Hardware Installation Manual

AudioCodes Session Border Controller Series

Mediant 7100 / 7500 SBC Series

audiocodes

Notice

Date Published: February-11-2026

WEEE EU Directive

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Abbreviations

Each abbreviation, unless widely used, is spelled out in full when first used.

Throughout this manual and unless otherwise specified, the term *device* refers to the Mediant 7000 SBC series.

Notes and Warnings

For safety, environment and regulatory information, refer to the printed document "Safety, Compliance and Warranty Information" included in the products packaging.

The device is an **INDOOR** unit and thus, must be installed ONLY indoors. In addition, Ethernet port interface cabling must be routed only indoors and must not exit the building.

Installation of this device must be in a weather protected location of maximum ambient temperature of 35°C.

This device must be installed only in a restricted access location.

Service of the device must be made only by qualified service personnel.

AC powered units must be connected only to a grounded AC mains power socket.

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 over-current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Caution Laser: This device contains a Class 1 LED/Laser emitting device, as defined by 21CFR 1040 and IEC825. Do not stare directly into the beam or into fiber optic terminations as this can damage your eyesight.

Caution Electrical Shock: Do not attempt to open or disassemble this device. The device carries high voltage. Contact with internal components may cause electrical shock and bodily harm.

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 (e.g., use of power strips.)

For all service and maintenance issues, contact AudioCodes technical support.

Related Documentation

Document Name
Mediant 7000 SBC Series User's Manual
Mediant 7000 SBC Datasheet
Mediant 7000 SBC Website Page

Document Revision Record

LTRT	Description
89751	Initial document release.

Table of Contents

1 Introduction

This document describes hardware and basic deployment of AudioCodes' carrier-grade Mediant 7000 Session Border Controller (SBC) series.

2 Specifications

The table below lists the device's specifications.

Table 2-1: Specifications

	Support
CPU	Intel Xeon D 1713NT SoC, 4 Cores, 8 Threads, 2.20GHz (TDP: 45W)
Memory	16GB DDR4-2600 UDIMM/RDIMM
Storage	256GB M.2 NVMe SSD
Network ports	■ 8 x 1GbE / 2.5GbE (Copper RJ45) ■ 4 x 10G (Optical SFP+) - Optional
BMC	■ IPMI 2.0 based remote management ■ Out-of-Band management ■ Hardware health monitor ■ Secured remote Console and virtual media ■ Remote power control
PSU	320W 2AC, (1+1 Redundancy), 80 PLUS® - Gold Certificate Rating
Expansion Slots	Network: 1 x Standard OCP 3.0 (**currently not in use**) PCIe x8: ■ 1 x FH PCIe Gen4 x 8 (**currently not in use**) or ■ 2 x FH PCIe Gen4 x 4 (**currently not in use**)
Cooling (Fans)	Six fans: ■ 3 x fans for CPU cooling (FRU option) ■ 1 x fan for PCIe slots cooling (not used) ■ 2 x fans for PSUs cooling (one on each PSU unit)

3 Physical Description

This section provides a physical description of the device.

Physical Dimensions

The device's physical dimensions are listed in the table below.

Table 3-1: Physical Dimensions

Item	Description
Physical Dimensions (W x L x H)	436.2 x 454.3 x 44.2 mm (17.17 x 17.88 x 1.74 in.)
Weight (approximate)	8 kg (17.64 lbs)
Environmental	■ Operational Temperature: 0°C ~ 40°C (32°F ~ 104°F) ■ Operational Humidity: 5% ~ 90% non-condensing ■ Storage Temperature: -10°C ~ 50°C (14°F ~ 122°F)

Front Panel

The device's front panel is shown in the following figureand described in the subsequent table.

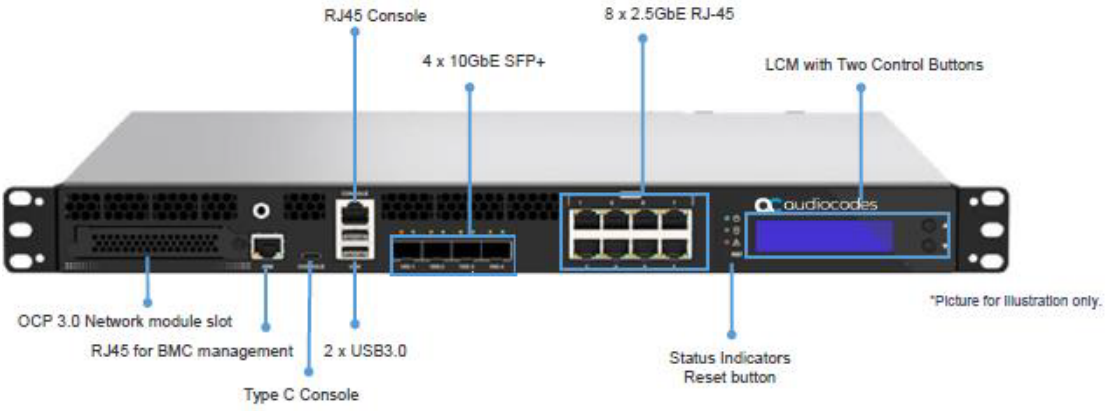


Table 3-2: Front Panel Components

Front Panel Components		Remarks
LAN	8 x 2.5G (RJ-45) and 4 x 10G (SFP+) BMC: 1G (RJ-45)	10G SFP+ ports are supplied with dust covers.

Front Panel Components		Remarks
USB	2 x USB 3.0 (5 Gb/s, Type A)	Currently not in use.
Console	1 x RJ-45 (RJ-45 to serial USB) 1 x USB Type-C	Using RJ-45 requires RJ-45 to serial USB cable.
Front LEDs	1 x Power LED, 1 x Storage LED 1 x Alert LED (software controlled)	-
LCD Module	Two rows of messages Including two control buttons	Control buttons for up/down scrolling of messages.
Ground Port	1 x Ground port for banana plug (4 mm)	Optional.
OCP 3.0 Slot	Networking expansion	Currently not in use.
Reset button	Pinhole	Resets the device.

Front Panel LEDs

The front panel LEDs are shown in the following figure and described in the subsequent table.

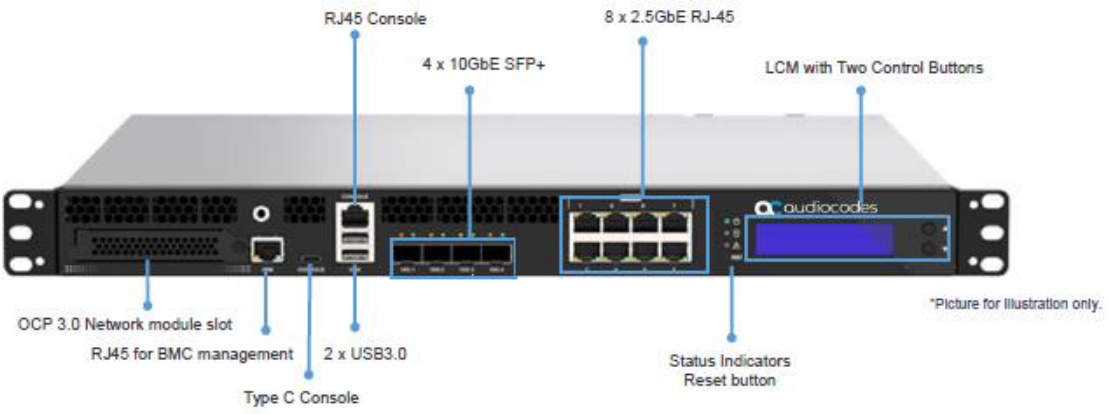


Table 3-3: Front-Panel LEDs

Item #	Description	Status
1	Power LED	■ **Solid blue**: The system is turned on ■ **Off**: The system is turned off (facility power is not present, power cords are not attached, no power supplies are

Item #	Description	Status
		installed, or power supply failure has occurred).
2	Alerts LED	■ **Flashing red**: Major alert (High Temperature / Fan failure / PSU failure) ■ **Solid red**: Critical alert (Critical High Temperature) ■ **Off**: No alerts
3	2.5GbE NIC ports	Activity LED on left: ■ **Solid yellow**: Link to network ■ **Flashing yellow**: Network traffic active ■ **Off**: No Link
		Speed LED on right ■ **Off**: 10Mbps ■ **Amber**: 100/1000 Mbps ■ **Green**: 2500 Mbps
4	10GbE NIC ports	Speed LED on left: ■ **Solid green**: 10Gbps speed ■ **Solid amber**: non-10Gbps speed ■ **Off**: Not connected
		Activity LED on right: ■ **Solid amber**: Link to network ■ **Flashing amber**: Network traffic active

Front Panel LCD Display

The front panel LCD Display is shown in the following figure:

The LCD display includes two rows:

- The content of the first row is described in the subsequent table.

- The second row displays the IP address of the Board Management Controller (BMC) when it's available.

Phase	1st Row Displayed Message	Description
Server Boot	"SYSTEM BOOTING"	Server power-on event.
	"BIOS: V5DIAR14"	Loading BIOS, including information of the BIOS version.
	"Checking Memory"	Performing a memory test.
	"Hardware initialization"	Hardware testing and initialization.
Boot Loader	"Booting..."	Loading bootloader.
	"Starting System"	Running bootloader.
SBC Loading and Running	"SBC Initializing"	SBC is application is initializing.
	"SBC Loading"	SBC is application is loading.
	"Standalone"	No High Availability (HA) license - the device is running in standalone mode.
	"No HA configured"	HA license exists but HA configuration is not completed - the device is running in standalone mode.
	"HA synchronizing"	HA

Phase	1st Row Displayed Message	Description
		synchronization between Active and Redundant device.
	"HA inactive"	HA is not operational - device in standalone mode.
	"HA active"	HA is operational and this is the Active device.
	"HA redundant"	HA is operational and this is the Redundant device.

The High Availability (HA) system requires:

- Two Mediant 7000 servers - one server functions as the Active and the other server functions as the Redundant.
- Both servers have the HA license.
- Minimum HA configuration on both servers (refer to the Mediant 7000 User's Manual).
- Configured and wired network Maintenance interfaces (refer to the Mediant 7000 User's Manual).

LCD Display Scroll

You can use the UP/DOWN buttons on the right side of the LCD display to view previous messages during the SBC loading and running phase.

- **UP button**: Displays one older message. If already reaching beginning of SBC loading phase, the display returns to the latest message.
- **DOWN button**: Displays one message. If already reaching latest message, the display returns to the first message in the SBC loading phase.

Rear Panel

The rear panel is displayed in the following figure and described in the subsequent table.

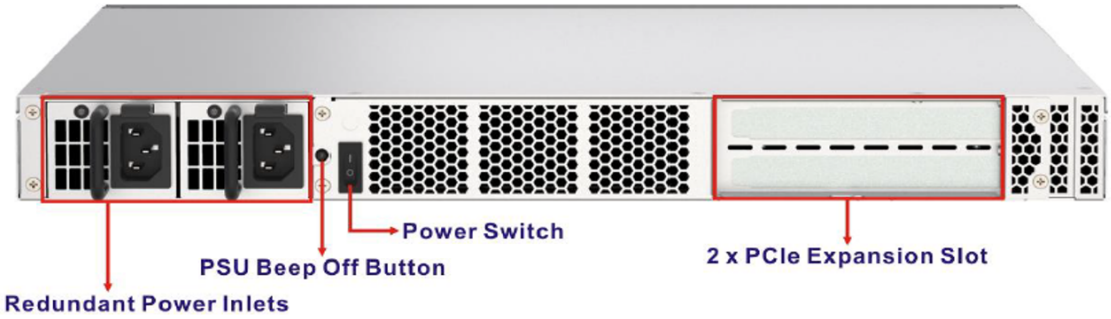


Table 3-4: Rear Panel

Item #	Description
1	Power supply 1 (PSU1).
2	Power supply 2 (PSU2).
3	PSU Beep Off Button. Press the button to turn off the Power alarm. The Power alarm is heard (long beep) whenever a power failure is detected on one of the power units. A failure could be any of the following: ■ Facility power is not present. ■ Power unit is not installed. ■ Power cord is not connected. ■ Power supply failure has occurred.
4	Power Switch.
5	Two PCIe Expansion Slots. **Note:** Currently, not in use.

PSU LEDs

Each PSU on the rear panel has a LED which is shown in the following figure and described in the subsequent table.

Table 3-5: PSU LED

Item #	Description	Status
1	Power supply 1 LED	■ **Solid green**: Normal operation. ■ **Flashing red:** Power input is not detected (accompanied with alarm beep). ■ **Off:** One or more of the following conditions exist: ✓ AC power unavailable. ✓ Power supply failed.
2	Power supply 2 LED	■ **Solid green:** Normal operation. ■ **Flashing red:** Power input is not detected (accompanied with alarm beep). ■ **Off:** One or more of the following conditions exist: ✓ AC power unavailable. ✓ Power supply failed.

Power Switch

The **Power Switch** button on the rear panel is a push button, which provides the following functionality:

- **When system in running state:**
  - **Short press:** Triggers a graceful shutdown.
  - **Long press:** Forces a shutdown.
- **When system in shutdown state:**
  - **Short press:** Triggers a power on.

4 Deploying the Device

This chapter describes how to deploy the device.

Deploying Rackmount Ears

The front-mounting ears are supplied with screws pack. You need to assemble these ears to deploy the sever in the rackmount.

Rack Mount Safety Instructions: When installing the chassis in a rack, implement the following safety instructions:

- Elevated Operating Temperature: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_A) of 35°C (95°F).
- Reduced Air Flow: Installation of the equipment in a rack should be such that the amount of air flow required for safe operation on 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.

Warning:

- Two people are required to mount the device in the 19-inch rack.
- When attaching the chassis to the rack, it is mandatory to connect it using front-mounting ears (supplied).

Connecting to Power and Replacing Power Supply

This section lists the various warnings, cautions and notes regarding connecting to the power supply and replacing power supply units.

Warning: To reduce the risk of electric shock or energy hazards:

- This equipment must be installed by trained service personnel, as defined by the NEC and IEC 60950-1, Second Edition, the standard for Safety of Information Technology Equipment.
- Connect the equipment to a reliably grounded Secondary circuit source. A Secondary circuit has no direct connection to a Primary circuit and derives its power from a transformer, converter, or equivalent isolation device.
- The branch circuit overcurrent protection for DC power supply must be rated 27 A.

Warnings:

- Both Power Supply modules (1 and 2) must be connected. Ensure that you connect each one to a different AC power supply source. Two Power Supplies provide 1+1 power load-sharing and redundancy. The AC power sockets are located on the device's rear panel.
- The two AC power sources must have the same ground potential.
- The device must be connected (by service personnel) to a socket-outlet with a protective earthing connection.
- Use only a certified 3-conductor power cord, supplied with the unit.

Warning: To reduce the risk of personal injury from hot surfaces, allow the power supply or power supply blank to cool before touching it.

Warning: When connecting both Power Supply modules, the two AC power sources must have the same ground potential.

Warning: The device must be connected (by service personnel) to a socket-outlet with a protective earthing connection.

Warning:

- Before extracting the Power Supply module, disconnect the power cord from the module.
- Before extracting the Power Supply module (after you have disconnected the power cord), wait at least three seconds for the capacitors to discharge.

Connecting Device to IP Network

This section describes how to connect the device to the IP network.

Port usage is as follows:

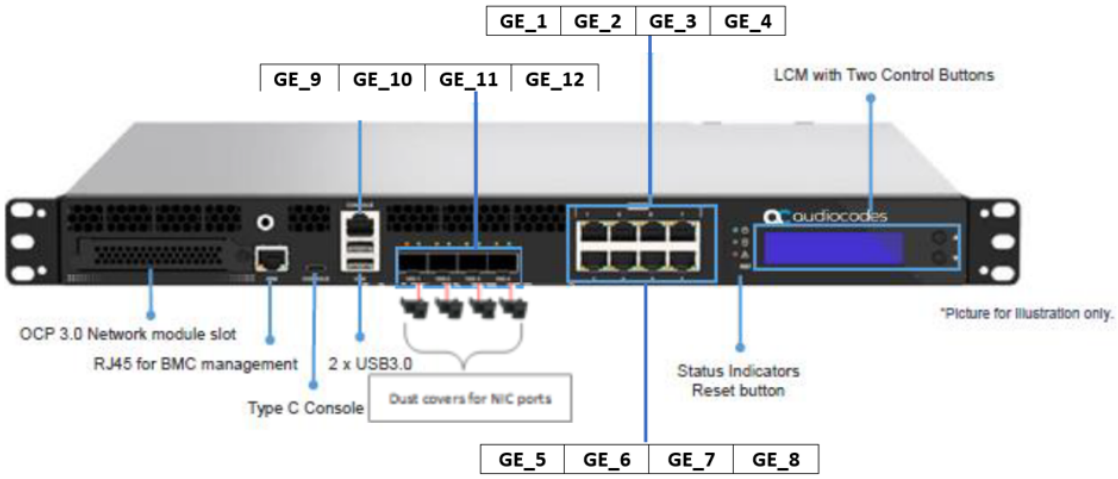
- Ports 1-12 are used for the SBC application:
  - Ports 1-8 must be connected using the copper 1-GbE / 2.5-GbE ports.
  - Ports 9-12 must be connected using SFP+ transceivers that can be purchased from AudioCodes.
- The BMC management port must be connected using the dedicated 1-GbE RJ-45 port.

The BMC port is for remote management of the chassis and allows operations such as power management, firmware updates, and SBC software re-installs.

Intra-building connections of the device require the use of shielded cables grounded at both ends.

Caution: The intra-building ports of the equipment are suitable for connection to intra-building or unexposed wiring or cabling only. The intra-building ports of the equipment must not be metallically connected to interfaces that connect to the Outside Plant (OSP) or its wiring. These interfaces are designed for use as intra-building interfaces only (Type 2 or Type 4 ports, as described in GR-1089–CORE, Issue 4) and requires isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection to connect these interfaces metallically to OSP wiring.

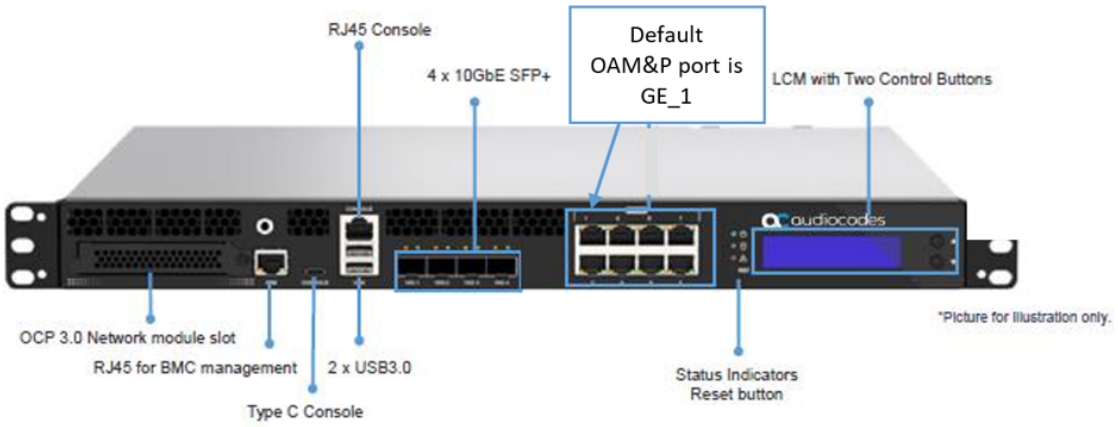
The device's management interface uses special string names to represent the Ethernet ports, as shown in the figure below:



The figure represents a configuration with 8 x 1 GbE / 2.5 GbE ports, ordered from **GE_1** to **GE_8** according to the figure. If the device is supplied with 10 GbE SFP+ transceivers, their order is **GE_9** to **GE_12**.

➢ To connect device to IP network:

1. Using an Ethernet cable, connect the RJ-45 network port **GE_1** on the device's front panel to the LAN.
2. Using an Ethernet cable, connect the RJ-45 network port for BMC management on the device's front panel to connect to the LAN.



- The default port used for OAM&P is port **GE_1**.
- The BMC Management port is not used for management of the SBC application; it's used for hardware management and monitoring of the server.

5 Initial Configuration

This section describes the procedures for the initial configuration of the device.

The device is supplied with software pre-installed. By default, the device has a default IP address that is most likely inaccessible from the customer's network.

Table 5-1: Default IP Address

Parameter	Value
IP Address	192.168.0.2
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0

Initial access to and configuration of the device can be done using any of the following device management interfaces:

- **Web interface:**
  a. Connect a computer directly to the **GE_1** port.
  b. Configure the computer network to reside on the same subnet (e.g., 192.168.0.Y/24).
  c. Access the Web interface (https://192.168.0.2) for initial configuration. Refer to the Mediant 7000 User's Manual for more details on network configuration and other configuration using the Web interface.
- **CLI:**
  a. Access the CLI using one of the following methods:
     - **Serial access:** Run a terminal utility running on your computer and use a serial port through the USB port on the computer (see Using Serial Access to Device below).
     - **SSH access:** Use the default IP address (192.168.0.2) on port 22.
     - Network through the BMC Web interface (see Using BMC Web Interface on the next page).
  b. See Reconfiguring Default IP Address to Match Network Settings on page 16 to connect to the Web interface.

Using Serial Access to Device

To access the device's serial interface, you must connect a USB cable to your computer's USB port.

You can use two types of cables:

- Using the RJ-45 to USB cable (supplied), which connects to the device's RJ-45 **Console** port.

- Using a standard USB-C to USB-A cable, which connects to the device's terminal (USB-C) port.

Once the cable is connected, a new COM device is created on your computer (see **device manager** under USB devices).

Open a terminal utility (e.g., PuTTY) to connect to the serial COM device and access the device's CLI. The speed of the serial COM device is 115200 (bps).

Once connected, see Reconfiguring Default IP Address to Match Network Settings on the next page.

Using BMC Web Interface

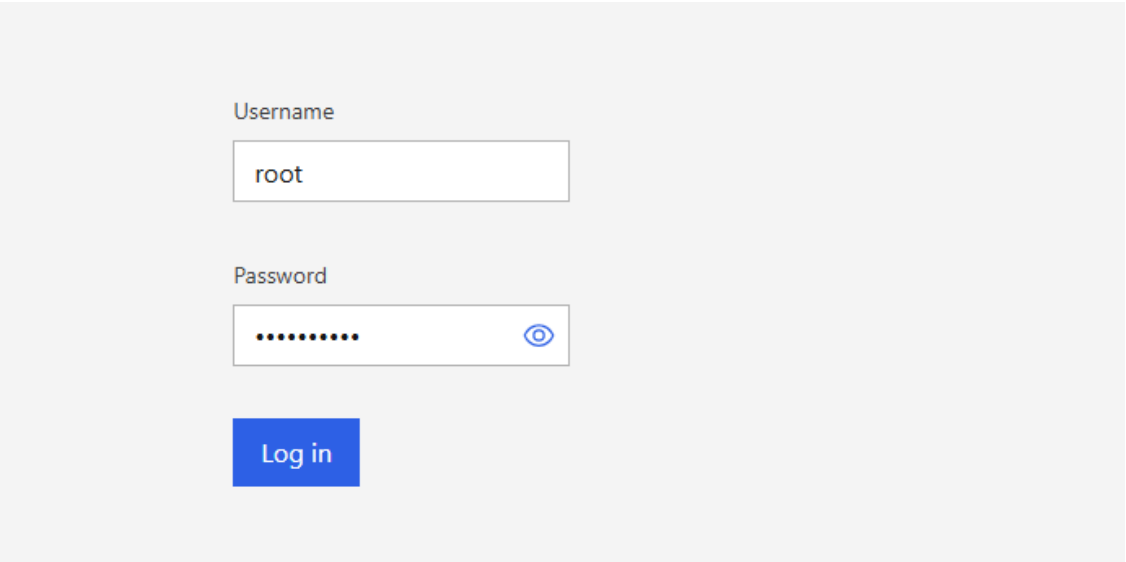
To initially access the BMC's Web interface:

1. Connect the BMC's Ethernet port on your device to the network with DHCP service.
2. When the SBC application runs, the BMC IP address is displayed on the LCD display of the device.
3. In your web browser, enter the URL https://<BMC IP Address>.

> Only secured HTTPS is supported.

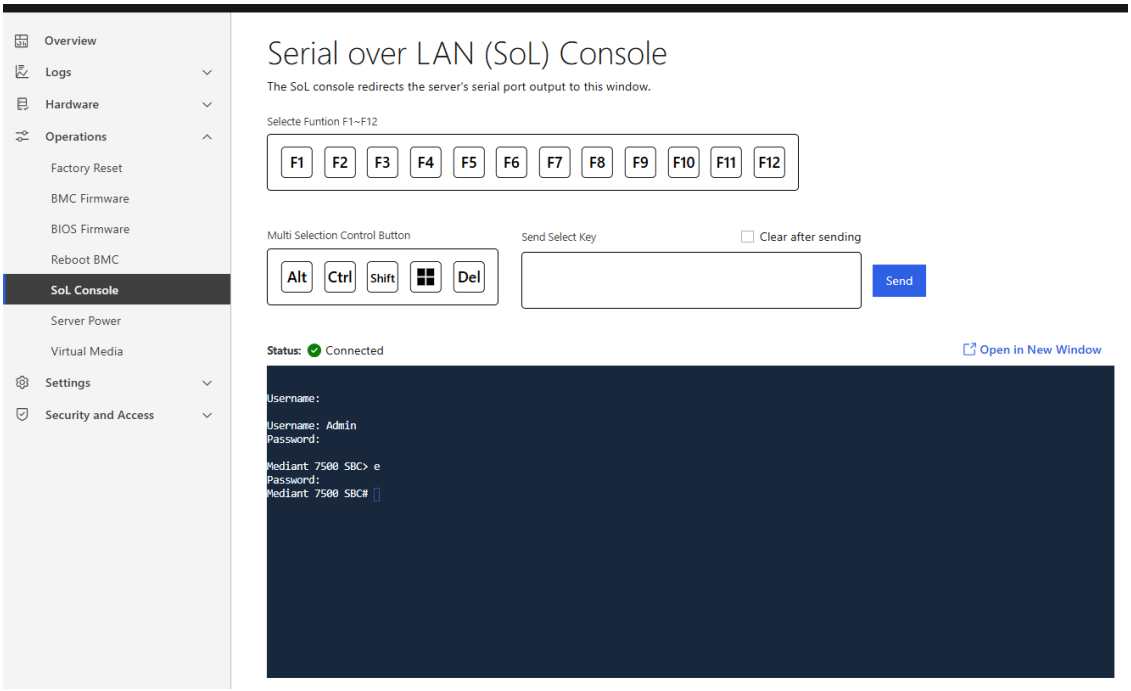
4. Enter the following credentials:
   - Username: **root**
   - Password: **IRIS + <last six digits of BMC MAC address, e.g., IRIS42F3E6>**

> The BMC MAC address is located on a label on the device's chassis.



5. Click **Log in**.

6. Navigate to **Operations** > **SoL Console** to access the remote terminal to the device:



Reconfiguring Default IP Address to Match Network Settings

➢ **To reconfigure IP address through CLI:**

1. At the console prompt, type the username (default is **Admin** - case sensitive):

```
Username: Admin
```

2. At the prompt, type the password (default is **Admin** - case sensitive):

```
Password: Admin
```

3. At the prompt, run the following command:

```
> enable
```

4. At the prompt, type the password again:

```
Password: Admin
```

5. At the prompt, type the following commands to access the network interface configuration:

```
# configure network
(config-network)# interface network-if 0
```

Use the Tab key to auto-complete partially entered commands.

6. At the prompt, type the following commands to configure the IP address, prefix length and default gateway:

```
(network-if-0)# ip-address 10.4.212.155
(network-if-0)# prefix-length 16
(network-if-0)# gateway 10.4.0.1
(network-if-0)# exit
```

7. At the prompt, type the following command to complete the network configuration:

```
(network-if-0)# exit
```

8. If the device is connected to the IP network that uses VLAN ID (for example, VLAN ID 10), type the following commands to configure it in the Ethernet Device table (otherwise skip to step 10):

```
(config-network)# interface network-dev 0
(network-dev-0)# vlan-id 10
(network-dev-0)# tagging tagged
(network-dev-0)# exit
```

9. At the prompt, type the following command to complete the configuration:

```
(network-dev-0)# exit
```

10. At the prompt, make sure that port #1 is connected (Link is UP) using the `show network physical-port` CLI command, as described in Viewing Network Port Status on the next page.
    Port #1 is mapped to network-if-0 by default.

11. At the prompt, type the following command to reset the product and activate the new configuration:

```
# reload now
```

After the device restarts, connect to its Web interface to continue provisioning. For more information, refer to the Mediant 7000 User's Manual.

Viewing Network Port Status

To view network port status (up / down) and MAC address, use the `show network physical-port` CLI command:

```
# show network physical-port

Port Num  Port Name  MAC Address  Speed Duplexity  Link Status  Native VLAN  Driver Info
--------  ---------  -----------  ----- ---------  -----------  -----------  -----------
1         GE_1   a0:f5:09:7b:d3:fe                 UP           1             igb zc
2         GE_2   a0:f5:09:7b:d3:ff                 DOWN         1             igb zc
3         GE_3   a0:f5:09:7b:d4:00                 DOWN         1             igb zc
4         GE_4   a0:f5:09:7b:d4:01                 DOWN         1             igb zc
5         GE_5   a0:f5:09:7b:d4:02                 DOWN         1             igb zc
6         GE_6   a0:f5:09:7b:d4:03                 DOWN         1             igb zc
7         GE_7   a0:f5:09:7b:d4:04                 DOWN         1             igb zc
8         GE_8   a0:f5:09:7b:d4:05                 DOWN         1             igb zc
9         GE_9   a0:f5:09:7b:d4:06                 DOWN         1             ice zc
10        GE_10  a0:f5:09:7b:d4:07                 DOWN         1             ice zc
11        GE_11  a0:f5:09:7b:d4:08                 DOWN         1             ice zc
12        GE_12  a0:f5:09:7b:d4:09                 DOWN         1             ice zc
```

Licensing the Device

The device is supplied with a pre-installed software and License Key. Use the pre-installed License Key to enable the call capacity and features that you ordered.

To upgrade your License Key, refer to the Mediant 7000 User's Manual.

6 Installation and Upgrade Issues

This section describes installation and upgrade issues.

Installing an HA System

You can configure two devices to operate in a High Availability (HA) configuration. For more information on HA, refer to the Mediant 7000 User's Manual.

Upgrading

You can update the device's software, for example, to implement software fixes. For more information, refer to the Mediant 7000 User's Manual.

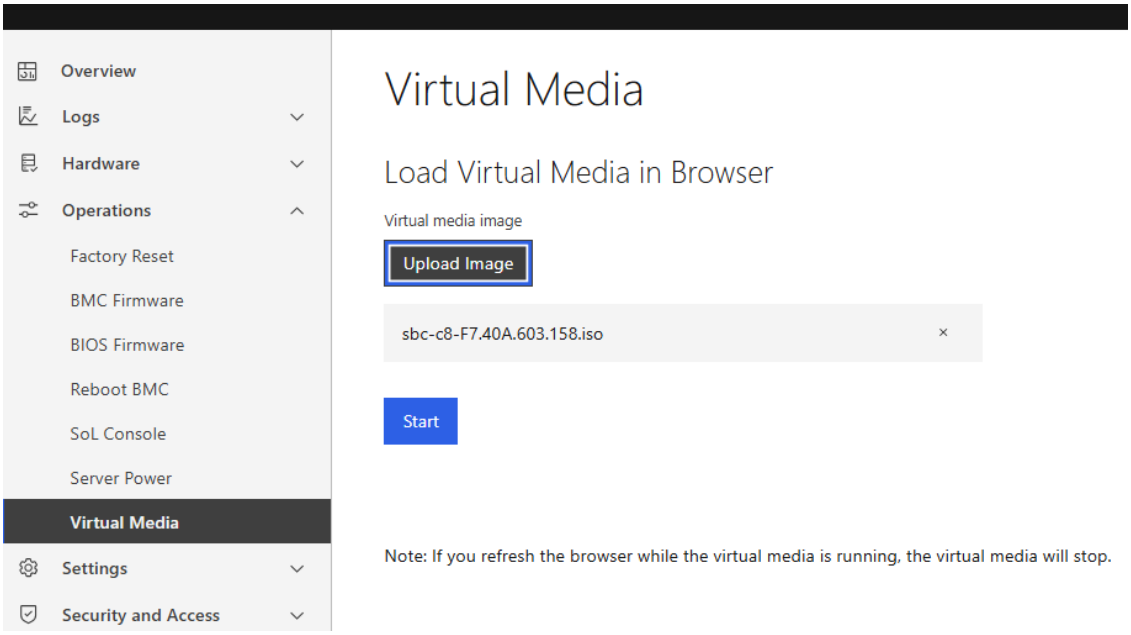
Reinstalling Software SBC from ISO Image

The device is pre-installed on the device's server. If a clean installation of the device's software is required, download the latest installation image from the AudioCodes website and install the software from the BMC Web interface > **Virtual Media**.

- DVD-RW is currently not operational.
- A clean installation deletes any user configuration, data or snapshots that were previously on the device.

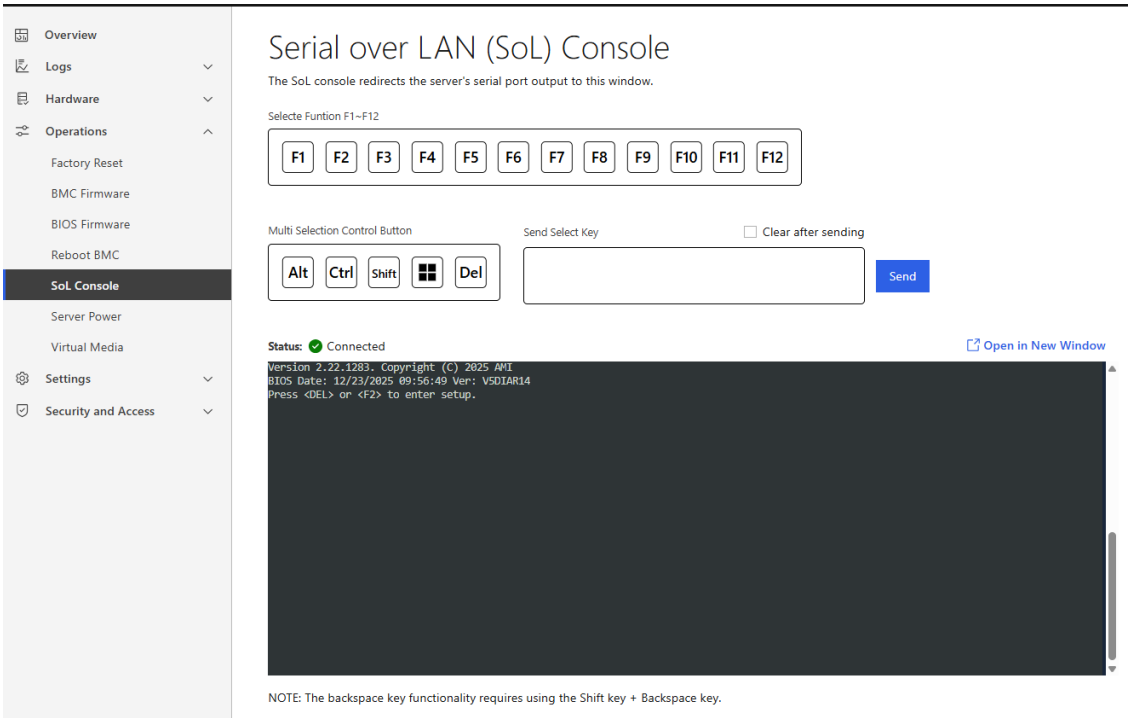
➢ **To install device:**

1. In the BMC Web interface menu, choose **Virtual Media** > **Upload Image** (see following figure).
2. Browse to the device's software ISO file that you downloaded from AudioCodes website, and then click **OK**.



3. Click **Start** to attach the ISO file.
4. Reset the server from **Power Operations** > **Reboot**.
5. Go to **SoL Console** to view the boot process from the ISO file

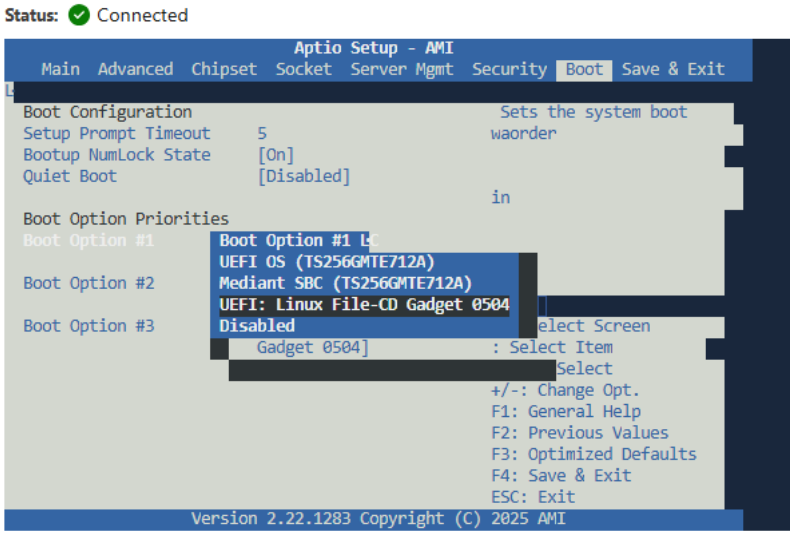
> The server boots about 30 seconds after you trigger a reboot.



6. Press the Del or F2 key to enter the BIOS setting.

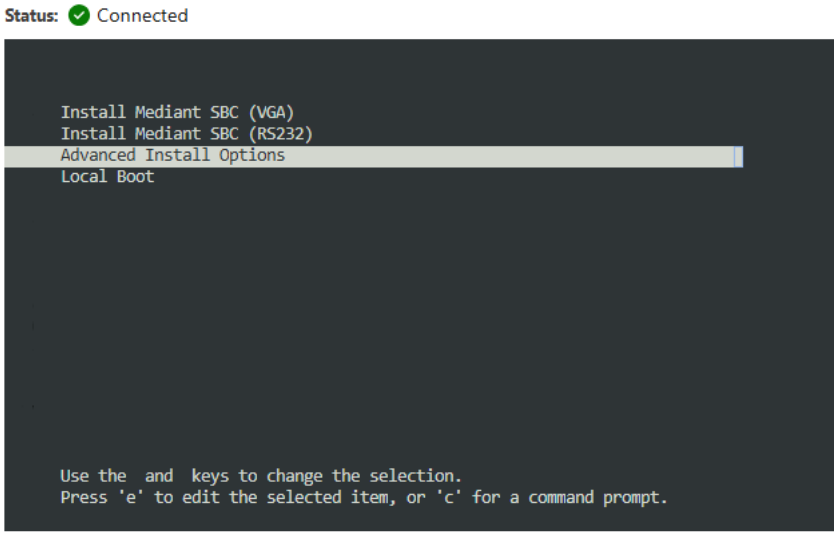
BIOS access is password protected. Contact AudioCodes support for accessing the BIOS.

7. On the BIOS setting, go to **Boot** > **Boot Option #1** > **UEFI: Linux File-CD**:



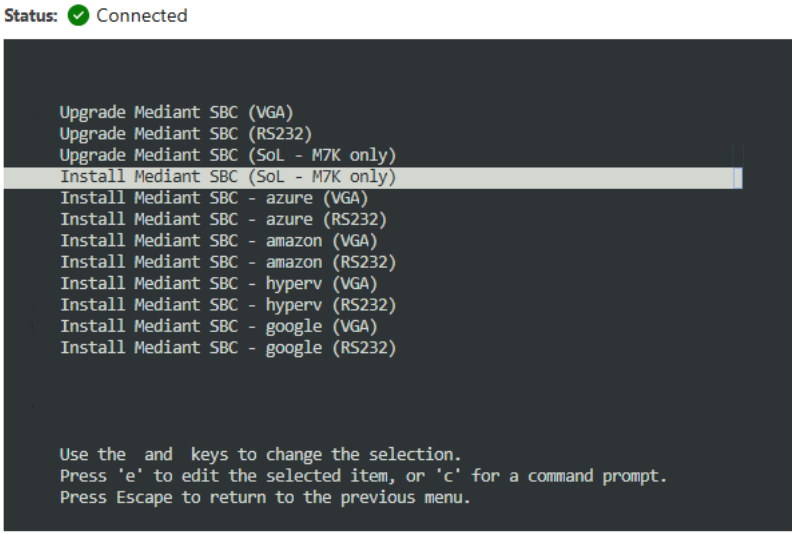
NOTE: The backspace key functionality requires using the Shift key + Backspace key.

8. Choose **Save & Exit** (or press F4).
9. After the reboot, the server boots from the attached ISO file of the SBC installation:



NOTE: The backspace key functionality requires using the Shift key + Backspace key.

10. Choose **Advanced Install Options**.
11. Choose **Install Mediant SBC (SoL – M7K only)**.



NOTE: The backspace key functionality requires using the Shift key + Backspace key.

12. Press the Enter key; installation starts from the BMC virtual media.
13. Wait for the 'Complete' prompt, which notifies you that installation is complete. Installation takes approximately 20 minutes.
14. Stop the Virtual Media that was selected before for ISO installation.
15. Press Enter to reboot the server. After rebooting, the server boots from the local disk to the newly installed device software.

Upgrading System Firmware

Each device is produced with the latest firmwares available at the time of the unit's production.

Occasionally, AudioCodes may inform customers (using application notes) of new firmware updates. These updates may include fixes or enhancements.

The device uses the following types of firmware:

- **BMC (Board Management Controller)** – updated through BMC's Web interface
- **BIOS (System ROM)** – updated through BMC's Web interface
- **EC (Embedded Controller)** – updated through the device's SBC management interface by AudioCodes support or according to a specific Product Notice.

BMC Firmware Upgrade

1. Log in to the BMC Web interface.
2. Shut down the server (**Operations** > **Server Power** > **Shutdown**).
3. Wait 30 seconds to ensure that the server is down.
4. Enter Firmware BMC Update (**Operations** > **BMC Firmware**).
5. Upload the .tar file (e.g., obmc-….tar).

BMC update takes about 20 minutes. The BMC reboots after BMC update.

6. Log in again to the BMC Web interface.

BIOS Firmware Upgrade

1. Log in to the BMC Web interface.
2. Shut down the server (**Operations** > **Server Power** > **Shutdown**).
3. Wait 30 seconds to ensure that the server is down.
4. Enter the Firmware BIOS Update (**Operations** > **BIOS Firmware**).
5. Upload the ZIP file (e.g., ROM_V5DIAR14.zip). BIOS update takes about 10 minutes and tThe BMC reboots after the update.
6. Log in again to the BMC Web interface; The server automatically boots after completion.

7 Rescue Options

The device features a System Snapshots mechanism which provides the capability of returning the system to a previous state. You can the mechanism as a rescue option if a system malfunction occurs. For more information, refer to the Mediant 7000 User's Manual.

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