

# Q-SYS™

## Release Notes

The QSC logo consists of the letters 'Q', 'S', and 'C' in a bold, sans-serif font. The 'Q' has a small square notch at its bottom-left corner. The 'S' and 'C' are also bold and sans-serif. A small trademark symbol (TM) is located at the top right of the 'C'.

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Q-Sys Designer Release 3.0

July 2012 Rev. C

## Release Notes

This document covers pertinent information, including [Known Issues](#) and [Resolved Known Issues](#), for Q-Sys Designer Release 3.0, July 2012. If you are upgrading from a Release prior to Release 2.3, be sure to read the Release Notes for the intermediate releases through 2.3. The most up-to-date Release Notes for Release 3.0 can be found on the QSC website ( [http://www.qscaudio.com/products/network/QSys/Q-Sys\\_Software.php](http://www.qscaudio.com/products/network/QSys/Q-Sys_Software.php) ).

## Important

As with any upgrade, be sure to create backup files for any designs and media you have on the Core.

**IMPORTANT:** If you are upgrading from a Q-Sys Designer Release prior to 2.0, you must upgrade to Q-Sys Designer Release 2.0 before upgrading to Q-Sys Designer Release 3.0. Contact QSC Support for the Q-Sys 2.0 software. Be sure to read the 2.0 Release Notes for important upgrade details.

## Installation Software Requirements

Software Package	Q-Sys Designer
Microsoft Windows XP Professional Version 2002 SP3 (32 bit) or Microsoft Windows Vista SP1 (32 bit) or Microsoft Windows 7 (32 or 64 bit)	Prerequisite
Microsoft .NET Framework 3.5	Prerequisite for Windows XP The installation program automatically installs the required files. <sup>1</sup>
Microsoft .NET Framework 4.0 Client Profile	Prerequisite The installation program automatically installs the required files.
Microsoft .NET Framework 4.0 Extended	Prerequisite The installation program automatically installs the required files.
Microsoft Visual C++ 2010 Runtime	Prerequisite The installation program automatically installs the required files.
1. Internet access required.	

## Q-Sys Designer / Design File Compatibility

Q-Sys Designer release numbering convention is a three-level system – major release.minor release.build number (2.2.100). Larger numbers indicate a newer release. If the "major.minor" release number of a design file and Q-Sys Designer software are the same, the "build" number doesn't matter. You will have to upgrade/downgrade your hardware to the same "build" number as the Q-Sys Designer software to Run the design on the Core.

You cannot open a design file with a newer "major.minor" release number than the Q-Sys Designer software. For example, you cannot open a 2.2.*nnn* design file with 2.1.*nnn* Q-Sys Designer software.

You can open a design file with an older "major.minor" release number than the Q-Sys Designer software. For example, you can open a 2.1.*nnn* design file with 2.2.*nnn* Q-Sys Designer software. If you save the file with the newer software, you cannot save it back to an older release.

**IMPORTANT:** Make sure your design files are backed up in your current release before starting the upgrade to a newer release.

## Qualified Ethernet Switches

The online help contains a list of qualified Ethernet switches in the Ethernet Switches topic. Occasionally, between releases of Q-Sys Designer, new switches are qualified, and some disqualified. Be sure to check the QSC Website ([http://www.qscaudio.com/products/network/QSys/Q-Sys\\_qualified\\_switches.php](http://www.qscaudio.com/products/network/QSys/Q-Sys_qualified_switches.php)) for the latest information.

QSC recommends that EEE (Energy Efficient Ethernet), a.k.a. IEEE 802.3az, be disabled on switches that offer this feature. Some switch manufacturers offer their own version of a power saving mode or energy optimization mode, but the concepts are generally the same as those for the IEEE standard. These mechanisms attempt to reduce the drive current or wake time for a given LAN port by detecting the strength of the link partner and/or by detecting the length of the attached network cable and/or by detecting rest or idle periods between packet deliveries and placing the port into sleep or quiescent mode.

## New Hardware in Q-Sys

### Core 250i and Core 500i

The Core 250i/500i Integrated Cores are designed for applications requiring fewer channels than the larger Cores. Integrated Cores have the capability of directly accommodating eight Q-Sys input and/or output cards for a total onboard channel capacity of 32 channels (more if AES or CobraNet™ cards are used). As with the larger Cores, channel count may be further expanded by the addition of Q-Sys I/O Frames and other peripheral devices. Select the Core model in Q-Sys Designer Core Properties to match your hardware.

### I/O-22

The I/O-22 is a small form-factor Power over Ethernet (PoE) device that has two line inputs, two line outputs and one speaker output driven by a 10-Watt amplifier. This speaker output shares audio with one of the line outputs and is meant to directly feed a small loudspeaker. Eight switchable Digital GPIO ports allow interfacing with LEDs and/or buttons.

### Page Station Gooseneck Model

The Q-Sys Page Station (Gooseneck) is now available. Operationally, it is exactly like the handheld models, with the exception that there is no push-to-talk button on the gooseneck microphone. You can mount the gooseneck model at a 30° angle to a horizontal surface using the included angled mounting bracket, or if the surface is already angled, like a podium, you can flush-mount directly to the surface with the optional flush-mount bracket.

## Page Station Expander (PS-X)

The Page Station Expander is designed to be mounted on a wall and connects directly to the rear of a Q-Sys Page Station via Cat 5e cable. Voice input is provided through a handheld dynamic push-to-talk microphone. Combining the Page Station Expander and the Page Station provide multiple inputs for a common zone, for example both the kiosk and jet-way of an airport gate can easily be served by this combination. To select the PS-X, place a Page Station in the Schematic, then set Enable Expander to Yes in the Page Station Properties.



## Type 2 Hardware

Type 2 hardware provides new cables and connectors between the I/O cards and main boards in Cores and I/O Frames. Due to this change, the Type 2 hardware is not physically compatible with the older hardware. You can still integrate the new I/O Frames and Cores in the same system with older hardware, but the I/O cards are not interchangeable. Type 2 hardware can be identified by a yellow label on the back of the Core and I/O Frame, and the bottom of the I/O cards.

## Changed Hardware Functionality in Q-Sys

### Page Station

The Page Station software has been modified to make the Page Station "beep" when it is time to speak.

### DSP Usage Capability Doubled

Optimization of the firmware used on the Q-Sys Cores now provides double the amount of Digital Signal Processing (DSP) power for the Core 1000 and, to a certain extent, vastly expands the 3000 and 4000. The primary need for this optimization is the addition of the AEC component, which does not co-exist with other DSP algorithms on the same CPU core. On the Core 1000, when AEC is not used, there is a doubling of DSP power compared to the amount available in Q-Sys releases 1.x through 2.x. When an AEC component is used, the DSP amount is the same as before. Although there is more DSP available in the 3000 and 4000 than in 1.x through 2.x, the extra DSP can only be used with the AEC component(s). This means that using the full extent of AEC channels on the 3000/4000 will not subtract from the DSP available for other uses. DSP usage is based on the number and types of DSP components in your design. DSP processing available is based on the Core model. You can check your design's usage by pressing Shift+F6, or from the Main Menu, File > Check Design...

### Core Flex Network Audio Channels

For Cores 250i, 500i and 1000, you can divide the network audio channels (NAC) between In and Out. Core 250i supports 64 In/Out NACs, Core 500i and Core 1000 support 128 In/Out NACs.

## New Components in Q-Sys Designer

**Please read the following information carefully.** There are many changes and additions for Q-Sys Designer Release 3.0, some requiring your attention when you upgrade Q-Sys Designer to this release. As with any upgrade containing major changes, there may be a substantial impact to current designs. Before you upgrade be sure you understand the changes that are required for your system, and be sure you backup your design files.

## Help System

The online help system now has links to the QSC Training website (<http://qsctraining.com/>), specifically, links to various Q-Sys tutorial videos. These links are in related help topics, and a complete listing is contained in the Video Tutorials topic.

## Inventory

### Core 250i and Core 500i

The Core 250i and 500i are now options in the Model Property of the Core Inventory item. The Core's Properties list expands when you select either of these models to present the eight I/O slots available on these units. Note that these models support only Type 2 I/O cards (mentioned above).

### I/O-22

The I/O-22 is a POE (Power Over Ethernet) device similar to the Q-Sys standard I/O Frame. The I/O-22 has two Mic/Line In connections, two Line Out connections, eight digital GPIO connections (two 6-pin connectors), a DE-9 (a.k.a. DB-9) RS-232 port, and a 10W audio amplifier for a local loudspeaker. The I/O-22 is redundant network capable. The Q-Sys Designer components associated with the I/O-22 are: Status, Analog Input, Analog Output, GPIO, and the RS-232 Serial Port.

### Page Station Gooseneck Model

The Q-Sys Page Station (Gooseneck) is represented in the Inventory list by the same Items as the handheld model. For Q-Sys Designer, there is no difference between the two units.

### Page Station Expander (PS-X)

The Page Station is not represented in the Inventory list, you must select it in the Properties of a Page Station. To select the PS-X, place a Page Station in the Schematic, then set **Enable Expander** to Yes in the Page Station Properties. The PS-X does not have a proxy in the Inventory list.

## User Control Interfaces

### Inventory Status

The Inventory Status UCI, is a system-generated UCI that lists the status of all components in your inventory that have a Status field available. This UCI can not be modified other than by adding or removing items from the Inventory.

## Audio Components

### Acoustic Echo Canceler Component (BETA)

The Q-Sys multi-channel Acoustic Echo Canceling (AEC) component is used in conference rooms and other installations where people call in from remote locations. The remote caller's voice is broadcast over loudspeakers in the conference room. The sound is picked up by microphones in the conference room and echoed back to the Far-End caller. The purpose of the AEC is to eliminate these echoes while at the same time allowing the Far-End caller to hear clearly, what people in the room are saying.

## Audio Streaming Components

### URL Stream Receiver Component

The URL Stream Receiver component allows you to decode audio from a valid URL that is streaming a UDP MPEG Transport Stream. The stream can also include video when meant for other destinations that can decode audio and video. However, only the MP3 or AC3 audio within the stream will be utilized within the Q-Sys design. The component can support mono, stereo or any number of channels up to 16 from one stream.

## Control Components

### Control Router Component

The Control Router component allows you to route control signals. You can route any of the available inputs to a given output.

## Layout Components

### Popup Button Component

The Popup button displays a popup window when double clicked. You can place objects like controls, graphics, and so on, into the window. This new component allows you to hide these objects when they are not needed. This is particularly handy in a User Control Interface where space is limited.

## Changed Components in Q-Sys Designer

### Audio Components

#### Room Combiner Component

The Room Combiner *Config* label has been changed to *Rooms*.

### Dynamic Components

#### Continuous Ambient Compensator Component

The Continuous Ambient Compensator Detector Time control has been removed from the component. The Attack and Release time controls have the following changes: Maximum = 10s, Default = 1s, and Minimum = 1s. In addition, the Release value is forced to be greater than or equal to the Attack value, the default Mic/Spkr Distance value is now 0, and the Program Reduction meter label is changed to the Program Cancellation meter. These changes make it easier to adjust the component correctly.

#### Gated Ambient Compensator Component

The Gated Ambient Compensator Detector Time control has been removed from the component. The Attack and Release time controls have the following changes: Maximum = 10s, Default = 1s, and Minimum = 1s. In addition, the Release value is forced to be greater than or equal to the Attack value, and the default Mic/Spkr Distance value is now 0. These changes make it easier to adjust the component correctly.

#### Priority Ducker Component

The Priority Ducker maximum Depth has been changed from 60 dB to 100 dB.

## Public Address Components

### Page Station Mic/Control Component

The Page Station Mic/Control component now offers you the selection of turning on or off the push-to-talk (PTT) latch feature of the handheld microphone for the Page Station. In addition, you can select the Keypad PTT latching behavior. This feature is to answer concerns about accidentally latching when holding the handheld mic, but not intending to start a page. You can now choose the behavior on a per-station basis. Details are available in the Online Help for the Page Station Mic/Control component. Currently, the Page Station Expander (PS-X) does not have this capability.

## Networked Components

### Q-LAN Transmitter Component

- The Q-LAN Transmitter now has controls for Gain, Invert, Mute, and a Peak Output Level Meter.
- A Dynamic Stream Name field is available by setting Dynamic Stream Name to Yes in the Properties. You can name the stream at runtime (instead of using the "Name" property at design time). Once named, the name is broadcast over the Q-LAN network. The dynamic option also allows snapshots, scripts, or external control to change the stream name via Named Controls or via wiring to the Q-LAN Stream pin.

### Q-LAN Receiver Component

- The Q-LAN Receiver now has controls for Gain, Invert, Mute, and a Peak Output Level Meter.
- A Dynamic Stream Name field is available by setting Dynamic Stream Name to Yes in the Properties. A Q-LAN Receiver with Dynamic Stream Name enabled, allows you to select the associated Transmitter from a drop-down list. The dynamic option also allows snapshots, scripts, or external control to change the stream name via Named Controls or via wiring to the Q-LAN Stream pin.

## Loudspeaker Components

### WideLine-10 and WideLine-8 Components

The *Direction of LF Lobe* field name is now *Shaded Side*. There is no difference in operation.

## New and Changed Features in Q-Sys Designer

### Check Design

Signal Processing and Network Usage now includes:

- AEC Processing – the number of Automatic Echo Canceling channels used and available, based on the Core model. Using AEC takes 50% of the available Signal Processing. Using a 400 ms Tail Length in an AEC component doubles the AEC Processing channels used for that component.
- Audio Player Channels – the number of Audio Player channels used and available. The total includes all Audio Players in your design, based on the Core model.

## Q-Sys Designer Workspace

### Schematic Library

The Schematic Library, on the right side of the Q-Sys Designer workspace, has been moved to the bottom of the right-side pane. The Graphic Tools along with the Properties, of selected components, have moved to the top. This new arrangement allows you to expand the component's properties without having to scroll down to see all the parameters of the properties.

### Schematic Elements Grouping

You can select multiple items in a schematic and group them together so that they can be moved, cut, copied and pasted, and so on, as a group. Pressing Ctrl-G when the items are selected groups them, Ctrl-Shift-G un-groups them. You can wire between components in a group, you cannot wire from components in a group to components outside of a group. To make connections between components in a group, and components outside a group, you must label or name the connection pins.

### Find by Label

When you use Find (Ctrl-F) and select Find by Label, you can now enter text in any part of the string. Previously, you had to enter the first few letters.

### Button Icons

Bitmap type image files (jpg, bmp, png, gif, etc.) can be dragged onto buttons that have been placed in the Schematic or UCI. In addition, you can copy then paste an object from a vector type graphic program into the Schematic, then drag it into a button.

### Connection to Core

If Q-Sys Designer gets disconnected from the Core, a dialog displays giving the you options on how to proceed. This means that Q-Sys Designer can no longer be in the "disconnected" state with the Core connection indicator showing red.

## UCI Design Interface

### UCI Design Interface Workspace

In the UCI Designer Interface, you can add guidelines to the workspace to make alignment of items in the UCI easier.

## Named Controls

### Named Controls

When you place a control in the Named Control list, the corresponding control in the Control Panel is marked with a small gray circle at the bottom right corner of the control to indicate it is in the Named Control list. This indicator assists during construction of the design and disappears when emulating or when deployed to hardware.

## New and Changed Features in Q-Sys Administrator

### PA Global Settings

Retry Count, Retry checkbox, and Archive checkbox have been added to the PA Global Settings.



- **Retry Count** – Specifies the number of times a queued page is retried before it is canceled.
- **Retry checkbox** – Indicates whether or not a page (except Live pages), of the associated Priority, gets retried.
- **Archive checkbox** – Indicates whether or not pages of the associated Priority level are Archived. A compressed mp3 file of the page audio is saved in the Page Archives folder. In the Event Log, there is a play button, next to the page event, to listen to the archive.
- **Split checkbox** – Indicates that Page and Message commands can be split if all the selected zones are not available when the command is issued. The command continues to try to issue the page or message until all zones have had the page or message played, the retry number is reached, the queue time is out. More importantly, pages in progress with split mode can be partially interrupted by higher-priority paging events without stopping the event in areas unaffected by the higher-priority event. The interrupted event will retry in those zones afterward if the Retry property is selected for the Priority level in Administrator.

### Automatic Page Queuing

The Automatic page queuing mode now records the page as it is going out live. If the page is interrupted, recording will continue. Once recording is complete, it is played out like a delayed page. Previously, Automatic mode was choosing between Live and Delayed at the moment Talk was pressed like a delayed page only in zones that the live page was interrupted.

### Command Scheduler

The Command Scheduler now has a week view and a month view. The week, or 7-day, view displays columns Sunday through Saturday, and rows from 00:00 (AM) through 24:30 (PM) in half-hour increments. You can click the 7 or 31 button in the upper right corner of the Command Scheduler to switch views.

### Audio Files

UTF-8 (Universal Character Set Transformation Format — 8-bit) can now be used for playlists. UTF-8 provides for Chinese and other non-ASCII characters.

### Device Pairing

When you make a change on the Administrator's Device Pairing Tab, you must click the Update button to save your changes, or the Cancel button to exit without saving.

## New and Changed Features in Q-Sys Configurator

### Core Feature Keys

The Q-Sys Configurator now displays a list of the Feature Keys (options), installed on the selected Core. Currently, the potential features are the Model of the Core, and the number of Multi-Track Player channels authorized. If "PlayerChannels" is not listed, the Core defaults to 16 simultaneous channels.

## BETA Version Features

There are a number of features in Q-Sys Designer currently in a BETA version. These features are marked as such in the Q-Sys Designer user interface, and in the associated help topics. A feature labeled as BETA indicates that the feature is not as polished as we would like it to be. It is functional, but there might be caveats and rough edges associated with it. In addition, a BETA feature is more likely to change in the future.

## Currently in BETA

- Channel Group
- SMPTE LTC Generator
- SMPTE LTC Reader

## Removed from BETA

Acoustic Echo Canceler

## Resolved Known Issues

### DDI-11 does not Turn Red, in the Inventory List, to Indicate a Fault.

The DDI-11 no longer indicates any fault status because it is a completely passive component. The associated DataPort has no way of detecting the presence of any device attached to its terminals. Should a status indication be needed, alternative indications could include the I/O Frame and/or DataPort card's status.

### I/O Frame with four AES3 Cards Exhibits Sluggish LCD and Configurator Response

I/O Frames with four AES3 cards that are also receiving and sending signal at all inputs and outputs exhibit an acceptable slowdown in LCD performance and Configurator response times. The I/O Frame's CPU prioritizes the audio over control when larger amount of audio channels must be handled. While the visual performance has been significantly improved, the priority still favors audio integrity over control speed.

### Preamble Gain in PA Page Commands does not Work

The Preamble Gain in PA page commands now work properly.

### Reset Core Password Before Using Device Pairing

After upgrading your system to Release 3.0, and before setting up the Device Pairing feature, you must first remove then reset the passwords on any password-protected Cores.

### Context Find (Ctrl-F) Locks up when Specific Steps are Used on Inventory Items

The Context Find now works properly.

## Known Issues

### Q-Sys Designer Interface

#### cgi-bin/status\_xml Error when Deploying

**Issue:** Rarely, when deploying a design to the Core, Q-Sys Designer may idle for a few minutes with a "Discovering Core..." message. Eventually, an error appears stating, "Error downloading file cgi-bin/status\_xml..."

**Workaround:** Clear the error message by clicking 'OK', then wait 5 minutes and deploy the design again.

#### Lua Script Code Written with the Control Script Component in, or dragged into, a Channel Group Component, is Hidden/Deleted when you Emulate or Run the Design.

**Issue:** Q-Sys Designer hides Lua code, written in a Control Script, in the following circumstances

- Write the code in Design, Run, or Emulate mode, then go to Design mode (if not already there) and drag the Control Script into the Channel Group and Emulate or Run the design.
- Drag the Control Script Component into the Channel Group, write the code in Design mode, then Emulate or Run the design.

Q-Sys Designer deletes Lua code in the following circumstance.

- Write the code in one of the above circumstances, then Emulate or Run the design, and write some more code in the Control Script component. Go to the Design mode, only the code written while in the most recent Emulate or Run mode is in the Control Script Component.

**Workaround:** Write all code with the Control Script component in the Channel Group, in Run or Emulate Mode.

### High-priority Delayed Page/Message Command Sometimes Delayed Until a Lower-priority Command Completes

**Issue:** Under certain conditions it is possible for a high priority delayed page or message command to be delayed until a lower priority command completes. This can occur when the buffer memory in the PA Router is close to 100% full.

### Non-reachable NTP Server Entries can Prevent a Working NTP Server from Updating the Q-Sys Clock

**Issue:** In Q-Sys Configurator, if you have NTP Enabled, and more than one NTP Server identified, and the first entry in the list is not reachable, the clock does not get updated.

**Workaround:** Make sure all the NTP Servers in the list are functioning properly.

### Core Redundancy

A CobraNet card in a Core which is in standby is not automatically suppressed from transmitting and receiving. This might affect your ability to use a redundant pair of Cores populated with CobraNet cards.