

AIO-16A

16-Channel Input/Output Card

Technical Manual



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- RTS Digital
- RTSTW
- AudioCom
- RadioCom
- Intercom Headsets

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	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
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-SERVICEABLE 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 APPARATUS 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.
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Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. 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.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. 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.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. 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.

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Description

The AIO-16A replaces the AIO-16 card with improved performance characteristics. It co-exists with legacy I/O cards allowing current systems the capability to upgrade to the new AIO-16A. It is fully compatible with the AIO-16 using the same back card and cabling. This means the AIO-16A can replace the AIO-16 card without replacing the back cards, cables or breakout panels.

Installed directly into the ADAM or ADAM-M Matrix Intercom frame, the AIO-16A card gives 16 ports of audio IN and OUT for each card installed (up to 17 cards) in the frame. The AIO-16A is hot-swappable, allowing the user to insert the card and begin using it immediately. 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-16A is fully compatible with MADI, OMI, RVON, and TBX cards. It can run side-by-side with these cards, seamlessly integrating into the port allocation scheme already in place.

There are four SCSI breakout panels (XCP-40-DB9, XCP-40-RJ12, XCP-24, and XCP-24-USOC) and three MDR breakout panels (XCP-32-DB9, XCP-16-DB9T, and XCP-48-RJ45), bringing the total number of breakout panels compatible with the AIO-16A to seven. For more information, see the Breakout Panel Resource Guide (P/N F01U.260.692) found at www.rtsintercoms.com.

In addition, the ADAM-M can use the RJ-45 Breakout Card (see “RJ-45 Backcard” on page 37).

Features

Backward Compatibility The AIO-16A is completely compatible with the AIO-16 card. There are three (3) AIO-16A backcards, the traditional 50-pin SCSI backcard and the 50-pin MDR backcard, which allows for a separate data driver per keypanel port, plus the RJ-45 backcard exclusively designed for the ADAM-M frame.

The AIO-16A is also compatible with four SCSI breakout panels (XCP-40-DB9, XCP-40-RJ12, XCP-24, and XCP-24-USOC) and three MDR breakout panels (XCP-32-DB9, XCP-16-DB9T, and XCP-48-RJ45).

NOTE: NOTE: When using any breakout panel or backcard, take care to use the compatible backcards for the breakout panels being used.

Smart Card When the AIO-16A card is inserted into the system, it automatically determines the type of backcard installed, and adjusts its operation accordingly.

AIO-16A Reference Views

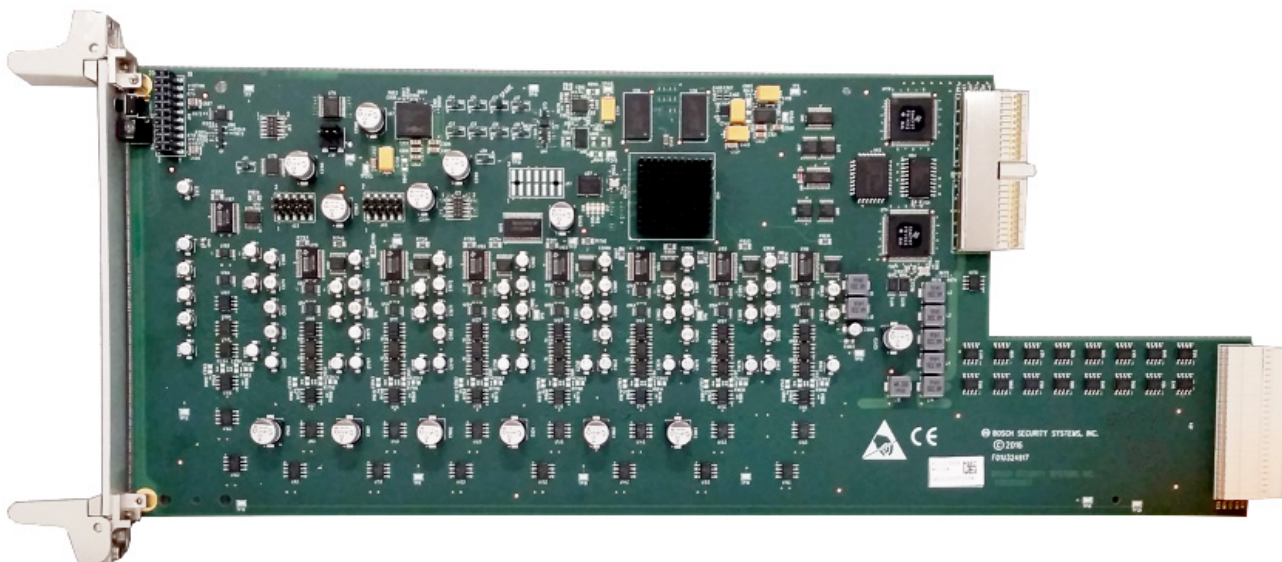


FIGURE 1. AIO-16A Top No LED Module

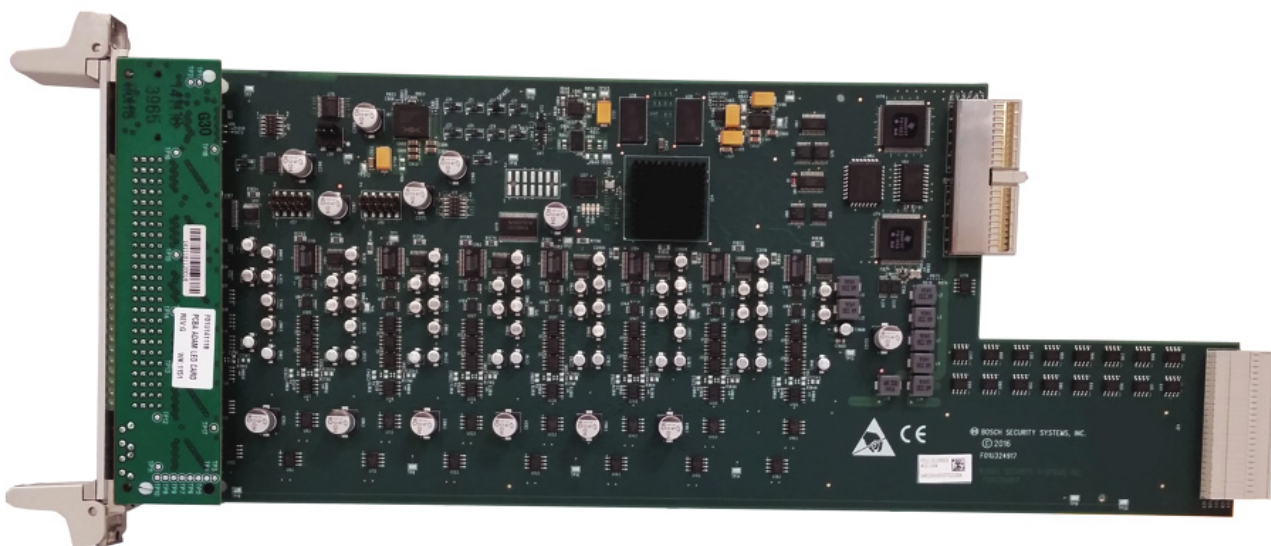
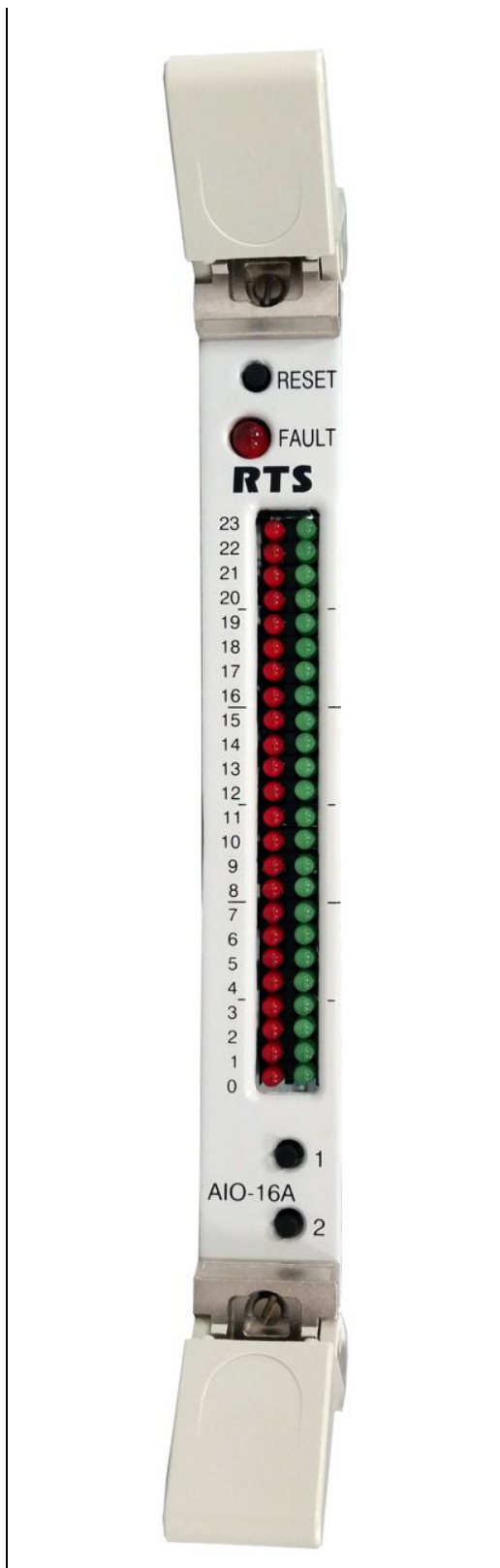


FIGURE 2. AIO-16A Top With LED Module

AIO-16A LED Description

TABLE 1.



Red LED		Green LED
CB RX task running	23	Interrupt Service Routine Active
CB TX task running	22	Driving Backplane Clock
Poll Panel 16 task running	21	CB TX active
Poll Panel 15 task running	20	CB RX active
Poll Panel 14 task running	19	MC Slot 1 talking
Poll Panel 13 task running	18	MC Slot 2 talking
Poll Panel 12 task running	17	
Poll Panel 11 task running	16	
Poll Panel 10 task running	15	Keypanel 17 talking
Poll Panel 9 task running	14	Keypanel 16 talking
Poll Panel 8 task running	13	Keypanel 15 talking
Poll Panel 7 task running	12	Keypanel 14 talking
Poll Panel 6 task running	11	Keypanel 13 talking
Poll Panel 5 task running	10	Keypanel 12 talking
Poll Panel 4 task running	9	Keypanel 11 talking
Poll Panel 3 task running	8	Keypanel 9 talking
Poll Panel 2 task running	7	Keypanel 8 talking
Poll Panel 1 task running	6	Keypanel 7 talking
ASIC Control task running	5	Keypanel 6 talking
List Manager task running	4	Keypanel 5 talking
List Send task running	3	Keypanel 4 talking
Alpha task running	2	Keypanel 3 talking
Download task running	1	Keypanel 2 talking
Idle task running	0	Keypanel 1 talking

Jumpers

NOTE: You must remove the card from the frame in order to change any jumper settings

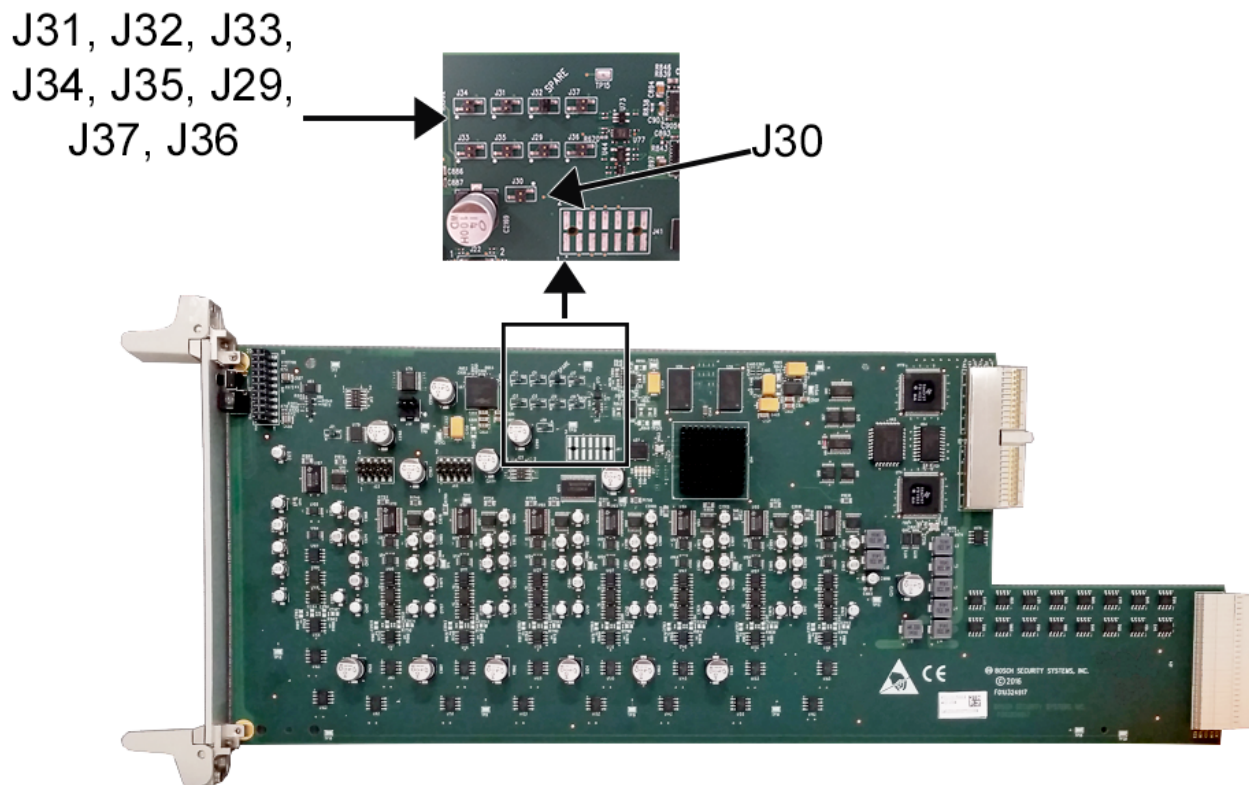


FIGURE 3. AIO-16A Jumper Location

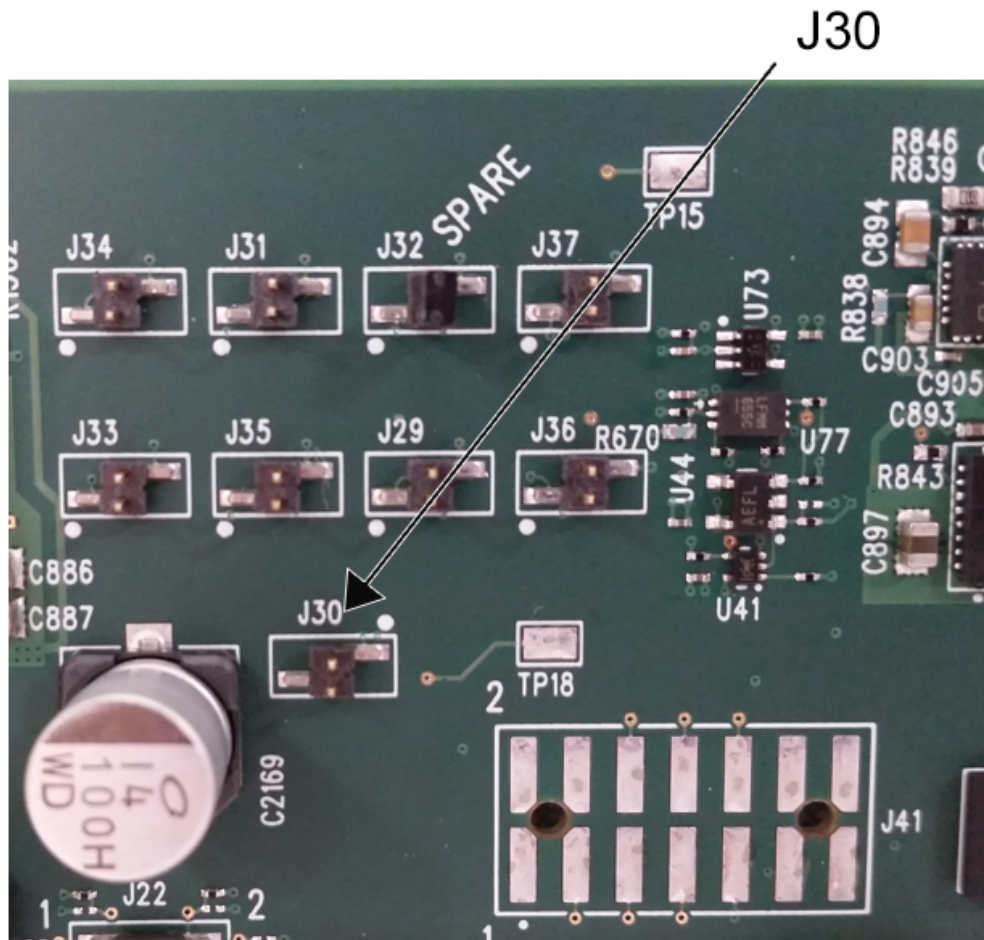


FIGURE 4. Jumper bank settings on the AIO-16A card

J30 Disable babble detect. Jumper removed for normal operation.

IMPORTANT: If needed, J32 has a spare jumper bar for use. Jumper bar used with J30 to disable babble.

- J34** Reserved for future use - Jumper out for normal operation
- J33** Reserved for future use - Jumper out for normal operation
- J31** Reserved for future use - Jumper out for normal operation
- J35** Reserved for future use - Jumper out for normal operation
- J32** Reserved for future use - **Spare jumper bar location.**
- J29** Reserved for future use - Jumper removed for normal operation
- J37** Manufacturing test mode jumper. Install jumper to enable manufacturing test mode. Remove jumper for normal operation
- J36** Force boot loader mode. Install jumper to force the card to start up in boot loader mode. Remove jumper for normal operation.

Specifications

Analog

Signal

Fully differential

Nominal level

8 dBu

Maximum level

20 dBu

Input Load Impedance

High (200K Ω)

Output Drive Impedance

Lowest (600 Ω)

A/D and D/A

Sampling Rate

44.1 kHz

Resolution

24 bits

Converter Architecture

128x Oversampling Δ - Σ Modulator

Audio Performance

SNR at 20 dBu

non-weighted 90dB / 85dB (min.)

THD+N at 20 dBu, 1 KHz

0.02% non-weighted @ 1 kHz

Frequency Response at 20 dBu

within \pm 2dB from 80 Hz - 18.5 kHz

All measurements performed using an Audio Precision APx525 Dual Domain System. Measurements were performed using a sine wave at $f=1$ kHz and level = 20 dBu bandwidth = 20 Hz to 20 KHz

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

SCSI Backcard

Backward compatibility to older AIO-16 and AIO-8 breakout panels. This card carries two single RS-485 data pairs; one data pair per group of 8 keypanel ports.

MDR Backcard

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 pairs so each intelligent keypanel has its own dedicated data communications path.

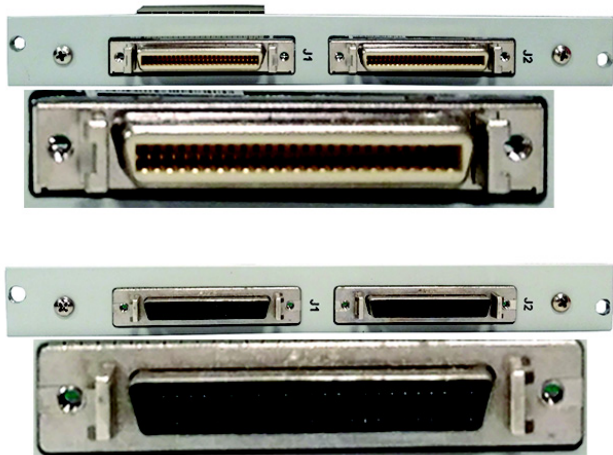


FIGURE 5. MDR backcard/connector and SCSI backcard/connector

Installation

NOTE:

Before using the AIO-16A Card, you must:

- Have the new ADAM power supply installed. For more information, see page 10. You must verify the high current Rev 2 power supply is installed. Only the high current power supplies support a full frame of AIO-16s or AIO-16As.
- In a single frame system, have the Master Controller firmware 9.22.0 or higher installed or MCII-e firmware 1.0.0 or higher installed.
- In a multi-frame system:
 - Have the peripheral controller firmware 10.13.x or higher installed.
 - Have the TBX firmware 1.1.0 or higher installed.
OR
Have the TBX-2 firmware 1.2.0 or higher installed.

NOTE: Use the following instructions for your initial setup of an AIO-16A card. If you do not follow these directions, the AIO-16A card may not work properly.

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

IMPORTANT: For the ADAM-M it is recommended to insert and secure the front card first and then insert and secure the backcard. However, the opposite is true for the ADAM frame, it is recommended to insert and secure the backcard, and then insert and secure the front card.

1. Gently insert the **AIO-16A card** into the appropriate ADAM-M slot.
2. Lightly tighten down the **AIO-16A card**.
3. Carefully attach the **backcard (MDR or SCSI, see Figure 5) to the AIO-16A card front card** from the back of the ADAM-M.
4. Verify the **backcard is properly seated against the AIO-16A card** and is sitting firmly in the system.

IMPORTANT: The AIO-16A only reads the backcard type once, at power on. If the frame is powered on and you install the AIO-16A front card, and then install the backcard, it might not recognize the backcard type. If this is the case, you have to reset the AIO-16A card after installing the backcard.

5. Tighten the **backcard** to the frame.
6. Fully tighten down the **AIO-16A** from the front of the system.

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

7. Attach the desired **breakout panel to the AIO-16A's backcard connector**.

Power Supply



FIGURE 6. ADAM Power Supply - top view.

Specifications

Input Ratings

100-240 VAC nominal
47-63Hz, 11A RMS Maximum

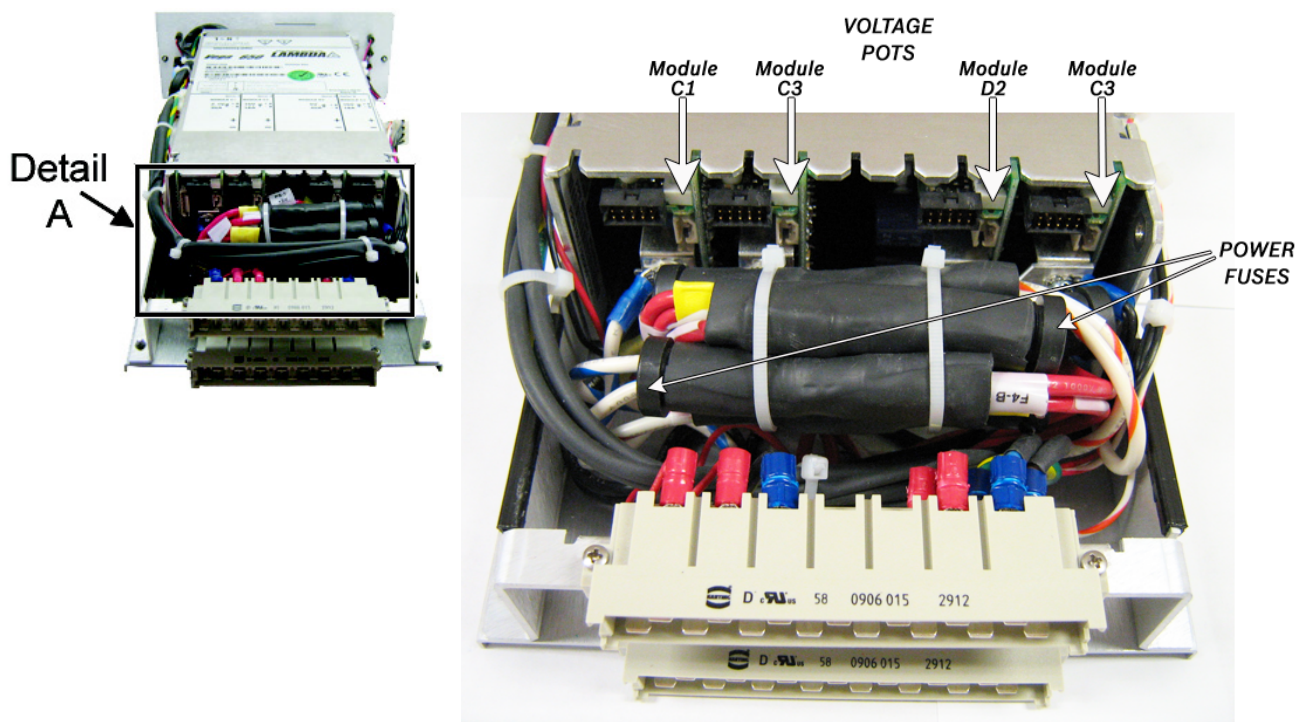
Output Ratings

Module C1 - 2.1V, 35A
Module C3 - 15V, 18A
Module D2 - 5V, 45A

IMPORTANT:

For the ADAM frame, the system power rails should be checked after I/O card insertion or removal. Adjustment may be needed if any rail is outside nominal specifications. The DC power rails are controlled by the pots. The adjustment pots for each voltage cell, correspond to their position in relationship to the top of the unit. For instructions on adjusting the pots, see “Voltage Adjustment” on page 17

For the ADAM M frame, circuitry has been implemented to automatically control the power rails within proper operating levels, adjustment should not be needed, however, the power rails should be checked whenever I/O cards are added or removed from the ADAM-M

**DETAIL A****FIGURE 7.** ADAM Power Supply - Adjustment Pots and Power Fuses

Voltage Adjustment

To adjust the voltage on the ADAM Power Supply, do the following:

- > Using a flathead screwdriver, turn the **voltage pot clockwise** to increase the voltage.
OR
Turn the **voltage pot counterclockwise** to decrease the voltage.

Fuse Replacement

WARNING: All replacement fuses must be Littelfuse fast-blow Series 312 3AG type fuse to maintain proper protection of the ADAM system components.

TABLE 2. Fuse Identification and Specification

Wire Color	Fuse Voltage	Fuse Value
White/Blue	+2.1V	3A
White/Red	+15V	12A
Red	+5V	20A
Red	+5V	20A
White/Orange	-15V	8A

NAVIGATION: For fuse specifications, see Figure 6 on page 16.

NOTE: If the ADAM does not power up properly, verify the fuses are working. If needed, please contact Bosch Security Systems, Inc technical support to replace the fuse for proper functionality.

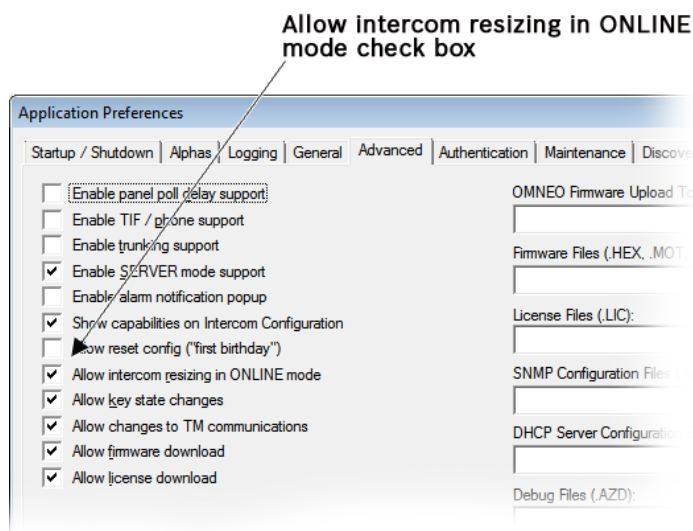
Intercom Sizing Wizard

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.

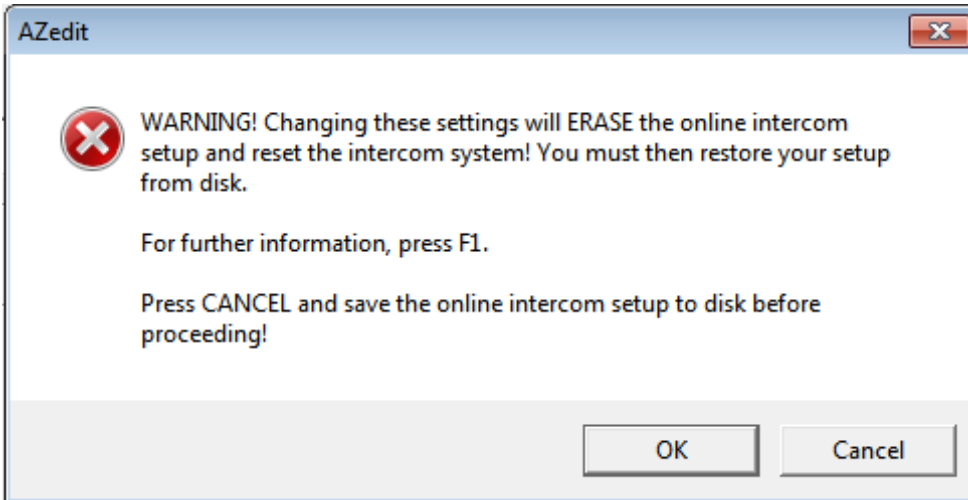


NOTE: You must use the Intercom Sizing Wizard if you are changing the number of frames, the number of ports, or the Intercom Setup options in your system.

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

IMPORTANT: The instructions below can be used for the following systems: ADAM and ADAM M.

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



- Click **OK**.

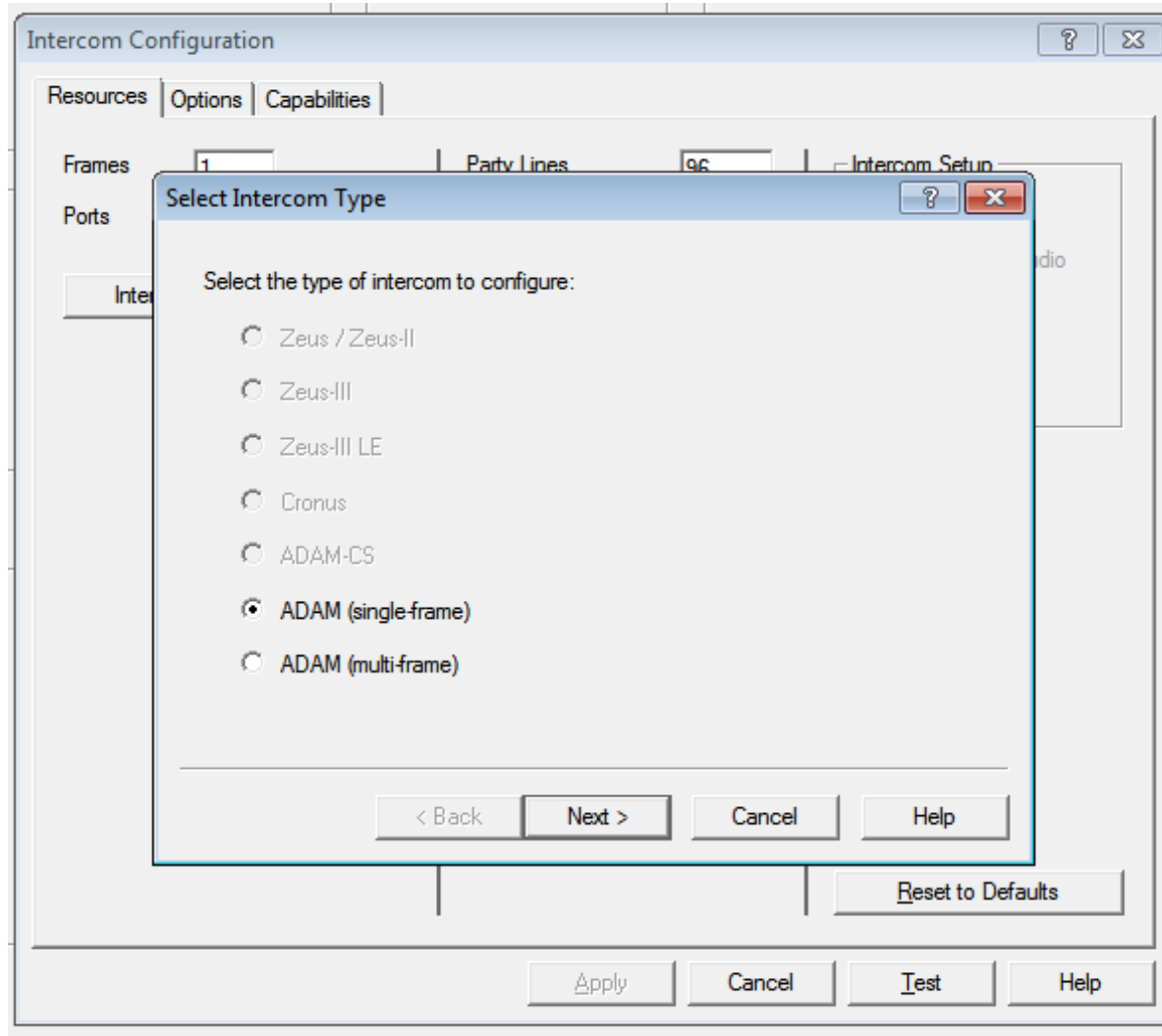
The screenshot shows the 'Intercom Configuration' dialog box with the 'Resources' tab selected. The 'Frames' field is set to 1 and 'Ports' is set to 272. The 'Intercom Sizing Wizard' button is highlighted. The following table lists the system parameters and their values:

Parameter	Value
Party Lines	96
IFBs	64
IFB Special Lists	32
Special Lists	64
GPI Outputs	96
ISOs	64
Assignment Groups	32
UPL Resources	120
UPL Statements	256
Auto Dials	64
GPI Inputs	96
Inter-panel Dims	32

The 'Intercom Setup' section on the right includes two unchecked options: 'Redundant Audio' and 'Test Audio'. A 'Reset to Defaults' button is located at the bottom right of the main configuration area. The bottom of the dialog contains 'Apply', 'Cancel', 'Test', and 'Help' buttons.

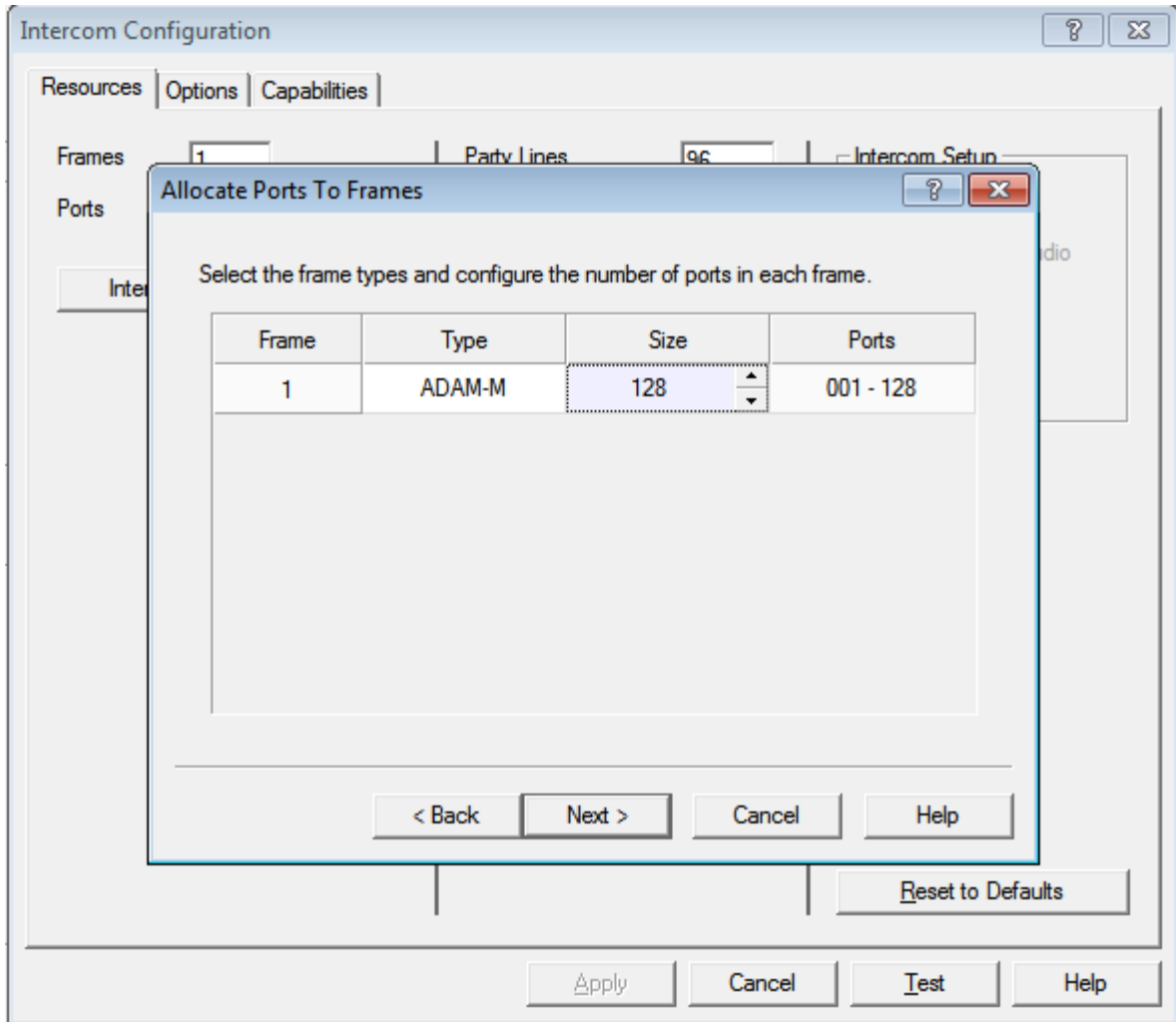
- Click **Intercom Sizing Wizard**.
The Intercom Sizing Wizard begins.

NOTE: 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 your intercom system, and then the wizard takes you through the different options to determine the intercom system setup.



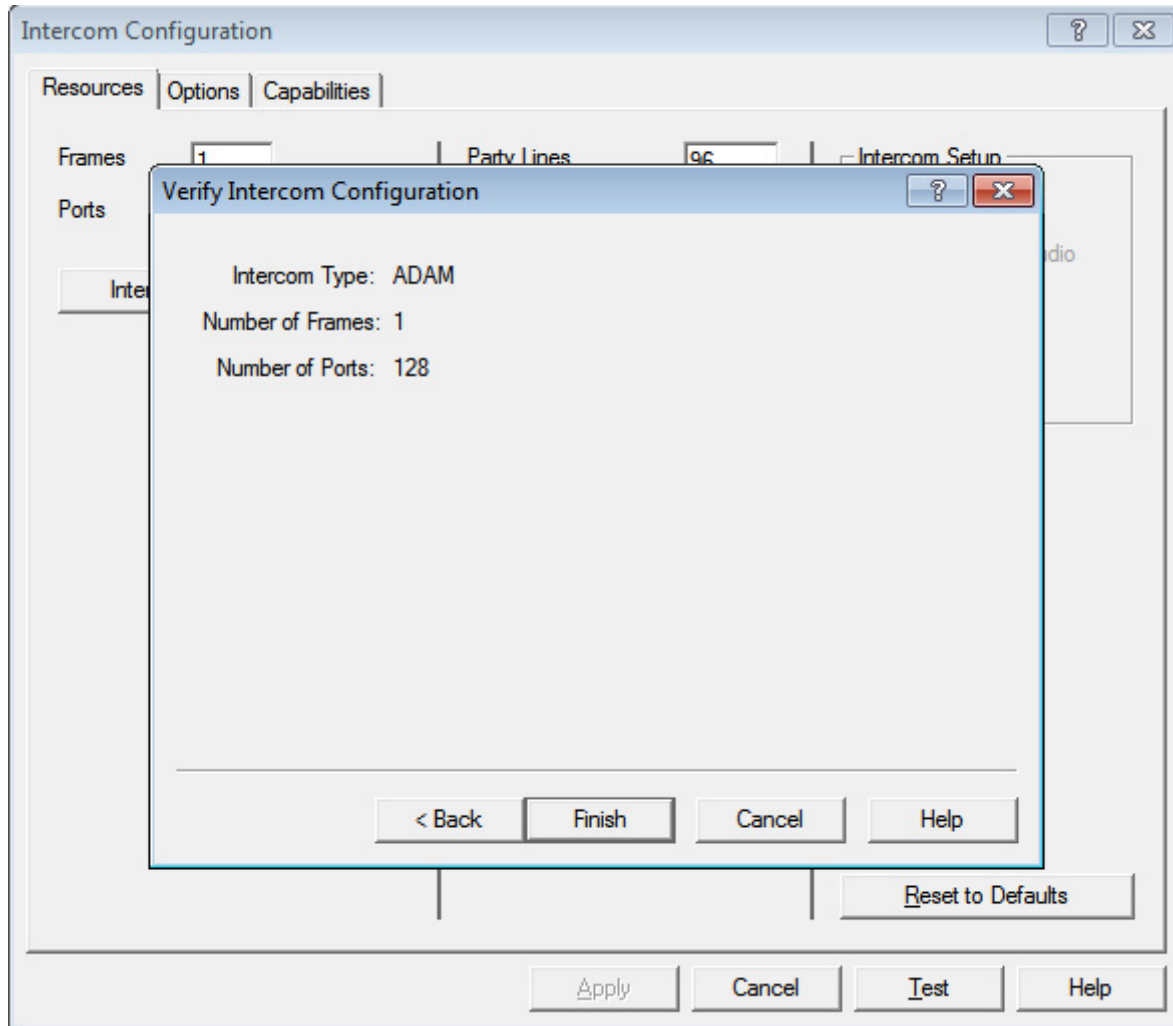
5. Select your **system** from the list.

6. Click **Next**.
The *Allocate Ports To Frames* window appears.



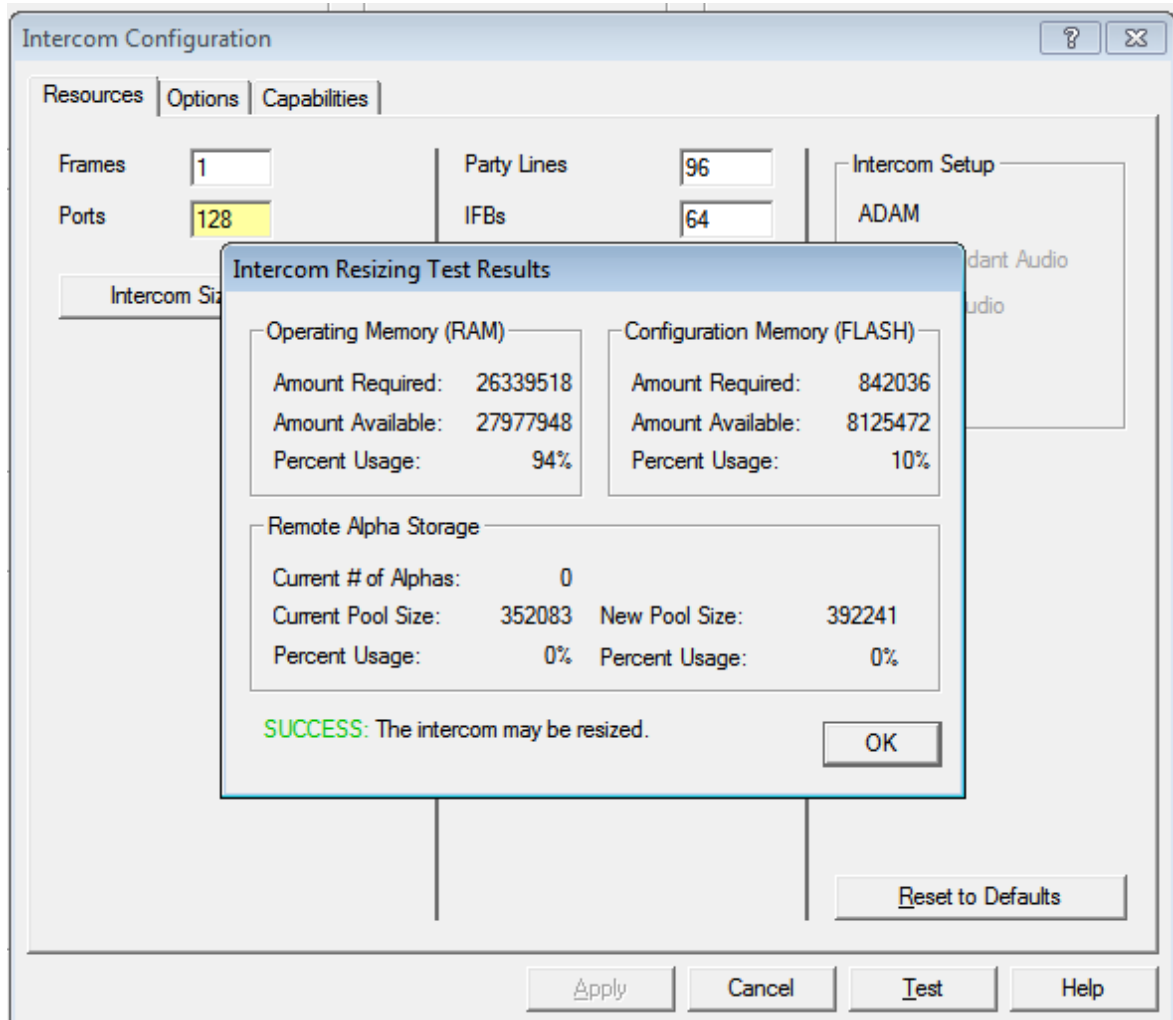
7. From the Type drop down menu, select the **frame type** (i.e., ADAM or ADAM-M).
8. Using the spin controls in the Size column, select the **size of the intercom**.

9. Click **Next**.
The Verify Intercom Configuration window appears.

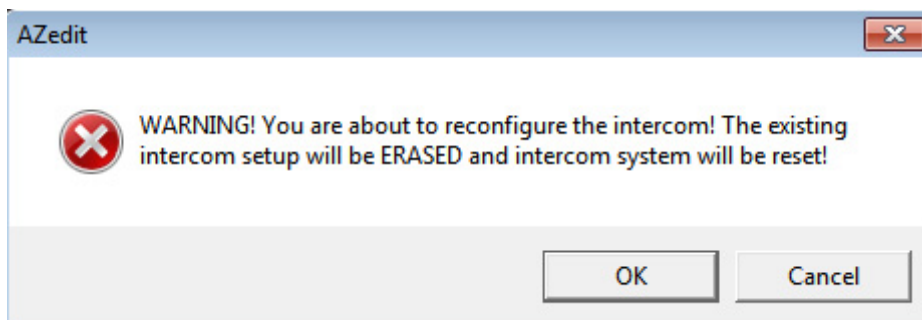


10. Verify the **Intercom Configuration**.
11. Click **Finish**.
The Intercom Configuration window appears.

12. Click the **Test button** to test the configuration.
The Intercom Resizing Test Results window appears.

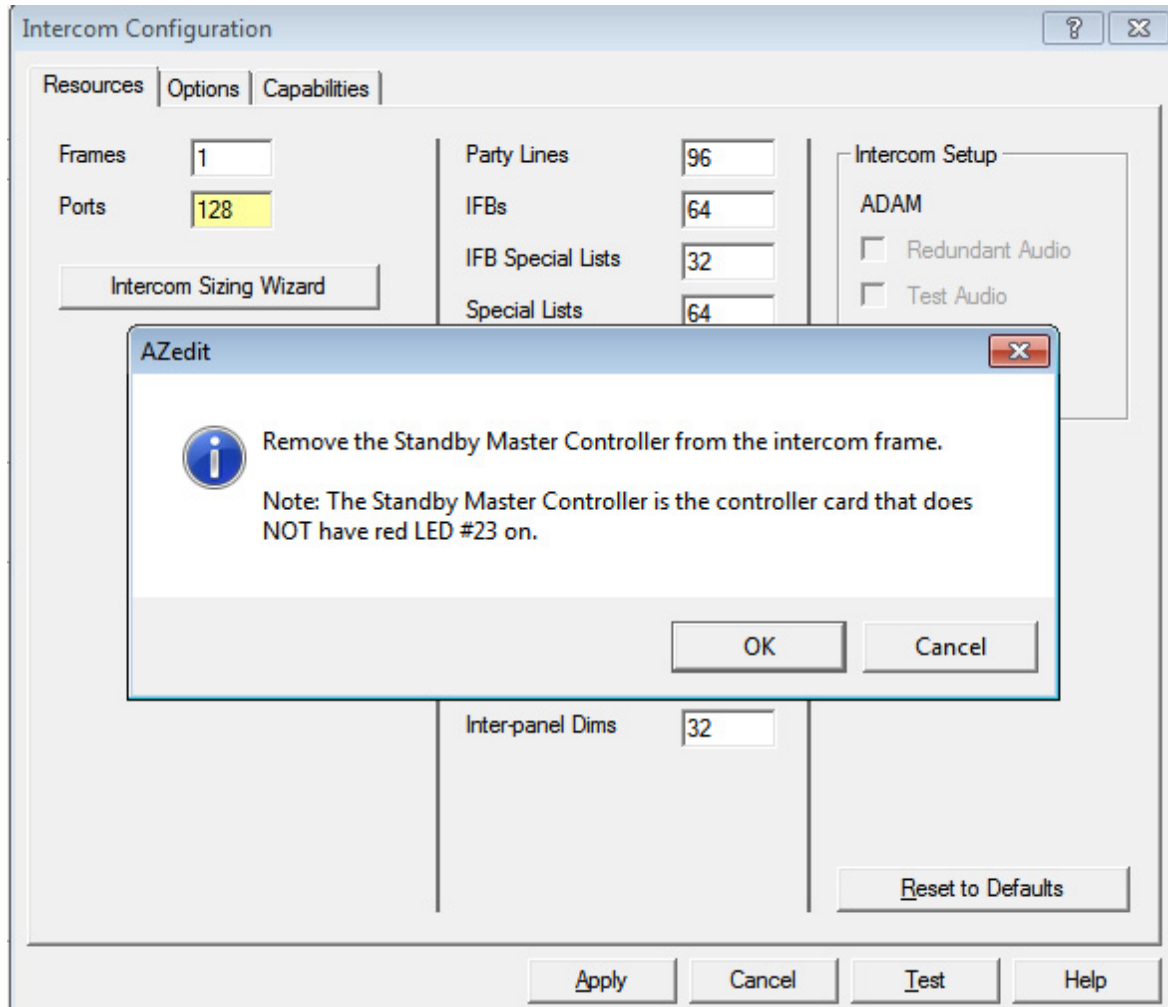


13. Click **OK**.
The Intercom Resizing Test Results window closes.
14. Click the **Apply Button**.
A window appears warning you the intercom is being reconfigured.



15. Click **OK**.

A warning to pull the Standby Master Controller out of the frame appears.



IMPORTANT: It is important to remove the Standby Master Controller from the intercom frame, because you configuration changes will be lost when the standby takes over when the main master controller reboots.

16. Click **OK**.

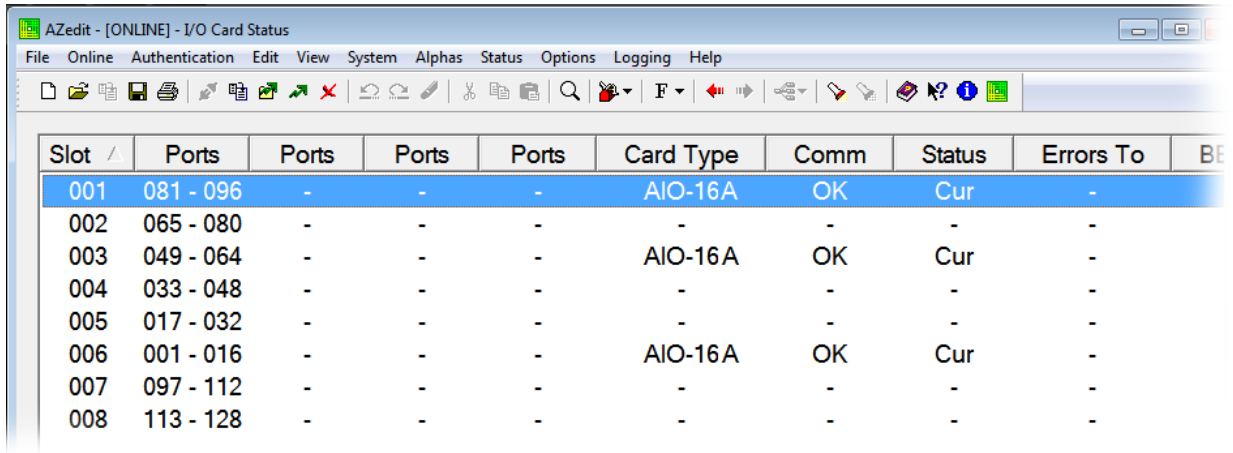
The master card reboots.

IMPORTANT: Once the master controller card reboots and AZedit re-establishes communications, with it, plug in the standby controller. The Standby controller automatically resizes itself to match the other controller's configuration.

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 /	Ports	Ports	Ports	Ports	Card Type	Comm	Status	Errors To	BE
001	081 - 096	-	-	-	AIO-16A	OK	Cur	-	
002	065 - 080	-	-	-	-	-	-	-	
003	049 - 064	-	-	-	AIO-16A	OK	Cur	-	
004	033 - 048	-	-	-	-	-	-	-	
005	017 - 032	-	-	-	-	-	-	-	
006	001 - 016	-	-	-	AIO-16A	OK	Cur	-	
007	097 - 112	-	-	-	-	-	-	-	
008	113 - 128	-	-	-	-	-	-	-	

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 1.

Ports Column (four columns)

The **Ports** column displays the designated ports for the specific slot in the ADAM or ADAM-M. For information on Port Allocation, see “RJ-45 Backcard” on page 37.

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 or card is not communicating.
- OK* - the card is 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.
- Old* - the master controller has outstanding data to send to the I/O card.

Errors To Column

The **Errors To** column displays the number of errors that have occurred in sending messages to the I/O card.

The error count wraps from 255 to 0.

BER To Column

The **BER (Burst Error Rate) To** column displays the number of errors that have occurred in the last 10 minutes, when sending messages to the I/O card. If the master controller has been running less than 10 minutes, it prorates the number of errors that would occur in a 10 minute period at the same rate. For example, three errors in five minutes would be shown a BER of 6. The maximum displayed BER value is 255.

Errors To Column

The **Errors To** column displays the number of errors that have occurred in sending messages to the I/O card.

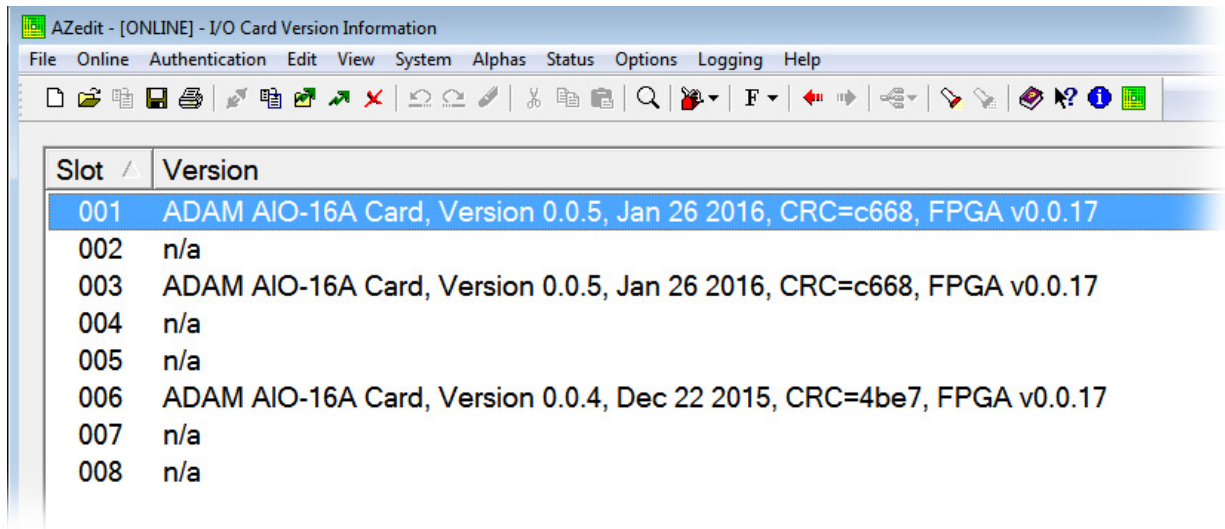
The error count wraps from 255 to 0.

BER To Column

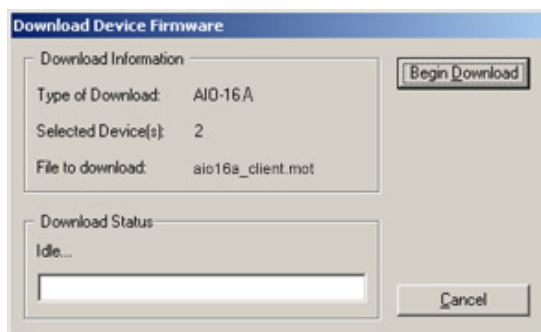
The **BER To** column displays the number of errors that have occurred in the last 10 minutes, when sending messages to the I/O card. If the master controller has been running less than 10 minutes, it prorates the number of errors that would occur in a 10 minute period at the same rate. For example, three errors in five minutes would be shown as a BER of 6. The maximum displayed BER value is 255.

Download AIO-16A 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 current firmware version for each I/O card in the system.



3. Select the **I/O card** to update.
You can select more than one (1) card at a time by holding the Ctrl key down while you select multiple cards.
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-16A firmware download is complete. This takes a minute or two to occur.

IMPORTANT: The firmware download process includes:

1. AZedit opens the file and reads in the firmware image.
2. AZedit downloads the firmware image to the MC
3. An AZedit popup window appears indicating the download is finished sending the firmware to the MC.
4. The MC starts downloading the firmware image to the selected card(s).

10. Verify the **version upgrade** in the I/O Card Version Information window is correct.

IMPORTANT: If an interruption occurs while the AIO-16A is reprogramming itself (i.e., the frame loses power), it restarts in boot loader mode. In this mode, it will not communicate with keypanels or pass audio. If this happens, restart the firmware download.

AIO-16A Boot Loader Mode

Boot Loader Mode is used to upgrade the card firmware if it is corrupt or fails and makes downloading of new firmware impossible.

To **force the card into boot loader mode on an AIO-16A without an LED daughter card installed**, do the following:

1. Remove the **AIO-16A card** from the frame.
2. Install a **jumper on J36**.
3. Reinstall the **AIO-16A card** in the frame.
The card starts in Boot Loader mode.

To **force the card into boot loader mode on an AIO-16A with an LED daughter card installed**, do the following:

1. With the AIO-16A installed in the frame, press and hold **push-buttons 1 and 2**.
2. While push-button 1 and 2 are held, press the **RESET button**.
3. Hold the **push-buttons** until the card completes its installation (about 10 seconds).
4. Release the **buttons**.
As the card comes out of reset, it is forced into boot loader mode. The green LEDs 8-23 show a single LED moving up and down the LED bank.

IMPORTANT: The AIO-16A card displays it is in boot loader mode on the I/O card version screen.

Port Allocation

Port Allocation

The **Port Allocation Table** is used to support I/O cards with more than 16 ports. It allows you to select which card types occupy which intercom slots and which ports are allocated to each card. Up to four sets of ports can be allocated to each I/O card. Each set of ports is typically 16 ports, although in some cases a set may consist of eight ports.

NOTE: ADAM supports systems up to 880 ports. If you are running a multi-frame system configured for mesh wiring, you are limited to 256 ports per frame. Ring wiring allows more ports per frame. For more information, see the Tribus manual (P/N F01U315947) at www.rtsintercom.com

IMPORTANT: Check power limitations of each frame before building large intercom systems.

Requirements:

The **Port Allocation Table** requires the following minimum software and firmware versions:

- AZedit V3.9.0
- MCII-e V2.3.0

To **navigate to the port allocation table in AZedit**, do the following:

- > From the Options menu, select **Port Allocation Table**.
The Port Allocation Table window appears.

Port Allocation Table					
Slot	Type	Allocated	Ports	Ports	Ports
001	AIO-16 A	16	081 - 096	-	-
002	AIO-16 A	16	065 - 080	-	-
003	AIO-16 A	16	049 - 064	-	-
004	AIO-16 A	16	033 - 048	-	-
005	AIO-16 A	16	017 - 032	-	-
006	AIO-16 A	16	001 - 016	-	-
007	AIO-16 A	16	097 - 112	-	-
008	AIO-16 A	16	113 - 128	-	-

IMPORTANT: It is important to resize the intercom BEFORE allocating ports on the AIO-16A card. For more information, see “Intercom Sizing Wizard” on page 19.

To **assign cards to ports**, do the following:

1. In the Type column, delete as many **card types** as necessary to fit the required frame population.
Deleting the card type also deletes the port allocation information for that card.
2. In the Type column, enter the correct **card types**.

Slot	Type	Allocated
001	AIO-16A	16
002	OMI-64	64
003	OMI-64	48
004	RVON-16	16
005	RVON-8	8
006	-	-
007	MADI-16	16
008	-	-

-
AIO-8
AIO-16A
RVON-8
RVON-16
MADI-16
MADI-32
MADI-48
MADI-64
AES-3
OMI-16
OMI-32
OMI-48
OMI-64

3. In the Allocated column, enter the **appropriate port count**.

NOTE: The Allocated port count can be for 8, 8+8, 16, or 32/48/64 depending on the desired system architecture and the card types being fitted. When 8+8 or a port count other than 16 is used, fill in additional port count columns. A port count of 8+8 specifies that two separate groups of eight ports are allocated to a 16-port card, and the two groups of ports are not necessarily contiguous.

Slot	Type	Allocated	Ports	Ports
001	AIO-16A	16	001 - 016	-
002	OMI-64	64	017 - 032	033 - 04
003	OMI-64	-	081 - 096	097 - 11
004	RVON-16	8	153 - 168	-
005	RVON-8	8 + 8	145 - 152	-
006	-	16	-	-
007	MADI-16	24	217 - 232	-
008	-	32	-	-
		40		
		48		
		56		
		64		

4. In the Ports column, enter the correct **port range**.

Slot	Type	Allocated	Ports	Ports
001	AIO-16 A	16	001 - 016	-
002	OMI-64	64	017 - 032	033 - 048
003	OMI-64	48	-	097 - 112
004	RVON-16	16	129 - 144	-
005	RVON-8	8	169 - 184	-
006	-	-	177 - 192	-
007	MADI-16	16	185 - 200	-
008	-	-	193 - 208	-
			201 - 216	-
			233 - 248	-
			241 - 256	-
			249 - 264	-
			257 - 272	-

- Click the **Test** button.
The mapping is tested.

NOTE: A pop-up window appears if mapping fails. Check column entries and correct as necessary.

- Click the **Apply** button.
The mapping is applied to the frame. The frame(s) may need to reboot after the mapping is applied.

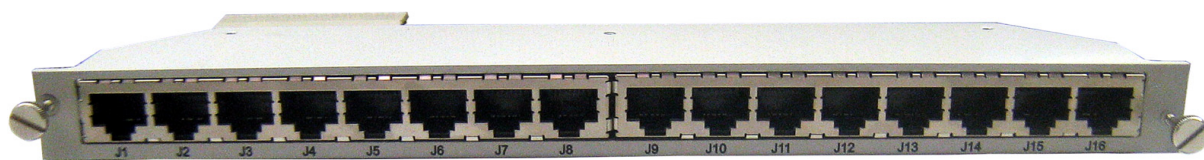
IMPORTANT: In the Port Allocation Window, a warning column shows if there are wrong card types and/or unallocated ports.

Slot	Type	Allocated	Ports	Ports	Ports	Ports	Warning
001	AIO-16 A	16	081 - 096	-	-	-	
002	AIO-16 A	16	065 - 080	-	-	-	Card not detected
003	AIO-16 A	16	049 - 064	-	-	-	Card not detected
004	AIO-16 A	16	033 - 048	-	-	-	Card not detected
005	AIO-16 A	16	017 - 032	-	-	-	Card not detected
006	AIO-16 A	16	001 - 016	-	-	-	Card not detected
007	AIO-16 A	16	097 - 112	-	-	-	Card not detected
008	AIO-16 A	16	113 - 128	-	-	-	Card not detected

Additional Port Number Columns

Warnings

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 or AIO-16A 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 it can only be installed in slots 1-6.

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

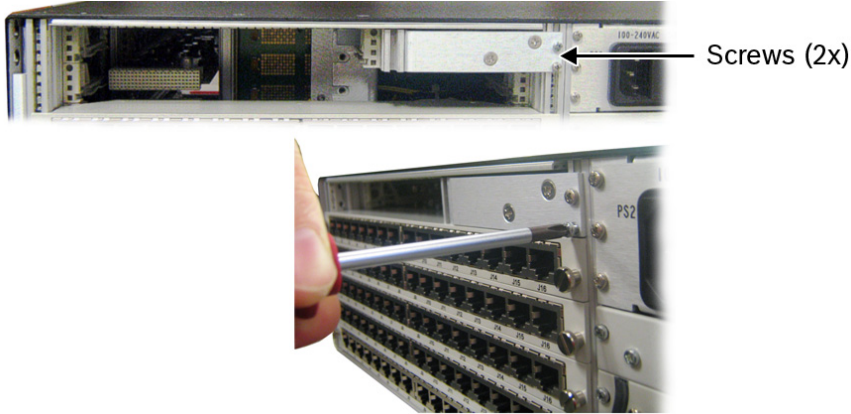
NOTE: The following instructions can be used for installing an RJ-45 backcard in a new ADAM-M system with blank card plates.

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

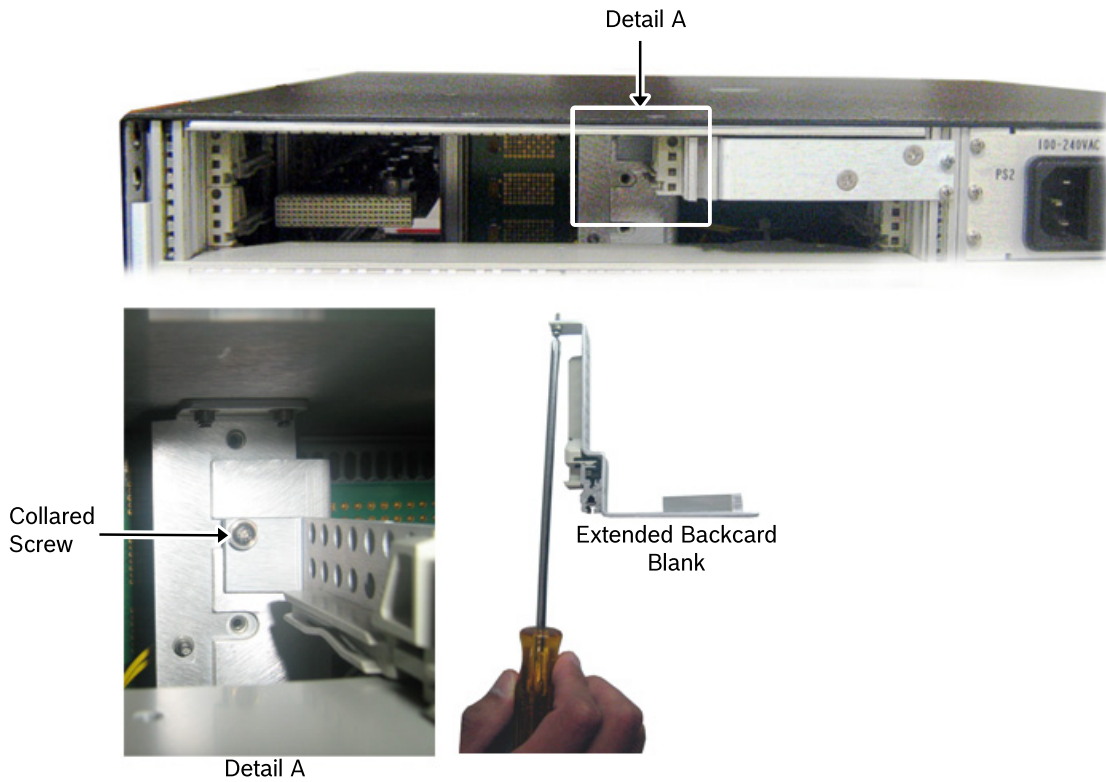
IMPORTANT: For the ADAM-M it is recommended to insert and secure the front card first and then insert and secure the backcard before operation. However, the opposite is true for the ADAM frame, it is recommended to insert and secure the backcard, and then insert and secure the front card before operation.

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**.

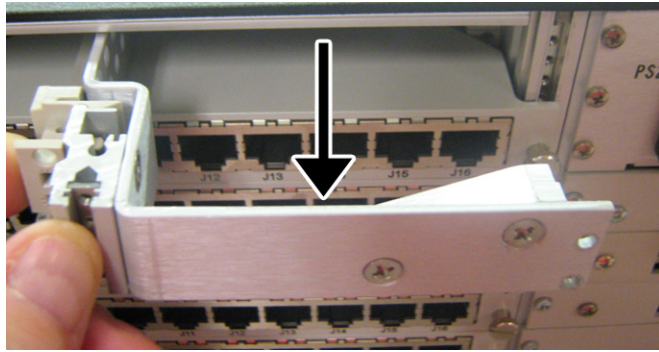
- 4. Using a Phillips head screwdriver, remove the **two (2) screws** of the adjoining extended card plate on the rear of the chassis.



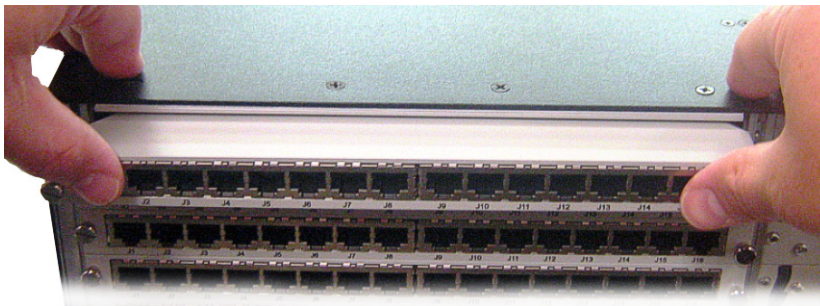
- 5. Using a long shaft Phillips head screwdriver, remove the **collared screw** inside the chassis.



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

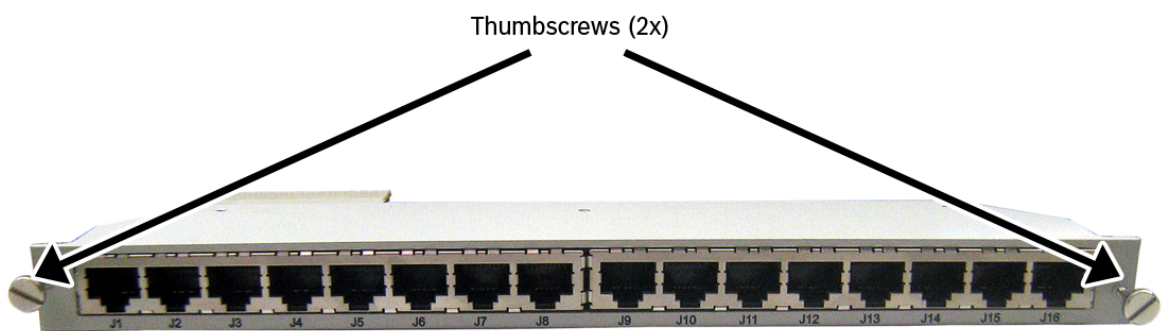


- Taking care to fit the RJ-45 Backcard in the guides properly, place the **card** in the desired slot.
- Applying even pressure on each end of the backcard, push the **card** into place. The backcard should be flush with the chassis rails on both sides.



- 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.



- Replace the AIO-16A 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:

- 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.
- 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

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