

OMI-2

OMNEO Matrix Interface Gen 2

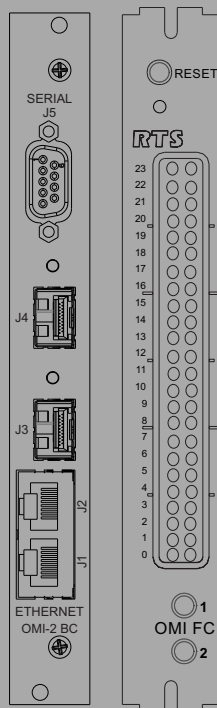


Table of contents

1	About this manual	4
1.1	Copyright and Disclaimer	4
1.2	Notices	4
1.3	Important safety instructions	5
2	Introduction	6
2.1	OMI-2 front card and back card reference view	7
2.2	Front card LED description	7
3	OMI-2 system configurations	13
3.1	Single subnet system drawing	14
3.2	VLAN system drawing	15
4	Install an OMI-2 card in the ADAM, ADAM-M, or ADAM-2 system	16
4.1	ADAM M Installation	16
4.2	ADAM Installation	17
5	Connectors	20
6	OMI-2 Configuration	23
6.1	Configure the OMI-2 in AZedit	23
6.1.1	Download the license file	23
6.1.2	Allocate ports	24
6.1.3	Configure the network	26
6.1.4	Configure keypanels to the OMI-2 card	27
6.2	Configure OMI-2 in IPedit	28
6.2.1	Add the OMI-2 card to IPedit	28
6.2.2	Configure the network	28
6.2.3	Configure keypanels to the OMI card	29
6.3	Configure the DHCP Server	29
6.4	Zero Configuration	30
7	Window descriptions	31
7.1	OMNEO configuration screen	31
7.2	Discovered Devices screen	34
7.3	OMNEO Connection Status screen	35
7.3.1	Card/Channel page	35
7.3.2	Connection page	36
7.3.3	Pass-Through page	37
7.3.4	Ethernet page	38
7.4	DHCP Server Configuration screen	39
7.5	OMNEO specific items in the Preferences screen	41
7.6	Firmware Upload Tool	42
7.6.1	Select Firmware for Upload window	42
7.6.2	Select Device List Columns screen	43
7.6.3	Logging window	44
8	Maintenance	45
8.1	Update OMI firmware	45
8.2	OMI-2 card diagnostics	47
9	Technical data	49

1 About this manual

1.1 Copyright and Disclaimer

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1.2 Notices

	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.

	This product is AC only.
	CE Compliant

**Warning!**

This is a CLASS A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

**Notice!**

Equipment is intended for installation in Restricted Access Area.

1.3 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 a 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 is 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 with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug the 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.

2 Introduction

OMI-2 (OMNEO Matrix Interface) card description

The OMI-2 card set for the ADAM, ADAM-M and ADAM 2 intercom frames provides fully IP compliant connectivity into the ADAM intercom BUS for OMNEO compatible devices. The card set consists of a back card and front card and supports fiber optic cabling (through use of optional fiber modules) and RJ45 Ethernet connections.

OMNEO is a fully Layer 3 compliant media-networking architecture, uniting devices normally inaccessible without time-consuming and expensive cabling projects, planned weeks or months ahead of the implementation of the actual system. OMNEO fully supports currently available network infrastructure to provide low cost implementation. OMNEO also provides extremely low latency and high audio fidelity, which make it usable in virtually any application. OMNEO employs Audinate's Dante, a standards-based, routable IP media transport technology, and OCA (Open Control Architecture) as the control protocol, which is a proposed open public standard used for control and monitoring of professional media networks. Together this allows the freedom to assemble from 2 to 10,000 cooperating devices that can exchange studio-quality, synchronized, multi-channel audio and share common control systems.

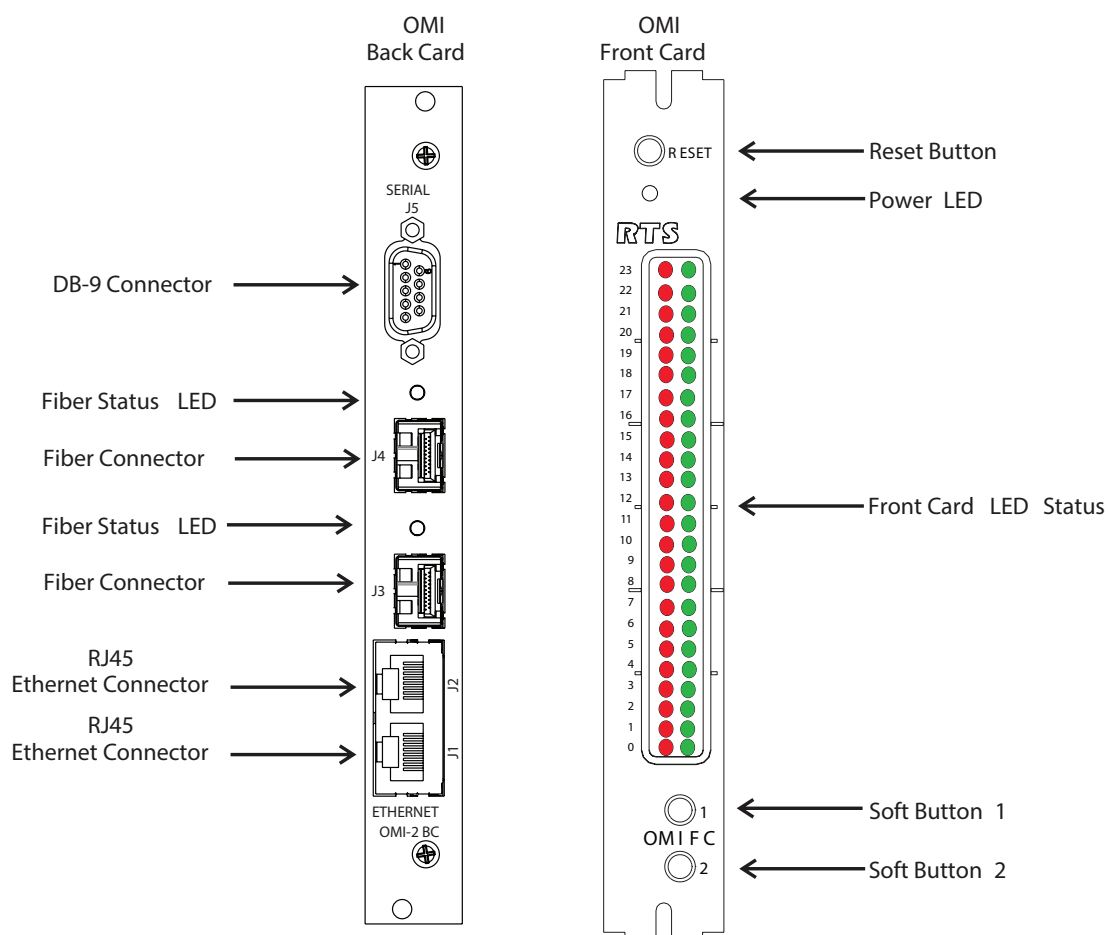
OMNEO also supports the current AVB (Audio/Video Bridging) standards and can take advantage of the special features of AVB switches and networking hardware.

With multiple open standards, OMI provides an ideal solution for Layer 2 or Layer 3 media networking within a variety of IT infrastructures.

Features

- Supports RSTP
- Supports Layer 2 or 3 IT environments. Supports DHCP and Bonjour¹
- Supports Fiber (with optional single or multimode fiber module), CAT-5/6, and CAT-5e (Ethernet 10/100MB and 1GB) for simplified wiring. Up to 64 ports per card maximum
- Provides up to 512 ports in a single ADAM Frame (8 OMI Cards) or 256 Ports in an ADAM-M Frame (4 OMI Cards)
- OMI safely connect with PoE based switches , but cannot be powered from PoE switches

2.1 OMI-2 front card and back card reference view



2.2 Front card LED description

LED State	OMNEO Connection State
Green LED on; Red LED off	OMNEO Connection connected
Green LED winks on and off; Red LED off	OMNEO Connection connected to a keypanel
Green LED off; Red LED on	OMNEO Connection configured but not connected
Green LED off; Red LED off	OMNEO Connection not configured

Tab. 2.1: OMNEO Connection LEDs Status Definition



Notice!

On the OMI-2 card, there are four pages of status descriptions. To change the LED display page, press the soft button 1.

OMI Status LEDs - Page 0		
Red LED	#	Green LED
TXing on control bus	23	RXing on control bus
	22	

OMI Status LEDs - Page 0		
Red LED	#	Green LED
	21	Link Good Fiber A
	20	Link Good Copper B
	19	Link Good Copper C
	18	
Error/Missing Back Card	17	Valid Back Card
Driving Clock	16	Clock Good
	15	
	14	
	13	
Pass-Through: RJ485	12	Pass-Through:RS232
Pass-Through: CAP to UART	11	Pass-Through: UART to CAP
	10	Ctrl Bus: Rx'd Byte
	9	Ctrl Bus: Rx'd Message
	8	Acquired Ctrl Bus
	7	
	6	
	5	
	4	Page 4
	3	Page 3
	2	Page 2
	1	Page 1
	0	Page 0

Tab. 2.2: LED Descriptions page 0

OMI Status LEDs - Page 1		
Red LED	#	Green LED
OMNEO Connect Status (red) - channel 1	23	OMNEO Connect Status (green) channel 1
OMNEO Connect Status (red) - channel 2	22	OMNEO Connect Status (green) channel 2
OMNEO Connect Status (red) - channel 3	21	OMNEO Connect Status (green) channel 3
OMNEO Connect Status (red) - channel 4	20	OMNEO Connect Status (green) channel 4
OMNEO Connect Status (red) - channel 5	19	OMNEO Connect Status (green) channel 5
OMNEO Connect Status (red) - channel 6	18	OMNEO Connect Status (green) channel 6

OMI Status LEDs - Page 1		
Red LED	#	Green LED
OMNEO Connect Status (red) - channel 7	17	OMNEO Connect Status (green) channel 7
OMNEO Connect Status (red) - channel 8	16	OMNEO Connect Status (green) channel 8
OMNEO Connect Status (red) - channel 9	15	OMNEO Connect Status (green) channel 9
OMNEO Connect Status (red) - channel 10	14	OMNEO Connect Status (green) channel 10
OMNEO Connect Status (red) - channel 11	13	OMNEO Connect Status (green) channel 11
OMNEO Connect Status (red) - channel 12	12	OMNEO Connect Status (green) channel 12
OMNEO Connect Status (red) - channel 13	11	OMNEO Connect Status (green) channel 13
OMNEO Connect Status (red) - channel 14	10	OMNEO Connect Status (green) channel 14
OMNEO Connect Status (red) - channel 15	9	OMNEO Connect Status (green) channel 15
OMNEO Connect Status (red) - channel 16	8	OMNEO Connect Status (green) channel 16
	7	
Ethernet 'A' ¹ Link Good	6	
Ethernet 'A' Full-Duplex	5	
Ethernet 'A' Half-Duplex	4	Page 4
Ethernet 'A' 1000 Mbps	3	Page 3
	2	Page 2
	1	Page 1
Ethernet 'A' Not 'AUTO'	0	Page 0
A = Fiber Port		

Tab. 2.3: LED Descriptions page 1

OMI Status LEDs - Page 2		
Red LED	#	Green LED
OMNEO Connect Status (red) - channel 17	23	OMNEO Connect Status (green) channel 17
OMNEO Connect Status (red) - channel 18	22	OMNEO Connect Status (green) channel 18
OMNEO Connect Status (red) - channel 19	21	OMNEO Connect Status (green) channel 19
OMNEO Connect Status (red) - channel 20	20	OMNEO Connect Status (green) channel 20
OMNEO Connect Status (red) - channel 21	19	OMNEO Connect Status (green) channel 21
OMNEO Connect Status (red) - channel 22	18	OMNEO Connect Status (green) channel 22
OMNEO Connect Status (red) - channel 23	17	OMNEO Connect Status (green) channel 23
OMNEO Connect Status (red) - channel 24	16	OMNEO Connect Status (green) channel 24
OMNEO Connect Status (red) - channel 25	15	OMNEO Connect Status (green) channel 25

OMI Status LEDs - Page 2		
Red LED	#	Green LED
OMNEO Connect Status (red) - channel 26	14	OMNEO Connect Status (green) channel 26
OMNEO Connect Status (red) - channel 27	13	OMNEO Connect Status (green) channel 27
OMNEO Connect Status (red) - channel 28	12	OMNEO Connect Status (green) channel 28
OMNEO Connect Status (red) - channel 29	11	OMNEO Connect Status (green) channel 29
OMNEO Connect Status (red) - channel 30	10	OMNEO Connect Status (green) channel 30
OMNEO Connect Status (red) - channel 31	9	OMNEO Connect Status (green) channel 31
OMNEO Connect Status (red) - channel 32	8	OMNEO Connect Status (green) channel 32
	7	
Ethernet 'B' ¹ Link Good	6	
Ethernet 'B' Full-Duplex	5	
Ethernet 'B' Half-Duplex	4	Page 4
Ethernet 'B' 1000 Mbps	3	Page 3
Ethernet 'B' 100 Mbps	2	Page 2
Ethernet 'B' 10 Mbps	1	Page 1
Ethernet 'B' Not 'AUTO'	0	Page 0
B = Copper Port 1		

Tab. 2.4: LED Descriptions page 2

OMI Status LEDs - Page 3		
Red LED	#	Green LED
OMNEO Connect Status (red) - channel 33	23	OMNEO Connect Status (green) channel 33
OMNEO Connect Status (red) - channel 32	22	OMNEO Connect Status (green) channel 32
OMNEO Connect Status (red) - channel 33	21	OMNEO Connect Status (green) channel 33
OMNEO Connect Status (red) - channel 34	20	OMNEO Connect Status (green) channel 34
OMNEO Connect Status (red) - channel 35	19	OMNEO Connect Status (green) channel 35
OMNEO Connect Status (red) - channel 36	18	OMNEO Connect Status (green) channel 36
OMNEO Connect Status (red) - channel 37	17	OMNEO Connect Status (green) channel 37
OMNEO Connect Status (red) - channel 38	16	OMNEO Connect Status (green) channel 38
OMNEO Connect Status (red) - channel 39	15	OMNEO Connect Status (green) channel 39
OMNEO Connect Status (red) - channel 40	14	OMNEO Connect Status (green) channel 40
OMNEO Connect Status (red) - channel 41	13	OMNEO Connect Status (green) channel 41
OMNEO Connect Status (red) - channel 42	12	OMNEO Connect Status (green) channel 42

OMI Status LEDs - Page 3		
Red LED	#	Green LED
OMNEO Connect Status (red) - channel 43	11	OMNEO Connect Status (green) channel 43
OMNEO Connect Status (red) - channel 44	10	OMNEO Connect Status (green) channel 44
OMNEO Connect Status (red) - channel 45	9	OMNEO Connect Status (green) channel 45
OMNEO Connect Status (red) - channel 46	8	OMNEO Connect Status (green) channel 46
	7	
Ethernet 'C' ¹ Link Good	6	
Ethernet 'C' Full-Duplex	5	
Ethernet 'C' Half-Duplex	4	Page 4
Ethernet 'C' 1000 Mbps	3	Page 3
Ethernet 'C' 100 Mbps	2	Page 2
Ethernet 'C' 10 Mbps	1	Page 1
Ethernet 'C' Not 'AUTO'	0	Page 0
C = Copper Port 2		

Tab. 2.5: LED Descriptions page 3

OMI Status LEDs - Page 4		
Red LED	#	Green LED
OMNEO Connect Status (red) - channel 49	23	OMNEO Connect Status (green) channel 49
OMNEO Connect Status (red) - channel 50	22	OMNEO Connect Status (green) channel 50
OMNEO Connect Status (red) - channel 51	21	OMNEO Connect Status (green) channel 51
OMNEO Connect Status (red) - channel 52	20	OMNEO Connect Status (green) channel 52
OMNEO Connect Status (red) - channel 53	19	OMNEO Connect Status (green) channel 53
OMNEO Connect Status (red) - channel 54	18	OMNEO Connect Status (green) channel 54
OMNEO Connect Status (red) - channel 55	17	OMNEO Connect Status (green) channel 55
OMNEO Connect Status (red) - channel 56	16	OMNEO Connect Status (green) channel 56
OMNEO Connect Status (red) - channel 57	15	OMNEO Connect Status (green) channel 57
OMNEO Connect Status (red) - channel 58	14	OMNEO Connect Status (green) channel 58
OMNEO Connect Status (red) - channel 59	13	OMNEO Connect Status (green) channel 59
OMNEO Connect Status (red) - channel 60	12	OMNEO Connect Status (green) channel 60
OMNEO Connect Status (red) - channel 61	11	OMNEO Connect Status (green) channel 61
OMNEO Connect Status (red) - channel 62	10	OMNEO Connect Status (green) channel 62
OMNEO Connect Status (red) - channel 63	9	OMNEO Connect Status (green) channel 63

OMI Status LEDs - Page 4		
Red LED	#	Green LED
OMNEO Connect Status (red) - channel 64	8	OMNEO Connect Status (green) channel 64
	7	
	6	
	5	
	4	Page 4
	3	Page 3
	2	Page 2
	1	Page 1
	0	Page 0

Tab. 2.6: LED Descriptions page 4

3 OMI-2 system configurations

Currently, the OMNEO technology supports single subnet and simple VLAN configurations. In the future, larger system setups will be supported.

OMNEO general constraints

- Single subnets cannot exceed 450 OMNEO devices
- The maximum number of hops between source and destination is seven
- The maximum number of nodes in a daisy-chained system is 20

3.1 Single subnet system drawing

The single subnet system contains two OMI-2 cards in one frame and two Layer 2 switches trunked together and is capable of supporting up to 124 OKI keypanels (four ports are used by the two OMI-2 cards audio IN and OUT). This system uses Zero Configuration.

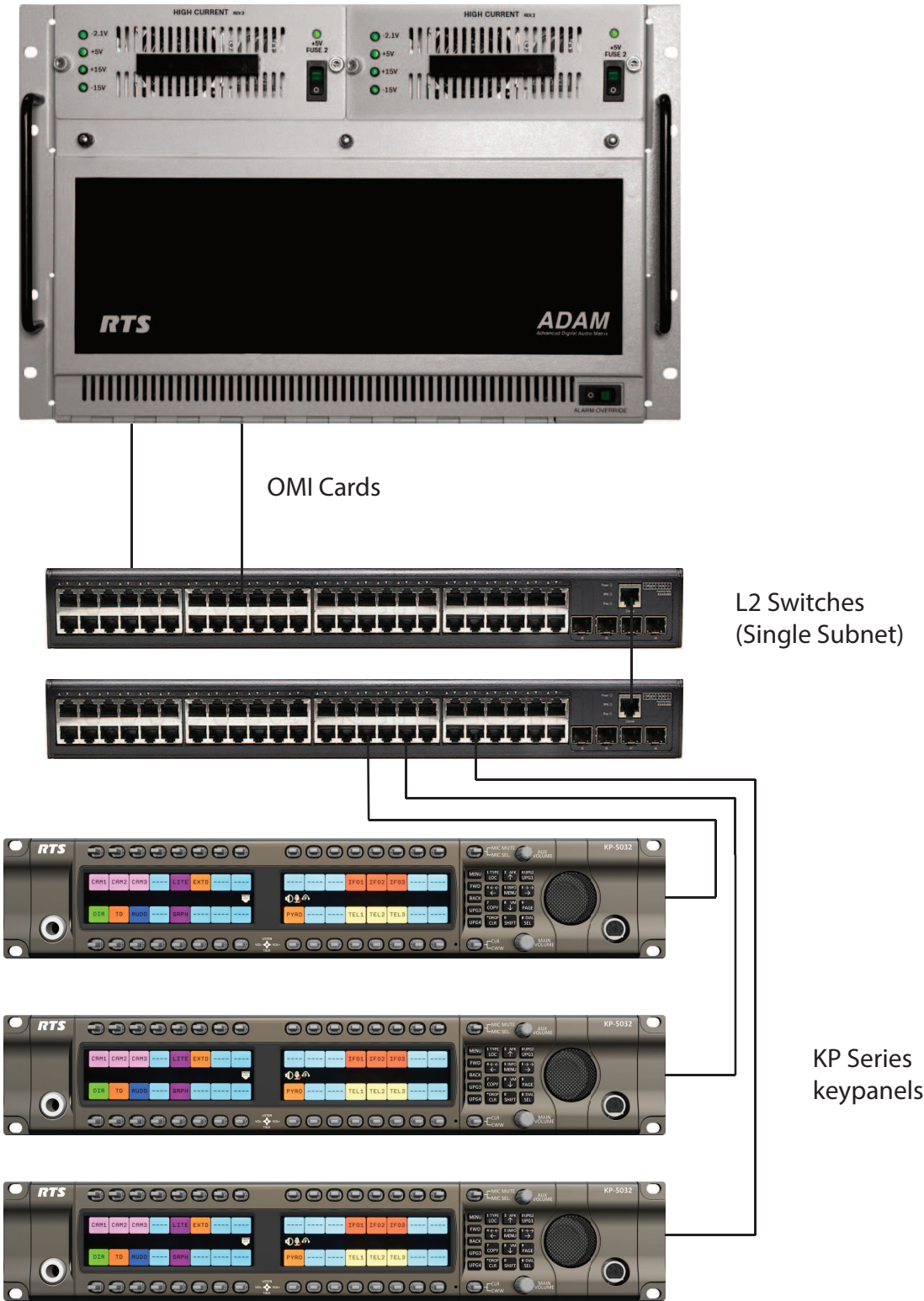


Figure 3.1: OMNEO Single Subnet System

3.2 VLAN system drawing

In the system drawing, one OMI-2 card supports VLAN1 through VLAN40. Two MCII-e cards act as redundant DHCP servers, meaning that if one fails, the other takes over the DHCP responsibilities. Two Layer 3 switches create trunked ports creating communication between all the VLANs. Also connected to the two Layer 3 switches is a Layer 2 switch that acts as a VLAN for multiple keypanels.



Notice!

The system diagram shows only one OMI-2 card installed, which means only 64 ports are available for audio transmittal. Adding additional OMI-2 cards can add more ports for use.

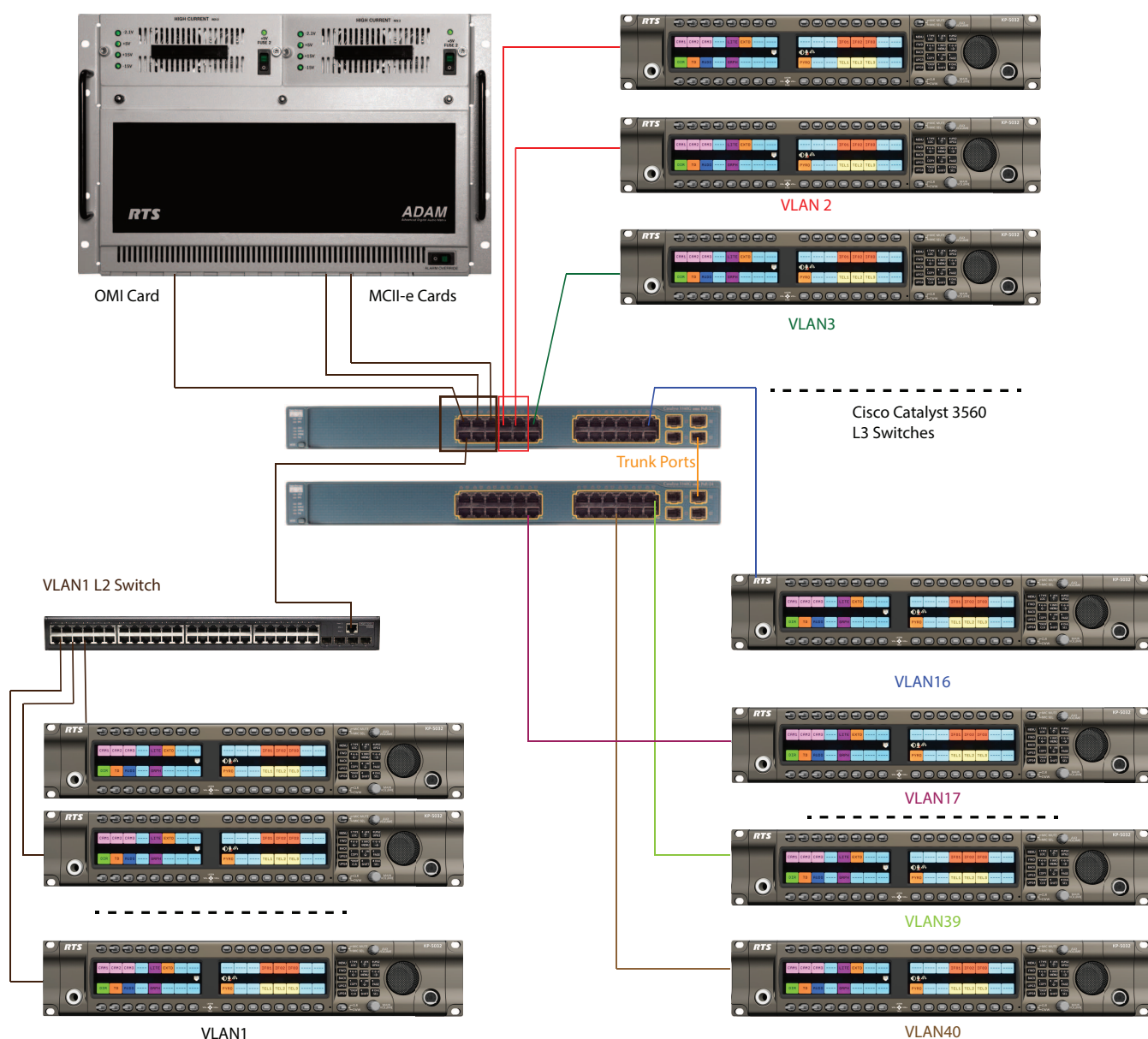


Figure 3.2: 40 VLAN System with trunked switches

4 Install an OMI-2 card in the ADAM, ADAM-M, or ADAM-2 system

The following firmware versions are the minimum required for OMI-2 support:

- AZedit version 4.5.0 or later
- IPedit version 3.0.0 or later
- MCII-e version 2.9.0 or later
- Bonjour¹ (on the network)
- Firmware Upload Tool version 2.4.0 or later

Considerations

- Gently insert the OMI-2 into the slot. If the card is forced or twisted while inserting, a pin on the backplane could short or break causing the card/frame to be inoperable.
- Make sure to insert the card into a compatible back card. If the card is inserted into an incompatible backcard, undesirable results can occur.
- Do not force mating cards.

4.1 ADAM M Installation



Notice!

Up to four OMI-2 card sets can be used in the frame at a time.

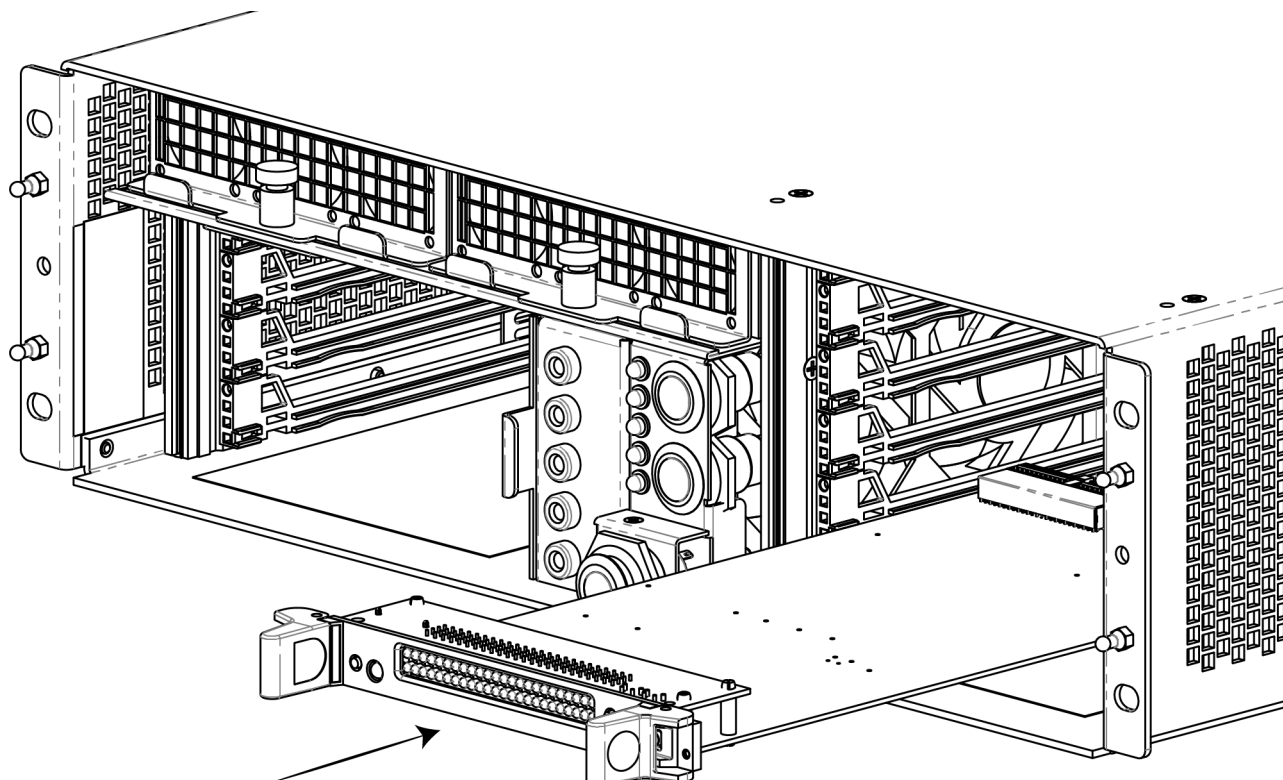
To **install the OMI-2 card set into the ADAM M frame**, do the following:

1. Gently insert the **OMI-2 front card** into the appropriate slot.

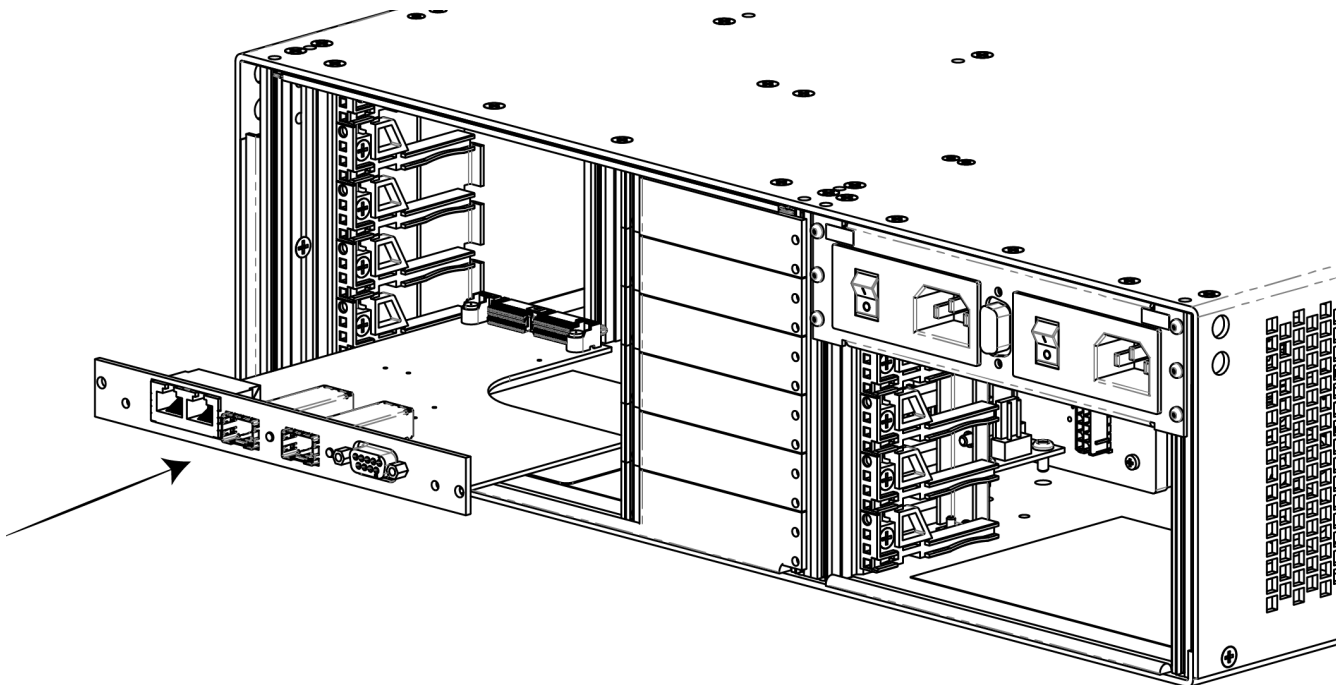


Notice!

Take care to insert the card properly, as shown.



2. Using the card ejectors, tighten down the **front card** by pushing it into the slot.
3. On the back of the frame, carefully **insert the OMI-2 back card**, aligning it with the OMI front card, as shown.



4. Ensure the **OMI-2 back card seats properly against the OMI-2 front card** and is sitting firmly in the frame.
5. Tighten the **OMI-2 back card to the frame** using the supplied screws.
6. Ensure the **card ejectors are tight to the chassis** on the OMI-2 front card.

4.2

ADAM Installation

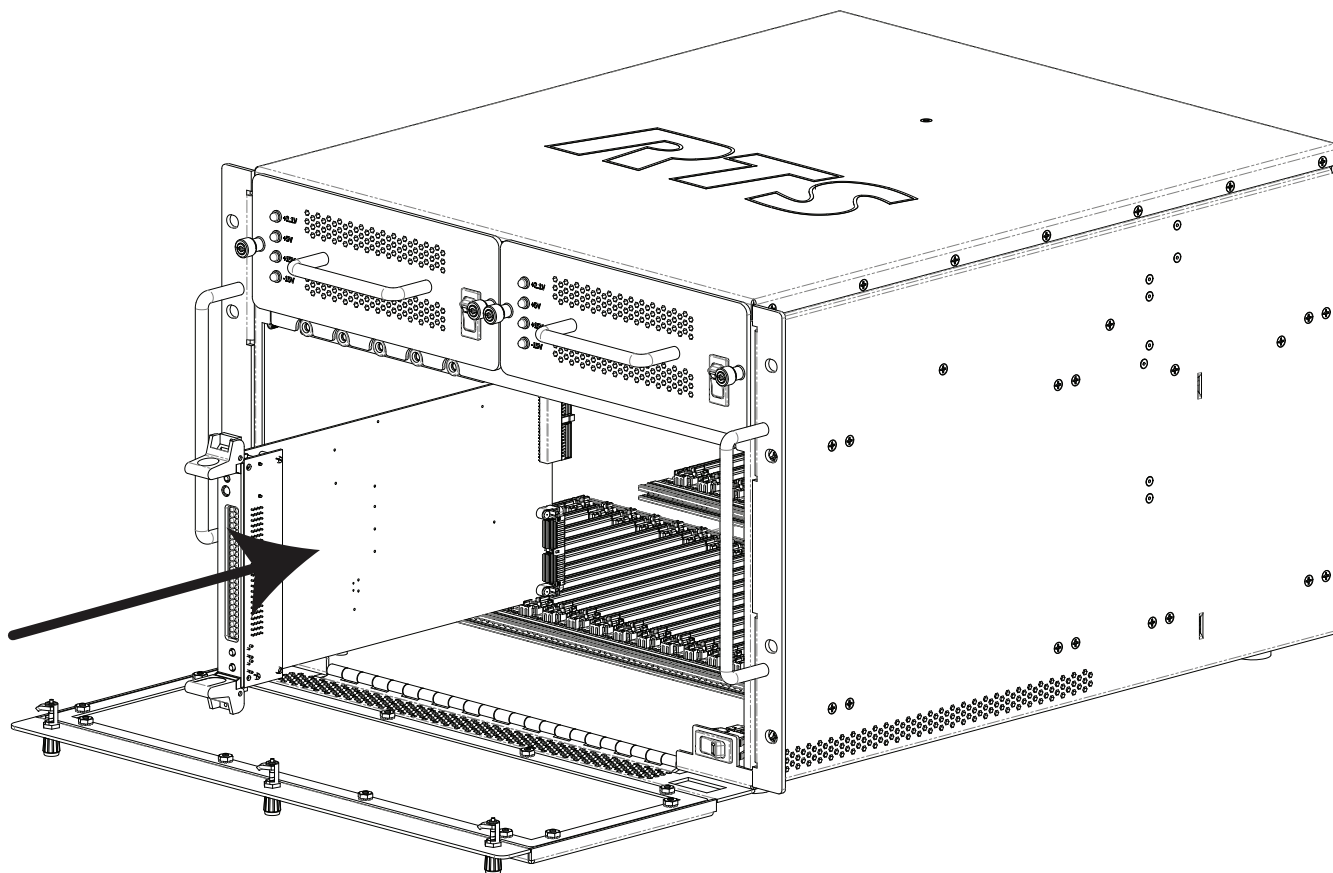


Notice!

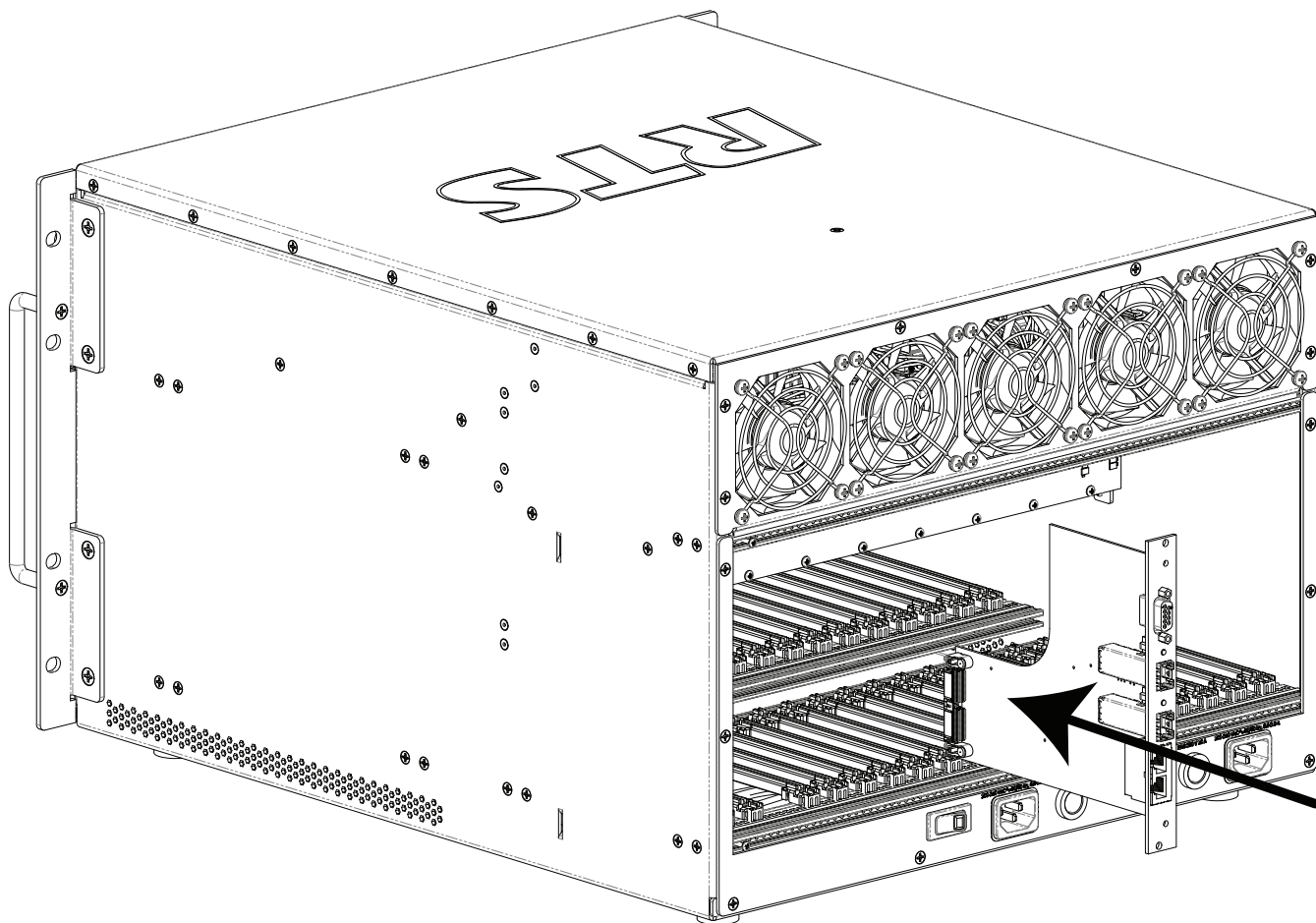
Use up to eight OMI-2 card sets in a frame at a time.

To **install the OMI-2 card set into an ADAM or ADAM 2 frame**, do the following:

1. Gently insert the **OMI-2 front card** into the appropriate slot.
2. Using the card ejectors, tighten down the **front card** by pushing it into the slot.



3. On the back of the frame, carefully **insert the OMI-2 back card**, aligning it with the OMI front card, as shown.
4. Ensure the **OMI-2 back card seats properly against the OMI-2 front card** and is sitting firmly in the frame.



5. Tighten the **OMI-2 back card to the frame** using the supplied screws.
6. Ensure the **card ejectors are tight to the chassis** on the OMI-2 front card.

5 Connectors

DB-9 Connector pin out

Pin	Description
1	N/A
2	RS232-TXD Output
3	RS232-RXD Input
4	N/A
5	Ground
6	N/A
7	N/A
8	N/A
9	N/A

Tab. 5.7: RS-232 Mode

Pin	Description
1	N/A
2	RS485+
3	RS485-
4	N/A
5	Ground
6	N/A
7	N/A
8	N/A
9	N/A

Tab. 5.8: RS-485 Mode

Pin	Description
1 BI_DA+	Bi-directional pair A+
2 BI_DA-	Bi-directional pair A-
3 BI_DB+	Bi-directional pair B+
4 BI_DC+	Bi-directional pair C+
5 BI_DC-	Bi-directional pair C-
6 BI_DB-	Bi-directional pair B-
7 BI_DD+	Bi-directional pair D+
8 BI_DD-	Bi-directional pair D-

Tab. 5.9: Ethernet 1000/100/10 Mode

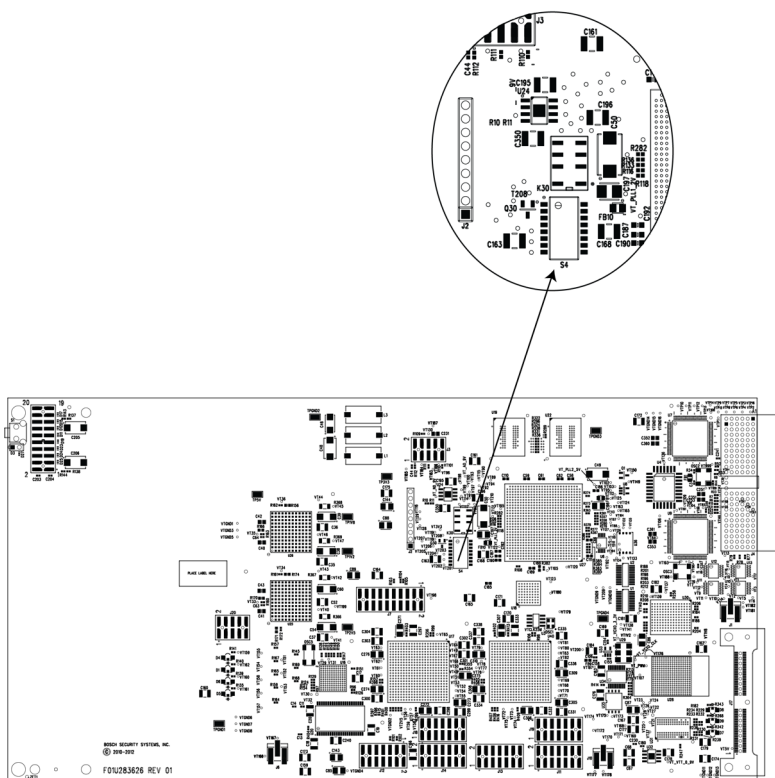
DIP Switch Settings

The OMI front card is the only board in this set to have a configurable DIP switch.



Notice!

Remove the card from the frame in order to change any DIP switch settings. Any changes are not valid until the card is reset.



Dip Switch #	Name	Description
1	Serial Port Select	Selects either RS-485 or RS-232 operation on the debug/serial pass through port. Closed: RS-232 Open (default): RS-485
2	Serial Monitor Enable	Selects DB-9 serial configuration. Closed: Enables a serial monitor on back card DB-9. Open (default): Pass-through serial ports are available via the back card's DB-9.
3	AZedit Configuration Disable	Disables configuration changes via AZedit. AZedit is still able to view the card configuration and connection status. The configuration is still able to change via the serial and Telnet connections. Closed: Configuration via AZedit is disabled. Open (default): Configuration via AZedit is enabled.

Dip Switch #	Name	Description
4	Configuration File Save Location	Assigns where the configuration file for the OMI-2 card is to be stored, either on the Master Controller or on the OMI-2 card. Closed: The OMI card holds the configuration file. Open (default): The Master Controller holds the configuration file.
5	Inhibit Reset	Allows pass-through serial data to continue when the intercom is otherwise down (for example, upgrades). Mainly used to keep trunking connections open when disruptions in communications on the card occur. Closed: When enabled, the card prevents a reset after 30 seconds of no communications with the system controller. Open (default) When disable, the card resets after 30 seconds of no communication with the system controller.
6	Unused	Keep in Open position.
7	Unused	Keep in Open position.
8	Unused	Keep in Open position.

Tab. 5.10: OMI DIP Switch Bank

6 OMI-2 Configuration

6.1 Configure the OMI-2 in AZedit

Configuration of the OMI-2 card in AZedit requires the following:

- Download the License File for more channels, if applicable.
- Assign ports to the card using the Port Allocation Table.
- Set up the network configuration.
- Configure keypanels to the OMI-2 cards.

Refer to

- *Allocate ports, page 24*

6.1.1 Download the license file

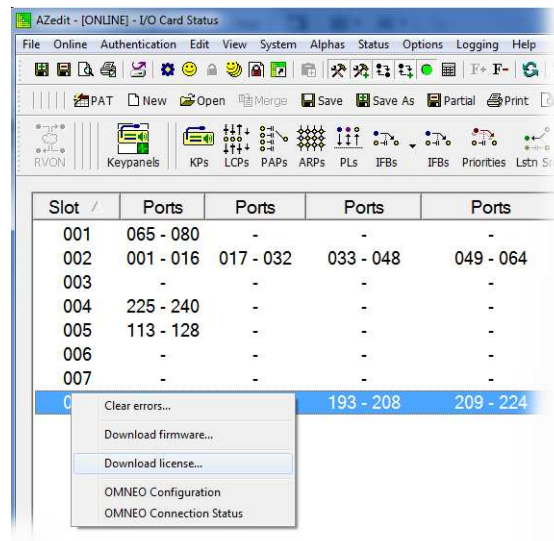
The OMI-2 card comes standard with 16 licenses; however, incremental upgrades are available for purchase.

The following upgrades available are:

- 32 licenses
- 48 licenses
- 64 licenses

To **upgrade licenses in the matrix system**, do the following:

1. Start **AZedit**.
2. From the Status menu, select **Software Versions|I/O Cards**.
The I/O Card Version Information screen appears.
3. Right-click the **OMI-2 card** you want to upgrade.



4. Select **Download License**.
5. Navigate to the **license file**.
6. Click **Open**.
The Download License File screen appears.
7. Click **Begin**.
The license file download begins. A success message appears once the file finishes downloading.
8. From the Status menu, select **I/O Card Status**.
The I/O Card Status screen appears.

9. Verify the **download was successful**.

6.1.2

Allocate ports

Use the Port Allocation Table 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. Ports can be allocated in groups of four. Each group contains 16 ports.



Notice!

If you are running a single frame system, up to 880 ports are supported. If you are running a multi-frame Tribus system, you are limited to 256 ports per frame.



Notice!

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

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

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

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

1. From the Options menu, select **Port Allocation Table**.

The Port Allocation Table screen appears.

Slot	Type	Allocated	Ports	Ports	Ports	Ports	Warning
001	-	-	-	-	-	-	
002	-	-	-	-	-	-	
003	RVON+16	16	049 - 064	-	-	-	Card not detected
004	RVON+16	16	033 - 048	-	-	-	Card not detected
005	RVON+16	16	017 - 032	-	-	-	Card not detected
006	OMI-64	16	001 - 016	-	-	-	Card has unallocated ports
007	-	16	065 - 080	-	-	-	Card not detected
008	-	16	081 - 096	-	-	-	Card not detected

Warning: Not all ports are allocated.

Apply Test Cancel

2. In the Type column, delete as many **card types** as necessary to fit the required frame population.
Deleting the card type also deletes the quantity of allocated ports and the port numbers.
3. In the Type column, enter the **correct card types**.

Port Allocation Table

Slot	Type	Allocated
001	-	-
002	-	-
003	-	-
004	-	-
005	-	-
006	OMI-64	64
007	-	-
008	-	-
009	AIO-16	16
010	-	16
011	-	16
012	-	-
013	-	16
014	-	16
015	-	16
016	-	16
017	-	16

4. In the Allocated column, enter the **quantity of ports**.

Port Allocation Table

Slot	Type	Allocated	Ports
001	-	-	-
002	-	-	-
003	-	-	-
004	-	-	-
005	-	-	-
006	OMI-64	64	-
007	-	-	-
008	-	-	-



Notice!

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 other than 16 is used, fill in additional port count columns.

5. In the ports column, enter the **port number**.

Port Allocation Table

Slot	Type	Allocated	Ports	Ports
001	-	-	-	-
002	OMI-64	64	001 - 016	081 - 096
003	-	-	-	-
004	-	-	-	-
005	-	-	-	-
006	-	-	-	-
007	-	-	-	-
008	-	-	-	-

6. Using the Intercom Configuration Wizard, resize the **frame** to its actual frame size.
7. Click the **Test button**.
The mapping is tested.

**Notice!**

A popup window appears if mapping fails. Check the column entries and correct, as necessary.

8. Click the **Apply button**.
The mapping is applied to the frame.

6.1.3**Configure the network**

In an OMI-2 system, there are three ways to set up your system:

- Zero-Configuration - requires no addressing
- Static Addressing - requires manual addressing
- DHCP (also known as dynamic addressing) - requires configuring the DHCP server if you do not already have a DHCP Server on your network. If using a third party DHCP Server, it must handout parameters compatible with OMNEO devices.

**Notice!**

Requires AZedit version 4.5.0 and IPedit version 3.0.0 or later.

To **configure the OMI-2 card using a static IP address**, do the following:

1. From the status menu, select **I/O Cards**.
The I/O Card Status screen appears showing a list of installed cards.
2. Right-click the desired **OMI-2 card**.
3. Select **OMNEO Configuration**.
The OMNEO Configuration screen appears.
4. From the OMNEO Card drop down menu, select the **slot number** of the OMI-2 card.
The Device Name field auto-populates with the name of the device.

**Notice!**

If you are using zero configuration, continue the next step. No configuration is necessary. For more information, see *Zero Configuration*, page 30.

If you are using a DHCP server, see *Configure the DHCP Server*, page 29.

5. Select the **Use Static IP Settings** check box.
6. Enter **the IP address assigned to the OMI-2 controller**.
7. Enter the **IP address assigned to the audio**.
8. Enter the **Netmask of the network** where the OMI-2 card resides.
9. Enter the **Gateway address of the network** where the OMI-2 card resides.
A Default Gateway is only required if the OMI connections are between LANs.
10. Enter the IP address for the **DNS Server**, if applicable.
11. From the Local Channel drop down menu, select the **channel** to use to communicate across the network.

**Notice!**

Non-allocated channels appear with an asterisk next to them.

12. Enter the **name of the device** to which to communicate.
OR
Select the **Browse icon** to select from a list of devices.
13. Enter the **IP address of the device** to which you want to connect.
This field auto-populates when you select the device name.
14. From the Partner Device Type drop down menu, select the **type of device** to which the OMI-2 card connects.
15. From the Partner Channel drop down menu, select the **channel** to which the OMI-2 communicates with the device.
16. Enter the **name of the targeted device** to receive the serial pass-through data.
OR
Click the **Browse icon** to select a device from the list.

**Notice!**

If a serial connection is present, the following fields must be completed.

17. Enter the **IP address** for the designated device to receive the serial pass-through data.
18. From the Target Port drop down menu, select the **port** the serial pass-through data transmits.
19. From the Serial Baud Rate drop down menu, select the **baud rate** at which the data transmits for the first serial port.

**Notice!**

Configuration of the second pass-through port is not supported.

You must configure the channel settings to ensure the same codec and packet size at each end of the connection. Remember, OMI-2 cards have more channels that can be configured.

20. Click **Apply**.
Apply sends all changes to all cards in the intercom.
OR
Click **Cancel** to discard all changes.

Refer to

- *Zero Configuration, page 30*
- *Configure the DHCP Server, page 29*

6.1.4

Configure keypanels to the OMI-2 card

To finish the configuration, you must configure the OKI (OMNEO Keypanel Interface) device to talk with the OMI-2 card. To do this, you must establish a connection using the OMNEO Offers menu on the keypanel.

For detailed instructions on configuring the OMNEO Offers, see:

- KP 5032 & KP-4016 Keypanels Technical Manual
- KP-3016 Keypanel, KP-3016A Keypanel, and EKP-3016 Keypanel Technical Manual
- DKP-4016/4016W Keypanel Technical Manual
- DKP-3016 Keypanel Technical Manual
- KP 32 CLD Technical Manual
- KP 12 CLD Technical Manual
- KP-32 Classic Technical Manual

6.2 Configure OMI-2 in IPedit

Configuration of the OMI-2 card in IPedit requires the following:

- Download the License File for more channels, if applicable. See *Download the license file, page 23*.
- Add the OMI-2 to IPedit.
- Set up the network configuration.
- Configure keypanels to the OMI-2 card.

6.2.1 Add the OMI-2 card to IPedit

To **add an OMI-2 card to IPedit**, do the following:

1. Open **IPedit**.
2. From the Device menu, select **Add**.
The Add Devices screen appears open to the Search page.
3. Select the **OMI-2 Card**.
The Add button becomes active.
4. Click **Add**.
The OMI-2 card appears in the device catalog in the left panel.
5. Click **Done**.
The Add Devices screen closes.

6.2.2 Configure the network

To **configure the OMI-2 card using IPedit**, do the following:

Using the Device Configuration and Status Pane:

1. In the Device Name field, enter a **device name** familiar to you.
By default, OMI-2 cards have a default name, like CAP6-0000d6.
2. In the Description field, enter a **description for the OMI-2 card**, if desired.
3. Address the **card**.



Notice!

If you are using zero configuration, continue the next step. No configuration is necessary. For more information, see *Zero Configuration, page 30*.

If you are using a DHCP server, see *Configure the DHCP Server, page 29*.

4. Select the **Use Static IP Settings** check box.
5. In the IP Address field, enter the **IP Address assigned to the OMI-2 card**.
6. Enter the **Netmask of the network** where the OMI-2 card resides.
7. Enter the **Gateway address of the network** where the OMI-2 card resides.
A Default Gateway is only required if the OMI connections are between LANs.
8. Enter the IP address for the **DNS Server**, if applicable.
9. Enter the **IP address for a second DNS Server**, if applicable.
10. Enter the **Domain Name where the OMI-2 card resides**.

Using the Channel Configuration and Status Section:

1. From the column headings, select the **channel** to configure.
2. In the Channel Description field, enter a **channel description**, if applicable.
3. From the Destination Type drop down menu, select the **type of OMNEO device** to which the channel connects.
4. Click the **Device Name Browse button**.
The Discovered Devices screen appears.
5. Expand the **local. Tree** to view the destination devices available.

6. Select the **desired destination device**.
7. Click **OK**.
The Discovered Devices screen closes.
8. From the Destination Channel drop down menu, select the **destination channel**.
9. From the File menu, click **Save**.

6.2.3

Configure keypanels to the OMI card

To finish the configuration, you must configure the OKI (OMNEO Keypanel Interface) device to talk with the OMI-2 card. To do this, you must establish a connection using the OMNEO Offers menu on the keypanel.

For detailed instructions on configuring the OMNEO Offers, see:

- KP 5032 & KP-4016 Keypanels Technical Manual
- KP-3016 Keypanel, KP-3016A Keypanel, and EKP-3016 Keypanel Technical Manual
- DKP-4016/4016W Keypanel Technical Manual
- DKP-3016 Keypanel Technical Manual

- KP 32 CLD Technical Manual
- KP 12 CLD Technical Manual
- KP-32 Classic Technical Manual

6.3

Configure the DHCP Server

The MCII-e Master Controller or an ARNI device can serve as the DHCP Server for the OMNEO system.



Notice!

When the MCII-e is used as the DHCP server in a system with an ARNI device, the ARNI device must be designated as the DNS Server.

Each frame in a system can have its own DHCP server, if desired.

To **configure the DHCP server**, do the following:

1. Start **AZedit**.
2. From the Options menu, select **DHCP Server Configuration...**
The DHCP Server Configuration screen appears.

Range	First IP Address	Last IP Address	Gateway	Netmask	Domain
1	10.0.1.10	10.0.1.32	255.0.0.0	255.255.255.0	parent.bosch.omneo
2	-	-	-	255.255.255.0	
3	-	-	-	255.255.255.0	
4	-	-	-	255.255.255.0	
5	-	-	-	255.255.255.0	
6	-	-	-	255.255.255.0	
7	-	-	-	255.255.255.0	
8	-	-	-	255.255.255.0	

3. From the Frame drop down menu, select the **Frame** to configure for DHCP (for example, Frame 1).
4. Select the **Enable DHCP Server check box** to set this frame as a DHCP server.
5. Select the **Enable DHCP Relay check box** to allow this frame to give out addresses to devices outside its subnet.
6. In the DNS Server 1 field, enter the **IP address of the DNS** (Domain Name Server).
7. In the DNS Server 2 field, enter the **IP address of a second DNS server**, if applicable.
8. From the Range column, select the **Range** row to use.
9. In the First IP Address field, enter the **IP address of the first address in the range**.
10. In the Last IP Address field, enter the **IP address of the last address in the range**.
11. In the Gateway field, enter the **Gateway address**.
12. In the Netmask field, enter the **Netmask address**.
13. In the Domain field, enter the **address of the domain server**.
14. Repeat **steps 8 through 13**, as necessary.
15. Click **Save**.
The DHCP record is saved.
16. Click **Apply**.
The DHCP configuration is applied to the intercom setup and the window closes.

6.4 Zero Configuration

Zero configuration networking automatically creates a usable IP network without human intervention or special configuration servers. It allows devices connect to a network automatically. Without zero configuration, a network administrator must set up services, such as DHCP and DNS, or configure each computer's network settings manually.

Both IPv4 and IPv6 have standard methods for address auto-configuration called Link Local. OMNEO's zero configuration uses link local addressing (IPv4LL) when a DHCP server is unavailable. Link local randomly generates the host-specific part of an auto-configured address. IPv4 hosts use the special block 169.254.0.0/16, while IPv6 hosts generally combine a prefix of up to 64 bits with a 64-bit EUI-64 derived from the factory-assigned 48-bit IEEE MAC address. The MAC address has the advantage of being globally unique, a property inherited by the EUI-64. The host is normally required to ensure, through broadcast queries, that the addresses it generates are not in use by any other host on the local network.

7 Window descriptions

7.1 OMNEO configuration screen

Use the **OMNEO Configuration** screen in AZedit to configure the OMI-2 card for communication with other OMNEO devices on the network.

The screenshot shows the 'OMNEO Configuration' window with two main sections: 'Settings for OMNEO Card' and 'Settings for Connected Devices'.

Settings for OMNEO Card:

- OMNEO Card: Slot 10 (dropdown menu)
- Device Name: TIM-10 (text field)
- ☒ Use Static IP Settings
- Controller IP: 169 . 254 . 36 . 233 (text field)
- Audio IP: 169 . 254 . 28 . 233 (text field)
- Netmask: 255 . 255 . 0 . 0 (text field)
- Gateway: 0 . 0 . 0 . 0 (text field)
- DNS Server 1: 0 . 0 . 0 . 0 (text field)
- Domain: (empty text field)

Settings for Connected Devices:

- Local Channel: Channel 1 - 129 [129] (dropdown menu)
- Partner Device Name: ODIN-C1-04 (text field with browse button)
- Partner IP Address: 0 . 0 . 0 . 0 (text field)
- Partner Device Type: ODIN (dropdown menu)
- Partner Channel: 1 (dropdown menu)

Settings for Pass-Through Serial via Ethernet:

- Target Device Name: (empty text field with browse button)
- Target IP Address: 0 . 0 . 0 . 0 (text field)
- Target Port: Port 1 (dropdown menu)
- Serial Baud Rate: 9600 bps (dropdown menu)

Buttons: Apply, Cancel

Figure 7.1: OMNEO Configuration Screen

Settings for OMNEO Card

OMNEO Card Drop Down Menu

Use the **OMNEO Card** drop down menu to select the slot of the OMI-2 card you want to configure.

Device Name Field

Use the **Device Name** field to enter a recognizable name for the OMI-2 card. By default, the card has an alphanumeric name, such as CAP6-0000e7.

This field contains up to 20 characters.

Use Static IP Settings Check Box

Use the **Use Static IP Settings** check box to enable Static IP Addressing. Static IP Addressing involves assigning an IP Address, a Netmask, a Gateway Address, a DNS server, and a Domain Name for the device.

Once the check box is selected the fields become active:

- IP Address
- Netmask
- Gateway
- DNS Server 1 (only required if ARNI device is present)
- Domain (only required if ARNI device is present)

**Notice!**

If the Use Static IP Settings check box is not selected, the card uses the DHCP server. If no DHCP is configured, then the OMI-2 card uses Zero Configuration.

The OMI card supports Zero Configuration Addressing. This means when there is no DHCP Server configured and Static IP settings have not been enabled, the card pings the other devices on the network in search of an IP Address that works on the network. For more information, see *Zero Configuration*, page 30.

Controller IP Field

Use the **Controller IP** field to enter the IP Address used by the OMI-2-Controller to access the network. The Controller is used to set up audio communications between two OMI-2 cards, an OMI-2 card and an OKI keypanel or between an OMI-2 card and an OEI-2 device. Configuration is done AZedit or IPedit. This address must be in the same subnet as the Audio IP field. By default, the controller assigns an IP Address in the link local range of 169.254.0.0/16. If there is a DHCP server in the same subnet, both take IP Addresses from the DHCP Server. The controller and the audio device are tightly coupled. Failure to communicate between them may cause the board to malfunction.

Audio IP Field

Use the **Audio IP** field to enter the IP Address for transmit and receive audio across the network.

By default, audio device assign themselves IP Addresses in the link local range of 169.254.0.0/16. If there is a DHCP server in the same subnet, it takes an IP Address from the DHCP Server.

The controller and the audio device are tightly coupled. Failure to communicate between the controller and the audio device may cause the board to malfunction.

**Notice!**

If using OMI v 4.0.5 and AZedit v 4.6.0 or IPedit 3.0.2 or earlier, the assigned IP Address is given to the audio device. The controller automatically assigns itself the next highest IP Address (Audio device's IP Address plus one).

If using OMI v 4.0.6 and AZedit 4.7.0 or IPedit v3.1.0 or later, this address must be in the same subnet as the Controller IP field.

Netmask Field

Use the **Netmask** field to enter the Netmask address of the OMI-2 card.

Gateway Field

Use the **Gateway** field to enter the Gateway Address, if applicable, of the OMI-2 card.

DNS Server 1 Field

Use the **DNS Server 1** field to enter the DNS Server address the OMI-2 card can access.

Domain Field

Use the **Domain** field to enter the domain in which the OMI-2 card resides.

Settings for Connected Devices**Local Channel Drop Down Menu**

Use the **Local Channel** drop down menu to select the channel on the selected OMI-2 card you want to configure. The number of channels available for selection depends on the number of channel licenses you have; either 16, 32, 48, or 64 channels.

Partner Device Field and Browse Button

Use the **Partner Device** field to enter the name of the device you want to which you want to communicate. If you do not know the name of the device, use the Browse button to open the Discovered devices window, please refer to *Discovered Devices screen, page 34*. From this window, you can select the device from a list.

Partner IP Address Field

Use the **Partner Address** field to enter the IP Address of the device to which you want to connect. This field automatically populates when a Partner Device is selected from the list of discovered device using the browse button.

Partner Device Type Drop Down Menu

Use the **Partner Device Type** drop down menu to select the type of device to which the OMI-2 card connects. This field automatically populates when a Partner Device is selected from the list of discovered devices using the browse button.

Partner Channel Drop Down Menu

Use the **Partner Channel** drop down menu to select which channel on the partner device should communicate with the OMI-2 card. The number of channels available for depends on the partner device type. For example, if the partner device type is an OKI-2, the only selections are Channel 1 and Channel 2.

Settings for Pass-Through Serial via Ethernet**Target Device Name Field and Browse Button**

Use the **Target Device Name** field to enter the name of the device targeted to receive the serial pass-through data. If you do not know the target device name, use the Browse button to open the Discovered Devices window (refer to *Discovered Devices screen, page 34*). From this window, select the device from the list.

Target IP Address Field

Use the **Target IP Address** field to enter the IP Address of the device targeted to receive the serial pass-through data. This field populates when a target device is selected from the list of discovered devices using the browse button.

Target Port Drop Down Menu

Use the **Target Port** drop down menu to select the port to which the serial pass-through data is sent.

Available options for this field:

- Port 1
- Port 2

**Notice!**

Port 2 is not used with the OMI-2 card.

Serial Baud Rate Drop Down Menu

Use the **Serial Baud Rate** drop down menu to select the rate at which the data transmits over the serial port.

Available options for this field:

- 9600 bps
- 19.2 kbps
- 38.4 kbps

Apply Button

The **Apply** button applies the modifications made. The window does not close.

Done Button

The **Done** button closes the window without applying the modifications.

Refer to

- *Discovered Devices screen, page 34*

7.2

Discovered Devices screen

Use the **Discovered Devices** to select devices on the network. The devices shown correspond to the configuration selection made on the Discovery page in the Application Preferences screen.

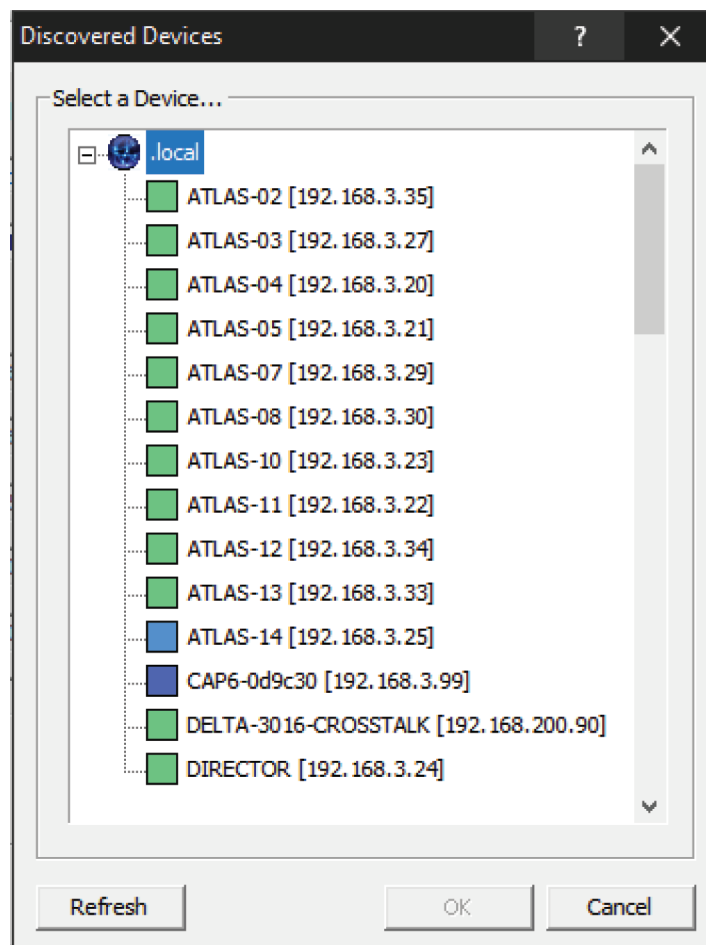


Figure 7.2: Discovered Devices screen

Select a Device...

The **Select a Device...** screen displays a list of selectable devices available.

To **select a device**, do the following:

1. Expand the **network tree**.
A list of available devices appears.
2. Select the **device** you want.
3. Click **OK**.
The device is chosen and the Discovered Devices screen closes.

7.3 OMNEO Connection Status screen

Use the **OMNEO Connection Status Screen** to monitor the OMI-2 device channel connections. You can only monitor one channel at a time.

7.3.1 Card/Channel page

Use the **Card/Channel** page to select the OMNEO device slot and channel you want to monitor.

Figure 7.3: Connection Status Card-Channel Page

Select Local Card and Channel

OMNEO Card Drop Down Menu

Use the **OMNEO Card** drop down menu to select the ADAM or ADAM M slot where the OMI-2 card for which you want to view is located in the frame.

Device Name Field

The **Device Name** field displays the name of the device selected. This appears as the default (for example, CAP6-0000e7) or the name you have given it.

Domain Name Field

The **Domain Name** field displays the domain address where the selected card resides, if configured.

IP Address Field

The **IP Address** field displays the IP address of the selected card.

Channel Drop Down Menu

Use the **Channel** drop down menu to select the channel for which you want to view the status. The number of channels available for the selection correlates to the number of channel licenses you have. For example, if you have an OMI-64 card installed in slot 9, you can have up to 64.

Remote Connection Information

Device Type field

The **Device Type** field displays the type of OMNEO device the OMI-2 card connects to on the other end of the channel.

Device Name Field

The **Device Name** field displays the name of the OMNEO device connected to on the other end of the channel.

IP Address Field

The **IP Address** field displays the IP address of the OMNEO device connected to on the other end of the channel.

Channel Field

The **Channel** field displays the channel at the other end of the connection the device is using.

7.3.2

Connection page

The **Connection** page displays connection statistics specific to the channel and device chosen on the Card/Channel page.

Figure 7.4: Connection Status Connection Page

Connection Information

Connection State Field

The **Connections State** field displays the state of the connection.

The connection states available are: Connected, Data, Disabled, Fax, Idle, In Use, Line Fail, Loopback, Progress, Seized, Setup, Tear Down, and Voice.

The most common statuses are Idle or Connected.

Connection Duration Field

The **Connection Duration** field displays the duration of the connection. This is shown in hh/mm/ss.

Connection Drops Field

The **Connection Drops** field displays the number of times a call attempt is dropped.

7.3.3

Pass-Through page

The **Pass-Through Page** displays serial pass-through statistics specific to the channel and device chosen on the Card/Channel page.

The screenshot shows a software window titled "OMNEO Connection Status - Slot 10". It has four tabs: "Card / Channel", "Connection", "Pass-Through" (which is selected), and "Ethernet". The "Pass-Through" tab is divided into two main panels. The left panel, titled "Serial to Ethernet", contains input fields for "Bytes Transferred:", "Bytes Lost:", "Errors:", "Destination Device Name:", "Destination IP Address:", "Destination Port:", and "Baud Rate:". The right panel, titled "Ethernet to Serial", contains input fields for "Bytes Transferred:", "Bytes Lost:", "Errors:", "Source IP Address:", "Source Port:", and "Unexpected Bytes:". To the right of these panels are three buttons: "Next", "Prev", and "Clear". At the bottom right of the window is a "Done" button.

Figure 7.5: Connection Status Pass-Through Page

Serial to Ethernet

The **Serial to Ethernet** group box displays information about the serial data received on the serial connection and transmitted via Ethernet to a target card.

Bytes Transferred Field

The **Bytes Transferred** field displays the number of bytes transferred from the serial connection to Ethernet.

Bytes Lost Field

The **Bytes Lost** field displays the number of bytes that cannot be transferred.

Errors Field

The **Errors** field displays the cumulative number of errors that occurred during the transfer.

Destination Device Name Field

The **Destination Device Name** field displays the name of the device to which the serial data is transmitted.

Destination IP Address Field

The **Destination IP Address** field displays the IP Address of the device to which the serial data is transmitted.

Destination Port Field

The **Destination Port** field displays the number of the port at the other end of the connection.

Baud Rate Field

The **Baud Rate** field displays the baud rate of the serial connection.

Ethernet to Serial

The **Ethernet to Serial** group box displays the information about the serial received on the Ethernet connection and transmits to the serial connection.

Bytes Transferred Field

The **Bytes Transferred** field displays the number of bytes transferred to the serial port.

Bytes Lost Field

The **Bytes Lost** field displays the number of bytes that cannot be transferred.

Errors Field

The **Errors** field displays the cumulative number of errors that occurred during the transfer.

Source IP Address Field

The **Source IP Address** field displays the IP address of the Ethernet source connection.

Source Port Field

The **Source Port** field displays the number of the port from which the source connection is using.

Unexpected Bytes Field

The **Unexpected Bytes** field displays the number of unexpected bytes of data.

Unexpected bytes is data that comes from any IP address not the Tx IP address. These bytes of data are considered unexpected and are not transferred.

7.3.4**Ethernet page**

Use the **Ethernet** page to view the status of active Ethernet connections.

The screenshot shows a window titled "OMNEO Connection Status - Slot 10" with a tabbed interface. The "Ethernet" tab is selected. It contains three panels for different ports:

- J1 / RJ45:** Link Status: OK, Link Speed: 1Gbps, Link Duplex: Full.
- J2 / RJ45:** Link Status: -, Link Speed: -, Link Duplex: -.
- J3 / Fiber:** Link Status: -, Link Speed: -, Link Duplex: -.

On the right side, there are four buttons: "Next", "Prev", "Clear", and "Done".

Figure 7.6: Connection Status Ethernet Page

Link Status Field

The **Link Status** field displays the status of the link on the port.

Available options:

- OK
- - (no IP address is defined)

Link Speed Field

The **Link Speed** field displays the transmission speed.

Available options:

- 10 Mbps
- 100 Mbps

- 1 Gbps



Notice!

100 Mbps or better is strongly recommended and is required for proper operation of 32 channels.

Link Duplex Field

The **Link Duplex** field displays the current transmit mode - Half or Full Duplex. Almost all Ethernet interfaces auto-negotiate to Full Duplex mode. If the interface displays Half Duplex Mode, this typically signifies the auto-negotiate failed, resulting in network collisions and errors.

Available options:

- Half Duplex - can either transmit or receive, but not both simultaneously.
- Full Duplex - can transmit and receive simultaneously.

7.4

DHCP Server Configuration screen

Use the **DHCP Server Configuration** screen to enable and configure DHCP on the frame.

Range	First IP Address	Last IP Address	Gateway	Netmask	Domain
1	10.0.1.10	10.0.1.32	255.0.0.0	255.255.255.0	parent.bosch.omneo
2	-	-	-	255.255.255.0	
3	-	-	-	255.255.255.0	
4	-	-	-	255.255.255.0	
5	-	-	-	255.255.255.0	
6	-	-	-	255.255.255.0	
7	-	-	-	255.255.255.0	
8	-	-	-	255.255.255.0	

Figure 7.7: DHCP Server Configuration Screen

Frame Drop Down Menu

Use the **Frame** drop down menu to select the frame in which you want to configure DHCP.

Enable DHCP Server Check Box

Use the **Enable DHCP Server** check box to enable DHCP on the frame.

Enable DHCP Relay Check Box

Use the **Enable DHCP Relay** check box to enable the configured DHCP server to provide addresses to devices outside of its own subnet.

Use Frame 1 DNS Servers Check Box

Use **Frame 1 DNS Servers** check box enables using the designated DNS servers from Frame 1 as the DNX servers for any subsequent frames. This way, you do not need to retype the address for every frame.

DNS Server 1 Field

Use the **DNS Server 1** field to enter the IP address of the DNS server that supports the OMNEO devices.

DNS Server 2 Field

Use the **DNS Server 2** field to enter the IP address of a second DNS server, if needed, which supports the OMNEO devices.

Range Column

Use the **Range** column to sort sequentially the different IP address ranges your system uses, if applicable.

First IP Address Column Field

Use the **First IP Address** column field to enter the first IP address in the range you are defining.

Last IP Address Column Field

Use the **Last IP Address** column field to enter the last IP address in the range you are defining.

Gateway Column Field

Use the **Gateway** column field to enter the gateway address used by the devices defined in this range.

Prefix Column Field

Use the **Prefix** column field to enter the range prefix.

Notice!

The prefix is also known as the Netmask. Instead of referring to the Netmask as 255.0.0.0, it is referred to as Prefix 8. Use the information below to define the Netmask suitable for your system.

255.0.0.0 = Prefix 8

255.255.0.0 = Prefix 16

255.255.255.0 = Prefix 32

Domain Column Field

Use the **Domain** column field to enter the domain or the web name used by this IP address range.

Load Button

Use the **Load** button to load the DHCP settings from a file.

Save Button

Use the **Save** button to save the DHCP file you create.

Apply Button

Use the **Apply** button to apply the DHCP record to the MCII-e card.

Done Button

Use the **Done** button to close the DHCP Configuration window.

Notice!

If you have not applied your modifications and clicked **Done**, the modifications are not applied to the DHCP Configuration screen.



7.5 OMNEO specific items in the Preferences screen

Discovery Page - Application Preferences

Use the **Discovery Page** of the application preferences to define the network connection where AZedit is to look for OMNEO devices.

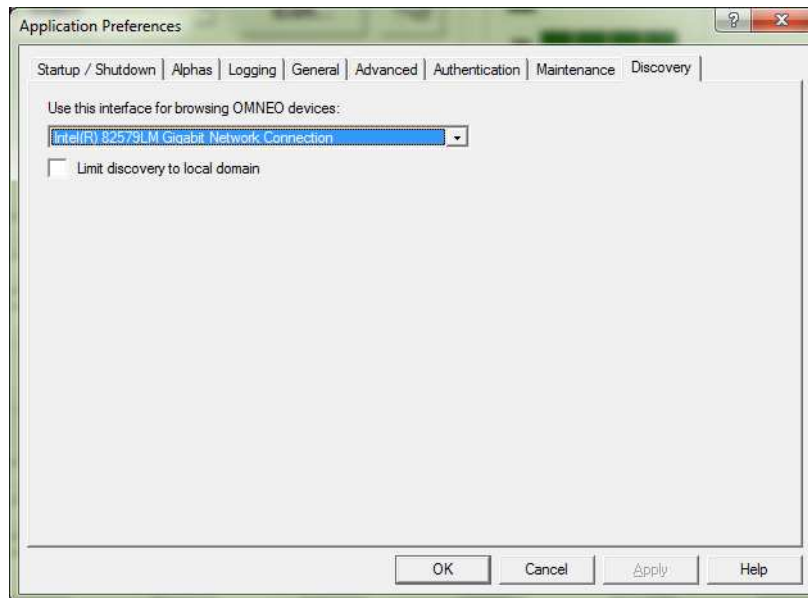


Figure 7.8: Application Preferences - Discovery Page

Use this interface for browsing OMNEO devices Drop Down Menu

Use the **Use this interface for browsing OMNEO devices** drop down menu to select the network connection AZedit is to use to find OMNEO devices.

Limit discovery to local domain Check Box

The **Limit discovery to local domain** check box determines whether to limit discovery of OMNEO devices to the local domain only.

Use fully qualified device names Check Box

The **Use fully qualified device names** check box determines whether the system only uses fully qualified device names when displaying available devices.

Warn if no interface selected Check Box

The **Warn if no interface selected** check box determines whether a warning generates when no interface selection is present.

Warn if selected interface is no longer available Check Box

The **Warn if selected interface is no longer available** check box determines whether a warning message appears when the selected interface is no longer available for use.

Warn if selected interface lacks connectivity Check Box

The **Warn if selected interface lacks connectivity** check box determines whether a warning message appears when the interface connection is not active.

Show DNS-SD service warnings Check Box

The **Show DNS-SD service warnings** check box determines whether DNS-SD service warnings display. Service warnings serve to alert that something is broken or sub-optimal in the DNS-SD layer of the system.

7.6 Firmware Upload Tool

Use the **Firmware Upload Tool** to update all OMNEO device software and firmware. The main window lists all the discovered devices grouped by model ID. These model IDs are retrieved from the device as soon as the device is recovered. Devices listed in this window can be selected and have its firmware and software uploaded.

Devices Group Box

The **Type** tabs group all devices by type. A tab appears for each device type.



Notice!

Asterisks denote default columns. Use the Select Device List Columns window to select which columns you want to display in addition to the default columns.

Device Name Column*

The **Device Name** column displays the name of the device.

Role Column

The **Role** column displays the role of the device.

IP Address Column

The **IP Address** column displays the IP address of the device, as retrieved from the device.

Port Column

The **Port** column displays the communication port of the device, at the time of discovery.

MAC Address Column

The **MAC Address** column displays the MAC address of the device, as retrieved from the device.

Version Column*

The **Version** column displays the version of the device.

Upload State Column*

The **Upload State** column display the state of the firmware upload.

Progress Column*

The **Progress** column displays a real-time representation of the upload progress.

Upload Button

The **Upload** button opens the Select Firmware for Upload window.

7.6.1 Select Firmware for Upload window

Use the **Select Firmware for Upload** window to select the proper firmware to upload for the OMNEO device.

Model Name Column

The **Model Name** column displays the name of the device model the firmware file is intended.

Version Column

The **Version** column displays the version firmware the file contains.

Description Column

The **Description** column displays the descriptions of the firmware file (for example, Firmware files for the OMI Controller).

Size Column

The **Size** column displays the size of the firmware file.

File Name Column

The **File Name** column displays the file name and location of the firmware file.

Cancel Button

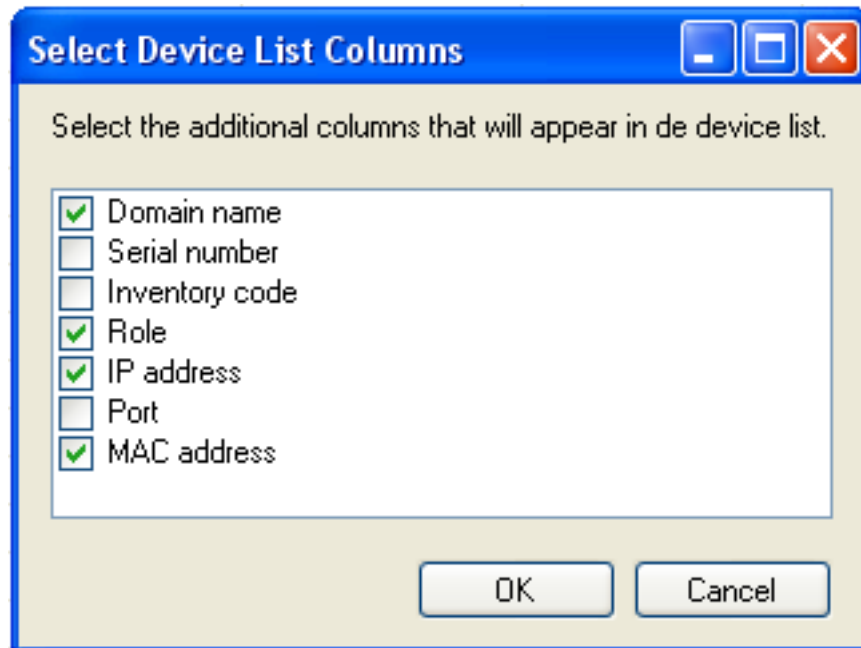
The **Cancel** button closes the Select Firmware for Upload window.

Start Button

The **Start** button start uploading the selected firmware to the OMI devices and closes the Select Firmware for Upload window. You can watch the progression of the upload in the main window with the progression.

7.6.2**Select Device List Columns screen**

The **Select Device List Columns** screen gives you the flexibility to add additional columns to the main window. These columns can be added and removed at any time.

**Domain Name Check Box**

Use the **Domain Name** check box to add the Domain Name column to the main window.

Serial Number Check Box

Use the **Serial Number** check box to add the Serial Number column to the main window.

Inventory Code Check Box

Use the **Inventory Code** check box to add the Inventory Code column to the main window.

Role Check Box

Use the **Role** check box to add the Role column to the main window.

IP Address Check Box

Use the **IP Address** check box to add the IP Address column to the main window.

Port Check Box

Use the **Port** check box to add the Port column to the main window.

MAC Address Check Box

Use the **MAC Address** check box to add the MAC Address column to the main window.

OK Button

The **OK** button accepts the select you make and applies them to the main window.

Cancel Button

The **Cancel** button closes the window without applying the modifications made.

7.6.3

Logging window

The **Logging** window shows messages originated by the different components of the Firmware Upload Tool. The firmware upload log files are stored in: C:\ProgramData\Bosch\OMNEO\FirmwareUploadLog. This window can be helpful in diagnostics.

Clear Button

Use the **Clear** button to erase all log entries. It is not possible to remove the selected log entries.

8

Maintenance

8.1

Update OMI firmware

To **upgrade the OMI-2 firmware from version 4.0.0**, do the following:

1. From the Status menu, select **I/O Cards**.
The I/O Status Information window appears.
2. Right-click the **OMI-2 card** you want to update.
3. Select **Download firmware...**.
A User Access Control warning appears.
4. Click **OK**.
The Firmware Upload Tool appears.
5. From the File menu, select **Options**.
The Firmware Upload Tool Options window appears.
6. On the Firmware Upload Tool Options window, click the **Change button**.
7. Navigate to and select the **OMI folder** containing both the controller and audio images for the OMI-2.
8. Click **OK**.
The Browse for Folder window appears.
9. On the Firmware Upload Tool Options window, click **OK**.
The Firmware Upload Tool Options window closes.
10. Verify both the controller and audio device have been discovered and appear on different tabs. The tabs are labeled OMI-Controller and OMI-Audio Device.



Notice!

You must upgrade the OMI Controller first; and then upgrade the OMI Audio Device.

11. On the OMI-Controller page, select the **OMI-2 card** you want to upgrade.



Notice!

Multiple devices can be selected on a single tab. When one or more devices are selected and when firmware files are available for these devices, the Upload button becomes active and firmware to upload is selectable. When switching to another tab, all selections are cleared automatically.

12. Click **Upload**.
The Select Firmware for upload window appears.
13. Select the **firmware version** you want.
14. Click **Start**.
The firmware begins to upload. You can watch the download progression on the progress bar.
15. Click the **OMI-Audio Device tab**.
The OMI-Audio Device window appears.
16. Repeat **steps 11** through **14**.

To **upgrade the OMI firmware from version 4.0.2 and above**, do the following:

1. From the Status menu, select **I/O Cards**.
The I/O Status Information window appears.
2. Right-click the **OMI-2 card** you want to update.
3. Select **Download firmware...**.
A User Access Control warning appears.

4. Click **OK**.
The Firmware Upload Tool appears.
5. From the File menu, select **Options**.
The Firmware Upload Tool Options window appears.
6. On the Firmware Upload Tool Options window, click the **Change button**.
7. Navigate to and select the **OMI folder**.
8. Click **OK**.
The Browse for Folder window closes.
9. On the Firmware Upload Tool Options window, click **OK**.
The Firmware Upload Tool Options window closes.
10. Select the **OMI-2 card** you want to upgrade.

**Notice!**

Multiple devices can be selected on a single tab. When one or more devices are selected and when firmware files are available for these devices, the Upload button becomes active and firmware to upload is selectable. When switching to another tab, all selections are cleared automatically.

11. Click **Upload**.
The Select Firmware for upload window appears.
12. Select the **firmware version** you want.
13. Click **Start**.
The firmware begins to upload. You can watch the download progression on the progress bar.

8.2 OMI-2 card diagnostics

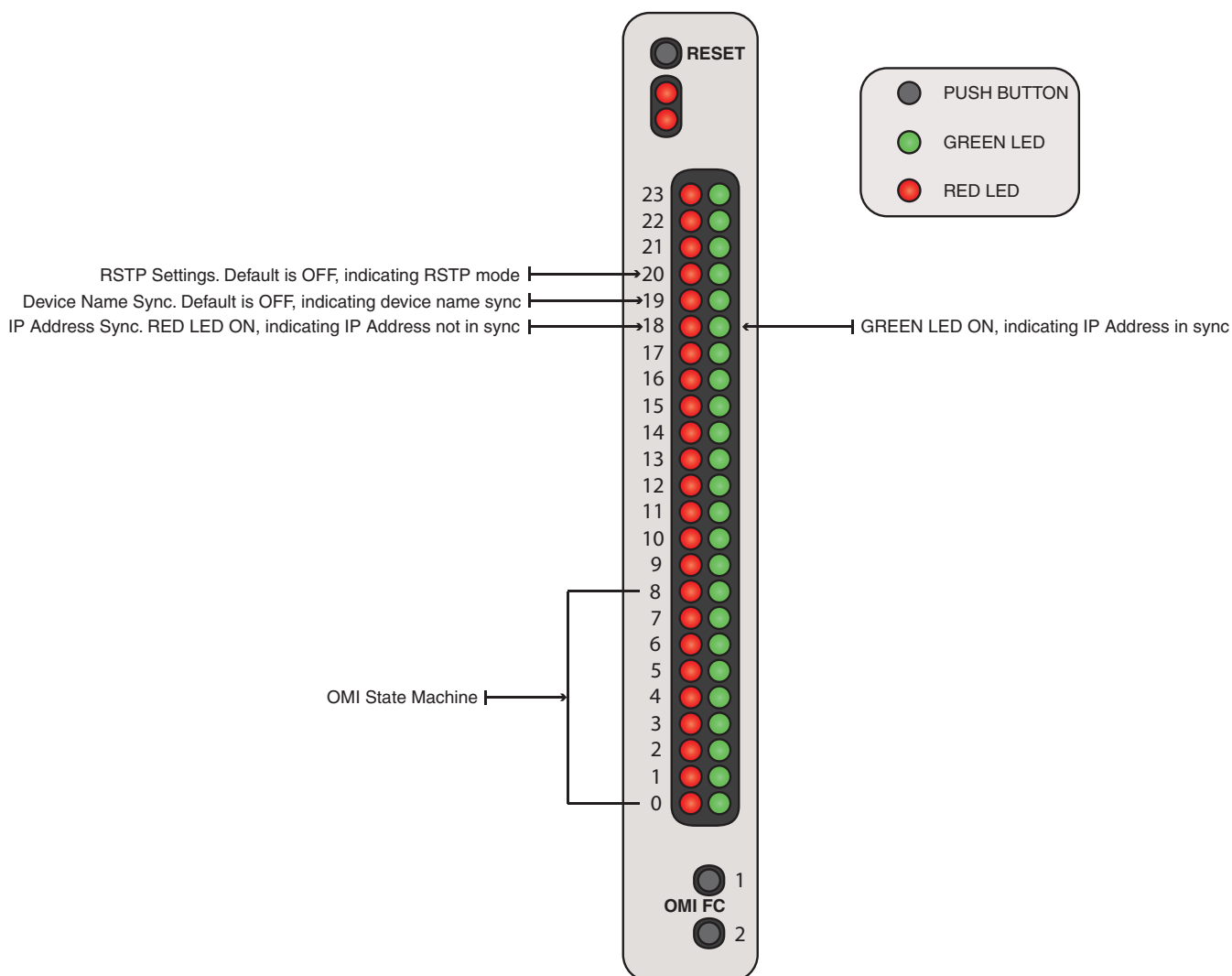


Figure 8.1: OMI-2 Front Card Diagnostics

Page 0 OMI state machine description

RED LED 0-8. The red LEDs from 0 to 8 indicate the state of the OMI-2 firmware and can be used for diagnostics in the event of failure. The following are details and descriptions of the LED indicators.

	OMI (not connected to its audio device)	OMI-Initialized
0	OMI Controller Initializing	Blinking - OMI-2 is working OK. Solid/Off - OMI-2 is in one of the states mentioned in second column.
1	OMI-Controller identifying its audio device	Blink every five seconds, retrieving audio device information (name, IP address)
2	OMI-Controller verifying the device name	Blink/On when trying to resolve one of the devices in the channel configuration.
3	OMI Controller registering	Blink every five seconds. Keep alive status with the connected devices (OKI, OEI-2, etc).

	OMI (not connected to its audio device)	OMI-Initialized
4	OMI-Controller resolved its audio device	Blinks whenever a KP message is sent.
5	OMI-Controller connecting to its audio device	Blinks whenever a KP message is received.
6	OMI parsing the configuration information	ON to indicate there is a configuration change via AZedit/IPedit.
7		ON to indicate the OMI-2 is configured for static
8		On to indicate the configuration file was received from the MCII-e.

RED LED 9-10. The red LEDs 9 and 10 turn on when an internal error is detected. The OMI card needs to be manually reset by pushing the Reset button.

RED LED 0, 2, 4, 6 and LED 1, 3, 5, 7. When the application issues a reset, LEDs 0, 2, 4, and 6 are alternately turn on and off. After 100 ms, LEDs 1, 3, 5, and 7 are alternately turn on and off.

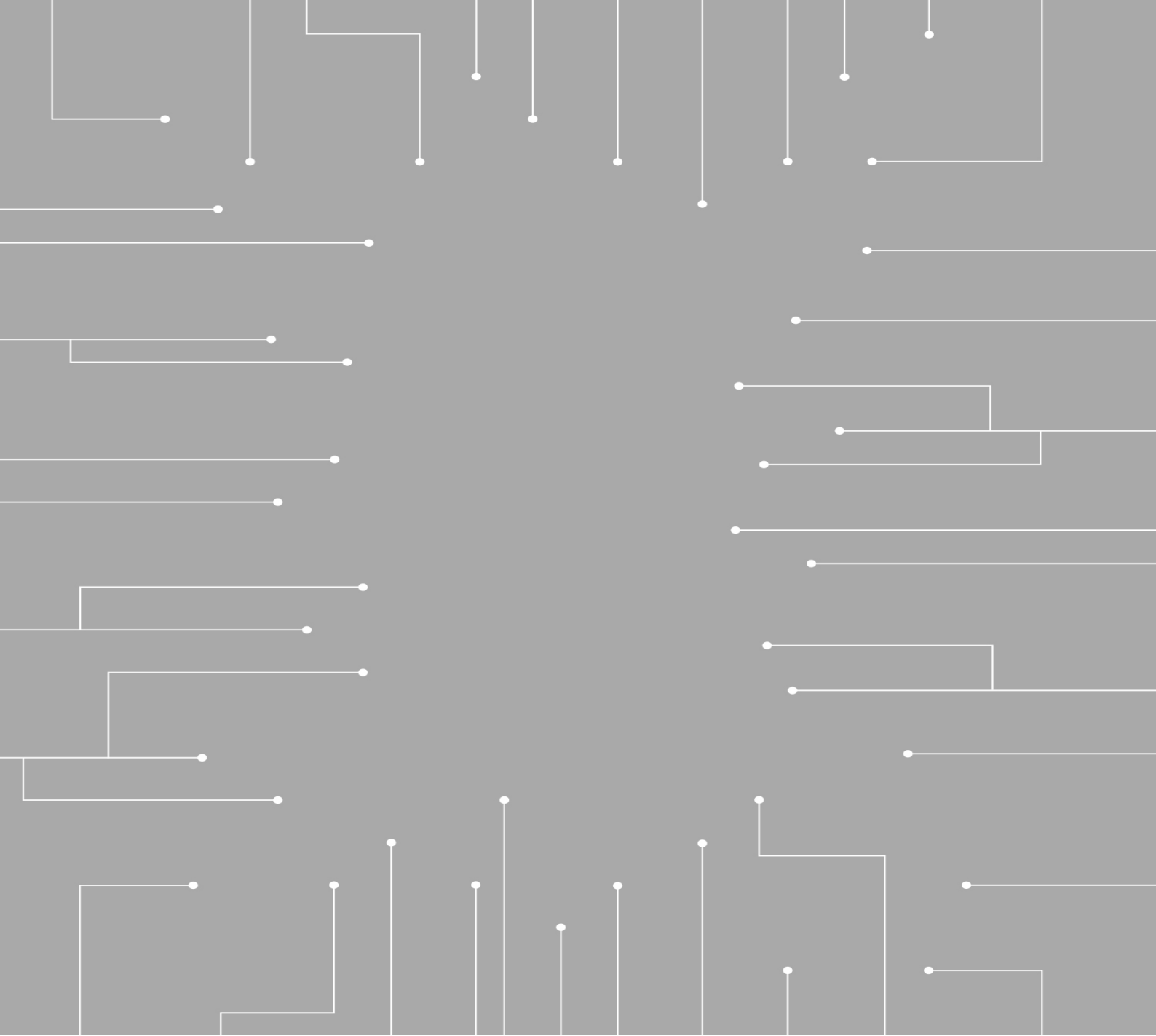
9

Technical data

General	
Power Consumption:	14.9 W @ 5 V (Front and Back combined)
Audio Performance THD=N at 1 KHz:	Better than 0.01% @ 8 dB
Frequency Response:	Within ± 1 dB from 10 Hz to 20 kHz
Channel Support:	64 channels
Connections	
Fiber optic SFP module with LC connectors (x2)	
Single mode distance:	9.32 miles (15 km)
Multi-mode distance:	1.86 miles (3 km)
RS232/485 using a DB9 connector	
RJ45 Connector (x2)	
Environmental	
Weight	
Front Card:	0.65 lb. (0.29 kg)
Back Card:	0.30 lb. (0.14 kg)
Temperature	
Operating:	32° F to 122° F (0° C to 50° C)
Storage:	-40° F to 158° F (-40° C to 70° C)

Notice!

The fiber optic transceivers provide Class 1 eye safety by design, do not emit accessible laser radiation levels in excess of the acceptable emission limit (AEL) within the inherent design or intended use of the laser, and do not pose a hazard under normal operating conditions. These low powered lasers are incapable of producing injury when used as designed and intended, and are exempt from engineering and administrative controls. A Class 1 laser could potentially have an embedded higher class rating internally. During service procedures with service panels removed and interlocks bypassed, it might be necessary to comply with higher-class laser control measures during the service/repair procedure. Class 1 includes lasers that were formally classified as Class 2.



RTS

12000 Portland Avenue South
Burnsville MN 55337
USA

www.rtsintercoms.com

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