Q-SYS™ System Processor **Technical Notes**

Core 510i System Processor & I/O Frame

Using the Core 510i as an I/O frame

The Q-SYS Core 510i system processor can function as the core processing unit of a Q-SYS system, but unlike the other models from the Q-SYS Core Series it can also be configured to operate as an input/output (I/O) frame instead. This technical note explains how to do so properly.

In addition to 16 general purpose input/output (GPIO) channels, the Core 510i has slots for up to eight Q-SYS I/O cards in any combination, which allows as many as 128 ×128 total onboard I/O channels. These cards are:

Analog I/O

- **CIML4**—Four-channel mic/line input card with phantom power
- **CIML4-HP**—Four-channel high-performance mic/line input card with phantom power
- **COL4**—Four-channel balanced analog line-level output card
- **CODP4**—DataPort output card for QSC amplifiers; two connectors, each with two analog outputs

Network bridging

- **CCN32**—CobraNet™ interface card; can be configured in 4 × 4, 8 × 8, 16 × 16, or 32 × 32 channel modes.
- **CAN32**—AVB interface card; can be configured in 0 × 32, 32 × 0, or 16 × 16 channel modes.
- **CDN64**—Dante™ interface card; can be configured in multiple channel allotments up to 64 × 64.

Digital AES3

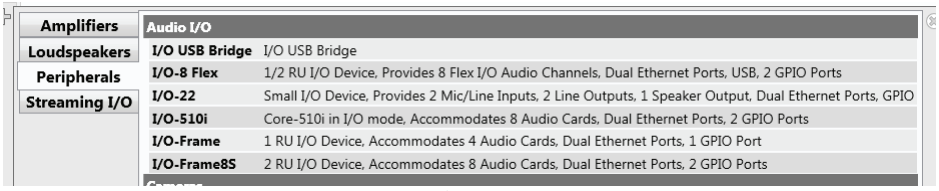
- **CAES4**—AES3 I/O card; two AES3 inputs and two AES3 outputs. Each AES3 stream carries two audio channels.
- **CIAES16**—AES3 input card; two RJ45 connectors, each carrying four wire pairs—each pair carries an AES3 stream with two audio channels, for a total of 16 audio channels.

The Core 510i as an I/O Frame in Q-SYS Designer

Q-SYS Designer is the software package used to create and edit Q-SYS designs. Use the following procedure to add one or more Core 510i devices to your design as I/O frames.

Make sure your Q-SYS Designer software is up to date. The Core 510i model does not appear in versions older than 6.x.x. When configured as an I/O frame, the Core 510i is identified in a design as an I/O-510i.

To place a Core 510i as an I/O frame in a Q-SYS design:



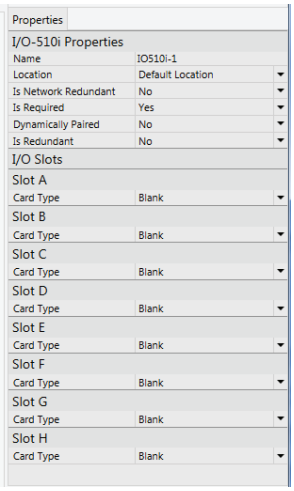
– Figure 1 –

1. Open or create the design in Q-SYS Designer.
2. Click the **+** sign in the **Design Elements** pane.
3. Select **Peripherals**. In the list of Audio I/O devices, select **I/O-510i** (Figure 1).
4. The I/O-510i frame will appear in the **Design Elements** pane. You are now able to drag it into the Schematic pane and build it into

the design.

5. Select the I/O-510i frame and configure the properties, including a unique name and the complement of I/O cards to be installed in slots A through H (Figure 2). The name is how you will later identify the actual device in Q-SYS Configurator.

6. Repeat as needed for any other I/O-510i frames you wish to add to the design.



– Figure 2 –

Configuring the Core 510i as an I/O frame on the network

The computer and the Core 510i to be configured must be on the same network.

1. In Q-SYS Designer, open the design you will be using.

2. Select **Tools > Show Q-SYS Configurator...**

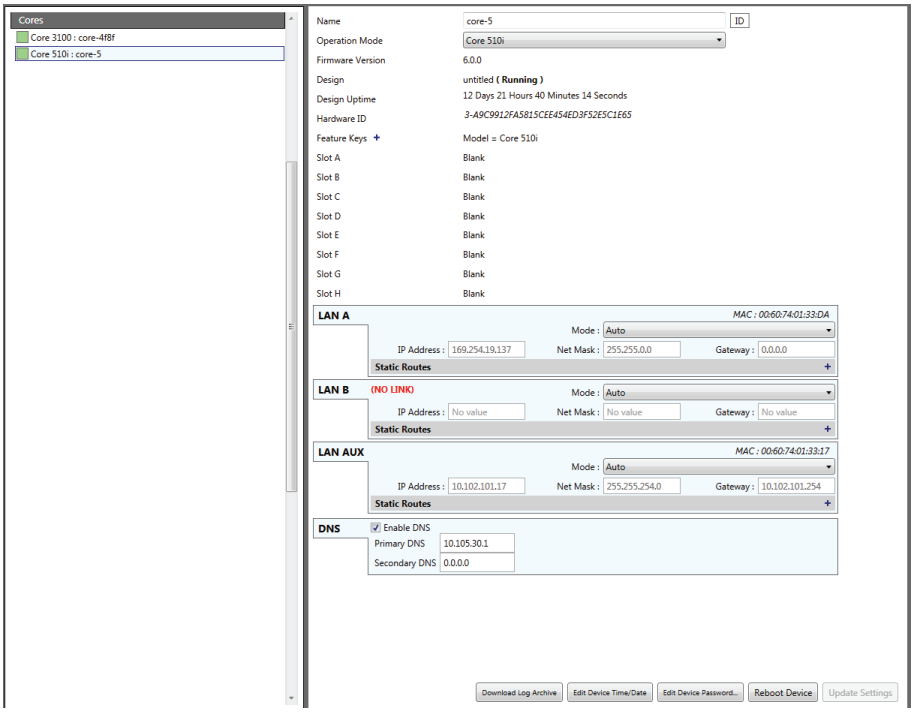
3. The **Q-SYS Configurator** pane will open. It will automatically discover all the Q-SYS hardware devices on the network and list them in their appropriate categories. The Core 510i processor will appear under **Cores**, along with any other core processors on the network, unless it has already been configured as an I/O frame; then it will appear under **I/O Devices** as an I/O-510i. Select the Core 510i system processor to be configured as an I/O frame.

4. The device configuration pane will appear. Enter the name that identifies it in the Q-SYS design. Use the **ID** button to verify that it is the correct device.

5. In **Operation Mode**, select **I/O-510i**.

6. **Firmware Version** will indicate the version detected in the device. If it does not match the version of Q-SYS Designer it will prompt you to update the firmware. Proceed with the update.

7. The remaining lines show information that Q-SYS Configurator has detected about the I/O-510i frame. The I/O cards installed in slots A through H must match those defined in Q-SYS Designer. Correct any discrepancies.



– Figure 3 –

8. Configure the appropriate network parameters at **LAN A**, **LAN B**, **LAN AUX**, and **DNS**.

9. Click **Update Settings**.

The Core 510i is now set up in the network and in the design as a Q-SYS I/O frame.