Installing the Avaya S8730 Server for Modular Messaging
© 2009 Avaya Inc.
All Rights Reserved.

Notice
While reasonable efforts were made to ensure that the information in this document was complete and accurate at the time of printing, Avaya Inc. can assume no liability for any errors. Changes and corrections to the information in this document might be incorporated in future releases.

Documentation disclaimer
Avaya Inc. is not responsible for any modifications, additions, or deletions to the original published version of this documentation unless such modifications, additions, or deletions were performed by Avaya. Customer and/or End User agree to indemnify and hold harmless Avaya, Avaya's agents, servants and employees against all claims, lawsuits, demands and judgments arising out of, or in connection with, subsequent modifications, additions or deletions to this documentation to the extent made by the Customer or End User.

Link disclaimer
Avaya Inc. is not responsible for the contents or reliability of any linked Web sites referenced elsewhere within this documentation, and Avaya does not necessarily endorse the products, services, or information described or offered within them. We cannot guarantee that these links will work all the time and we have no control over the availability of the linked pages.

Warranty
Avaya Inc. provides a limited warranty on this product. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language, as well as information regarding support for this product, while under warranty, is available through the Avaya Support Web site: http://www.avaya.com/support

License
USE OR INSTALLATION OF THE PRODUCT INDICATES THE END USER'S ACCEPTANCE OF THE TERMS SET FORTH HEREIN AND THE GENERAL LICENSE TERMS AVAILABLE ON THE AVAYA WEB SITE http://www.avaya.com/LicenseInfo/ (“GENERAL LICENSE TERMS”). IF YOU DO NOT WISH TO BE BOUND BY THESE TERMS, YOU MUST RETURN THE PRODUCT(S) TO THE POINT OF PURCHASE WITHIN TEN (10) DAYS OF DELIVERY FOR A REFUND OR CREDIT.

Avaya grants End User a license within the scope of the license types described below. The applicable number of licenses and units of capacity for which the license is granted will be one (1), unless a different number of licenses or units of capacity is specified in the Documentation or other materials available to End User. "Designated Processor" means a single stand-alone computing device. "Server" means a Designated Processor that hosts a software application to be accessed by multiple users. "Software" means the computer programs in object code, originally licensed by Avaya and ultimately utilized by End User, whether as stand-alone Products or pre-installed on Hardware. "Hardware" means the standard hardware Products, originally sold by Avaya and ultimately utilized by End User.

License type(s)
Designated System(s) License (DS). End User may install and use each copy of the Software on only one Designated Processor, unless a different number of Designated Processors is indicated in the Documentation or other materials available to End User. Avaya may require the Designated Processor(s) to be identified by type, serial number, feature key, location or other specific designation, or to be provided by End User to Avaya through electronic means established by Avaya specifically for this purpose.

Concurrent User License (CU). End User may install and use the Software on multiple Designated Processors or one or more Servers, so long as only the licensed number of Units are accessing and using the Software at any given time. A "Unit" means the unit on which Avaya, at its sole discretion, bases the pricing of its licenses and can be, without limitation, an agent, port or user, an e-mail or voice mail account in the name of a person or corporate function (e.g., webmaster or helpdesk), or a directory entry in the administrative database utilized by the Product that permits one user to interface with the Software. Units may be linked to a specific, identified Server.

Named User License (NU). Customer may: (i) install and use the Software on a single Designated Processor or Server per authorized Named User (defined below); or (ii) install and use the Software on a Server so long as only authorized Named Users access and use the Software. “Named User,” means a user or device that has been expressly authorized by Avaya to access and use the Software. At Avaya’s sole discretion, a “Named User” may be, without limitation, designated by name, corporate function (e.g., webmaster or helpdesk), an e-mail or voice mail account in the name of a person or corporate function, or a directory entry in the administrative database utilized by the Product that permits one user to interface with the Product.

Shrinkwrap License (SR). With respect to Software that contains elements provided by third party suppliers, End User may install and use the Software in accordance with the terms and conditions of the applicable license agreements, such as "shrinkwrap" or "clickwrap" license accompanying or applicable to the Software ("Shrinkwrap License"). The text of the Shrinkwrap License will be available from Avaya upon End User’s request (see “Third-party Components” for more information).

Copyright
Except where expressly stated otherwise, the Product is protected by copyright and other laws respecting proprietary rights. Unauthorized reproduction, transfer, and or use can be a criminal, as well as a civil, offense under the applicable law.

Third-party components
Certain software programs or portions thereof included in the Product may contain software distributed under third party agreements (“Third Party Components”), which may contain terms that expand or limit rights to use certain portions of the Product (“Third Party Terms”). Information identifying Third Party Components and the Third Party Terms that apply to them is available on the Avaya Support Web site: http://support.avaya.com/ThirdPartyLicense/

Preventing toll fraud
“Toll fraud” is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company’s behalf). Be aware that there can be a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya fraud intervention
If you suspect that you are being victimized by toll fraud and you need technical assistance or support, call Technical Service Center Toll Fraud Intervention Hotline at +1-800-643-2353 for the United States and Canada. For additional support telephone numbers, see the Avaya Support Web site: http://support.avaya.com

Suspected security vulnerabilities with Avaya Products should be reported to Avaya by sending mail to: securityalerts@avaya.com.

Trademarks
All other trademarks are the property of their respective owners.

Downloading documents
For the most current versions of documentation, see the Avaya Support Web site: http://www.avaya.com/support

Contact Avaya Support
Avaya Inc. provides a telephone number for you to use to report problems or to ask questions about your product. The support telephone number is 1-800-242-2121 in the United States. For additional support telephone numbers, see the Avaya Web site: http://www.avaya.com/support
Chapter 1: Overview of server and components

Overview

The Avaya S8730 server is available in several configurations to accommodate the requirements of the software application or system it supports. Boxes are labeled to identify the type of server.

<table>
<thead>
<tr>
<th>Application</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modular Messaging Message Application Server (MAS)</td>
<td>Model 03</td>
</tr>
<tr>
<td>Modular Messaging Message Storage Server — Standard Reliability (MSS-S)</td>
<td>Model 04</td>
</tr>
<tr>
<td>Modular Messaging Message Storage Server — High Reliability (MSS-H)</td>
<td>Model 05</td>
</tr>
</tbody>
</table>

Server components

The server has the following components.

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>AMD 2352 QUAD core processor</td>
</tr>
<tr>
<td>Memory</td>
<td>4 GB fully buffered PC2–5300 DIMMs (2x2 GB) with advanced ECC capabilities</td>
</tr>
<tr>
<td>Media Drive</td>
<td>Model 03 — Slimline 8X/24X DVD-ROM/CD-RW Models 04 and 05 — Slimline 8X DVD-RAM/RW</td>
</tr>
</tbody>
</table>
## Overview of server and components

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
</table>
| RAID Configuration         | Models 03 and 04 — RAID 1  
Model 05 — RAID 5                                                                                           |
| RAID Card                  | Models 03 — Smart Array P400/256 MB DDR-2 RAM controller with battery backed write cache  
Model 04 — Smart Array E200/64 MB DDR-1 RAM controller  
Model 05 — Smart Array P400/256 MB DDR-2 RAM controller with battery backed write cache |
| Hard disk drives           | Models 03 and 04 — Two 146 GB 10k 2.5 inch SAS hot-plug hard drives  
Model 05 — Either four or six 72 GB 15k 2.5 inch SAS hot-plug hard drives |
| Network Interface Cards (NIC) | Two integrated gigabit Ethernet NICs capable of supporting 10-Mbps, 100-Mbps, and 1000-Mbps data rates.          |
| PCI card cage              | Models 03 and 04 — Three PCI Express (PCI-e)  
Model 05 — Two PCI Extended (PCI-x) and one PCI Express (PCI-e) |
| Video controller           | Integrated ATI ES 1000 Graphics Processing Unit (GPU)                                                                                   |
| Power supply               | 800 Watt, CE Mark Compliant hot-plug power supply  
Model 05 has an additional hot-plug redundant power supply |
| Fans                       | Six fully redundant hot-plug fans. The fan configuration operates in redundant mode only when all six fans are installed. |
| System battery             | The server has an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery pack that provides power to the real-time clock. Under normal use, battery life is 5 to 10 years. |

The server has the following connectors:

- **USB** — Four USB connectors: two front, two rear.
- **NIC** — Two NIC connectors used for private and corporate LAN connection on rear panel.
• iLO 2 — One Integrated Lights-Out 2 (iLO 2) connector on rear panel (not used).
• Video connector — Two video connectors: one on front panel, one on rear panel.
• Serial, mouse and keyboard connectors on rear panel.

MAS port boards

Dialogic port boards are pre-installed in any new MAS (model 03) server that uses an analog, Digital Set Emulation (DSE), E1–QSIG, or T1–QSIG switch integration protocol. Each server can have only one type of board installed. The server supports only PCI Express (PCI-e) Dialogic cards. Dialogic cards used in the S3400 and S3500 servers do not use the PCI-e form factor and cannot be transferred to the S8730 server. The S8730 supports the following Dialogic boards:

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Ports per MAS</th>
<th>Supported boards</th>
<th>Maximum number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analog</td>
<td>12 – 36</td>
<td>• Dialogic D/120JCT-LS-EW 12–port board</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dialogic D/120JCT-LS-EWEU (Europe) 12–port board</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 – 12</td>
<td>• Dialogic D/41JCT-LS-EW 4–port board</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dialogic D/41JCT-LS-EWEU (Europe) 4–port board</td>
<td></td>
</tr>
<tr>
<td>Digital Set Emulation</td>
<td>8 – 24</td>
<td>Dialogic D/82JCT-U-EW</td>
<td>3</td>
</tr>
<tr>
<td>E1–QSIG</td>
<td>30 – 90</td>
<td>Dialogic D/600JCT-E1120–EW</td>
<td>3</td>
</tr>
<tr>
<td>T1–QSIG</td>
<td>23 – 69</td>
<td>Dialogic D/480JCT-T1–EW</td>
<td>3</td>
</tr>
</tbody>
</table>
Server specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (H x W x D/Us)</td>
<td>3.38 x 17.54 x 26.01 inches (8.59 x 44.54 x 66.07 cm) — 2U</td>
</tr>
<tr>
<td>Weight</td>
<td>47.18 to 60 lb (20.41 to 27.22 kg)</td>
</tr>
<tr>
<td>Power Input requirements (per power supply)</td>
<td></td>
</tr>
<tr>
<td>Rated Line Voltage</td>
<td>100 VAC</td>
</tr>
<tr>
<td></td>
<td>120 VAC</td>
</tr>
<tr>
<td></td>
<td>200 — 240 VAC</td>
</tr>
<tr>
<td>Rated Input Current</td>
<td>10 A (at 100 VAC)</td>
</tr>
<tr>
<td></td>
<td>9 A (at 120 VAC)</td>
</tr>
<tr>
<td></td>
<td>6.1 A (at 200 VAC)</td>
</tr>
<tr>
<td>Rated Input Frequency</td>
<td>50 to 60 Hz</td>
</tr>
<tr>
<td>Rated Input Power</td>
<td>980 W (at 100 VAC)</td>
</tr>
<tr>
<td></td>
<td>1035 W (at 120 VAC)</td>
</tr>
<tr>
<td></td>
<td>1170 W (at 240 VAC)</td>
</tr>
<tr>
<td>Power Supply Output (per power supply)</td>
<td>800 W (at 100 VAC)</td>
</tr>
<tr>
<td></td>
<td>850 W (at 120 VAC)</td>
</tr>
<tr>
<td></td>
<td>1000 W (at 240 VAC)</td>
</tr>
<tr>
<td>BTU Rating (Maximum)</td>
<td>3350 BTU/hr (at 100 VAC)</td>
</tr>
<tr>
<td></td>
<td>3530 BTU/hr (at 120 VAC)</td>
</tr>
<tr>
<td></td>
<td>3990 BTU/hr (at 240 VAC)</td>
</tr>
</tbody>
</table>

Environmental specifications

**Operating temperature**

10° to 35° C (50° to 95° F) at sea level with an altitude derating of 1.0° C for every 305 m (1.8° F for every 1,000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10° C/hour (18° F/hour).

System performance may be reduced if operating with a fan fault or above 30° C (86° F).

**Storage temperature**

-30° to 60° C (-22° to 140° F). Maximum rate of change is 20° C/hour (36° F/hour).
Operating relative humidity

10% to 90% relative humidity, 28° C (82.4° F) maximum wet bulb temperature, non-condensing.

Storage relative humidity

5% to 95% relative humidity, 38.7° C (101.7° F) maximum wet bulb temperature, non-condensing.

Operating altitude

3050 m (10,000 ft). Maximum allowable altitude change rate is 457 m/min (1,500 ft/min).

Storage altitude

9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic noise

The following are declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the server is operating in a 23° C ambient environment. Noise emissions were measured in accordance with ISO 7770 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

Idle and Operating LWAd, 6.3 B

Idle and Operating LpAm, 47 dBA

---

Front view of server

<table>
<thead>
<tr>
<th>1</th>
<th>Media drive bay. DVD-ROM/CD—RW media drive for model 03; DVD-RAM/RW media drive for models 04 and 05.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Video connector</td>
</tr>
<tr>
<td>3</td>
<td>USB connectors (2)</td>
</tr>
<tr>
<td>4</td>
<td>Systems Insight Display</td>
</tr>
<tr>
<td>5</td>
<td>Hard drive bays. Two 146 GB hard drives for models 03 and 04; four or six 72 GB hard drives for model 05.</td>
</tr>
<tr>
<td>6</td>
<td>Quick release levers</td>
</tr>
</tbody>
</table>
Back view of server

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>T-10/T-15 Torx screwdriver</td>
</tr>
<tr>
<td>2</td>
<td>Dialogic port boards. E1–QSIG or T1–QSIG type boards shown.</td>
</tr>
<tr>
<td>3</td>
<td>Private LAN Ethernet connection</td>
</tr>
<tr>
<td>4</td>
<td>Corporate LAN Ethernet connection</td>
</tr>
<tr>
<td>5</td>
<td>Power supply. Two power supplies for Model 05; One power supply for models 03 and 04.</td>
</tr>
<tr>
<td>6</td>
<td>Keyboard connector</td>
</tr>
<tr>
<td>7</td>
<td>Mouse connector</td>
</tr>
<tr>
<td>8</td>
<td>Serial connector</td>
</tr>
<tr>
<td>9</td>
<td>USB connectors (2)</td>
</tr>
<tr>
<td>10</td>
<td>Video connector</td>
</tr>
<tr>
<td>11</td>
<td>iLo 2 connector (not used)</td>
</tr>
<tr>
<td>12</td>
<td>Unit Identification (UID) LED button</td>
</tr>
</tbody>
</table>

Related hardware

As part of a total installation, customers may use the following peripheral hardware:

- Uninterruptible power supply (UPS). This can be Avaya or customer provided. It is required for the Modular Messaging system.

- Ethernet switch. This can be Avaya or customer provided. The Ethernet switch is required to create the Modular Messaging private LAN in a multiple MAS system. An Ethernet switch is not required for connecting a single MAS to the Modular Messaging system.
system for MSS/Domino/Exchange. You can use a crossover cable to create the private LAN in a single MAS configuration.

- **KVM switch.** Use a keyboard, video, and mouse (KVM) switch to view the different servers in a Modular Messaging system. The model of KVM switch and the specific monitor, keyboard, and mouse used can vary from site to site. If the Modular Messaging system has only two servers, for example an MSS and one MAS, you can install a 2–port KVM switch. For larger systems, install an 8–port KVM switch. To install a KVM switch, use the instructions shipped with the switch.

- **USB modem.** A USB modem is optional, but if a modem is not installed, the customer must provide another means of remote access to each Modular Messaging server for their remote support organization. To install the modem, use the instructions shipped with it.

---

**LEDs**

The server has LEDs in the following locations:

- Front panel
- Rear panel
- Insight display, located on the front of the server
- Hard drive
- PCI riser cage
- Battery pack

Each SAS hard drive has two LEDs at the base that combine to give information about the status of the drive. The PCI rise cage has a single LED that indicates whether AC power is connected or disconnected. The battery pack has four LEDs that combine to give information about the status of the battery pack and data in the cache.

For additional information about hard drive, PCI riser cage and battery pack LEDs, see *Maintaining the Avaya S8730 Server*.

**Related topics:**
- Front panel LEDs on page 12
- Back panel LEDs on page 14
- Systems Insight Display LEDs on page 15
# Front panel LEDs

<table>
<thead>
<tr>
<th></th>
<th>UID LED button</th>
<th>Blue — Activated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flashing — System being remotely managed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off — Deactivated</td>
</tr>
<tr>
<td>2</td>
<td>Internal health LED</td>
<td>Green — Normal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amber — System degraded. To identify component in degraded state, see Systems Insight Display LEDs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Red — System critical. To identify component in critical state, see Systems Insight Display LEDs. For more information about status and diagnostic information provided by the Internal health LED in combination with the Systems Insight Display, see <em>Maintaining the Avaya S8730 Server</em>.</td>
</tr>
<tr>
<td>3</td>
<td>External health LED</td>
<td>Green — Normal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td><strong>Amber</strong> — Power redundancy failure. To identify component in degraded state, see Systems Insight Display LEDs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Red</strong> — Critical power supply failure. To identify component in critical state, see Systems Insight Display LEDs.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>NIC 1 link/activity LED (Corporate Network)</td>
<td>Green — Network link</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flashing — Network link and activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off — No link to network</td>
</tr>
<tr>
<td>5</td>
<td>NIC 2 link/activity LED (Private Network)</td>
<td>Green — Network link</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flashing — Network link and activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off — No link to network</td>
</tr>
<tr>
<td>6</td>
<td>Power On/Standby button/system power LED</td>
<td>Green — System on</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amber — System shut down, but power still applied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off — Power cord not attached or power supply failure</td>
</tr>
<tr>
<td>7</td>
<td>Hard drive LEDs</td>
<td>Left-hand LED — Online LED (green)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Right-hand LED — Fault/UID LED (amber/blue)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For more information about interpreting Hard drive LEDs, see <em>Maintaining the Avaya S8730 Server.</em></td>
</tr>
</tbody>
</table>
## Back panel LEDs

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power supply LED</td>
<td>Green — Normal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off — System is off power or power supply has failed</td>
</tr>
<tr>
<td>2</td>
<td>UID LED button</td>
<td>Blue — Activated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flashing — System being remotely managed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off — Deactivated</td>
</tr>
<tr>
<td>3</td>
<td>NIC/iLO 2 activity LED</td>
<td>Green — Network activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flashing — Network activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off — No network activity</td>
</tr>
<tr>
<td>4</td>
<td>NIC/iLO 2 link LED</td>
<td>Green — Network link</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off — No network link</td>
</tr>
</tbody>
</table>
Systems Insight Display LEDs

<table>
<thead>
<tr>
<th>Indication</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amber</td>
<td>Failure</td>
</tr>
<tr>
<td>Off</td>
<td>Normal</td>
</tr>
</tbody>
</table>

For more information about status and diagnostic information provided by the Internal health LED in combination with the Systems Insight Display, see *Maintaining the Avaya S8730 Server.*
Overview of server and components
Chapter 2: Server installation

Customer-provided equipment and access

The customer must provide the following equipment:

• Standard 19–in. 4–post equipment rack properly installed and solidly secured. Rack must meet the following standards:
  - International Electrotechnical Commission (IEC) 297.
  - Deutsche Industrie Norm (DIN) 41494.

• AC power from a nonswitched electrical outlet. Ensure that the AC main outlet used to power the system through the power cord or the UPS is a grounded outlet. Install the server within 6 feet (2m) of a grounded AC main socket-outlet. Do not use extension cords with the system.

⚠️ Caution:

System grounding must comply with the general rules for grounding. For more information, see article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA). Alternatively, see the applicable electrical code in the country of installation.

• Access to the Local Area Network (LAN) if required for the installed configuration. The customer is responsible for:
  - Providing the IP address, subnet mask, and gateway information for administration on the server.
  - Providing DNS server IP information and corporate domain names.

• Access to the Telecommunications network.

For T1 and E1 QSIG connections, the circuits require isolation from exposed lines. For T1 lines, the customer must provide a CSU (T1) at the building point of entry. This CSU must be UL listed, CSA Certified, or both. For E1 lines, either the network provider or the customer must provide a CSU (E1) or equivalent protection. The protection must have the product safety approvals required by the local jurisdictions.
Avaya-provided equipment

Avaya provides the following equipment:

• S8730 server and power cord. Use only the power cord provided with the server.
• 2 U Quick Deploy Rail System kit.
• Ethernet switch. The Ethernet switch is required only for an MSS configuration with more than one MAS. It can be customer provided.
• Ethernet crossover cable. The crossover cable is used only for an MSS configuration with one MAS. It can be used in place of an Ethernet switch to set up the private network.
• Ethernet LAN cables.
• USB modem. The modem is optional and can be customer provided. If a modem is not used, remote access must be provided for services by another means.
• Dialogic port board cables. Dialogic boards are pre-installed in all systems except those using IP H.323 and IP SIP integration. Systems ship with port board cables appropriate to the type of switch integration.
• Monitor, keyboard and mouse. These are optional and can be customer provided.
• 2–port KVM switch for a two-server system or 8–port KVM switch for multiple-server system. Optional, other similar types of devices can be used.
• Uninterruptible power supply (UPS). A UPS is required, but it can be customer provided.

Recommended tools and supplies

• #2 crosspoint (Phillips) screwdriver
• A medium-width flat-blade screwdriver
• T-15 Torx screwdriver (attached to rear of server)
• A small pair of needle-nose pliers
• A small pair of wire cutters
• Masking tape or felt-tip pen for marking mounting holes
• A volt/ohm meter
Recommended test equipment

Verify that the following test equipment will be available when installation and configuration of the system is complete:

- At least two telephones connected through the switch or private branch exchange (PBX). The telephones must be of the same type as most of the telephones the customer plans to use on the system.
  - Preferably the test telephones will have a data display for testing integration and the Find Me and Call Me features.
  - If the message waiting indicator (MWI) for the system is a lamp, the test telephone must be equipped with a lamp. If the MWI is a stutter tone, the telephone must be able to provide the stutter notification.
  - Place the test telephone so you can easily see the monitor while using the telephones.
- Access to a fax machine if fax messaging will be installed on the system.

Safety instructions

Use the following safety guidelines to ensure your personal safety and to help protect your system and working environment from potential damage.

- Use only the power cord provided with the server.
- Do not place objects on AC power cords or cables. Arrange them so that no one may accidentally step on or trip over them.
- Place the server away from radiators, heat registers, stoves, amplifiers or other sources of heat.
- Always use a UPS to protect against fluctuations or temporary interruptions in the power supply.

Observe the following precautions for rack stability and safety. Also refer to the rack installation documentation accompanying the rack for specific caution statements and procedures.

Systems are considered to be components in a rack. Thus, "component" refers to any system as well as to various peripherals or supporting hardware.

Caution:
Before installing systems in a rack, install front and side stabilizers on stand-alone racks or the front stabilizer on racks joined to other racks. Failure to install stabilizers accordingly before installing systems in a rack could cause the rack to tip over, potentially resulting in bodily injury under certain circumstances. Therefore, always install the stabilizer(s) before installing components in the rack.

If you are installing more than one server, install the mounting rails so that the first server is installed in the lowest available position in the rack. If you are installing a UPS in the same
rack as the server(s), install the UPS in the lowest available position in the rack and the servers above it.

After installing system/components in a rack, never pull more than one component out of the rack on its slide assemblies at one time. The weight of more than one extended component could cause the rack to tip over and may result in serious injury.

🌟 Note:
It is your responsibility to ensure that the final combination of system and rack complies with all applicable safety standards and local electric code requirements.

System rack kits are intended to be installed in a rack by trained service technicians.

⚠️ Caution:
Always load the rack from the bottom up, and load the heaviest item in the rack first.

Make sure that the rack is level and stable. Be sure the leveling jacks (feet) extend to the floor and that the full weight of the rack rests firmly on the leveling jacks.

Use caution when pressing the component rail release latches and sliding a component into or out of a rack; the slide rails can pinch your fingers.

Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.

Ensure that proper airflow is provided to components in the rack. Do not block ventilation openings or allow other equipment to block airflow to the server. If the 42U rack includes closing front and rear doors, allow 5,350 square cm (830 square inches) of holes evenly distributed from top to bottom to permit adequate airflow (equivalent to required 64 percent open area for ventilation). Clearance between the server and the side panel of the rack must be a minimum of 7 cm (2.75 inches).

Do not step on or stand on any component when servicing other components in a rack.

### Installation checklist

<table>
<thead>
<tr>
<th>#</th>
<th>Task</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Verify that all equipment is on site</td>
<td>Compare the list of items that were ordered to the contents of the boxes. Use the inventory list provided by your project manager; do not rely on the packing slips inside the boxes for the correct information. Save at least one empty carton and a set of packing materials in case the server must be returned for service.</td>
</tr>
<tr>
<td>#</td>
<td>Task</td>
<td>Notes</td>
</tr>
<tr>
<td>----</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Record the MSS serial number and MAS Windows product key</td>
<td>These will be required later for configuring the system software.</td>
</tr>
<tr>
<td>3</td>
<td>Verify that rack is installed to code</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Verify that rack is grounded per local code</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Remove cabinet doors, if necessary</td>
<td>See cabinet manufacturer's documentation.</td>
</tr>
<tr>
<td>6</td>
<td>Marking the rack on page 22</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Attaching rails to the server on page 23</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Attaching the rails to the rack on page 24</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Installing the server in the rack on page 25</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Corporate and private LAN connections on page 26</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Connecting Dialogic port boards on page 29</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Install the optional KVM switch</td>
<td>Follow manufacturer's instructions.</td>
</tr>
<tr>
<td>13</td>
<td>Install optional modems for MAS and MSS</td>
<td>Follow manufacturer's instructions.</td>
</tr>
<tr>
<td>14</td>
<td>Connecting power on page 30</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Replace the cabinet doors, if necessary</td>
<td>See cabinet manufacturer's documentation.</td>
</tr>
</tbody>
</table>
**Marking the rack**

**Prerequisites**

The rack must be installed. If installing the server in a cabinet, then the doors must be removed.

You must allow 2 U (89 mm, or 3.5 in.) of vertical space for each server you install in the rack.

Rack cabinets that meet EIA-310 standards have an alternating pattern of three holes per rack unit with center-to-center hole spacing (beginning at the top hole of a 1-U space) of 15.9 mm, 15.9 mm, and 12.7 mm (0.625 in., 0.625 in., and 0.5 in.) for the front and back vertical rails. Rack cabinets may have round or square holes.

*Note:*

The vertical rails may be marked by horizontal lines and numbers in 1-U increments. If you want, you can make a note of the number marking on the rack’s vertical rail. It is not necessary to mark or place tape on the rack.

1. Place a mark (or tape) on the rack's front vertical rails where you want to locate the bottom of the server.
   - The bottom of each 1-U space is at the middle of the narrowest metal area between holes (marked with a horizontal line on some rack cabinets).

2. Place a mark 3.5 in. (89 mm) above the original mark you made (or count up six holes in a rack) and mark the rack's front vertical rails with a felt-tipped pen or masking tape. If you counted holes, place a mark just above the top hole.
   - This mark or piece of tape indicates where the system's upper edge will be located on the vertical rails.
Attaching rails to the server
Attaching the rails to the rack
Installing the server in the rack

Prerequisites

The rails must be attached to the server and the rack before installing the server in the rack. If the server is being installed in a cabinet, remove the doors, following the cabinet manufacturer's instructions.

Next steps

If the server is being installed in a cabinet, reattach the doors, following the cabinet manufacturer's instructions.
Corporate and private LAN connections

Each Modular Messaging system must be connected to either the corporate LAN or the private LAN in one of the following ways:

• For a Microsoft Exchange or an IBM Domino configuration, connect each MAS to the corporate LAN.

• For an Avaya MSS configuration, connect the MSS to all Avaya MAS units and, if present, the supplementary server through a private LAN. If the Modular Messaging system consists of the MSS and a single MAS, you can use a crossover cable to make the private LAN connection. If the Modular Messaging system has more than one MAS, you must use an Ethernet switch to set up the private LAN.

• Additionally, an Avaya MSS configuration requires each server to have a connection on the corporate LAN.

Connecting the MAS to the Corporate LAN

Connecting the MAS

For a Microsoft Exchange or IBM Domino configuration, attach each MAS to the corporate LAN with a standard Ethernet cable.

MAS Corporate LAN connection

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ethernet interface for the corporate LAN</td>
</tr>
<tr>
<td>2</td>
<td>Ethernet cable to the corporate LAN</td>
</tr>
</tbody>
</table>
Connecting the MAS and MSS with a crossover cable

Connecting the MAS and MSS

When you have an MSS with a single MAS, you can use a crossover cable connection to create the Private LAN for Modular Messaging

1. With the crossover cable connect the MAS to the MSS.
2. Connect each server, as needed, to the corporate LAN with a standard Ethernet cable.

Crossover cable connections

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Private LAN connection using a crossover cable</td>
</tr>
<tr>
<td>2</td>
<td>MAS Ethernet cable to the corporate LAN</td>
</tr>
<tr>
<td>3</td>
<td>MSS Ethernet cable to the corporate LAN</td>
</tr>
</tbody>
</table>
Connecting the MAS and MSS with an Ethernet switch

Connecting the MAS and MSS

When you have an MSS with more than one MAS, you must use an Ethernet switch to create the Private LAN for Modular Messaging.

⚠️ Caution:

In a multiple-MAS system, do not connect any MASs except the first to the Ethernet switch until you are ready to configure that server. Otherwise, the unused MAS might create errors on the private network even if you turn off the server.

1. Connect the Private LAN connection on the MSS and each MAS to the Ethernet switch.
2. Connect each server, as needed, to the corporate LAN with a standard Ethernet cable.

Ethernet switch connections
1 Ethernet switch

2 MAS1 Ethernet connection to private LAN. Usually this connection uses Ethernet switch port 2. Subsequent MASs and optional servers use ports 3, 4, and so on.

3 MSS Ethernet connection to private LAN. Usually this connection uses Ethernet switch port 1.

4 MAS Ethernet connection to the corporate LAN.

5 MSS Ethernet connection to the corporate LAN.

### Connecting MAS port boards

### Connecting Dialogic port boards

Skip this procedure if the Modular Messaging system uses an IP H.323 or IP SIP switch integration. These integrations do not use port boards.

The server has pre-installed Dialogic port boards. Since Modular Messaging uses the new PCI-e version of the Dialogic boards, do not move Dialogic boards from an S3500 server if upgrading to the S8730 server.

Use the type of cable appropriate to the switch integration to connect the Dialogic port board to the corporate telephone switching system. The organization responsible for maintaining the corporate switch must make the connection to the telecommunications system.

### Supported port board connections

The server supports the following port board connections:

- Analog using a standard RJ-11 tip/ring cord or individual tip/ring cables and a 12-port harmonica.
- E1–QSIG and T1–QSIG using an RJ-48C Ethernet cable.
- Dialogic Set Emulation (DSE) boards using a D/82U cable.
**Port board connections**

The graphic illustrates two E1–QSIG or T1–QSIG connections from MAS port boards to the corporate telephone switching system. DSE and analog boards connect at the same location on the back of the server.

<table>
<thead>
<tr>
<th></th>
<th>Port board connection to corporate switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Connecting power**

The following graphic illustrates the S8730 server with two power supplies. Models 03 and 04 ship with a single power supply; model 05 ships with the illustrated duplicate power supply.
1. Plug one end of the power cord into the back of the server and connect the power cord anchor to the handle of the power supply.

2. Plug the other end of the power cord into the UPS.

3. Wait for 20 seconds. The server should power up on its own. If the server does not power up on its own, then press the power button on the front of the server, to turn on the Server.

Next steps
Refer to specific product documentation for information on installing and configuring software.

Troubleshooting the installation

Avaya and customer equipment is missing

Contact Avaya

Contact the Avaya project manager.
The server has no power or a power fault

The server does not power on.

The system power, external health, or internal health LEDs indicate power faults.

Internal health LED is red or amber

1. Identify any component identified by a health LED.
2. Reseat the component and check it for loose connections.
3. If the condition still exists, you may need to replace the component.
   For more information, see Maintaining the Avaya S8730 Server.

System Power LED is off

1. Make sure power cords are plugged into the back of the server and into a nonswitched outlet or UPS.
2. Make sure the UPS is plugged into a nonswitched outlet.
3. Make sure the outlet has power.
4. Push the power button on the front of the server.
5. Reseat the power supply.
6. If the condition still exists, you may need to replace the power supply.
   For more information, see Maintaining the Avaya S8730 Server.

System Power LED is Amber or Green

If the external health LED is red or amber complete the following steps. If the external health LED is not red or amber than proceed as you would if the system power LED was off.

1. If the server has a single power supply, and the external health LED is red, replace the power supply. For more information, see Maintaining the Avaya S8730 Server. If not, continue with the next step.
2. Press the Power-On Standby button.
3. If the external health LED is red or amber, replace the power supply that does not have a green LED.
   For more information, see *Maintaining the Avaya S8730 Server*.

4. If the external health LED is not red or amber, check for a loose power cord on one of the redundant power supplies.
Index

A
acoustic noise levels .................................................... 8
altitude  
  operating .............................................................. 8
  storage ................................................................. 8
attach rails to rack ..................................................... 24
attach rails to server ................................................... 23
Avaya-provided equipment ......................................... 18

B
back panel LEDs ........................................................ 14
BTU rating ................................................................. 8

C
components ................................................................ 5
corporate LAN  
  connecting MAS ..................................................... 26
  with crossover connection ..................................... 27
  with Ethernet switch ............................................. 28
crossover cable connection ...................................... 27
customer-provided equipment ................................... 17

D
Dialogic boards .......................................................... 29, 30
Dialogic port boards .................................................. 7

E
environmental specifications ...................................... 8
Ethernet connection  
  MAS ...................................................................... 26
  with crossover connection ..................................... 27
  with Ethernet switch ............................................. 28
Ethernet switch ........................................................ 10

F
front panel LEDs ....................................................... 12

I
install  
  rails on rack ......................................................... 24

K
KVM switch .............................................................. 10

L
LEDs ........................................................................ 11, 12, 14, 15
  back panel ............................................................ 14
  front panel ........................................................... 12
  Systems Insight Display ........................................ 15
legal notices ........................................................... 2

M
mark the rack ............................................................. 22
modem .................................................................... 10

N
notices, legal ............................................................ 2

P
port boards ............................................................... 7, 29, 30
power  
  input requirements .............................................. 8
  power supply output ............................................. 8
power cord ............................................................. 30
private LAN  
  with crossover cable .......................................... 27
  with Ethernet switch .......................................... 28

R
recommended test equipment ..................................... 19
recommended tools .................................................. 18
relative humidity ..................................................... 8

S
safety instructions ..................................................... 19
server back view ..................................................... 10
server front view ..................................................... 9
Index

specifications ................................................................. 8
Systems Insight Display LEDs ...................................... 15

T

temperature
    operating ................................................................. 8
    storage ................................................................ 8

test equipment ............................................................ 19

troubleshooting
    missing equipment .................................................. 31
    power problems ....................................................... 32
    turning on server ..................................................... 30

U

UPS ................................................................. 10