power density for a broad range of applications including meeting rooms, multi-use and divisible spaces, education campuses, themed attractions, sports arenas, transportation hubs and more. With 160 fully routable, software defined AEC processors, up to 64 dedicated VoIP Lines and virtually unlimited control processing resources, the Core 5200 is well suited to corporate enterprises wishing to consolidate audio, video and control processing in to a single appliance, housed in the data-center, leveraging the sitewide IT network

infrastructure to service multiple meeting spaces of any size across the campus.

The Core 5200 processor comes standard with dual-redundant, hot-swappable AC mains power supplies as standard making it the most suitable solution for any mission-critical application. For those customers wishing to leverage the built-in media playback and storage capabilities of the platform, the Core 5200 ships with a high density solid state drive processor for media file storage. For IT departments wishing to monitor all network assets in real-time, the Q-SYS Platform offers native SNMP capability while the Core 5200 also offers integrated Dell Remote Access Controller (iDRAC) for integration with IT asset monitoring solutions built on Dell technology.

With four, dedicated Gigabit network interface ports, the Core 5200 processor offers 512x512 channels of low-latency, uncompressed networked audio channels over redundant network ports for audio streaming with other Q-SYS devices using Q-LAN, or AES67 for networked audio interoperability with 3rd party media streaming devices. Two auxiliary network interface ports provide convenient segregation of other network services such as control, VoIP, monitoring and WAN media streaming.

Benefits

- **Consolidated AV&C Solution:** Q-SYS Core processors are the only real-time audio, video and control processors offering reconfigurable audio DSP, full-featured control processing and network based video switching in a single product.
- **IT-Centric Platform:** The Q-SYS Platform is the only professional audio, video and control (AV&C) solution that is built from the ground up using modern computer technology, industry standard networking technology and mainstream software solutions to provide deterministic AV&C capabilities for the IT customer.
- **Unmatched AV&C Processing Resources:** The Core 5200 processor offers capability unmatched by any other audio, video or control processor making it the first solution to realize the flexibility and scalability of centralized AV&C processing in an economical manner.
- **Software-Defined Acoustic Echo Cancellation:** All Q-SYS Core processors offer software-defined acoustic echo cancellation (AEC) for audio and video conferencing applications. Software AEC with adjustable tail-length can be applied to any audio source without any additional or specific hardware.
- **Industry First, COTS Solution:** The Core 5200 processor is the first professional AV&C solution available that combines commercial off-the-shelf (COTS) server technology with the scalability of a purpose built AV&C real-time operating system (RTOS), thereby offering scalability and IT integration capabilities unmatched by any other audio, video or control solution.
- **Resiliency and Robustness of Dell:** The Core 5200 processor offers the real-time AV&C processing capabilities of the Q-SYS Platform on Dell's most prolific and common IT server which has been fully vetted and used in IT environments and applications around the world.

Key Features

- 512 x 512 uncompressed, real-time Q-LAN or AES67 networked audio channels
- 160 AEC processors (assignable and routable)
- Deterministic and fixed analog audio input to output system latency of just 3.167ms
- Dual gigabit ethernet ports for redundant networked audio
- Two independent, gigabit auxiliary ethernet ports for segregation of network services such as VoIP, SNMP, LLDP, LDAP and WAN media streaming
- Dual, hot-swappable AC Mains power supplies
- iDRAC (integrated Dell Remote Access Controller) for integration with IT asset monitoring systems from Dell
- Single software platform for system configuration, control and monitoring via Q-SYS Designer Software over IP with support for static, auto or DHCP IP addressing
- Supports up to 64 VoIP softphone instances to allow for large, multi-room deployments
- Fully compatible with all existing and future Q-SYS peripheral devices including I/O-Frame, I/O-8 FLEX, PTZ-IP conference cameras, I/O-USB Bridge, native touch screen controllers, paging stations and network amplifiers
- CE marked, UL Listed and RoHS compliant
- Covered by QSC Systems 3-year warranty, backed by Dell



Q-SYS Core 5200

Hardware

Platform	Dell PowerEdge R740 (14th generation)
Chassis	2.5" hard drive
Power	2x Hot-Plug universal input 750W PSU modules
LCD	Single line scrolling display
LAN	4x 1000 Mbps ports (2x Q-SYS multimedia, 2x Q-SYS aux)
iDRAC8	1x dedicated 1000 Mbps iDRAC v8, Enterprise license
Video	2x HD-15 VGA ports (1x front panel, 1x rear panel)
USB	2x USB 2.0 host (front panel), 2x USB 3.0 host (rear panel)
Serial	1x DE-9 RS-232 port (rear panel), 16550-compliant
SATA SSD	960 GB Q-SYS media drive
Additional Info	For additional hardware specifications visit: www.Dell.com/Dell/servers

Controls and Indicators

Front panel:	Power button ID button and indicator (blinks when enabled from Q-SYS Designer Software) LCD navigation buttons
Rear panel:	ID button and indicator (blinks when enabled from Q-SYS Designer Software)

Q-SYS Capacities

Network Channels	512x512
AEC Processors	160
VoIP instances	64
Multi-track Player	16 included (upgradeable to 32, 64 or 128 tracks)

Packaging and Accessories

Shipping carton dimensions	940mm (37 in.) x 610mm (24 in.) x 280mm (11 in.)
Shipping weight	64 lb (29 kg)
Accessories	ReadyRails Sliding Rails kit for square hole racks, EIA-310-E compliant Dell standard OEM bezel Regulatory statements pamphlet 2x AC mains power cords Q-SYS Quick Start guide

Environmental and Agency

Visit the Dell website for information on environmental specifications and international safety and regulatory compliance (www.Dell.com/Dell/servers) shipping carton dimensions.

A&E SPECIFICATIONS

The System Processor shall be a fully integrated audio, video and control processor intended for use in centralized processing deployment architecture designs. The System Processor shall leverage the Dell R730XL Server Platform utilizing Intel® Xeon® processors running a real-time Linux operating system developed by QSC, LLC. The system shall operate natively on a standard gigabit Ethernet infrastructure available from a broad range of network infrastructure manufacturers, employing DiffServ quality of service, IEEE 1588-2008 (PTPv2) precision time protocol, IP audio and video transport with floating point format data representation for audio. The system shall not require IEEE 802.1AS, IEEE 802.1Qat or IEEE 802.1Qav support on the network infrastructure to function. The overall system latency from analog input to synchronized analog outputs anywhere on the network shall be fixed at 3.167ms. The system shall also be able to achieve an overall system latency of 3.167ms over Layer-3 routed network infrastructure without any additional hardware, software or connection services between subnets.

The system processor shall manage external control interfaces such as Touchscreen Controllers, Paging Stations, Networked Audio I/O Expanders, Network Connected Amplifiers, AV-to-USB Bridging interfaces and IP based PTZ Conference Room Cameras. The System Processor shall include a built-in SSD for Media File storage with a minimum size of 960Gb.

The system processor shall natively offer a minimum network channel capacity of 512 input channels and 512 output channels with each stream being configurable as either native Q-LAN networked audio format or AES67 formatted audio streams. The system processor shall offer up to 160 channels of built-in Acoustic Echo Cancellation that can be configured via software for 100ms, 200ms, 300ms or 400ms Tail Length as well as up to 64 softphone instances using the built-in network interface ports.

The rear panel shall offer Q-SYS Networking: LAN A RJ45 1000 Mbps only, LAN B: RJ45 1000 Mbps only, AUX LAN A: 10/100/1000 Mbps, AUX LAN B: 10/100/1000 Mbps. The system processor shall offer as standard a pair of dual-redundant, hot swappable AC Mains power supply modules. One RJ45 connection for the Dell iDRAC (integrated Dell Remote Access Controller) port for low-level hardware diagnostics.

The system processor shall store a design that shall be comprised of audio, video and control components, wiring, links, text, and graphics on a single or multiple schematic pages. Designs shall include any of the following audio DSP, video, test and measurement components, control components, and layout components: Acoustic Echo Cancellers, Audio Players, Audio Streaming components, Crossfaders, Crossovers, Delay components, Auto Gain control elements, Compressors, Gates, Duckers, Expanders, Ambient Noise Compensators, Limiters, Gain blocks, Graphic Equalizers, Parametric Equalizers, FIR Filters, All-Pass Filters, Band-Pass Filters, Band-Stop Filters, High-Pass Filters, Low-Pass Filters, FIR High-Pass filters, FIR Low-Pass Filters, Dual-Shelf Equalizers, Notch Filters, Meters, Matrix Mixers, Gain-Sharing Automatic Mixers, Gated Automatic Mixers, Signal Routers, Public Address Routers, Room Combiners, Signal Presence Meters, Tone Generators, Noise Generators, Dual Trace FFT Measurement Modules, Real Time Analyzers, Signal Injectors, Signal Probes, Logic, Value and Position control functions, Lua scripting components, Command Buttons and Triggers, Camera Router, USB Audio Bridge, USB Video Bridge.

*The system processor shall be 2RU with an enclosure measuring 3.44" x 17.49" x 26.92" (8.73cm x 44.40 cm x 68.40cm)
The device shall be the QSC Q-Sys Core 5200.*

