



# Installing the Dialogic<sup>®</sup> Vision<sup>™</sup> AQR1U Server

September 15, 2010 64-0605-01 Rev C

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[www.dialogic.com](http://www.dialogic.com)

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## Revision History

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| Revision         | Release date   | Notes |
|------------------|----------------|-------|
| 64-0605-01       | May 2010       | LBG   |
| 64-0605-01 Rev B | May 2010       | LBG   |
| 64-0605-01 Rev C | September 2010 | LBG   |

Refer to [www.dialogic.com](http://www.dialogic.com) for product updates and for information about support policies, warranty information, and service offerings.

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## Introduction

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The Dialogic® Vision™ AQR1U Server is shipped with the following components:

- Power cords:  
AC units - Country-specific power cord specified per order.  
DC units - 500 mm power feed per power supply. An optional 4 M cable is also available for purchase.
- Rack mount kit (specified per order)
- Dual T1/E1 120 ohm adapter cable (specified per order)
- Dialogic® Signal Entry Panel Kit (specified per order)
- *Installing the Dialogic® Vision™ AQR1U Server* (this document)
- *Software License Agreement*
- *Accessing Vision Documentation*
- *Dialogic® Vision™ AQR1U Server Regulatory Notices*

**Note:** Save all packaging materials. Your warranty requires that the server be returned in the original packaging. If necessary, additional packaging materials are available for order.

## Hardware Limited Warranty

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Refer to the following Dialogic web site for information on hardware warranty information, which applies unless different terms have been agreed to in a signed agreement between yourself and Dialogic Corporation or its subsidiaries. The listed hardware warranty periods and terms are subject to change without notice. For purchases not made directly from Dialogic please contact your direct vendor in connection with the warranty period and terms that they offer.

<http://www.dialogic.com/warranties>

## Server Configurations

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The Dialogic® Vision™ AQR1U Server is available as a single or dual processor model.

Single processor, dual disk, no power supply configurations:

| Product number | Description  |
|----------------|--|
| VHW-007-015    | No line interface or SS7 signaling interfaces.                         |
| VHW-007-016    | One line interface (8 digital trunks).                                 |
| VHW-007-017    | Two line interfaces (16 digital trunks).                               |
| VHW-007-018    | One SS7 signaling interface.   |
| VHW-007-019    | One line interface (8 digital trunks) and one SS7 signaling interface. |

Dual processor, dual disk, no power supply configurations:

| Product number | Description  |
|----------------|--|
| VHW-011-015    | No line or SS7 interfaces.   |
| VHW-011-016    | One line interface (8 digital trunks).                                 |
| VHW-011-017    | Two line interfaces (16 digital trunks).                               |
| VHW-011-018    | One SS7 signaling interface.   |
| VHW-011-019    | One line interface (8 digital trunks) and one SS7 signaling interface. |

### SS7 Configurations

The SS7 link interface can be one of the following:

- A single timeslot on direct connected T1/E1 trunks.
- All of the timeslots on a T1/E1 trunk. High-speed links (HSL) meet the ANSI T1.111-1996 and Q.703/Annex A standards. Each HSL occupies a full (not channelized) T1/E1 line and transfers data at the rate of 1.544/2.048 Mbps.
- A single timeslot on a T1/E1 trunk carrying media. The signaling channel is delivered internally to the SS7 signaling interface.

These connections differ depending whether the node is set up in a dedicated signaling or embedded signaling configuration. The default ISUP configuration that is shipped is an embedded signaling configuration.

In an SS7 dedicated signaling configuration, none of the bearer trunks carry signaling information. Instead, separate dedicated trunks carry this information.

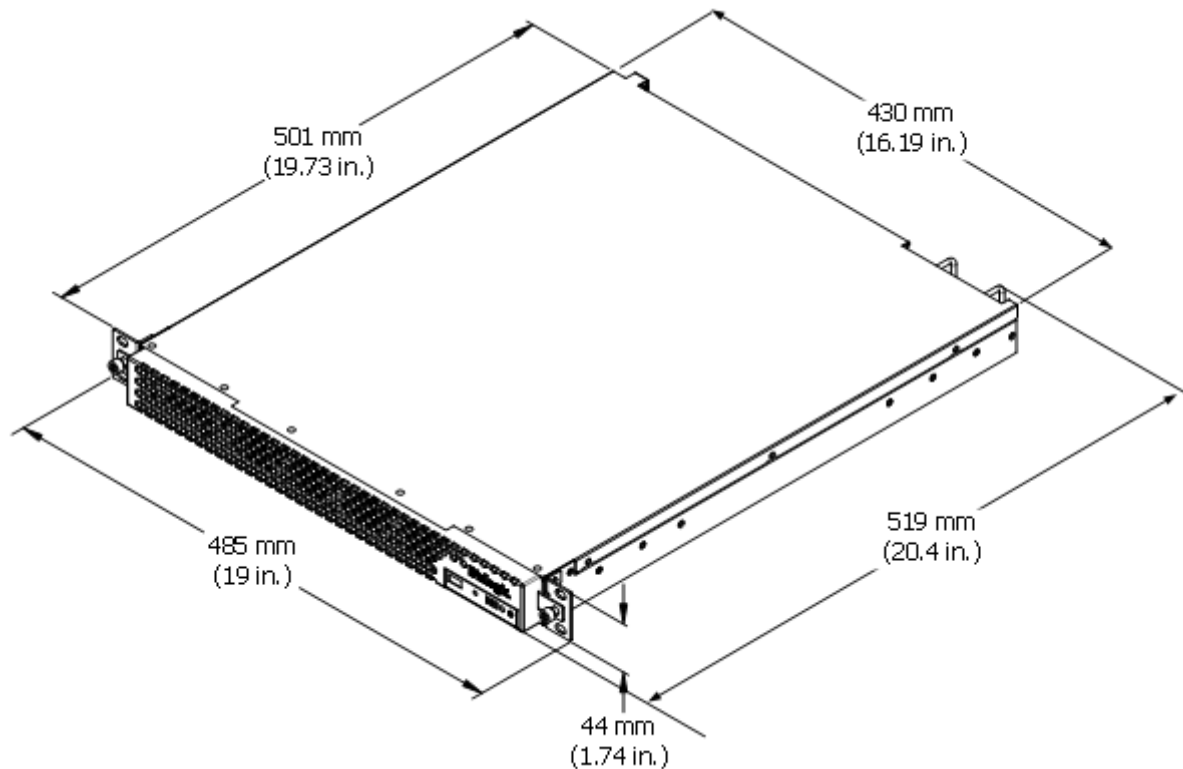
## Physical Description and Specifications

The following table provides approximate weights for the Vision AQR1U Server:

| Component  | Approximate equipment weight | Approximate packaging weight |
|--|------------------------------|------------------------------|
| Vision AQR1U Server with: <ul style="list-style-type: none"> <li>• One digital line interface</li> <li>• One SS7 interface</li> <li>• Redundant AC power supplies</li> </ul> | 26.8 lbs (12.16 kg)          | 5.9 lbs (2.7 kg)             |
| Rack mount kit and screws  | 4.15 lbs (1.9 kg)            | 0.65 lbs (0.3 kg)            |

**Note:** The weight for the Vision AQR1U Server and the rack mount kit and screws does not include the weight for the shipping box and materials.

### Vision AQR1U Server dimensions



**Caution:**

**Ventilation:** The equipment rack must not restrict airflow to the front or rear of the server to maintain proper cooling. Periodically check the air filters.

**Codes and regulations:** Ensure that the installation meets all government codes and regulations concerning facilities. In addition, all sites where the Vision AQR1U Server is deployed must meet all local, national, and international codes described in [Compliance statements](#).

## Power Specifications

The following table lists the Vision AQR1U Server absolute maximum power specifications:

| Power supply | Power component | Specification   |
|--------------|-----------------|-----------------|
| AC           | Current         | 10 - 5 A        |
|              | Voltage         | 100 - 240 V AC  |
|              | Frequency       | 50-60 Hz        |
| DC           | Voltage         | -40 to -60 V DC |
|              | Current         | 25 A            |

## Typical Specifications

The following numbers are representative only. Actual power consumption depends on environmental conditions and deployment use case.

| Scenario                  | Power Specification  |
|---------------------------|--|
| Worst case @ 55 Degrees C | 440 Watts – 2xCPU Running Intel Maximum Power Application  |
| Typical @ ~22 Degrees C   | 350 Watts -240 ports Video Gateway with video transcoding 2xCPU H264 to H263 Full Duplex, Qcif, 15 fps, 42 kbit/s<br>215 Watts -120 ports Video Gateway with video transcoding 1xCPU H264 to H263 Full Duplex, Qcif, 15 fps, 42 kbit/s |

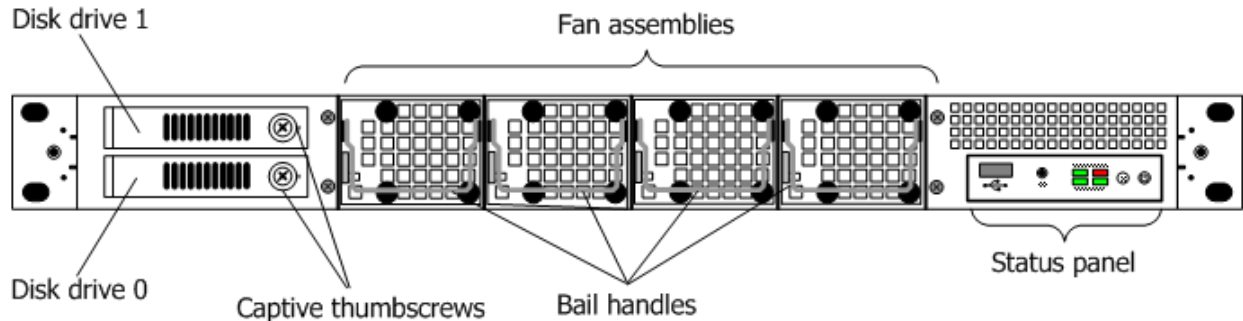
## Environmental Specifications

The following table lists the recommended environmental specifications for the Vision AQR1U Server:

| Parameter             | Specification   |
|-----------------------|---|
| Operating temperature | 0 °C (32 °F) to 40 °C (100 °F)<br>-5 °C (14 °F) to 55 °C (131 °F) for short period of time (96 hours) |
| Storage temperature   | -40 °C (-40 °F) to 70 °C (158 °F)   |
| Humidity              | 95%, non-condensing at 23 °C (73.4 °F) to 40 °C (100 °F)  |
| Altitude              | 1800 m (6000 ft) at temperatures less than or equal to 40°C (100 °F)                                  |

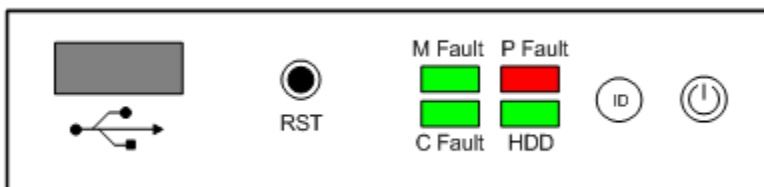
## Front Panel

The following illustration shows the front panel of the Vision AQR1U Server (with the front bezel removed):



## Status panel

The status panel consists of LEDs, panel switches and a USB connector. The status LEDs change from green to red when a fault is triggered. The P Fault LED is off unless a fault is triggered.

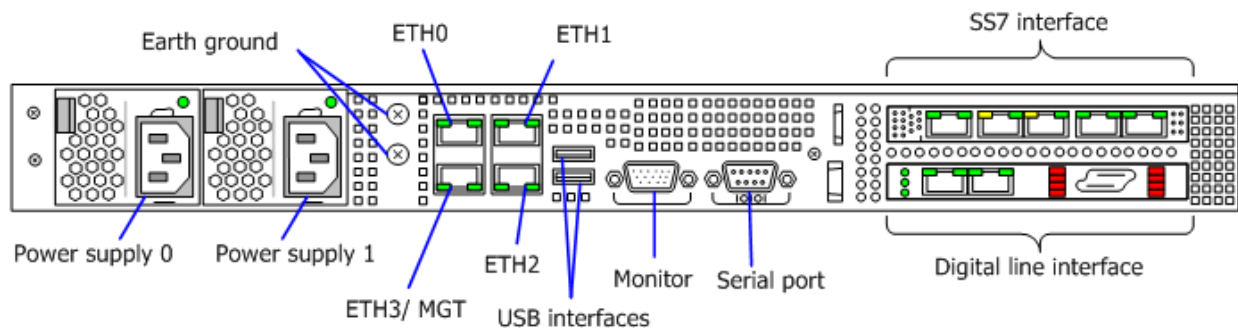


| Component | Description   |
|-----------|---|
| USB       | Universal serial bus connector (USB 2.0).   |
| RST       | Reset button. Push to reboot the server.<br><b>Caution:</b> Using this button may result in a service interruption.   |
| M Fault   | Minor fault. Upper critical event indicating a warning. For example, the temperature of a component has reached a critical temperature reading.   |
| P Fault   | Power supply fault. If there is a fault with a fan, temperature, or voltage over/under reading, the LED illuminates and an audible alarm sounds. Check the power supply module. Replace the faulty power supply module with a good module to reset the P Fault LED. |
| C Fault   | Critical fault. Upper non-recoverable event. The system will perform a graceful shutdown to protect components from thermal damage.   |
| HDD       | Hard drive activity. Blinks when drives are being read or written to. It does contain a fault indicator so it does not change color.  |

| Component | Description  |
|-----------|--|
| ID        | ID select (system ID).Used to identify a server for servicing when it is installed in a rack with several other similar systems. Flashes blue when pressed and turns off when pressed again. Can be illuminated remotely using a remote system identification command. |
| Power     | Power ON/OFF. Push and hold to turn the server on or off.<br><b>Note:</b> If a power failure occurs, the server will return to the same operational state it was in when power failure occurred.   |

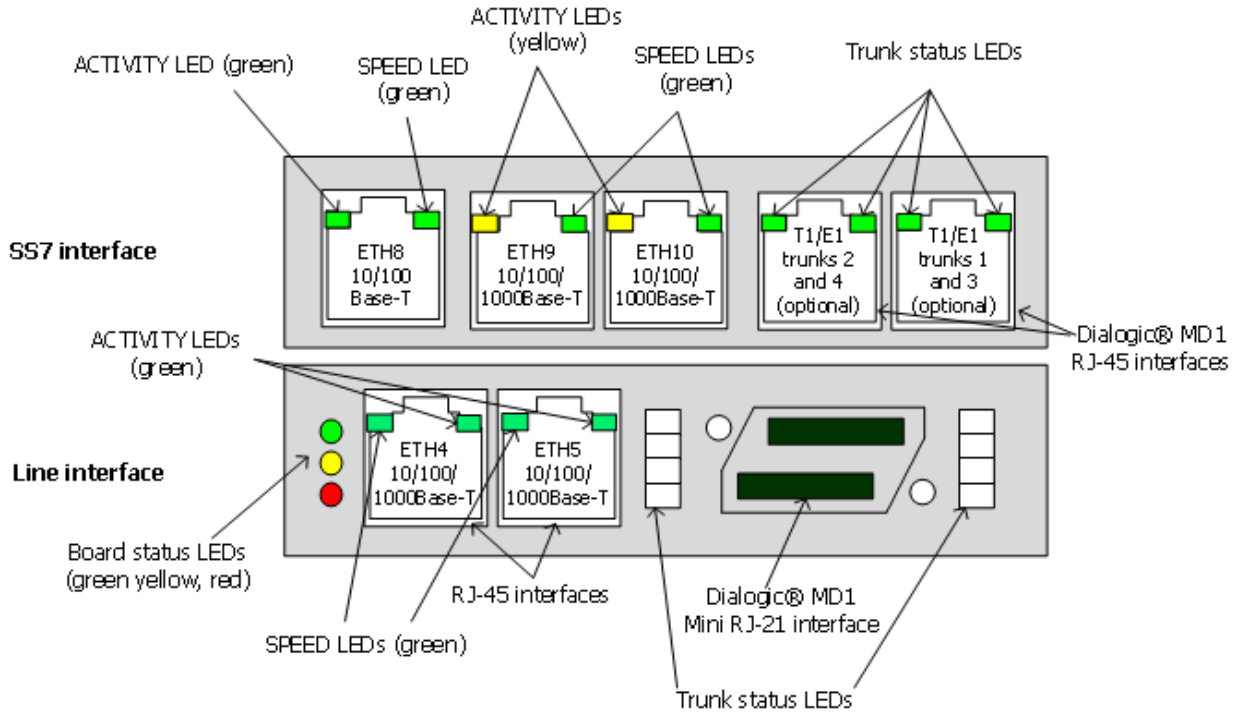
## Rear Panel

The following illustration shows the rear panel of the Vision AQR1U Server configured with one line interface and one SS7 signaling interface:



## Telecom, Ethernet, and SS7 Interfaces

The following illustration shows the interface numbering and LED assignments for a Vision AQR1U Server with one line interface and one SS7 signaling interface. Your configuration may be different than what is shown here.



The Vision AQR1U Server includes the following interfaces:

| Interface               | Description                             |
|-------------------------|---|
| ETH4, ETH5, ETH9, ETH10 | 10/100/1000 Base-T Ethernet interfaces. |
| ETH8                    | 10/100 Base-T Ethernet interface.       |
| USB                     | USB 2.0 interface.                      |

The Vision AQR1U Server may include the following interfaces:

| Interface                | Description  |
|--------------------------|--|
| Dialogic® MD1 Mini RJ-21 | T1/E1 interface for up to eight telecom trunks.  |
| Dialogic® MD1 RJ-45      | Interfaces for up to four SS7 signaling connections (on SS7 board).                                    |
| RJ-45                    | Ethernet interfaces for WAN or LAN connections for carrying RTP media traffic (two each on line card). |

## SS7 Interface LEDs

If your particular AQR1U configuration includes an SS7 interface, refer to the following table for a description of the LEDs:

| LED   | Description   |
|---|---|
| Ethernet ACTIVITY<br>Yellow<br>(Ethernet 1 and 2)<br>Green (Ethernet 3) | Ethernet link status: <ul style="list-style-type: none"> <li>• <b>Steady yellow (or green)</b><br/>Ethernet link has established link integrity and indicates transmitting and receiving activity on the link.</li> <li>• <b>Flickering yellow (or green)</b><br/>Activity is present on the link.</li> <li>• <b>Off</b><br/>No link.</li> </ul>  |
| Ethernet SPEED<br>(green)   | Ethernet link data rate: <ul style="list-style-type: none"> <li>• Steady green — 100 Mbit/s</li> <li>• Off — 10 Mbit/s</li> <li>• Blinking green (1 blink per second) — 1 Gb/s</li> </ul> <p>Green LEDs are used only when a reliable Ethernet connection is established (the ACTIVITY LED is on)</p>   |
| Trunk status  | SS7 signaling board trunk status: <ul style="list-style-type: none"> <li>• <b>Off</b><br/>Trunk has not been configured.</li> <li>• <b>Slow blinking green</b><br/>Loss of signal.</li> <li>• <b>Fast blinking green</b><br/>Loss of frame or loss of signaling multiframe.</li> <li>• <b>Steady green</b><br/>Proper frame synchronization between the trunk and network has been established. All required framing alignment has been found.</li> </ul> |
| I/O status  | NA  |

## Line Interface LEDs

If your particular AQR1U configuration includes a line interface, refer to the following table for a description of the LEDs:

| LED               | Description   |
|-------------------|---|
| Ethernet ACTIVITY | There is activity on the Ethernet link. When the Ethernet has established link integrity, and there is transmit or receive activity on the link, the LED flickers on.   |
| Ethernet SPEED    | Data rate of the Ethernet link: <ul style="list-style-type: none"><li>• Off — 10 Mbit/s</li><li>• On — 100 Mbit/s</li><li>• Blinking — 1000 Mbit/s</li></ul>  |
| Trunk status      | Line interface trunk status: <ul style="list-style-type: none"><li>• <b>Red</b> — Loss of frame, loss of signal, or bit error rate.</li><li>• <b>Yellow</b> — Remote loss of frame or remote loss of signaling multiframe.</li><li>• <b>Not lit</b> — Trunk is not configured, or the trunk is not in alarm.</li></ul>  |
| Line card status  | Line interface status LED: <ul style="list-style-type: none"><li>• <b>Green only, blinking slowly</b> — Board booted successfully and is running.</li><li>• <b>Red only</b> — Fatal software error.</li><li>• <b>Red and yellow</b> — Board is resetting.</li><li>• <b>Red, yellow, and green</b> — Board resets are released.</li><li>• <b>Yellow and green</b> — Boot loader has started.</li><li>• <b>Not lit</b> — Power is off or the hardware is starting up.</li></ul> |

## Safety Precautions

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Observe the following precautions when handling the equipment:

- **Server power ON/OFF:** The push-button on/off power switch on the front panel of the server does not turn off the power. To remove power from the server, you must unplug the power cord from either the power supply or wall outlet.
- **Power supply:** Hazardous voltage, current, and energy levels are present inside the power supply enclosure.
- **Devices and cables:** Hazardous electrical conditions may be present on power, telephone, and communication cables. Turn off the server and disconnect telecommunications systems, networks, modems, and the power cord attached to the server before opening it. Otherwise, personal injury or equipment damage can result.
- **Maintenance:** There are no user-serviceable parts inside the Vision AQR1U Server. Only technically qualified personnel should perform service and maintenance tasks.
- **Avoid injury:** Lifting the server and attaching it to the rack is a two-person job. If needed, use an appropriate lifting device.
- **Electrostatic Discharge Protection (EDP):** Use proper ESD protection. Electrostatic Discharge (ESD) protective straps, shoes, or mats must be used when working with electronic components. Electrostatic discharge from your body can damage integrated circuits during installation.
- **DC systems:** For DC systems, each unit should be on its own branch circuit.
- **Uneven loading:** Use caution when mounting the equipment in the rack so that a hazardous condition is not achieved due to uneven mechanical loading.

# Installing the Rack Mount Kit

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When mounting the server, follow these guidelines:

- **Elevated operating ambient:** If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>) specified by the manufacturer.
- **Reduced air flow:** Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- **Mechanical loading:** Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- **Circuit overloading:** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- **Reliable earthing:** Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (for example, use of power strips).

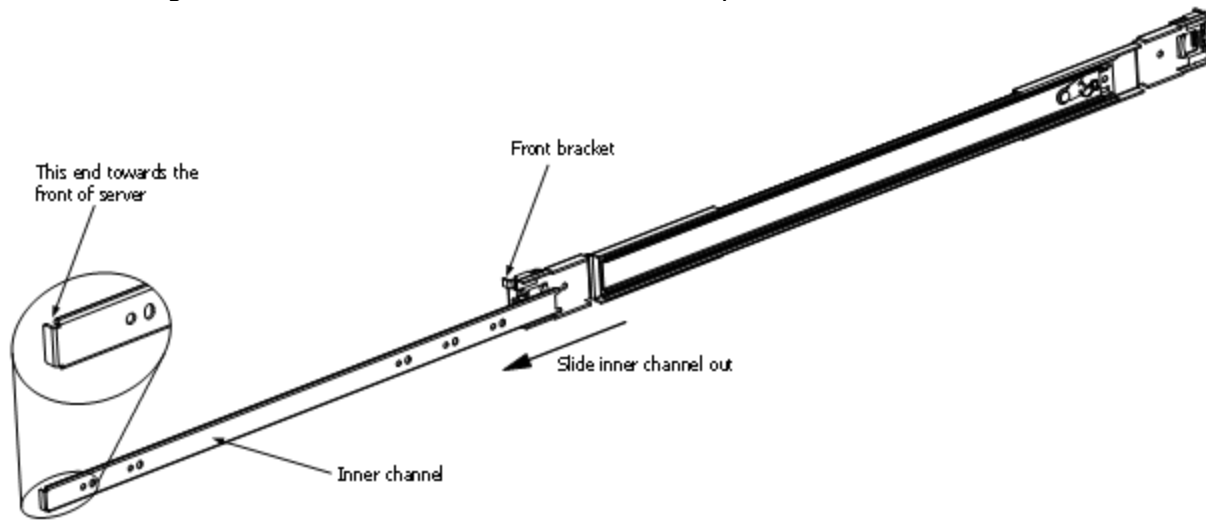
Before you install the server, you must install a rack mount kit to support the server in the rack.

The Vision AQR1U Server comes with a tool-less rail mount system and a conversion kit so that the tool-less system can be used in a rack with either square holes or M5 round holes. The round hole conversion kit uses M5 screws for mounting the adapter to the rack.

The rack mount kit is only used with a four-post rack and cannot be used with a two-post rack. Both kits may contain extra hardware.

| Kit                       | Contents   |
|---------------------------|--|
| Tool-less rail kit        | <ul style="list-style-type: none"><li>• Two slide rail assemblies</li><li>• Ten M4 x 6 screws</li><li>• Two M6 x 12 screws</li></ul>   |
| Round hole conversion kit | <ul style="list-style-type: none"><li>• Two slide rail assemblies</li><li>• Ten M4 x 6 screws (from the tool-less rail kit)</li><li>• Four hex standoff screws (from the tool-less rail kit)</li><li>• Four post adapter brackets</li><li>• With M5 x 8 screws</li><li>• Four 6-32 x 0.5" screws</li><li>• Two ear washers</li></ul> |

The following illustration shows the slide rail assembly:



## Four-Post Rack with Square Holes

If the four-post rack at your site has square holes, refer to the instructions included in the box with the Tool-Less Blade Slide Kit.

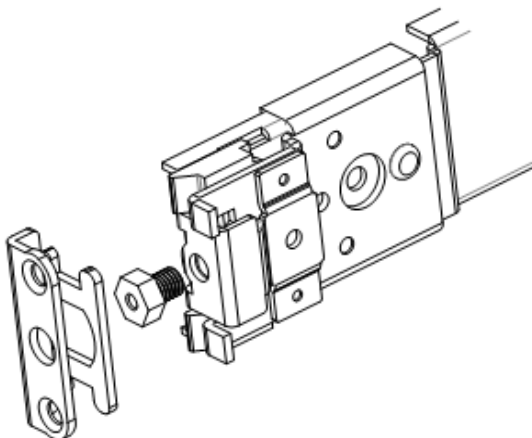
## Four-Post Rack with Round Holes

If the four-post rack at your site has round holes, complete the following procedure to use the post adapter and screw kit to convert the square holes to round holes:

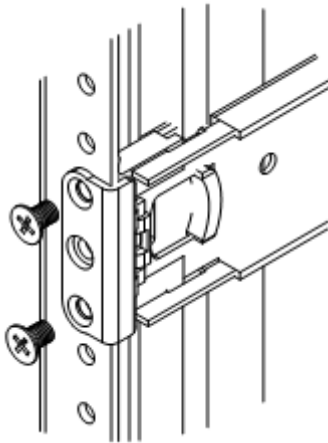
1. Refer to the instructions included in the box with the Tool-Less Blade Slide Kit to remove the inner channels from the slide kit and attach them to each side of the server.
2. Set the instructions that were included with the slide kit aside. You will not need these for the rest of the slide kit installation.
3. Install the hex standoff screws at each end of the slide using a 3/8" hex wrench. Torque to 3.5 kgf-cm (3 lbf-in). You will install these screws a total of 4 times.



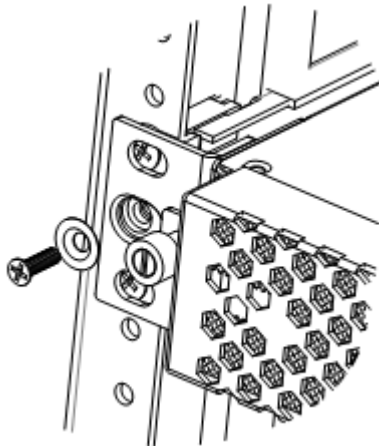
4. Install the 4 adapter brackets at each end of the slide over the hex screws you installed in Step 3.



5. Mount the rail slides to the rack and secure them with two M5 screws at each end. There are a total of 8 screws, you will use two screws at each end of the rails. Torque to 4.5~5.0 kgf-cm (3.9 ~ 4.3 lbf-in).



6. Slide the server (with the attached inner channels) into the slide rails and push the server all the way into the rack.
7. Slide an ear washer onto the two 6-32 flat head screws and screw the 6-32 flat head screws (with the ear washer) into the hex screws you installed in Step 3. You will install these screws a total of two times. Torque to 3.5 kgf-cm (3 lbf-in).



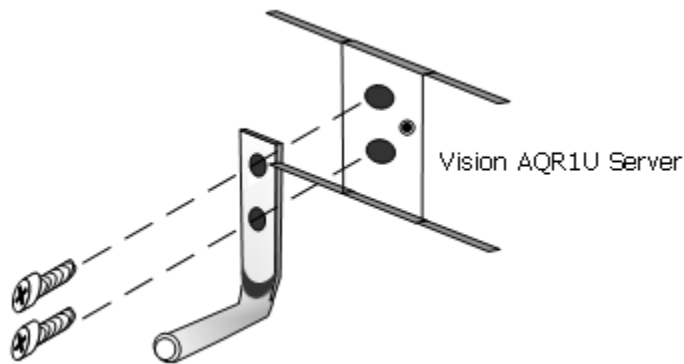
## Installing the Server

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Once the server is installed in the rack, complete the following steps to ground the server and connect it to the network:

1. Ground the server.  
Grounding the server is required because DS-1 connections can be susceptible to lightning strike or power cross before a power source is provided for the device. Do not connect the server to a power source until it is properly grounded.

Use a two-hole #10x5/8 ground lug (Burdny YAV102TC10-90 or equivalent) to ground the server. Crimp the grounding wire to the lug. Remove the screws that come with the server and use them to secure the lug.



Tighten each screw to 10 lbs-in torque.

**Note:** The ground lug is not provided.

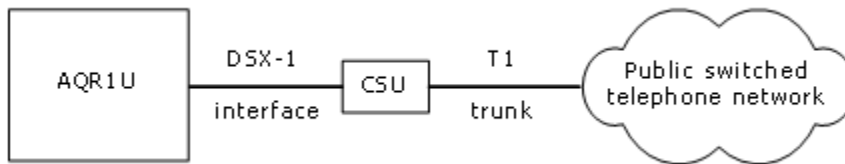
2. Connect to a power source.  
If you are installing an AC server, connect a power cord to the AC connector on the back of the server and plug the cord into an AC outlet.  
  
To install a DC server, use the DC power pigtail cable that is shipped with the server.
3. Connect Ethernet cables.  
Ethernet configurations including the number of connections and IP addressing are deployment specific. To initially configure the server, connect Eth0 and refer to *Dialogic® Vision™ Video Gateway Administration Manual* and the *Dialogic® Vision™ Programmable Media Platform User's Manual*. To connect to a 10Base-T, 100Base-T, or 1000Base-T network, use shielded twisted pair (STP) Category 5 or better Ethernet cables.

#### 4. Connect to a T1 network.

**Note:** Connecting to a T1 network is not applicable in an IP-only deployment.

For typical T1 communications, each trunk interface connects to a channel service unit (CSU), which is connected to a T1 trunk line. The CSU provides a DSX-1 interface to the T1 line, and also contains circuitry that enables the central office (CO) to perform diagnostic tests remotely.

The following illustration shows the Vision AQR1U Server trunk interface with the CSU:



You can purchase or lease the CSU from the telephone company or other vendor.

**Warning! You must use a channel service unit (CSU) to isolate the cables attached to this product before the cables leave the building.**

To avoid causing T1 service provider alarms, make sure that the Vision AQR1U Server always sends a valid signal, either by looping back at the CSU or by connecting the CSU to a functioning Vision AQR1U Server. The best way to provide a loopback is to unplug the cable from the Vision AQR1U Server to the CSU. The modular connector on most CSUs loops back the transmit signal to the receive signal when nothing is plugged in. Some countries require using surge protectors for connections to the SS7 DS1 interfaces.

#### 5. Connect T1/E1 trunk and SS7 signaling cables

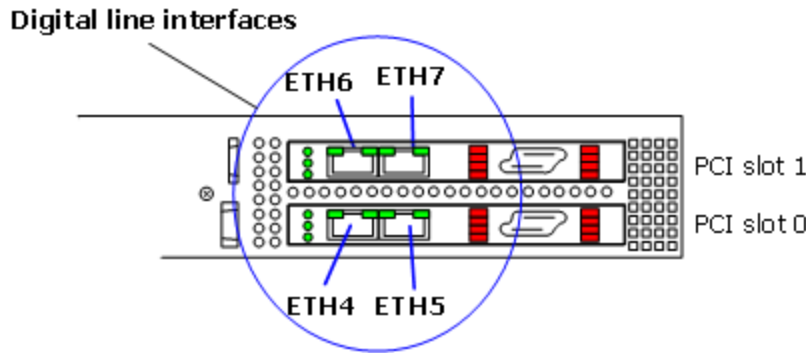
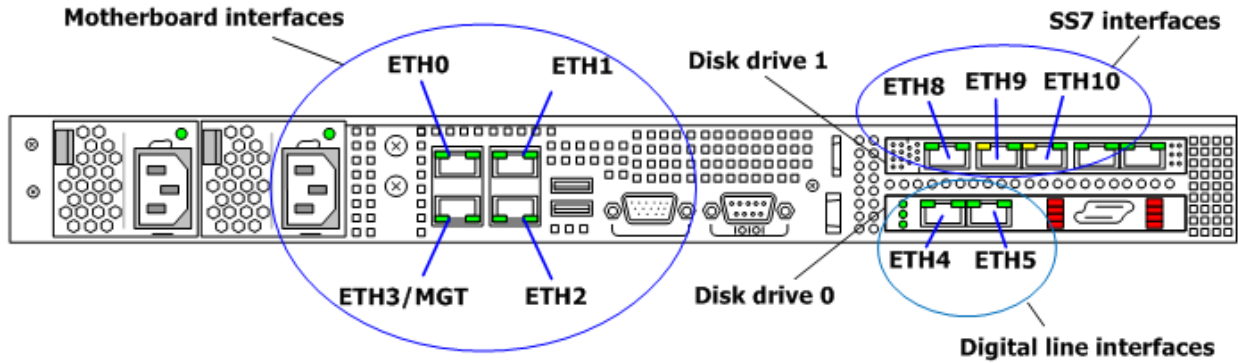
**Note:** Connecting T1/E1 trunk and SS7 signaling cables is not applicable in an IP-only deployment. Connecting SS7 signaling cables is not applicable in an ISDN deployment.

Use shielded cables to connect telecom trunks or SS7 signaling connections to Dialogic® MD1 RJ-45 interfaces. Trunk interfaces are combined in dual-trunk jacks. If necessary, you can separate the dual-trunk jacks using the following components:

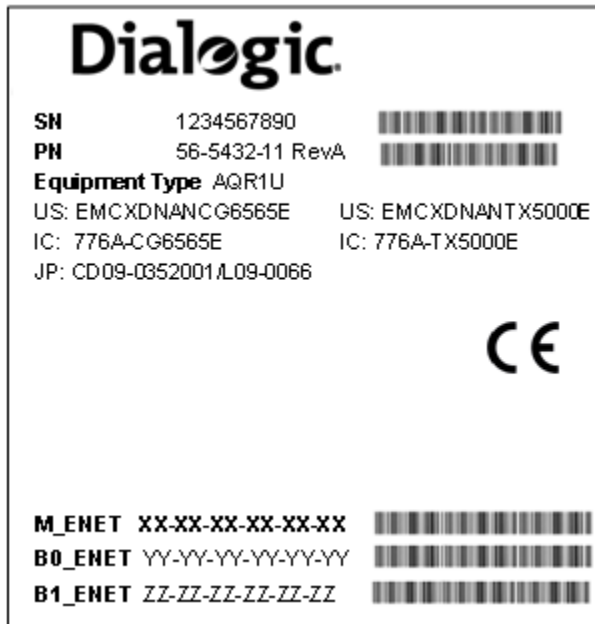
- Trunk adapter cables separate the Dialogic® MD1 RJ-45 dual T1/E1 interface into two RJ-48C interfaces.
- A rack-mounted signal entry panel splits the Dialogic® MD1 RJ-45 interfaces into pairs of RJ-48C connectors.

## Mapping Ethernet Interfaces to MAC Address

The following illustrations show the Ethernet interfaces on the Vision AQR1U Server. Refer to these illustrations to identify the interface you are mapping the MAC address to.



Refer to the compliance label on the bottom of the server for the MAC address for your particular Vision AQR1U Server. The compliance label looks something like this:





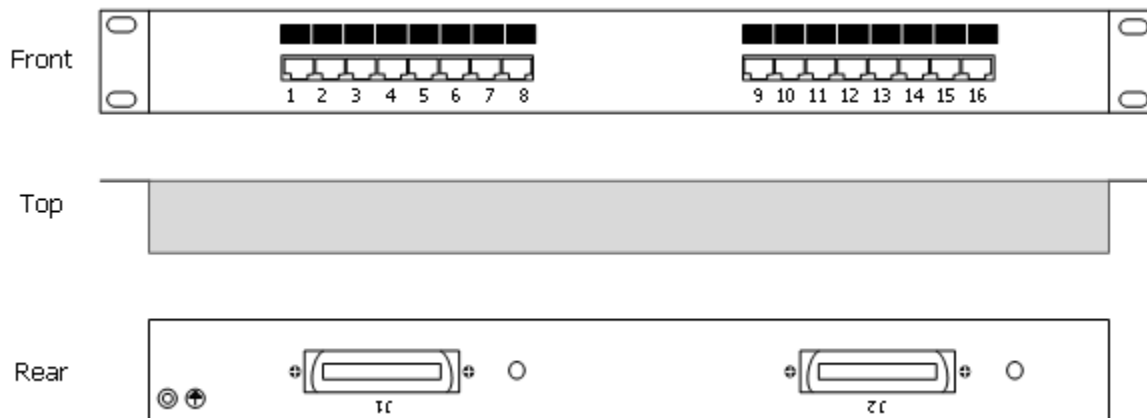
## Cabling Components

The cabling components used for the Vision AQR1U Server may vary based on the particular configuration. This topic lists some of these components.

### Signal Entry Panel

Dialogic® offers a signal entry panel (SEP) to simplify T1/E1 trunk termination. The signal entry panel (P/N 83252) contains two Dialogic® MD1 RJ-21 to RJ-48C breakout modules. The front of the panel contains the sixteen RJ-48C interfaces and the back of the panel contains two Dialogic® MD1 RJ-21 interfaces. Dialogic offers shielded cables to connect Dialogic products with Dialogic® MD1 RJ-21 and Dialogic® MD1 Mini RJ-21 interfaces to the SEP.

The following illustrations show the signal entry panel:



The following table lists the Dialogic® SEP kits:

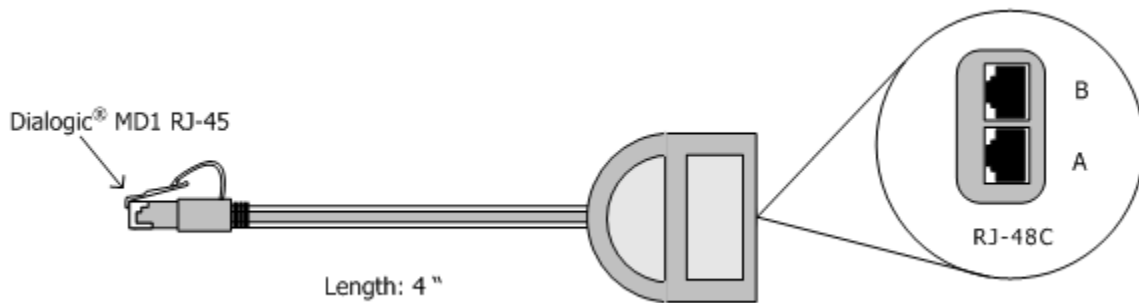
| Signal Entry Panel  | Part Number |
|---|-------------|
| SEP/cable kit 1X (MD1 MRJ-21 to (8) RJ-48C interface), 1U | 82924-1     |
| SEP/cable kit 2X (MD1 MRJ-21 to (8) RJ-48C interface), 1U | 82924-2     |

## Cables

Depending on your specific configuration, you may use one or more of the cables shown here.

### Dual T1/E1 120 ohm adapter cable (P/N 83230)

Use the dual T1/E1 120 ohm adapter cable with the SS7 interface to split the RJ-45 interface into two RJ-48C connectors:

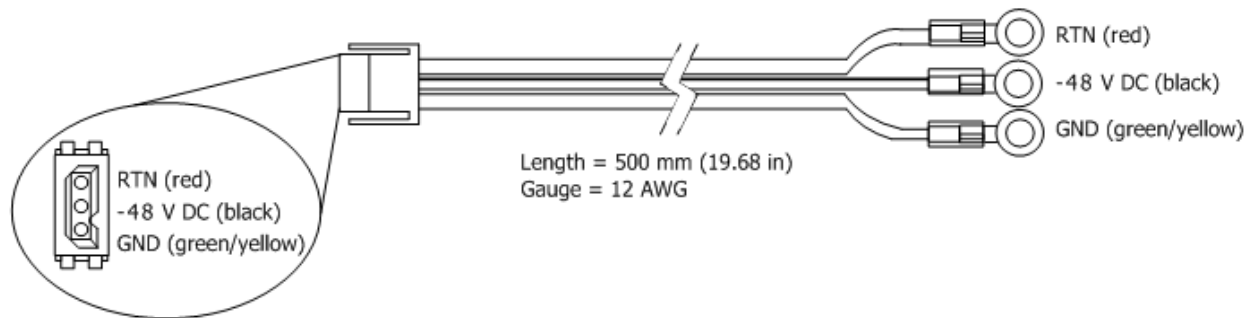


## DC power cables

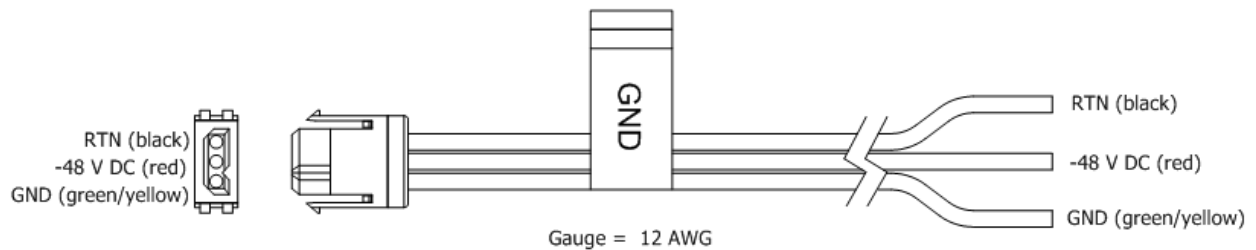
A 500 mm DC power pigtail cable is included with servers that come with a DC power supply. If you require a longer cable, the 4 m cable is available for order (P/N 83369). Both cables are rated at 25 A.

**Caution:** The color specifications for the DC power cables are not identical. Be sure to review the specifications that are shipped with your cable before installation.

### DC power cable (500 mm)



### DC power pigtail 4 m cable (P/N 83369)



## AC power cables

The following table lists the available AC power cables:

| Part number | Description  |
|-------------|--|
| ACC000001   | North America<br>Pwr crd, 2.5M, IEC 320 C13/NEMA 5-15P, 15A/125VAC: NA, Asia       |
| ACC000002   | United Kingdom<br>Pwr crd, 2M, IEC 320 C13/BS 1363, 10A/250VAC: GB                 |
| ACC000003   | Continental Europe<br>Pwr crd, 2M, IEC 320 C13/CEE 7/7, 10A/250VAC: FR, ES, DE     |
| ACC000004   | Italy<br>Pwr crd, 2M, IEC 320 C13/CEI 23-16/VII, 10A/250VAC: IT                    |
| ACC000005   | Switzerland<br>Pwr crd, 2M, IEC 320 C13/SEV 1011, 10A/250VAC: CH                   |
| ACC000006   | Australia<br>Pwr crd, 2M, IEC 320 C13/AS 3112, 10A/250VAC: AU                      |
| ACC000010   | 1M Reverse RtAngle<br>Pwr crd, 1M, reverse IEC 320 C14 right angle/IEC 320 C13     |
| ACC000011   | 2.5M Reverse RtAngle<br>Pwr crd, 2.5M, reverse IEC 320 C14 right angle/IEC 320 C13 |

# Cabling the Server

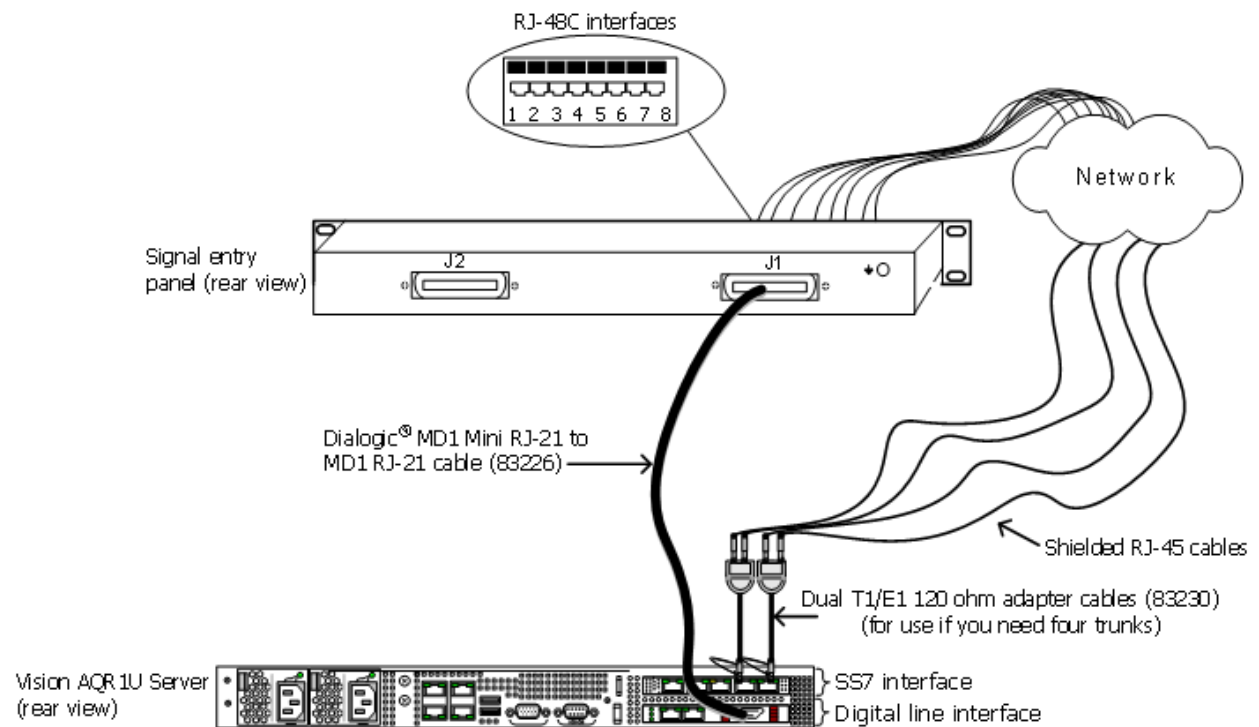
Vision AQR1U Server cabling is specific to the particular configuration of the server. Servers with a digital line interface may require a signal entry panel (SEP) for trunk termination. Servers with only an SS7 signaling interface have T1/E1 interfaces to terminate SS7 trunks directly.

## T1/E1 Cabling

Deployments with multiple trunk connections should be distributed across multiple servers and line interface cards. Video configurations support up to four trunks per card, audio-only configurations support up to eight trunks per card. Cabling variations are based on the number of trunks that are installed.

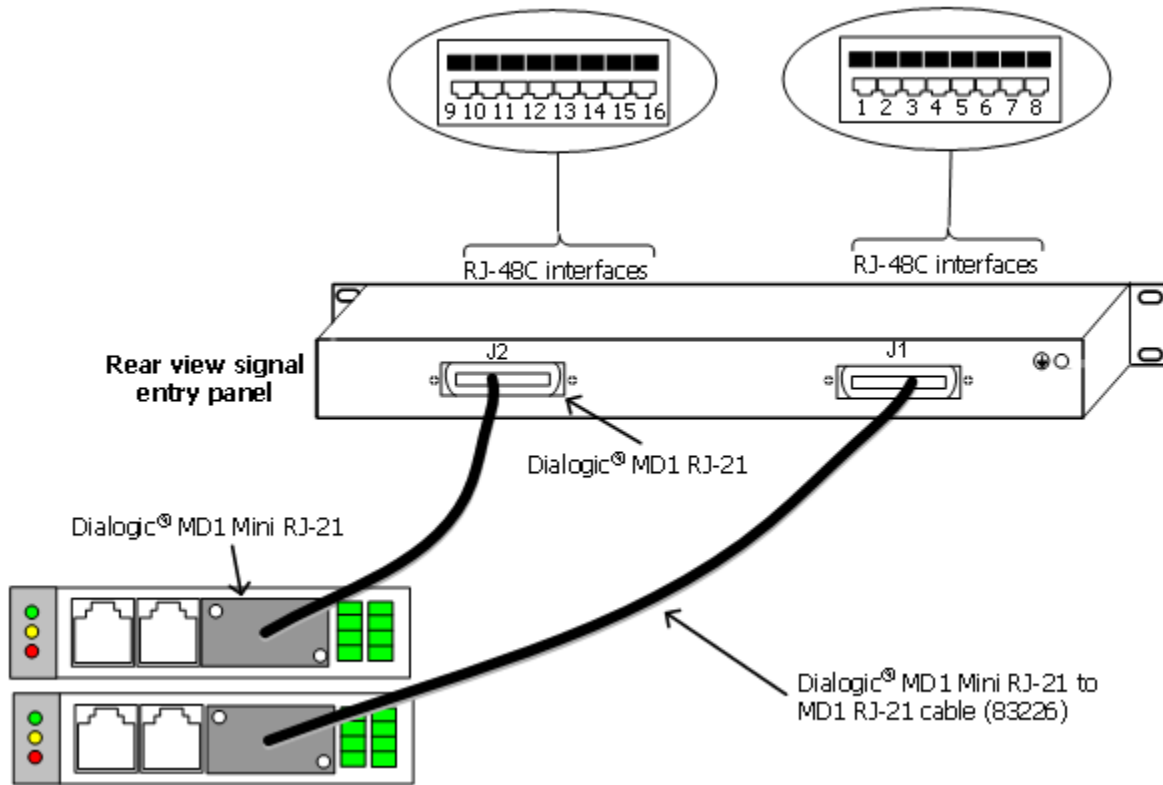
### One Digital Line Interface, One SS7 Interface

The following illustration shows the one digital line interface on the Vision AQR1U Server, connecting to the rear of a signal entry panel. The SS7 interfaces connect directly to the network.



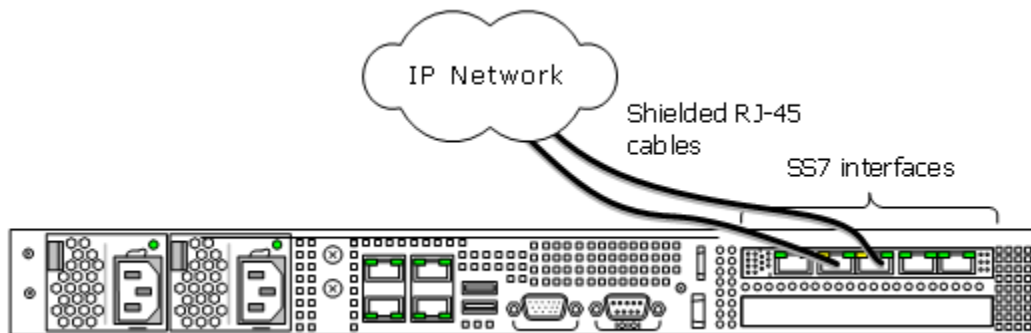
## Two Digital Line Interfaces

The following illustration shows the two digital line interfaces on the Vision AQR1U Server, connecting to the rear of a signal entry panel.



## One SS7 Interface, No Digital Line Interface

The following illustration shows the SS7 interfaces connecting directly to the network:

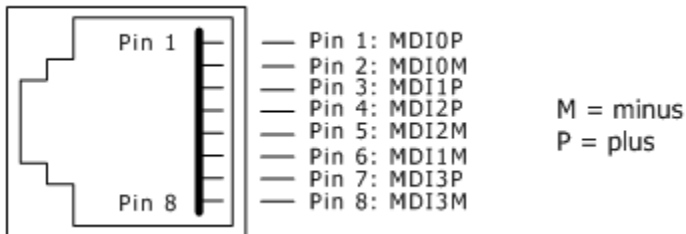


## Pin Assignments

The particular configuration of the Vision AQR1U Server may vary; therefore, your particular model may not have all of interfaces listed here.

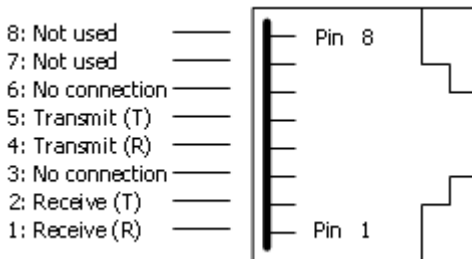
### RJ-45 Ethernet Interface

RJ-45 Ethernet interfaces use the following pin assignments:



### RJ-48C Interface

The RJ-48C interface uses the following pin assignments:



### Dialogic® MD1 RJ-45 Interface

The Dialogic® MD1 RJ-45 interface uses the following pin assignments:

| Pin | Description                 | Trunk |
|-----|-----------------------------|-------|
| 1   | Receive from network (ring) | 1     |
| 2   | Receive from network (tip)  | 1     |
| 3   | Transmit to network (tip)   | 2     |
| 4   | Transmit to network (ring)  | 1     |
| 5   | Transmit to network (tip)   | 1     |
| 6   | Transmit to network (ring)  | 2     |
| 7   | Receive from network (tip)  | 2     |
| 8   | Receive from network (ring) | 2     |

## Dialogic® MD1 Mini RJ-21 Interface

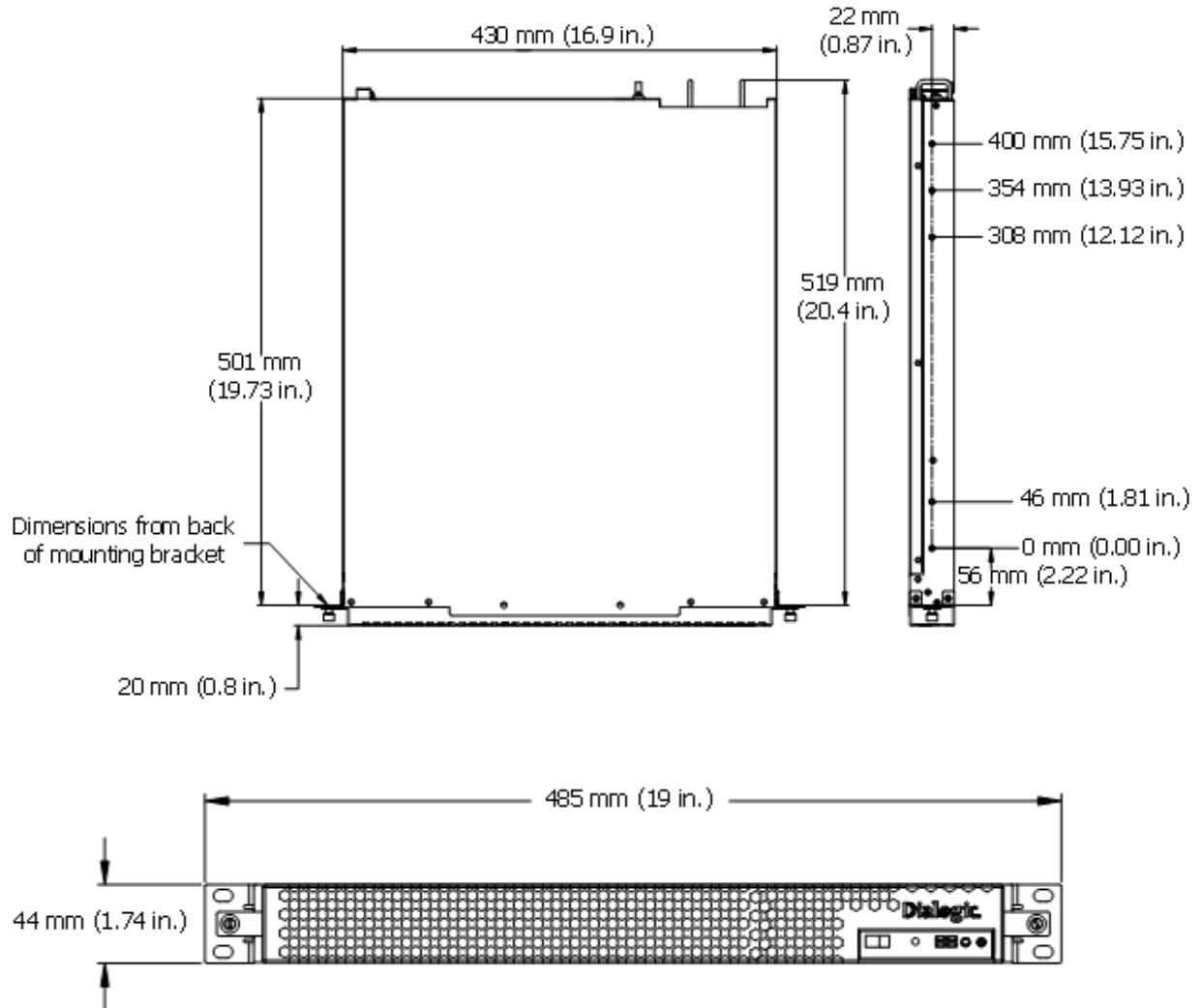
The Dialogic® MD1 Mini RJ-21 interface uses the following pin assignments:

| Trunks   | Transmit to network pin assignments                             | Receive from network pin assignments |
|----------|---|--------------------------------------|
| 1        | 1 and 2   | 13 and 14                            |
| 2        | 3 and 4   | 15 and 16                            |
| 3        | 25 and 26   | 37 and 38                            |
| 4        | 27 and 28   | 39 and 40                            |
| 5        | 5 and 6   | 17 and 18                            |
| 6        | 7 and 8   | 19 and 20                            |
| 7        | 29 and 30   | 41 and 42                            |
| 8        | 31 and 32   | 43 and 44                            |
| Not used | 9 through 12<br>21 through 24<br>33 through 36<br>45 through 50 |                                      |

**Note:** Even numbered pins are the ring or negative transmit to the network. Odd numbered pins are the tip or positive receive from the network.

## Detailed Dimensions

The following illustrations provide detailed dimensions of the Vision AQR1U Server:



## Field Replaceable Units and Accessories

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If a component on your Vision AQR1U Server fails, field replaceable components are available for order. The following table lists the field replaceable units (FRUs) and accessories:

| Description  | Part number |
|--|-------------|
| AQR1U 650 W AC power supply  | 83363-3     |
| AQR1U 650W DC power supply   | 83364-3     |
| AQR1U DC power pigtail 4 m long cable  | 83369       |
| AQR1U 250 GB replacement disk drive  | 83370       |
| AQR1U replacement fan assembly (x4)  | 83371       |
| AQR1U replacement fan filters (x10)  | 83372       |
| AQR1U rack mount kit 22"-30.5"   | 83373-1     |
| Dual T1/E1 120 ohm adapter cable<br>(Cable, RJ-45/2X RJ-48C, 120-ohm, 4" (10cm)) | 83230       |
| Dialogic® MD1 Mini RJ-21 to MD1 RJ-21 cable                                      | 83226       |
| Signal entry panel/cable kit – 1X (MD1 MRJ-21 to RJ-48C interface),<br>1U        | 82924-1     |
| Signal entry panel/cable kit – 2X (MD1 MRJ-21 to RJ-48C interface),<br>1U        | 82924-2     |
| Signal entry panel - 2X (MD1 RJ-21 to RJ-48C interface), 1U                      | 83252       |