

Comms Logger Cold Start Guide

Product Name: Comms Logger

Comms Logger Cold Start Guide

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Revision history

Date	Revision	Version	Comments
6/7/2017	B	0	Edited content for accuracy, grammar, and style.
2/5/2019	C	0	Updated instructions for Red Hat 6.X.
10/21/2020	D	0	Updated instructions for Red Hat 7.X.
2/22/2021	E	0	Added "Configure the RAID array," and "Verify the RAID drives' status."
3/10/2021	F	0	Removed all deprecated Red Hat 6.X references, including "Cold-start procedure for Comms Logger 6.X." Updated "(Optional) Media check." Mapped ASTi system part numbers, software versions, and BIOS versions for clarity in "Basic Input/Output System (BIOS) setup."
7/28/2021	F	1	Updated the 2U chassis diagram.
1/27/2022	F	2	Removed all Unified Comms references from the cold-start procedure. Made minor edits to grammar and style.
6/23/2022	F	3	Updated the 2U chassis diagram to include the Power and Hard Drive LEDs.
10/7/2022	F	4	Removed "license" references from the Red Hat Enterprise Linux export statement in the front matter. Updated the 2U chassis diagram to move the Eth card to the third slot.
3/8/2023	F	5	Updated the Red Hat Enterprise Linux export statement in the front matter.
3/11/2024	G	0	Added "BIOS setup for HW-1XXXXX-XXX and HW-2XXXXX-XXX."
3/12/2024	G	1	Added BIOS HW-1XXXXX-XXX or HW-2XXXXX-XXX to the table in "Basic Input/Output System (BIOS) setup."
3/13/2024	G	2	Updated the compatible software version for HW-1XXXXX-XXX and HW-2XXXXX-XXX in "Basic Input/Output System (BIOS) setup."

Date	Revision	Version	Comments
7/23/2024	H	0	<p>Updated "Cold-start Comms Logger 2.X or 8.X on a Comms Logger server (VSH-XXXXXX-XX)" for Comms Logger 8.X and later. Added "Comms Logger in a virtual machine" and "Comms Logger on customer or government equipment." Clarified that "RAID arrays" is optional depending on the customer's configuration and fixed an invalid command in "Verify the RAID drives' status."</p> <p>Removed instructions to configure the cloud ID in "System restoration." Replaced Voisus screenshots with Comms Logger screenshots and added product-specific conditions in "Record network data," "System backups," and "System restoration." Edited document for grammar and style. Added "(Optional) Licensing." Made a minor clarification to a note about resetting the server after reboot in the cold-start procedure.</p>
10/22/2024	H	1	<p>Edited note in "Cold-start Comms Logger 2.X or 8.X on a Comms Logger server (VSH-XXXXXX-XX)" to make Fedora Media Writer required.</p>
11/22/2024	I	0	<p>Added "Comms Logger cold-start procedures" and "Cold-start Comms Logger 8.3.X and later on a Comms Logger server (HW-1XXXXXX-XXX or HW-2XXXXXX-XXX)." Changed the title of "Cold-start Comms Logger 2.X or 8.X on a Comms Logger server (VSH-XXXXXX-XX)" for consistency and expanded the step instructing users to insert or mount the installation media. Made "(Optional) Media check" more generic to other types of installation media. Removed Server Part Number and RHEL Version columns from BIOS compatibility matrix tables in "Basic Input/Output System (BIOS) setup."</p>

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1.0 Introduction

The cold-start procedure described in this document allow you to build Comms Logger systems from scratch. This cold-start guide refers to Comms Logger software running on a specialized, three-drive hardware system, consisting of one main drive and two additional drives, set in a RAID1 array used only for storing Comms Logger data. There are three main reasons for using the cold-start procedure:

- Installing the latest software version
- Rebuilding a damaged hard drive
- Creating a spare hard drive



Caution: *Performing a cold-start procedure erases the main drive; however, the cold-start procedure preserves data on the two RAID1 array data drives.*

The following steps outline the cold-start procedure:

1. To back up the Comms Logger server, go to Section 3.0, "System backups" on page 5.
2. To configure the BIOS, ensuring the cold-start procedure runs properly, go to Section 4.0, "Basic Input/Output System (BIOS) setup" on page 7.
3. *(Optional)* To perform a media check, go to Section 5.0, "(Optional) Media check" on page 12.
4. Complete the Comms Logger cold-start procedure, erase the hard drive, and install the Red Hat and Comms Logger software. For cold-start procedure instructions, go to Section 6.0, "Comms Logger cold-start procedures" on page 14.
5. *(Optional)* If applicable, configure a virtual machine (VM) according to the specifications in Appendix B, "Comms Logger in a virtual machine" on page 20.
6. To install Comms Logger on hardware or a VM, complete the Comms Logger cold-start procedure in Section 6.2, "Cold-start Comms Logger 2.X or 8.X on a Comms Logger server (VSH-XXXXX-XX)" on page 15.
7. To restore the Comms Logger server, go to Section 7.0, "System restoration" on page 17.

2.0 Required equipment

To complete the Comms Logger cold-start procedure, you will need the following items:

- A Comms Logger 2U platform with a removable hard drive
- Keyboard
- Monitor
- (Optional) Mouse
- Comms Logger installation media (i.e., DVD, USB drive, ISO)
- Network data
 - Eth0 IPv4 address
 - Subnet mask

Figure 1, "Comms Logger (P/N: TL-AT) 2U chassis" below shows the Comms Logger (P/N: TL-AT) 2U chassis:

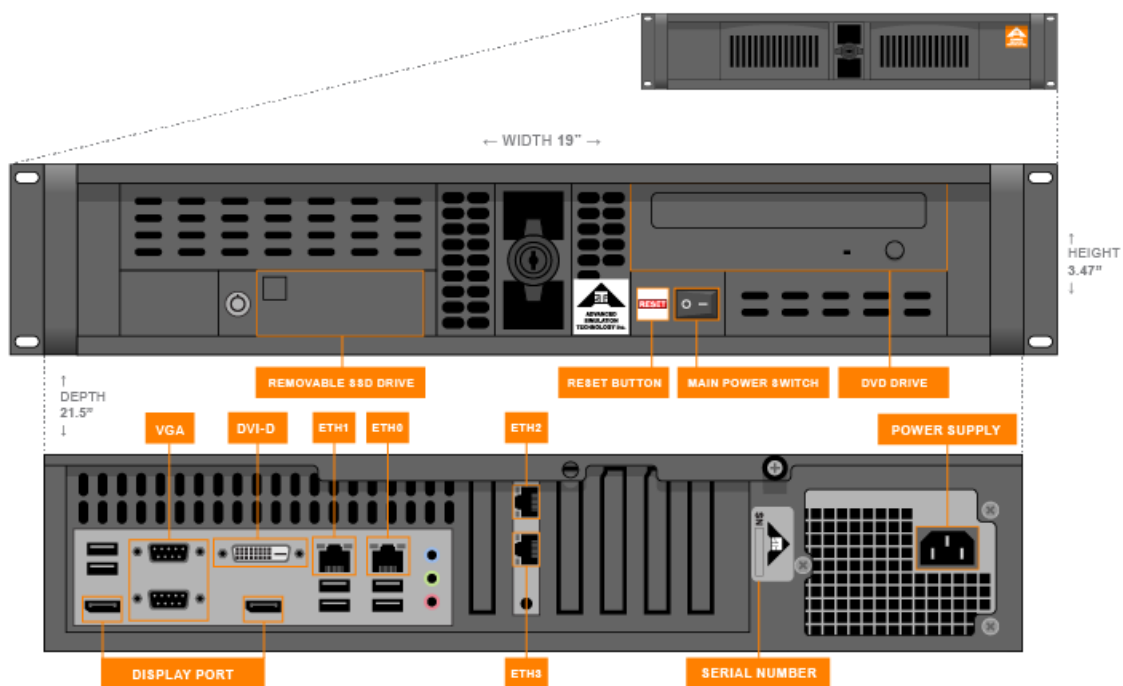


Figure 1: Comms Logger (P/N: TL-AT) 2U chassis

Figure 2, "Comms Logger (P/N: ASTI-SRV) 2U chassis" below shows the Comms Logger (P/N: ASTI-SRV) 2U chassis diagram:

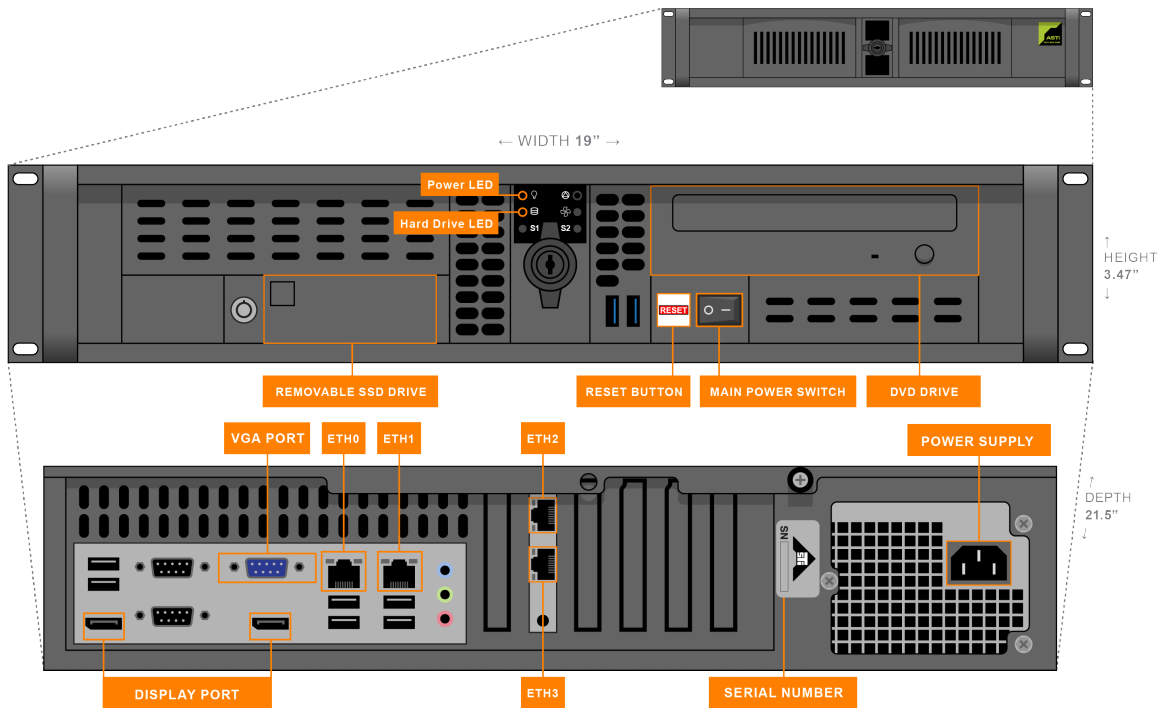


Figure 2: Comms Logger (P/N: ASTI-SRV) 2U chassis



Note: The chassis and connections shown here are for general representation only; the location(s) of cards, ports, and slots may vary. For specific designations, consult the included engineering drawings and labels on the rear of your chassis.

2.1 Record network data

To record your server's network data, follow these steps:

1. From the top right, go to **Manage** (🔧) > **Network Configuration**.

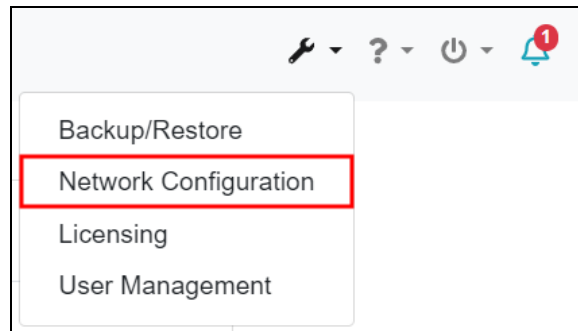


Figure 3: Network Configuration navigation

- Record your device's **IPv4 Address** and **Subnet Mask** for future reference.

The screenshot shows a configuration page titled "Network Devices". On the left, there is a vertical list of interface names: eth0, eth1, eth2, and eth3. The eth0 interface is selected and highlighted in blue. To the right of this list, the configuration details for eth0 are displayed. These include: "Device: eth0", "Status: Connected" (in green text), "MAC Address: [blurred]", "Address Mode: Fixed" (with a dropdown arrow), "IPv4 Address: [blurred]", and "Subnet Mask: 255.255.0.0". A red rectangular box is drawn around the "IPv4 Address" and "Subnet Mask" fields to highlight them.

Figure 4: Comms Logger server network information

3.0 System backups

The cold-start procedure completely erases the Comms Logger server's hard drive, including system users and Distributed Interactive Simulation (DIS) settings. To back up your data in the Comms Logger web interface, follow these steps:

1. Open a web browser on a computer or tablet sharing a network with the Comms Logger server.
2. In the address bar, enter the Comms Logger server's IP address.
3. Log into the Comms Logger server using the following default credentials:

Username	Password
admin	astirules

4. From the top right, go to **Manage** () > **Backup/Restore**.

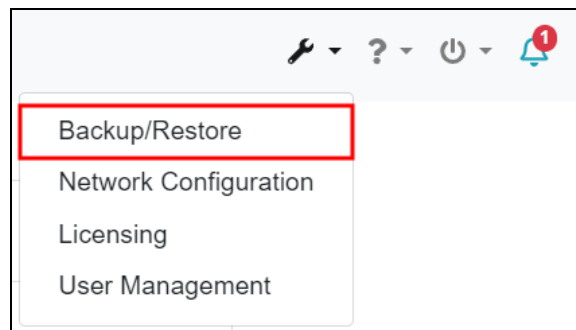

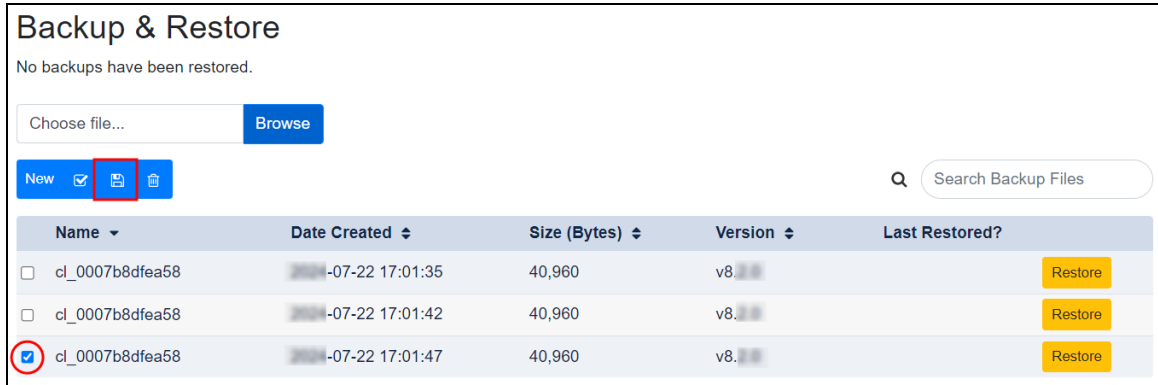


Figure 5: Backup/Restore navigation

5. To create a new backup of your Comms Logger server, select .
6. To download the backup to your computer's local hard drive, choose a backup to save.

7. To save your backup, select **Download Selected** ().



The screenshot shows the 'Backup & Restore' interface. At the top, it says 'No backups have been restored.' Below this is a 'Choose file...' input field with a 'Browse' button. There are three action buttons: 'New', a checked checkbox, and a 'Download Selected' icon (a blue square with a white download symbol), which is highlighted with a red box. To the right is a search bar labeled 'Search Backup Files'. Below these is a table with the following columns: 'Name', 'Date Created', 'Size (Bytes)', 'Version', and 'Last Restored?'. The table contains three rows, each with a checkbox, a file name 'cl_0007b8dfea58', a date '2024-07-22 17:01:35', '40,960' bytes, 'v8.2.0', and a 'Restore' button. The first row's checkbox is unchecked, the second is unchecked, and the third is checked and circled in red.

Name	Date Created	Size (Bytes)	Version	Last Restored?
<input type="checkbox"/> cl_0007b8dfea58	2024-07-22 17:01:35	40,960	v8.2.0	Restore
<input type="checkbox"/> cl_0007b8dfea58	2024-07-22 17:01:42	40,960	v8.2.0	Restore
<input checked="" type="checkbox"/> cl_0007b8dfea58	2024-07-22 17:01:47	40,960	v8.2.0	Restore

Figure 6: Backup & Restore settings

4.0 Basic Input/Output System (BIOS) setup

Before completing the cold-start procedure, you will need to set up your server's BIOS settings. The BIOS settings control the server's foundational behavior, including system boot order, hardware initialization, and essential communication among the server components. Proper BIOS configuration enhances the server hardware's compatibility, stability, and performance, which are critical for successful software installation and operation.

ASTi's BIOS documentation now includes servers using chassis configuration numbers (e.g., HW-1XXXXX-XXX and HW-2XXXXX-XXX) and servers that use motherboard models (e.g., Q17MX) for identification. It consists of two main sections: one for HW-1 and HW-2 configurations with the ASTI-SRV part number and another primarily for servers with a VSH chassis configuration. The second section identifies servers by motherboard model and includes some legacy chassis configurations that predate the VSH naming schema. This structure streamlines BIOS setup while supporting all server types.

4.1 BIOS setup for HW-1XXXXX-XXX and HW-2XXXXX-XXX

This section provides BIOS setup instructions for ASTi servers using the HW-based naming schema, identified by configuration numbers such as HW-1XXXXX-XXX and HW-2XXXXX-XXX. To confirm your server's configuration, go to Table 1, "Comms Logger BIOS compatibility matrix" below, which maps the configuration number to the applicable Comms Logger software version:

Chassis Configuration	Comms Logger Software Version
HW-1XXXXX-XXX, HW-2XXXXX-XXX	8.3.X and later

Table 1: Comms Logger BIOS compatibility matrix

To set up the BIOS for the HW-1XXXXX-XXX and HW-2XXXXX-XXX chassis configurations, follow these steps:

1. Reboot the server, and immediately press Del as the system boots to enter the **BIOS Setup Utility**.
2. Press F9 to open **Load Optimal Defaults?**, and select **Yes**.
3. On **Main**, set **System Date** and **System Time** using Greenwich Mean Time.
4. Go to **Advanced > Power & Performance**, and set **C states** to **Disabled**.
5. To save and reset, press F10. When **Save & reset** appears, select **Yes**. Wait as the server reboots.

4.2 BIOS setup for VSH-XXXXX-XX and earlier configurations

This chapter covers BIOS setup for ASTi servers identified by their motherboard models; specifically, it refers to servers with a VS-SRV part number and a VSH-XXXXX-XX chassis configuration, as well as some legacy configurations that differ from these setups.

To determine your server's chassis configuration, part number, and/or motherboard model, first check the label on the rear of the chassis. Next, use Table 2, "Comms Logger BIOS compatibility matrix" below to identify your server by the motherboard model and ASTi software version, and follow the corresponding BIOS setup instructions:

Motherboard Model	Comms Logger Software Version
Q17MX/AX	2.0 and later
Q67AX	1.0 and later

Table 2: Comms Logger BIOS compatibility matrix

4.2.1 BIOS: Q17MX or Q17AX

To set up BIOS version Q17MX or Q17AX, follow these steps:

1. Reboot the server, and immediately press Del as the system boots to enter the **BIOS Setup Utility**.
2. Press F3 to open **Load Optimal Defaults?**, and select **Yes**.
3. On **Main**, set **System Date** and **System Time** using Greenwich Mean Time.
4. Go to **Chipset > PCH-IO Configuration**, and set the following:
 - a. **Onboard LAN1 Controller** to **Enabled**
 - b. **Onboard LAN2 Controller** to **Enabled**
 - c. **System State After Power Failure** to **Always On**
5. Press Esc. Go to **Chipset > System Agent (SA) Configuration**, and set **VT-d** to **Enabled**.
6. Press Esc. Go to **Advanced > CSM Configuration**, and set **Network** to **Legacy**.
7. To save and reset, press F4. When the "Save configuration and reset?" message appears, select **Yes**. Wait as the server reboots.
8. As the system reboots, press Del to return to **BIOS Setup Utility**.

9. Go to **Advanced > CPU Configuration**, and set the following:
 - a. **Hyper-threading** to **Disabled**
 - b. **Intel Virtualization Technology** to **Enabled**
10. Press Esc. Go to **Advanced > SATA Configuration**, and set **SATA Mode Selection** to **AHCI**.
11. Press Esc. Go to **Super IO Configuration > Serial Port 1 Configuration**, and set **Serial Port** to **Disabled**.
12. Press Esc. Go to **Serial Port 2 Port Configuration**, and set **Serial Port** to **Disabled**.
13. Press Esc. Go to **Serial Port 3 Port Configuration**, and set **Serial Port** to **Disabled**.
14. Press Esc. Go to **Serial Port 4 Port Configuration**, and set **Serial Port** to **Disabled**.
15. Press Esc. Go to **Serial Port 5 Port Configuration**, and set **Serial Port** to **Disabled**.
16. Press Esc. Go to **Serial Port 6 Port Configuration**, and set **Serial Port** to **Disabled**.
17. Press Esc twice, go to **Boot**, and set the **Boot Option Priorities** as follows:
 - a. **Boot Option #1** to the *DVD drive*



Important: If available, do not select the *Unified Extensible Firmware Interface (UEFI)* option for *DVD* or *USB*.

- b. **Boot Option #2** to the *hard drive* option
- c. **Boot Option #3** to the *network* option
- d. **Boot Option #4** to **Disabled**



Note: *Hardware names and model numbers may vary depending on your hardware type.*

18. To save and reset, press F4. When the “Save configuration and reset?” message appears, select **Yes**. Wait as the server reboots.

4.2.2 BIOS: Q67AX 2.14.1219 and later

To set up BIOS Q67AX 2.14.1219 and later, follow these steps:

1. Reboot the server, and immediately press Del as the system boots to enter the **BIOS Setup Utility**.
2. Press F3, and set “Load Optimized Defaults?” to **Yes**.
3. On **Main**, set **System Date** and **System Time** using Greenwich Mean Time.
4. Go to **Chipset > PCH-IO Configuration**, and set the following:
 - a. **Onboard LAN1 Controller** to **Enabled**
 - b. **Onboard LAN2 Device** to **Enabled**
 - c. **Restore AC Power Loss** to **Power On**
5. Press Esc. Go to **Chipset > System Agent (SA) Configuration**, and set **VT-d** to **Enabled**.
6. Press Esc. Go to **Boot > CSM parameters**, and set **Launch PXE OpROM policy** to **Legacy only**.
7. To save and reset, press F4. A confirmation message requests, “Save configuration and reset?” Select **Yes**.
8. As the system reboots, press Del to return to **BIOS Setup Utility**.
9. Press Esc. Go to **Advanced > CPU Configuration**, and set the following:
 - a. **Hyper-threading** to **Disabled**
 - b. **Intel Virtualization Technology** to **Enabled**
10. Press Esc. Go to **SATA Configuration**, and set **SATA Mode Selection** to **AHCI**.
11. Press Esc. Go to **SMART Settings**, and set **SMART Self Test** to **Enabled**.
12. Press Esc. Go to **Super IO Configuration > COM1 Port Configuration**, and set **Serial Port** to **Disabled**.
13. Press Esc. Go to **COM2 Port Configuration**, and set **Serial Port** to **Disabled**.
14. Press Esc. Set **CIR Controller** to **Disabled**.
15. Press Esc. Go to **Second Super IO Configuration > COM3 Port Configuration**, and set **Serial Port** to **Disabled**.
16. Press Esc. Go to **COM4 Port Configuration**, and set **Serial Port** to **Disabled**.
17. Press Esc. Go to **COM5 Port Configuration**, and set **Serial Port** to **Disabled**.

18. Press Esc. Go to **COM6 Port Configuration**, and set **Serial Port** to **Disabled**.
19. Press Esc twice, and go to **Third Super IO Configuration > COM7 Port Configuration**. Set **Serial Port** to **Disabled**.
20. Press Esc. Go to **COM8 Port Configuration**, and set **Serial Port** to **Disabled**.
21. Press Esc. Go to **COM9 Port Configuration**, and set **Serial Port** to **Disabled**.
22. Press Esc. Go to **COM10 Port Configuration**, and set **Serial Port** to **Disabled**.
23. Press Esc twice, go to **Boot**, and set **Boot Option Priorities** as follows:
 - a. **Boot Option #1** to the *DVD drive* option
 - b. **Boot Option #2** to the *hard drive* option
 - c. **Boot Option #3** to the *network* option



Note: Hardware names and model numbers may vary depending on your hardware type.

24. Press Esc. Go to **Network Device BBS Priorities**, and set the following:
 - a. **Boot Option #2** to **Disabled**
 - b. **Boot Option #3** to **Disabled** (if present)
 - c. **Boot Option #4** to **Disabled** (if present)
 - d. **Boot Option #5** to **Disabled** (if present)
 - e. **Boot Option #6** to **Disabled** (if present)



Note: The number of boot options may vary depending on your external Ethernet configuration.

25. To save and reset, press F4. When the “Save configuration and reset?” message appears, select **Yes**. Wait as the server reboots.

5.0 (Optional) Media check

Follow the instructions below to verify the integrity of the Comms Logger installation media (e.g., USB, DVD, or .iso file). This procedure is useful if you suspect a problem with your media. The verification will fail if a file on the media is unreadable or corrupted. You only need to verify the media contents once, whether you are cold-starting one or several systems with the same media.



Caution: *If verification succeeds, the cold-start procedure automatically starts, erasing your hard drive. You cannot perform a media check separately from the cold-start procedure.*

To verify your installation media's contents, follow these steps:

1. Connect a monitor, keyboard, and mouse to the Comms Logger server.
2. Turn on the server.
3. Insert or mount the installation media (i.e., USB, Comms Logger Software Installation DVD, or .iso file).
4. For Basic Input/Output System (BIOS) configurations, do the following:
 - a. Reboot the server.
 - b. Allow the server to boot from the installation media. If it doesn't, reboot the server again, and press F7 at the POST screen to boot from USB or DVD. Alternatively, press Del to enter the BIOS, and set the installation media as the first boot option.



Important: *Some systems may not support selecting the boot device with F7.*

- c. At the prompt, run **mediacheck**.

For Unified Extensible Firmware Interface (UEFI) configurations, do the following:

- a. Reboot the server.
- b. At the POST screen, immediately press F7 to boot via DVD or USB.
- c. In **Please select boot device:**, select **UEFI device**, where device is the bootable media's device name or identifier (e.g., HL-DT-ST DVDROM GH24NSC0).
- d. Select **Install Comms Logger w/ mediacheck**, and press Enter.

5. The screen displays a progress message indicating “Checking *device*” (where *device* is the hardware device's name), along with a percentage that gradually increases until it reaches 100 percent. To abort, press Esc. This process typically takes five to ten minutes to complete.
6. If the media check passes, the cold-start procedure automatically begins. If it fails, the screen displays a “System halted” message. Try creating new installation media, or contact support@asti-usa.com for assistance.

6.0 Comms Logger cold-start procedures

This section details cold-start procedures for installing Comms Logger software on a Comms Logger server. Specifically, it covers installation of Comms Logger 7.X or 8.X on the HW-1XXXXX-XXX, HW-2XXXXX-XXX, and VSH-XXXXX-XX chassis configurations.

This chapter discusses how to:

- Cold-start Comms Logger 8.3.X and later on a Comms Logger server (HW-1XXXXX-XXX or HW-2XXXXX-XXX)
- Cold-start Comms Logger 2.X or 8.X on a Comms Logger server (VSH-XXXXX-XX)

6.1 Cold-start Comms Logger 8.3.X and later on a Comms Logger server (HW-1XXXXX-XXX or HW-2XXXXX-XXX)



Note: Comms Logger supports cold-starting with USB media in addition to a DVD. To install Comms Logger software on a USB, flash the .iso image using Fedora Media Writer at github.com/FedoraQt/MediaWriter before beginning the cold-start procedure. To learn how to install Comms Logger software on a USB, go to “Prepare a USB Drive for ASTi Software Installation (#139)” at support.asti-usa.com/appnotes/139.html.



Caution: Performing a cold-start procedure will completely erase the system hard drive.

To cold-start Comms Logger 8.3.X and later on a Comms Logger server (HW-1XXXXX-XXX or HW-2XXXXX-XXX), follow these steps:

1. Connect a monitor, keyboard, and mouse to the Comms Logger server.
2. Turn on the server.
3. Insert or mount the installation media (i.e., USB, Comms Logger Software Installation DVD, or .iso file).
4. Reboot the server.
5. At the POST screen, immediately press F7 to boot via DVD or USB.
6. In **Please select boot device:**, select **UEFI device**, where device is the bootable media’s device name or identifier (e.g., HL-DT-ST DVDRAM GH24NSC0).
7. When the Comms Logger welcome screen appears, press Enter to begin installing the software. Wait 10–15 minutes for installation to complete.

8. Eject or unmount the installation media (i.e., USB, Comms Logger Software Installation DVD, or .iso file).
9. Reboot the server.



Important: *If the system hangs after installation or during reboot, press the RESET button on the front of the chassis.*

10. Log into the system using the following default credentials:

Username	Password
root	abcd1234

11. *(Optional)* To set the IP address and subnet mask, run **ace-net-config -a xxx.xxx.xxx.xxx -n yyy.yyy.yyy.yyy**, where *xxx.xxx.xxx.xxx* is the IP address and *yyy.yyy.yyy.yyy* is the netmask. This configuration sets the IP address and netmask for Eth0, which you can use to access the Comms Logger web interface via a browser to complete the network setup.
12. *(Optional)* To view help text for the command options, enter **ace-net-config -h**, and press Enter.
13. To activate the changes, enter **reboot**, and press Enter.

6.2 Cold-start Comms Logger 2.X or 8.X on a Comms Logger server (VSH-XXXXX-XX)



Note: *Comms Logger supports cold-starting with USB media in addition to a DVD. To install Comms Logger software on a USB, flash the .iso image using Fedora Media Writer at github.com/FedoraQt/MediaWriter before beginning the cold-start procedure. To learn how to install Comms Logger software on a USB, go to “Prepare a USB Drive for ASTi Software Installation (#139)” at support.asti-usa.com/appnotes/139.html.*



Caution: *Performing a cold-start procedure will completely erase the system hard drive.*

To cold-start Comms Logger 7.X or 8.X on a Comms Logger server (VSH-XXXXX-XX), follow these steps:

1. Connect a monitor, keyboard, and mouse to the Comms Logger server.
2. Turn on the server.

3. Insert or mount the installation media (i.e., USB, Comms Logger Software Installation DVD, or .iso file).
4. Reboot the server.
5. Allow the server to boot from the installation media. If it doesn't, reboot the server again, and press F7 at the POST screen to boot from USB or DVD. Alternatively, press Del to enter the BIOS, and set the installation media as the first boot option.



Important: Some systems may not support selecting the boot device with F7.

6. When the Comms Logger welcome screen appears, press Enter to begin installing the software. Wait 10–15 minutes for installation to complete.
7. Eject or unmount the installation media (i.e., USB, Comms Logger Software Installation DVD, or .iso file).
8. Reboot the server.



Important: If the system hangs after installation or during reboot, press the **RESET** button on the front of the chassis.

9. Log into the system using the following default credentials:

Username	Password
root	abcd1234

10. (Optional) To set the IP address and subnet mask, run **ace-net-config -a xxx.xxx.xxx.xxx -n yyy.yyy.yyy.yyy**, where *xxx.xxx.xxx.xxx* is the IP address and *yyy.yyy.yyy.yyy* is the netmask. This configuration sets the IP address and netmask for Eth0, which you can use to access the Comms Logger web interface via a browser to complete the network setup.
11. (Optional) To view help text for the command options, enter **ace-net-config -h**, and press Enter.
12. To activate the changes, enter **reboot**, and press Enter.

7.0 System restoration

To restore the data saved in Section 3.0, "System backups" on page 5, follow these steps:

1. Open a web browser on a computer or tablet sharing a network with the Comms Logger server.
2. In the address bar, enter the Comms Logger server's IP address.
3. Log into the Comms Logger server using the following default credentials:

Username	Password
admin	astirules

4. From the top right, go to **Manage** () > **Backup/Restore**.

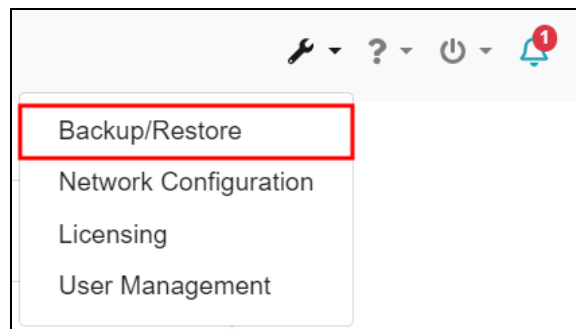



Figure 7: Backup/Restore navigation

5. Select , and find the backup on your local system.

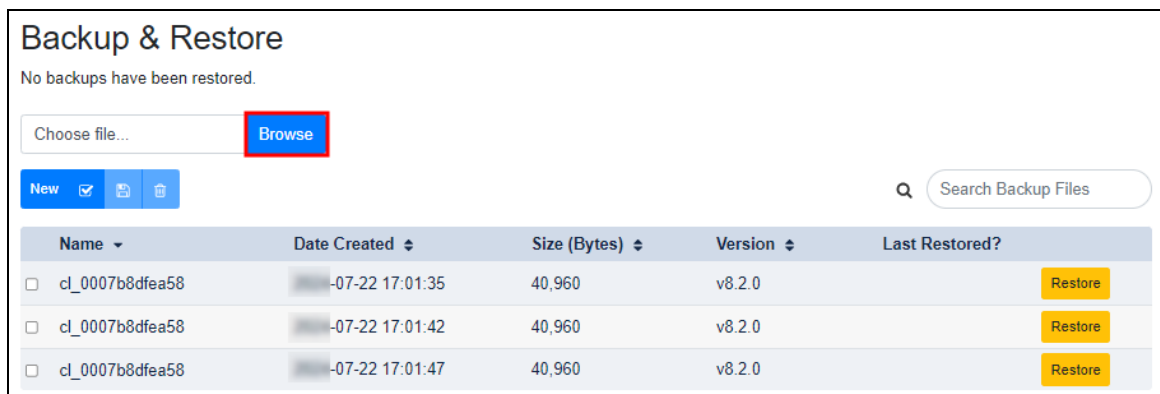



Figure 8: Find backup on local system

6. Select .
7. When prompted, reboot the Comms Logger server.

8.0 (Optional) Licensing

After cold-starting the Comms Logger server and restoring your system configuration, you may wish to verify your license is still active. The Comms Logger server requires an active license to function properly. While you don't have to reinstall your license after a cold start, it's a good idea to check its status in the Comms Logger web interface. This section explains how to ensure your license is active and operational. To learn more about USB License Keys, go to "Licenses" in the [Comms Logger User Guide](#).

To verify the Comms Logger server's license, follow these steps:

1. From the top right, go to **Manage** () > **Licensing**.

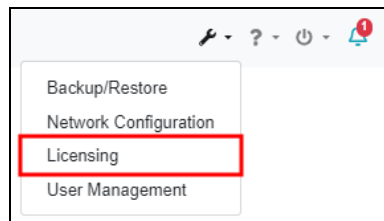
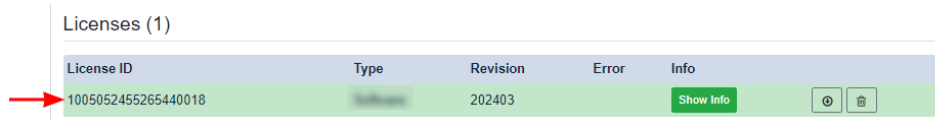


Figure 9: Licensing navigation

2. From the top navigation bar, go to **System** > **LICENSING**.
3. Verify an active license appears under **Licenses**:

A screenshot of the 'Licenses (1)' section in the Comms Logger web interface. It shows a table with one row representing an active license. A red arrow points to the 'License ID' column. The table has columns for License ID, Type, Revision, Error, and Info. The 'Info' column contains a 'Show Info' button and two small icons (refresh and delete).



License ID	Type	Revision	Error	Info
1005052455265440018	Active	202403		Show Info  

Figure 10: Active license

Appendix A: Memory Test (Comms Logger 7.X and 8.X)

The Memory Test is a useful troubleshooting tool if you are experiencing problems such as system lockup, freezing, random rebooting, or graphics/screen distortion. ASTi recommends running this test several times to ensure that the memory is fully functional. You may wish to run the test overnight.

To perform a Memory Test, follow these steps:

1. Turn on the Comms Logger server.
2. Insert the Comms Logger Software Installation DVD, and reboot the Comms Logger server.
3. At the terminal prompt, run **mementest86**. For best results, let the Memory Test run overnight.
4. The Memory Test will run indefinitely until you manually stop it. To stop the Memory Test, press the Esc key. If the Memory Test failed, contact ASTi for assistance.
5. To restore the Comms Logger server to service, remove the DVD, restart the server, and wait for it to reboot.

Appendix B: Comms Logger in a virtual machine

User requirements and/or deployment needs may require you to install the Comms Logger software in a virtual machine (VM) using customer or government-furnished equipment.

Intended for customers using Comms Logger in a VM, this appendix supplements the *Comms Logger Cold Start Guide* with virtualization requirements and setup. The first component to Comms Logger virtualization must include an enterprise-class virtualization stack (i.e., Type-1 or bare-metal hypervisor). In most cases, ASTi virtualizes its products using ESXi from VMware. However, other Type-1 options (e.g., Hyper-V, Xen, etc.) are available. Consult alternate vendor documentation as needed for setup.

A variety of factors can impact a deployed Comms Logger software:

- Host hardware specification
- Virtualization technology
- VM instance definition for a license
- Other VM instances running on the host
- Network operation and conditions

For best results, purchase an ASTi support contract to help with installation and/or post deployment tasks. The scope of this contract depends on your program's size and requirements. To discuss your virtualized deployment needs, contact ASTi at support@asti-usa.com.

B-1 Minimum host server specifications

Minimum host server specifications depend on many factors, such as the hardware platform's location. In some cases, the platform may already exist and be running multiple virtual machines (VMs); in other cases, no VM infrastructure or hardware may exist. At a minimum, the host server must be able to run the required number of virtual Comms Logger instances for this application. To avoid starving the virtual Comms Logger for CPU time and/or other resources, do not fully provision or over-provision the host server.

B-2 Comms Logger in a VM specifications

Ensure your virtual Comms Logger server meets the following minimum requirements:

vCPUs:	Four minimum
Memory:	8,192 MB or 8 GB
Disk Space:	80 GB (application specific)
NIC Count:	1 or greater (application specific)
NIC Speed:	Gigabit

Many factors contribute to the above set of requirements, including but not limited to the following:

- Host hardware performance
- Parallel virtual machine (VM) processing
- Network operation and conditions
- Record-and-replay capability
- Audio transcription speed requirements

Each environment comes with its own set of unique requirements and dependencies based on the aforementioned metrics. ASTi recommends using the above settings as a starting point for virtualization. Additional tuning may be required once you begin deployment, testing, and run-time operations.

You may need additional disk space if you're installing a large disk, image-based application or your audio logging and transcription requirements exceed the default disk space allocation in the table above. If so, define a larger disk space definition (e.g., 500 GB). Do not share vCPUs dedicated to the Comms Logger VM with other nonASTi VMs on the same host platform.

B-3 Cold-start Comms Logger in a virtual machine

After configuring the above host server requirements, run the Comms Logger cold-start procedure in Section 6.2, "Cold-start Comms Logger 2.X or 8.X on a Comms Logger server (VSH-XXXXX-XX)" on page 15.

Appendix C: Comms Logger on customer or government equipment

User requirements and/or deployment needs may require you to install the Comms Logger software on customer-furnished equipment (CFE) or government-furnished equipment (GFE). Intended for customers using Comms Logger on CFE/GFE, this appendix supplements the *Comms Logger Cold Start Guide* with CFE/GFE requirements and setup.

The CFE/GFE hardware selection must support Comms Logger's requirements. A variety of factors can impact a deployed Comms Logger:

- CFE/GFE hardware specification
- Basic Input/Output Settings (BIOS) settings
- Network operation and conditions
- Simulation software
- Radio communications

ASTi strongly recommends that you purchase an ASTi support contract to help with installation and/or post deployment tasks. The scope of this contract depends on your program's size and requirements. ASTi may use this contract to evaluate provided CFE or GFE. To discuss your deployment needs, contact ASTi Support at support@asti-usa.com.

C-1 Minimum host server specifications

Ensure your host server meets the following minimum requirements:

CPU Speed	GHz i7 or better; nonmobile
CPU Cores	4x or greater
Memory	8 GB RAM
Disk Space	80 GB solid-state drive (SSD) or nonvolatile memory express (NVMe) drive
NIC Count	1 or greater
NIC Speed	Gigabit
Boot Method	Unified Extensible Firmware Interface (UEFI) or Legacy Basic Input/Output System (BIOS) <i>Note: Comms Logger and later supports UEFI boot.</i>

Additionally, ensure the Red Hat Enterprise Linux (RHEL) operating system (OS) compatible with your Comms Logger software version also supports the host server hardware. To check Comms Logger software and OS compatibility, go to **Comms Logger Release Notes** at support.asti-usa.com/logger/notes.

C-2 Set up and install Comms Logger on customer or government equipment

To install Comms Logger on customer-furnished equipment (CFE) or government-furnished equipment (GFE), follow these steps:

1. At a minimum, configure the following Basic Input/Output System (BIOS) or Unified Extensible Firmware Interface (UEFI) settings on the CFE or GFE:
 - a. Limit the CPU core count to four cores.
 - b. If multiple physical CPUs exist, limit the server to one physical CPU in the BIOS or UEFI.
 - c. Disable C-States.

- d. Disable C1E.
- e. Disable E-Cores.



Note: Comms Logger 8.X and later supports booting from UEFI.

2. Run the cold-start procedure for the Comms Logger software version applicable to your configuration.

Appendix D: RAID arrays

This section applies to configurations that use a physical Comms Logger server with two removable RAID1 drives. You will need to complete these instructions if you create a new RAID array or wipe your drive (e.g., for security reasons). Before starting, make sure you have already completed the Comms Logger cold-start procedure described in Section 6.2, "Cold-start Comms Logger 2.X or 8.X on a Comms Logger server (VSH-XXXXXX-XX)" on page 15.



Important: ASTi RAID setup scripts and web interface RAID states require *sdb* and *sdc* drivers.

This chapter discusses the following topics:

- RAID array configuration
- RAID array verification

D-1 Configure the RAID array

To set up the RAID array, follow these steps:

1. For hardened systems, log into the system with the following credentials:

Username	Password
astiaadmin	admin

To switch to the root user account, do the following:

- a. Enter **su**, and press Enter.
- b. Enter the root password (i.e., **abcd1234** by default), and press Enter.

For nonhardened systems, log into the system directly as root:

Username	Password
root	abcd1234

- At the prompt, enter **ace-discap-setup-raid1**, and press Enter. If the command is successful, the system generates a lengthy output that ends with the following:

```

Creating file system, this may take a few minutes
Finished setting up raid1 array
Making sure there is a current recording running
*created and started recording {rid recording ID}
Making sure discribe directory is created and has the right
permissions
!!! please restart the machine !!!

```

- Reboot the server.
- Log into the system using the following default credentials:

Username	Password
root	abcd1234

- To verify the drive configuration, enter **cat /proc/mdstat**, and press Enter.
- The screen displays **resync=N.N%**, where *N.N* is the completed resync percentage. Wait approximately one to two hours for the resync to finish.



Note: The system will not resync if you previously configured the drives as a RAID (e.g., you removed and reinstalled the drives to replace a failed motherboard). Instead, the system will generate a successful output, described below.

- Run **cat /proc/mdstat** periodically to check the resync status. When the system is finished resyncing, it generates an output similar to the following:

```

Personalities: [raid1]
md0 : active raid1 sdb[0] sdc[1]
488386496 blocks [2/2] [UU]
unused devices: <none>

```

The numbering of **sdb**, **sdc**, and **blocks** may vary depending on your configuration.



Important: If an (F) appears next to **sdb** or **sdc** (e.g., **sdb[0](F)** or **sdc[1](F)**), the drive has failed. Contact ASTi at support@asti-usa.com for assistance.

8. Reboot the server.

D-2 Verify the RAID drives' status

To verify the RAID drives are correctly configured, follow these steps:

1. Log into the system using the following default credentials:

Username	Password
root	abcd1234

2. To obtain the Comms Logger server's IP address, at the prompt, enter **/sbin/ifconfig eth0**, and press Enter.
3. Write down the Comms Logger server's IP address (e.g., xxx.xxx.xxx.xxx).
4. Open a web browser on a computer or tablet sharing a network with the Comms Logger server.
5. In the address bar, enter the Comms Logger server's IP address.
6. Log into the Comms Logger web interface using the following default credentials:

Username	Password
admin	astirules

7. Under **RAID Status**, verify **Drive A** and **Drive B** display “Up:”

RAID Status	
Drive A	Up
Drive B	Up

Figure 11: Working RAID drives