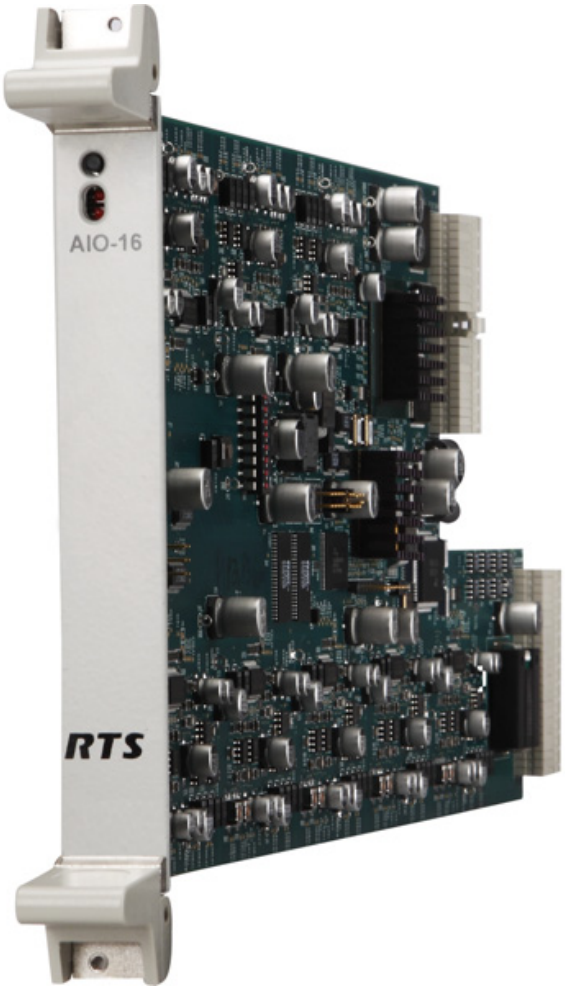
# *AIO-16*
# *16-Channel Input/Output Card*
# *User Manual*



### PROPRIETARY NOTICE



### COPYRIGHT NOTICE



### WARRANTY AND SERVICE INFORMATION

For warranty and service information, refer to the appropriate web site below:

RTS Intercoms ..... www.rtsintercoms.com/warranty
RTS Digital
RTSTW
AudioCom
RadioCom ..... www.telexradiocom.com/warranty
Headsets ..... www.intercomheadsets.com/warranty

### CUSTOMER SUPPORT

Technical questions should be directed to:

Customer Service Department
Bosch Security Systems, Inc.
12000 Portland Avenue South
Burnsville, MN 55337 USA
Telephone: 877-863-4169
Fax: 800-323-0498
Info@rtsintercoms.com

### TECHNICAL QUESTIONS EMEA

Bosch Security Systems Technical Support EMEA
http://www.rtsintercoms.com/contact_main.php

### DISCLAIMER

The manufacturer of the equipment described herein makes no expressed or implied warranty with respect to anything contained in this manual and shall not be held liable for any implied warranties of fitness for a particular application or for any indirect, special, or consequential damages. The information contained herein is subject to change without prior notice and shall not be construed as an expressed or implied commitment on the part of the manufacturer.

| | | |
|---|---|---|
|  THE LIGHTNING FLASH AND ARROWHEAD WITHIN THE TRIANGLE IS A WARNING SIGN ALERTING YOU OF "DANGEROUS VOLTAGE" INSIDE THE PRODUCT. |   CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. |  THE EXCLAMATION POINT WITHIN THE TRIANGLE IS A WARNING SIGN ALERTING YOU OF IMPORTANT INSTRUCTIONS ACCOMPANYING THE PRODUCT. |
| SEE MARKING ON BOTTOM/BACK OF PRODUCT. | | |

**WARNING**: APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

**WARNING**: THE MAIN POWER PLUG MUST REMAIN READILY OPERABLE.

**CAUTION**: TO REDUCE THE RISK OF ELECTRIC SHOCK, GROUNDING OF THE CENTER PIN OF THIS PLUG MUST BE MAINTAINED.

**WARNING**: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPRATUS TO RAIN OR MOISTURE.

**WARNING**: TO PREVENT INJURY, THIS APPARATUS MUST BE SECURELY ATTACHED TO THE FLOOR/WALL/RACK IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS.

| | |
|---|---|
| ∿ | This product is AC only. |

1. Important Safety Instructions
2. Read these instructions.
3. Keep these instructions.
4. Heed all warnings.
5. Follow all instructions.
6. Do not use this apparatus near water.
7. Clean only with dry cloth.
8. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
9. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
10. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
11. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
12. Only use attachments/accessories specified by the manufacturer.
13. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
14. Unplug this apparatus during lightning storms or when unused for long periods of time.
15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

# Table of Contents

# *List of Figures*

CHAPTER 1

# Introduction

## Description

Installed directly into the ADAM™ Matrix Intercom system, the AIO-16 card gives 16 ports of audio IN and OUT for each card installed (up to 17 cards) in the system. This doubles the amount of audio ports available from its predecessor the AIO-8. The AIO-16 is hot-swappable, allowing the user to insert the card and begin using it instantaneously. Once inserted into the system, it uses its “smart card” capability to see the backcard configuration and switches its keypanel communication protocol accordingly.

The AIO-16 is fully compatible with AIO-8 cards. It can run side-by-side with the AIO-8, seamlessly integrating into the port scheme already in place.

There are two AIO-16 backcards, the traditional 50-pin SCSI backcard and the new 50-pin MDR backcard which allows for a separate data pair per keypanel port.

There are also four new breakout panels that can be used with the AIO-16 card (DB-9 breakout, RJ-45 breakout, Telco breakout and the DB-9 Transformer Breakout), bringing the total number of breakout panels compatible with the AIO-16 to seven.

## *Features*

| | |
|---|---|
| Backward Compatibility | |
| | The AIO-16 is compatible with the AIO-8 card. Tho accomplish this backward compatibility, the AIO-16 must use an existing XCP-40-RJ12, XCP-24 (Telco) or XCP-40-DB-9 breakout panel with the SCSI backcard. |
| Smart Card | When the AIO-16 card is inserted into the system, it automatically figures the backcard configuration and the protocols being used. |
| Breakout Panels | Along with the existing breakout panels, four new panels (DB-9, Telco, RJ-45, and DB-9-T) have been specially made to integrate with the new MDR backcard. When using either the XCP-32 DB9, XCP-48-Telco, XCP-48-RJ45, or XCP-16-DB9-T, you must use the MDR backcard. |

## *DIP Switches*

**NOTE**: You must remove the card from the frame in order to change any DIP switch settings.

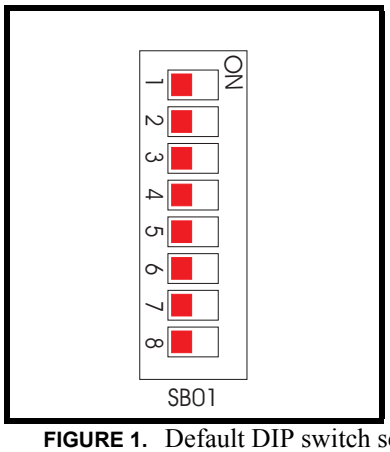



**FIGURE 1.** Default DIP switch settings on the AIO-16 card (SB01).

| | |
|---|---|
| **DIP Switch 1** | Controls the initial load (or reload) of the firmware. |
| **OFF (open)** | Normal operation |
| **ON (closed)** | Boot to GERMS monitor and ignore code in flash. |
| **Description** | When the seitch in the ON porsition, the AIO-16 card skips the firmware programmed in flash. When the switch is in the OFF position, it runs the firmware from flash. |
| **DIP Switches 2-7** | **Unused** |
| | Keep in the OFF position. |
| **DIP Switch 8** | DEBUG ONLY |
| | **Warning**: DIP Switch 8 should always be left in the OFF position. It is reserved for debugging and can have unintended consequences. |

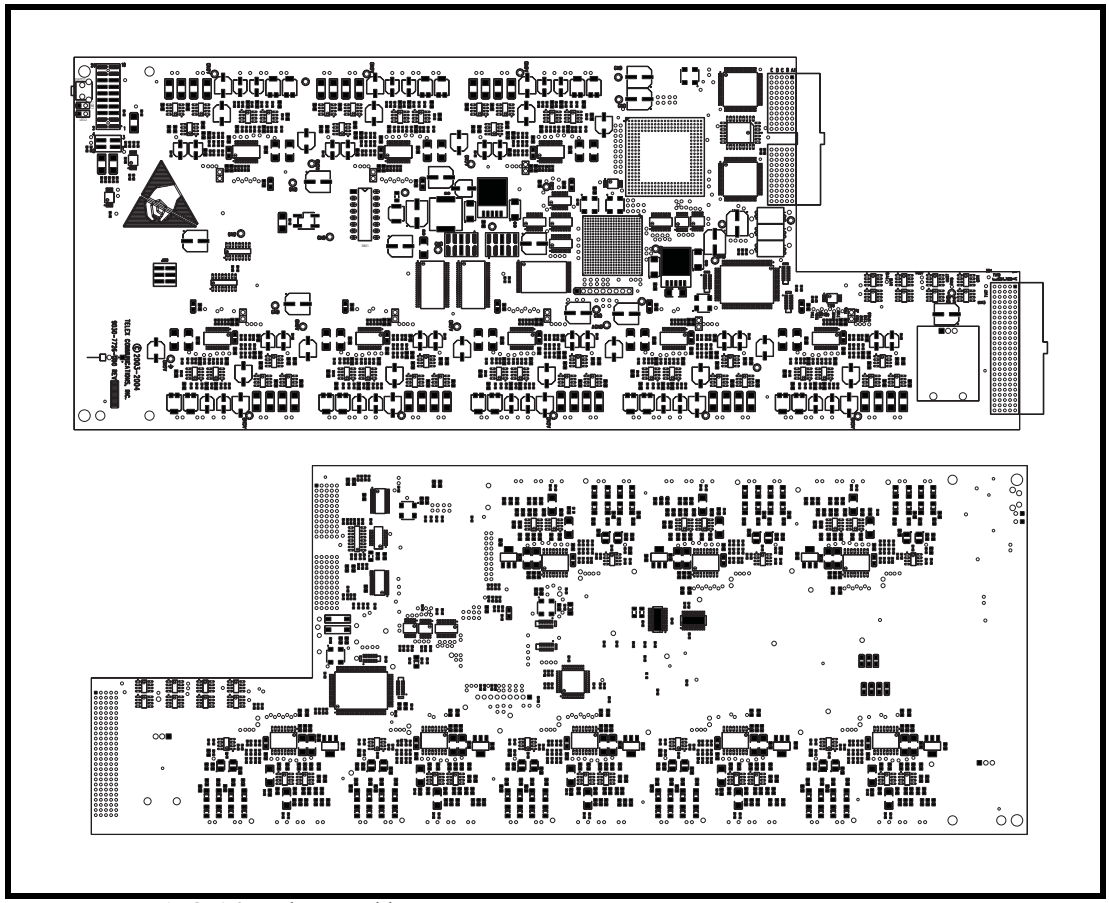


**FIGURE 2.** AIO-16 card top and bottom

## *Specifications*

**Analog**

Signal

Fully differential

Nominal level

8 dBu

Maximum level

20 dBu

Input Impedance

High (22 KΩ)

Output Impedance

Low (600 Ω)

**A/D and D/A**

Sampling Rate

44.1 kHz

Resolution

24 bits

Converter Achitecture

128 x Oversampling Δ–Σ Modulator

**Audio Performance**

SNR at 21 dBu

(A-weighted)>84 dB/81dB (min.)

THD+N at 21 dBu, 1 kHz

(unweighted),0.007%

Frequency Response at 20 dBu

within ± 1dB from 50 Hz - 20 kHz

All measurements performed using an Audio Precision System 2 Dual Domain System.
Measurements were performed using a sine wave at f =1 kHz and level = 21 dBu
bandwidth = 50 Hz to 20 kHz

**Connections** - 4-wire balanced audio. Optional RS-485 data is available to communicate with keypanels. AIO-16 can be plugged into either a SCSI backcard or MDR backcard.

**SCSI Backcard (9000-7726-002)**

Backward compatibility to existing AIO-8 breakout panels. This card carries two single RS-485 data pairs; one data pair per group of 8 keypanel ports.

**MDR Backcard (9000-7726-003**)

Can be connected to 1RU, 48-port RJ-45 breakout panel or to a 2RU, 32-port DB-9 breakout panel. This card has 16 RS-485 data pair so each intelligent keypanel can communicate with the matrix separately.

## *Installation*

**NOTE**:

Before using the AIO-16 Card, you must:

- Have the new ADAM power supply installed. (p/n 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 direction 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 Figure 3 ) 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. For more information on breakout panels, see pages X to X. For more information on Ports and Port Allocation, see page X.

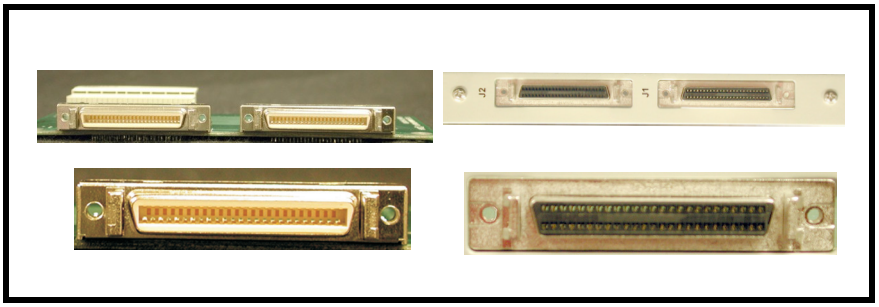


**FIGURE 3.** MDR backcard/connector and SCSI backcard/connector.

## *Power Supply Specifications*

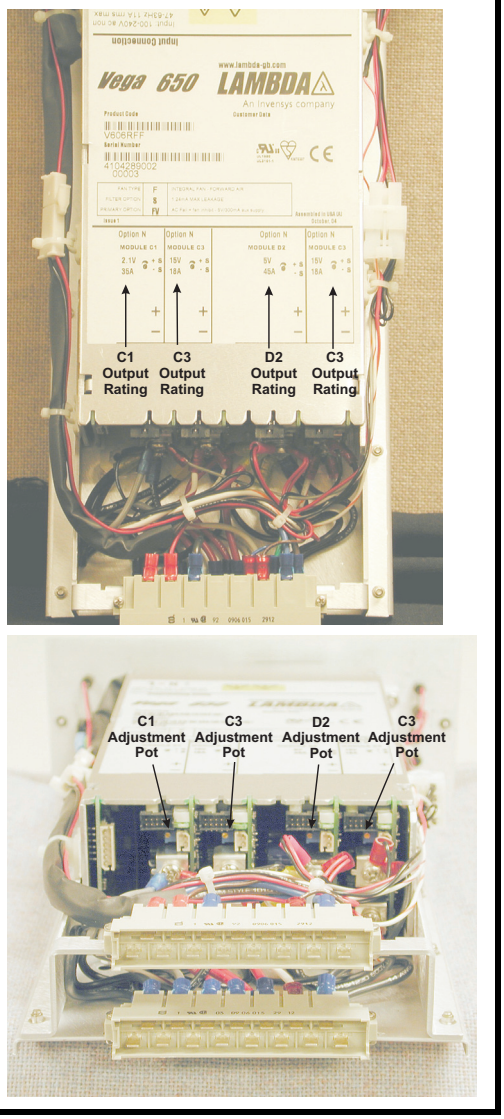



**FIGURE 4.** The new ADAM power supply showing the top and the adjustment pots (lower picture).

### Input Ratings

100 - 240V nominal

47 - 63Hz, 11A RMS Max.

### Output Ratings

Module C1

2.1V, 35A

Module C3

15V, 18A

Module D2

5V, 45A

**NOTE**: The Adjustment Pots for each of the Voltage cells correspond to their position from the top of the unit, see Figure 4 .

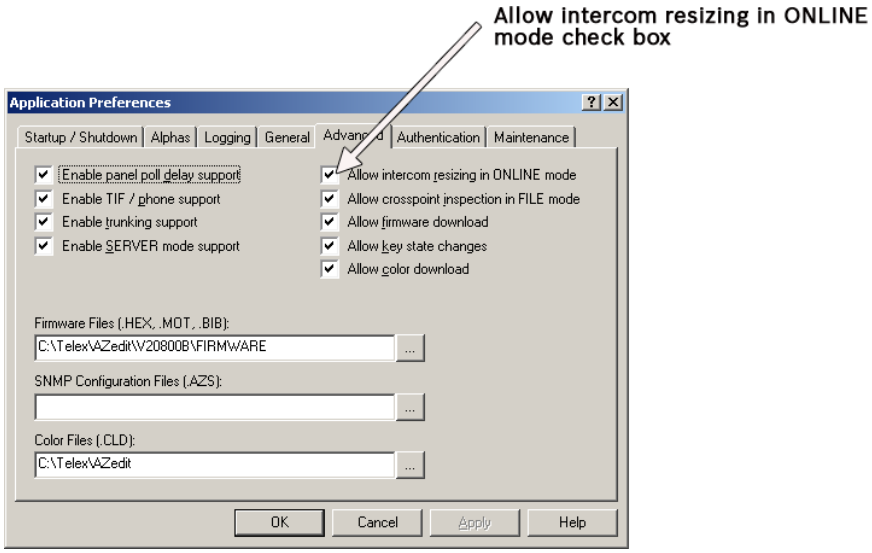
## Intercom Sizing Wizard

In AZedit version 2.08.00 or higher, an Intercom Sizing Wizard is provided to help users set up their intercom systems quickly and easily. The primary function of this wizard allows users to configure their intercom systems without worrying about incorrect configuration options. The Intercom Sizing Wizard walks you through each step of setting up your intercom system, asking a series of specific questions, resulting in an easy and efficient setup procedure. You can use the wizard in ONLINE mode or FILE mode.

If you plan on using the Intercom Sizing Wizard in ONLINE mode, you must remember to select the *Allow Intercom Resizing in Online Mode* check box.

To **select Allow Intercom Resizing in Online Mode**, do the following,

1. From the Option menu in AZedit, select **Preferences**.
   *The Application Preferences window appears*.
2. Click the **Advanced** tab.
   *The Advanced page appears*.
3. Select the **Allow Intercom Resizing in ONLINE Mode** check box.

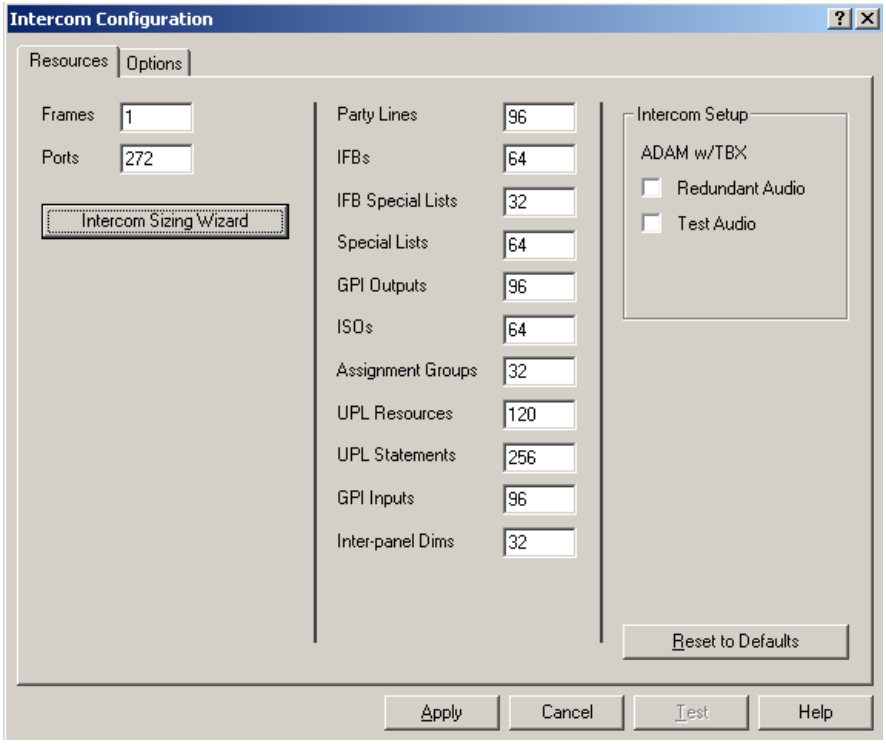



**NOTE:** You must use the Intercom Sizing Wizard if you are changing the number of frames, the number of ports, or the Intercom Setup options in your system.

To **access the Intercom Sizing Wizard**, do the following:

1. Open **AZedit**.
2. From the Options menu, select **Intercom Configuration**.
   *A Warning appears*.

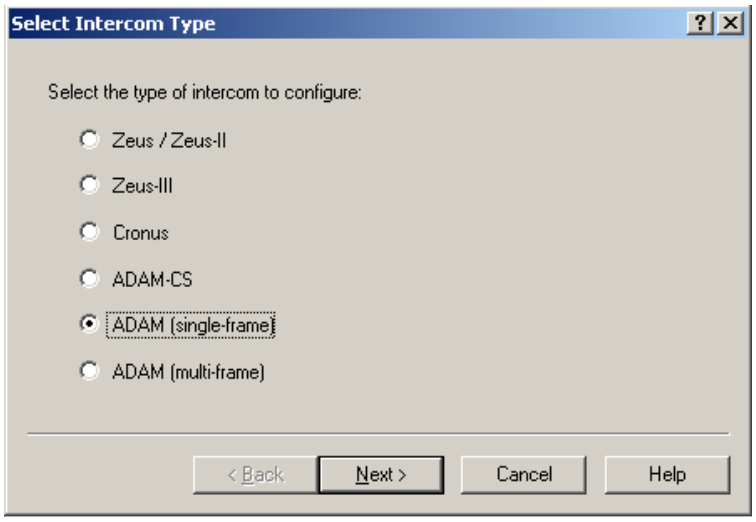

3. Click **OK**.




4. Click **Intercom Sizing Wizard**.
   *The Intercom Sizing Wizard begins*.

*In ONLINE mode, the wizard automatically determines your intercom system size, and then takes you through to get more specific information to configure your system.*

*In FILE mode, you manually pick you intercom system, and then the wizard takes you through the different options to determine the intercom system setup.*

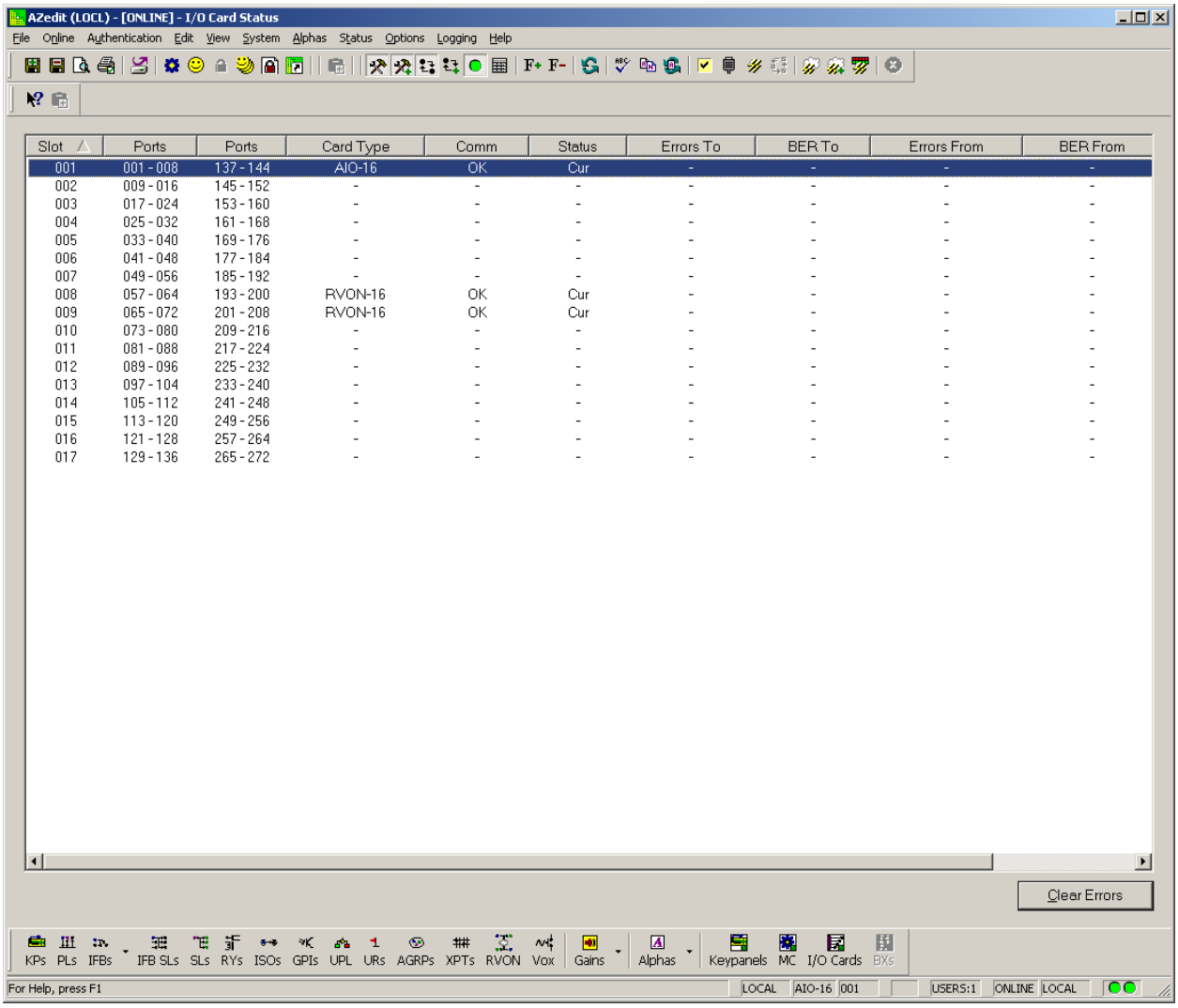



5. Select your **system** from the list.
6. Click **Next**.
   *The Wizard takes you through the rest of the setup*.
7. When you are done, click **Finish**.

## *I/O Card Status Screen*

To **open the I/O card status window**, do the following:

> From the Status menu, select **I/O Cards**.
> *The I/O Card Status window appears.*




### Slot Column

The **Slot** column displays the location of the card in relation to the frame the card resides and its position in the frame. For example, 1:001 indicates the card is in Frame 1 and in Slot 11.

### Ports Column

The **Ports** column displays the bottom half of designated ports for the specific slot in the ADAM. For example, the first slot in an ADAM and the bottom ports allocated are always ports 1 through 8. For more information, see “AIO-16 Ports” on page 17.

### Ports Column

The **Ports** column displays the top half of designated ports for the specific slot in the ADAM. For example, the first slot in an ADAM and the top ports allocated are always ports 137 through 144. For more information, see “AIO-16 Ports” on page 17.

### Card Type Column

The **Card Type** column displays the type of card in the slot.

### Comm Column

The **Comm** column displays the communication status of the card.

Available statuses are:

*(blank)* - no card present.

*OK* - the card is communicating with the master controller.

*BAD* - the card is not communicating with the master controller.

### Status Column

The **Status** column displays the status of the information on the card.

Available statuses are:

*CUR* - the information from the master controller is current and up-to-date.

*OLD* - the information from the master controller is not current and out-of-date.

*CUT* - the information is bad and communications are cut.

### Errors To Column

The **Errors To** column displays the number of errors that are sent to the I/O card from the Master Controller logs.

### BER To Column

The **BER (Burst Error Rate) To** column displays the number of errors sent to the card in the last 10 minutes.

### Errors To Column

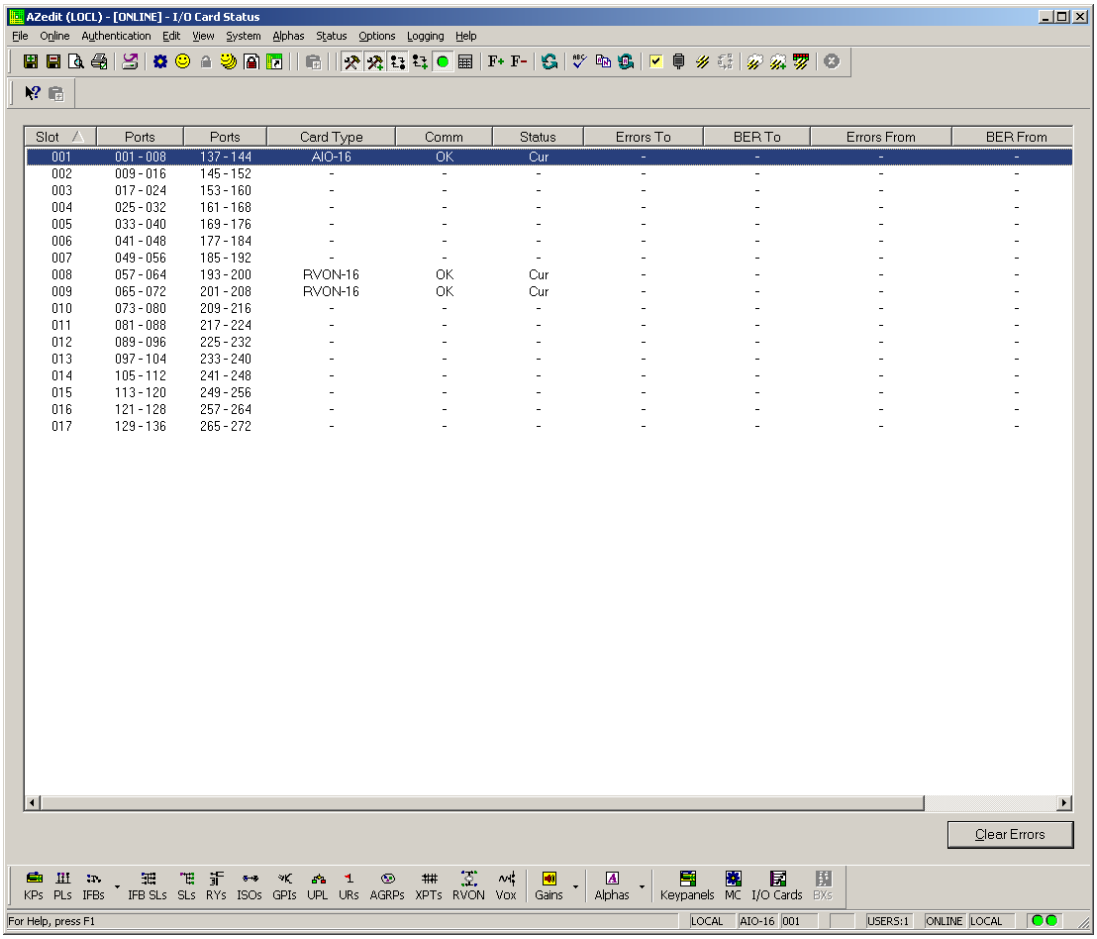
The **Errors To** column displays the number of errors that are sent to the I/O card from the Master Controller logs.

### BER To Column

The **BER To** column displays the number of errors sent to the card in the last 10 minutes.

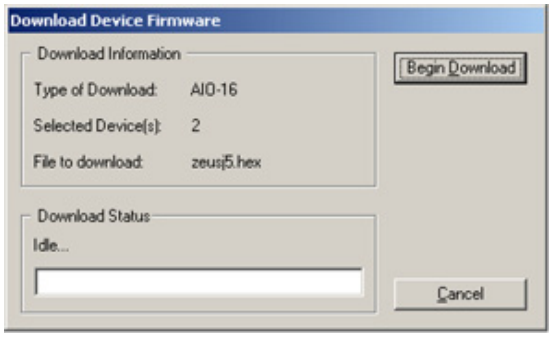
## *Download AIO-16 Firmware through AZedit*

1. Open **AZedit**.
2. From the Status menu, select **Software Versions**, then **I/O Cards**.
   *The I/O Card Version Information window appears showing the occupied slots in the system.*




3. Highlight the **Version** to be updated.
   *You can select more than one (1) version at a time by holding the Ctrl key down while you select versions.*
4. Right-click the **highlighted selection**.
5. Select **Download Firmware**.
   *The Firmware Download Window appears.*
6. Using the browse feature, browse to the **file to be downloaded**.
7. Click **Open**.
   *The Download Device Firmware window appears.*

8. Click **Begin Download**.
*The download begins*.




9. When the download is finished, click **OK**.
*The AIO-16 firmware download is complete. This takes a minute or two to occur.*
10. Verify the **version upgrade in the I/O Card Version Information window** is correct.

**WARNING:** Do not power down the frame or pull the AIO-16 card(s) from the frame until you have verified the new version information from AZedit. If the card loses power while reprogramming the on-board flash memory, the card may become unbootable, and may need to have its flash chips reprogrammed.

CHAPTER 3

# AIO-16 Ports, DBX Linking, and Interconnects

## AIO-16 Ports

With the introduction of an AIO-16 card into the ADAM frame layout, the number of possible ports available doubles from 136 ports (AIO-8) to 272 ports (AIO-16). This is because instead of eight (8) channels of audio per card, you now have 16 channels of audio per card.

### Backwards Compatibility

To be backwards compatible with the AIO-8 cards, the 16 channels had to be divided into two (2) separate groups of eight (8) channels per card (a bottom group and a top group). For example, if you have an AIO-16 card in slot one of an ADAM frame, the bottom group of eight (8) channels have ports 1-8 assigned to them, while the top group of eight (8) channels have ports 137-144 assigned to them, see Figure 5 .

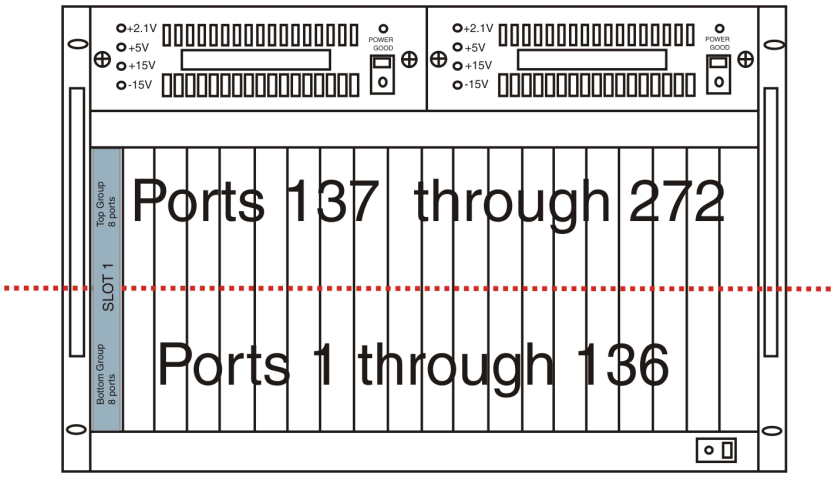



**FIGURE 5.** ADAM Frame with AIO-16 cards only and the port numbering scheme.

## Mixing AIO-8 and AIO-16 Cards

The ADAM Intercom System can run both the AIO-8 and AIO-16 card in the same frame. You can position your AIO-8 and AIO-16 cards in any slot or in any sequence within the ADAM frame. However, when mixing the AIO-8 and AIO-16 cards, it is important to know the port numbering is consistent with the 2-tier port system. For example, in slots 1, 2, 3, and 4, you have AIO-8 cards and in slot 5 you have an AIO-16 card. The port numbering scheme assigns eight (8) ports per card for the first four (4) slots. When assigning ports to slot 5, the bottom group of ports are assigned in sequence with the AIO-8 cards; however, the top group of ports associated with the AIO-16 card are assigned the corresponding ports with the card position. This means ports 137 through 168 are unused and the top group of ports used by the AIO-16 card starts with port 169 (see Figure 6 ).

Essentially, the port numbering is static. The port numbers do not change whether you are using an AIO-8 or an AIO-16 card.

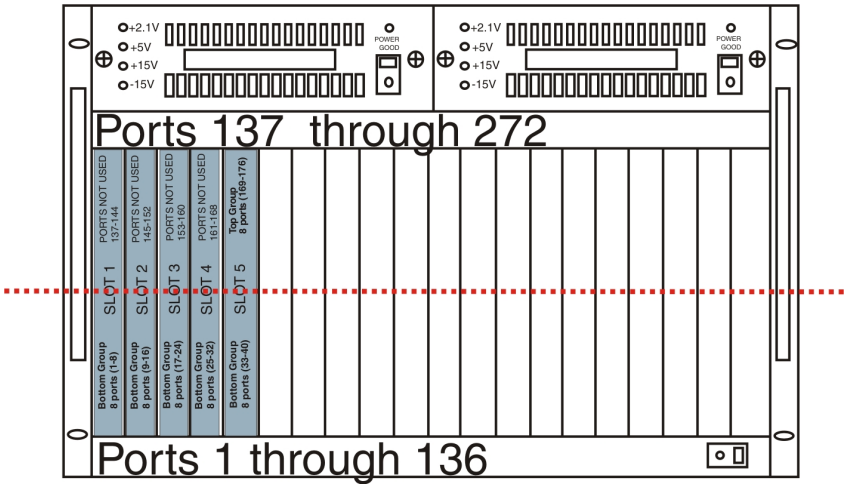



**FIGURE 6.** ADAM frame with both AIO-8 and AIO-16 cards.

| 1 Frame 272 x 272<br>AIO-16 DBX Address and Port Locations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Matrix Frame & AIO Slot # | System AIO Card Number | Matrix Port / DIP Switch Table - ADAM272<br>Keypanel & TIF Rear DIP Switch Settings (DS-4 through DS-7)<br>U= Up<br>D= Down | | | | | | | |
| | | DUUU | UDUU | DDUU | UUDU | DUDU | UDDU | DDDU | UUUD |
| | | I.D. -1 | I.D. -2 | I.D.-3 | I.D. -4 | I.D. -5 | I.D. -6 | I.D. -7 | I.D. -8 |
| 1-1A | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1-2A | 2 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1-3A | 3 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1-4A | 4 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 1-5A | 5 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 1-6A | 6 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 1-7A | 7 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| 1-8A | 8* | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
| 1-9A | 9* | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
| 1-10A | 10 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 1-11A | 11 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 1-12A | 12 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
| 1-13A | 13 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 |
| 1-14A | 14 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 |
| 1-15A | 15 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| 1-16A | 16 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
| 1-17A | 17 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 |
| | | | | | | | | | |
| 1-1B | 1 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 |
| 1-2B | 2 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 |
| 1-3B | 3 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| 1-4B | 4 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 |
| 1-5B | 5 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 |
| 1-6B | 6 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 |
| 1-7B | 7 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 |
| 1-8B | 8* | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 |
| 1-9B | 9* | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 |
| 1-10B | 10 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 |
| 1-11B | 11 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 |
| 1-12B | 12 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 |
| 1-13B | 13 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 |
| 1-14B | 14 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 |
| 1-15B | 15 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1-16B | 16 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 |
| 1-17B | 17 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 |
| *DENOTES CLOCK CARD POSITIONS | | | | | | | | | |

**2 Frame Non-Redundant 512 x 512**
**AIO-16 DBX Address and Port Locations**

| Matrix Frame & AIO Slot # | System AIO Card Number | Matrix Port / DIP Switch Table - ADAM512<br>Keypanel & TIF Rear DIP Switch Settings (DS-4 through DS-7)<br>U= Up<br>D= Down | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1-1A | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1-2A | 2 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1-3A | 3 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1-4A | 4 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 1-5A | 5 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 1-6A | 6 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 1-7A | 7 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| 1-8A | 8* | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
| DBX | 9* | DBX Slot, Frame 1 | | | | | | | |
| 1-10A | 10 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
| 1-11A | 11 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 1-12A | 12 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 1-13A | 13 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
| 1-14A | 14 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 |
| 1-15A | 15 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 |
| 1-16A | 16 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| 1-17A | 17 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
| | | | | | | | | | |
| 1-1B | 1 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 |
| 1-2B | 2 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 |
| 1-3B | 3 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 |
| 1-4B | 4 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| 1-5B | 5 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 |
| 1-6B | 6 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 |
| 1-7B | 7 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 |
| 1-8B | 8* | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 |
| | 9* | Part of DBX Above | | | | | | | |
| 1-10B | 10 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 |
| 1-11B | 11 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 |
| 1-12B | 12 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 |
| 1-13B | 13 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 |
| 1-14B | 14 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1-15B | 15 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 |
| 1-16B | 16 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 |
| 1-17B | 17 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 |
| * DENOTES CLOCK CARD POSITIONS | | | | | | | | | |

**2 Frame Non-Redundant 512 x 512 (cont.)**
**AIO-16 DBX Address and Port Locations**

| Matrix Frame & AIO Slot # | System AIO Card Number | Matrix Port / DIP Switch Table - ADAM512<br>Keypanel & TIF Rear DIP Switch Settings (DS-4 through DS-7)<br>U= Up<br>D= Down | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2-1A | 1 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 |
| 2-2A | 2 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 |
| 2-3A | 3 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 |
| 2-4A | 4 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 |
| 2-5A | 5 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 |
| 2-6A | 6 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 |
| 2-7A | 7 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 |
| 2-8A | 8* | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 |
| DBX | 9* | DBX Slot, Frame 2 | | | | | | | |
| 2-10A | 10 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 |
| 2-11A | 11 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 |
| 2-12A | 12 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 |
| 2-13A | 13 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 |
| 2-14A | 14 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 |
| 2-15A | 15 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 |
| 2-16A | 16 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 |
| 2-17A | 17 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 |
| | | | | | | | | | |
| 2-1B | 1 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 |
| 2-2B | 2 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 |
| 2-3B | 3 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 |
| 2-4B | 4 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 |
| 2-5B | 5 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 |
| 2-6B | 6 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 |
| 2-7B | 7 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 |
| 2-8B | 8* | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 |
| | 9* | Part of DBX Above | | | | | | | |
| 2-10B | 10 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 |
| 2-11B | 11 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 |
| 2-12B | 12 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2-13B | 13 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 |
| 2-14B | 14 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 |
| 2-15B | 15 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 |
| 2-16B | 16 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 |
| 2-17B | 17 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 |
| * DENOTES CLOCK CARD POSITIONS | | | | | | | | | |

| 2 Frame Redundant 480 x 480<br>AIO-16 DBX Address and Port Locations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Matrix Frame & AIO Slot # | System AIO Card Number | Matrix Port / DIP Switch Table - ADAM480<br>Keypanel & TIF Rear DIP Switch Settings (DS-4 through DS-7)<br>U= Up<br>D= Down | | | | | | | |
| 1-1A | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1-2A | 2 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1-3A | 3 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1-4A | 4 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 1-5A | 5 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 1-6A | 6 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 1-7A | 7 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| DBX | 8* | DBX Slots, Frame 1 | | | | | | | |
| DBX | 9* | | | | | | | | |
| 1-10A | 10 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
| 1-11A | 11 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
| 1-12A | 12 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 1-13A | 13 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 1-14A | 14 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
| 1-15A | 15 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 |
| 1-16A | 16 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 |
| 1-17A | 17 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| | | | | | | | | | |
| 1-1B | 1 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
| 1-2B | 2 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 |
| 1-3B | 3 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 |
| 1-4B | 4 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 |
| 1-5B | 5 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| 1-6B | 6 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 |
| 1-7B | 7 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 |
| | 8* | Part of DBX Above | | | | | | | |
| | 9* | | | | | | | | |
| 1-10B | 10 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 |
| 1-11B | 11 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 |
| 1-12B | 12 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 |
| 1-13B | 13 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 |
| 1-14B | 14 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 |
| 1-15B | 15 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 |
| 1-16B | 16 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 |
| 1-17B | 17 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 |
| * DENOTES CLOCK CARD POSITIONS | | | | | | | | | |

| 2 Frame Redundant 480 x 480 (cont.)<br>AIO-16 DBX Address and Port Locations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Matrix Frame & AIO Slot # | System AIO Card Number | Matrix Port / DIP Switch Table - ADAM480<br>Keypanel & TIF Rear DIP Switch Settings (DS-4 through DS-7)<br>U= Up<br>D= Down | | | | | | | |
| 2-1A | 1 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 |
| 2-2A | 2 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 |
| 2-3A | 3 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 |
| 2-4A | 4 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 |
| 2-5A | 5 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 |
| 2-6A | 6 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 |
| 2-7A | 7 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 |
| DBX | 8* | DBX Slots, Frame 2 | | | | | | | |
| DBX | 9* | | | | | | | | |
| 2-10A | 10 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 |
| 2-11A | 11 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 |
| 2-12A | 12 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 |
| 2-13A | 13 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 |
| 2-14A | 14 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 |
| 2-15A | 15 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 |
| 2-16A | 16 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 |
| 2-17A | 17 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 |
| | | | | | | | | | |
| 2-1B | 1 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 |
| 2-2B | 2 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 |
| 2-3B | 3 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 |
| 2-4B | 4 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 |
| 2-5B | 5 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 |
| 2-6B | 6 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 |
| 2-7B | 7 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 |
| | 8* | Part of DBX Above | | | | | | | |
| | 9* | | | | | | | | |
| 2-10B | 10 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 |
| 2-11B | 11 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 |
| 2-12B | 12 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 |
| 2-13B | 13 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 |
| 2-14B | 14 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 |
| 2-15B | 15 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 |
| 2-16B | 16 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 |
| 2-17B | 17 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 |
| * DENOTES CLOCK CARD POSITIONS | | | | | | | | | |

| 3 Frame Redundant 624 x 624<br>AIO-16 DBX Address and Port Locations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Matrix Frame & AIO Slot # | System AIO Card Number | Matrix Port / DIP Switch Table - ADAM 624<br>Keypanel & TIF Rear DIP Switch Settings (DS-4 through DS-7)<br>U= Up<br>D= Down | | | | | | | |
| 1-1A | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1-2A | 2 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1-3A | 3 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1-4A | 4 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 1-5A | 5 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 1-6A | 6 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| DBX | 7 | DBX Slots, Frame 1 | | | | | | | |
| DBX | 8* | | | | | | | | |
| DBX | 9* | | | | | | | | |
| DBX | 10 | | | | | | | | |
| 1-11A | 11 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| 1-12A | 12 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
| 1-13A | 13 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
| 1-14A | 14 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 1-15A | 15 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 1-16A | 16 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
| 1-17A | 17 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 |
| | | | | | | | | | |
| 1-1B | 1 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 |
| 1-2B | 2 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| 1-3B | 3 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
| 1-4B | 4 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 |
| 1-5B | 5 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 |
| 1-6B | 6 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 |
| | 7 | Part of DBX Above | | | | | | | |
| | 8* | | | | | | | | |
| | 9* | | | | | | | | |
| | 10 | | | | | | | | |
| 1-11B | 11 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| 1-12B | 12 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 |
| 1-13B | 13 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 |
| 1-14B | 14 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 |
| 1-15B | 15 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 |
| 1-16B | 16 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 |
| 1-17B | 17 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 |

| * DENOTES CLOCK CARD POSITIONS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| 2-1A | 1 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 |
| 2-2A | 2 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 |
| 2-3A | 3 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 |
| 2-4A | 4 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 |
| 2-5A | 5 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 |
| 2-6A | 6 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 |
| DBX | 7 | DBX Slots, Frame 2 | | | | | | | |
| DBX | 8* | | | | | | | | |
| DBX | 9* | | | | | | | | |
| DBX | 10 | | | | | | | | |
| 2-11A | 11 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 |
| 2-12A | 12 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 |
| 2-13A | 13 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 |
| 2-14A | 14 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 |
| 2-15A | 15 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 |
| 2-16A | 16 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 |
| 2-17A | 17 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 |
| | | | | | | | | | |
| 2-1B | 1 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 |
| 2-2B | 2 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 |
| 2-3B | 3 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 |
| 2-4B | 4 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 |
| 2-5B | 5 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 |
| 2-6B | 6 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 |
| | 7 | Part of DBX Above | | | | | | | |
| | 8* | | | | | | | | |
| | 9* | | | | | | | | |
| | 10 | | | | | | | | |
| 2-11B | 11 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 |
| 2-12B | 12 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 |
| 2-13B | 13 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 |
| 2-14B | 14 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 |
| 2-15B | 15 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 |
| 2-16B | 16 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 |
| 2-17B | 17 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 |
| * DENOTES CLOCK CARD POSITIONS | | | | | | | | | |
| | | | | | | | | | |
| 3-1A | 1 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 |
| 3-2A | 2 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 |
| 3-3A | 3 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3-4A | 4 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 |
| 3-5A | 5 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 |
| 3-6A | 6 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 |
| DBX | 7 | DBX Slots, Frame 3 | | | | | | | |
| DBX | 8* | | | | | | | | |
| DBX | 9* | | | | | | | | |
| DBX | 10 | | | | | | | | |
| 3-11A | 11 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 |
| 3-12A | 12 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 |
| 3-13A | 13 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 |
| 3-14A | 14 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 |
| 3-15A | 15 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 |
| 3-16A | 16 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 |
| 3-17A | 17 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 |
| | | | | | | | | | |
| 3-1B | 1 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 |
| 3-2B | 2 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 |
| 3-3B | 3 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 |
| 3-4B | 4 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 |
| 3-5B | 5 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 |
| 3-6B | 6 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 |
| | 7 | Part of DBX Above | | | | | | | |
| | 8* | | | | | | | | |
| | 9* | | | | | | | | |
| | 10 | | | | | | | | |
| 3-11B | 11 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 |
| 3-12B | 12 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 |
| 3-13B | 13 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 |
| 3-14B | 14 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 |
| 3-15B | 15 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 |
| 3-16B | 16 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 |
| 3-17B | 17 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 |

**4 Frame Non-Redundant 800 x 800**
**AIO-16 DBX Address and Port Locations**

| Matrix Frame & AIO Slot # | System AIO Card Number | Matrix Port / DIP Switch Table - ADAM 896<br>Keypanel & TIF Rear DIP Switch Settings (DS-4 through DS-7)<br>U= Up<br>D= Down | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1-1A | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1-2A | 2 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1-3A | 3 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1-4A | 4 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 1-5A | 5 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 1-6A | 6 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 1-7A | 7 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| DBX | 8* | DBX Slots, Frame 1 | | | | | | | |
| DBX | 9* | | | | | | | | |
| DBX | 10 | | | | | | | | |
| 1-11A | 11 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
| 1-12A | 12 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
| 1-13A | 13 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 1-14A | 14 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 1-15A | 15 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
| 1-16A | 16 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 |
| 1-17A | 17 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 |
| | | | | | | | | | |
| 1-1B | 1 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| 1-2B | 2 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
| 1-3B | 3 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 |
| 1-4B | 4 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 |
| 1-5B | 5 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 |
| 1-6B | 6 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| 1-7B | 7 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 |
| | 8* | Part of DBX Above | | | | | | | |
| | 9* | | | | | | | | |
| | 10 | | | | | | | | |
| 1-11B | 11 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 |
| 1-12B | 12 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 |
| 1-13B | 13 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 |
| 1-14B | 14 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 |
| 1-15B | 15 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 |
| 1-16B | 16 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 |
| 1-17B | 17 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 |
| * DENOTES CLOCK CARD POSITIONS | | | | | | | | | |
| | | | | | | | | | |
| 2-1A | 1 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 |
| 2-2A | 2 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 |
| 2-3A | 3 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 |
| 2-4A | 4 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 |
| 2-5A | 5 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 |
| 2-6A | 6 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 |
| 2-7A | 7 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 |

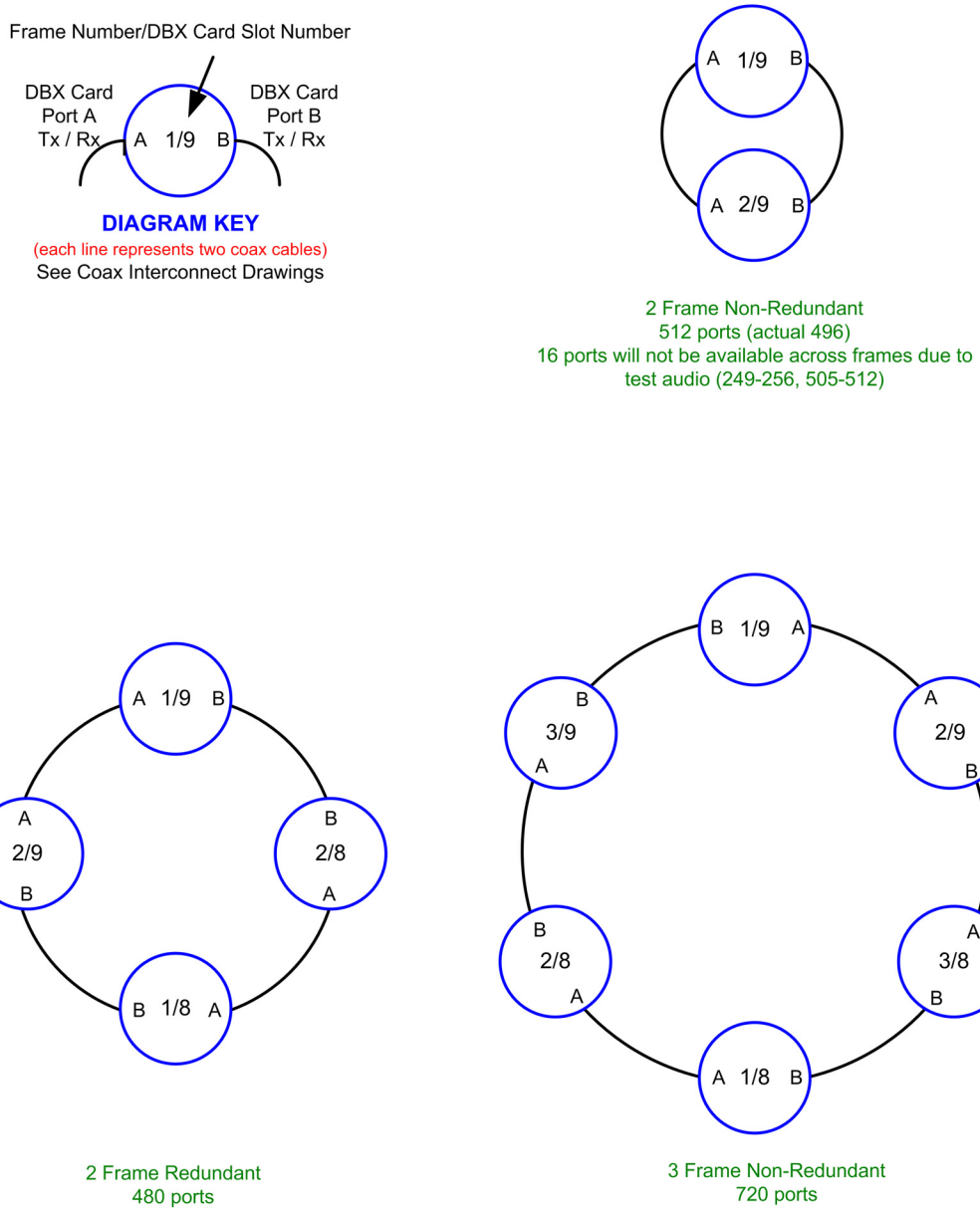
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DBX | 8* | DBX Slots, Frame 2 | | | | | | | |
| DBX | 9* | | | | | | | | |
| DBX | 10 | | | | | | | | |
| 2-11A | 11 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 |
| 2-12A | 12 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 |
| 2-13A | 13 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 |
| 2-14A | 14 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 |
| 2-15A | 15 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 |
| 2-16A | 16 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 |
| 2-17A | 17 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 |
| | | | | | | | | | |
| 2-1B | 1 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 |
| 2-2B | 2 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 |
| 2-3B | 3 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 |
| 2-4B | 4 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 |
| 2-5B | 5 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 |
| 2-6B | 6 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 |
| 2-7B | 7 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 |
| | 8* | Part of DBX Above | | | | | | | |
| | 9* | | | | | | | | |
| | 10 | | | | | | | | |
| 2-11B | 11 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 |
| 2-12B | 12 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 |
| 2-13B | 13 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 |
| 2-14B | 14 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 |
| 2-15B | 15 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 |
| 2-16B | 16 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 |
| 2-17B | 17 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 |
| * DENOTES CLOCK CARD POSITIONS | | | | | | | | | |
| | | | | | | | | | |
| 3-1A | 1 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 |
| 3-2A | 2 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 |
| 3-3A | 3 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 |
| 3-4A | 4 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 |
| 3-5A | 5 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 |
| 3-6A | 6 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 |
| 3-7A | 7 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 |
| DBX | 8* | DBX Slots, Frame 3 | | | | | | | |
| DBX | 9* | | | | | | | | |
| DBX | 10 | | | | | | | | |
| 3-11A | 11 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 |
| 3-12A | 12 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3-13A | 13 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 |
| 3-14A | 14 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 |
| 3-15A | 15 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 |
| 3-16A | 16 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 |
| 3-17A | 17 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 |
| | | | | | | | | | |
| 3-1B | 1 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 |
| 3-2B | 2 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 |
| 3-3B | 3 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 |
| 3-4B | 4 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 |
| 3-5B | 5 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 |
| 3-6B | 6 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 |
| 3-7B | 7 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 |
| | 8* | Part of DBX Above | | | | | | | |
| | 9* | | | | | | | | |
| | 10 | | | | | | | | |
| 3-11B | 11 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 |
| 3-12B | 12 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 |
| 3-13B | 13 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 |
| 3-14B | 14 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 |
| 3-15B | 15 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 |
| 3-16B | 16 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 |
| 3-17B | 17 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 |
| * DENOTES CLOCK CARD POSITIONS | | | | | | | | | |
| | | | | | | | | | |
| 4-1A | 1 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 |
| 4-2A | 2 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 |
| 4-3A | 3 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 |
| 4-4A | 4 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 |
| 4-5A | 5 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 |
| 4-6A | 6 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 |
| 3-7A | 7 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 |
| DBX | 8* | DBX Slots, Frame 4 | | | | | | | |
| DBX | 9* | | | | | | | | |
| DBX | 10 | | | | | | | | |
| 4-11A | 11 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 |
| 4-12A | 12 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 |
| 4-13A | 13 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 |
| 4-14A | 14 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 |
| 4-15A | 15 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 |
| 4-16A | 16 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 |
| 4-17A | 17 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4-1B | 1 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 |
| 4-2B | 2 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 |
| 4-3B | 3 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 |
| 4-4B | 4 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 |
| 4-5B | 5 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 |
| 4-6B | 6 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 |
| 4-7B | 7 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 |
| | 8* | Part of DBX Above | | | | | | | |
| | 9* | | | | | | | | |
| | 10 | | | | | | | | |
| 4-11B | 11 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 |
| 4-12B | 12 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 |
| 4-13B | 13 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 |
| 4-14B | 14 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 |
| 4-15B | 15 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 |
| 4-16B | 16 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 |
| 4-17B | 17 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 |
| * DENOTES CLOCK CARD POSITIONS | | | | | | | | | |

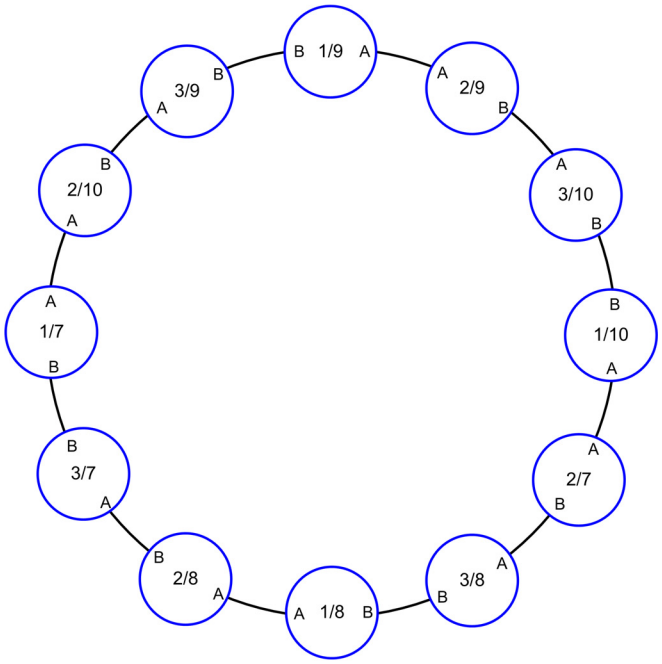
*ADAM AIO-16 DBX Link Mapping*

**High Density Wiring**

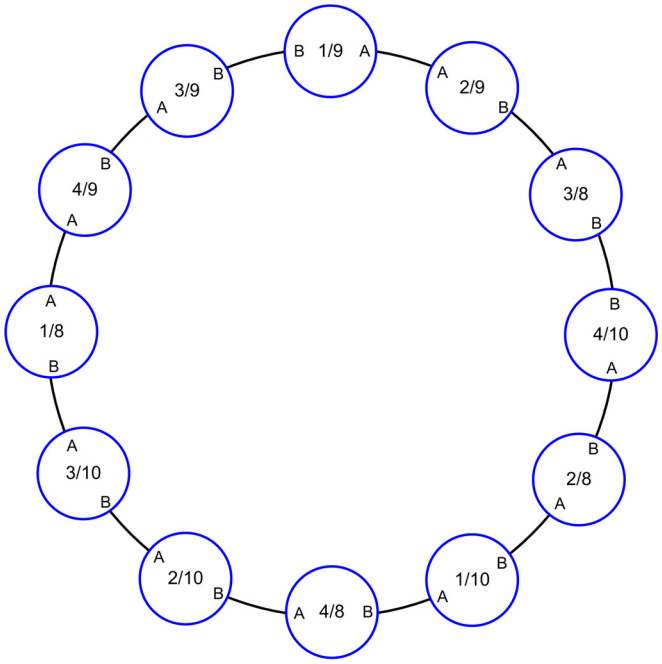


# ADAM AIO-16 DBX LINK MAPPING

**High Density Wiring**




3 Frame Redundant
624 ports




4 Frame Non-Redundant
800 ports

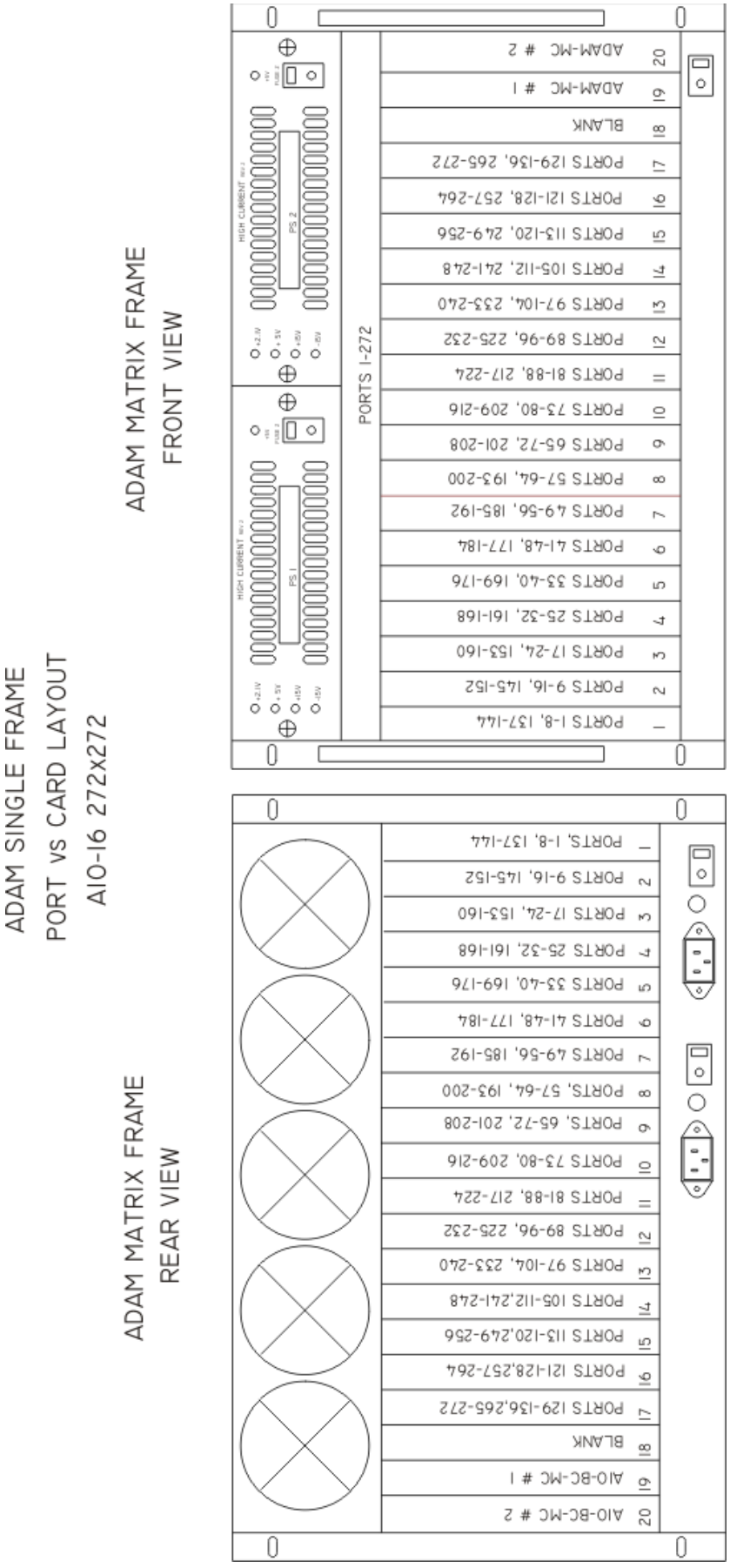



**FIGURE 7.** ADAM Single Frame Port Allocation

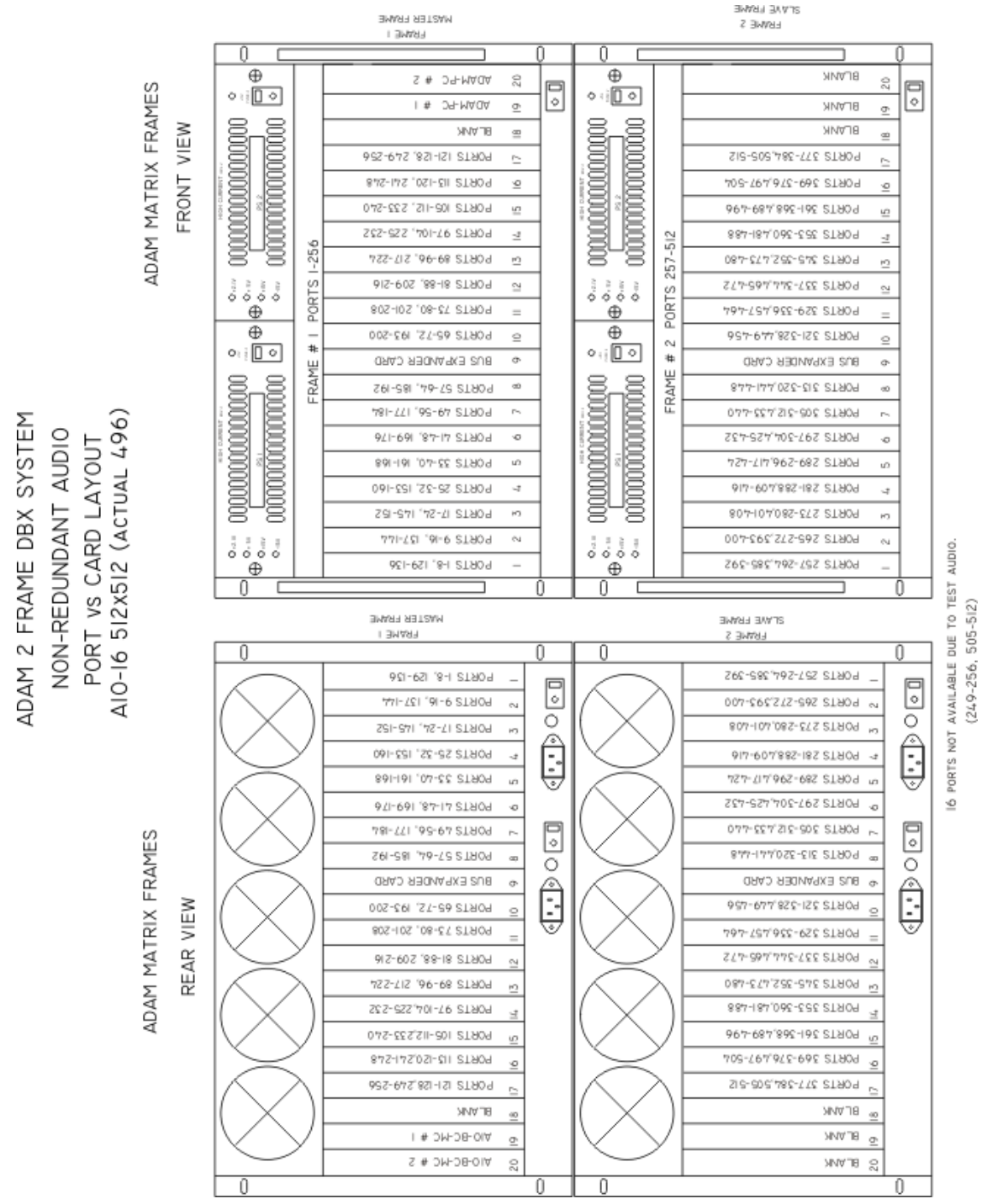



**FIGURE 8.** ADAM 2 Frame Non-Redundant Port Allocation

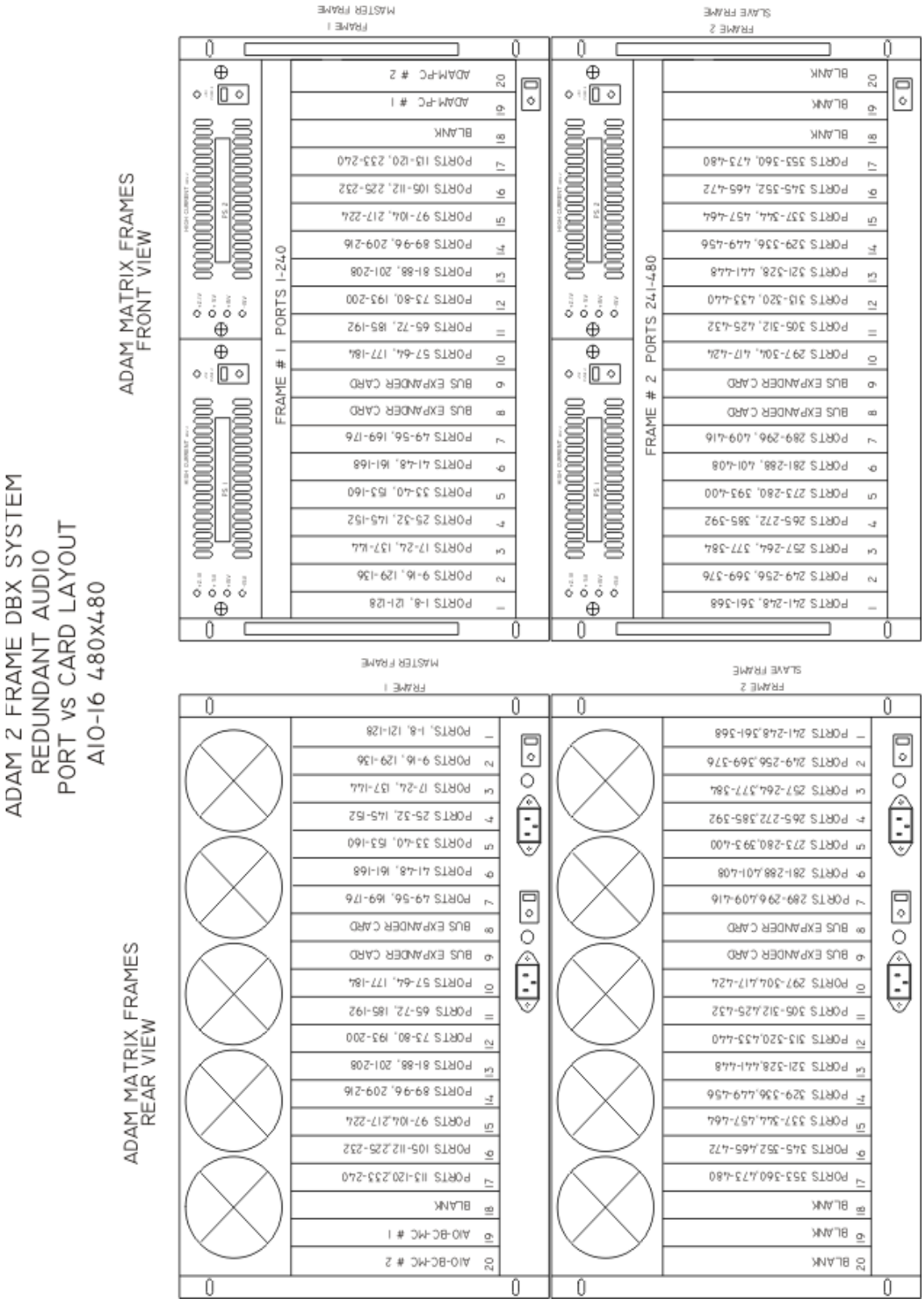



**FIGURE 9.** ADAM 2 Frame Redundant Port Allocation

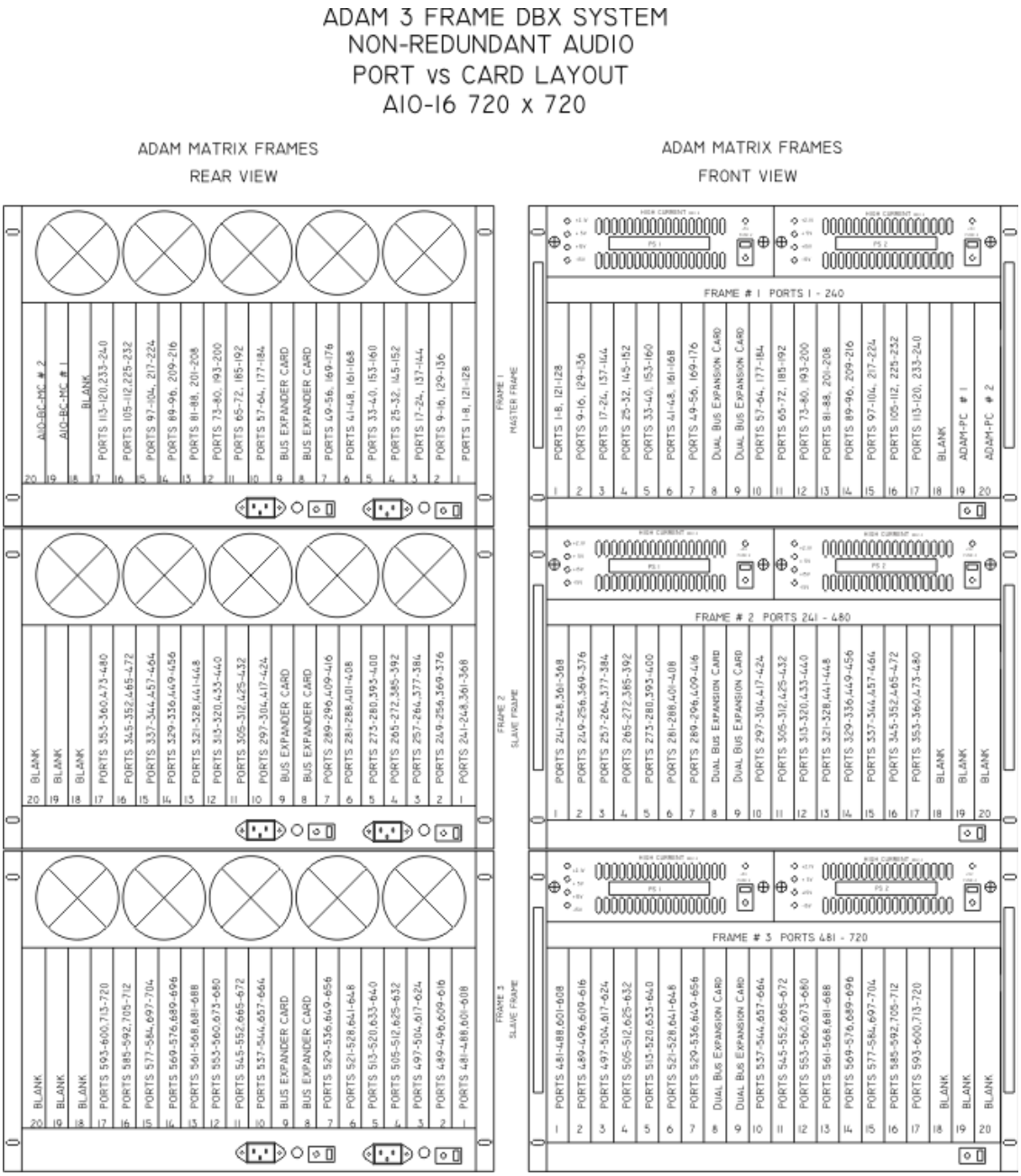



**FIGURE 10.** ADAM 3 Frame Non-Redundant Port Allocation

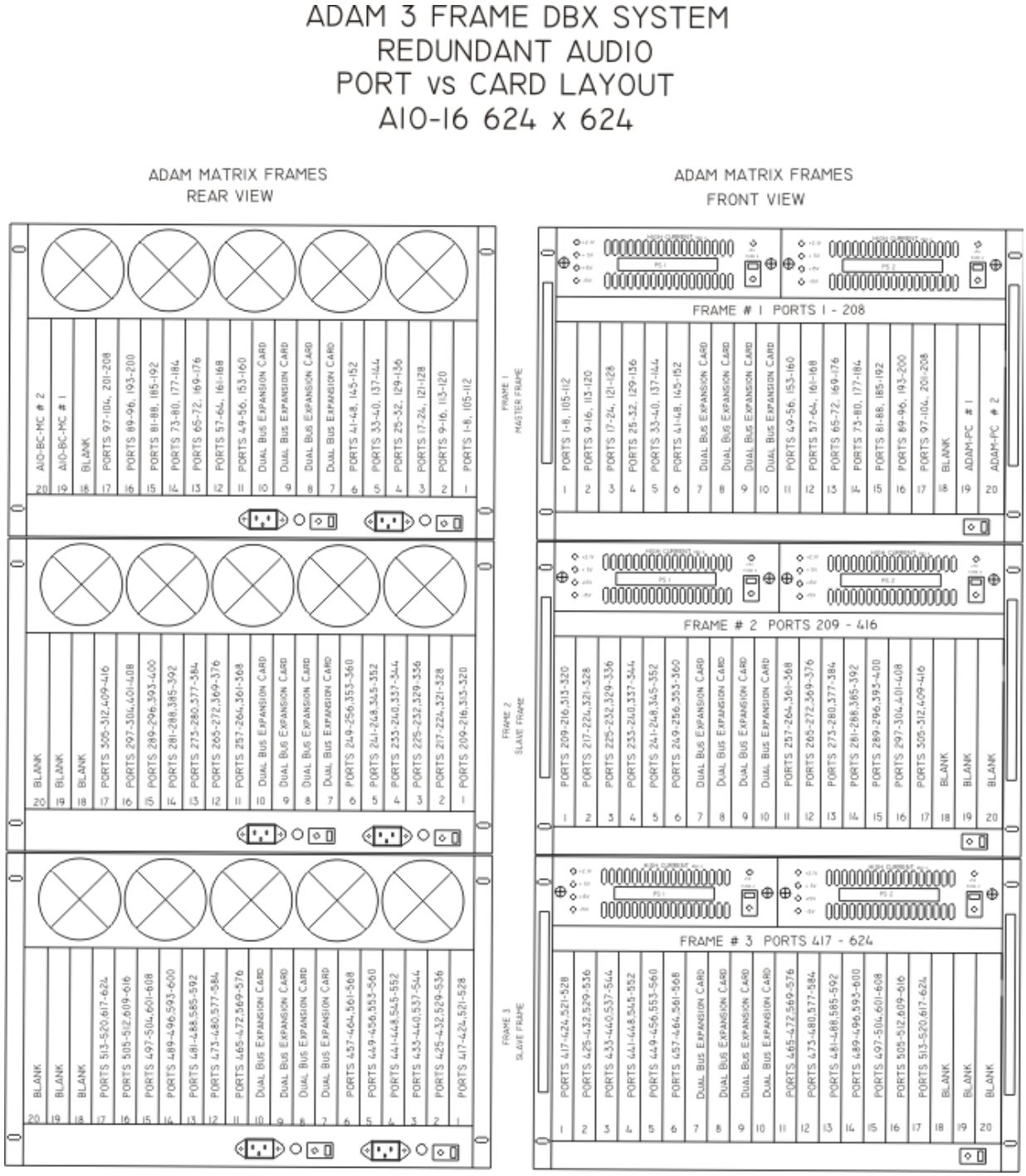



**FIGURE 11.** ADAM 3 Frame Redundant Port Allocation

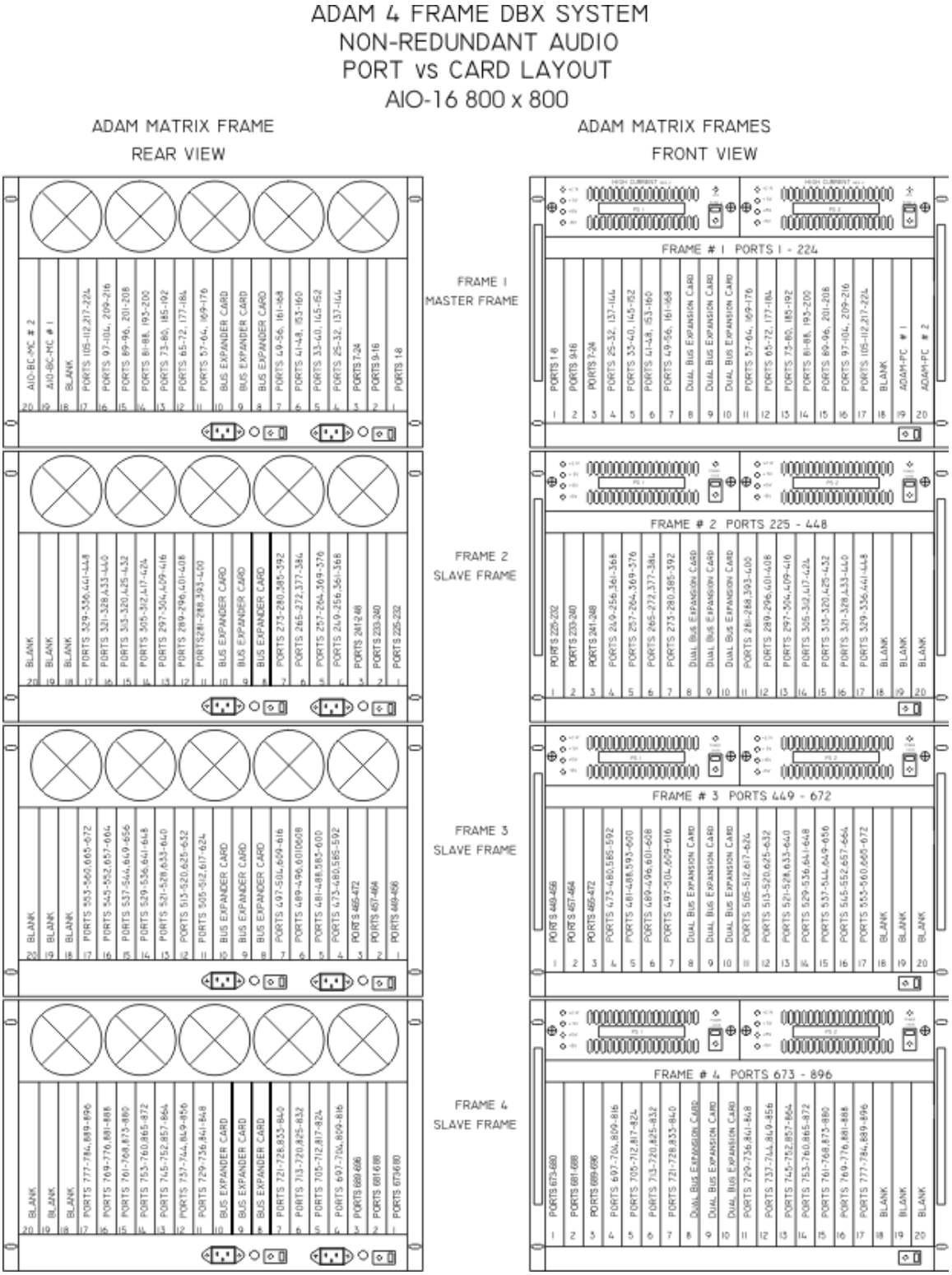



**FIGURE 12.** ADAM 4 Frame Non-Redundant Port Allocation

APPENDIX A

# *Breakout Panel Guide*

## *Introduction*

Breakout panels provide a convenient way of expanding the port capacity of an ADAM intercom system. Currently there are nine breakout panels for use with the intercom systems: XCP-32-DB9, XCP-16-DB9-T, XCP- 48-RJ45, XCP-Telco, XCP-40-DB9, XCP-40-RJ11, XCP-24, XCP-24-USCO, XCP-ADAM-MC, XCP-954 and XCP-955.

## *Installation*

Requirements

- Have the new ADAM power supply installed (p/n - 9000-7516-002).
- 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 and the DBX firmware 1.13.0 or higher installed.

## *XCP-32-DB9*

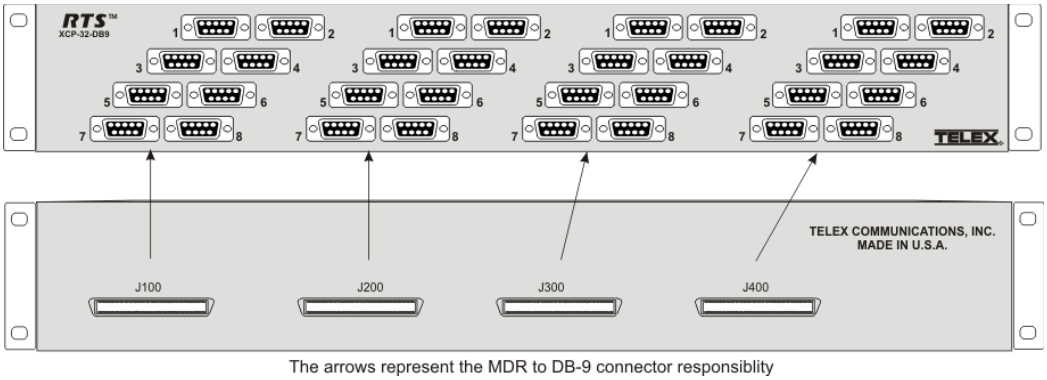



**FIGURE 13.** XCP-32 DB9

The XCP-32-DB9 is the newly created 32-port DB9 breakout panel with MDR connectors for the ADAM with an AIO-16 card and Cronus. The XCP-32-DB9 is backward compatible with the AIO-8 card.

## *Specifications*

Dimensions:

19” (482.6mm) W x 3.5” (88.9mm) H x 1” (25.4mm) D

Weight:

1.7 lb. (0.77 kg)

**NOTE:** When using the 32-port DB-9 breakout panel, you MUST use the MDR backcard for both the AIO-16 and Cronus.

| 9-pin Male D-sub | |
|---|---|
| Pin 1 | Keypanel Data + |
| Pin 2 | Keypanel Data - |
| Pin 3 | Gnd |
| Pin 4 | Audio to Matrix + |
| Pin 5 | Audio to Matrix - |
| Pin 6 | Gnd |
| Pin 7 | Audio from Matrix - |
| Pin 8 | Audio from Matrix + |
| Pin 9 | Gnd |

| MDR Connector | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 8 | 1 | Data + |
| 33 | 1 | Data - |
| 24 | 1 | Audio To Matrix + |
| 49 | 1 | Audio To Matrix - |
| 25 | 1 | Audio From Matrix + |
| 50 | 1 | Audio From Matrix - |
| | | |
| 7 | 2 | Data + |
| 32 | 2 | Data - |
| 22 | 2 | Audio To Matrix + |
| 47 | 2 | Audio To Matrix - |
| 23 | 2 | Audio From Matrix + |
| 48 | 2 | Audio From Matrix - |
| 6 | 3 | Data + |
| 31 | 3 | Data - |
| 20 | 3 | Audio To Matrix + |
| 45 | 3 | Audio To Matrix - |
| 21 | 3 | Audio From Matrix + |
| 46 | 3 | Audio From Matrix - |
| | | |
| 5 | 4 | Data + |
| 30 | 4 | Data - |
| 18 | 4 | Audio To Matrix + |
| 43 | 4 | Audio To Matrix - |
| 19 | 4 | Audio From Matrix + |

| MDR Connector | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 44 | 4 | Audio From Matrix - |
| | | |
| 4 | 5 | Data + |
| 29 | 5 | Data - |
| 16 | 5 | Audio To Matrix + |
| 41 | 5 | Audio To Matrix - |
| 17 | 5 | Audio From Matrix + |
| 42 | 5 | Audio From Matrix - |
| | | |
| 3 | 6 | Data + |
| 28 | 6 | Data - |
| 14 | 6 | Audio To Matrix + |
| 39 | 6 | Audio To Matrix - |
| 15 | 6 | Audio From Matrix + |
| 40 | 6 | Audio From Matrix - |
| | | |
| 2 | 7 | Data + |
| 27 | 7 | Data - |
| 12 | 7 | Audio To Matrix + |
| 37 | 7 | Audio To Matrix - |
| 13 | 7 | Audio From Matrix + |
| 38 | 7 | Audio From Matrix - |
| | | |
| 1 | 8 | Data + |
| 26 | 8 | Data - |
| 10 | 8 | Audio To Matrix + |
| 35 | 8 | Audio To Matrix - |
| 11 | 8 | Audio From Matrix + |
| 36 | 8 | Audio From Matrix - |

**NOTE:** There are 4 MDR connectors on the XCP-32-DB9 Breakout panel.

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

## *XCP-16-DB9-T*

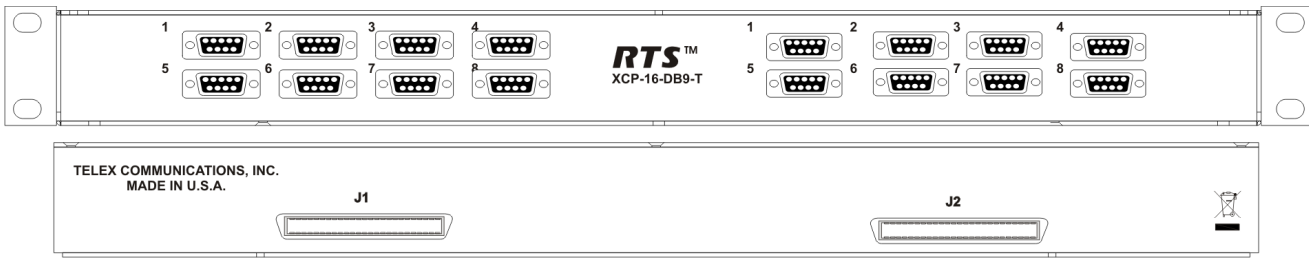



**FIGURE 14.** XCP-16-DB9-T

The XCP-16-DB9-T is the newly created 16-port DB9 breakout panel with MDR connectors and an audio transformer for the Cronus and AIO-16.

## *Specifications*

Dimensions:

18.98” (482mm) W x 1.69” (43mm) H x 3.11” (79mm) D

Weight:

2.2 lb. (1.0 kg)

**NOTE:** When using the 32-port DB-9 breakout panel, you MUST use the MDR backcard for both the AIO-16 and Cronus..

| 9-pin Male D-sub | |
|---|---|
| Pin 1 | Keypanel Data + |
| Pin 2 | Keypanel Data - |
| Pin 3 | Gnd |
| Pin 4 | Audio to Matrix + |
| Pin 5 | Audio to Matrix - |
| Pin 6 | Gnd |
| Pin 7 | Audio from Matrix - |
| Pin 8 | Audio from Matrix + |
| Pin 9 | Gnd |

| MDR Connector | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 8 | 1 | Data + |
| 33 | 1 | Data - |
| 24 | 1 | Audio To Matrix + |
| 49 | 1 | Audio To Matrix - |
| 25 | 1 | Audio From Matrix + |
| 50 | 1 | Audio From Matrix - |
| | | |
| 7 | 2 | Data + |
| 32 | 2 | Data - |
| 22 | 2 | Audio To Matrix + |
| 47 | 2 | Audio To Matrix - |
| 23 | 2 | Audio From Matrix + |
| 48 | 2 | Audio From Matrix - |
| | | |
| 6 | 3 | Data + |
| 31 | 3 | Data - |
| 20 | 3 | Audio To Matrix + |
| 45 | 3 | Audio To Matrix - |
| 21 | 3 | Audio From Matrix + |
| 46 | 3 | Audio From Matrix - |
| | | |
| 5 | 4 | Data + |
| 30 | 4 | Data - |
| 18 | 4 | Audio To Matrix + |
| 43 | 4 | Audio To Matrix - |
| 19 | 4 | Audio From Matrix + |
| 44 | 4 | Audio From Matrix - |

| MDR Connector | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| | | |
| 4 | 5 | Data + |
| 29 | 5 | Data - |
| 16 | 5 | Audio To Matrix + |
| 41 | 5 | Audio To Matrix - |
| 17 | 5 | Audio From Matrix + |
| 42 | 5 | Audio From Matrix - |
| | | |
| 3 | 6 | Data + |
| 28 | 6 | Data - |
| 14 | 6 | Audio To Matrix + |
| 39 | 6 | Audio To Matrix - |
| 15 | 6 | Audio From Matrix + |
| 40 | 6 | Audio From Matrix - |
| | | |
| 2 | 7 | Data + |
| 27 | 7 | Data - |
| 12 | 7 | Audio To Matrix + |
| 37 | 7 | Audio To Matrix - |
| 13 | 7 | Audio From Matrix + |
| 38 | 7 | Audio From Matrix - |
| | | |
| 1 | 8 | Data + |
| 26 | 8 | Data - |
| 10 | 8 | Audio To Matrix + |
| 35 | 8 | Audio To Matrix - |
| 11 | 8 | Audio From Matrix + |
| 36 | 8 | Audio From Matrix - |

**NOTE:** There are 2 MDR connectors on the XCP-32-DB9-T Breakout panel.

| MDR Connector | Port |
|---|---|
| J1 | 1-8 |
| J2 | 9-16 |

## *XCP-48-RJ45*

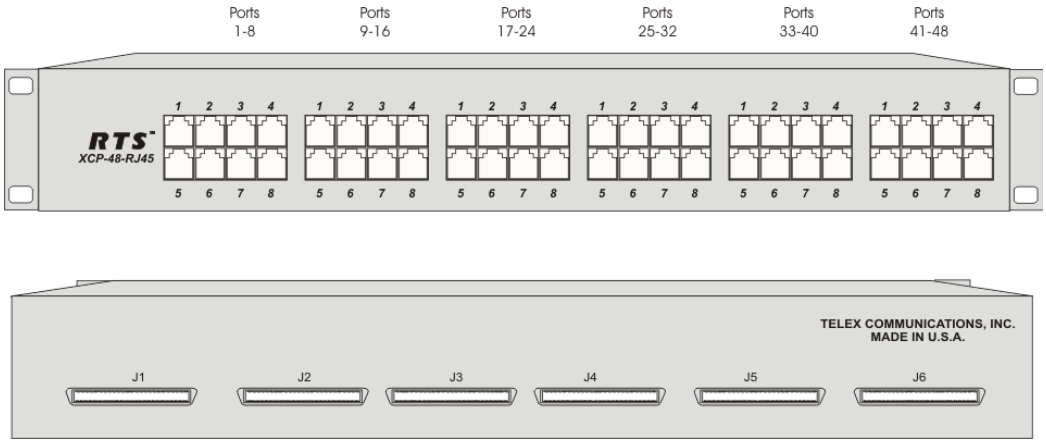



**FIGURE 15.** XCP-48-RJ45

The XCP-48-RJ45 is the newly created 48-port RJ-45 breakout panel with MDR connectors for the AIO-16 and Cronus.

## *Specifications*

Dimensions:

18.98” (482mm) W x 1.69” (43mm) H x 2.95” (75mm) D

Weight:

3.5 lb. (1.59 kg)

**NOTE:** When using the 48-port RJ-45 breakout panel, you MUST use the MDR backcard for both the AIO-16 and Cronus.

| **RJ-45 Connector** | |
|---|---|
| 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** |
| 8 | 1 | Data + |
| 33 | 1 | Data - |
| 24 | 1 | Audio To Matrix + |
| 49 | 1 | Audio To Matrix - |
| 25 | 1 | Audio From Matrix + |
| 50 | 1 | Audio From Matrix - |
| | | |
| 7 | 2 | Data + |
| 32 | 2 | Data - |
| 22 | 2 | Audio To Matrix + |
| 47 | 2 | Audio To Matrix - |
| 23 | 2 | Audio From Matrix + |
| 48 | 2 | Audio From Matrix - |
| | | |
| 6 | 3 | Data + |
| 31 | 3 | Data - |
| 20 | 3 | Audio To Matrix + |
| 45 | 3 | Audio To Matrix - |
| 21 | 3 | Audio From Matrix + |
| 46 | 3 | Audio From Matrix - |
| | | |
| 5 | 4 | Data + |
| 30 | 4 | Data - |
| 18 | 4 | Audio To Matrix + |

| MDR Connector | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 43 | 4 | Audio To Matrix - |
| 19 | 4 | Audio From Matrix + |
| 44 | 4 | Audio From Matrix - |
| | | |
| 4 | 5 | Data + |
| 29 | 5 | Data - |
| 16 | 5 | Audio To Matrix + |
| 41 | 5 | Audio To Matrix - |
| 17 | 5 | Audio From Matrix + |
| 42 | 5 | Audio From Matrix - |
| | | |
| 3 | 6 | Data + |
| 28 | 6 | Data - |
| 14 | 6 | Audio To Matrix + |
| 39 | 6 | Audio To Matrix - |
| 15 | 6 | Audio From Matrix + |
| 40 | 6 | Audio From Matrix - |
| | | |
| 2 | 7 | Data + |
| 27 | 7 | Data - |
| 12 | 7 | Audio To Matrix + |
| 37 | 7 | Audio To Matrix - |
| 13 | 7 | Audio From Matrix + |
| 38 | 7 | Audio From Matrix - |
| | | |
| 1 | 8 | Data + |
| 26 | 8 | Data - |
| 10 | 8 | Audio To Matrix + |
| 35 | 8 | Audio To Matrix - |
| 11 | 8 | Audio From Matrix + |
| 36 | 8 | Audio From Matrix - |

**NOTE:** There are 6 MDR connectors on the XCP-48 RJ-45 Breakout panel.

| MDR Connector | Port |
|---|---|
| J1 | 41-48 |
| J2 | 33-40 |
| J3 | 25-32 |
| J4 | 17-24 |

| MDR Connector | Port |
|---|---|
| J5 | 9-16 |
| J6 | 1-8 |

## *XCP-40-DB9*

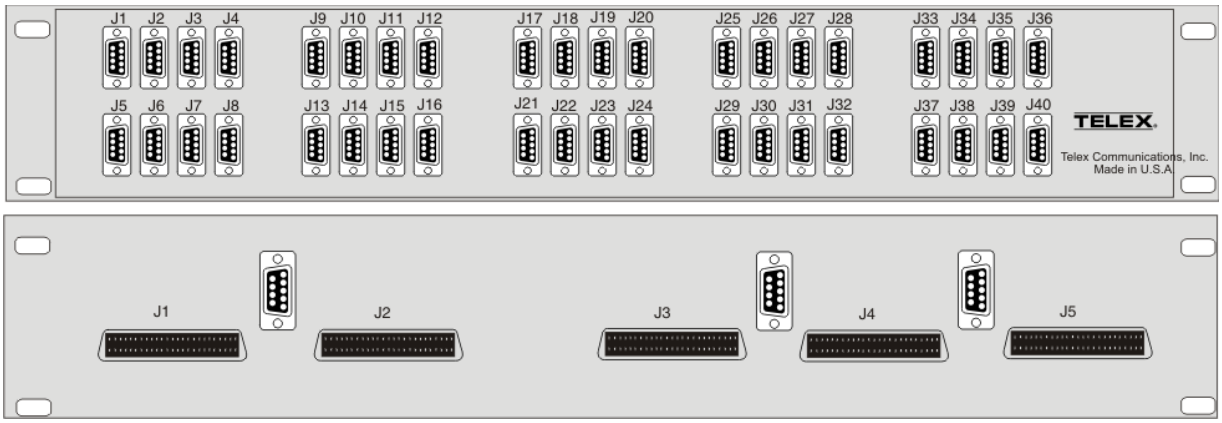



**FIGURE 16.** XCP-40-DB9

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.

## *Specifications*

Dimensions:

19” (482.6mm) W x 3.5” (88.9mm) H x 1.25” (31.75mm) D

Weight:

1.95 lb. (0.88 kg)

| 9-pin Male D-sub | |
|---|---|
| Pin 1 | Keypanel Data + |
| Pin 2 | Keypanel Data - |
| Pin 3 | Gnd |
| Pin 4 | Audio to Matrix + |
| Pin 5 | Audio to Matrix - |
| Pin 6 | Gnd |
| Pin 7 | Audio from Matrix - |
| Pin 8 | Audio from Matrix + |
| Pin 9 | Gnd |

| SCSI Connector - J1, J2, J3, J4, J5 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 2 | | Data + |
| 27 | | Data - |
| | | |
| 34 | 1 | Audio To Matrix + |
| 9 | 1 | Audio To Matrix - |
| 35 | 1 | Audio From Matrix + |
| 10 | 1 | Audio From Matrix - |
| | | |
| 36 | 2 | Audio To Matrix + |
| 11 | 2 | Audio To Matrix - |
| 37 | 2 | Audio From Matrix + |
| 12 | 2 | Audio From Matrix - |
| | | |
| 38 | 3 | Audio To Matrix + |
| 13 | 3 | Audio To Matrix - |
| 39 | 3 | Audio From Matrix + |
| 14 | 3 | Audio From Matrix - |
| | | |
| 40 | 4 | Audio To Matrix + |
| 15 | 4 | Audio To Matrix - |
| 41 | 4 | Audio From Matrix + |
| 16 | 4 | Audio From Matrix - |
| | | |
| 42 | 5 | Audio To Matrix + |

| SCSI Connector - J1, J2, J3, J4, J5 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 17 | 5 | Audio To Matrix - |
| 43 | 5 | Audio From Matrix + |
| 18 | 5 | Audio From Matrix - |
| | | |
| 44 | 6 | Audio To Matrix + |
| 19 | 6 | Audio To Matrix - |
| 45 | 6 | Audio From Matrix + |
| 20 | 6 | Audio From Matrix - |
| | | |
| 46 | 7 | Audio To Matrix + |
| 21 | 7 | Audio To Matrix - |
| 47 | 7 | Audio From Matrix + |
| 22 | 7 | Audio From Matrix - |
| | | |
| 48 | 8 | Audio To Matrix + |
| 23 | 8 | Audio To Matrix - |
| 49 | 8 | Audio From Matrix + |
| 24 | 8 | Audio From Matrix - |

## *XCP-40-RJ11*

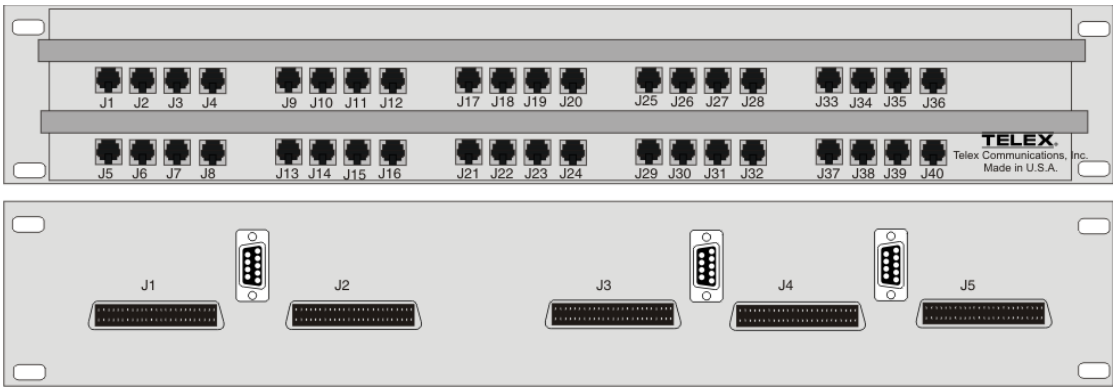



**FIGURE 17.** XCP-40-RJ11

The XCP-40-RJ-12 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.

## *Specifications*

Dimensions:

19” (482.6mm) W x 3.5” (88.9mm) H x 1.25” (31.75mm) D

Weight:

1.75 lb. (0.79 kg)

| **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** |
| 2 | | Data + |
| 27 | | Data - |
| | | |
| 34 | 1 | Audio To Matrix + |

| SCSI Connector - J1, J2, J3, J4, J5 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 9 | 1 | Audio To Matrix - |
| 35 | 1 | Audio From Matrix + |
| 10 | 1 | Audio From Matrix - |
| | | |
| 36 | 2 | Audio To Matrix + |
| 11 | 2 | Audio To Matrix - |
| 37 | 2 | Audio From Matrix + |
| 12 | 2 | Audio From Matrix - |
| | | |
| 38 | 3 | Audio To Matrix + |
| 13 | 3 | Audio To Matrix - |
| 39 | 3 | Audio From Matrix + |
| 14 | 3 | Audio From Matrix - |
| | | |
| 40 | 4 | Audio To Matrix + |
| 15 | 4 | Audio To Matrix - |
| 41 | 4 | Audio From Matrix + |
| 16 | 4 | Audio From Matrix - |
| | | |
| 42 | 5 | Audio To Matrix + |
| 17 | 5 | Audio To Matrix - |
| 43 | 5 | Audio From Matrix + |
| 18 | 5 | Audio From Matrix - |
| | | |
| 44 | 6 | Audio To Matrix + |
| 19 | 6 | Audio To Matrix - |
| 45 | 6 | Audio From Matrix + |
| 20 | 6 | Audio From Matrix - |
| | | |
| 46 | 7 | Audio To Matrix + |
| 21 | 7 | Audio To Matrix - |
| 47 | 7 | Audio From Matrix + |
| 22 | 7 | Audio From Matrix - |
| | | |
| 48 | 8 | Audio To Matrix + |
| 23 | 8 | Audio To Matrix - |
| 49 | 8 | Audio From Matrix + |
| 24 | 8 | Audio From Matrix - |

## *XCP-24*

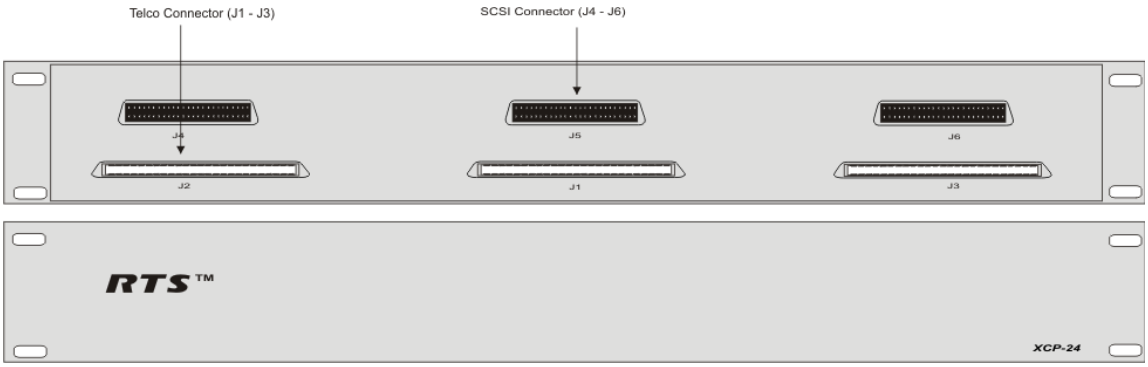



**FIGURE 18.** XCP-24

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.

## *Specifications*

Dimensions:

18.98” (482mm) W x 1.69” (43mm) H x.354” (9mm) D

Weight:

1 lb. (.4535924 kg)

| SCSI Connector - J1, J2, J3, J4, J5 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 2 | | Data + |
| 27 | | Data - |
| | | |
| 34 | 1 | Audio To Matrix + |
| 9 | 1 | Audio To Matrix - |
| 35 | 1 | Audio From Matrix + |
| 10 | 1 | Audio From Matrix - |
| | | |
| 36 | 2 | Audio To Matrix + |
| 11 | 2 | Audio To Matrix - |
| 37 | 2 | Audio From Matrix + |
| 12 | 2 | Audio From Matrix - |

| SCSI Connector - J1, J2, J3, J4, J5 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| | | |
| 38 | 3 | Audio To Matrix + |
| 13 | 3 | Audio To Matrix - |
| 39 | 3 | Audio From Matrix + |
| 14 | 3 | Audio From Matrix - |
| | | |
| 40 | 4 | Audio To Matrix + |
| 15 | 4 | Audio To Matrix - |
| 41 | 4 | Audio From Matrix + |
| 16 | 4 | Audio From Matrix - |
| | | |
| 42 | 5 | Audio To Matrix + |
| 17 | 5 | Audio To Matrix - |
| 43 | 5 | Audio From Matrix + |
| 18 | 5 | Audio From Matrix - |
| | | |
| 44 | 6 | Audio To Matrix + |
| 19 | 6 | Audio To Matrix - |
| 45 | 6 | Audio From Matrix + |
| 20 | 6 | Audio From Matrix - |
| | | |
| 46 | 7 | Audio To Matrix + |
| 21 | 7 | Audio To Matrix - |
| 47 | 7 | Audio From Matrix + |
| 22 | 7 | Audio From Matrix - |
| | | |

| SCSI Connector - J1, J2, J3, J4, J5 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 48 | 8 | Audio To Matrix + |
| 23 | 8 | Audio To Matrix - |
| 49 | 8 | Audio From Matrix + |
| 24 | 8 | Audio From Matrix - |

| Telco Backcard - Female 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 - |
| | | |

| Telco Backcard - Female Telco Connector - J1 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 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 - |
| | | |

| Telco Backcard - Female Telco Connector - J1 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 24 | 24 | Audio To Matrix + |
| 49 | 24 | Audio To Matrix - |

| Telco Backcard - Female 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 From 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 - |

| Telco Backcard - Female Telco Connector - J2 | | |
|---|---|---|
| **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 - |
| | | |

| Telco Backcard - Female Telco Connector - J2 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 24 | 24 | Audio From Matrix + |
| 49 | 24 | Audio From Matrix - |

| Telco Backcard - Female Telco Connector - J3 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 1-8 | 1-8 | Data + |
| 25-33 | 1-8 | Data - |
| | | |
| 9-16 | 9-16 | Data + |
| 34-41 | 9-16 | Data - |
| | | |
| 17-24 | 17-24 | Data + |
| 42-49 | 17-24 | Data - |

## *XCP-24-USOC*

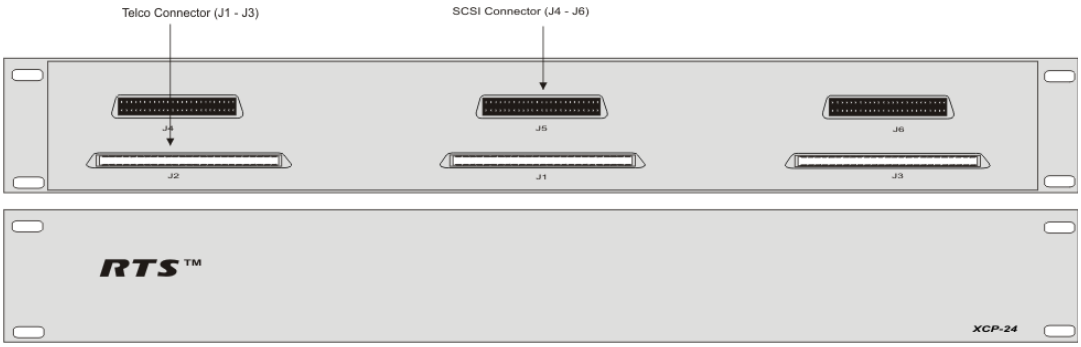



**FIGURE 19.** XCP-24-USOC

The XCP-24-USOC Breakout Panel allows for the expansion of the ADAM frame using Telco connectors. When using the XCP-24-USOC breakout panel, you MUST use the SCSI backcard with the AIO-16 card

## *Specifications*

Dimensions:

18.98” (482mm) W x 1.69” (43mm) H x.354” (9mm) D

Weight:

1 lb. (.4535924 kg)

| SCSI Connector - J4, J5, J6 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 2 | | Data - |
| 27 | | Data + |
| | | |
| 34 | 1 | Audio To Matrix + |
| 9 | 1 | Audio To Matrix - |
| 35 | 1 | Audio From Matrix + |
| 10 | 1 | Audio From Matrix - |
| | | |
| 36 | 2 | Audio To Matrix + |
| 11 | 2 | Audio To Matrix - |
| 37 | 2 | Audio From Matrix + |
| 12 | 2 | Audio From Matrix - |

| SCSI Connector - J4, J5, J6 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| | | |
| 38 | 3 | Audio To Matrix + |
| 13 | 3 | Audio To Matrix - |
| 39 | 3 | Audio From Matrix + |
| 14 | 3 | Audio From Matrix - |
| | | |
| 40 | 4 | Audio To Matrix + |
| 15 | 4 | Audio To Matrix - |
| 41 | 4 | Audio From Matrix + |
| 16 | 4 | Audio From Matrix - |
| | | |
| 42 | 5 | Audio To Matrix + |
| 17 | 5 | Audio To Matrix - |
| 43 | 5 | Audio From Matrix + |
| 18 | 5 | Audio From Matrix - |
| | | |
| 44 | 6 | Audio To Matrix + |
| 19 | 6 | Audio To Matrix - |
| 45 | 6 | Audio From Matrix + |
| 20 | 6 | Audio From Matrix - |
| | | |
| 46 | 7 | Audio To Matrix + |
| 21 | 7 | Audio To Matrix - |
| 47 | 7 | Audio From Matrix + |
| 22 | 7 | Audio From Matrix - |

| SCSI Connector - J4, J5, J6 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| | | |
| 48 | 8 | Audio To Matrix + |
| 23 | 8 | Audio To Matrix - |
| 49 | 8 | Audio From Matrix + |
| 24 | 8 | Audio From Matrix - |

| Female Telco Connector - J1 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 1 | 1 | Audio To Matrix - |
| 26 | 1 | Audio To Matrix + |
| | | |
| 2 | 1 | Audio From Matrix - |
| 27 | 1 | Audio From Matrix + |
| | | |
| 3 | 1 | Data - |
| 28 | 1 | Data + |
| 4 | 2 | Audio To Matrix - |
| 29 | 2 | Audio To Matrix + |
| | | |
| 5 | 2 | Audio From Matrix - |
| 30 | 2 | Audio From Matrix + |
| | | |
| 6 | 2 | Data - |
| 31 | 2 | Data + |
| | | |
| 7 | 3 | Audio To Matrix - |
| 32 | 3 | Audio To Matrix + |
| | | |
| 8 | 3 | Audio From Matrix - |
| 33 | 3 | Audio From Matrix + |
| | | |
| 9 | 3 | Data - |
| 34 | 3 | Data + |
| | | |
| 10 | 4 | Audio To Matrix - |
| 35 | 4 | Audio To Matrix + |

| Female Telco Connector - J1 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| | | |
| 11 | 4 | Audio From Matrix - |
| 36 | 4 | Audio From Matrix + |
| | | |
| 12 | 4 | Data - |
| 37 | 4 | Data + |
| | | |
| 13 | 5 | Audio To Matrix - |
| 38 | 5 | Audio To Matrix + |
| | | |
| 14 | 5 | Audio From Matrix - |
| 39 | 5 | Audio From Matrix + |
| | | |
| 15 | 5 | Data - |
| 40 | 5 | Data + |
| | | |
| 16 | 6 | Audio To Matrix - |
| 41 | 6 | Audio To Matrix + |
| | | |
| 17 | 6 | Audio From Matrix - |
| 42 | 6 | Audio From Matrix + |
| | | |
| 18 | 6 | Data - |
| 43 | 6 | Data + |
| | | |
| 19 | 7 | Audio To Matrix - |
| 44 | 7 | Audio To Matrix + |
| | | |
| 20 | 7 | Audio From Matrix - |
| 45 | 7 | Audio From Matrix + |
| | | |
| 21 | 7 | Data - |
| 46 | 7 | Data + |
| | | |
| 22 | 8 | Audio To Matrix - |
| 47 | 8 | Audio To Matrix + |
| | | |
| 23 | 8 | Audio From Matrix - |
| 48 | 8 | Audio From Matrix + |

| Female Telco Connector - J1 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| | | |
| 24 | 8 | Data - |
| 49 | 8 | Data + |

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

## *XCP-ADAM-MC*

The XCP-ADAM-MC Breakout Panel affords the ADAM more connections to frame accessories without losing the connections to AZedit, and the ability to Trunk systems.

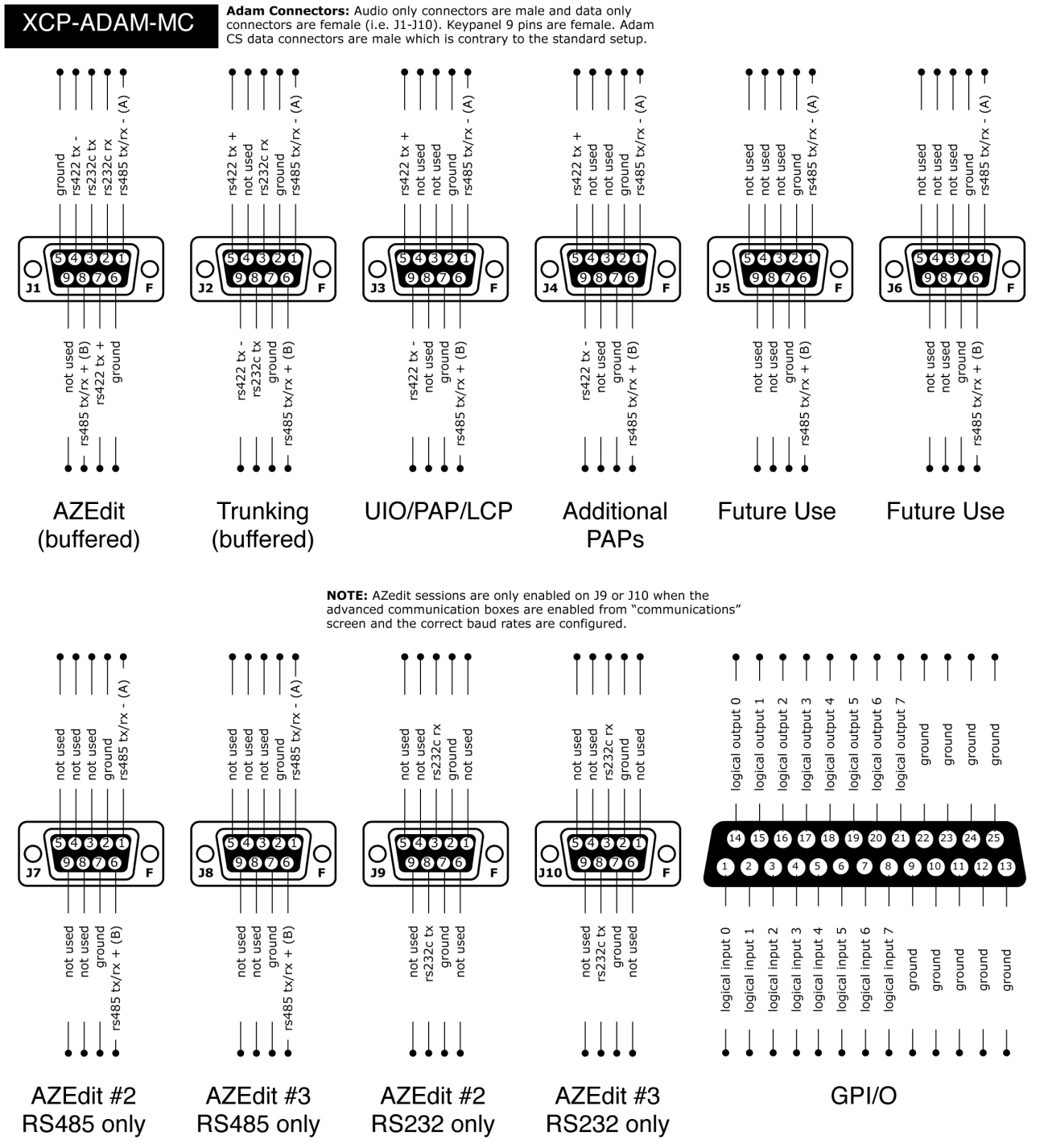



**FIGURE 20.** XCP-ADAM-MC

## *Specifications*

Dimensions:

18.98” (482mm) W x 1.69” (43mm) H x.472” (12mm) D

Weight:

1 lb. (.4535924 kg)

## *Baud Rates for the XCP-ADAM MC*

**NOTE:** J9 and J10 are RS-232, J7 and J8 are RS-485. In DBX systems, you can elect whether to use J7 and J8 or J9 and J10 for your second and third AZedit ports.

| CONNECTOR | DESCRIPTION | BAUD RATE |
|---|---|---|
| J1 | AZedit | 9600 or 38.4K |
| J2 | Trunking | 9600 or 38.4K |
| J3 | UIO/PAP | 76.8K |
| J4 | PAP-32 | 9600 |
| J5 | not used | |
| J6 | not used | |
| J7 | General Purpose/ Bus Exp | 9600, 19.2K, or 38.4K |
| J8 | General Purpose/ Bus Exp | 9600, 19.2K, or 38.4K |
| J9 | AZedit | 9600, 19.2K, or 38.4K |
| J10 | AZedit | 9600, 19.2K, or 38.4K |

| Trunking System | | |
|---|---|---|
| **68-pin Master Controller** | **J-2 of XCP-ADAM-MC** | **Assignment 2W** |
| 5 | 1 | RS485 TX/RX- |
| 36 | 2 | Ground |
| 6 | 3 | RS232C RX |
| | 4 | Not Used |
| 41 | 5 | RS422 TX+ |
| 39 | 6 | RS485 TX/RX+ |
| 36 | 7 | Ground |

| Trunking System | | |
|---|---|---|
| **68-pin Master Controller** | **J-2 of XCP-ADAM-MC** | **Assignment 2W** |
| 40 | 8 | RS232C TX |
| 7 | 9 | RS422 TX- |

| UIO-256/PAP/LCP | | |
|---|---|---|
| **68-pin Master Controller** | **J-3 of XCP-ADAM-MC** | **Assignment 2W** |
| 8 | 1 | RS485 TX/RX- |
| 9 | 2 | Ground |
| | 3 | Not Used |
| | 4 | Not Used |
| 44 | 5 | RS422 TX+ |
| 42 | 6 | RS485 TX/RX+ |
| 9 | 7 | Ground |
| | 8 | Not Used |
| 10 | 9 | RS422 TX- |

| General Purpose | | |
|---|---|---|
| **68-pin Master Controller** | **J-4 of XCP-ADAM-MC** | **Assignment 2W** |
| 11 | 1 | RS485 TX/RX- |
| 43 | 2 | Ground |
| | 3 | Not Used |
| | 4 | Not Used |
| 46 | 5 | RS422 TX+ |
| 45 | 6 | RS485 TX/RX+ |
| 43 | 7 | Ground |
| | 8 | Not Used |
| 12 | 9 | RS422 TX- |

| General Purpose / Bus Exp. | | |
|---|---|---|
| **68-pin Master Controller** | **J-6 of XCP-ADAM-MC** | **Assignment 2W** |
| 15 | 1 | RS485 TX/RX- |
| 48 | 2 | Ground |
| | 3 | Not Used |

| General Purpose / Bus Exp. | | |
|---|---|---|
| **68-pin Master Controller** | **J-6 of XCP-ADAM-MC** | **Assignment 2W** |
| | 4 | Not Used |
| | 5 | Not Used |
| 49 | 6 | RS485 TX/RX+ |
| 48 | 7 | Ground |
| | 8 | Not Used |
| | 9 | Not Used |

| General Purpose | | |
|---|---|---|
| **68-pin Master Controller** | **J-5 of XCP-ADAM-MC** | **Assignment 2W** |
| 11 | 1 | RS485 TX/RX- |
| 14 | 2 | Ground |
| | 3 | Not Used |
| | 4 | Not Used |
| | 5 | Not Used |
| 47 | 6 | RS485 TX/RX+ |
| 14 | 7 | Ground |
| | 8 | Not Used |
| | 9 | Not Used |

| AZedit #1 | | |
|---|---|---|
| **68-pin Master Controller** | **J-1 of XCP-ADAM-MC** | **Assignment 2W** |
| 1 | 1 | RS485 TX/RX- |
| 3 | 2 | RS232C RX |
| 37 | 3 | RS232C TX |
| 4 | 4 | RS422 TX- |
| 2 | 5 | Ground |
| 2 | 6 | Ground |
| 38 | 7 | RS422 TX+ |
| 35 | 8 | RS485 TX/RX+ |
| | 9 | |

| General Purpose / Bus Exp. | | |
|---|---|---|
| **68-pin Master Controller** | **J-7 of XCP-ADAM-MC** | **Assignment 2W** |
| 16 | 1 | RS485 TX/RX- |
| 17 | 2 | Ground |
| | 3 | Not Used |
| | 4 | Not Used |
| | 5 | Not Used |
| 50 | 6 | RS485 TX/RX+ |
| 17 | 7 | Ground |
| | 8 | Not Used |
| | 9 | Not Used |

| General Purpose / Bus Exp. | | |
|---|---|---|
| **68-pin Master Controller** | **J-8 of XCP-ADAM-MC** | **Assignment 2W** |
| 18 | 1 | RS485 TX/RX- |
| 51 | 2 | Ground |
| | 3 | Not Used |
| | 4 | Not Used |
| | 5 | Not Used |
| 52 | 6 | RS485 TX/RX+ |
| 51 | 7 | Ground |
| | 8 | Not Used |
| | 9 | Not Used |

| AZedit #2 | | |
|---|---|---|
| **68-pin Master Controller** | **J-9 of XCP-ADAM-MC** | **Assignment 2W** |
| | 1 | Not Used |
| 19 | 2 | Ground |
| 20 | 3 | RS232C RX |
| | 4 | Not Used |
| | 5 | Not Used |
| | 6 | Not Used |
| 19 | 7 | Ground |
| 53 | 8 | RS232C TX |
| | 9 | Not Used |

| AZedit #3 | | |
|---|---|---|
| **68-pin Master Controller** | **J-10 of XCP-ADAM-MC** | **Assignment 2W** |
| | 1 | Not Used |
| 67 | 2 | Ground |
| 21 | 3 | RS232C RX |
| | 4 | Not Used |
| | 5 | Not Used |
| | 6 | Not Used |
| 67 | 7 | Ground |
| 54 | 8 | RS232C TX |
| | 9 | Not Used |

| General Purpose | | | |
|---|---|---|---|
| **68-pin Master Controller** | **J-11 of XCP-ADAM-MC** | **Assignment** | **Signal** |
| 22 | 1 | MI (0) | Logical Input (0) |
| 23 | 2 | MI (1) | Logical Input (1) |
| 24 | 3 | MI (2) | Logical Input (2) |
| 25 | 4 | MI (3) | Logical Input (3) |
| 26 | 5 | MI (4) | Logical Input (4) |
| 27 | 6 | MI (5) | Logical Input (5) |
| 28 | 7 | MI (6) | Logical Input (6) |
| 29 | 8 | MI (7) | Logical Input (7) |
| 30 | 9 | Ground | Ground |
| 31 | 10 | Ground | Ground |
| 32 | 11 | Ground | Ground |
| 33 | 12 | Ground | Ground |
| 34 | 13 | Ground | Ground |
| 55 | 14 | MO (0) | Logical Output (0) |
| 56 | 15 | MO (1) | Logical Output (1) |
| 57 | 16 | MO (2) | Logical Output (2) |
| 58 | 17 | MO (3) | Logical Output (3) |
| 59 | 18 | MO (4) | Logical Output (4) |
| 60 | 19 | MO (5) | Logical Output (5) |
| 61 | 20 | MO (6) | Logical Output (6) |
| 62 | 21 | MO (7) | Logical Output (7) |
| 63 | 22 | Ground | Ground |
| 64 | 23 | Ground | Ground |
| 65 | 24 | Ground | Ground |
| 66 | 25 | Ground | Ground |

## *XCP-955*

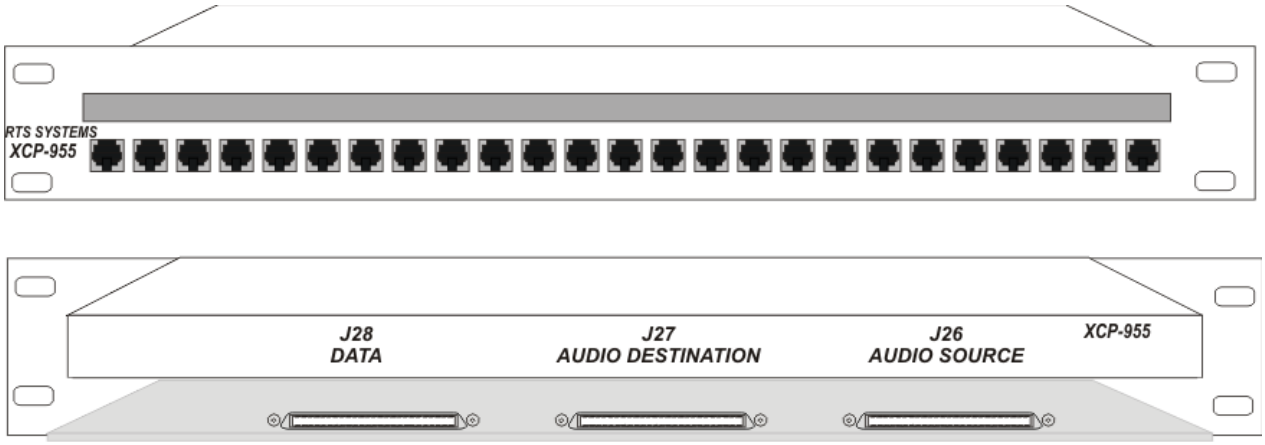



**FIGURE 21.** XCP-955

The XCP-955 is the 25-port RJ-11 breakout panel with SCSI connector for the ADAM.

## *Specifications*

Dimensions:

18.98” (482mm) L x 1.69” (43mm) H x 0.55” (104mm) D

Weight:

1.6 lb (.725 kg)

| 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 + |

| Telco Backcard - Female Telco Connector - J27 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 1 | 1 | Audio From Matrix + |
| 26 | 1 | Audio From Matrix - |

| Telco Backcard - Female Telco Connector - J27 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| | | |
| 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 From 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 + |

| Telco Backcard - Female Telco Connector - J27 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 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 - |
| | | |
| 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 - |
| | | |

| Telco Backcard - Female Telco Connector - J27 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 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 Backcard - Female Telco Connector - J26 | | |
|---|---|---|
| **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 - |

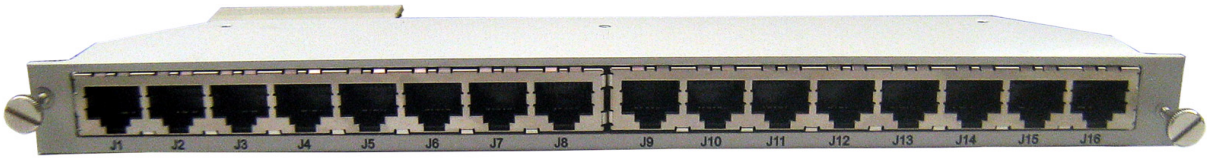
| Telco Backcard - Female Telco Connector - J26 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| | | |
| 10 | 10 | Audio To Matrix + |
| 35 | 10 | Audio To Matrix - |
| | | |
| 11 | 11 | Audio To Matrix + |
| 36 | 11 | Audio To Matrix - |
| | | |
| 12 | 12 | Audio To Matrix + |
| 37 | 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 - |

| Telco Backcard - Female Telco Connector - J26 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| | | |
| 23 | 23 | Audio To Matrix + |
| 48 | 23 | Audio To Matrix - |
| | | |
| 24 | 24 | Audio To Matrix + |
| 49 | 24 | Audio To Matrix - |

| Telco Backcard - Female Telco Connector - J28 | | |
|---|---|---|
| **Pin Number** | **Port** | **Function** |
| 1-8 | 1-8 | Data + |
| 25-33 | 1-8 | Data - |
| | | |
| 9-16 | 9-16 | Data + |
| 34-41 | 9-16 | Data - |
| | | |
| 17-24 | 17-24 | Data + |
| 42-49 | 17-24 | Data - |

APPENDIX B

# *RJ-45 Backcard*




With its 16 RJ-45 connectors, the RJ-45 backcard eliminates the need for a breakout panel to connect keypanels to the intercom. The design lends to a more organized wiring scheme and an easier intercom system setup.

This connector card supports both RJ-45 and RJ-12 connector plugs, as well as 568A, 568B and USOC wiring.

**IMPORTANT:** The RJ-45 backcard connector card is specifically designed for the AIO-16 Input/Output card for the ADAM-M intercoms system and is not compatible with any other card or intercom system. Because of the extended card size, can only be installed in slots 1-6.

To **install the RJ-45 back card into an existing ADAM-M frame**, do the following:

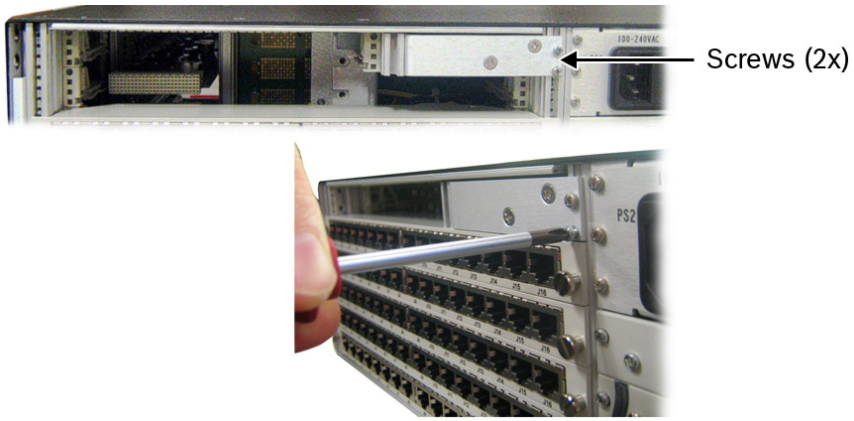
**NOTE:** The following instructions can be used for installing an RJ-45 backcard in a new ADAM-M system with blank card plates.

1. If present, remove the **AIO-16 front card** associated with the slot you want to use for the RJ-45 backcard.

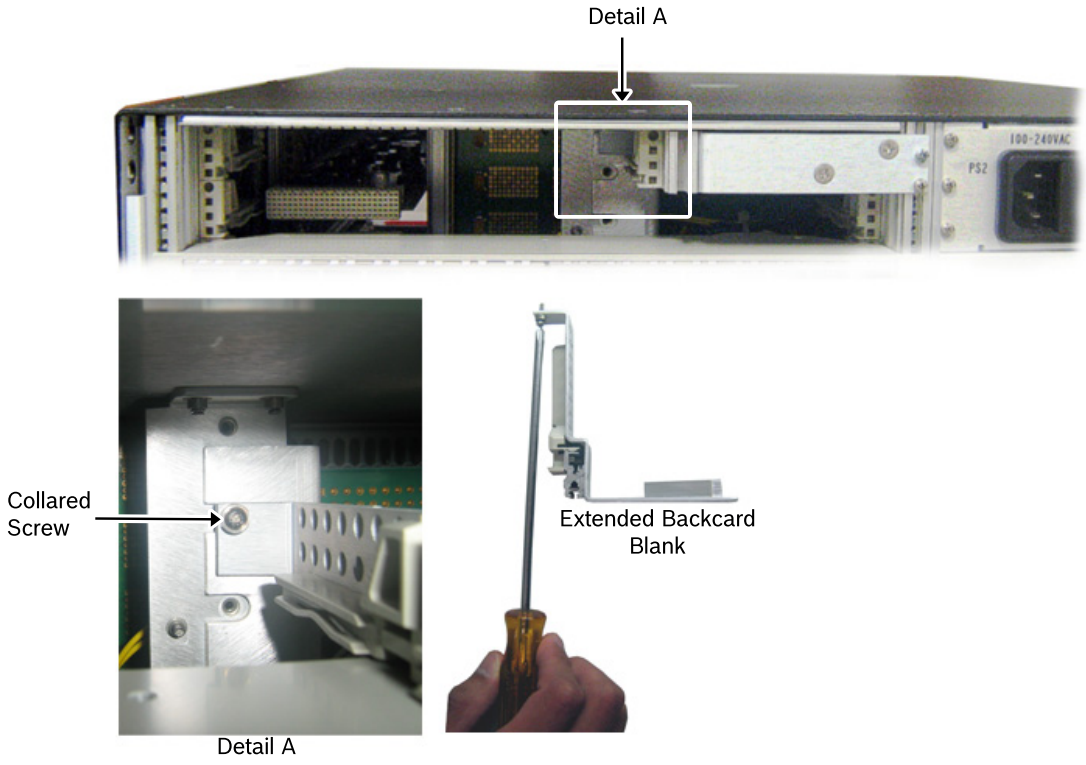
**IMPORTANT:** It is important to remove the AIO-16 front card, if present, from the ADAM-M before installing the RJ-45 backcard to reduce the risk of bending connector pins. If the RJ-45 backcard connector pins are bent, this can result in permanent damage to the backcard and the need to replace the unit.

2. Using a Phillips head screwdriver, remove the **screws** holding the MDR backcard, SCSI backcard, or blank card plate in the slot.
3. Remove the **MDR**, **SCSI backcard**, or **blank card plate.**

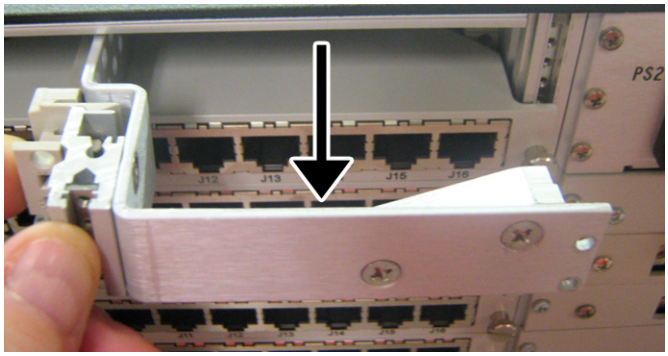
4. Using a Phillips head screwdriver, remove the **two (2) screws** of the adjoining extended card plate on the rear of the chassis.



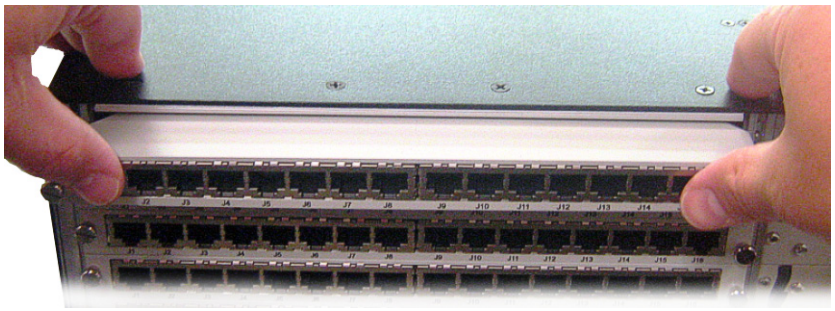

5. Using a long shaft Phillips head screwdriver, remove the **collared screw** inside the chassis.



6. Carefully remove the **extended card plate** from its slot.

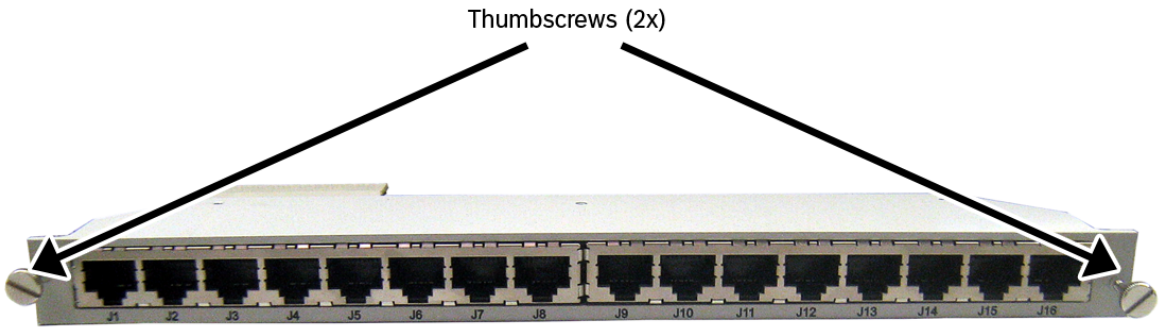



7. Taking care to fit the RJ-45 Backcard in the guides properly, place the **card** in the desired slot.
8. Applying even pressure on each end of the backcard, push the **card** into place. The backcard should be flush with the chassis rails on both sides.



9. Using your fingers or a flat-head screwdriver, tighten the **two (2) thumbscrews** on either end of the backcard into the chassis frame.

**IMPORTANT:** Do not use an electric screwdriver to tighten the thumbscrews. Do not over-tighten screws. Using an electric screwdriver or over-tightening can cause the thumbscrews to strip.




10. Replace the AIO-16 front card you initially removed, taking care to properly seat it in the slot.

To **remove the RJ-45 backcard from the ADAM-M**, do the following:

1. Using your fingers or a flat-head screwdriver, loosen the **two (2) thumbscrews** from the ADAM M chassis, being careful not to remove the screws from the RJ-45 backcard.
2. Grasping the thumbscrews, pull the **RJ-45 backcard** from the ADAM-M chassis.

## *Connector Pin Outs*

| RJ-45 Connector Pin Out | |
|---|---|
| Pin 1 | Data + |
| Pin 2 | Data- |
| Pin 3 | Audio Out + |
| Pin 4 | Audio In + |
| Pin 5 | Audio In - |
| Pin 6 | Audio Out - |
| Pin 7 | Data + |
| Pin 8 | Data - |

| RJ-12 Connector Pin Out | |
|---|---|
| Pin 2 | Data- |
| Pin 3 | Audio Out + |
| Pin 4 | Audio In + |
| Pin 5 | Audio In - |
| Pin 6 | Audio Out - |
| Pin 7 | Data + |

*Notes*

**Bosch Security Systems, Inc.**
12000 Portland Avenue South
Burnsville, MN 55337 U.S.A.
www.boschcommunications.com