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# **VersAtive®Pro Mondo**

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Patent Pending

**HARDWARE INTERFACE MANUAL** 

### **General Guide Notes**

**Manual Release Date** 

**April 6 2015** 

#### **Cross Reference Hyperlink Usage**

Hyperlinks are used liberally throughout the guide to assist the reader in finding related information if the reader is viewing the Adobe PDF file directly. Hyperlinks may be identified by their blue text. Most links are to related pages within the document, but some reference outside documents if the reader needs that additional information. The Table of Contents is entirely hyperlinked and bookmarks are available but the bookmark feature must be turned on in your Reader application.

#### Symbol Usage

Throughout the manual, some symbols are used to call the readers attention to an important point. The following symbols are in use:

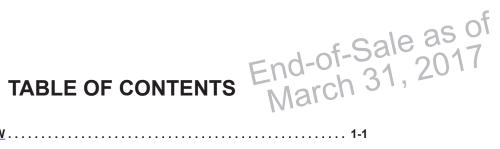


**NOTE:** This symbol usage will call the reader's attention to an important operation feature of the equipment which may be safety related or may cause a service outage.



**FYI:** This symbol indicates that there is helpful related information available in this note or elsewhere in the guide.

Although every effort has been taken to ensure the accuracy of this document it may be necessary, without notice, to make amendments or correct omissions. Specifications subject to change without notice.



1.	SYS	<u>FEM OVERVIEW</u>	. 1-1
	1.1	Chapter Contents	. 1-1
	1.2	Node Initial Configuration	1-1
	1.3	Node Interface Panel	. 1-1
	1.4	Front and Rear Panels	. 1-2
	1.5	System Power Supplies	. 1-3
	1.6	Rear I/O Ports	. 1-3
	1.7	Unit Identifier Switches (UID)	1-3
	1.8	Support for IPMI	. 1-4
2.	INST	ALLATION.	2-1
	2.1	Chapter Contents	2-1
	2.2	Preparation for Installation	2-1
	2.3	<u>Precautions</u>	2-1
	2.4	General Mechanical	2-2
	2.5	Power Considerations	2-3
	2.6	Gigabit Ethernet Ports	2-4
	2.7	Installing the Chassis into a Rack.	2-4
3.	STARTUP		
	3.1	Chapter Contents	. 3-1
	3.2	Management Computer	. 3-1
	3.3	Connecting to Your Computer	. 3-1
	3.4	Streaming Network Configuration.	3-2
4.	SAFE	<u>ETY</u>	4-1
5.	SER\	/ICE & SUPPORT	5-1
	5.1	Contact ATX Networks	. 5-1
	5.2	Warranty Information	5-1

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### SYSTEM OVERVIEW

### 1. System Overview

The VersAtive®Pro Mondo is four separate and independent transcoders called Nodes. As independent nodes, each may be powered off and on without affecting the others. In addition, each node is a hot-swappable unit that may be removed from the rear of the chassis.

### 1.1 Chapter Contents

- "Node Initial Configuration"
- "Node Interface Panel"
- "Front and Rear Panels"
- "System Power Supplies"
- "Rear I/O Ports"
- "Unit Identifier Switches (UID)"
- "Support for IPMI"

### 1.2 Node Initial Configuration



**NOTE:** Each individual Node must have default Management (MGMT) port IP addresses changed from 192.168.0.23 before connecting them to the management switch.

Each of the four nodes in a Mondo chassis are factory configured identically. It is important to understand that the standard ATX Networks default IP address of 192.168.0.23 for the MGMT port is assigned to all nodes. Before connecting each node management port MGMT (ETH0) to the management switch, the IP addresses must be re-configured.

Refer to chapter "STARTUP" on page 3-1 for further guidance.

### 1.3 Node Interface Panel

The Mondo chassis includes four front control panels on the handles, Figure 1-1, which interface to each of the nodes. Each control panel is identical and provides you with system monitoring and control for one server node. LEDs indicate system power, HDD activity, network activity, system overheat and power supply failure. A main power button and a system reset button are also included. There are several LEDs on the front control panel to keep you constantly informed of the overall status of each node. This section explains the meanings of LED indicators and the appropriate response you may need to take.



Figure 1-1: Front Panel - Typical for all Nodes

#### 1.3.1 Control Panel Buttons

#### **Power**



The main power button on each of the four control panels is used to apply or remove power from the power supply to each of the four nodes in the chassis. Turning power to the node off with this button removes the main power, but keeps standby power supplied to the system. Therefore, you must unplug the AC power cord from any external power source before servicing. The power button has a built-in LED which will turn green when the power is on.

#### **UID**



The UID button is used to turn on or off the blue light function of the LED. This is built into the front side of the UID button and at the rear end of each node. Once the blue light is activated, the unit can be easily located in very large racks and server banks.

#### 1.3.1 Control Panel LEDs

The four control panels located on the front handles of the Mondo chassis each have two LEDs. These LEDs provide you with critical information related to its related node. This section explains what each LED indicates when illuminated.

#### Alert



This LED is illuminated when an alert condition occurs.

- A solid red light indicates an overheat condition in the system.
- A flashing red light which flashes in one second intervals indicates a fan failure.
- A flashing red light which flashes in four second intervals indicates a power supply failure.

When notified of an alert, check the power cables and supplies and make sure all fans are operating normally. This LED will remain flashing as long as the fan does not function properly or remain on steady for as long as the temperature is too high.

#### **NIC**



This LED indicates network activity on either MGMT (ETH0) or ETH1 when flashing. These are not indicators for eth2, 3, 4 or 5.

#### 1.4 Front and Rear Panels



Figure 1-2: Front Panel

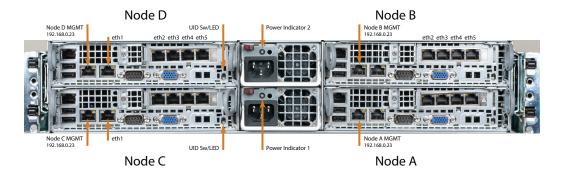


Figure 1-3: Rear Panel - Four Identical Independent Nodes

### 1.5 System Power Supplies

Each Mondo chassis includes a high-efficiency power supply, Figure 1-4, rated at 1620 Watts, and optionally, one similar redundant backup power supply. In the unlikely event your power supply fails, replacement is simple and can be accomplished without tools.

The power supply is used to provide the power for all four Nodes. Each Node however, can be shut down independently of the other with the power button on its own control panel.



Figure 1-4: Redundant Power Supplies

#### 1.6 Rear I/O Ports

See Figure 1-5 for locations of the ports. This layout is typical of the four independent nodes.

- 1. IPMI Dedicated LAN
- 2. USB Port 0
- 3. USB Port 1
- 4. MGMT (ETH0)
- 5. ETH1
- 6. (Not Used)
- 7. VGA
- 8. UID Switch/L
- 9. ETH2
- 10. ETH3
- 11. ETH4
- 12. ETH5

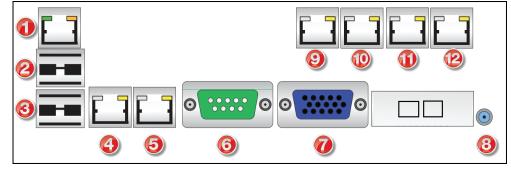


Figure 1-5: Rear Panel Node Ports - Typical for all Nodes

### 1.7 Unit Identifier Switches (UID)

Two Unit Identifier (UID) Switch/LED Indicators are available on each node. The Front Panel UID Switch/LED is located at the control panel adjacent each node, see Figure 1-1. The Rear UID Switch is located next to the VGA Connector of each node, see Figure 1-3. When the user presses a UID switch on the front panel or back panel, both rear and front UID LED Indicators will be turned on. Press the UID switch again to turn off both LED Indicators. These UID Indicators provide easy identification of a node in a large rack installation that may be in need of service. Note: UID LED is supported by the physical switch or the Baseboard Management Controller (BMC) which is a function related to IPMI. When it is controlled by the physical switch, it will stay on solid. When it is controlled by the BMC, it will blink.

### 1.8 Support for IPMI

The Intelligent Platform Management Interface is an standards based interface used by some system administrators to remotely manage server hardware in an out of band fashion, that is irrespective of the installed operating system or BIOS of the sever. Each VersAtivePro platform has a dedicated IPMI network port enabled with DHCP. IPMI Version 2.0 has been implemented on all VersAtivePro products. More information may be obtained from the SuperMicro support site or the following links to the available IPMI software and manuals.

SuperMicro IPMIview software ftp://ftp.supermicro.com/utility/IPMIView/

The IPMI User Guides http://www.supermicro.com/manuals/other/Embedded\_BMC\_IPMI.pdf

http://www.supermicro.com/manuals/other/SMT\_IPMI\_Manual.pdf

IPMIView Software Manual http://www.supermicro.com/manuals/other/IPMIView20.pdf

Command Line Interface tool ftp://ftp.supermicro.com/utility/SMCIPMITool/SMCIPMITool\_User\_Guide.pdf



**NOTE:** Security measures should be taken if traffic from IPMI managed equipment is connected with Internet access. For more information see https://www.us-cert.gov/ncas/alerts/TA13-207A

#### 1.8.1 IPMI Dedicated LAN LEDs

In addition to the Gigabit Ethernet ports, an IPMI Dedicated LAN is also located above the Backplane USB ports 0/1, see Figure 1-5. The amber LED on the right of the IPMI LAN port indicates activity, while the green LED on the left indicates the speed of the connection.

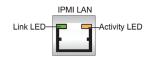


Figure 1-6: IPMI LAN Indicator

### **INSTALLATION**

### 2. Installation

This chapter provides a guide to get your VersAtivePro Mondo machine up and running. Following these steps should enable you to have the system operational within a minimum amount of time.

### 2.1 Chapter Contents

- "Preparation for Installation"
- "Precautions"
- · "General Mechanical"
- "Power Considerations"
- "Gigabit Ethernet Ports"
- "Installing the Chassis into a Rack"

### 2.2 Preparation for Installation

Carefully unpack the equipment from the shipping box. If the box or equipment is damaged, notify the freight company to make a damage claim. If you suspect that there is a problem with the equipment that may preclude safe operation, do not install or operate it. Contact ATX Networks immediately for instructions.



NOTE: This equipment is intended for installation in a RESTRICTED ACCESS LOCATION only.



**NOTE:** This equipment is NOT for use in a computer room as defined in the Standard for Protection of Electronic Computer/Data Processing Equipment, ANSI/NFPA 75.



**NOTE:** This equipment is intended for use in a fixed position and should be installed securely before operation is initiated.

The box that the chassis was shipped in includes two sets of rail assemblies, two rail mounting brackets and the mounting screws you will need to install the system into the rack. Follow the steps in the order given to complete the installation process in a minimum amount of time.

#### 2.3 Precautions

#### 2.3.1 Electrical Precautions

Basic electrical safety precautions should be followed to protect yourself from harm and the VersAtivePro Mondo chassis from damage:

- Be aware of the locations of the power on/off switch on the chassis as well as the room's emergency power-off switch, disconnection switch or electrical outlet. If an electrical accident occurs, you can then quickly remove power from the system.
- Power should always be disconnected from the system when servicing. When disconnecting power, you should first
  power down the operating system first and then unplug the power cords. The unit has more than one power supply
  cord. Disconnect two power supply cords before servicing to avoid electrical shock.
- When working around exposed electrical circuits, another person who is familiar with the power-off controls should be nearby to switch off the power if necessary.
- Use only one hand when working with powered-on electrical equipment. This is to avoid making a complete circuit, which will cause electrical shock. Use extreme caution when using metal tools, which can easily damage any electrical components or circuit boards they come into contact with.
- Do not use mats designed to decrease static electrical discharge as protection from electrical shock. Instead, use rubber mats that have been specifically designed as electrical insulators.

- The power supply power cords must include a grounding pin and must be plugged into grounded electrical outlets.
- Remove any jewelry or metal objects from your body, which are excellent metal conductors that can create short circuits and harm you if they come into contact with printed circuit boards or areas where power is present.
- This product may be connected to an IT power system. In all cases, make sure that the unit is also reliably connected to Earth (ground).

#### 2.3.2 General Precautions

- The server weighs approximately 85 lbs (38.6kg) when fully loaded. When lifting the system, two people at either
  end should lift slowly with their feet spread out to distribute the weight. Always keep your back straight and lift with
  your legs.
- While working on the system, do not wear loose clothing such as neckties and unbuttoned shirt sleeves, which can come into contact with electrical circuits or be pulled into a cooling fan.
- After accessing the inside of the node, close the chassis back up and secure it to the rack unit with the retention screws and ensure that all connections have been made.

#### 2.3.3 Chassis Precautions

- · Determine the placement of each component in the rack before you install the rails.
- Install the heaviest components on the bottom of the rack first, and then work up.
- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges, voltage spikes and to keep your system operating in case of a power failure.
- Allow any power supply modules to cool before touching them.

#### 2.3.4 Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are fully extended to the floor with the full weight of the rack resting on them.
- In single rack installation, stabilizers should be attached to the rack. In multiple rack installations, the racks should be coupled together.
- Always make sure the rack is stable and secured before extending a Mondo chassis from the rack.
- You should extend only one Mondo chassis at a time extending two or more simultaneously may cause the rack to become unstable.

#### 2.4 General Mechanical

- The equipment will require 2RU of vertical rack space and may be mounted directly above or below other equipment
  without providing space between, however, 1RU space should be maintained from other equipment which generates
  significant heat. Leave enough clearance in front of the rack to enable you to extend the Mondo Chassis completely
  (~25 inches) and approximately 30 inches of clearance in the back of the rack to allow for sufficient airflow and ease
  of servicing.
- Be sure to maintain freedom of air movement around equipment. Installation of the equipment in enclosed racks is not recommended due restricted air flow. The equipment is designed to operate to specification in an ambient temperature of +10°C to +35°C (+50°F to +95°F). Normal room temperature is recommended to ensure proper long term operation of the equipment.
- Consideration should be given to the connection of the equipment to the mains power and the effect that any possible overloading of circuits might have on over current protection and wiring.
- A reliable ground must be maintained at all times. To ensure this, the rack itself should be grounded. Particular attention should be given to power supply connections other than the direct connections to the branch circuit (i.e. the use of power strips, etc.).
- Rear support of the unit is mandatory and rails for attachment to rear supports are provided. Do not use the unit
  chassis to support other equipment. Alternately, if rear support rails are unavailable or impractical, install the unit on
  a well supported shelf.

#### 2.5 Power Considerations

The following points should be taken into account before connecting power:

- Both the standard single power supply and the optional redundant AC power supplies are auto-sensing which may be operated on input voltages from 115 VAC to 230 VAC.
- Measures must be taken during installation to route or arrange the power supply cords or wires to prevent physical
  damage and to avoid the possibility of future damage occurring. The cords shall be installed and routed such that,
  throughout it's length, the cord and it's points of connection are not strained in any way.
- The unit AC power supply cords shall not be attached to a building surface, bundled with audio, video or RF coaxial
  cables, nor run through walls, ceilings, floors and similar openings in the building structure.
- An AC electrical power outlet of appropriate type and rating shall be provided near the location where the unit is
  installed and easily accessible such that the provided power supply cords may be routed in an appropriate manner,
  without the use of extension cords, between the receptacle and the chassis. Alternately, the chassis shall be installed
  in close proximity to an existing AC electrical outlet such that the requirements of this paragraph are achieved.
- The AC power input is a standard IEC cable with North American NEMA 5-15 grounded plug for 115 VAC. If it is necessary to operate the product on 230 VAC, the installer must obtain IEC cords with a NEMA 6-15 grounded plug for use in North America. If shipped outside of North America, the unit will be supplied with an IEC cord set appropriate for the locale to which it is shipped.
- When installing the equipment, it is the responsibility of the installer to determine that sufficient capacity is available in the electrical circuit feeding the unit to avoid overloading the supply circuit. Each AC powered unit will require power to be supplied from a properly grounded AC outlet. The installer shall determine that the AC power outlet, its wiring and receptacle is in compliance with local and/or national electrical codes as applicable. The AC input power requirement is constant over the range of input voltages. At higher input voltages, the current consumption is lower than it is at lower voltages where the input current is higher.
- For the redundant power supply option, either power module on its own can provide the required power safely if one fails. To retain the redundancy feature, replace a failed power module as soon as possible. A power module failure or the failure of the supply current or protection fuse will be indicated by an audible alarm within the power modules and the green power status LED on the power module will be extinguished.



**NOTE:** The power cords for **BOTH** power modules must be disconnected before attempting to remove the power modules or otherwise servicing the unit.

Power module failure will be indicated by the GUI and the green status light on the module will no longer be lit. This
power module may be replaced by first disconnecting the AC power cord from the IEC input socket of BOTH power
modules, then release the module by pressing on the thumb latch at the top of each module. Extract the module and
replace with an identical replacement module only.

### 2.6 Gigabit Ethernet Ports

The input ports eth1, eth2, eth3, eth4, eth5 are auto-negotiating and intended to be connected to a network distribution switch using straight through wired Cat5e or better quality cable. The rear panel Management Interface port allows connection to a notebook or desktop PC for managing and configuring the system. The port may be connected to directly, or in the case of a headend with many devices to manage, may be connected to a management network (recommended) or the distribution switch containing the video stream content. It is possible to set up virtual ports for a VLAN. Connections should be made with Cat5e or better network cables. The GigE management port is auto-negotiating and should be connected to a switch or router with a straight through wired cable. Direct connection to a PC may be made with the supplied crossover cable.

### 2.7 Installing the Chassis into a Rack

This section provides information on installing the Mondo chassis into a rack unit with the rails provided. There are a variety of rack units on the market, which may mean that the assembly procedure will differ slightly from the instructions provided. You should also refer to the installation instructions that came with the rack unit you are using. NOTE: This rail will fit a rack between 26.5" and 36.4" deep.

#### 2.7.1 Identifying the Rack Rail Sections

The Mondo chassis includes two rail assemblies in the rack mounting kit. Each assembly consists of three sections: An inner chassis rail secured to the chassis (factory installed), an outer rail that secures to the rack, and a middle rail which extends from the outer rail, Figure 2-1. Each of these assemblies are designed for mounting specifically on the left or right side of the chassis.

### 2.7.2 Inner Rail Locking Tabs

Each inner rail has a locking tab. This tab locks the chassis into place when installed and pushed fully into the rack. These tabs also lock the chassis in place when fully extended from the rack. This prevents it from coming completely out of the rack when the chassis is pulled out for servicing.

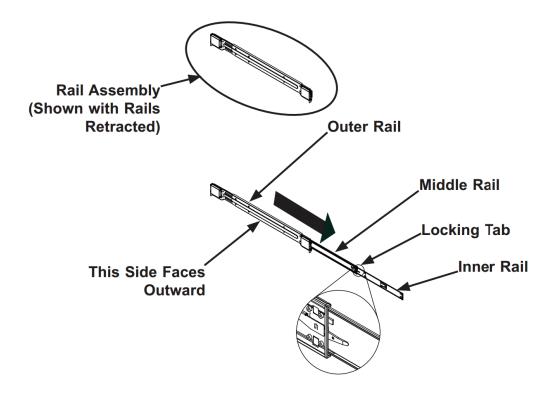


Figure 2-1: Rack Rail Sections

### 2.7.3 Releasing the Inner Rail

Use the procedure below to release the inner rails from the outer rails.

Releasing Inner Rail from the Outer Rails, Figure 2-2.

- 1. Identify the left and right outer rail assemblies.
- 2. Pull the inner rail out of the outer rail until it is fully extended as illustrated.
- 3. Press the locking tab down to release the inner rail.
- 4. Pull the inner rail all the way out.
- 5. Repeat steps 1-3 for the second outer rail.

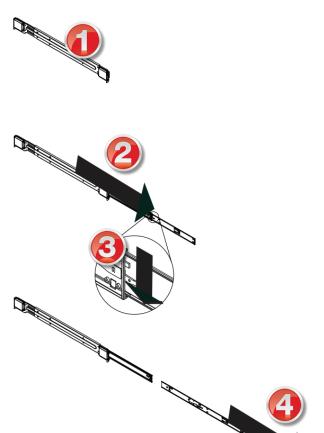


Figure 2-2: Release Inner Rail

### 2.7.4 Re-Installing Inner Rails on Chassis

The inner rails, Figure 2-3, are factory installed, however, if they have been removed for any reason, follow this procedure to reinstall them.

- 1. Confirm that the left and right inner rails have been correctly identified.
- 2. Place the inner rail firmly against the side of the chassis, aligning the hooks on the side of the chassis with the holes in the inner rail.
- 3. Slide the inner rail forward toward the front of the chassis until the rail clicks into the locked position, which secures the inner rail to the chassis.
- 4. Secure the inner rail to the chassis with the screws provided.
- 5. Repeat steps 1 through 4 above for the other inner rail.

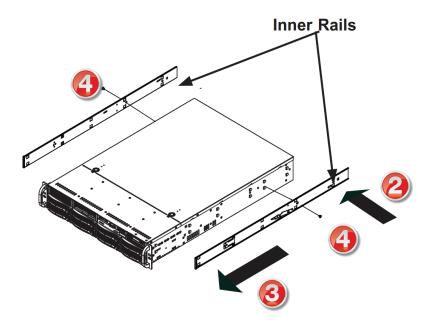


Figure 2-3: Reinstalling Inner Rails

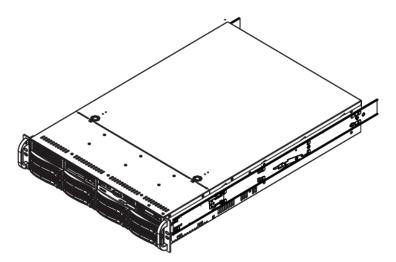


Figure 2-4: Inner Rails Installed

### 2.7.5 Installing the Outer Rails on the Rack

Use the procedure below to install the outer rails onto the rack.

Installing the Outer Rails, Figure 2-5.

- 1. Press upward on the locking tab at the rear end of the middle rail.
- 2. Push the middle rail back into the outer rail.
- 3. Hang the hooks of the front of the outer rail onto the slots on the front of the rack. If necessary, use screws to secure the outer rails to the rack, as illustrated above.
- 4. Pull out the rear of the outer rail, adjusting the length until it fits within the posts of the rack.
- 5. Hang the hooks of the rear portion of the outer rail onto the slots on the rear of the rack. If necessary, use screws to secure the rear of the outer rail to the rear of the rack.
- 6. Repeat steps 1-5 for the remaining outer rail.

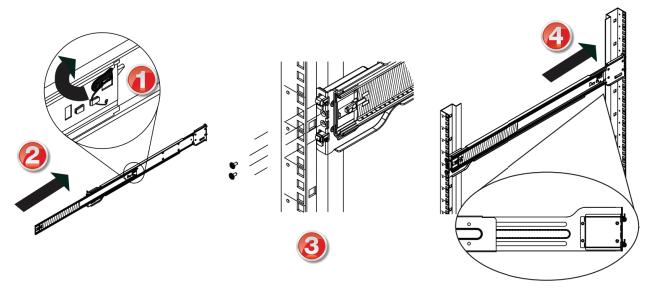


Figure 2-5: Install Outer Rails

#### 2.7.6 Standard Chassis Installation

Installing the Chassis into a Rack, Figure 2-6.



**NOTE:** The illustration in Figure 2-6 is for general guidance purposes only. Always install chassis to the bottom of the rack first to avoid the rack becoming top heavy.

- 1. Confirm that the inner rails are properly installed on the chassis.
- 2. Confirm that the outer rails are correctly installed on the rack.
- 3. Pull the middle rail out from the front of the outer rail and make sure that the ball-bearing shuttle is at the front locking position of the middle rail.
- 4. Align the chassis inner rails with the front of the middle rails.
- 5. Slide the inner rails on the chassis into the middle rails, keeping the pressure even on both sides, until the locking tab of the inner rail clicks into the front of the middle rail, locking the chassis into the fully extended position.
- 6. Depress the locking tabs of both sides at the same time and push the chassis all the way into the rear of the rack, see Figure 2-5 step 1.
- 7. If necessary for security purposes, use thumb screws to secure the chassis handles to the front of the rack.

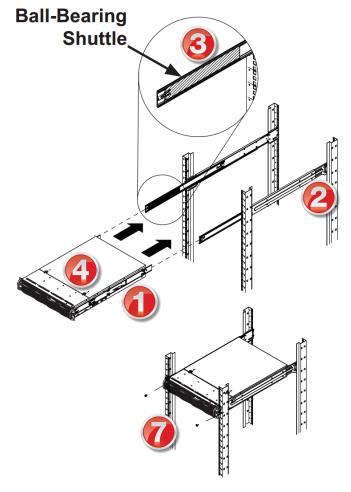


Figure 2-6: Install Chassis in Rack

### **STARTUP**

### 3. Startup

Each of the four Nodes in a Mondo chassis are factory configured identically. It is important to understand that the standard ATX Networks default IP address of 192.168.0.23 for the MGMT port is assigned to all nodes. Before connecting each node to the management switch, the IP addresses must be re-configured for your network.

This section describes how to set the Management PC to the same subnet as the transcoder subnet then set the Ethernet port to the required address.



**NOTE:** This equipment must have default MGMT port IP addresses changed from 192.168.0.23 before operation is initiated.



**NOTE:** It is important to connect the eth1, eth2, eth3, eth4 & eth5 streaming ports to a **GbE** capable switch or risk uncontrolled continuity errors as the 100 Base-T network is flooded.

### 3.1 Chapter Contents

- "Management Computer"
- "Connecting to Your Computer"
- "Streaming Network Configuration"

### 3.2 Management Computer

It is required that the Management Computer meet these minimum requirements.

- · Wired Ethernet network port.
- Web browser for Management GUI on 192.168.0.23.

### 3.3 Connecting to Your Computer

The Mondo chassis is four independent transcoder Nodes each with MGMT network ports factory assigned identical IP addresses 192.168.0.23, Figure 3-1.



Figure 3-1: Rear Panel MGMT Ports - Identical IP Addresses

These identical IP addresses must be changed to unique addresses before connecting to the management switch as shown in Figure 3-2 where we show Node IP addresses assigned sequentially.

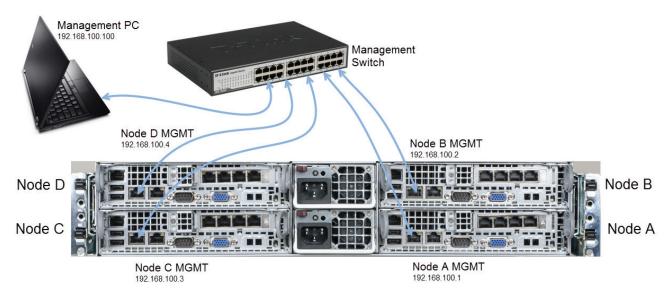


Figure 3-2: Transcoder Nodes with Unique MGMT IP Addresses Assigned

### 3.4 Streaming Network Configuration



**NOTE:** It is important to set the eth1, eth2, eth3, eth4 and eth5 streaming ports to subnets different from the MGMT port to avoid flooding the control network with streaming content.

Each transcoder Node has five Ethernet interfaces on the rear panel for streaming, Table 3.4a and Figure 3-3. All 5 Streaming or Publishing ports are identical in operation. To connect the transcoder use straight wired cables to a router or switch.



Figure 3-3: Transcoder Nodes Publishing Interfaces

Table 3.4a: Ethernet Ports

Port	Description
MGMT	Management port eth0 used to configure the transcoder. Not used to connect streaming content.
eth1	Streaming or publishing exclusively for IP based streaming content
eth2	Streaming or publishing exclusively for IP based streaming content
eth3	Streaming or publishing exclusively for IP based streaming content.
eth4	Streaming or publishing exclusively for IP based streaming content.
eth5	Streaming or publishing exclusively for IP based streaming content.
IPMI	DHCP enabled hardware level interface for transcoder management supporting IPMI LAN 2.0.



Note: Please refer to the VersAtivePro Operation Manual for programming guidance.

### SAFETY

## 4. Safety

WARNING! FAILURE TO FOLLOW THE SAFETY PRECAUTIONS LISTED BELOW MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY. PLEASE READ AND COMPLY WITH THE FOLLOWING:

**SAFETY GROUND:** The connection to earth of the supplementary grounding conductor, if provided, shall be in compliance with the appropriate rules for terminating bonding jumpers in Part V of Article 250 of the National Electrical Code, ANSI/NFPA 70, and Section 10 of Part I of the Canadian Electrical Code, Part I, CSA C22.1.

**GROUNDING OR POLARIZATION:** Electrical cord grounding and polarization means must not be defeated.

**WATER AND MOISTURE:** Care should be taken to prevent entry of splashed or dripping water, other liquids, and physical objects through enclosure openings.

**DAMAGE:** Do not operate the device if damage to any components is suspected.

**POWER SOURCES:** Only connect the unit to a power supply of the type and capacity specified in the operating instructions or as marked on the device.

NOTE: a) For 115 VAC operation, use the power cord supplied for operation from a 115 VAC source.

b) For 230 VAC operation, use the power cord supplied for operation from a 230 VAC source.

**POWER CORD PROTECTION:** Power supply cords should be routed so that they are not likely to be pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the device.

**SERVICE:** Do not attempt to service the device beyond procedures provided in the operating instructions. All other servicing should be referred to qualified service personnel.

**MODIFICATIONS:** Modifications should not be made to the device or any of its components for applications other than those specified in the operating instructions.

**SAFETY CODES AND REGULATIONS:** The device should be installed and operated in compliance with all applicable local safety by-laws, codes and regulations.

**REDUNDANT POWER SUPPLY REMOVAL:** Power must be disconnected from the BOTH power modules before removing for replacement or service. This is accomplished by removing both of the AC IEC plugs.

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### **SERVICE & SUPPORT**

### 5. Service & Support

#### 5.1 Contact ATX Networks

Please contact ATX Technical Support for assistance with any ATX products. Please contact ATX Customer Service to obtain a valid RMA number for any ATX products that require service and are in or out-of-warranty before returning a failed module to the factory.

#### **DIGITAL VIDEO TECHNICAL SUPPORT**

Tel: (905) 428-6068

Toll Free: (800) 565-7488 (USA & Canada only)

► Press \*3 for **Technical Support** 

▶ Then press 1 for Digital Video Products (DVIS, DigiVu, UCrypt, VersAtivePro, DigiStream)

Email: digitalvideosupport@atxnetworks.com

#### **CUSTOMER SERVICE**

ATX Networks 1-501 Clements Road West Ajax, ON L1S 7H4 Canada

Tel: (905) 428-6068

Toll Free: (800) 565-7488 (USA & Canada only)

► Press \*1 for Customer Service Fax: (905) 427-1964

Toll Free Fax: (866) 427-1964 (USA & Canada only)

Web: www.atxnetworks.com
Email: support@atxnetworks.com

### 5.2 Warranty Information

All of ATX Networks' products have a 1-year warranty that covers manufacturer's defects or failures.

End-of-Sale as of March 31, 2017



