

How to Get CobraNet™ Audio Into, or Out of, a Q-Sys™ System

Q-Sys does not directly support CobraNet at this time – there is no current method to make a CobraNet network connection to a Core or I/O Frame. However, there are some excellent methods to “bridge” a CobraNet network to a Core or I/O Frame, keeping all audio signals in the digital domain so as to reduce any additional A/D and D/A conversions.

There are three possible Q-Sys scenarios: sending audio to a CobraNet network, receiving audio from a CobraNet network, or simultaneously sending and receiving CobraNet audio.

Scenario A:

You need to send audio from a Q-Sys to a CobraNet network. There are other CobraNet devices on the CobraNet network which will receive the audio. No audio from those devices is intended to go to the Q-Sys system (i.e., no return CobraNet audio to Q-Sys).

Solution A1:

Use a QSC Basis™ 922dz and Q-Sys AES I/O card. The Basis™ 922dz will act as a CobraNet bridge for the AES digital audio fed from the Q-Sys I/O card. The 922dz can accept up to eight discrete channels of AES digital audio and route those signals to CobraNet bundles as needed. The Q-Sys AES I/O card can send

(source) up to four discrete audio channels (it also has four AES input channels, but they will be unused in this scenario). You will need to add another I/O card for every four audio channels you wish to send to CobraNet (Figure A1).

The Q-Sys AES I/O card can be installed in the Core, or multiple cards can be installed in any I/O Frame(s) as needed. You will need to make a shielded twisted-pair (STP) connection from the AES card output connector(s) to the D-Sub 25-pin connector on the Basis 922dz. Note, per the AES standard, two discrete channels of digital audio are carried on each STP cable.

You will use QSC Venue Manager software to set up the signal routing and CobraNet bundle parameters in the Basis™.

Solution A1 Equipment List:

- Basis™ 922dz (one for every eight discrete audio channels required)
- One 25-pin D-Sub male connector per Basis (not supplied with the Basis™ 922dz)
- Q-Sys AES I/O Card, p/n CAES4 (one card per four input channels required)
- Shielded Twisted Pair (STP) cable, as needed

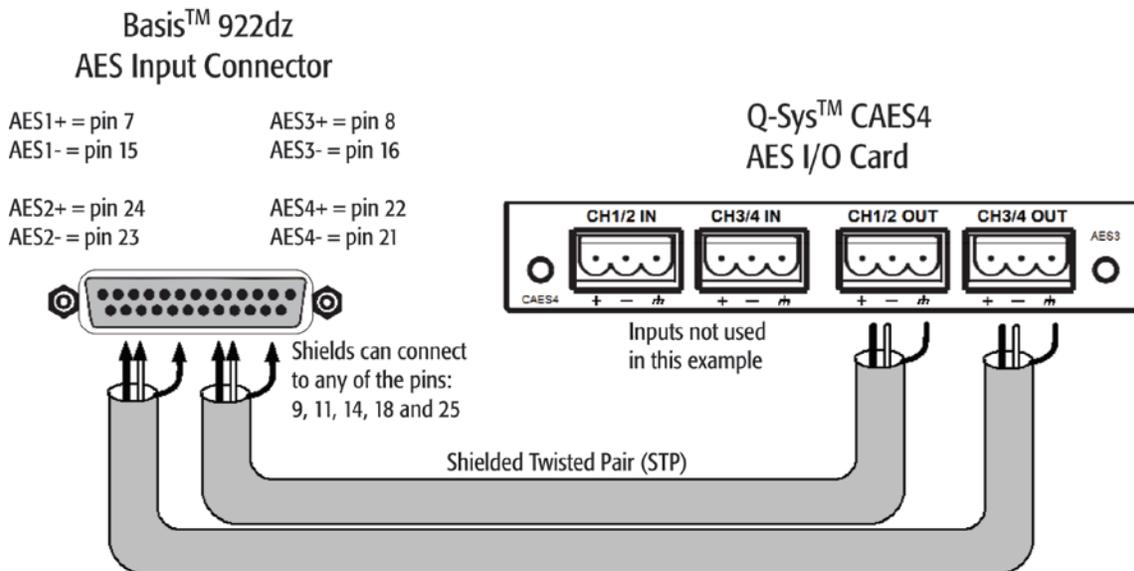


Figure A1

Solution A2:

Use a third-party CobraNet device, such as the Audio Science ASI2416, as the CobraNet bridge for the AES audio signals from the Q-Sys system. The ASI2416 can be configured to receive up to 16 AES audio channels from Q-Sys AES cards. The ASI2416 has plug-in modules very similar to the Q-Sys I/O Frame (the modules are not interchangeable between the Q-Sys and the ASI frames, however). The ASI2416 can be ordered with one or two eight-channel AES input cards and connectors:

- ASI2416-5000-1000, configured for one AES input card (ASI1442) which has 8 discrete channels in. It comes with one ASI1493 (Phoenix-type terminal block I/O connectors).
- ASI2416-5500-1100, configured for two AES input cards for a total of 16 discrete channels in. It comes with two ASI1493 (Phoenix-type terminal block I/O connectors).

The wiring will be very similar to the previous example (Figure A2), but of course you'll be "feeding" the signals to the ASI2416 cards. In addition, the wiring will be much easier to accomplish because both ends of the AES audio cables will be terminated with depluggable terminal block connectors (Figure A2).

You will use AudioScience's ASIControl software to configure the ASI2416 signal routing, CobraNet bundle IDs, etc. More information on the ASI2416 and the ASIControl software can be found at:

www.audioscience.com/internet/products/cobranet/asi2416.htm

Solution A2 Equipment List:

- ASI2416, models identified above (up to 16 discrete channels per ASI2416, in multiples of 8 channels)
- Q-Sys AES I/O Card, p/n CAES4 (one card per four input channels required)
- Shielded Twisted Pair (STP) cable, as needed

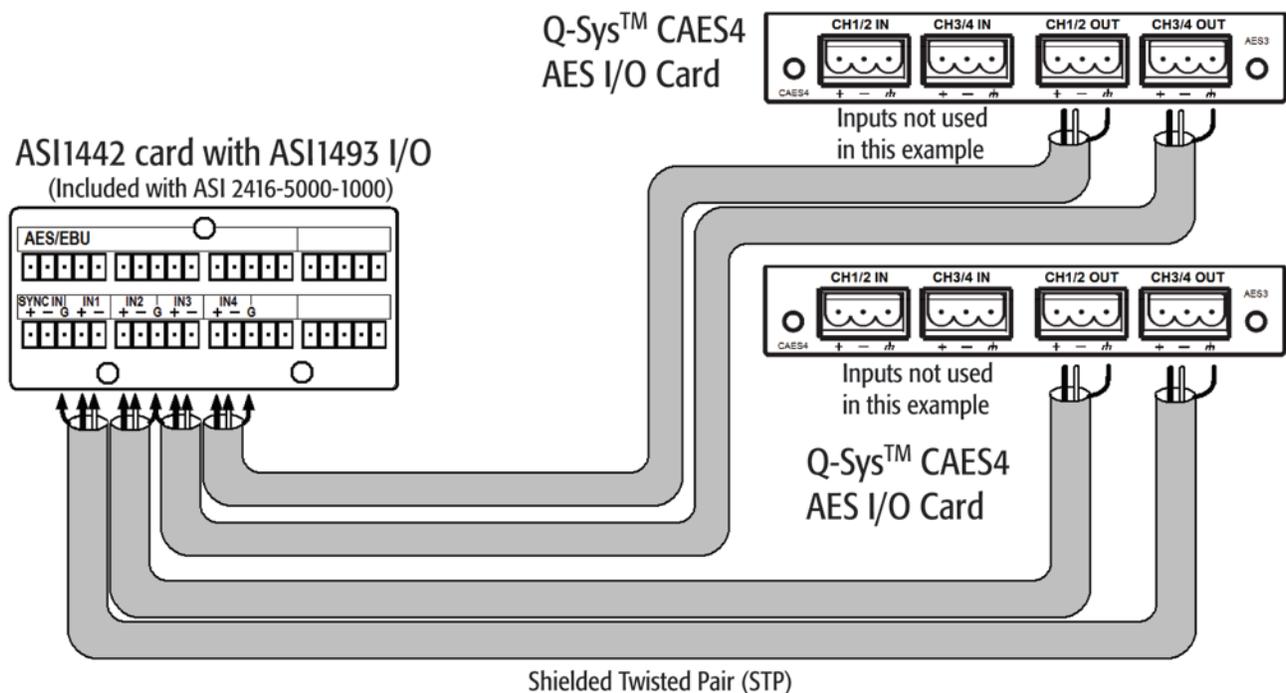


Figure A2

Scenario B:

You need to receive audio from a CobraNet network to a Q-Sys system. There are other CobraNet devices on the CobraNet network which will source the audio. Q-Sys will not be sending any audio to the CobraNet network.

Solution B:

Use a third-party CobraNet device, such as the Audio Science ASI2416, as the CobraNet bridge for the AES audio signals to the Q-Sys CAES4 I/O cards. The ASI2416 can be configured to send up to 16 CobraNet audio channels as AES audio channels to the Q-Sys AES cards. Each Q-Sys CAES4 card can receive four AES audio channels, so four CAES4 cards would be needed to receive all 16 channels from a fully-populated ASI2416. The ASI2416 has plug-in cards very similar in concept to the Q-Sys I/O Frame (the cards are not interchangeable between the Q-Sys and the ASI frames, however). The ASI2416 can be ordered pre-configured with one or two eight-channel AES output modules and connectors:

- ASI2416-6000-1000, configured for one AES output card (ASI1443) which has 8 discrete channels out. It comes with one ASI1493 (Phoenix-type terminal block I/O connectors).

- ASI2416-6600-1100, configured for two AES output cards for a total of 16 discrete channels out. It comes with two ASI1493 (Phoenix-type terminal block I/O connectors).

The wiring will again be very similar to the previous examples, but of course you'll likely be wiring the ASI2416 cards to multiple Q-Sys CAES4 cards. In addition, the wiring will be much easier to accomplish because both ends of the AES audio cables will be terminated with depluggable terminal block connectors (Figure B).

Solution B Equipment List:

- ASI2416, models identified above (up to 16 discrete channels per ASI2416)
- Q-Sys AES I/O Card, p/n CAES4 (one card per four input channels required)
- Shielded Twisted Pair (STP) cable, as needed

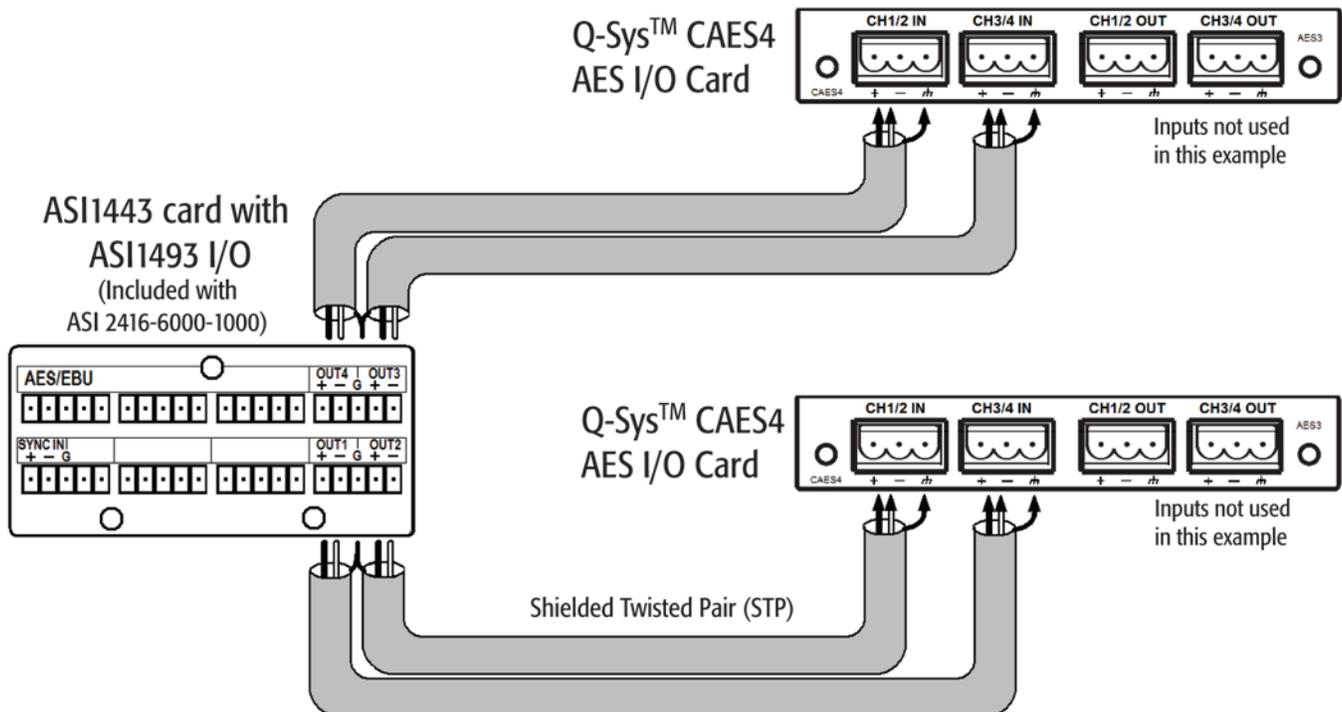


Figure B

Scenario C:

You need to both send and receive audio between a CobraNet network and a Q-Sys system. There are other CobraNet devices on the CobraNet network which will source the audio, receive the audio, or both. Q-Sys will be both sending and receiving audio to and from the CobraNet network.

Solution C:

Use a third-party CobraNet device, such as the Audio Science ASI2416, as the CobraNet bridge for the AES audio signals to/from the Q-Sys CAES4 I/O cards. The ASI2416 can be configured to send up to 16 AND receive up to 16 CobraNet audio channels as AES audio channels to/from the Q-Sys AES cards. Each Q-Sys CAES4 card can receive four AES audio channels as well as send four AES channels, so four CAES4 cards would be needed to send 16 and receive 16 channels from a fully-populated ASI2416. The ASI2416 has plug-in cards very similar in concept to the Q-Sys I/O Frame (the cards are not interchangeable between the Q-Sys and the ASI frames, however). The ASI2416 can be ordered pre-configured with one or two eight-channel AES output modules and connectors:

- ASI2416-4000-1000, configured for one AES in/out card (ASI1441) which has eight discrete channels in and eight discrete channels out. It comes with one ASI1493 (Phoenix-type terminal block I/O connectors).
- ASI2416-4400-1100, configured for two AES in/out cards for a total of 16 discrete channels in and 16 discrete channels out. It comes with two ASI1493 (Phoenix-type terminal block I/O connectors).

The wiring will again be very similar to the previous examples, but of course you'll likely be wiring the ASI2416 cards to multiple Q-Sys CAES4 cards, both for input and outputs. Essentially, it will be a combination of (Figure A2) and (Figure B).

Solution C Equipment List:

- ASI2416, models identified above (up to 16 discrete input and 16 discrete output channels per ASI2416)
- Q-Sys AES I/O Card, p/n CAES4 (one card per four input/ four output channels required)
- Shielded Twisted Pair (STP) cable, as needed