# RTS™

# Breakout Panel
# Reference Guide

# includes:
## XCP-32-DB9
## XCP-48-RJ45
## XCP-48-TELCO
## XCP-40-DB9
## XCP-40-RJ11
## XCP-24
## XCP-24-USOC

# TELEX®

# Breakout Panel Introduction

Breakout Panels provide a convenient way of expanding the port capacity of an ADAM intercom system.  Currently there are six breakout panels for use with the AIO cards: XCP-32-DB9, XCP-48-RJ45, XCP-48-Telco, XCP-40-DB9, XCP-40-RJ11, and the XCP-24.

## Installation

**BEFORE USING THE AIO-16 CARD, YOU MUST:**

- Have the new ADAM power supply installed.  (part number 9020-7516-001) For more information, see page 10.

- In a single frame system, have the Master Controller firmware 9.22.0 or higher installed.

- In a multi-frame system:
    Have the Peripheral Controller firmware 10.13.x or higher installed
    Have the DBX firmware 1.13.0 or higher installed.

**IMPORTANT!!!**  Use the following instructions for your *initial* setup of an AIO-16 card.  If you do not follow these directions the AIO-16 card may not work properly.

To install the AIO-16 card for the first time, do the following:

1.  Gently insert the AIO-16 card into the appropriate ADAM slot.

2.  Lightly tighten down the AIO-16 card.

3.  Carefully attach the backcard (MDR or SCSI, see figures x and x) to the AIO-16 card from the back of the ADAM.  Verify that it is properly seated against the AIO-16 card and is sitting firmly in the system.

4.  Tighten the backcard to the frame.

5.  Fully tighten down the AIO-16 from the front of the system.

    **NOTE**:  Once you have done this once, you do not have to repeat this every time.

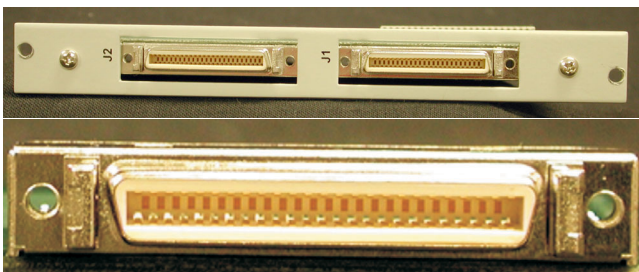6.  Attach the desired breakout panel to the AIO-16's backcard connector.
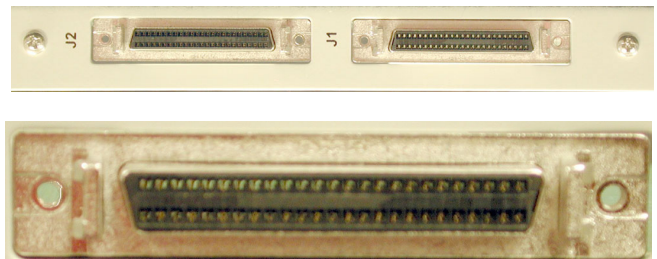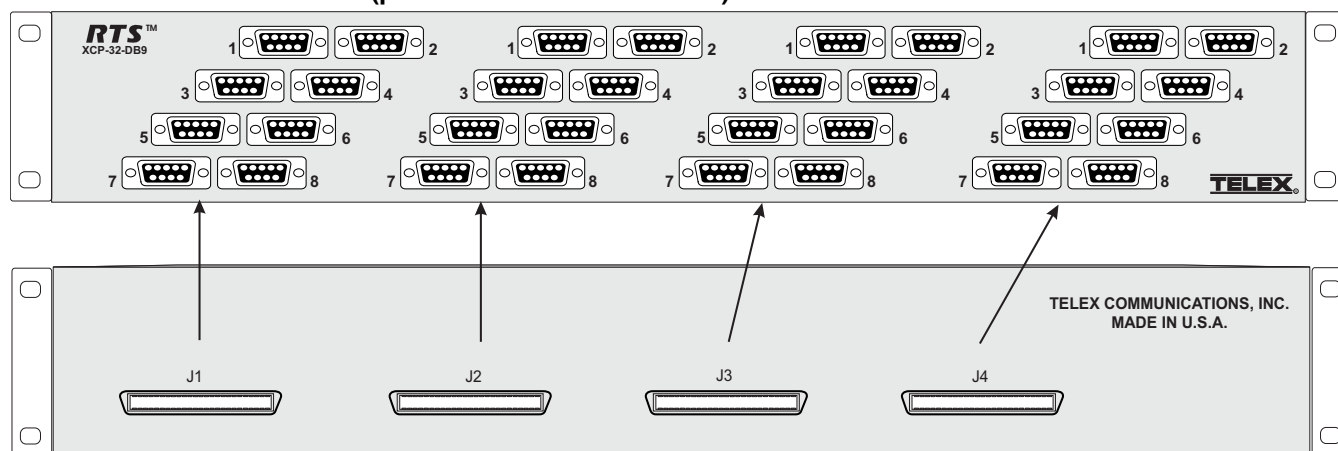


*Figure 1.  MDR backcard and connector*



*Figure 2.  SCSI backcard and connector*

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# XCP-32-DB9

## XCP-32-DB9 Breakout Panel (part number 9000-7810-000)

The arrows represent the MDR to DB-9 connector responsiblity

The XCP-32-DB9 is the newly created 32-port DB9 breakout panel with MDR connector for the AIO-16.  It allows you to expand the number of DB-9 serial ports on the ADAM system connecting 2 AIO-16 cards per breakout panel.

**NOTE**:  When using the 32-port DB-9 breakout panel, you must use the MDR backcard with the AIO-16 card.

**DB-9 Breakout Panel**:     **MDR Connector**

9-pin male D-sub

Pin 1     Keypanel Data +
Pin 2     Keypanel Data -
Pin 3     N/A
Pin 4     Audio Out +
Pin 5     Audio Out -
Pin 6     N/A
Pin 7     Audio In -
Pin 8     Audio In +
Pin 9     N/A

| Pin Number | Port | Function | Pin Number | Port | Function |
|---|---|---|---|---|---|
| 8 | 1 | Data + | 4 | 5 | Data + |
| 33 | 1 | Data - | 29 | 5 | Data - |
| 24 | 1 | Audio To Matrix + | 16 | 5 | Audio To Matrix + |
| 49 | 1 | Audio To Matrix - | 41 | 5 | Audio To Matrix - |
| 25 | 1 | Audio From Matrix + | 17 | 5 | Audio From Matrix + |
| 50 | 1 | Audio From Matrix - | 42 | 5 | Audio From Matrix - |
| | | | | | |
| 7 | 2 | Data + | 3 | 6 | Data + |
| 32 | 2 | Data - | 28 | 6 | Data - |
| 22 | 2 | Audio To Matrix + | 14 | 6 | Audio To Matrix + |
| 47 | 2 | Audio To Matrix - | 39 | 6 | Audio To Matrix - |
| 23 | 2 | Audio From Matrix + | 15 | 6 | Audio From Matrix + |
| 48 | 2 | Audio From Matrix - | 40 | 6 | Audio From Matrix - |
| | | | | | |
| 6 | 3 | Data + | 2 | 7 | Data + |
| 31 | 3 | Data - | 27 | 7 | Data - |
| 20 | 3 | Audio To Matrix + | 12 | 7 | Audio To Matrix + |
| 45 | 3 | Audio To Matrix - | 37 | 7 | Audio To Matrix - |
| 21 | 3 | Audio From Matrix + | 13 | 7 | Audio From Matrix + |
| 46 | 3 | Audio From Matrix - | 38 | 7 | Audio From Matrix - |
| | | | | | |
| 5 | 4 | Data + | 1 | 8 | Data + |
| 30 | 4 | Data - | 26 | 8 | Data - |
| 18 | 4 | Audio To Matrix + | 10 | 8 | Audio To Matrix + |
| 43 | 4 | Audio To Matrix - | 35 | 8 | Audio To Matrix - |
| 19 | 4 | Audio From Matrix + | 11 | 8 | Audio From Matrix + |
| 44 | 4 | Audio From Matrix - | 36 | 8 | Audio From Matrix - |

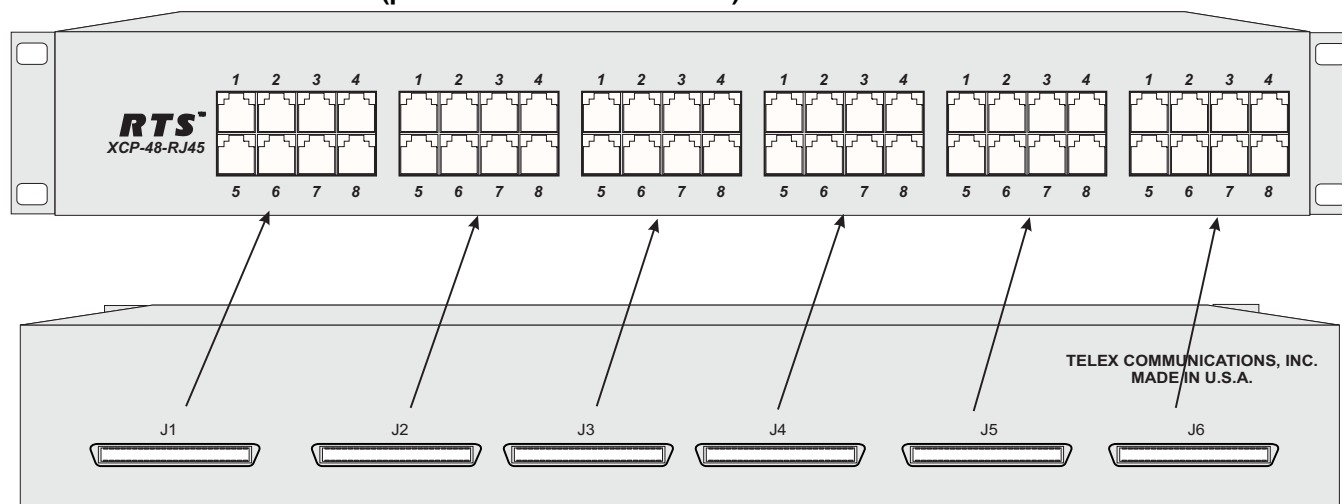**NOTE**:  There are 4 MDR connectors on the XCP-48-TELCO Breakout Panel.  See table 2 for MDR port assignments.

| MDR Connector | Port |
|---|---|
| J1 | 1-8 |
| J2 | 9-16 |
| J3 | 17-24 |
| J4 | 25-32 |

*Table 2.  MDR port assignments.*

# XCP-48-RJ45

**XCP-48-RJ45 Breakout Panel (part number 9000-7809-000)**



**The arrows represent the MDR to RJ-45 connection responsibility**

The XCP-48-RJ45 is the newly created 48-port RJ-45 breakout panel with MDR connector for the AIO-16.  It allows you to expand the number of  RJ-45 ports on the ADAM system up to 48 ports connecting 3 AIO-16 cards per breakout panel.

**NOTE**:  When using the 48-port RJ-45 breakout panel, you must use the MDR backcard with the AIO-16 card.

**RJ-45 Breakout Panel**

| Pin 1 | N/A |
|---|---|
| Pin 2 | Keypanel Data - |
| Pin 3 | Audio Out + |
| Pin 4 | Audio In + |
| Pin 5 | Audio In - |
| Pin 6 | Audio Out - |
| Pin 7 | Keypanel Data + |
| Pin 8 | N/A |

**MDR Connector**

| Pin Number | Port | Function | Pin Number | Port | Function |
|---|---|---|---|---|---|
| 8 | 1 | Data + | 4 | 5 | Data + |
| 33 | 1 | Data - | 29 | 5 | Data - |
| 24 | 1 | Audio To Matrix + | 16 | 5 | Audio To Matrix + |
| 49 | 1 | Audio To Matrix - | 41 | 5 | Audio To Matrix - |
| 25 | 1 | Audio From Matrix + | 17 | 5 | Audio From Matrix + |
| 50 | 1 | Audio From Matrix - | 42 | 5 | Audio From Matrix - |
| | | | | | |
| 7 | 2 | Data + | 3 | 6 | Data + |
| 32 | 2 | Data - | 28 | 6 | Data - |
| 22 | 2 | Audio To Matrix + | 14 | 6 | Audio To Matrix + |
| 47 | 2 | Audio To Matrix - | 39 | 6 | Audio To Matrix - |
| 23 | 2 | Audio From Matrix + | 15 | 6 | Audio From Matrix + |
| 48 | 2 | Audio From Matrix - | 40 | 6 | Audio From Matrix - |
| | | | | | |
| 6 | 3 | Data + | 2 | 7 | Data + |
| 31 | 3 | Data - | 27 | 7 | Data - |
| 20 | 3 | Audio To Matrix + | 12 | 7 | Audio To Matrix + |
| 45 | 3 | Audio To Matrix - | 37 | 7 | Audio To Matrix - |
| 21 | 3 | Audio From Matrix + | 13 | 7 | Audio From Matrix + |
| 46 | 3 | Audio From Matrix - | 38 | 7 | Audio From Matrix - |
| | | | | | |
| 5 | 4 | Data + | 1 | 8 | Data + |
| 30 | 4 | Data - | 26 | 8 | Data - |
| 18 | 4 | Audio To Matrix + | 10 | 8 | Audio To Matrix + |
| 43 | 4 | Audio To Matrix - | 35 | 8 | Audio To Matrix - |
| 19 | 4 | Audio From Matrix + | 11 | 8 | Audio From Matrix + |
| 44 | 4 | Audio From Matrix - | 36 | 8 | Audio From Matrix - |

**NOTE**:  There are 6 MDR connectors on the XCP-48-TELCO Breakout Panel.  See table 3 for MDR port assignments.

| MDR Connector | Port |
|---|---|
| J1 | 1-8 |
| J2 | 9-16 |
| J3 | 17-24 |
| J4 | 25-32 |
| J5 | 33-40 |
| J6 | 41-48 |

*Table 3.  MDR port assignments.*

# XCP-48-TELCO

## XCP-48-TELCO (part number 9000-7822-000)

Telco Connector (J1 - J6)    MDR Connector (J100 - J600)



The XCP-48-Telco is the newly created breakout panel with MDR connector for the AIO-16.  It combines audio to matrix, audio from matrix, and data pairs. It then routes them on individual Telco connectors.  It allows you to connect to 48 port on the ADAM with the maximum of 3 AIO-16 cards.  The XCP32-DB9 is backward compatible with the AIO-8 card.

**NOTE**:  When using the DB-9 breakout panel, you must use the MDR backcard with the AIO-16 card.

## MDR Connector

| Pin Number | Port | Function | Pin Number | Port | Function |
|---|---|---|---|---|---|
| 8 | 1 | Data + | 4 | 5 | Data + |
| 33 | 1 | Data - | 29 | 5 | Data - |
| 24 | 1 | Audio To Matrix + | 16 | 5 | Audio To Matrix + |
| 49 | 1 | Audio To Matrix - | 41 | 5 | Audio To Matrix - |
| 25 | 1 | Audio From Matrix + | 17 | 5 | Audio From Matrix + |
| 50 | 1 | Audio From Matrix - | 42 | 5 | Audio From Matrix - |
| | | | | | |
| 7 | 2 | Data + | 3 | 6 | Data + |
| 32 | 2 | Data - | 28 | 6 | Data - |
| 22 | 2 | Audio To Matrix + | 14 | 6 | Audio To Matrix + |
| 47 | 2 | Audio To Matrix - | 39 | 6 | Audio To Matrix - |
| 23 | 2 | Audio From Matrix + | 15 | 6 | Audio From Matrix + |
| 48 | 2 | Audio From Matrix - | 40 | 6 | Audio From Matrix - |
| | | | | | |
| 6 | 3 | Data + | 2 | 7 | Data + |
| 31 | 3 | Data - | 27 | 7 | Data - |
| 20 | 3 | Audio To Matrix + | 12 | 7 | Audio To Matrix + |
| 45 | 3 | Audio To Matrix - | 37 | 7 | Audio To Matrix - |
| 21 | 3 | Audio From Matrix + | 13 | 7 | Audio From Matrix + |
| 46 | 3 | Audio From Matrix - | 38 | 7 | Audio From Matrix - |
| | | | | | |
| 5 | 4 | Data + | 1 | 8 | Data + |
| 30 | 4 | Data - | 26 | 8 | Data - |
| 18 | 4 | Audio To Matrix + | 10 | 8 | Audio To Matrix + |
| 43 | 4 | Audio To Matrix - | 35 | 8 | Audio To Matrix - |
| 19 | 4 | Audio From Matrix + | 11 | 8 | Audio From Matrix + |
| 44 | 4 | Audio From Matrix - | 36 | 8 | Audio From Matrix - |

**NOTE**:  There are 6 MDR connectors on the XCP-48-TELCO Breakout Panel.  See table 4 for MDR port assignments.
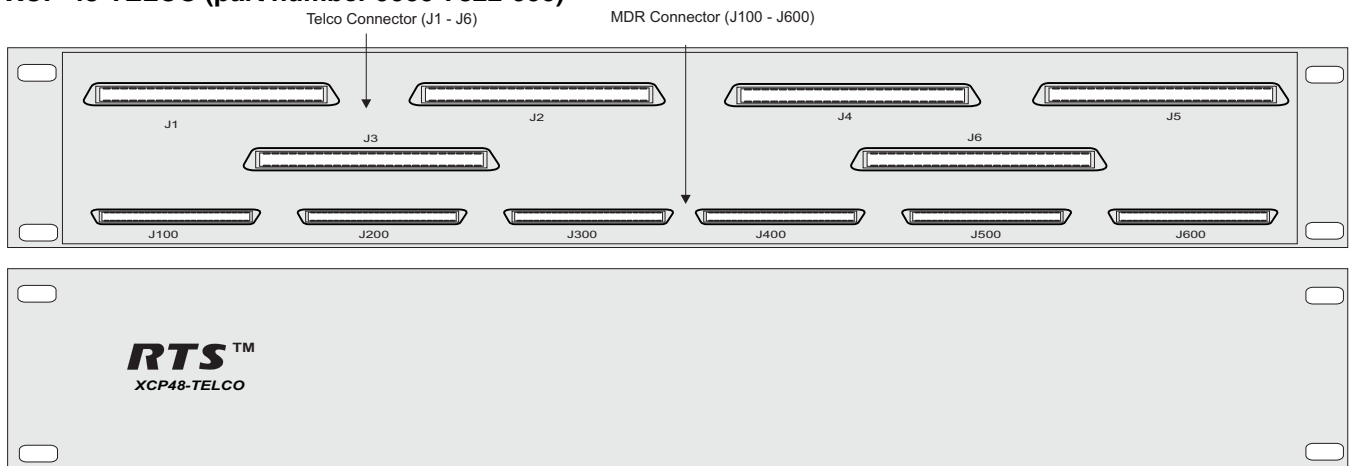
| MDR Connector | Port |
|---|---|
| J100 | 1-8 |
| J200 | 9-16 |
| J300 | 17-24 |
| J400 | 25-32 |
| J500 | 33-40 |
| J600 | 41-48 |

*Table 4.  MDR port assignments.*

**TELCO Backcard**
**TELCO Connector - J1, J4**

| Pin Number | Port | Function |
|---|---|---|
| 1 | 1 | Audio To Matrix + |
| 26 | 1 | Audio To Matrix - |
| 2 | 2 | Audio To Matrix + |
| 27 | 2 | Audio To Matrix - |
| 3 | 3 | Audio To Matrix + |
| 28 | 3 | Audio To Matrix - |
| 4 | 4 | Audio To Matrix + |
| 29 | 4 | Audio To Matrix - |
| 5 | 5 | Audio To Matrix + |
| 30 | 5 | Audio To Matrix - |
| 6 | 6 | Audio To Matrix + |
| 31 | 6 | Audio To Matrix - |
| 7 | 7 | Audio To Matrix + |
| 32 | 7 | Audio To Matrix - |
| 8 | 8 | Audio To Matrix + |
| 33 | 8 | Audio To Matrix - |
| 9 | 9 | Audio To Matrix + |
| 34 | 9 | Audio To Matrix - |
| 10 | 10 | Audio To Matrix + |
| 35 | 10 | Audio To Matrix - |
| 11 | 11 | Audio To Matrix + |
| 36 | 11 | Audio To Matrix - |
| 12 | 12 | Audio To Matrix + |
| 37 | 12 | Audio To Matrix - |
| 13 | 13 | Audio To Matrix + |
| 38 | 13 | Audio To Matrix - |
| 14 | 14 | Audio To Matrix + |
| 39 | 14 | Audio To Matrix - |
| 15 | 15 | Audio To Matrix + |
| 40 | 15 | Audio To Matrix - |
| 16 | 16 | Audio To Matrix + |
| 41 | 16 | Audio To Matrix - |
| 17 | 17 | Audio To Matrix + |
| 42 | 17 | Audio To Matrix - |
| 18 | 18 | Audio To Matrix + |
| 43 | 18 | Audio To Matrix - |
| 19 | 19 | Audio To Matrix + |
| 44 | 19 | Audio To Matrix - |
| 20 | 20 | Audio To Matrix + |
| 45 | 20 | Audio To Matrix - |
| 21 | 21 | Audio To Matrix + |
| 46 | 21 | Audio To Matrix - |
| 22 | 22 | Audio To Matrix + |
| 47 | 22 | Audio To Matrix - |
| 23 | 23 | Audio To Matrix + |
| 48 | 23 | Audio To Matrix - |
| 24 | 24 | Audio To Matrix + |
| 49 | 24 | Audio To Matrix - |

**TELCO Connector - J2, J5**

| Pin Number | Port | Function |
|---|---|---|
| 1 | 1 | Audio From Matrix + |
| 26 | 1 | Audio From Matrix - |
| | | |
| 2 | 2 | Audio From Matrix + |
| 27 | 2 | Audio From Matrix - |
| | | |
| 3 | 3 | Audio From Matrix + |
| 28 | 3 | Audio From Matrix - |
| | | |
| 4 | 4 | Audio From Matrix + |
| 29 | 4 | Audio From Matrix - |
| | | |
| 5 | 5 | Audio From Matrix + |
| 30 | 5 | Audio To Matrix - |
| | | |
| 6 | 6 | Audio From Matrix + |
| 31 | 6 | Audio From Matrix - |
| | | |
| 7 | 7 | Audio From Matrix + |
| 32 | 7 | Audio From Matrix - |
| | | |
| 8 | 8 | Audio From Matrix + |
| 33 | 8 | Audio From Matrix - |
| | | |
| 9 | 9 | Audio From Matrix + |
| 34 | 9 | Audio From Matrix - |
| | | |
| 10 | 10 | Audio From Matrix + |
| 35 | 10 | Audio From Matrix - |
| | | |
| 11 | 11 | Audio From Matrix + |
| 36 | 11 | Audio From Matrix - |

| Pin Number | Port | Function |
|---|---|---|
| 12 | 12 | Audio From Matrix + |
| 37 | 12 | Audio From Matrix - |
| | | |
| 13 | 13 | Audio From Matrix + |
| 38 | 13 | Audio From Matrix - |
| | | |
| 14 | 14 | Audio From Matrix + |
| 39 | 14 | Audio From Matrix - |
| | | |
| 15 | 15 | Audio From Matrix + |
| 40 | 15 | Audio From Matrix - |
| | | |
| 16 | 16 | Audio From Matrix + |
| 41 | 16 | Audio From Matrix - |
| | | |
| 17 | 17 | Audio From Matrix + |
| 42 | 17 | Audio From Matrix - |
| | | |
| 18 | 18 | Audio From Matrix + |
| 43 | 18 | Audio From Matrix - |
| | | |
| 19 | 19 | Audio From Matrix + |
| 44 | 19 | Audio From Matrix - |
| | | |
| 20 | 20 | Audio From Matrix + |
| 45 | 20 | Audio From Matrix - |
| | | |
| 21 | 21 | Audio From Matrix + |
| 46 | 21 | Audio From Matrix - |
| | | |
| 22 | 22 | Audio From Matrix + |
| 47 | 22 | Audio From Matrix - |
| | | |
| 23 | 23 | Audio From Matrix + |
| 48 | 23 | Audio From Matrix - |
| | | |
| 24 | 24 | Audio From Matrix + |
| 49 | 24 | Audio From Matrix - |

**TELCO Connector - J3, J6**

| Pin Number | Port | Function |
|---|---|---|
| 1 | 1 | Data + |
| 26 | 1 | Data - |
| | | |
| 2 | 2 | Data + |
| 27 | 2 | Data - |
| | | |
| 3 | 3 | Data + |
| 28 | 3 | Data - |
| | | |
| 4 | 4 | Data + |
| 29 | 4 | Data - |
| | | |
| 5 | 5 | Data + |
| 30 | 5 | Data - |
| | | |
| 6 | 6 | Data + |
| 31 | 6 | Data - |
| | | |
| 7 | 7 | Data + |
| 32 | 7 | Data - |
| | | |
| 8 | 8 | Data + |
| 33 | 8 | Data - |
| | | |
| 9 | 9 | Data + |
| 34 | 9 | Data - |
| | | |
| 10 | 10 | Data + |
| 35 | 10 | Data - |
| | | |
| 11 | 11 | Data + |
| 36 | 11 | Data - |

| Pin Number | Port | Function |
|---|---|---|
| 12 | 12 | Data + |
| 37 | 12 | Data - |
| | | |
| 13 | 13 | Data + |
| 38 | 13 | Data - |
| | | |
| 14 | 14 | Data + |
| 39 | 14 | Data - |
| | | |
| 15 | 15 | Data + |
| 40 | 15 | Data - |
| | | |
| 16 | 16 | Data + |
| 41 | 16 | Data - |
| | | |
| 17 | 17 | Data + |
| 42 | 17 | Data - |
| | | |
| 18 | 18 | Data + |
| 43 | 18 | Data - |
| | | |
| 19 | 19 | Data + |
| 44 | 19 | Data - |
| | | |
| 20 | 20 | Data + |
| 45 | 20 | Data - |
| | | |
| 21 | 21 | Data + |
| 46 | 21 | Data - |
| | | |
| 22 | 22 | Data + |
| 47 | 22 | Data - |
| | | |
| 23 | 23 | Data + |
| 48 | 23 | Data - |
| | | |
| 24 | 24 | Data + |
| 49 | 24 | Data - |

# XCP-40-DB9

## XCP-40-DB9 (part number 9000-7515-000)
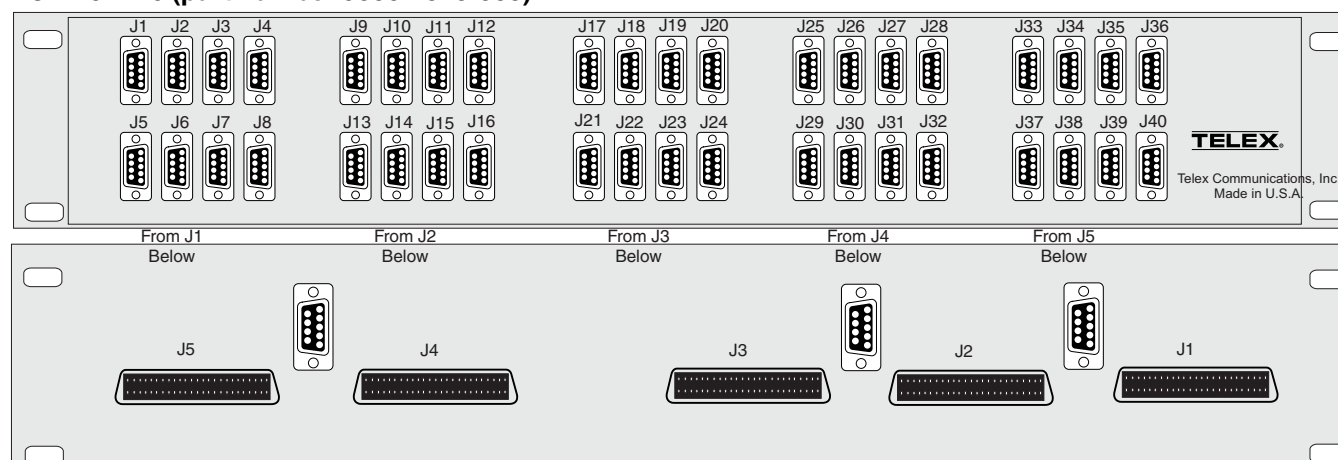


The XCP-40-DB9 breakout panel allows for the expansion of the ADAM frame at 40+, 80+, and 120+.

When using the 40-port DB-9 breakout panel, you must use the SCSI backcard with the AIO-16 card.

**DB-9 Breakout Panel**:
9-pin male D-sub
Pin 1    Keypanel Data +
Pin 2    Keypanel Data -
Pin 3    N/A
Pin 4    Audio Out +
Pin 5    Audio Out -
Pin 6    N/A
Pin 7    Audio In -
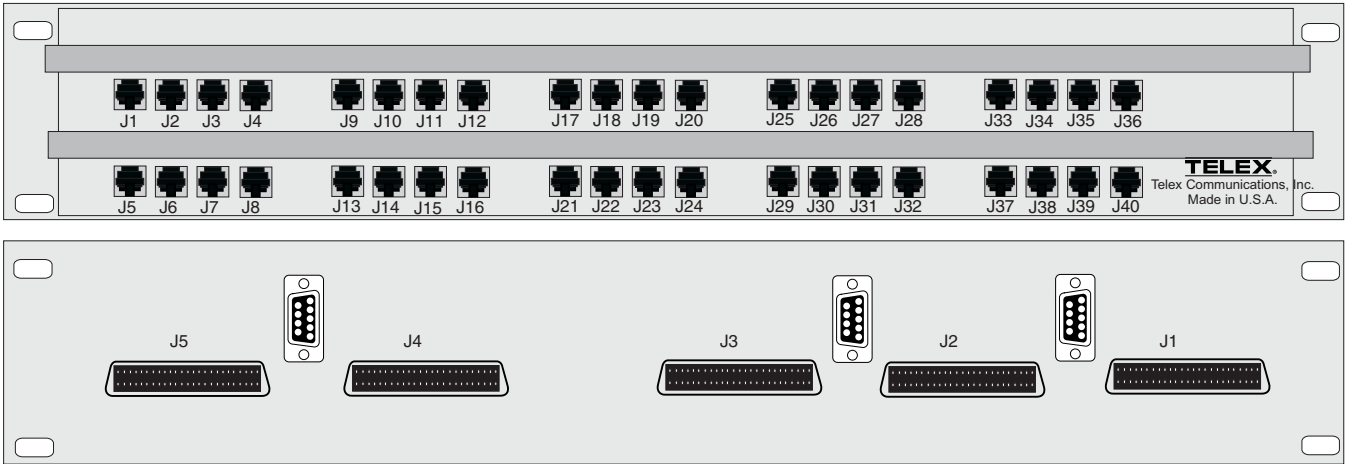Pin 8    Audio In +
Pin 9    N/A

**SCSI Backcard**
**SCSI Connector - J1, J2, J3, J4, J5**

| Pin Number | Port | Function | Pin Number | Port | Function |
|---|---|---|---|---|---|
| 2 | | Data+ | 42 | 5 | Audio To Matrix + |
| 27 | | Data- | 17 | 5 | Audio To Matrix - |
| | | | 43 | 5 | Audio From Matrix+ |
| 34 | 1 | Audio To Matrix + | 18 | 5 | Audio From Matrix - |
| 9 | 1 | Audio To Matrix - | | | |
| 35 | 1 | Audio From Matrix+ | 44 | 6 | Audio To Matrix + |
| 10 | 1 | Audio From Matrix - | 19 | 6 | Audio To Matrix - |
| | | | 45 | 6 | Audio From Matrix+ |
| 36 | 2 | Audio To Matrix + | 20 | 6 | Audio From Matrix - |
| 11 | 2 | Audio To Matrix - | | | |
| 37 | 2 | Audio From Matrix+ | 46 | 7 | Audio To Matrix + |
| 12 | 2 | Audio From Matrix - | 21 | 7 | Audio To Matrix - |
| | | | 47 | 7 | Audio From Matrix+ |
| 38 | 3 | Audio To Matrix + | 22 | 7 | Audio From Matrix - |
| 13 | 3 | Audio To Matrix - | | | |
| 39 | 3 | Audio From Matrix+ | 48 | 8 | Audio To Matrix + |
| 14 | 3 | Audio From Matrix - | 23 | 8 | Audio To Matrix - |
| | | | 49 | 8 | Audio From Matrix+ |
| 40 | 4 | Audio To Matrix + | 24 | 8 | Audio From Matrix - |
| 15 | 4 | Audio To Matrix - | | | |
| 41 | 4 | Audio From Matrix+ | | | |
| 16 | 4 | Audio From Matrix - | | | |

# XCP-40-RJ11

**XCP-40-RJ12 Breakout Panel (part number 9000-7494-000)**



The XCP-40-RJ12 breakout panel allows for the expansion of the ADAM frame using RJ-12 connectors.

When using the 40-port RJ-12 breakout panel, you must use the SCSI backcard with the AIO-16 card.
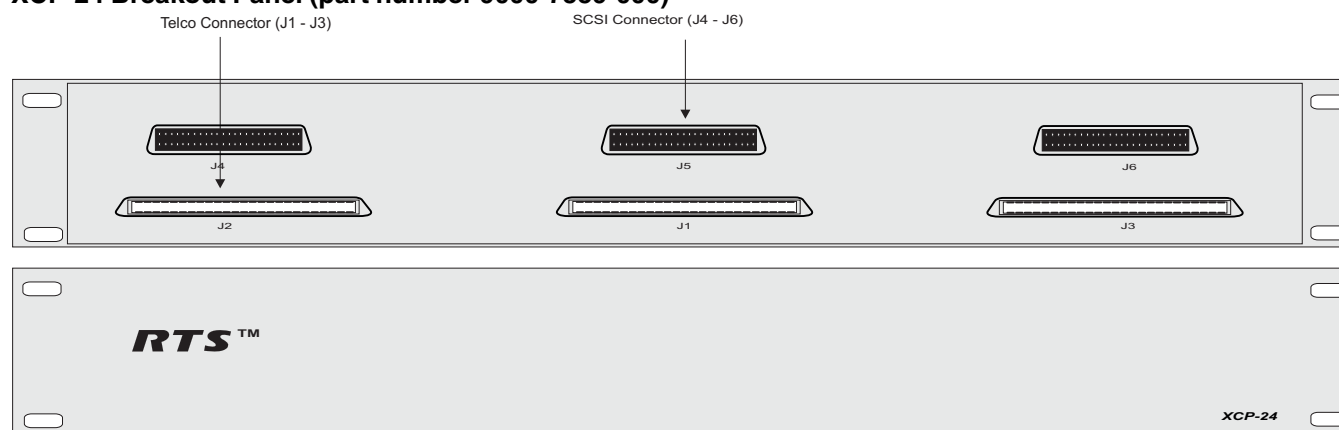
### RJ-12 Connector

Pin 1    Keypanel Data -
Pin 2    Audio Out +
Pin 3    Audio In +
Pin 4    Audio In -
Pin 5    Audio Out -
Pin 6    Keypanel Data +

### SCSI Connector - J1, J2, J3, J4, J5

| Pin Number | Port | Function | Pin Number | Port | Function |
|---|---|---|---|---|---|
| 2 | | Data+ | 42 | 5 | Audio To Matrix + |
| 27 | | Data- | 17 | 5 | Audio To Matrix - |
| | | | 43 | 5 | Audio From Matrix+ |
| 34 | 1 | Audio To Matrix + | 18 | 5 | Audio From Matrix - |
| 9 | 1 | Audio To Matrix - | | | |
| 35 | 1 | Audio From Matrix+ | 44 | 6 | Audio To Matrix + |
| 10 | 1 | Audio From Matrix - | 19 | 6 | Audio To Matrix - |
| | | | 45 | 6 | Audio From Matrix+ |
| 36 | 2 | Audio To Matrix + | 20 | 6 | Audio From Matrix - |
| 11 | 2 | Audio To Matrix - | | | |
| 37 | 2 | Audio From Matrix+ | 46 | 7 | Audio To Matrix + |
| 12 | 2 | Audio From Matrix - | 21 | 7 | Audio To Matrix - |
| | | | 47 | 7 | Audio From Matrix+ |
| 38 | 3 | Audio To Matrix + | 22 | 7 | Audio From Matrix - |
| 13 | 3 | Audio To Matrix - | | | |
| 39 | 3 | Audio From Matrix+ | 48 | 8 | Audio To Matrix + |
| 14 | 3 | Audio From Matrix - | 23 | 8 | Audio To Matrix - |
| | | | 49 | 8 | Audio From Matrix+ |
| 40 | 4 | Audio To Matrix + | 24 | 8 | Audio From Matrix - |
| 15 | 4 | Audio To Matrix - | | | |
| 41 | 4 | Audio From Matrix+ | | | |
| 16 | 4 | Audio From Matrix - | | | |

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# XCP-24

## XCP-24 Breakout Panel (part number 9000-7559-000)

Telco Connector (J1 - J3)          SCSI Connector (J4 - J6)



The XCP-24 breakout panel allows for the expansion of the ADAM frame using TELCO connectors.

When using the XCP-24  breakout panel, you must use the SCSI backcard with the AIO-16 card.

## SCSI Connector - J1, J2, J3, J4, J5

| Pin Number | Port | Function | Pin Number | Port | Function |
|---|---|---|---|---|---|
| 2 | | Data+ | 42 | 5 | Audio To Matrix + |
| 27 | | Data- | 17 | 5 | Audio To Matrix - |
| | | | 43 | 5 | Audio From Matrix+ |
| 34 | 1 | Audio To Matrix + | 18 | 5 | Audio From Matrix - |
| 9 | 1 | Audio To Matrix - | | | |
| 35 | 1 | Audio From Matrix+ | 44 | 6 | Audio To Matrix + |
| 10 | 1 | Audio From Matrix - | 19 | 6 | Audio To Matrix - |
| | | | 45 | 6 | Audio From Matrix+ |
| 36 | 2 | Audio To Matrix + | 20 | 6 | Audio From Matrix - |
| 11 | 2 | Audio To Matrix - | | | |
| 37 | 2 | Audio From Matrix+ | 46 | 7 | Audio To Matrix + |
| 12 | 2 | Audio From Matrix - | 21 | 7 | Audio To Matrix - |
| | | | 47 | 7 | Audio From Matrix+ |
| 38 | 3 | Audio To Matrix + | 22 | 7 | Audio From Matrix - |
| 13 | 3 | Audio To Matrix - | | | |
| 39 | 3 | Audio From Matrix+ | 48 | 8 | Audio To Matrix + |
| 14 | 3 | Audio From Matrix - | 23 | 8 | Audio To Matrix - |
| | | | 49 | 8 | Audio From Matrix+ |
| 40 | 4 | Audio To Matrix + | 24 | 8 | Audio From Matrix - |
| 15 | 4 | Audio To Matrix - | | | |
| 41 | 4 | Audio From Matrix+ | | | |
| 16 | 4 | Audio From Matrix - | | | |

**TELCO Backcard**
**TELCO Connector - J1**

| Pin Number | Port | Function |
|---|---|---|
| 1 | 1 | Audio To Matrix + |
| 26 | 1 | Audio To Matrix - |
| 2 | 2 | Audio To Matrix + |
| 27 | 2 | Audio To Matrix - |
| 3 | 3 | Audio To Matrix + |
| 28 | 3 | Audio To Matrix - |
| 4 | 4 | Audio To Matrix + |
| 29 | 4 | Audio To Matrix - |
| 5 | 5 | Audio To Matrix + |
| 30 | 5 | Audio To Matrix - |
| 6 | 6 | Audio To Matrix + |
| 31 | 6 | Audio To Matrix - |
| 7 | 7 | Audio To Matrix + |
| 32 | 7 | Audio To Matrix - |
| 8 | 8 | Audio To Matrix + |
| 33 | 8 | Audio To Matrix - |
| 9 | 9 | Audio To Matrix + |
| 34 | 9 | Audio To Matrix - |
| 10 | 10 | Audio To Matrix + |
| 35 | 10 | Audio To Matrix - |
| 11 | 11 | Audio To Matrix + |
| 36 | 11 | Audio To Matrix - |
| 12 | 12 | Audio To Matrix + |
| 37 | 12 | Audio To Matrix - |
| 13 | 13 | Audio To Matrix + |
| 38 | 13 | Audio To Matrix - |
| 14 | 14 | Audio To Matrix + |
| 39 | 14 | Audio To Matrix - |
| 15 | 15 | Audio To Matrix + |
| 40 | 15 | Audio To Matrix - |
| 16 | 16 | Audio To Matrix + |
| 41 | 16 | Audio To Matrix - |
| 17 | 17 | Audio To Matrix + |
| 42 | 17 | Audio To Matrix - |
| 18 | 18 | Audio To Matrix + |
| 43 | 18 | Audio To Matrix - |
| 19 | 19 | Audio To Matrix + |
| 44 | 19 | Audio To Matrix - |
| 20 | 20 | Audio To Matrix + |
| 45 | 20 | Audio To Matrix - |
| 21 | 21 | Audio To Matrix + |
| 46 | 21 | Audio To Matrix - |
| 22 | 22 | Audio To Matrix + |
| 47 | 22 | Audio To Matrix - |
| 23 | 23 | Audio To Matrix + |
| 48 | 23 | Audio To Matrix - |
| 24 | 24 | Audio To Matrix + |
| 49 | 24 | Audio To Matrix - |

## TELCO Connector - J2

| Pin Number | Port | Function |
|---|---|---|
| 1 | 1 | Audio From Matrix + |
| 26 | 1 | Audio From Matrix - |
| 2 | 2 | Audio From Matrix + |
| 27 | 2 | Audio From Matrix - |
| 3 | 3 | Audio From Matrix + |
| 28 | 3 | Audio From Matrix - |
| 4 | 4 | Audio From Matrix + |
| 29 | 4 | Audio From Matrix - |
| 5 | 5 | Audio From Matrix + |
| 30 | 5 | Audio To Matrix - |
| 6 | 6 | Audio From Matrix + |
| 31 | 6 | Audio From Matrix - |
| 7 | 7 | Audio From Matrix + |
| 32 | 7 | Audio From Matrix - |
| 8 | 8 | Audio From Matrix + |
| 33 | 8 | Audio From Matrix - |
| 9 | 9 | Audio From Matrix + |
| 34 | 9 | Audio From Matrix - |
| 10 | 10 | Audio From Matrix + |
| 35 | 10 | Audio From Matrix - |
| 11 | 11 | Audio From Matrix + |
| 36 | 11 | Audio From Matrix - |

| Pin Number | Port | Function |
|---|---|---|
| 12 | 12 | Audio From Matrix + |
| 37 | 12 | Audio From Matrix - |
| 13 | 13 | Audio From Matrix + |
| 38 | 13 | Audio From Matrix - |
| 14 | 14 | Audio From Matrix + |
| 39 | 14 | Audio From Matrix - |
| 15 | 15 | Audio From Matrix + |
| 40 | 15 | Audio From Matrix - |
| 16 | 16 | Audio From Matrix + |
| 41 | 16 | Audio From Matrix - |
| 17 | 17 | Audio From Matrix + |
| 42 | 17 | Audio From Matrix - |
| 18 | 18 | Audio From Matrix + |
| 43 | 18 | Audio From Matrix - |
| 19 | 19 | Audio From Matrix + |
| 44 | 19 | Audio From Matrix - |
| 20 | 20 | Audio From Matrix + |
| 45 | 20 | Audio From Matrix - |
| 21 | 21 | Audio From Matrix + |
| 46 | 21 | Audio From Matrix - |
| 22 | 22 | Audio From Matrix + |
| 47 | 22 | Audio From Matrix - |
| 23 | 23 | Audio From Matrix + |
| 48 | 23 | Audio From Matrix - |
| 24 | 24 | Audio From Matrix + |
| 49 | 24 | Audio From Matrix - |

## TELCO Connector - J3

| Pin Number | Port | Function |
|---|---|---|
| 1-8 | 1-8 | Data + |
| 25-33 | 1-8 | Data - |
| 9-16 | 2-16 | Data + |
| 34-41 | 2-16 | Data - |
| 17-24 | 17-24 | Data + |
| 42-49 | 17-24 | Data - |

# XCP-24-USOC

## XCP-24-USCO Breakout Panel (part number )
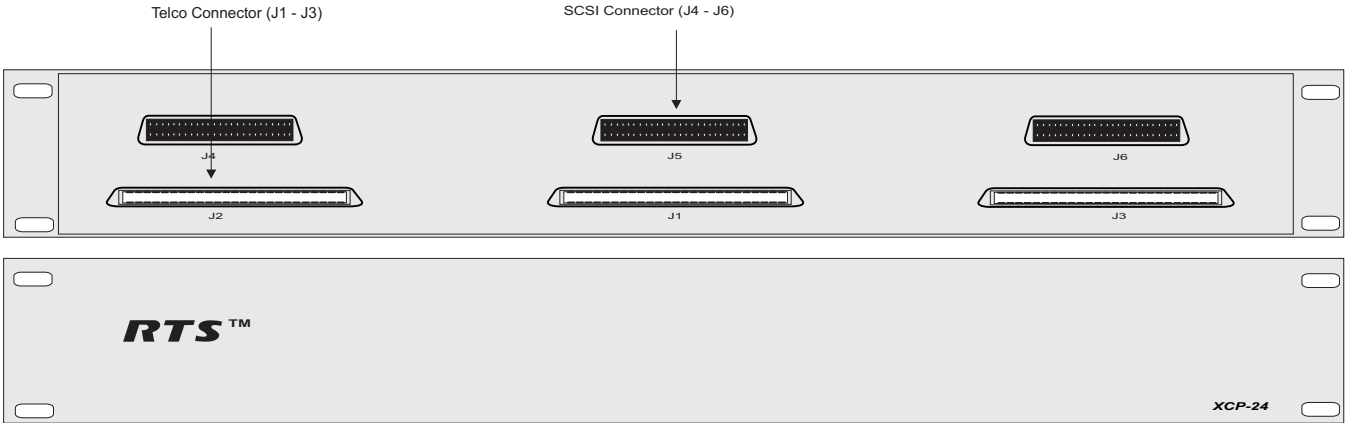
Telco Connector (J1 - J3)     SCSI Connector (J4 - J6)

J4     J5     J6

J2     J1     J3

RTS™

XCP-24

The XCP-24 breakout panel allows for the expansion of the ADAM frame using TELCO connectors.

When using the XCP-24  breakout panel, you must use the SCSI backcard with the AIO-16 card.

### SCSI Connector - J4, J5, J6

| Pin Number | Port | Function | Pin Number | Port | Function |
|---|---|---|---|---|---|
| 2 | | Data+ | 42 | 5 | Audio To Matrix + |
| 27 | | Data- | 17 | 5 | Audio To Matrix - |
| | | | 43 | 5 | Audio From Matrix+ |
| 34 | 1 | Audio To Matrix + | 18 | 5 | Audio From Matrix - |
| 9 | 1 | Audio To Matrix - | | | |
| 35 | 1 | Audio From Matrix+ | 44 | 6 | Audio To Matrix + |
| 10 | 1 | Audio From Matrix - | 19 | 6 | Audio To Matrix - |
| | | | 45 | 6 | Audio From Matrix+ |
| 36 | 2 | Audio To Matrix + | 20 | 6 | Audio From Matrix - |
| 11 | 2 | Audio To Matrix - | | | |
| 37 | 2 | Audio From Matrix+ | 46 | 7 | Audio To Matrix + |
| 12 | 2 | Audio From Matrix - | 21 | 7 | Audio To Matrix - |
| | | | 47 | 7 | Audio From Matrix+ |
| 38 | 3 | Audio To Matrix + | 22 | 7 | Audio From Matrix - |
| 13 | 3 | Audio To Matrix - | | | |
| 39 | 3 | Audio From Matrix+ | 48 | 8 | Audio To Matrix + |
| 14 | 3 | Audio From Matrix - | 23 | 8 | Audio To Matrix - |
| | | | 49 | 8 | Audio From Matrix+ |
| 40 | 4 | Audio To Matrix + | 24 | 8 | Audio From Matrix - |
| 15 | 4 | Audio To Matrix - | | | |
| 41 | 4 | Audio From Matrix+ | | | |
| 16 | 4 | Audio From Matrix - | | | |

**TELCO Connector - J1**

| Pin Number | Port | Function | | Pin Number | Port | Function |
|---|---|---|---|---|---|---|
| 1 | 1 | Audio To Matrix - | | 12 | 4 | Data - |
| 26 | 1 | Audio To Matrix + | | 37 | 4 | Data + |
| | | | | | | |
| 2 | 1 | Audio From Matrix - | | 13 | 5 | Audio To Matrix - |
| 27 | 1 | Audio From Matrix + | | 38 | 5 | Audio To Matrix + |
| | | | | | | |
| 3 | 1 | Data - | | 14 | 5 | Audio From Matrix - |
| 28 | 1 | Data + | | 39 | 5 | Audio From Matrix + |
| | | | | | | |
| 4 | 2 | Audio To Matrix - | | 15 | 5 | Data - |
| 29 | 2 | Audio To Matrix + | | 40 | 5 | Data + |
| | | | | | | |
| 5 | 2 | Audio From Matrix - | | 16 | 6 | Audio To Matrix - |
| 30 | 2 | Audio From Matrix + | | 41 | 6 | Audio To Matrix + |
| | | | | | | |
| 6 | 2 | Data - | | 17 | 6 | Audio From Matrix - |
| 31 | 2 | Data + | | 42 | 6 | Audio From Matrix + |
| | | | | | | |
| 7 | 3 | Audio To Matrix - | | 18 | 6 | Data - |
| 32 | 3 | Audio To Matrix + | | 43 | 6 | Data + |
| | | | | | | |
| 8 | 3 | Audio From Matrix - | | 19 | 7 | Audio To Matrix - |
| 33 | 3 | Audio From Matrix + | | 44 | 7 | Audio To Matrix + |
| | | | | | | |
| 9 | 3 | Data - | | 20 | 7 | Audio From Matrix - |
| 34 | 3 | Data + | | 45 | 7 | Audio From Matrix + |
| | | | | | | |
| 10 | 4 | Audio To Matrix - | | 21 | 7 | Data - |
| 35 | 4 | Audio To Matrix + | | 46 | 7 | Data + |
| | | | | | | |
| 11 | 4 | Audio From Matrix - | | 22 | 8 | Audio To Matrix - |
| 36 | 4 | Audio From Matrix + | | 47 | 8 | Audio To Matrix + |
| | | | | | | |
| | | | | 23 | 8 | Audio From Matrix - |
| | | | | 48 | 8 | Audio From Matrix + |
| | | | | | | |
| | | | | 24 | 8 | Data - |
| | | | | 49 | 8 | Data + |

| **Telco Connector** | **Port** |
|---|---|
| J2 | 9-16 |
| J3 | 17-24 |