QSC®

Q-SYS I/O-8 Flex
Channel Expander

Features

- Networked I/O expander peripheral

- 8 software definable flex channels (mic/line input w/ phantom power, or line level output)

- Audio-to-USB Bridging for audio integration with soft codec applications

- Control connectivity via GPIO and RS232

- Microphone fault detection

- Dual redundant networking with PoE+ support

- Class-leading mounting accessories included for various mounting configurations

Introduction

The Q-SYS™ I/O-8 Flex Channel Expander adds a multitude of expansion capabilities to the Q-SYS Platform in a compact, PoE+ capable networked peripheral that can be remotely located wherever the I/O is required. The I/O-8 Flex Channel Expander features 8 channels of "flex channels" (a QSC exclusive technology), which allows each channel to be configured via software as either a Mic/Line input with phantom power, or a Line Level output. Additionally, the I/O-8 Flex Channel Expander offers Audio-to-USB Bridging for integration with soft-codec applications running on any host PC as well as control connectivity via GPIO and RS232.

Applications – Meeting Rooms and Conference Spaces

When deployed under the table, the I/O-8 Flex Channel Expander provides a single network cable solution with sufficient analog I/O to accommodate up to eight phantom powered microphones around the table. In addition to that, the onboard GPIO can be used to provide Push-to-Talk or Push-to-Mute functionality as well as microphone LED status. For situations where laptop PC's are being used for soft-codec conferencing using applications such as Skype for Business™, GoToMeeting™, etc., the onboard USB Device port can be used to provide USB-to-Audio Bridging direct to the PC via driverless USB connectivity.

Applications – Rack mount I/O Expander

For those situations where unexpected inputs and outputs are required late in the design phase, the I/O-8 Flex Channel Expander is a perfect solution. The eight flex channels can be reconfigured via software at design or run-time to behave as either a fully balanced mic/line input

offering phantom power or as a line level output. Single channel granularity allows the user to configure any combination of inputs / outputs from 8 x 0 through to 0 x 8. Additionally, when used as mic/line Inputs, the eight flex channels offer microphone fault detection. The onboard RS232 port allows any serial control device to be interfaced with Q-SYS for complete control and monitoring integration.

Network and Power

The Q-SYS Platform utilizes IEEE networking standards and solutions for audio, control and video distribution over a standard Ethernet / IP network. Q-LAN provides deterministic system latencies with analog input to analog output guaranteed at 3.167ms. The Q-SYS Platform uses Q-LAN for audio, video and control connectivity with all Q-SYS peripherals. Additionally, all Q-SYS Cores support VoIP, SIP, LDAP, AES67, TCP/IP and HTTP Web Sockets among many other standard IT and industry protocols. The I/O-8 Flex Channel Expander offers PoE+ capability for single cable applications.

Redundancy

The Q-SYS I/O-8 Flex Channel Expander offers dual network ports for redundancy with the ability to send and receive on both ports simultaneously for glitch-free switchover in the event of a network failure.

Peripherals

The I/O-8 Flex Channel Expander is a Q-SYS peripheral that can be used as part of a Q-SYS system utilizing any Q-SYS Core processor and all other Q-SYS peripheral types including the new Q-SYS AV-to-USB Bridging Bridging devices. However, the USB device port on the I/O-8 Flex Channel Expander offers audio bridging.

Q-SYS I/O-8 Flex Channel Expander

Inputs/Outputs

Audio Flex Channel Capacity	8
Audio Flex Channel Assignments	Each channel can be configured as a mic/line input or as a line output (configured through Q-SYS Designer software)
Rear Panel Indicators	"Link", "Speed" and "Activity" LEDs on all LAN ports

USB Inputs & Outputs

USB Audio Bridging	Up to 8x8 channels of digital audio in/out via software defineable USB instances advertised to the USB Host operating system
USB B (device port):	
Bit depth	16-bit, 24-bit (configured in Q-SYS Designer software)
USB Channel Capacity	8x8
Sample Rate	48kHz

Controls and Indicators

Front Panel Controls	"NEXT" OLED page forward capacitive touch button "ID" device identification capacitive touch button "Clear Network Settings" - invoked when "NEXT" and "ID" are pressed simultaneously
Front Panel Connectors	AUX USB: USB Host x2 (Type A connectors)
Front Panel Indicators	Blue POWER LED 304x96 monochrome OLED display
Rear Panel Connectors	Audio I/O Flex Channels: 12-pos blue Euro Block x2 GPIO: 10-pos black Euro Block x2 (GPI = 1x10, GPO = 1x10) RS232: 3-pos black Euro Block AUX USB Host: USB Host x2 (Type A connectors) AUX USB Device: USB Device Port (Type B connector) Media Network LAN A/PoE+ Power In : RJ45 1000 Mbps Media Network LAN B: RJ45 1000 Mbps AUX PWR In: 2-pos green Euro block

GPIO

General Purpose Inputs	0-24VDC analog input or contact closure
General Purpose Outputs	Open collector, 24VDC at 200mA max, internal pullup to 3.3V
GPIO 12VDC Power Pins	12VDC out at 100mA max

Miscellaneous

PoE+ Power Input	IEEE 802.3at compliant powered device, PoE+ power supplied through LAN A port
External Power Input	24VDC, 1.2A supplied via the external power input, may be used as the primary power source or as a backup to the PoE+ source
Operating Temperature Range	0C - 50C
Power Consumption	25.5W Maximum
BTU/Hour	70 BTUs (power conversion estimate under typical load)
Humidty	5% to 85% RH
Storage temp	-20C - +85C
Regulatory	FCC 47 CFR Part 15 Class A, IC ICES-003, CE (EN55032, EN55035), EU RoHS directive 2011/65/EU, WEEE directive 2012/19/EU, China RoHS directive GB/T26572, EAC, RCM, UL/cUL/CB, E174401-A18, EFUP: 10 years, Expected Product Life Cycle: 20 years.
Product Dimensions	8.66" x 9.43" x 1.75" (220mm x 240mm x 44mm), 1RU half rack
Shipping Carton Dimensions	20" x 12" x 4" (508mm x 305mm x 102mm)
Shipping Weight	6 lbs.
Included Accessories	Connector kit, rack ears, surface mount kit, safety instructions, regulatory statements, USB cable (Type A to Type B)

Q-SYS I/O-8 Flex Spec Sheet 07/21/2017

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