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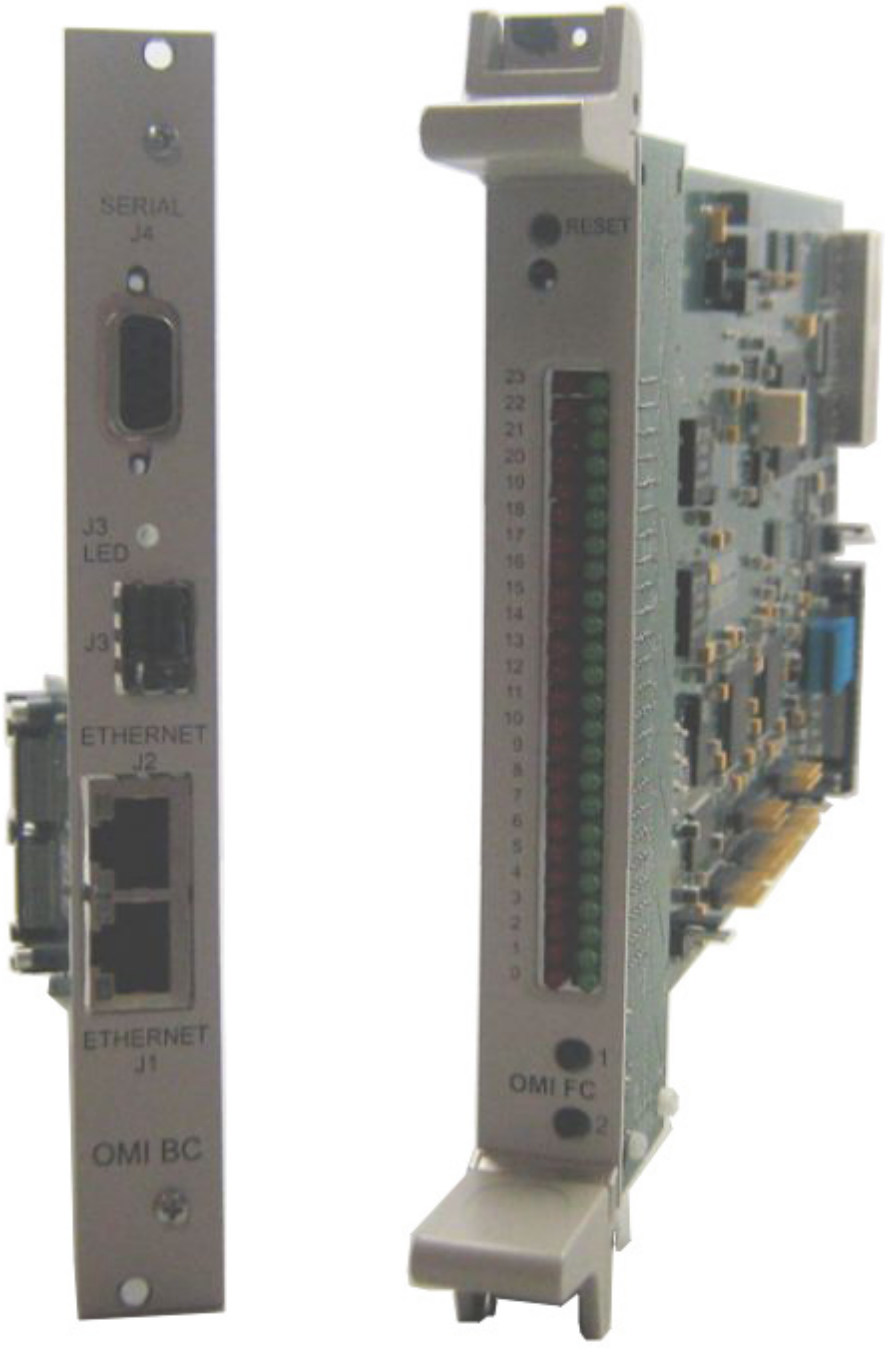

OMI

OMNEO Matrix Interface

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WARNING: THE MAIN POWER PLUG MUST REMAIN READILY OPERABLE.

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

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

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

~	This product is AC only.
CE	

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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CHAPTER 1

Introduction

Description of the OMI (OMNEO Matrix Interface) Card

The OMI (OMNEO Matrix Interface) card set for RTS ADAM and ADAM-M 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 the use of optional fiber modules) and RJ45 copper 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 of implementation. OMNEO also provides extremely low latency and high audio fidelity which make it useable 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 for 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.

Through the use of 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 Bonjour Protocols[1]
- Supports Fiber (with optional single or multimode fiber module) and 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)
- Field upgradable firmware to ensure compliance with future changes to industry standards
- OMI safely connects with PoE based switches, but cannot be powered from PoE switches

1. *See page 2 for trademark information.*

Specifications

Power Consumption ..... 14.9W@5V (Front and Back combined)

Audio Performance
THD+N at 1KHz ..... better than 0.01%@8dB

Frequency Response..... within ±1dB from 10Hz–20kHz

Channel Support.....64 Channels

Connections

Fiber Optic SFP Module with LC Connector
Single Mode Distance ..... 9.32 miles (15km)
Multi-Mode Distance ..... 1.86 miles (3km)

RS232/485 using a DB-9 connector

RJ-45 Connector (2x)

Environmental

Weight:
Front Card 0.65lb (0.29kg)
Back Card.....0.30lb (0.14kg)

Temperature:
Operating.....32°F to 122°F (0°C to 50°C)
Storage.....-40°F to 158°F (-40°C to 70°C)

IMPORTANT: The fiber optic transceivers provide Class 1 eye safety by design and 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.

OMI Front And Back Card Reference View

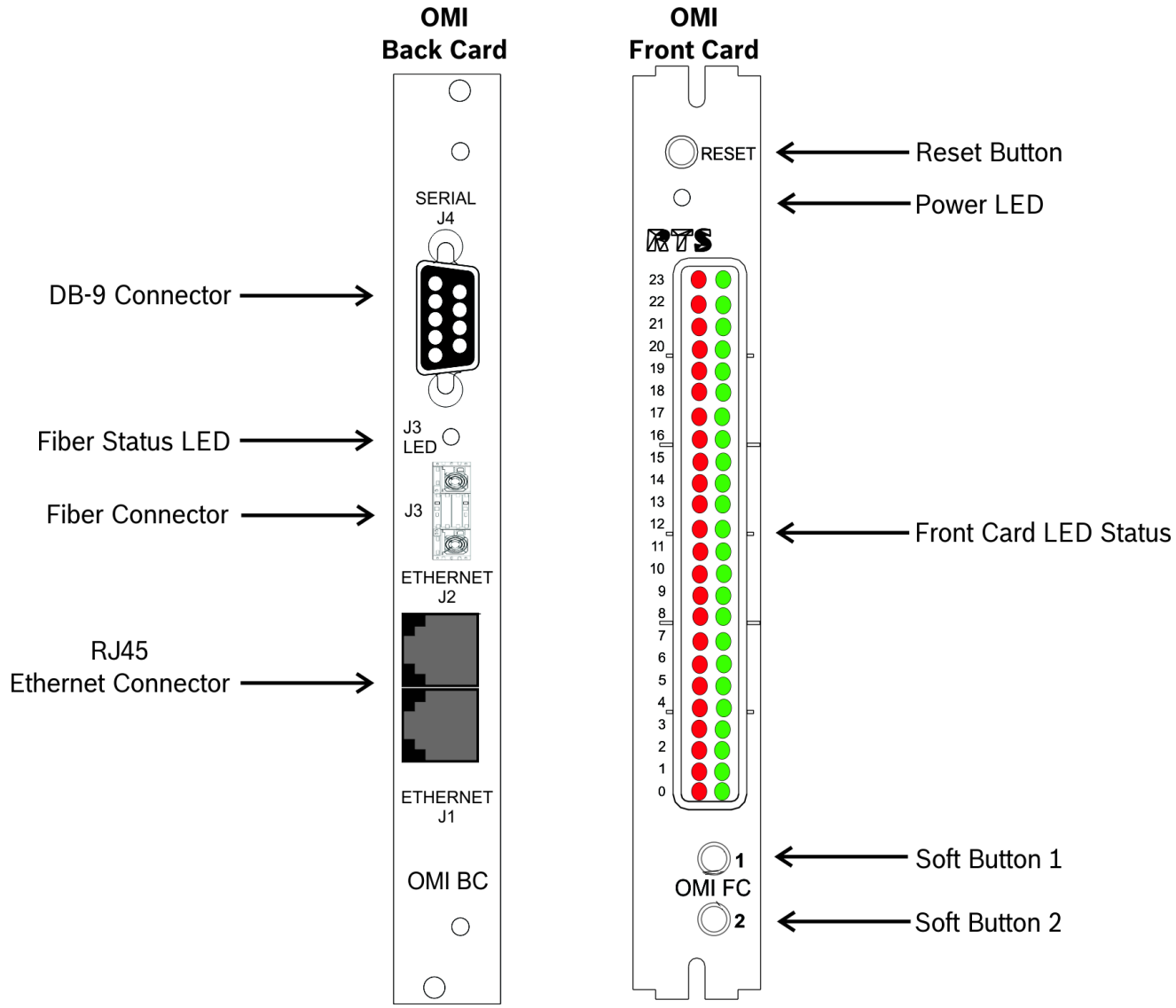


FIGURE 21. OMI Reference View

Front Card LED Description

TABLE 1. OMNEO Connection LEDs Status Definition

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

NOTE: On the OMI card, there are four (4) pages of status descriptions. To change the LED page display on the, press **Soft Button 1**. Use Table 1 in conjunction with Table 2 on page 6, Table 3 on page 7, Table 4 on page 8, Table 5 on page 9, and Table 6 on page 10.

TABLE 2. LED Descriptions Page 0

OMI STATUS LEDs – Page 0		
Red LED	**#**	**Green LED**
TXing on control bus	23	RXing on control bus
	22	
	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: RS-485	12	Pass-Through: RS-232
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

TABLE 3. LED Descriptions Page 1

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
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’ 1000Mbps	3	Page 3
	2	Page 2
	1	Page 1
Ethernet ‘A’ Not ‘AUTO’	0	Page 0

1. A = Fiber Port

TABLE 4. LED Descriptions Page 2

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
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’ 1000Mbps	3	Page 3
Ethernet ‘B’ 100Mbps	2	Page 2
Ethernet ‘B’ 10Mbps	1	Page 1
Ethernet ‘B’ Not ‘AUTO’	0	Page 0

1. B = Copper Port 1

TABLE 5. LED Descriptions Page 3

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 34	22	OMNEO Connect Status (green) – Channel 34
OMNEO Connect Status (red) – Channel 35	21	OMNEO Connect Status (green) – Channel 35
OMNEO Connect Status (red) – Channel 36	20	OMNEO Connect Status (green) – Channel 36
OMNEO Connect Status (red) – Channel 37	19	OMNEO Connect Status (green) – Channel 37
OMNEO Connect Status (red) – Channel 38	18	OMNEO Connect Status (green) – Channel 38
OMNEO Connect Status (red) – Channel 39	17	OMNEO Connect Status (green) – Channel 39
OMNEO Connect Status (red) – Channel 40	16	OMNEO Connect Status (green) – Channel 40
OMNEO Connect Status (red) – Channel 41	15	OMNEO Connect Status (green) – Channel 41
OMNEO Connect Status (red) – Channel 42	14	OMNEO Connect Status (green) – Channel 42
OMNEO Connect Status (red) – Channel 43	13	OMNEO Connect Status (green) – Channel 43
OMNEO Connect Status (red) – Channel 44	12	OMNEO Connect Status (green) – Channel 44
OMNEO Connect Status (red) – Channel 45	11	OMNEO Connect Status (green) – Channel 45
OMNEO Connect Status (red) – Channel 46	10	OMNEO Connect Status (green) – Channel 46
OMNEO Connect Status (red) – Channel 47	9	OMNEO Connect Status (green) – Channel 47
OMNEO Connect Status (red) – Channel 48	8	OMNEO Connect Status (green) – Channel 48
	7	
Ethernet ‘C’[1] Link Good	6	
Ethernet ‘C’ Full-Duplex	5	
Ethernet ‘C’ Half-Duplex	4	Page 4
Ethernet ‘C’ 1000Mbps	3	Page 3
Ethernet ‘C’ 100Mbps	2	Page 2
Ethernet ‘C’ 10Mbps	1	Page 1
Ethernet ‘C’ Not ‘AUTO’	0	Page 0

1. C = Copper Port 2

TABLE 6. LED Descriptions Page 4

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
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

Connectors

DB-9 Connector Pin Out

RS-232 Mode

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

RS-485 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

Ethernet 1000/100/10

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-

Dip Switch Settings

The OMI Front Card is the only board in this set to have a configurable dip switch. Below details the dip switch functions:

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

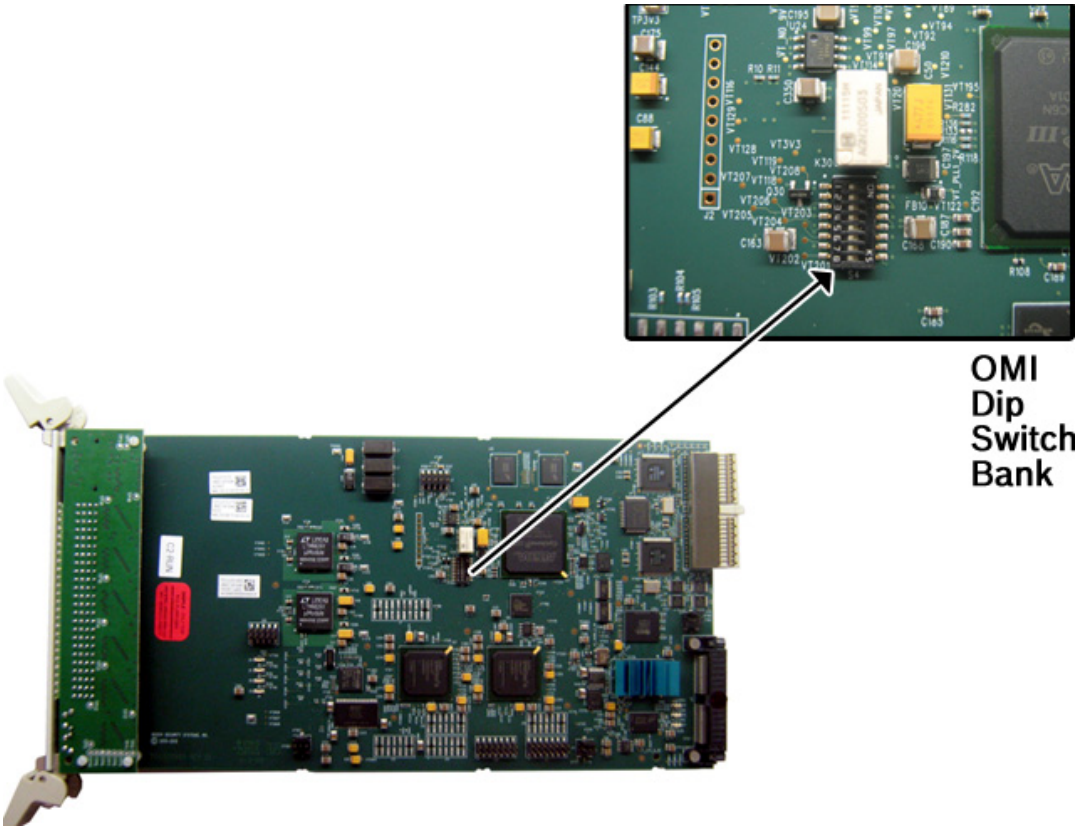


FIGURE 22. OMI DIP Switch Bank

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

DIP Switch #	Name	Description
4	Local Flash Configuration	Directs the card to load configuration information from either the local Flash or Master Controller after reset. Closed: Card configuration is retrieved from the local Flash. Open (d): Card configuration is retrieved from the Master Controller.
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 is prevented from resetting after 30 seconds of no communications with the system controller. Open (d): When disabled, 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.

OMI 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 128 OMNEO devices
- The maximum number of hops between source and destination is seven (7)
- The maximum number of nodes in a daisy chained system is 20

System Recommendations

Single Subnet

- Use the MCII-e as the DHCP server

VLAN Subnet

- The two (2) MCII-e cards in the frame should be configured as active and standby DHCP servers for any OMNEO devices attached to the respective frame.

Single Subnet System Drawing

The Single Subnet System below contains two (2) OMI cards in one(1) frame and two (2) Layer 2 Switches trunked together and capable of supporting up to 124 OKI keypanels (4 ports are used by the 2 OMI cards Audio IN and OUT). This system uses Zero Configuration.

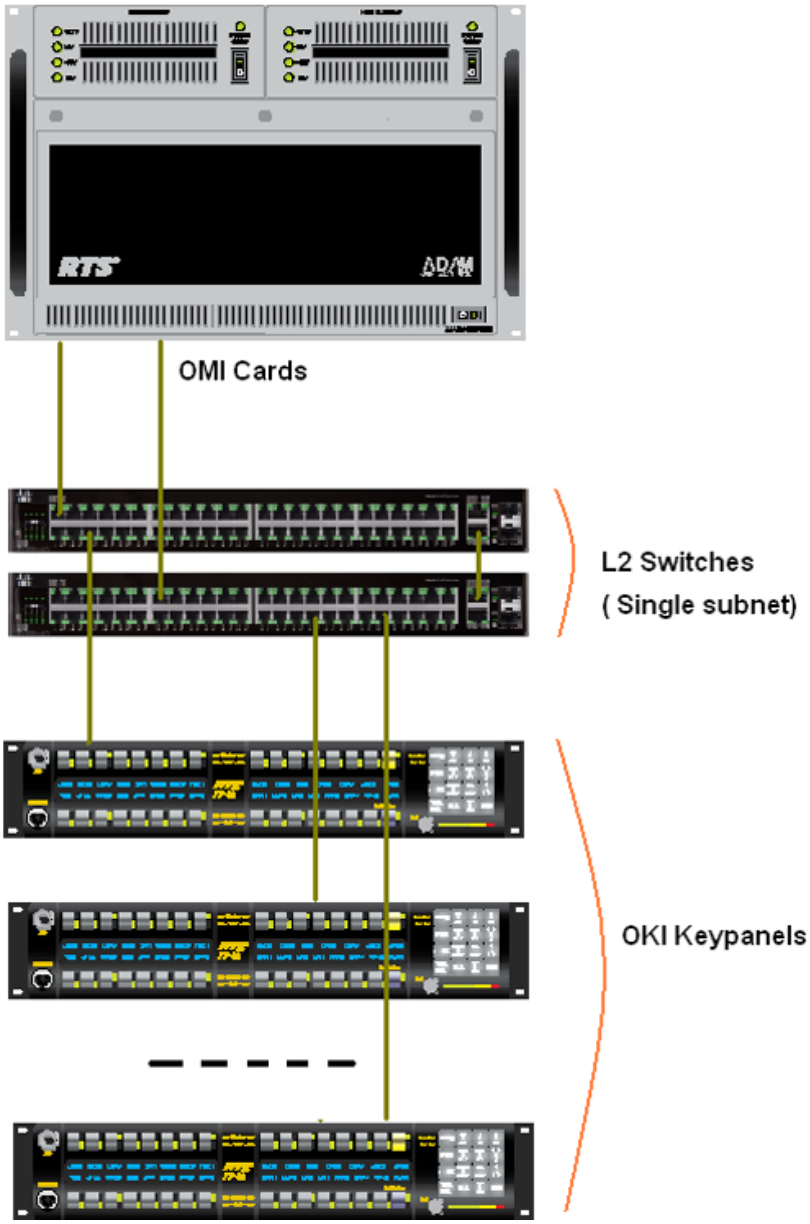


FIGURE 23. OMNEO Single Subnet System

VLAN System Drawing

In the System drawing (Figure 24), one (1) OMI card is shown supporting VLAN1 through VLAN 40 in a more complex system diagram. There are two (2) MCII-e cards being used as redundant DHCP servers, meaning that if one fails, the other takes over the DHCP responsibilities. There are two (2) Layer 3 switches connected creating trunked ports creating communication between all the VLANs. Also connected to the two (2) Layer 3 switches is a Layer 2 switch that is acting as a VLAN for multiple keypanels.

IMPORTANT: The system diagram shows only one (1) OMI card installed, which means only 64 ports are available for audio transmittal. Adding additional OMI cards can add more ports for use.

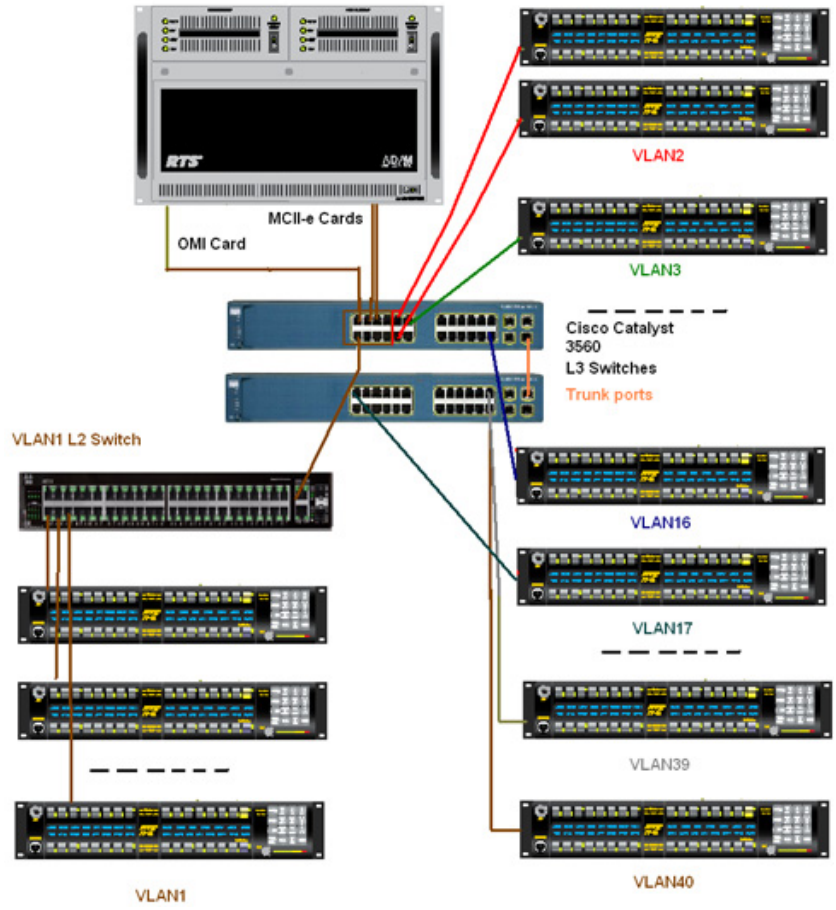


FIGURE 24. 40 VLAN System with trunked switches

CHAPTER 2

Installation

Installation of the OMI Card into the ADAM and ADAM M System

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

- AZedit version 4.5.0 or later
- IPedit version 3.0.0 or later
- MCII-e version 2.9 or later
- Bonjour[1] (on the network)
- Firmware Upload Tool 2.4 or later
- Audinate 2.5.1

When inserting the OMI in the ADAM/ADAM M system, the following considerations need to be made:

- Gently insert the OMI 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 become inoperable.
- When inserting the OMI into the ADAM/ADAM M system, make sure to insert the card into a compatible backcard. If the card is inserted into an incompatible backcard, undesirable results can occur.
- DO NOT FORCE MATING CARDS

1. *See page 2 for trademark information.*

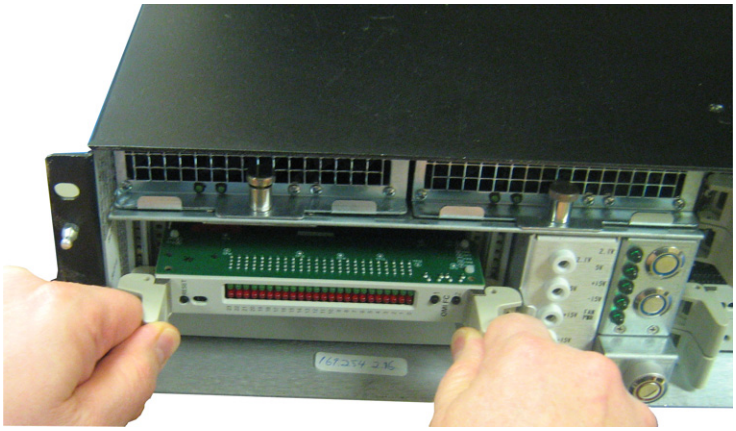
ADAM M Installation

IMPORTANT: Up to four (4) OMI card sets can be used in an ADAM M frame at a time.

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

1. Gently insert the **OMI front card** into the appropriate ADAM M slot.

   NOTE: 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 ADAM M frame, carefully insert the **OMI back card**, aligning it with the OMI front card, as shown below.

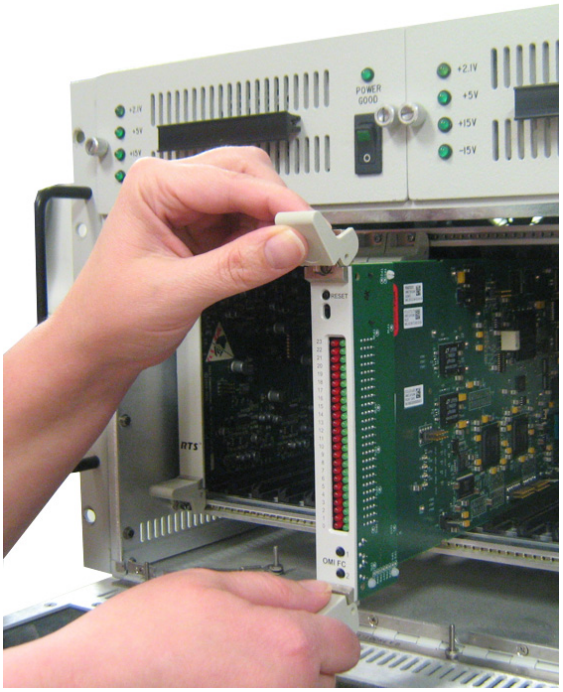
4. Ensure the **OMI back card is seated properly against the OMI front card** and is sitting firmly in the frame.
5. Using a screwdriver and the supplied screws, tighten the **OMI back card to the frame**.
6. Ensure the **card ejectors are tightened to the chassis** on the OMI front card.

ADAM Frame Installation

IMPORTANT: Up to eight (8) OMI card sets can be used in an ADAM frame at a time.

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

1. Gently insert the **OMI front card** into the appropriate ADAM slot.
2. Using the card ejectors, tighten down the **front card**.



3. On the back of the ADAM frame, carefully insert the **OMI back card**, aligning it with the OMI front card.
4. Ensure the **OMI back card is seated properly against the OMI front card** and is sitting firmly in the frame.

5. Using the supplied screws, tighten the **OMI back card to the frame**.
6. Ensure the **card ejectors are tightened to the chassis** on the OMI front card.

CHAPTER 3

OMI Card Channel 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. Ports can be allocated in groups of four (4). Each group contains 16 ports. Each OMI or MADI card can have no more than 64 ports per card. For more information, see “Assigning Ports” on page 46.

NOTE: If you are running a single frame system, the single frame can hold up to 880 ports; if you are running a multi-frame Tribus system, you are limited to 256 ports per frame.

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

Requirements

The Port Allocation Table requires the following minimum firmware versions:

- AZedit V3.9.0 or later
- MCII-e V2.3.0 or later
- DBX V1.24.0, w/PCII-e V1.24.0 or later
  OR
  TBX V1.0.1 or later

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 Window

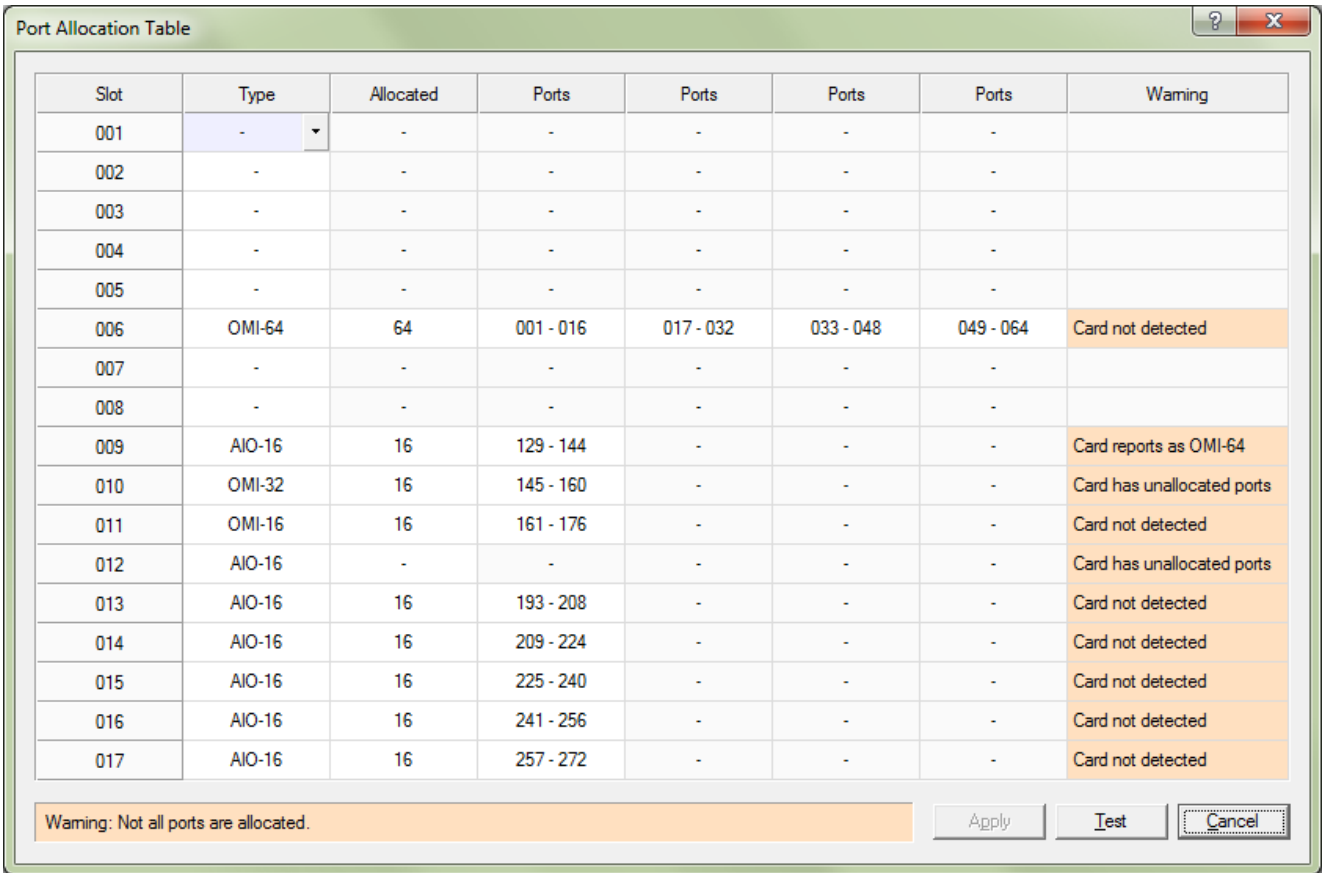


FIGURE 25. Port Allocation Table Window

Slot Column

The **Slot** column displays the number of the slot where the card resides.

This field cannot be modified.

Type Column

The **Type** column is used to select the type of card in the slot. Use the drop down menu to select the type of card in the slot.

Available options are: *AIO-8, AIO-16, RVON-8, RVON-16, MADI-16, MADI-32, MADI-48, MADI-64, AES-3*, OMI-16, OMI-32, OMI-48, and OMI-64.

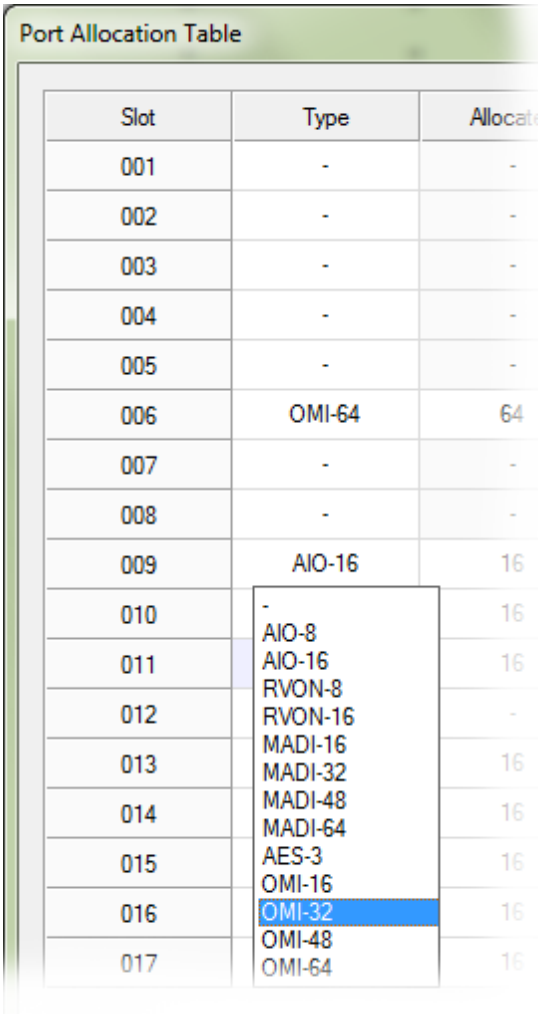


FIGURE 26. Type Column Options

Allocated Column

The **Allocated** column is used to select the number of ports to allocate. Use the drop down menu to select the number of ports you want to allocate.

Available options are:

8 - Used to allocate 8 ports

8+8 - Used to allocate 16 ports

16 - Used to allocate 16 ports

24 - Used to allocate 24 ports

32 - Used to allocate 32 ports

40 - Used to allocate 40 ports

48 - Used to allocate 48 ports

56 - Used to allocate 56 ports

64 - Used to allocate 64 ports

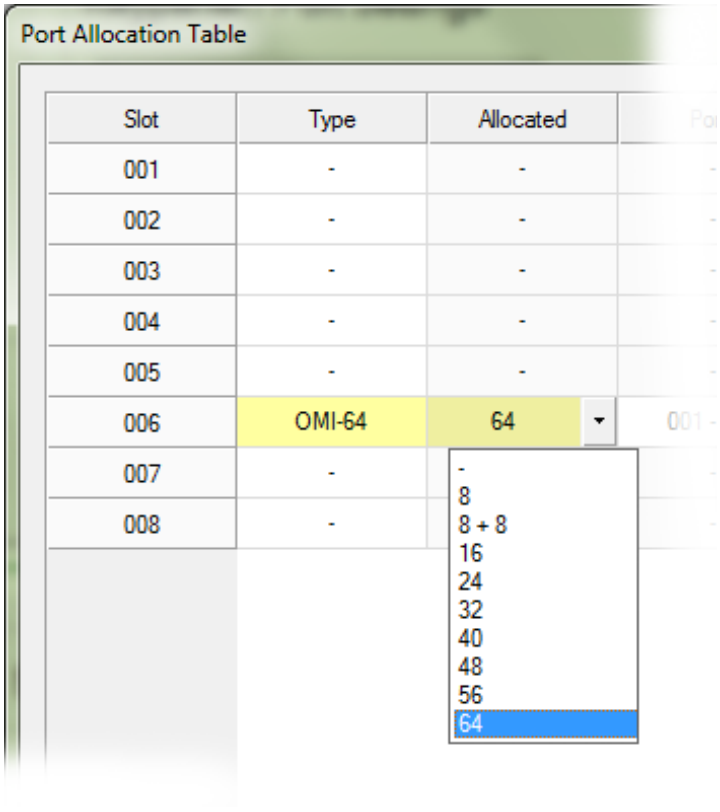


FIGURE 27. Allocated Column Options

Ports Columns (4)

The **Ports** column is used to assign ports in either groups of eight (8) or 16 ports, depending on what is selected in the Allocated column.

Up to four (4) groups of 16 ports are allowed.

TIP: To assist in setup and configuration debug, assign consecutive port numbers for multi-group port columns.

NOTE: The Ports column only becomes active for the number of ports you are allocating. For example, if you have 32 ports, only the first two (2) Ports columns are enabled.

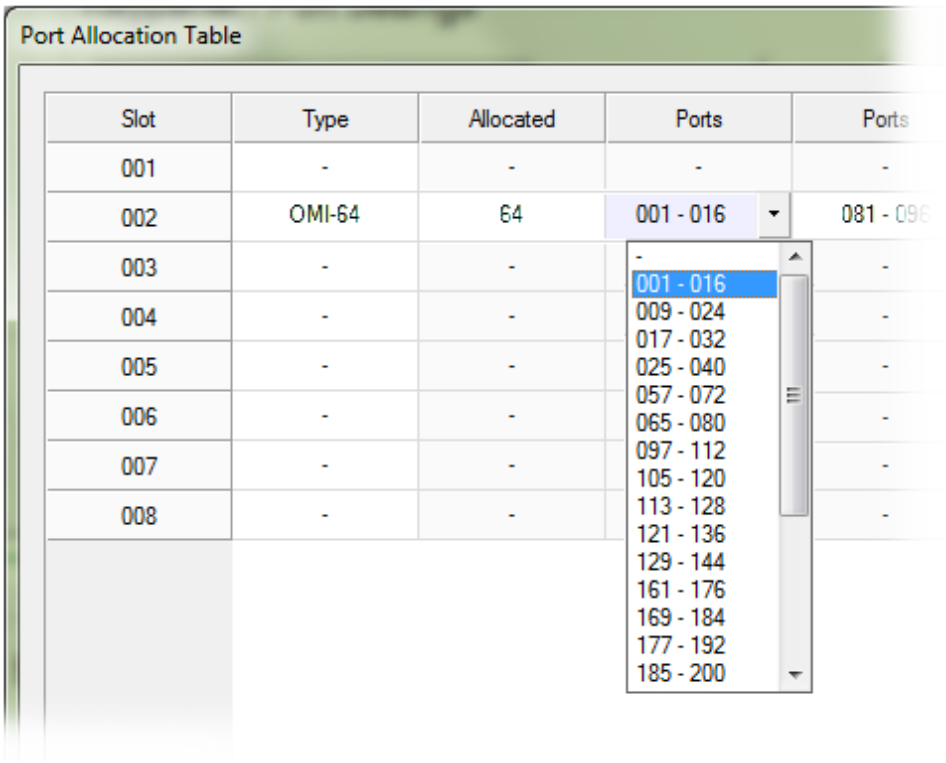


FIGURE 28. Ports Column Options

Warning Column

The **Warning** column displays a warning when configured card types do not match detected card types and when not all ports are allocated (for a given card, or for the intercom as a whole).

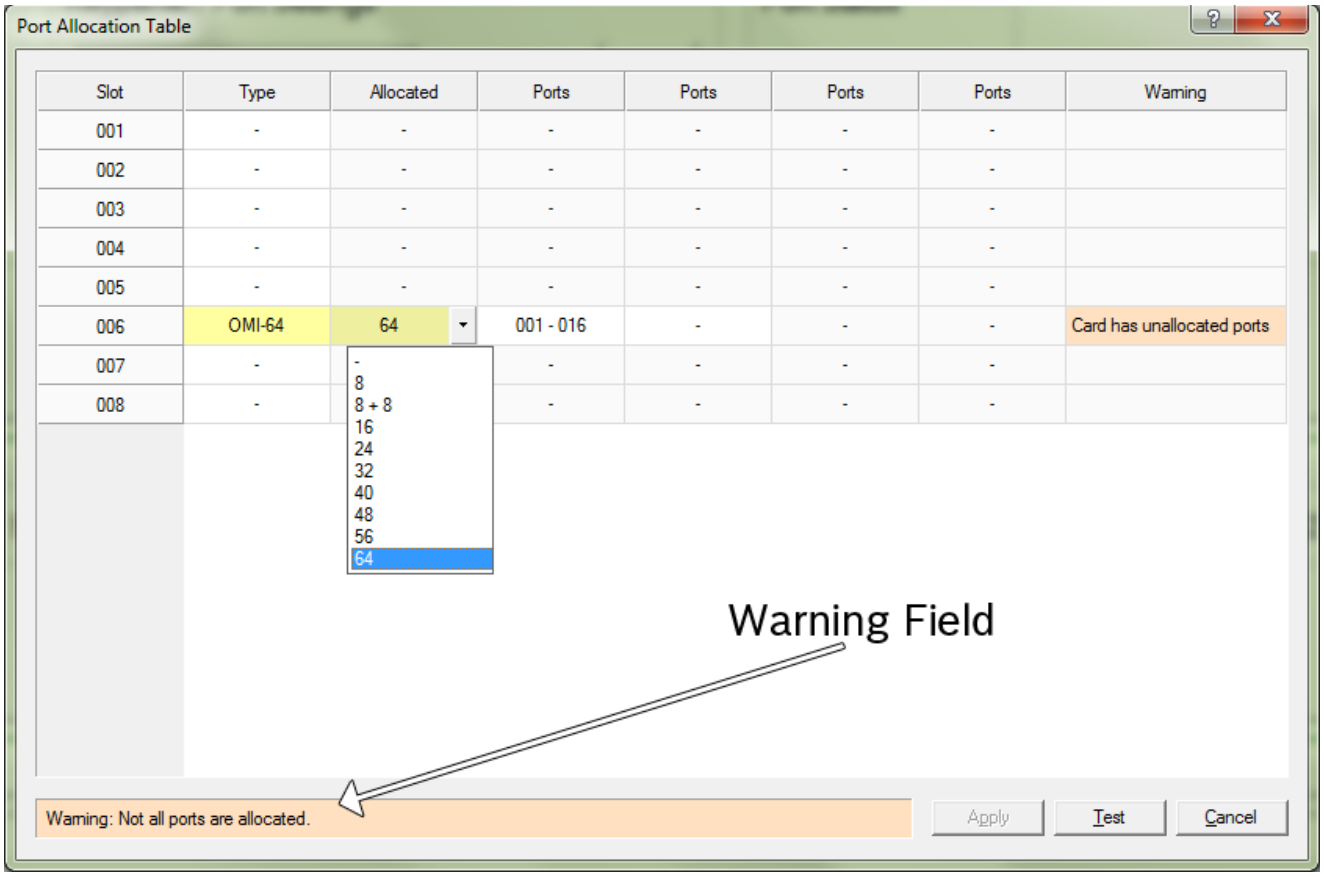


FIGURE 29. Warning Column and Warning Field

Warning Field

The **Warning** field displays warnings pertaining to the intercom system as a whole.

Apply Button

The **Apply** button is used to apply any modifications made to the port allocation table to the intercom system while the window remains open.

Test Button

The **Test** button is used to test the modifications you made to the port allocation table before you apply it to the intercom system. A message displays when the test is finished notifying you if the port allocation table is valid or not.

Cancel Button

The **Cancel** button is used to close the window without implementing any of the modifications made to the port allocation window.

OMNEO Configuration Window

The **OMNEO Configuration** window in AZedit is used to configure the OMI device for communication with other OMNEO devices on the network.

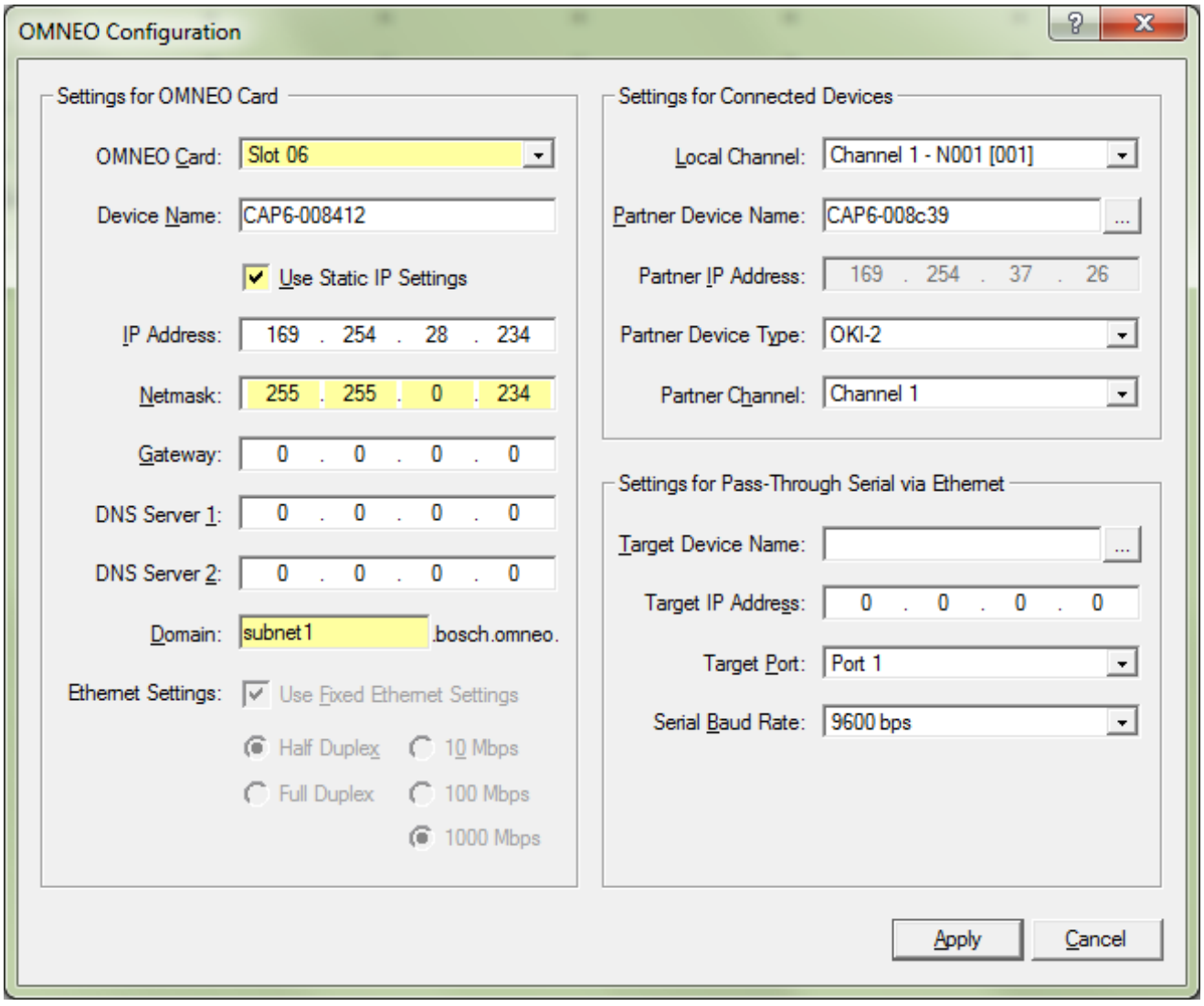


FIGURE 30. OMNEO Configuration Window

Settings for OMNEO Card Group Box

OMNEO Card Drop Down Menu

The **OMNEO Card** drop down menu is used to select the slot of the OMI card you want to configure.

Device Name Field

The **Device Name** field is used to enter a recognizable name for the OMI card. By default, the card is given an alphanumeric name, such as CAP6-0000e7.

This field can contain *up to 52 characters.*

Use Static IP Settings Check Box

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

Once selected, the following fields become active:

- IP Address
- Netmask
- Gateway
- DNS Server 1
- DNS Server 2
- Domain

NOTE: If the Use Static IP Settings check box is not selected the card uses the DHCP server. If no DHCP server is configured, then the OMI 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 will work on the network. For more information, see “Zero Configuration” on page 51.

IP Address Field

The **IP Address** field is used to enter the IP Address of the OMI card.

Netmask Field

The **Netmask** field is used to enter the Netmask Address of the OMI card.

Gateway Field

The **Gateway** field is used to enter the Gateway Address, if applicable, of the OMI card.

DNS Server 1 Field

The **DNS Server 1** field is used to enter the **DNS** (Domain Name Server) Server address the OMI card can access.

DNS Server 2 Field

The **DNS Server 2** field is used to enter a second DNS Server address the OMI card can access, if desired.

Domain Field

The **Domain** field is used to enter the domain in which the OMI card resides.

Ethernet Settings

The following fields are not used with the OMNEO technology at this time.

- Half Duplex Radio Button
- Full Duplex Radio Button
- 10Mbps Radio Button
- 100Mbps Radio Button
- 1000Mbps Radio Button

Settings for Connected Devices Group Box

Local Channel Drop Down Menu

The **Local Channel** drop down menu is used to select the channel on the selected OMI 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

The **Partner Device** field is used to enter the name of the device you want to communicate with. If you do not know the name of the device, use the **Browse** button to open the Discovered Devices window (see, “Discovered Devices Window” on page 31). From this window, you can select the device from a list.

Partner IP Address Field

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

Partner Device Type Drop Down Menu

The **Partner Type** drop down menu is used to select the type of device the OMI card is connecting to. This field is automatically populated when a Partner Device is selected from the list of discovered devices using the browse button.

Partner Channel Drop Down Menu

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

Settings for Pass-Through Serial via Ethernet Group Box

Target Device Name Field and Browse Button

The **Target Device Name** field is used 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 (see, “Discovered Devices Window” on page 31). From this window, you can select the device from a list.

Target IP Address Field

The **Target IP Address** field is used to enter the IP Address of the device targeted to receive the serial pass-through data. This field is populated automatically when a Target Device is selected from the list of discovered devices using the browse button.

Target Port Drop Down Menu

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

Available options for this field are:

Port 1

Port 2

Serial Baud Rate Drop Down Menu

The **Serial Baud Rate** drop down menu is used to select the rate at which the data is transmitted over the serial port.

Available options for this field are:

9600bps

19.2kbps

38.4kbps

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.

Discovered Devices Window

The **Discovered Devices** window, shown in Figure 31, is used to select devices on the network. The devices shown here are directly related to the configuration selection made on the Discovery page in Application Preferences, see “Discovery Page – Application Preferences” on page 42.

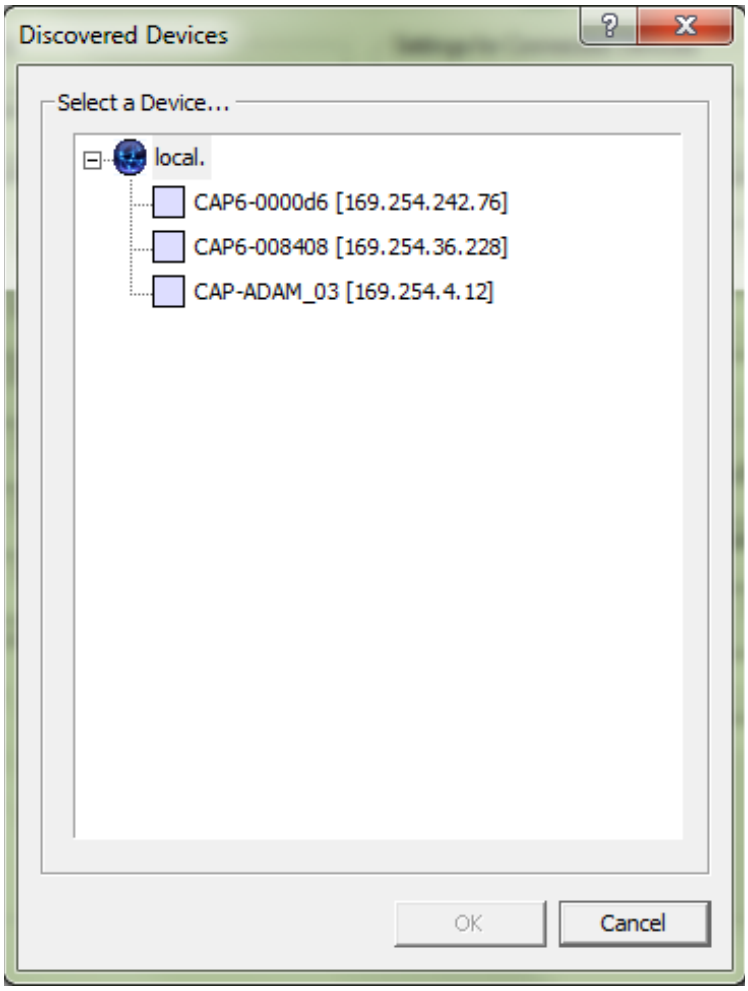


FIGURE 31. Discovered Devices Window

Select a Device... Group Box

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

To select a device, do the following:

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

OMNEO Connection Status Window

The **OMNEO Connection Status** window is used to monitor the OMI device channel connections. You can only monitor one (1) channel at a time.

Card/Channel Page

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

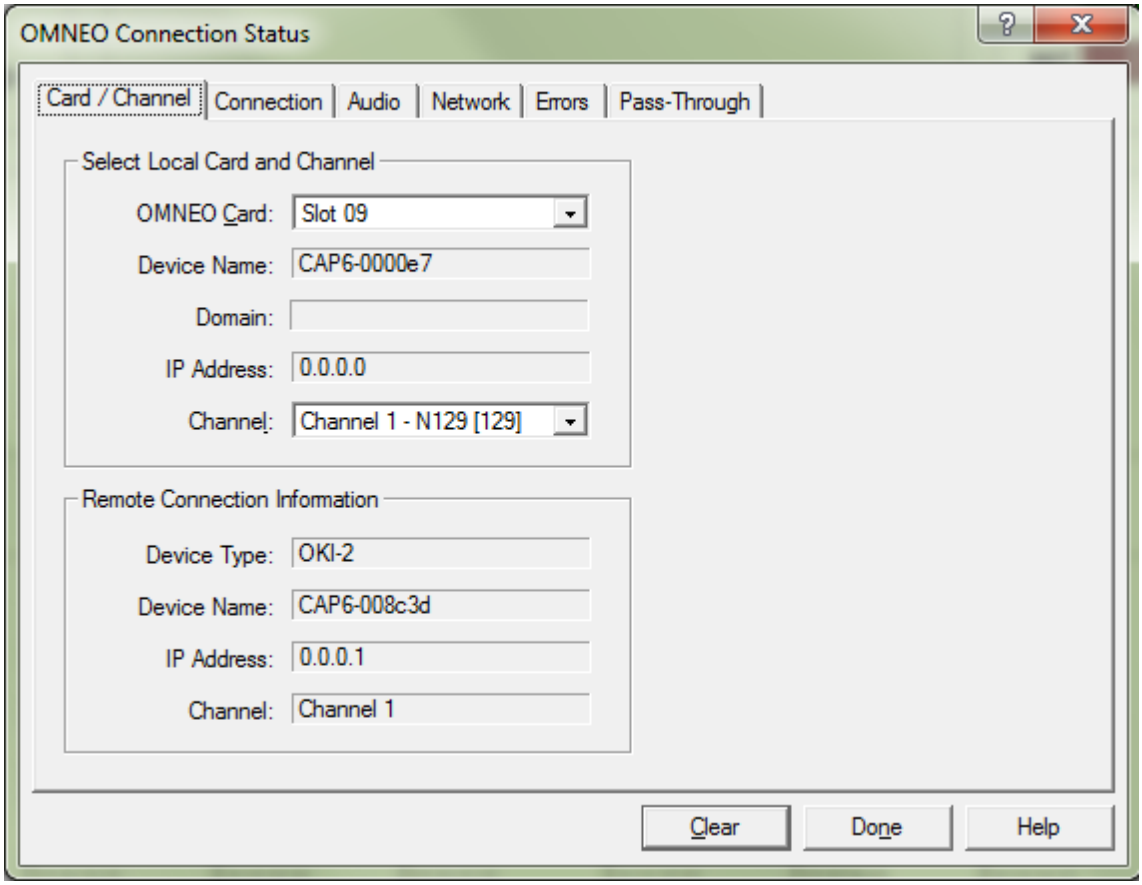


FIGURE 32. Card/Channel Page – OMNEO Connection Status Window

Select Local Card and Channel

OMNEO Card Drop Down Menu

The **OMNEO Card** drop down menu is used to select the ADAM or ADAM-M slot where OMI 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

The **Channel** drop down menu is used to select the channel for which you want to view the status. The number of channels available for selection is directly related to the number of channel licenses you have. For example, if you have and OMI-64 card installed in slot 9, you can have up to 64 channels to choose from.

Remote Connection Information

Device Type Field

The **Device Type** field displays the type of OMNEO device the OMI card is connected to on the other end of the channel.

Device Name Field

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

IP Address Field

The **IP Address** field displays the IP Address of the OMNEO device connected 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.

Connection Page

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

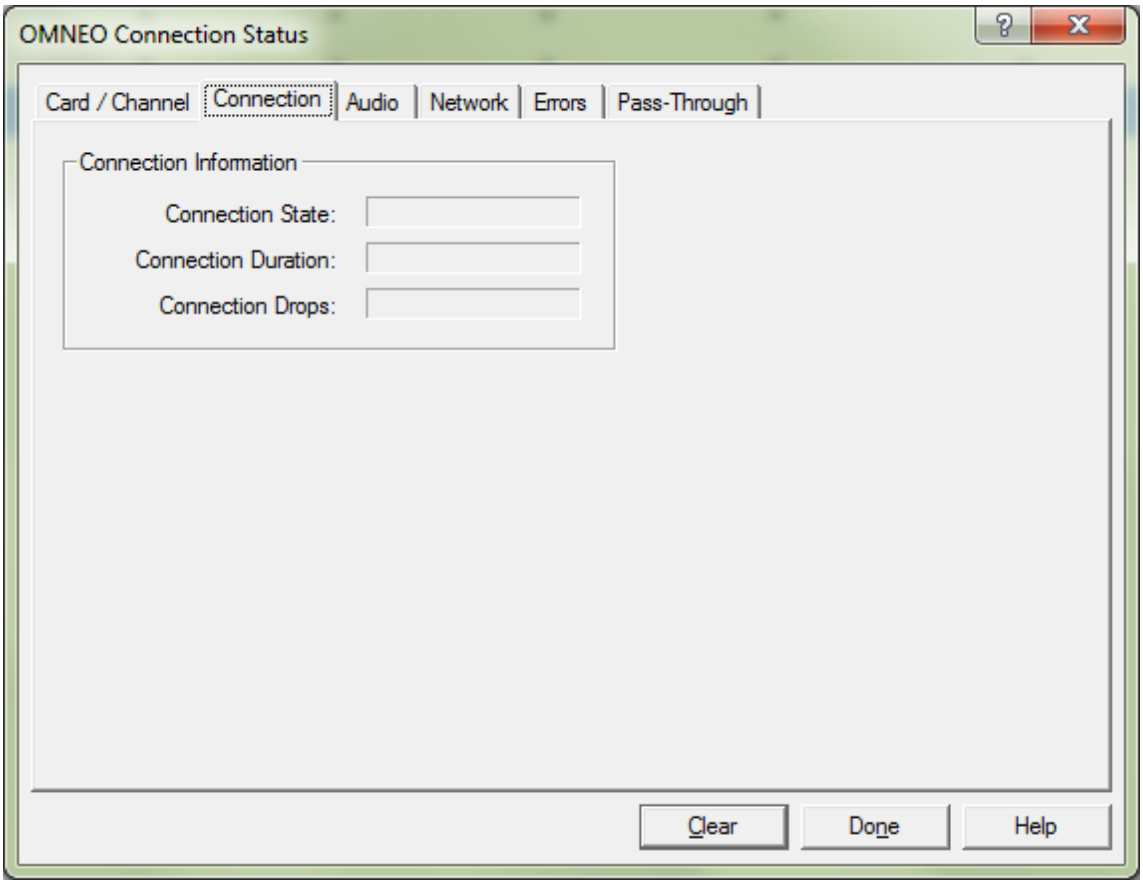


FIGURE 33. Connection Page – OMNEO Connection Status Window

Connection Information Group Box

Current Call State Field

The **Current Call 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 has been dropped.

Audio Page

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

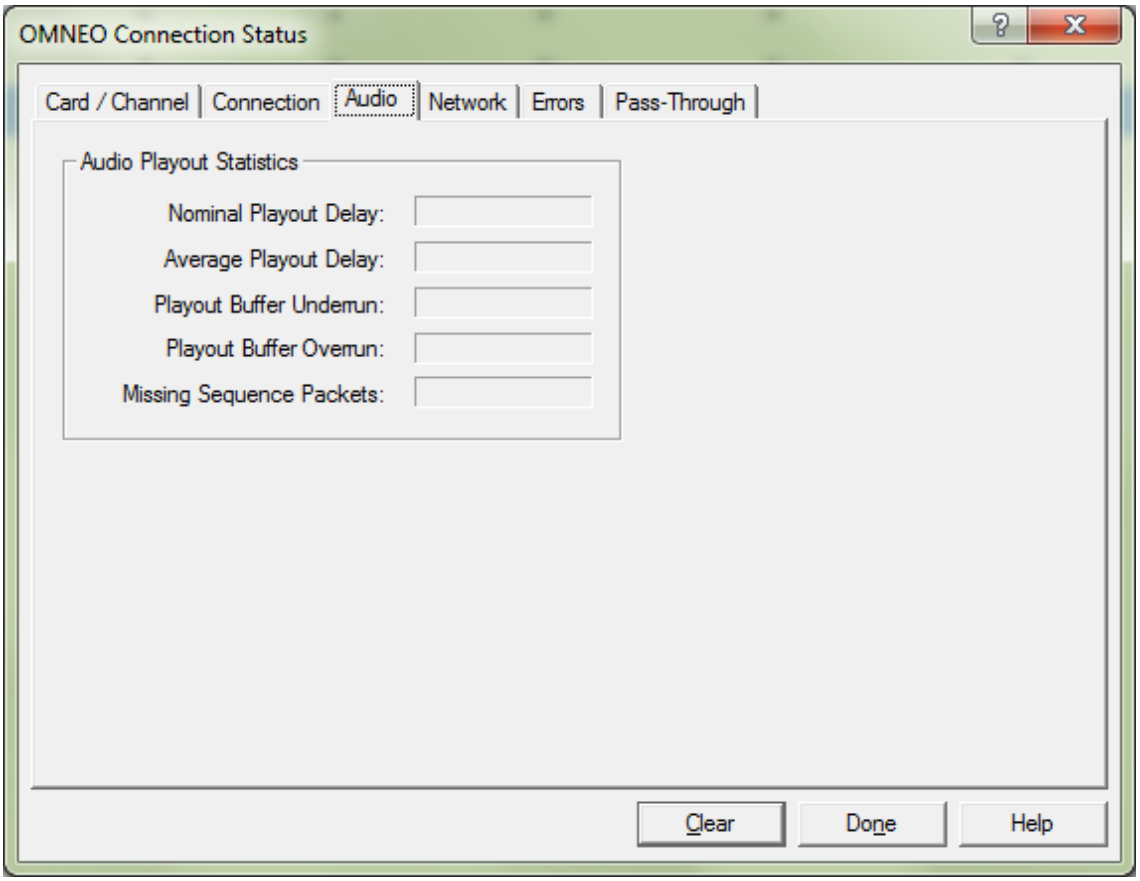


FIGURE 34. Audio Page – OMNEO Connections Status Window

Audio Playout Statistics Group Box

Nominal Playout Delay Field

The **Nominal Playout Delay** field displays how much audio is collected before playout begins. Playout begins at half the playout buffer size, which is two (2) times the configured packet size. This is a static system setting.

Average Playout Delay Field

The **Average Playout Delay** field displays the actual average audio collected before packets are played out. This is measured over the length of the connection.

Playout Buffer Underrun Field

The **Playout Buffer Underrun** field displays the number of times packets were not played because the playout buffer was empty.

Playout Buffer Overrun Field

The **Playout Buffer Overrun** field displays the number of packets discarded because the playout buffer was full.

Missing Sequence Packets Field

The **Missing Sequence Packets** field displays how many audio packets were missed in the sequence.

Network Page

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

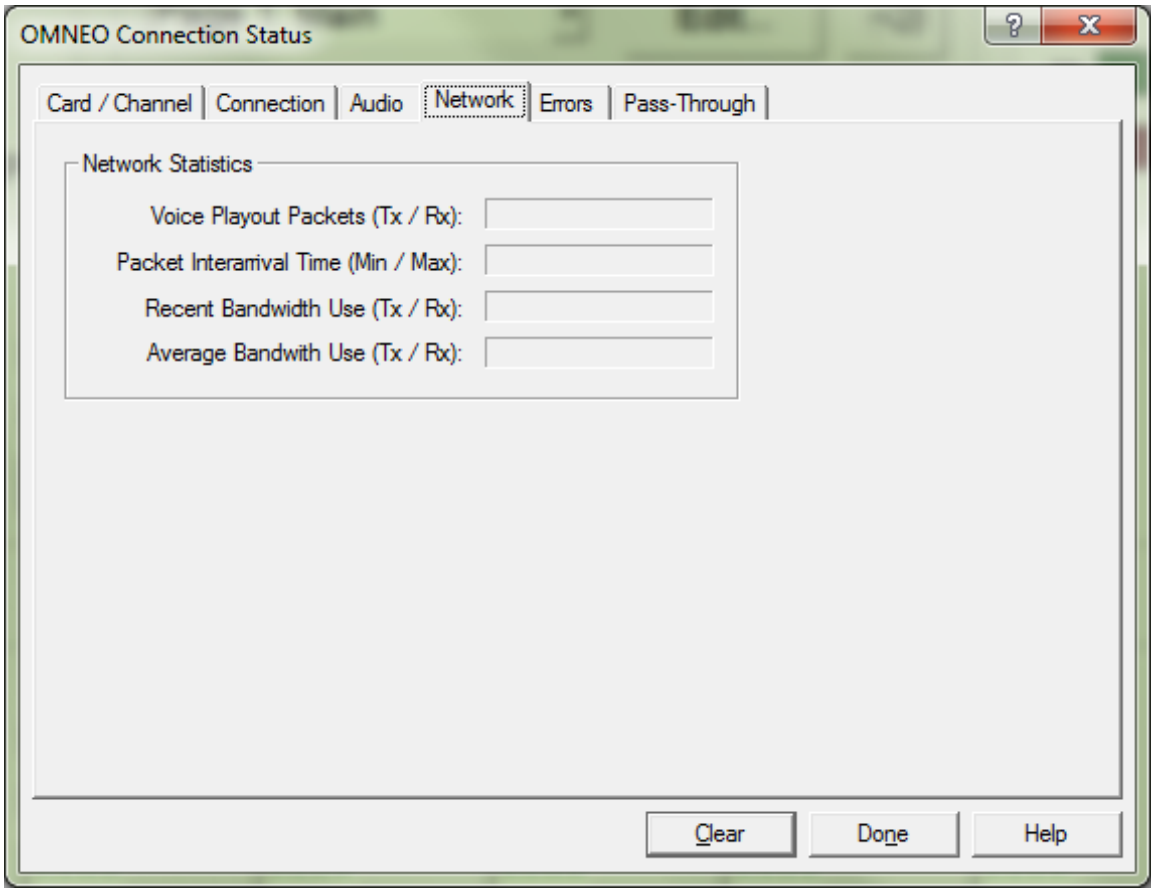


FIGURE 35. Network Page – OMNEO Connection Status Window

Network Statistics Group Box

Voice Playout Packets (Tx / Rx) Field

The **Voice Playout Packets (Tx / Rx)** field displays the number of voice packets transmitted and received from the other side of the connection.

Packet Interarrival Time (Min / Max) Field

The **Packet Interarrival Time (Min / Max)** field displays the minimum and maximum time elapsed between packets being sent.

Recent Bandwidth Use (Tx / Rx) Field

The **Recent Bandwidth Use (Tx / Rx)** field displays the amount of bandwidth used in Kbytes/sec over the length of the call. This is calculated by the number of voice packets transmitted and received over the last 10 seconds.

Average Bandwidth Use (Tx / Rx) Field

The **Average Bandwidth User (Tx / Rx)** field displays the amount of bandwidth used in Kbytes/sec over the length of the call. This is calculated by the number of voice packets transmitted and received and the length of the connection.

Errors Page

The **Errors** page displays invalid or lost packets specific to the channel and device chosen on the Card/Channel page.

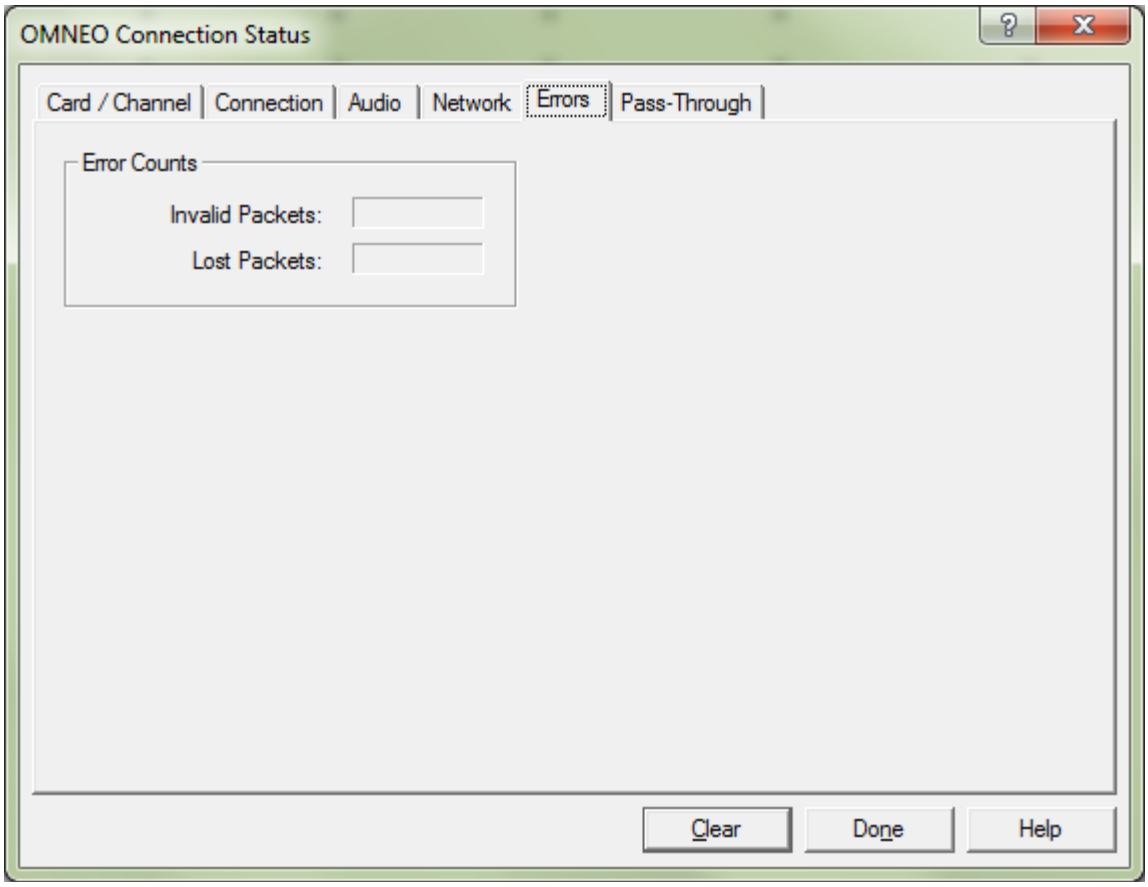


FIGURE 36. Errors Page – OMNEO Connection Status Window

Error Counts Group Box

Invalid Packets Field

The **Invalid Packets** field displays the number of IP packets that could not be sent or received.

Lost Packets Field

The **Lost Packets** field displays the number of packets that were lost.

Pass-Through Page

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

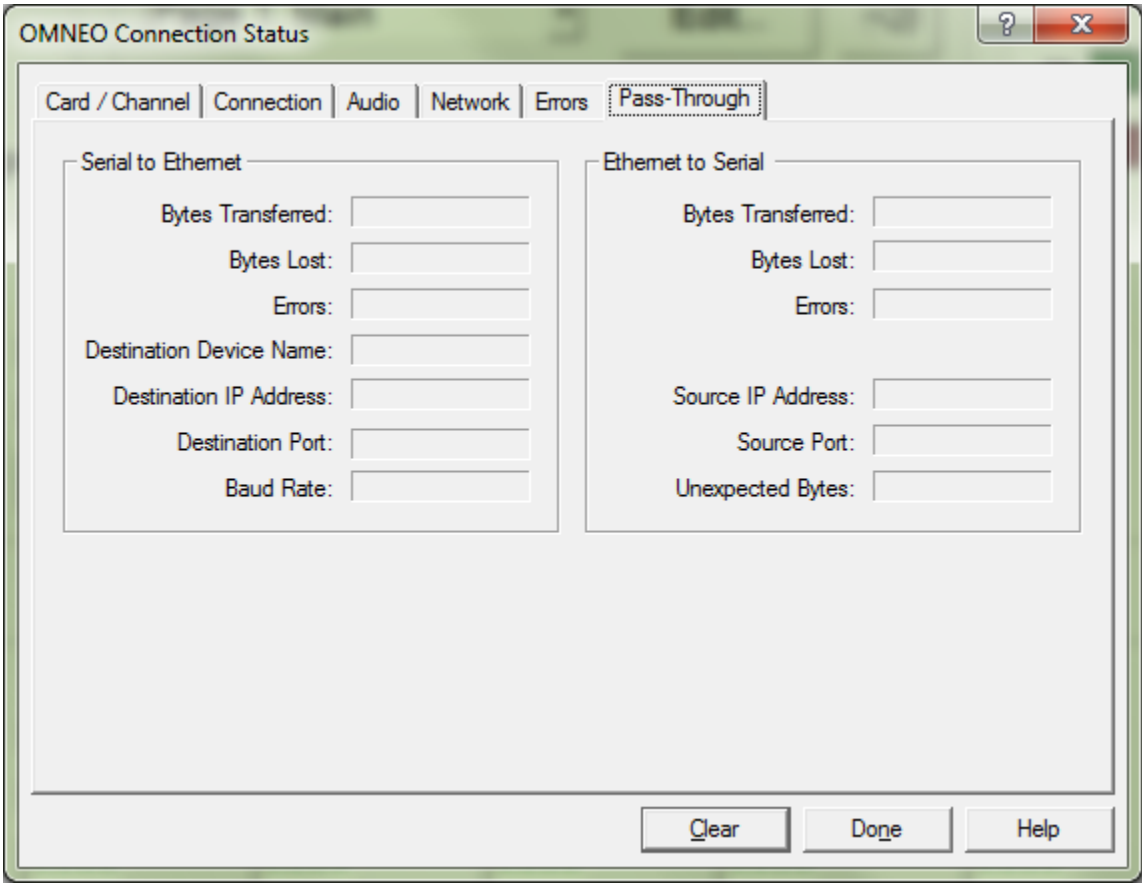


FIGURE 37. Pass-Through Page – OMNEO Connection Status Window

Serial to Ethernet Group Box

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 could not be transferred.

Errors Field

The **Errors** field displays the cumulative number of errors that occurred during 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 D**estination 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 Group Box

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

Bytes Transferred Field

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

Bytes Lost Field

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

Errors Field

The **Errors** field displays the cumulative number of errors that occurred during 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 has been come from any IP Address not the Tx IP Address. The bytes of data are considered unexpected bytes and are not transferred.

DHCP Server Configuration Window

The **DHCP Server Configuration** window is used to enable and configure DHCP on the frame.

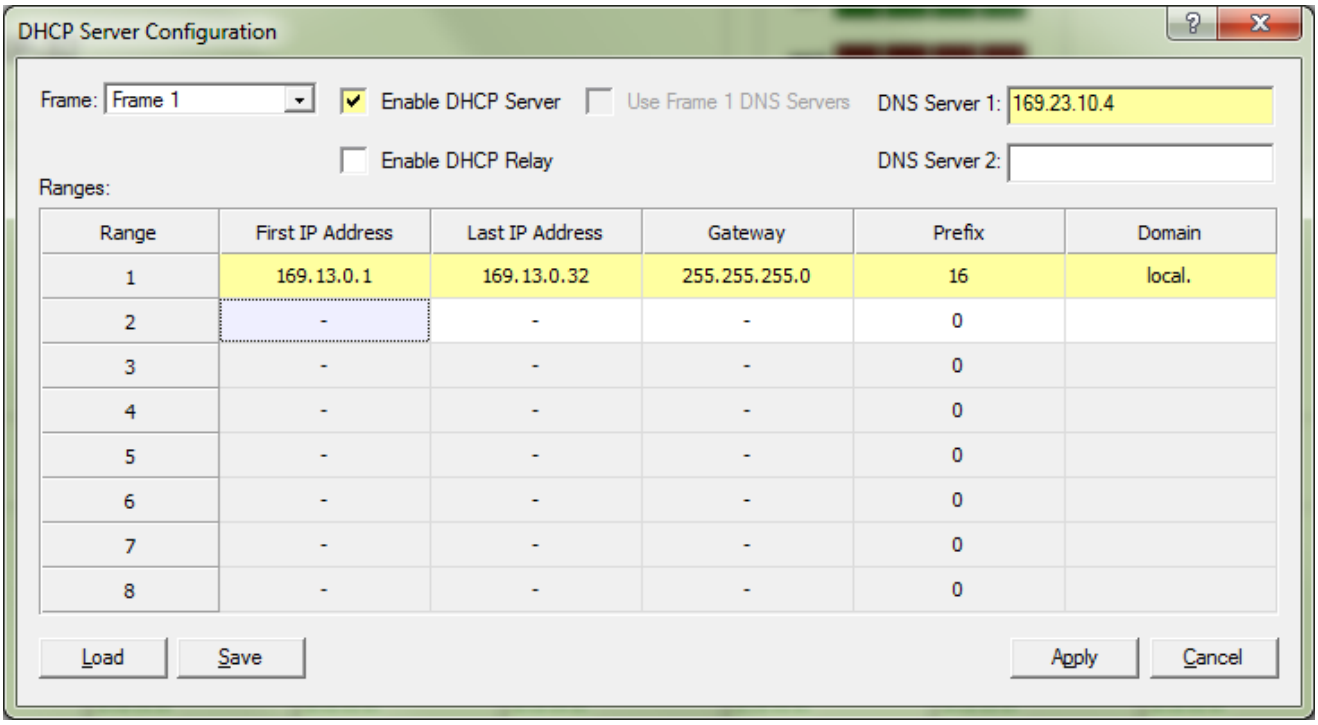


FIGURE 38. DHCP Server Configuration Window

Frame Drop Down Menu

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

Enable DHCP Server Check Box

The **Enable DHCP Server** check box is used to enable DHCP on the frame.

Enable DHCP Relay Check Box

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

Use Frame 1 DNS Servers Check Box

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

DNS Server 1 Field

The **DNS Server 1** field is used to enter the IP Address of the DNS server that supports the OMNEO devices.

DNS Server 2 Field

The **DNS Server 2** field is used to enter the IP Address of a second DNS server, if needed, that supports the OMNEO devices.

Range Column

The **Range** column is used to sequentially sort the different IP Address ranges your system uses, if applicable.

First IP Address Column Field

The **First IP Address** column field is used to enter the first IP Address in the range you are defining.

Last IP Address Column Field

The **Last IP Address** column field is used to enter the last IP Address in the range you are defining.

Gateway Column Field

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

Prefix Column Field

The **Prefix** column field is used to enter the range prefix.

IMPORTANT: 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

The **Domain** column field is used to enter the domain or the web name used by this IP Address range.

Load Button

The **Load** button is used to load the DHCP settings from a file.

Save Button

The **Save** button is used to save the DHCP file you create.

Apply Button

The **Apply** button is used to apply the DHCP record to the MCII-e card.

Done Button

The **Done** button is used to close the DHCP Configuration window.

IMPORTANT: If you have not applied your modifications and click Done, the modifications are not applied to the DHCP Configuration window.

OMNEO Specific Items in Preferences

Discovery Page – Application Preferences

The **Discover** page of the application preferences is used to define the network connection where AZedit is to look for OMNEO devices.

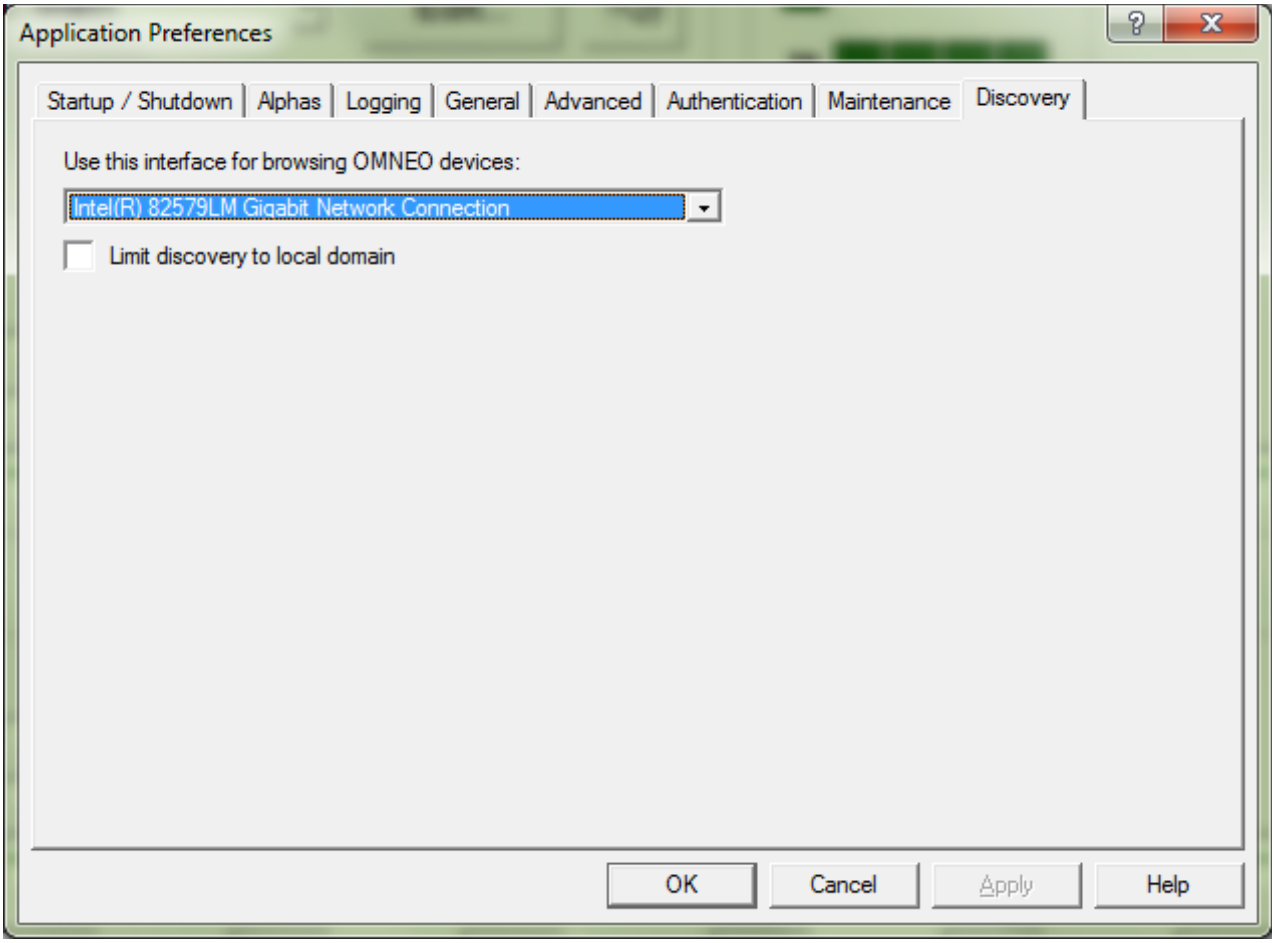


FIGURE 39. Discovery Page – Application Preferences

Use this interface for browsing OMNEO devices Drop Down Menu

The **Use this interface for browsing OMNEO devices** drop down menu is used 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 is used to limit discovery of OMNEO devices to only the local domain.

Firmware Upload Tool

The **Firmware Upload Tool** is used 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.

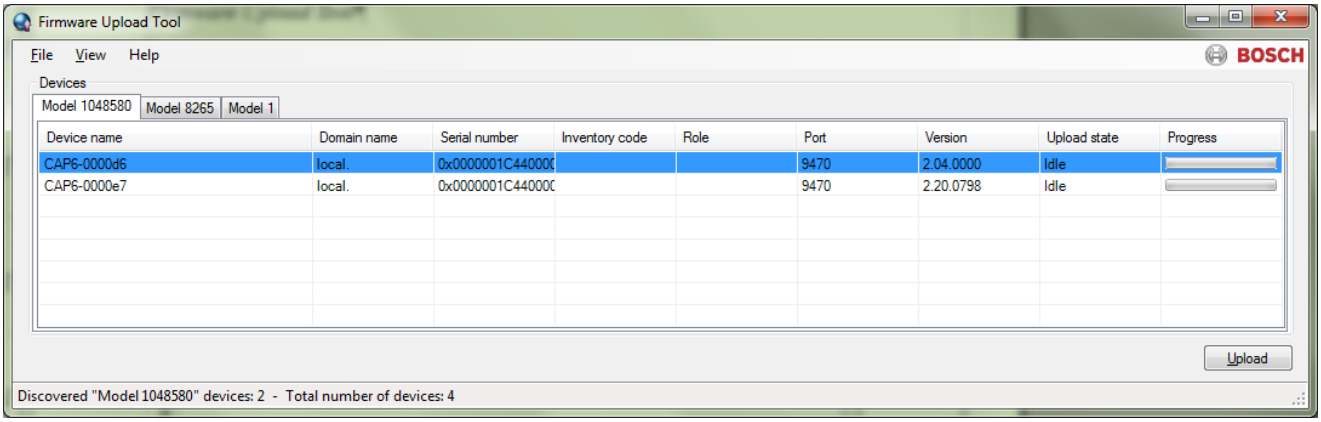


FIGURE 40. Firmware Upload Tool

Devices Group Box

The Model tabs are used to group all devices with the model ID. For each model ID detected, a tab is created.

Device Name Column

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

Domain name Column

The **Domain name** column displays the domain where the device is located.

Serial number Column

The **Serial number** column displays the serial number of the device.

Inventory code Column

The **Inventory code** column displays the inventory code of the device.

Role Column

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

Port Column

The **Port** column displays the communication port of 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 is used to start the upload process.

CHAPTER 5

OMI Configuration

Using AZedit to Configure the OMI Card

To **configure the OMI card in AZedit**, the following steps are needed:

Step 1 Download the License File for more channels, if applicable.

Step 2 Assign ports to the card using the Port Allocation table.

Step 3 Set up the network configuration.

Step 4 Configure Keypanels to the OMI cards.

Download the License File

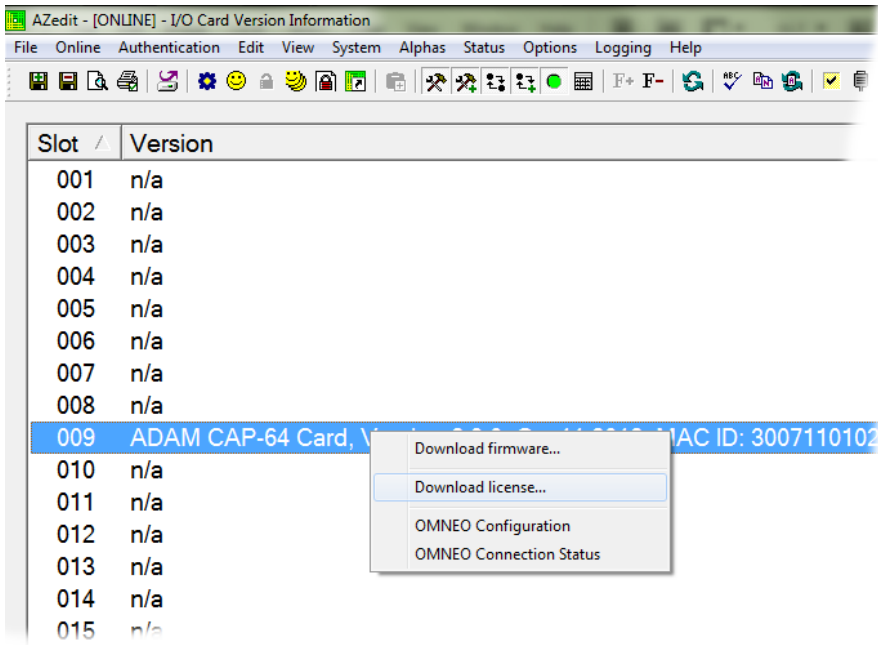
The OMI card comes with 16 licenses standard; however, incremental upgrades can be purchased from Bosch. The following upgrades are available:

- 32 licenses
- 48 licenses
- 64 licenses

To **upgrade your matrix system once the license is purchased**, do the following:

1. Start **AZedit**.
2. From the Status menu, select **Software Versions|IO Cards**.
   The I/O Card Version Information Window appears.

3. Right-click the **OMI Card** you want to upgrade.
A pop-up menu appears.



4. From the pop-up menu, select **Download License**.
The License Download Window appears.
5. Navigate to the **license file**.
6. Click **Open**.
The Download License File Window appears.
7. Click **Begin**.
The license file is downloaded. A success message appears once the file is done downloading.
8. From the Status menu, select **I/O Card Status**.
The I/O Card Status Window appears.
9. Verify the **download** was successful.

Assigning Ports

For more information on the Port Allocation Table, see “Port Allocation Table Window” on page 22.

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

1. From the Options menu, select **Port Allocation Table**.
The Port Allocation Table Window appears.
2. Along the left-side of the Port Allocation Table Window, find the **card slot** you installed the OMI card in the Matrix frame.
3. From the Type column drop down menu, select the **type of OMI card** installed (for example, OMI-32).
4. From the Allocated column drop down menu, select the **channel scheme** you are using for your OMI card (for example, 8, 8+8, or 16).
5. From the Ports column drop down menu, select the **range of ports you want to allocate**.

   NOTE: The Ports column only becomes active for the number of ports you are allocating. For example, if you have 32 ports, only the first two (2) Ports columns are active.

6. Verify there are **no warnings** in the Warning column.

7. Click **Test**.
   A success message appears if you have a valid Port Allocation Table and the Apply button becomes active.
8. Click **Apply**.

Set Up the Network Configuration

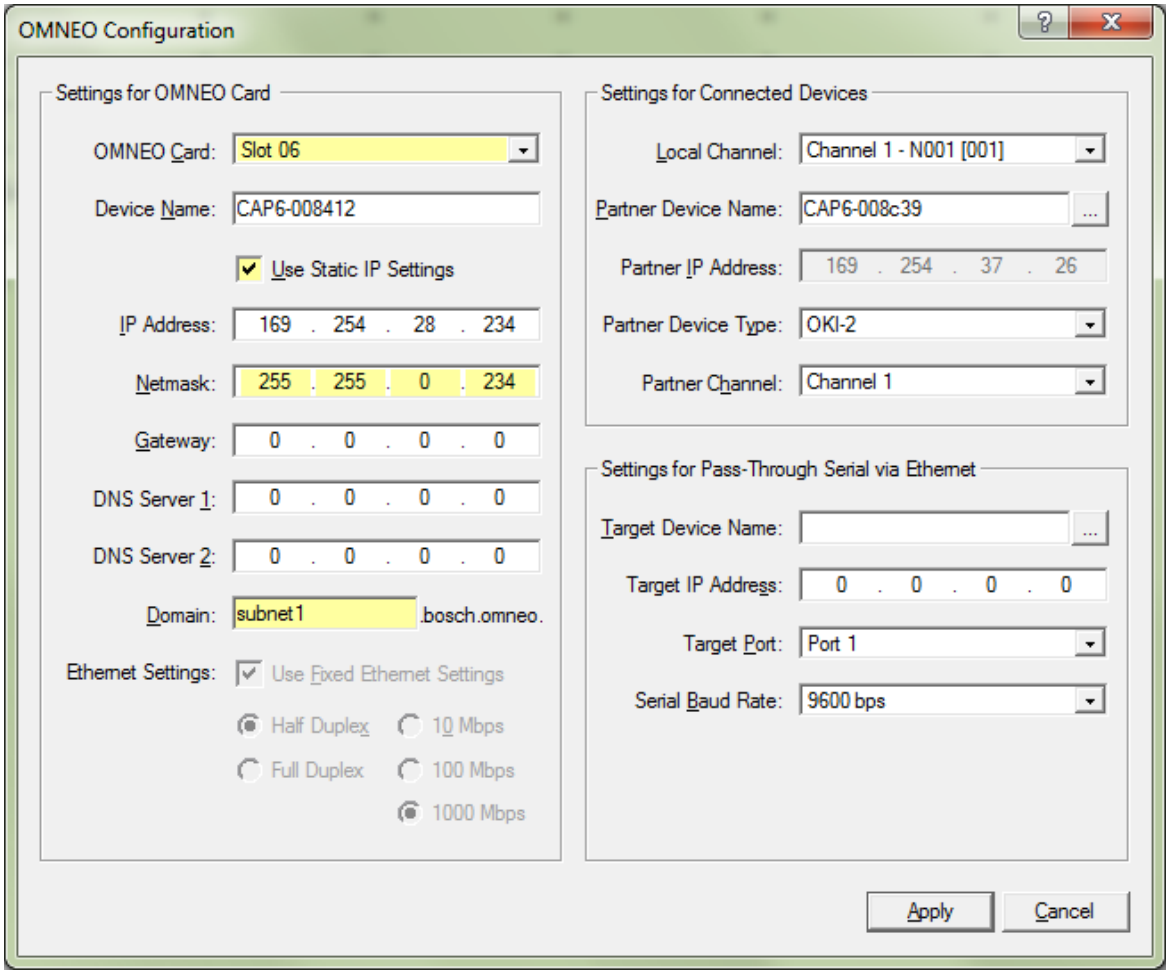
In an OMI system, there are three (3) ways to set up your system:

- 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 hand-out parameters compatible with OMNEO devices.

NOTE: Requires AZedit version 4.5.0 and IPedit version 3.0.0.

To **configure the OMI card**, do the following:

1. From the Status menu, select **I/O Cards**.
   The I/O Card Status Window appears showing a list of installed cards.
2. Right-click the **OMI Card** you want to configure.
   A pop-up menu appears.
3. From the pop-up menu, select **OMNEO Configuration**.
   The OMNEO Configuration Window appears.



4. From the OMNEO Card drop down menu, select the **slot number** where the OMI card is located in the frame, if it is not already selected.
   The Device Name field auto-populates with the name of the device.

If you are using zero-configuration:

   a. Continue to step 6. No configuration is necessary. For more information on zero configuration, see “Zero Configuration” on page 51.

If you are using a DHCP server:

   a. See “Configure the DHCP Server” on page 52.

If you are using Static IP Addressing:

   a. Select the **Use Static IP Settings** check box.
   b. In the IP Address field, enter the **IP Address** assigned to the OMI card.
   c. In the Netmask field, enter the **Netmask** of the network to which the OMI is connected.
   d. In the Gateway field, enter the **Gateway Address** of the network to which the OMI card is connected.
      A Default Gateway is only required if the OMI connections are between LANs.
   e. In the DNS Server field, enter the **IP Address** for the DNS Server used.

5. From the Local Channel drop down list, select the **channel** you want to use to communicate to another device across the network.

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

6. In the Partner Device Name field, enter the **name of the device** you want to communicate with.
   OR
   Select the **Browse** icon to select from a list of devices.
7. In the Partner IP Address field, enter the **IP Address** of the device to which you want to connect. This field auto-populates when you select the Device Name.
8. From the Partner Device Type drop down list, select the **type of device** to which the OMI card is connecting.
9. From the Partner Channel drop down list, select the **channel** on the device to which the OMI communicates.
10. In the Target Device Name, enter the **name** of the targeted device to receive the serial pass-through data.
    OR
    Select the Browse icon to select the **device** targeted to receive the serial pass-through data.

    NOTE: Steps 11 through 14 are only populated when using a serial connection.

11. In the Target IP Address field, enter the **IP Address** for the device designated to receive the serial pass-through data.
12. From the Target Port drop down menu, select the **port** the serial pass-through data is sent.
13. From the Serial Baud Rate drop down menu, select the **baud rate** at which the data is transmitted for the first serial port.

    NOTE: Configuration of the 2nd pass-through port via AZedit is not supported.

    NOTE: You must configure the channels settings on each end of a connection to ensure the same codec and packet size are selected at each end. Remember, the OMI card has more channels which can be configured.

14. Once you are completely finished, click **Apply**.
    Apply sends all of the changes to all the cards in the intercom, or click Cancel to discard all changes you have made.

Configure Keypanels to the OMI Card

To finish the configuration, you must configure the **OKI** (OMNEO Keypanel Interface) device to talk with the OMI 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 32 CLD Technical Manual
- KP 12 CLD Technical Manual
- KP-32 Classic Technical Manual

Using IPedit to Configure the OMI Card

To **configure the OMI card in IPedit**, do the following:

Step 1 Using AZedit, download the License File for more channels, if applicable.

Step 2 Add the OMI to IPedit, using Add Device.

Step 3 Set up the network configuration.

Step 4 Configure keypanels to the OMI cards.

Use AZedit to download the License File for more channels, if applicable.

See “Download the License File” on page 45.

Add the OMI Card to IPedit

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

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

Network Configuration

IMPORTANT: You must be signed on with network administrator rights to be able to complete

To **configure the OMI 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 cards are given a default name, like CAP6-0000d6.
2. In the Description field, enter a **description for the OMI card**, if desired.
3. **Address** the card.

If you are using zero-configuration:

a. Continue to step 4. No configuration is necessary. For more information on zero configuration, see “Zero Configuration” on page 51.

If you are using a DHCP server:

a. See “Configure the DHCP Server” on page 52.

If you are using Static IP Addressing:

a. Select the **Use Static IP Settings** check box.
   The IP Addressing fields become available for modification.
b. In the IP Address field, enter the **IP Address** assigned to the OMI card.
c. In the Netmask field, enter the **Netmask** of the network to which the OMI is connected.
d. In the Gateway field, enter the **Gateway Address** of the network to which the OMI card is connected.
   A Default Gateway is only required if the OMI connections are between LANs.
e. In the DNS Server 1 field, enter the **IP Address for the DNS Server** used.
f. In the DNS Server 2 field, enter the **IP Address for a second DNS Server**, if applicable.
g. In the Domain Name field, enter the **domain name** where the OMI card resides.

Using the Channel Configuration and Status Section:

4. From the column headings, select the **channel** you want to configure.
5. In the Channel Description field, enter a **channel description**, if applicable.
6. From the Destination Type drop down menu, select the **type of OMNEO device** to which the channel is connected.
7. In the Destination Device Name field, enter the name of the device to which the channel is connected.
   OR
   Click the **...** button.
   The Discovered Devices Window appears. For more information, see “Discovered Devices Window” on page 31.
   Expand the **local. tree** to view the destination devices available.
   From the expanded tree, select the **device you want for your destination device**.
   Click **OK**.
8. From the Destination Channel drop down menu, select the **destination channel** to which the channel is connected.
9. From the File menu, click **Save**.

Configure Keypanels to the OMI Card

To finish the configuration, you must configure the **OKI** (OMNEO Keypanel Interface) device to talk with the OMI 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 32 CLD Technical Manual
- KP 12 CLD Technical Manual
- KP-32 Classic Technical Manual

Zero Configuration

Zero configuration networking automatically creates a usable Internet Protocol (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 Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS), or configure each computer's network settings manually.

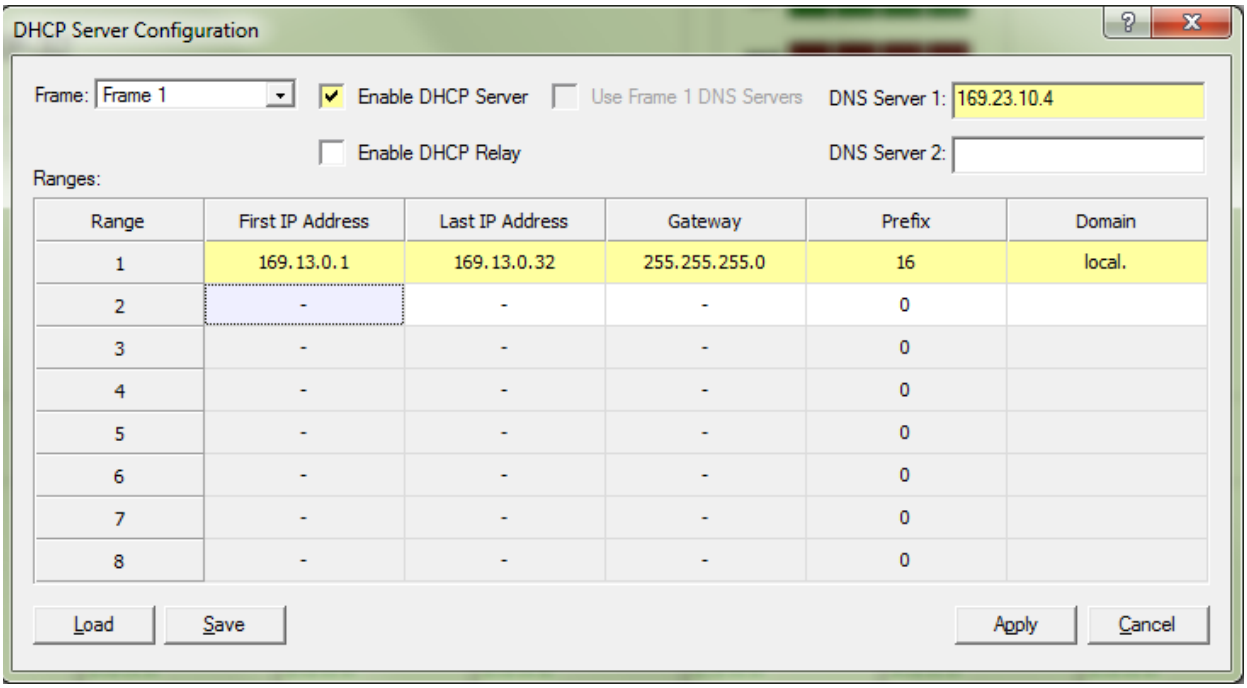
Both IPv4 and IPv6 have standard methods for address auto-configuration called Link Local. OMNEO’s zero configuration uses link-local addressing (IPv4LL) when a DHCP server is unavailable. Link local randomly generates the host-specific part of an auto-configured address. IPv4 hosts use the special block 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.

Configure the DHCP Server

The DHCP Server is maintained in the MCII-e Master Controller. Each frame in a system can have its own DHCP server, if desired.

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

1. From the Options menu, select **DHCP Server Configuration...**.
   The DHCP Server Configuration Window appears.



2. From the Frame 1 drop down menu, select the **Frame** you want to configure DHCP (for example, Frame 1).
3. Select the **Enable DHCP Server** check box to set this frame as a DHCP server.
4. Select the **Enable DHCP Relay** check box to allow this frame to give out Addresses to devices outside its subnet.
5. In the DNS Server 1 field, enter the **IP Address of the DNS (Domain Name Server)**.
6. In the DNS Server 2 field, enter the **IP Address of a second DNS server**, if applicable.
7. In the First IP Address column, enter the **IP Address** of the first address in the range.
8. In the Last IP Address column, enter the **IP Address** of the last address in the range.
9. In the Gateway column, enter the **Gateway Address** that is used.
10. In the Prefix column, enter the **Prefix**.

IMPORTANT: 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.

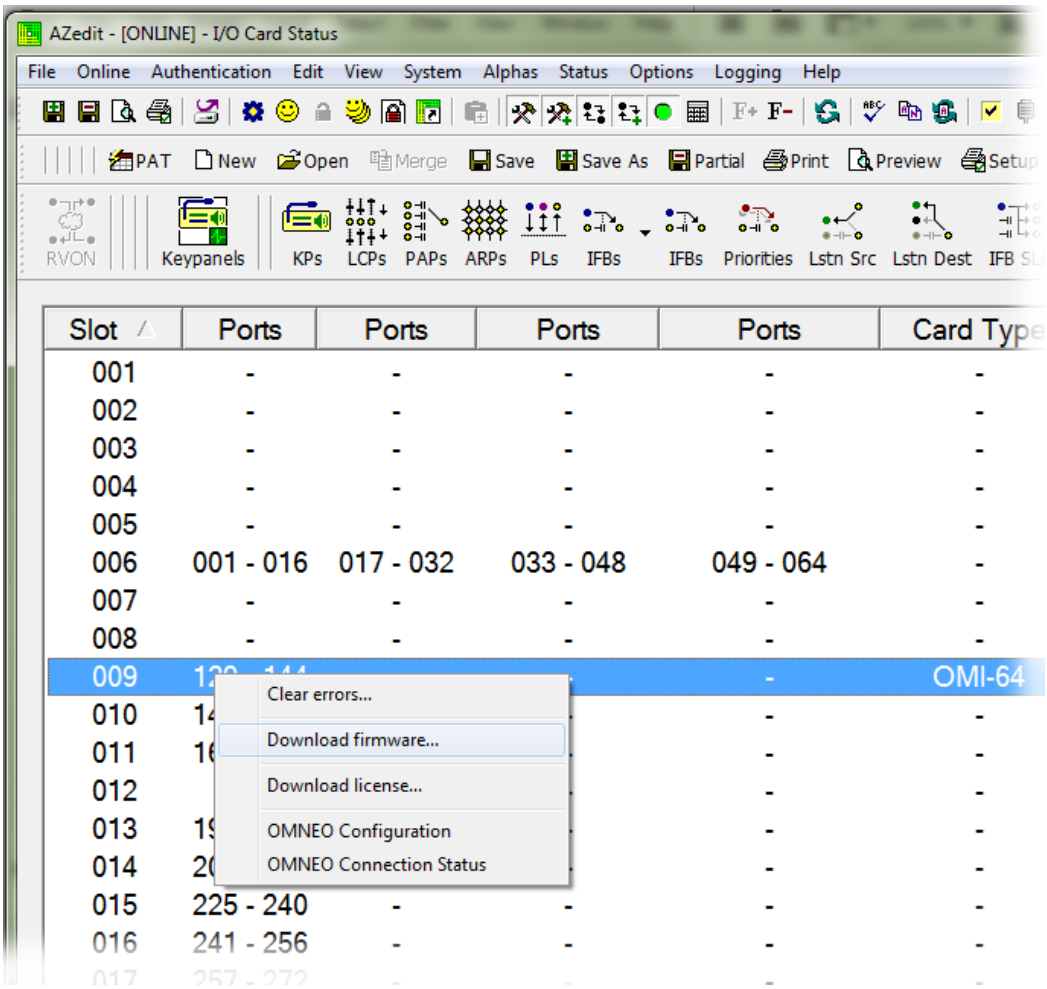
255.0.0.0 = Prefix 8
255.255.0.0 = Prefix 16
255.255.255.0 = Prefix 32

11. In the Domain column, enter the **Address** of the domain.
12. Repeat steps 7 through 11 for the number of ranges you want to configure.
13. Once finished, click **Save**.
    The DHCP record is saved.
14. Click **Apply**.
    The DHCP configuration is applied to the intercom setup and the window closes.

Upgrade OMI firmware

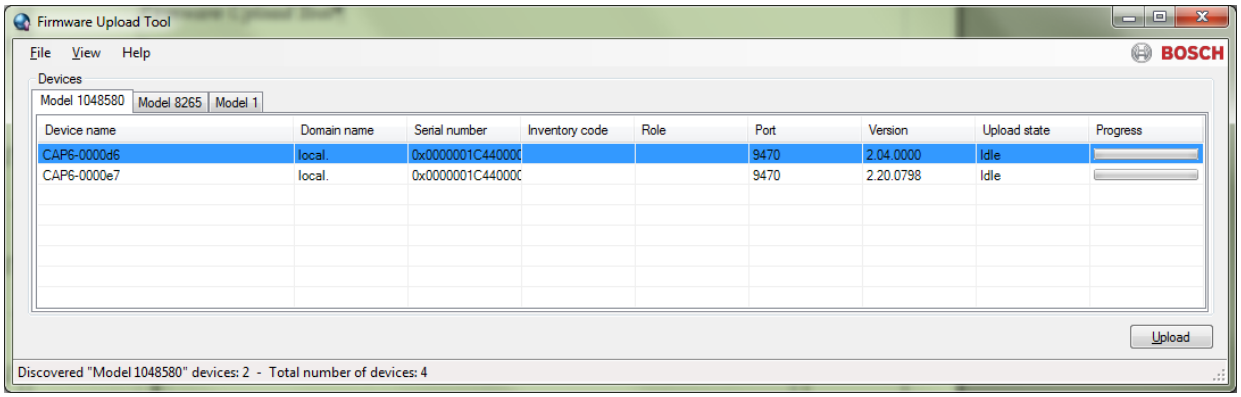
To **upgrade the OMI firmware,** do the following:

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



3. Select **OK**.
   The Firmware Upload Tool appears.

   NOTE: The Model ID (shown on the tabs) for the OMI is 2049 and 2051



4. Select the **OMNEO device** you want to upload the new firmware to.
5. Click **Upload**.
   You can watch the progress of the upload in the Progress column.

Notes

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