

Telestra Web Interface User Guide

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Product Name: Telestra

Telestra Web Interface User Guide

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Revision history

Date	Revision	Version	Comments
10/27/2023	А	0	Initial baseline version.
8/6/2024	А	1	Specified that the ACU2 and ACU both use the Con- trolln3 input pins.
8/21/2024	A	2	In "Update a hardware device's firmware," removed an inaccurate statement indicating that hardware devices' LED lights blinked red and green after a user takes them out of Boot Mode.
10/2/2024	В	0	(8.4.0) Documented new features in "Sound Files."
11/13/2024	В	1	Modified description of licensing states in "View licensing information."
1/14/2025	В	2	(8.5.0) Added Archive Type choice—ZIP or tape archive (.tar)— to "Back up a system configuration" and backup ZIP (.backup.zip) file type to "Restore a system configuration." Added tape archive GNU ZIP (.tgz) to upload file types in "Upload sound files."
6/20/2025	С	0	(8.6.0) Added "Pair the Ashly Power Amplifier's inter- face card with a Telestra server."

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1.0 Introduction

Welcome to the *Telestra Web Interface User Guide*, the official documentation for the Telestra web interface, a web-based platform for controlling and managing ASTi devices in simulation networks. This guide aims to help engineers, maintenance technicians, and program administrators configure and manage the Telestra server and its peripheral hardware via the web interface. It covers a variety of tasks, from basic server setup and configuration to advanced functionality, troubleshooting, and system management.

The Telestra web interface is a specialized web server that provides complete sight and control of all ASTi devices on the simulation network, ranging from stand-alone to multiple-site, exercise wide network configurations. Use this interface to configure the Telestra server's settings; manage hardware peripherals like audio distribution devices, input/output (I/O) devices, and amplifiers; oversee Studio projects; configure critical simulation protocols for interoperability; and troubleshoot errors using various health tools. You can also manage sound files, conduct spectral analysis for Level D simulator certification, and preview Telestra's built-in text-to-speech (TTS) voices.

Telestra's operating system supports Red Hat Enterprise Linux 8.0 or earlier. To access the web interface, you will need a modern web browser, such as Mozilla Firefox, Google Chrome, Microsoft Edge, or Safari. Hardware requirements vary depending on deployment size but should include a multicore processor, sufficient RAM, ample storage space, and network interface cards for connectivity. A stable and well-configured network connection is crucial for seamless operation. For more information about Telestra hardware requirements, go to the *Telestra Server Operations & Maintenance Manual*.

Getting started with Telestra is easy. Telestra is a plug-and-play solution, which means you don't need to install any software upon receipt. Just connect the Telestra server and its affiliated hardware to the network, point the server at a web browser, and log in, as described in Section 7.1, "Login" on page 23. You'll also need to complete the following setup tasks:

- 1. Install a USB License Key on **▲** Setup > Licenses. To learn more about Telestra licensing options, go to Section 9.3, "Licenses" on page 46.
- Configure the Telestra server and network interface's (e.g., eth1) network on Setup > Network. For detailed Telestra network setup instructions, go to Section 9.1, "Network" on page 35.
- 3. Create user accounts for any network administrators on ☺ Settings > ≜ User Management, and change the default passwords for security. To learn more about adding and editing user accounts, go to Section 6.2, "User Management" on page 13.
- Add and configure any hardware peripherals (e.g., ACU2, AI-Tango) on ■ Network Devices > Hardware, as described on Section 10.1, "Hardware" on page 59.

To view the full suite of Telestra documentation, go to O - Settings > \blacksquare Documentation in the top navigation bar. You can also view Telestra documentation on the <u>Telestra Support</u> page. The ASTi Support site contains a host of invaluable resources, including quick answers to common questions in the <u>Telestra FAQs</u>. If you're experiencing any issues with Telestra, contact ASTi Support at <u>support@asti-usa.com</u> or by phone at (703) 471-2104 for direct assistance.

2.0 Project installer

In the top navigation bar, the project installer displays the project and layout currently installed on the Telestra server. Use this feature to quickly install or uninstall a project and layout, set a project and layout as the system default, pause the running model, or view an error message.

🗞 Running: REIS1_13_H135DA_RevO : main

Figure 1: Project installer

This chapter discusses how to:

- Install a project and layout
- Pause the running model
- Set the default project and layout

2.1 Install a project and layout

To install a project and layout, follow these steps:

- 1. To open the project installer, select the chevron button (``).
- 2. If you aren't already logged in, do the following:
 - a. Select Log in to make changes \$).
 - b. Log in with the following default credentials:

Username	Password
admin	astirules

- 3. Select Project, and choose a project from the drop-down list (e.g., AH-1Z-RevB).
- 4. Select Layout, and choose a layout from the drop-down list (e.g., main).

5. Select Install

Project	AH-1Z-RevB	~
Layout	main	~
Status	No Project/Layout installed	

Figure 2: Install the project and layout

If the installation succeeds, the installer displays " **Running:** *project: layout*", where *project* is the project name and *layout* is the layout name. Likewise, **Status** displays "Installing..." and then "Running."

Runnin	g: AH-1Z-RevB : main			^	
Project	AH-1Z-RevB			~	~
Layout	main			~	
Status	Running				
Set as defa	ult layout	Pause	Uninstall	Reinstall	

Figure 3: Running project

If the installation fails, the installer displays "**D** Error". Status displays "Failed to Install Layout," along with an error message. To the right, a toast message states that "The system has encountered an error." If your project fails to install, contact <u>support@asti-usa.com</u>.

B Error: f	failed		/	`	Q 4 0 0 + U
Project	Example_Project2		~	3	The system has encountered an error
Layout	main		~	'ersion	315
Status	Failed to Install La	/out		ıce	Tartin.
() Error:				iyout	8
Set as def	fault layout		Jninstall Install		

Figure 4: Failed to install project

- 6. (Optional) To uninstall the project and layout, select Uninstall.
- 7. (Optional) To reinstall the project and layout, select Reinstall

2.2 Pause the running model

To pause the running model, follow these steps:

- 1. To open the project installer, select the chevron button ($\stackrel{\sim}{}$).
- 2. Select Pause .

🙆 Runni	ng: AH-1Z-RevB : main	^
Project	AH-1Z-RevB	~
Layout	main	~
Status	Running	
Set as de	Pause Uninsta	Reinstall

Figure 5: Pause the running model

Both the installer and Status display "Paused."

Paused	AH-1Z-RevB : mair	1		^	
Project	AH-1Z-RevB			~	
Layout	main			~	
Status	Paused				
Set as defa	ault layout	Resume	Uninstall	Reinstall	

Figure 6: Paused model

3. To start running the model again, select Resume.

2.3 Set the default project and layout

To set the Telestra server's default project and layout, follow these steps:

- 1. To open the project installer, select the chevron button ($\stackrel{\sim}{}$).
- 2. Select **Project**, and choose a project from the listed options (e.g., **AH-1Z-RevB**).

- 3. Select Layout, and choose a layout from the listed options (e.g., main).
- 4. Select Set as default layout

🙆 Runnii	ng: AH-1Z-RevB : I	main		^
Project	AH-1Z-RevB			~
Layout	main			~
Status	Running			
Set as de	fault layout	Pause	Uninstall	Reinstall

Figure 7: Set the default project and layout

A check mark (Θ) now displays next to the layout name:

🙆 Runn	ing: AH-1Z-RevB : m	ain	^
Project	AH-1Z-RevB		~
Layout	(⊘ main		~
Status	Running		
Clear de	fault layout	Pause Uninstall	Reinstall

Figure 8: Default layout in installer

② Dashboard > **System Info** also displays the default project/layout:



Figure 9: Default project/layout on the Dashboard

5. *(Optional)* To clear the default layout, select Clear default layout

Project	AH-1Z-RevB		~
Layout	⊘main		~
Status	Running		
Clear defa	ault layout	Pause Unins	tall Reinstall

Figure 10: Clear the default layout

3.0 Search

The search feature provides a quick way to navigate to a page in the Telestra web interface. However, it exclusively filters page titles and does not retrieve interface element names or specific terms and phrases from the documentation.

To search for pages in the Telestra web interface, select the magnifying glass (\mathbf{Q}) icon in the top navigation bar, and a search bar appears.

= TELESTRA	Aunning: : main	~	<mark>0</mark> 4 0 0 - U	

Figure 11: Search icon

In the search bar, enter the name of a specific page in the Telestra web interface. Select Navigate To page name 2 to open the page.



Figure 12: Search for a page

4.0 Notifications

Notifications serve as important alerts and updates that inform you about various events, statuses, and changes within the Telestra server. These alerts provide timely information that helps maintain the system's integrity and performance. You might receive notifications for several reasons:

- License warnings, such as expired or insufficient licenses for the number of components or resources
- Audit logs reminders ensuring regulatory compliance or identifying unusual/noncompliant activities

Notifications appear in the top navigation bar. If alerts exist, a cranberry-red dot displays on **Notifications** (**4**). To view the alerts, select the bell icon, and a panel opens:



Figure 13: Notification panel

By default, the interface sorts messages chronologically. To view messages in order of importance, next to **Sort by:**, select **Priority**.

Sort by Priority	Time
Your license will expire on Oct 31, After that date, some functionality of your system w be disabled.	tober e vill →
There are 5 audit messages needing review.	÷

Figure 14: Sort notifications by priority

Select a message to open its corresponding page (i.e., Audit Logs, Licensing) and view more information.

5.0 Help Text

The Telestra web interface offers a **Help Text** feature that provides contextual information about Telestra's various settings, options, and actions. This on-the-fly training may help you understand complex functionality, discover hidden or lesser-known settings, avoid or troubleshoot errors, and navigate the web interface effectively.

To turn on Help Text, select the question mark (③) icon in the top navigation bar.



Figure 15: Turn on Help Text

When enabled, the question mark icon fills (?), and shaded boxes with dashes outline interface element names:



Figure 16: Enabled Help Text

Help Text Instructions explains how to use the feature. Select the close button (S) or to dismiss; alternatively, select Don't show again to prevent the instructions from reappearing.



Figure 17: Help Text Instructions

Hover over the dotted lines to view a description of the setting.

	Ethernet Interfaces
Ethernet Interfaces eth0 10.1	This section provides a quick view of the Telestra server's Ethernet interfaces and their IP addresses. To view additional networking information, go to view ④.
eth1 172	טו קופו.סטו.ופ

Figure 18: Help Text description

Select Turn help off (?) to disable it.

6.0 Settings

Located in the top navigation bar, **Settings** ((2) •) provides access to the full suite of Telestra documentation, enabling you to set up and manage user accounts, monitor system activity, and customize the Telestra web interface's appearance.

This chapter discusses the following topics:

- Documentation
- User Management
- Audit
- Themes

6.1 Documentation

Telestra conveniently offers its full suite of documentation within the Telestra web interface. The **Documentation** page includes three sections: general documentation for the core Telestra product, detailed information about Studio, and comprehensive documentation for the Telestra server itself. Whether you're seeking an understanding of the main product's functionality, exploring Studio's capabilities, or delving into server-specific details, this page offers valuable insights. You can also access these resources on ASTi's <u>Telestra Support</u> page.

To access Telestra documentation, in the top navigation bar, go to B-Settings > \blacksquare Documentation.



Figure 19:
Documentation navigation

Scroll down to view additional sections, or select a document to download it to your local system.



Figure 20: Telestra Documentation page

6.2 User Management

Located in the top navigation bar, **Settings** (O•) > A **User Management** enables you to perform various user-related administrative tasks. Whether you're creating user accounts, managing passwords, or deleting users, this page provides a simple and effective way to limit access to the Telestra web interface.

This chapter discusses how to:

- Add a user account
- Change a user's password
- Delete a user account

6.2.1 Add a user account

Before you can take full advantage of the Telestra web interface, you'll need to log in as an administrator and set up any user accounts. These accounts are only applicable to the Telestra web interface, not Linux system user accounts.

To add a user account to the Telestra web interface, follow these steps:

1. In the top right navigation bar, go to **Settings** (O -) > A User Management.

० ⊈ ा छ∙
Documentation
🛆 User Management
En Audit
🖏 Themes
💧 Dark Theme
💧 Light Theme ⊘

Figure 21: User Management navigation

2. Log in with the following default credentials:

Username	Password
admin	astirules

- 3. On User Management, select Add a User (⁺), and Add New User populates on the right.
- 4. In Username, enter a unique identifier for the account (e.g., LukeSkywalker).
- 5. In **Password**, enter a password per the security configuration's requirements. Alternatively, select Generate Random Password to automatically create a strong and secure password.

гĽ	-1-1	-1-	٦.
		_	1
1.3			
		-	

Note: Write down the generated password for future reference.

6. In Verify Password, enter the new password again.

Add New User Username	
LukeSkywalker	
Password Requirements: 🞯 5 characters in length	
Password	
	۲
Verify Password	
	۲
Add User Generate Random Password	

Figure 22: Add New User

- 7. (Optional) Select the eyeball icon (•) to show or hide your password.
- 8. Select Add User

The new account appears on the left, under the **admin** account:

lser Management		
+ 🗹 🗇	User: LukeSkywalker	
admin LukeSkywalker	Password Requirements: Ø 5 characters in length	
HanSolo	New Password*	
		۲
	Confirm New Password*	
		0
	*Denotes required field	
	Update Password Generate Random Password	

Figure 23: New user account

6.2.2 Change a user's password

User Management enables you to change users' passwords. You may wish to modify a password for multiple reasons, including potential compromises or suspicious activity, Security Technical Implementation Guide (STIG) requirements, and expired or forgotten passwords.

To change a user's password, follow these steps:

- 1. On User Management, choose a user from the left.
- In Password, enter a password per the security configuration's requirements. Alternatively, select Generate Random Password to automatically create a strong and secure password.



Note: *Write down the generated password for future reference.*

3. In Confirm New Password, enter the new password again.

User Management		
+ 🗹	User: LukeSkywalker	
admin LukeSkywalker	Password Requirements: Ø 5 charactors in length	
HanSolo	New Password*	
Chewbacca		۲
	Confirm New Password*	
		۲
	*Denotes required field	
	Update Password	

Figure 24: New passwords

- 4. (Optional) Select the eyeball icon (•) to show or hide your password.
- 5. Select ^{Update Password}, and a "Password updated, successfully!" message appears.

6.2.3 Delete a user account

To delete a user account, follow these steps:

- 1. On User Management, choose a user from the left.
- 2. Select the trash can icon (\square).

User Management	
+ 🗹 🛍	User: Chewbacca
admin LukeSkywalker	Password Requirements: Ø 5 characters in length
HanSolo	New Password*
Chewbacca	•
	Contirm New Password*
	*Denotes required field
	Update Password Es Generate Random Password

Figure 25: Delete a user

When the page refreshes, the deleted account no longer appears on User Management.

6.3 Audit

Located in the top navigation bar, **Settings** ($\odot \bullet$) > \boxdot **Audit** provides a centralized place to access audit log messages. These instructions describe how to review, archive, and retrieve security alerts on hardened Telestra systems. Whether you're ensuring Information Assurance (IA) compliance, investigating incidents, or monitoring system activities, this feature helps enforce and maintain robust security measures.

This section discusses how to:

- Review and archive audit logs
- Retrieve archived audit logs

6.3.1 Review and archive audit logs

To review and archive audit logs, follow these steps:

1. From the top navigation bar, go to 🐵 - Settings > 🗈 Audit.



Figure 26: Audit Log navigation

2. Log in with the following default credentials:

Username	Password
admin	astirules

3. (Optional) To view the hidden password, select Show Password (④).

Log in to access Username	×
admin	
Password	
•••••	۲
	Login

Figure 27: Login pop-up window

- 4. Select Login .
- 5. Under **Message**, review the list of incidents. This view only shows messages related to critical system functionality (e.g., users, passwords, reboot, and shut down). **Timestamp** displays the date and time that the incident occurred.

Audit Logs Audit Query			
Audit Logs			5
☐ Message \$		Timestamp	
System reboot invoked successfully by admin		8/1/ 15:08:02	
Account basic was created successfully by admin 8/2/ 14:58:03			
System reboot invoked successfully by admin		8/4/ 17:15:01	
er v 1 x x	Showing results 1 - 3 of 3 total results	5 10 25	5 50

Figure 28: Audit Log messages

6. To archive an audit log message, select **Mark as reviewed** (☑). A progress spinner replaces the envelope icon. Select the ico cancel.

System rebot invoked successibility by admini	System reboot invoked successfully by admin 6/	5/20/ 18:16:44	\odot
---	--	----------------	---------

Figure 29: Progress spinner on Audit Log

When the archive is complete, Telestra strikes through the message, and it disappears from the page.

(Optional) To archive multiple items simultaneously, choose which items to archive, and select Mark selected items as reviewed () in the top right.



Figure 30: Archive multiple messages

6.3.2 Retrieve archived audit logs

Audit Query monitors and tracks activity on the Telestra server, whereas an agent (e.g., a user, software application, or server) enacts one or more events upon a subject (e.g., another user, a backup, or an SOS report). Examples of events might include license updates, log-out instances, or session timeouts. Each event has an outcome of Successful, Failed, Unknown, or None.

Adjust the filter parameters to find specific audit log messages. Once you submit a query, the page generates a list of relevant events, which include a time stamp and event description. This information might be useful for security, compliance, and troubleshooting purposes. Select a message's corresponding envelope to mark it as "reviewed."

To retrieve archived Audit Log messages, follow these steps:

- 1. From Audit Logs, go to Audit Query.
- 2. In Date Range, specify a start and end date for the audit log filter.

Date	Ran	ge												
7/3	1/:	-	8/10		а.					Ħ				
<				Jul									>	
		Jul	y					ļ	۹ugi	ust				
Мо	Tu	We	Th	Fr	Sa	Su	Мо	Tu	We	Th	Fr	Sa	Su	
					1	2								
3	4	5	6	7	8	9					11	12	13	
10	11	12	13	14	15	16	14	15	16	17	18	19	20	
17	18	19	20	21	22	23	21	22	23	24	25	26	27	
24	25	26	27	28	29	30	28	29	30	31				
31														
Ful	l Rar	nge	Re	set R	ange							Clo	ose	

Figure 31: Audit Query Date Range

Select ^{Full Range} to view all dates containing audit logs or ^{Reset Range} to view logs from the last week. Select ^{Close} to close the calendar picker.

- 3. To filter results by an audit log's **Event Outcome**, choose **Successful**, **Failed**, **Unknown**, or **None**.
- 4. To filter results by a log's **Reviewed** status, choose **Reviewed** or **Unreviewed**.
- 5. To view the logs a specific user reviewed, select **Reviewed By**, and choose one or more usernames.
- 6. Select **Agents** to filter by the specific entities that triggered an event (e.g., users, APIs, software applications, servers). Enter the name of an agent in the search bar, and choose one or more agents.

Agents	
System, basic, admin	
Search Q X	
🗆 All	_
🗆 adminadmin	
🗆 user1	
✓ System	
✓ basic	
✓ admin	
Count: 7 Checked: 3	

Figure 32: Audit Log Agents

At the bottom, **Count** displays the total number of agents, whereas **Checked** displays the number of selected agents. To disable this filter, select **All**.

7. Select **Subjects** to filter by the targets of an agent's action, such as user accounts backups, or SOS reports.

Subjects		
admin-session-	-07-11T10:48:33Z, admin-session-: -07-05T16:05:	
Search	Q X	
all	•	
admin-session-	-07-31T12:53:32Z	
admin-session-	-06-15T15:16:26Z	
admin-session-	-07-12T09:59:16Z	
admin-session-	-06-21T14:39:18Z	
✓ admin-session-	-07-11T10:48:33Z	
admin-session-	-06-20T11:30:26Z	
✓ admin-session-	-07-05T16:05:03Z	
admin-session-	-06-15T16:49:21Z	
Count: 316 Checked: 2		

Figure 33: Audit Log Subjects

At the bottom, **Count** displays the total number of agents, whereas **Checked** displays the number of selected agents. To view all target actions, leave the default value of **All**.

8. Select **Event Types** to filter by the kind of event, such as a license update, log-out instance, or session timeout.

Event Types						
backup_create, session_terr	backup_create, session_terminated					
	Q ×					
🗆 All						
session_created						
license_server_delete						
✓ backup_create						
system_reboot						
user_create	-					
session_terminated						
session_timeout						
backup_delete						
Count: 16 Checked: 2						

Figure 34: Event Types

- 9. (Optional) To remove all filters from this page, select ^{Clear All Filters}.
- 10. Select ^{Query Events} to view filtered results, which display at the bottom of the page.

Audit Logs Audit Query								
Filter for Audit Log	gs							
Date Range		Event Outcome	Reviewed	Reviewed By				
7/31/ - 8/10/ 🗰 None 🗸		All	Reviewed By					
Agents		Subjects	Event Types					
Select Agent(s)		Select Subject(s)	backup_create, session_terminated					
C Query Events								
Culled events To clear All Pitters								
Results								
□ Time → Message \$								
8/9/ 17:39:10 Session 'admin-session08-09TIS:09:37Z' of user admin was successfully terminated by admin								
8/9/ 15:08:34	3/9/ 15:08:34 Session 'admin-session08-09T13:44:182' of user admin was successfully terminated by System							
8/9/ 15:08:34	Session 'admin-session-	-08-09T10:06:33Z' of user admin was successfu	illy terminated by System					
8/8/ 18:26:22	Session 'admin-session-	-08-08T16:27:04Z' of user admin was successfu	lly terminated by admin					
8/8/ 16:08:52	8/8/ 16:08:52 Session 'admin-session08-08T14:09:51Z' of user admin was successfully terminated by admin							
8/8/ 12:54:31	Session 'admin-session-	-08-08T10:55:30Z' of user admin was successfully terminated by admin						
8/8/ 12:28:40	8/8/ 12:28:40 Session 'admin-session08-08T10:29:38Z' of user admin was successfully terminated by admin							
8/8/ 10:56:33	Backup generation succe	lly initiated by admin						
8/8/ 8:15:36	8/8/ 8/15/36 Session 'admin-session08-08708/04/062' of user admin was successfully terminated by System							

Figure 35: Audit Query results

6.4 Themes

By default, the Telestra web interface is set to Light Theme. To change the web interface to **Dark Theme**, from the top navigation bar, go to **Settings** (3 -) > **\textcircled{6} Dark Theme**.

Q 🗘	?						
🗏 Docun	nentati	ion					
💪 User Management 🕚							
E Audit							
🖏 Them	es						
💧 Dark	Theme	e					
🌢 Light	Them	e 🥝					

Figure 36: Turn on Dark Theme

A check mark (Θ) displays next to \bullet **Dark Theme**, and the overall color scheme changes from light to dark:

= TELESTR	A Running: 2Radios	s : main		
⑦ Dashboard	CPU Usage 🛆 Paused	Realtime CPUs Both	Memory Usage 🛆 Paused	Credits view 🔿
Setup - Network Backup/Restore Licenses - Hardware - Telestras - Projects - Health - System Logs System Logs	200 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	τα 4 τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ	68% used 0% swap 2.58 GB	2450/300000 used
Credit Report Credit Report Credit Report Protocols Terrain Count Files Spectral Analysis Text to Speech	Ethernet Interfaces view ③ eth0 10.2.937/16 eth1 172.31.246.98/16	System Info Coperating System R SHost ASTI Software Build Build Date Coperating Security Version Coperating Coperating Security Version Coperating Coperating Coperating Coperating Security Version Coperating Coperating Security Version Coperating Security Version Security Version Coperating Security Version Coperating Security Version Coperating Security Version Security Version Coperating Security Version Sec	ed Hat Enterprise Linux 8.7 D ms-dev FR 0.0 Linux 6.7 D 679bc20 Th 023/10/11 11:38am EST N V/A E alid through Oct 31, 2023 P	ntact // Part Constraints

Figure 37: Dashboard with a Dark Theme

7.0 System

Located in the top navigation bar, use **System** to perform server-specific actions, such as logging into the Telestra web interface as an administrator or rebooting and shutting down the Telestra server.

This chapter discusses the following topics:

- Login
- Reboot/Shut Down

7.1 Login

To log into the Telestra web interface as an administrator, follow these steps:

- 1. Open a web browser on a computer sharing a network with the Telestra server.
- 2. In the address bar, enter the Telestra server's IP address.
- 3. In the top-right corner, select Log In (I).
- 4. Log in with the following default credentials:

Username	Password
admin	astirules

5. (Optional) To view the hidden password, select Show Password (④).



Figure 38: Login pop-up window

6. Select Login

7.2 Reboot/Shut Down

This section explains how to reboot or shut down the Telestra server. Rebooting may be helpful to troubleshoot issues, apply software updates, or stabilize the system. Similarly, you may need to shut down the server for maintenance, hardware replacement, or power management.



Important: Rebooting and shutting down interrupt the Telestra server's software (e.g., model operations).

To reboot or shut down the Telestra server, follow these steps:

- 1. In the top-right corner, select **Log In** $(\Rightarrow$.
- 2. Log in with the following default credentials:

Username	Password
admin	astirules

3. *(Optional)* To view the hidden password, select **Show Password** (**②**).

Log in to access	×
Username	
admin	
Password	
•••••	۲
	Login

Figure 39: Login pop-up window

4. Select Login .

5. To reboot the server, go to System (\mathcal{O}) > \mathcal{Z} Reboot.



Figure 40: Reboot the Telestra server

In the confirmation message, select ^{Confirm} to continue.



Note: In most cases, the browser refreshes automatically. However, you may need to manually refresh if you see a message indicating that the Telestra server is down.

8.0 Dashboard

The **② Dashboard** provides general information about your Telestra server's operation that you can use for troubleshooting:



Figure 41: Dashboard

This chapter discusses the following topics:

- CPU Usage
- Memory Usage
- Credits
- Ethernet Interfaces
- System Info
- Contact

8.1 CPU Usage

CPU Usage shows the percentage of the Telestra server's central processing unit (CPU) utilization over a given period, monitoring performance and identifying potential bottlenecks. The X-axis represents time in seconds, while the Y-axis represents CPU utilization as a percentage. High CPU utilization can lead to slow response times, unresponsive applications, and overall poor system performance.
Toggle **Realtime**, **CPUs**, and **Both** (<u>Realtime</u> **CPUs** Both) to view different facets of the server's performance. On **Realtime**, blue represents the server's peak performance statistics, while green represents average performance.



Figure 42: CPU Usage

On CPUs, each colored line represents a different CPU core.



Figure 43: Cores on the CPUs tab

Select Both to view Realtime and CPUs in tandem.



Figure 44: CPU Usage Both view

To view CPU plot points in more detail, select the plus sign ($\textcircled{\bullet}$) in the top left, and then select **Zoom in** ($\textcircled{\circ}$). Select **Zoom out** ($\textcircled{\circ}$) to view less detail or return to the default view.



Figure 45: Zoom in/out of CPU plot plots

To view a particular section of the CPU graph's timeline, select and move your mouse over the area you want to inspect.



Figure 46: Select and drag to zoom



Figure 47: Bidirectional arrows in the CPU Usage graph

Alternatively, select Scroll to Zoom $(^{\bigcirc})$ to zoom by scrolling over an area with your mouse.



Figure 48: Scroll to Zoom in CPU Usage

Zooming in to inspect part of the graph automatically pauses it, freezing the timeline in its current state. You can also select **Pause** (\square) at any time to temporarily stop the graph. When paused, the graph displays a \triangle "Paused" alert next to the section title.



Figure 49: Paused CPU Usage graph

To allow the graph to continue recording and displaying real-time data points from the Telestra server, select **Resume** (\triangleright).

To view a larger, full-screen version of **CPU Usage**, select **Enlarge View** ([☎]). Likewise, scroll down and select **Minimize View** ([≭]) to collapse the graph to its default size.



Figure 50: Expanded CPU Usage graph



Note: Enlarge View is not available on smaller screens.

To save processing power, the **CPU Usage** graph automatically pauses when the screen loses focus. To continue buffering data when the screen is out of focus, turn on **Run in back-ground**.



Figure 51: Run CPU Usage graph in the background

8.2 Memory Usage

Memory Usage shows the percentage and amount of memory in gigabytes (GB) the Telestra server is using at a given time. High-memory usage (e.g., 90 percent) means that Telestra is resource heavy, which is not an issue as long as the system is functioning normally. Hover over the outside memory bar to view more detailed information, such as Random Access Memory (RAM) usage.



Figure 52: Memory Usage

Swap space creates temporary storage on the Telestra server's hard drive when the system runs low on memory. If Telestra needs more memory resources and its RAM is full, the server moves inactive pages in memory to the swap space, freeing up memory for other programs.

When the Telestra server is using swap space, the inside bar turns red and displays how much swap it is using. Ideally, the server should not be using any swap. Contact ASTi at <u>support@asti-usa.com</u> if the swap percentage is higher than 0.



Figure 53: Swap utilization

8.3 Credits

Credits displays the total amount of used and available credits on the Telestra server. To view a full credit report and component summary, go to **View Credit Report** Θ .



Figure 54: Credits

8.4 Ethernet Interfaces

Ethernet Interfaces provides a quick view of the Telestra server's Ethernet interfaces and their IP addresses. To view additional networking information, go to **View Network Setup** Θ

Ethernet Int	erfaces	view 🏵
eth0	10.2.	
eth1	172.31.180.197/16	

Figure 55: Ethernet Interfaces

8.5 System Info

System Info displays helpful information about the Telestra server:

- *Operating System:* the version of Red Hat Enterprise Linux (RHEL) currently installed on this Telestra server.
- *Host:* the Telestra server's hostname; to edit the hostname, go to Section 9.1.2, "Edit an Ethernet interface's network" on page 38.
- ASTi Software: the current version of ASTi software installed on this Telestra server.
- *Build*: a unique combination of letters and numbers that represents the Telestra server's current build.
- Build Date: the date and time of the Telestra server's build.
- *Security Version:* the Information Assurance (IA) software version on hardened Telestra servers. If the system is not hardened, this line item displays "N/A" for "Not Applicable."
- *License*: the ID number of the currently installed license; this line item is blank if no license is installed.
- *Maintenance:* "Active" means this Telestra server is subscribed to ASTi's software maintenance plan, where "Inactive" means the server is not subscribed.
- *Default Layout:* displays the Telestra server's default project and layout. To clear the current defaults, select **Clear Default Layout**. To set new defaults in the project installer, go to Section 2.3, "Set the default project and layout" on page 5.

System Info	
🖵 Operating System	Red Hat Enterprise Linux 8.7
🗃 Host	rms-dev
ASTi Software	8.Dev
😐 Build	d84f9b4b
🗰 Build Date	/06/19 11:42am EST
igoplus Security Version	N/A
🖸 License	
🔑 Maintenance	Inactive
📼 Default Layout	REIS1_13_H135DA_RevO : main 😣

Figure 56, "System Info" below shows the **System Info** card on the **Dashboard**:

Figure 56: System Info

8.6 Contact

Fill out **Contact** with the system administrator or main technician's contact information, providing a brief description of the program and/or facility location, if applicable. This information might be useful if your Telestra server is experiencing issues or you have questions about Telestra's configuration. To edit the system's contact information, select **Edit** (*P*).

Description		
	Network HLA Server	
Facility	56th TTW	
Location	Luke AFB, AZ	
Trainer	F-15E	
Name	John Q. Public	
Email	johnq@example.com	
Phone	703-555-5555	
Phone Ext.	23	

Figure 57: Telestra contact information

9.0 Setup

When you first receive your Telestra server, you must complete several configuration tasks on **Setup** to get your server up and running. These configuration tasks include configuring the server's network and installing USB License Keys. If you need to perform a cold-start procedure (i.e., software update), this section also enables you to archive and reinstall your system's current configuration.

Figure 58, "Setup pages" below shows **a** Setup pages on the left:

=	TELESTR	1	🙆 Running: Prod_F	Radios : Target1_Radios	~	ର୍ମ୍ ଡେ ®ଟ (
)	Dashboard	Status Config	uration			
	Setup ^	·				
	Network	General			Network Interfaces	
	Backup/Restore	Hostname	Gatew	ay	eth0 eth1	
	Licenses	10-67-16-5645	10.2.0	254	Status	MAC Address
		Gateway Device	Web S	erver Interface	Connected	00:07:b8:e0:a8:5e
	Network Devices	eth0	Any		Address Mode	IPv4 Address
	Projects	Domains	Name Servers	Time Servers	Fixed	10.2106.34
	Diagnostics *	asti-usa.net	10.10.1.10	10.10.1.10	(Post Materia)	ID 4 Decident Address
	Simulation *	asti-usa.com	10.10.1.11	10.10.1.11	IPv4 Netmask	IPv4 Broadcast Address
					255.255.0.0	10.2.255.255
	Audio				IPv6 Address	
					fediti 207 bill ^{er} feelt all'te	
		powered by © Advan	ced Simulation Technology in	c.		logged in as: Your last login was: Jun 8, 2023 03:1:

Figure 58: Setup pages

This chapter discusses the following topics:

- Network
- Backup/Restore
- Licenses

9.1 Network

View and configure network settings for your Telestra server and Ethernet interfaces on the **Network** page, which includes two important tabs:

- Status: view the current configuration of your Telestra server and Ethernet interfaces.
- *Configuration*: adjust the network settings of your server or Ethernet interfaces per your requirements.

Figure 59, "Network" below shows the Network page:

	1	💩 Running: Al-	H-1Z-RevB : main	~	Q A 🕲 🕲 • U •
Ø Dashboard	Status Configurat	tion			
• 🛣 Setup • Network	General	Colouro		Network Interfaces	
Backup/Restore Licenses	Hostiane	10.2.0.2	254	eth0 eth1 Status	MAC Address
Network Devices * Hardware	Gateway Device eth0	web Se eth0	rver Interface	Connected Address Mode	00:07:b8:e0:b4:c4
Telestras	Domains asti-usa.com asti-usa.net	Name Servers 10.10.1.10 10.10.1.11	Time Servers 10.1.1.1	Fixed IPv4 Netmask	IPv4 Broadcast Address
Diagnostics				255.255.0.0 IPv6 Address	10.2.255.255
Health System Logs				NAME OF TAXABLE AND A DECIDENCE	
SOS Reports					

Figure 59: Network

This section discusses how to:

- Edit the Telestra server's network
- Edit an Ethernet interface's network

9.1.1 Edit the Telestra server's network

On **Network**, the **Configuration** tab provides an intuitive way to access and modify various aspects of the Telestra server's configuration. This section explains how to set up a unique host name, assign a cloud ID, determine the optimal routing method, and configure domain names, name servers, and time server addresses.



Important: Editing network settings may prevent you from accessing the Telestra web interface at its original IP address. Enter the new IP address in the browser.

To modify the Telestra server's network configurations, follow these steps:

- 1. On Network, go to Configuration.
- 2. Log in with the following default credentials:

Username	Password
admin	astirules

3. *(Optional)* In **Hostname**, enter a hostname. This name identifies your server on the network. When the hostname changes, the cloud ID changes to match.

- 4. Under **Routing**, assign one of the following routing methods to the Telestra server:
 - *Gateway:* route traffic to and from other networks via a gateway IP address and network interface. Choose a gateway interface (e.g., eth0), and enter the gateway's IP address.
 - *Default Interface:* route traffic to and from other networks by selecting a default Ethernet interface (e.g., eth0).
 - *None*: do not assign a routing method to the Telestra server.
- 5. To restrict web server access to a single interface (i.e., eth0, eth1, eth2), select **Web Server Interface**, and choose an interface. To allow web server access on all interfaces, select **Any**.
- 6. To set the default interface for Studio and/or the Radio Monitor, select **Studio/Radio Monitor Interface**, and choose an interface.

Routing Method Gateway O Default Route None	
Gateway Ethernet	Gateway IP
eth0 v	10.2.0.254
Web Server Interface	Studio/Radio Monitor Interface
eth0 v	eth0 v

Figure 60: Default device settings

- 7. In **Domains**, enter unique names for the domain servers. Telestra uses these domain names to perform name look-ups for other servers on the network.
- 8. In **Name Servers**, enter the IP addresses of up to three servers. Telestra queries these servers when attempting to match host names to IP addresses.
- 9. In **Timeservers**, enter the IP addresses of up to three Network Time Protocol (NTP) servers. Telestra references these servers to synchronize the system clock. The green check indicates the server with which Telestra is synchronized.

Domains	+	Name Servers	+	Timeservers	+
asti-usa.net	Ŵ	10.10.1.10	Ŵ	dc01.asti-usa.net	Ŵ
asti-usa.com	Ŵ	10.10.1.11	Ŵ	DC02.asti-usa.net	Ŵ

Figure 61: Domain, Name Server, and Time Server addresses

10. In **Changes**, review your modifications, and select ^{Save}.

9.1.2 Edit an Ethernet interface's network

To edit an Ethernet interface's network configuration, follow these steps:

- 1. On Configuration, in Network Interfaces, go to an interface tab (e.g., eth1).
- 2. Select Address Mode, and choose the Ethernet device's mode of operation:
 - *Off:* disables the Ethernet interface.
 - *DHCP*: requests IPv4 and subnet mask information from another server on your network.
 - *Fixed:* requires an IP address and subnet mask.
- 3. In **IPv4 Netmask**, enter the Ethernet interface's subnet mask (e.g., **255.255.0.0**). Contact your network administrator for help with this setting.
- 4. *(Optional)* In **DHCP Client ID**, enter a unique identifier for the interface to use when it requests an IP address from the DHCP server (e.g., **MyDevice001**). This setting is disabled unless **Address Mode** is **DHCP**.
- (Optional) Ignore DNS prevents this interface from updating the Telestra server's Domain Name System (DNS) setting for name resolution. You might turn on Ignore DNS if Dynamic Host Configuration Protocol (DHCP) provides conflicting DNS servers on multiple interfaces. This setting is disabled unless Address Mode is DHCP.

Figure 62, "Network Interfaces" below shows Ethernet interface network settings:

Network Interfaces eth0eth1_eth1	
Status	MAC Address
Connected	00:07:b8:e0:b4:c4
Address Mode	IPv4 Address*
Fixed ~	10.2.93.7
IPv4 Netmask*	DHCP Client ID
255.255.0.0	
Ignore DNS	
Off On	

Figure 62: Network Interfaces

9.2 Backup/Restore

Backup/Restore provides a convenient way to back up and restore system configurations on the Telestra server. You might use this feature to recover a system configuration after a hardware failure or data corruption, revert to a previous working state after a cold-start procedure (i.e., software update), facilitate testing and development in a separate environment, or export a system configuration to another Telestra server.

Figure 63, "Backup/Restore" below shows the Backup/Restore page:

=	TELESTR	Running: SATCOM_MRT_Project : SATCOM_MRT_Simple V		۹	¢ () ⊚•	0 •
°	Dashboard Setup - Network	Backup/Restore					
	Backup/Restore	□ Name ⇔	Size ₿	Timestamp 🗸			
	Licenses Network Devices	SATCOM_MRT_Project_ 1830.backuptar	105 kB	10/4 14:04:58	۲	出	49
	Hardware	EJST4_RH7_FullBackup_Projects601-2154.legacy.backup.tar	20.4 MB	10/3. 9:48:29	0	出	⇔9
	Telestras	EJST4_RH7_FullBackup_Sounds_ 1601-2246.legacy.backup.tar	1.3 GB	10/3, 0:10:10	۲	出	49
=	Projects				_		
\$	Diagnostics ^	cc 1 > >>> Showing results 1 - 3 of 3 total results			5		

Figure 63: Backup/Restore

This section discusses how to:

- Back up a system configuration
- Restore a system configuration
- Delete a system configuration

9.2.1 Back up a system configuration

To back up a system configuration, follow these steps:

1. On the left, under **Setup**, go to **Backup/Restore**.

=	TELESTR/	A Running: SATCOM_MRT_Project : SATCOM_MRT_Simple v		۹	4 0	۰®	<u>ن</u> •
0 • <u>-</u>	Dashboard Setup ^ Network	Backup/Restore					
	Backup/Restore	□ Name \$	Size 🖨	Timestamp 🗸			
	Licenses Network Devices -	SATCOM_MRT_Project_ 1830.backup.tar	105 kB	10/4 14:04:58	۲	4	¢9
	Hardware	EJST4_RH7_FullBackup_Projects1601-2154.legacy.backup.tar	20.4 MB	10/3. 9:48:29	0	2	⇔9
Ê	Telestras Projects	EJST4_RH7_FullBackup_Sounds_ i601-2246.legacy.backup.tar	1.3 GB	10/3, 0:10:10	۲	坐	49
\$	Diagnostics ^	ce c 1 a 25 Showing results 1 – 3 of 3 total results			5	10 25	50

Figure 64: Backup/Restore navigation

2. Log in with the following default credentials:

Username	Password
admin	astirules

- 3. Select Add a backup (⁺).
- 4. *(Optional)* In Select Resources to Back up, select the arrow (✓) to view the contents of each section. To view all available resources, select Expand All.
- 5. Choose which resources to back up:
 - *Licenses:* saves the license file and/or license server configuration on the Telestra server.
 - *Networking:* saves the Telestra server's network configuration, such as the hostname and network settings.
 - *Project Archives:* saves all of the Telestra server's projects.
 - *RecordReplay:* saves any Telestra Sound Recording (.tsr) files from the **RecordReplay** or **LevelDCapture** components or .wav files from the **StereoWavRecord** component.
 - *Sound Library:* saves all wavesets on the Telestra server.
 - *System Configuration:* saves Audit Logs, internal features, HTTP API server configuration and data, Level D configurations, system Contact information, and User Management information (i.e., usernames, passwords).
 - *Telestra Configurations:* saves the configuration file enabling you to use custom or customer-specific components.
 - *Custom SR Models:* saves any speech recognition (SR) models built or installed on the system.



Important: Some options may not display depending on your Telestra server's configuration.

- 6. *(Optional)* In **Prefix**, enter a unique name for the backup. If this field is blank, Telestra uses the server's hostname followed by a string of unique characters.
- 7. *(Optional)* Select **Text Only?** to remove project history (i.e., Mercurial) from the backup. This setting is ideal for secure facilities that are unable to transmit binary data.

8. On Archive Type, choose ZIP or TAR.



Note: The default *Archive Type* is *ZIP*, which maximizes performance and OS compatibility. For backwards compatibility with Telestra 8.0.0–8.4.0, select *TAR*.

9. Select Back up

Select Resources to Back up	×
Select All	Expand All
Licenses >	
Networking >	
Project Archives >	
🗹 RecordReplay >	
Sound Library >	
System Configuration >	
Telestra Configurations >	
Prefix (optional)	Archive Type 🛈
	ZIP TAR
Text Only?	
Cance	Back up

Figure 65: Select Resources to Back up

When the backup is complete, a "Backup was successful" message appears.

10. (Optional)Find the new backup in the table, and select**Download** (些).

Backup/Restore						
□ Name ⇔		Size 🖨	Timestamp 😽			
SATCOM_MRT_Project_ 004_153338EDT_000c295e7baa.backup.tar		103 kB	15:33:38	۲	*	⇔9
SATCOM_MRT_Project_ 0830.backup.tar		105 kB	14:04:58	۲	ᆇ	⇔ 9
EJST4_RH7_FullBackup_Projects_ 601-2154.legacy.backup.tar		20.4 MB	9:48:29	۲		⇔ 9
EJST4_RH7_FullBackup_Sounds601-2246.legacy.backup.tar		1.3 GB	10:10:10	۲	쓰	⇔ 9
ee e 1 o oo	Showing results $1 - 4$ of 4 total results			5		

Figure 66: Download a backup

9.2.2 Restore a system configuration

To restore a backup on the Telestra server, follow these steps:

1. On the left, under 🛋 Setup, go to Backup/Restore.

Ξ	TELESTR/	& Running: SATCOM_M	RT_Project : SATCOM_MRT_Simple ~		۹	¢ @) @•	<u>ں</u> •
⊘ ∘ <u>≞</u>	Dashboard Setup ^ Network	Backup/Restore						
	Backup/Restore	□ Name \$		Size ⇔	Timestamp 🗸			
_	Licenses	SATCOM_MRT_Project_ 1830.backup.tar		105 kB	10/4 14:04:58	۲	出	49
	Hardware	EJST4_RH7_FullBackup_Projects601-2154.legacy.backup.tar		20.4 MB	10/3. 9:48:29	۲	*	¢\$
	Telestras	EJST4_RH7_FullBackup_Sounds_ 1601-2246.legacy.backup.tar		1.3 GB	10/3, 0:10:10	۲	4	49
•	Projects					_		
\$	Diagnostics ^	ee e 1 o oo	Showing results 1 – 3 of 3 total results			5	10 2	5 50

Figure 67: Backup/Restore navigation

- 2. To upload a backup to the Telestra server, select Upload (\triangleq).
- 3. In **Upload Backups**, select Browse Files, and find the backup file on your local system. Accepted file types include tape archive GNU ZIP, backup tape archive, and backup ZIP formats (.tgz, .backup.tar, .backup.zip).

Upload Backups	5		×
ے Dr:	ag & Drop File or	Here	
Accepted file type(Browse Files s): .tgz, .backu	p.tar, .backup.	zip
	Limit. Thte		Close

Figure 68: Find a backup file

4. Select Upload 1 file ▲. Close the window when the upload is complete.

Upload Backups	×
Ready for upload	
ejst4-	້າ
rh8_20230607T172425Z_000c295e7baa.back	
Cancel Upload 1 file 🛧	
CI	ose

Figure 69: Upload a backup file

5. *(Optional)* To view the contents of a backup, select **View Restore Files** (•). Once the system loads, select the eyeball icon again.



Figure 70: View Restore Files icon

A pop-up window opens, displaying paths to files and sound files in the backup. Scroll down to view the full list of items.

SATCOM_MRT_Projectbackup.tar	×
 /var/local/asti/projects/SATCOM_MRT_Project/_ASTINet_Both.Ini /var/local/asti/projects/SATCOM_MRT_Project/_ASTINet_Bat.Ini /var/local/asti/projects/SATCOM_MRT_Project/_ASTINet_Bat.Ini /var/local/asti/projects/SATCOM_MRT_Project/_ASTINet_Bat.Ini /var/local/asti/projects/SATCOM_MRT_Project/_ASTINet_Bat.Ini /var/local/asti/projects/SATCOM_MRT_Project/_ASTINet_Bat.Ini /var/local/asti/projects/SATCOM_MRT_Project/_AstiOnte_Bat.Ini /var/local/asti/projects/SATCOM_MRT_Project/_Z_BatliteOhly.ini /var/local/asti/projects/SATCOM_MRT_Project/Z_BatliteOhly.ini /var/local/asti/projects/SATCOM_MRT_Project/Z_RadiosOnly.ini /var/local/asti/projects/SATCOM_MRT_Project/Z_BatliteOhly.ini /var/local/asti/projects/SATCOM_MRT_Project/ZCOM_MRT_Simple.ini /var/local/asti/projects/SATCOM_MRT_Project/Commplans/SATCOMPlane/Crypto/crypto /var/local/asti/projects/SATCOM_MRT_Project/Commplans/SATCOMPlane/Fil/fill /var/local/asti/projects/SATCOM_MRT_Project/commplans/SATCOMPlane/Net/sattets /var/local/asti/projects/SATCOM_MRT_Project/commplans/SATCOMPlane/Net/net /var/local/asti/projects/SATCOM_MRT_Project/commplans/SATCOMPlane/Net/net /var/local/asti/projects/SATCOM_MRT_Project/commplans/SATCOMPlane/Net/net /var/local/asti/projects/SATCOM_MRT_Project/commplans/SATCOMPlane/Net/net /var/local/asti/projects/SATCOM_MRT_Project/commplans/Commplans/Crypto/crypto /var/local/asti/projects/SATCOM_MRT_Project/commplans/COMmplan/Fic4phop/freqhop /var/local/asti/projects/SATCOM_MRT_Project/commplans/crommplan/Fic4phop/freqhop /var/local/asti/projects/SATCOM_MRT_Project/commplans/commplan/Fic4phop/reqhop /var/local/asti/projects/SATCOM_MRT_Project/commplans/commplan/Fil/fill var/local/asti/projects/SATCOM_MRT_Project/commplans/commplan	
Close	

Figure 71: View the contents of a backup

6. To restore the uploaded backup, select **Restore** (�).

Backup/Restore					
□ Name ≎	Size ♦	Timestamp v			
SATCOM_MRT_Project153338EDT_000c295e7baa.backup.tar	103 kB	15:33:38	٢	坐	¢9
SATCOM_MRT_Projectbackup.tar	105 kB	14:04:58	۲	出	¢9
EJST4_RH7_FullBackup_Projects2154.legacy.backup.tar	20.4 MB	9:48:29	۲	4	()

Figure 72: Restore a backup

(Optional) In Select Resources to Restore, select the down arrow (~) to view the contents of each section. To view all available resources, select Expand All.

- 8. Choose which resources to restore:
 - *Licenses:* saves the license file and/or license server configuration on the Telestra server.
 - *Networking:* saves the Telestra server's network configuration, such as the hostname and network settings.
 - *Project Archives:* saves all of the Telestra server's projects.
 - *RecordReplay:* saves any Telestra Sound Recording (.tsr) files from the **RecordReplay** or **LevelDCapture** components or .wav files from the **StereoWavRecord** component.
 - *Sound Library:* saves all wavesets on the Telestra server.
 - *System Configuration:* saves Audit Logs, internal features, HTTP API server configuration and data, Level D configurations, system Contact information, and User Management information (i.e., usernames, passwords).
 - *Telestra Configurations:* saves the configuration file enabling you to use custom or customer-specific components.
 - *Custom SR Models:* saves any speech recognition (SR) models built or installed on the system.



Figure 73: Select Resources to Restore



Important: Some options may not display depending on your Telestra server's configuration.

9. Select Restore. After Telestra restores the configuration, a "Restore was successful" message appears.

9.2.3 Delete a system configuration

To delete one or more system backups, follow these steps:

- 1. On Backup/Restore, select the backups you want to delete.
- 2. Select **Delete selected backups** (^{**D**}), and the backups disappear from the table.

Backu + 🗊	P/Restore					
🔲 Nai	ne 🗢	Size ♦	Timestamp 🗸			
SAT	COM_MRT_Project153338EDT_000c295e7baa.backup.tar	103 kB	15:33:38	۲	*	⇔ 9
SAT	COM_MRT_Projectbackup.tar	105 kB	14:04:58	۲	*	~ ?
	_FullBackup_Projects2154.legacy.backup.tar	20.4 MB	9:48:29	۲	*	4 9
	FullBackup_Sounds_20230601-2246.legacy.backup.tar	1.3 GB	10:10:10	0	*	4 9
«« «	1 > 39 Showing results 1 - 4 of 4 total results			5	10 2	5 50

Figure 74: Delete system backups

9.3 Licenses

ASTi's licenses are tied to USB License Keys, which are DoD-approved devices covered under ASTi's Authority to Operate (ATO) and Risk Management Framework (RMF) accreditation. Upon delivery, each USB License Key activates a predefined set of software functionality for any system running Telestra software. This includes ASTi-provided hardware, customer-furnished equipment (CFE), government-furnished equipment (GFE), and virtual machines (VMs). USB License Keys also give you the ability to transfer functionality among systems and receive loaner and trial licenses.

To learn more about USB License Key benefits and FAQs, go to "USB License Keys and your ASTi System (#123)" at <u>support.asti-usa.com/appnotes/123.html</u>.

This section discusses how to:

- Install a USB License Key
- View licensing information
- Update a USB License Key
- Manage network license servers

9.3.1 Install a USB License Key

When you first receive an ASTi USB License Key with a shipment, you must install your license on the applicable Telestra server. To connect multiple licenses to a network license server, go to Section 9.3.4, "Network license servers" on page 53. If you're updating an existing license, follow the instructions in Section 9.3.3, "Update a USB License Key" on page 51.

To install a USB License Key and verify it is active, follow these steps:

- 1. Insert the USB License Key into the Telestra server.
- 2. Open a web browser on a computer sharing a network with the Telestra server.
- 3. In the address bar, enter the Telestra server's IP address.
- 4. In the top-right corner, select **Log In** (I).
- 5. Log in with the following default credentials:

Username	Password
admin	astirules

6. (Optional) To view the hidden password, select Show Password (④).

Log in to access	×
Username	
admin	
Password	
••••	۲
	Login

Figure 75: Login pop-up window

7. Select Login .

8. On the left, go to Licenses.

Ξ	TELESTRA	AH-1Z-RevB : main		~		⊄ ტ ⊕ ⊕• ს•
Ø	Dashboard	Available Options				
• 🏝	Setup *	Name	Enabled	Total	Used	Remaining
	Network	Telestra Runtime	Yes			
	Backup/Restore	Credits	Yes	165000	10950	154050
	Licenses	Data Link Interface	Yes			
-	Network Devices *	HLA	Yes			
	Hardware	IA	Yes			
	Telestras	Level D Spectral Analysis	Yes			
	Projects	Propagation Loss Interface	Yes			
~	Diagnostics *	Speech Recognition	Yes	3	0	3
	Health	Terrain Database Server	Yes			
	SOS Reports	Text-to-Speech	Yes	3	0	3
	Credit Report	Vibration Analysis	Yes			
æ	Simulation •					
	Protocols					
	Terrain	Licenses				
	Audio -	License ID Type Revision Error				Info
	Sound Files	1849256070 Hardware (Network) 84				Show Info

Figure 76: Licenses navigation

9. Under Licenses, find the License ID to confirm that your license is active. This ID is printed on the tag attached to your USB License Key.

					Licenses
	Info	Error	Revision	Туре	License ID
Show Info			22	Hardware	366093175
-				Hardware	000000110

Figure 77: Active License ID

9.3.2 View licensing information

Under Available Options, you can view a variety of information about licenses on your system:

- *Enabled*: enabled options (e.g., HLA, Speech Recognition, Text to Speech)
- Total: the total number of credits assigned to each option
- Used: the number of credits each option is using
- *Remaining*: the number of credits remaining to each option

Available Options						
Name	Enabled	Total	Used	Remaining		
Telestra Runtime	Yes					
Credits	Yes	150000	0	150000		
Data Link Interface	Yes					
HLA	Yes					
IA	Yes					
Level D Spectral Analysis	Yes					
Propagation Loss Interface	Yes					
Speech Recognition	Yes	2	0	2		
Text-to-Speech	Yes	2	0	2		
Vibration Analysis	Yes					

Figure 78: Available Options

A list of installed USB License Keys displays under Licenses. This table specifies the following:

- License ID
- License type (i.e., hardware or software)
- License revision number
- Error messages

Figure 79, "Installed licenses" below shows an example of installed licenses:

1	Licenses					
	License ID	Туре	Revision	Error	Info	
	366093175	Hardware (Network)	23	۵		Show Info
	1177176297	Hardware	9			Show Info
	1742444634	Hardware	2	▲ This license is not compatible with this generation of software.		Show Info

Figure 79: Installed licenses

Green licenses are active with no errors, while yellow licenses indicate that certain features have expired. Red licenses have already expired, as shown in the error message. If a system is unlicensed, a warning displays at the top of the pagein **?** Notifications. Minimum functionality may still be available on unlicensed systems. However, if you would like to use the application's full feature set, contact ASTi to update your USB License Key.

To view specific information about the license, select Show info :

- *Name:* options enabled on this license.
- *Total:* shows the total number of endpoints per option.
- *Expired*: indicates whether the option's capabilities have expired.
- *Error*: displays option-specific error messages (e.g., expiration).

censes				
icense ID Type	Re	vision Error		Info
070380039853927166	203	2310		Hide Info
This license is compatible with T	elestra 8.x soft	ware released Octo	per or earlier.	
Name	Total	Expires	Error	
Telestra Runtime	1	Oct 31,		
HLA	1	Oct 31,		
IA	1	Oct 31,		
Data Link Interface	1	Oct 31,		
Level D Spectral Analysis	1	Oct 31,		
Propagation Loss Interface	1	Oct 31,		
Speech Recognition	2	Oct 31,		
Terrain Database Server	1	Oct 31,		
Text-to-Speech	4	Oct 31,		
Vibration Analysis	1	Oct 31,		
	450000	0.1.01		

Figure 80: Additional license information

9.3.3 Update a USB License Key

You may need to update one or more ASTi USB License Keys to expand or alter system functionality (e.g., receive a software trial, add more clients). ASTi provides a License Key Update (.lku) file that you can upload to the Telestra server. Updating a USB License Key or changing its license terms does not require returning it to ASTi. A single file can also update multiple keys.

To update USB License Keys, follow these steps:

- 1. Insert the USB License Keys into a Telestra server.
- 2. Open a web browser on a computer sharing a network with the Telestra server.
- 3. In the address bar, enter the Telestra server's IP address.
- 4. Log in with the following default credentials:

Username	Password
admin	astirules

5. (Optional) To view the hidden password, select Show Password (③).

Log in to access	×
Username	
admin	
Password	
•••••	۲
	Login

Figure 81: Login pop-up window

6. Select Login .

7. On the left, go to Licenses.

≡	TELESTRA	& Running: AH-1Z-RevB : main		×		ଦ ଼ ଡ ଭਾ ଏਾ
۵	Dashboard	Available Options				
• 🛋	Setup *	Name	Enabled	Total	Used	Remaining
	Network	Telestra Runtime	Yes			
	Backup/Restore	Credits	Yes	165000	10950	154050
	Licenses	Data Link Interface	Yes			
-	Network Devices -	HLA	Yes			
	Hardware	IA	Yes			
	Telestras	Level D Spectral Analysis	Yes			
	Projects	Propagation Loss Interface	Yes			
~	Diagnostics *	Speech Recognition	Yes	3	0	3
	Netern Lore	Terrain Database Server	Yes			
	SOS Reports	Text-to-Speech	Yes	3	0	3
	Credit Report	Vibration Analysis	Yes			
&	Simulation •					
	Protocols					
	Terrain	Licenses				
	Audio -	License ID Type Revision Error				Info
	Sound Files	1849256070 Hardware (Network) 84				Show Info

Figure 82: Licenses navigation

8. On Licensing, under Update/Install a License, select Browse Files, and find the .lku file on your local system. Alternatively, drag and drop the file to the browser.

Update/Install a License					
▲ Drag & Drop File Here or					
Browse Files Accepted file type(s): .lku, .lf					

Figure 83: Update/Install a License

The updated .lku file displays under Licenses.

Licenses			
License ID	Туре	Revision Error	Info
 366093175	Hardware	22	Show Info

Figure 84: Updated license

9.3.4 Network license servers

A network license server is a service running on a customer-furnished computer that hosts ASTi licenses for Telestra servers on the network. This configuration can consolidate USB License Keys for multiple servers into a single location and support virtual machine deployments without physical USB ports. ASTi must enable Telestra licenses for network use. By default, Telestra licenses are not network-enabled.

This section discusses how to:

- Install license server software
- Connect or disconnect a license server in Telestra
- Claim or release licenses from a license server
- Update USB License Keys on a license server

9.3.4.1 Install license server software

To set up a license server, you must install third-party, Sentinel software on your license server. These instructions are only valid for Windows operating systems. To install license server software on other operating systems (e.g., Linux), contact ASTi at support@asti-usa.com.

To install license server software, follow these steps:

- 1. Download the ASTi-provided executable file (i.e., **haspdinst.exe**) on the license server, which must share a network with the Telestra server.
- 2. Open a terminal, and log into the system as an administrator.
- 3. At the prompt, enter **haspdinst.exe -i**, and press Enter. Wait approximately two minutes for installation to complete.
- 4. Insert the USB License Keys into the license server, as described in Section 9.3.1, "Install a USB License Key" on page 47. Note down the key IDs for future reference.
- 5. Open a web browser, and go to localhost:1947. The Sentinel Admin Control Center opens.
- 6. From **Options**, go to **Sentinel Keys**.

7. Under **Key ID**, confirm the key IDs that you noted in Step 4 appear among the listed options:

Gemalto Sentinel AC	Genato Sentinel ACC Sentinel X +								
← → C () lo	\rightarrow C (i) localhost:1947/_int_devices.html 2								
gemalto [×]	jemalto [*] Sentinel Admin Control Center								
Options	Sentinel Keys A	vailable on	and any Tak PC						
Sentinel Keys	# Location	Vendor	Key ID	Кеу Туре	Configuration	Version	Sessions Actions		
Products	1 Local	59827 (59827)	1059103589570737843	HASP SL Legacy Attached	⇔ π -@ `	2.36	- Products Features Sessions		
Sessions	2 Local	114409 (114409)	1155718797	Sentinel HL Time	Driverless	4.54	- Products Features Sessions Blink on C2V		
Update/Attach	3 Local	114409 (114409)	1849256070	Sentinel HL Time	Driverless	4.54	Froducts Features Sessions Blink on C2V		
Access Log	4 astiadmin-PC	QODWI (114409)	708167504	Sentinel LDK Master	HASP	4.27	- Drowse Net Features		
Configuration									
Diagnostics									
Help									
About									

Figure 85: Confirm license key IDs

9.3.4.2 Connect or disconnect a license server in Telestra

To connect or disconnect a license server in the Telestra web interface, follow these steps:

1. On the left, go to Licenses.

=	TELESTRA		& Running: AH-1Z-RevB :	main	~		ଦ୍ର 🕜 🐵 ବ ଏବ
0	Dashboard	Available Options					
• 🛋	Setup ·	Name		Enabled	Total	Used	Remaining
	Network	Telestra Runtime		Yes			
	Backup/Restore	Credits		Yes	165000	10950	154050
	Licenses	Data Link Interface		Yes			
-	Network Devices *	HLA		Yes			
	Hardware	IA		Yes			
	Telestras	Level D Spectral Analysis		Yes			
-	Projects	Propagation Loss Interface		Yes			
~	Diagnostics ^	Speech Recognition		Yes	3	0	3
	Health	Terrain Database Server		Yes			
	SOS Paporte	Text-to-Speech		Yes	3	0	3
	Credit Report	Vibration Analysis		Yes			
æ	Simulation *						
	Protocols						
	Terrain	Licenses					
	Audio -	License ID Type	Revision	Error			Info
	Sound Files	1849256070 Hard	ware (Network) 84				Show Info

Figure 86: Licenses navigation

2. On the right, hover over the orange tab (¹), and select Log in to edit.



Figure 87: Log in to edit

3. Log in with the following default credentials:

Username	Password
admin	astirules

4. (Optional) To view the hidden password, select Show Password (③).

Log in to access Username	×
admin	
Password	
•••••	۲
	Login

Figure 88: Login pop-up window

- 5. Select Login .
- 6. In License Servers, enter *xxx.xxx.xxx*, where *xxx.xxx.xxx* is the license server's IP address.
- 7. To connect to the license server, select the plus sign (+), or press Enter.

asti-2865	+

Figure 89: Add a license server

License Servers shows the following information:

- Host/IP: the license server's host name or IP address
- Count: the total number of licenses available to claim on the license server
- Status: the number of licenses the Telestra server has claimed
- 8. To view all licenses available on the license server, select Show Info .

		+	
Host/IP	Count	Status	
asti-2865	2	Claiming 0 licenses	Show Info Claim All Release All

Figure 90: View licenses available to claim

To disconnect a license server from the Telestra web interface, select the trash can icon
 (

		+	
Host/IP	Count	Status	
asti-2865	2	Claiming 0 licenses	Show Info Claim All Release All

Figure 91: Disconnect a license server

9.3.4.3 Claim or release licenses from a license server

To claim a specific license, choose a license, and select ^{Claim}. When the server prompts you to reboot, select ^{Confirm}.

	+			
Host/IP Count	Status			
asti-2865 2	Claiming 0 licenses		Hide Info	Claim All Release All
License ID	Туре	Revision	Error	Info
1155718797	Hardware (Network)	110	♪	Show Info Claim
1849256070	Hardware (Network)	84		Show Info Claim

Figure 92: Claim a license

The license server's Status reads "Claiming 1 license:"

	+			
lost/IP Count Status				
sti-2865 2 Claimin	g1 license		Hide	Info Claim All Release All
License ID	Туре	Revision	Error	Info
1155718797	Hardware (Network)	110		Show Info Claim
1 849256070	Hardware (Network)	84		Show Info Release

Figure 93: "Claiming all licenses" message

To automatically claim all current and future licenses on the license server, select Claim All.

ense Servers Iter IP Address	+				
ost/IP Count Status					
ti-2865 2 Claiming 0 licens	ses			Hide	Info Claim All Release All
License ID	Туре		Revision	Error	Info
1849256070	Hardware (Network)		84		Hide Info Claim
This occuse is compatible with relesi	ara o.x sortware reteased only	or earlier.			
Name	Total	Expired?	Expiration Date	Error	
Name Telestra Runtime	Total 1	Expired?	Expiration Date	Error	
Name Telestra Runtime Speech Recognition	Total 1	Expired? No No	Expiration Date N/A N/A	Error	
Name Telestra Runtime Speech Recognition Text-to-Speech	Total 1 1 1	Expired? No No No	Expiration Date N/A N/A N/A	Error	
Name Telestra Runtime Speech Recognition Text-to-Speech Credits	Total 1 1 1 1 15000	Expired? No No No No	Expiration Date N/A N/A N/A N/A	Error	

Figure 94: Claim all licenses



Note: To view additional information about individual licenses, select *Show Info*. For more information about these interface elements, go to Section 9.3.2, "View licensing information" on page 49.

To release a specific license from the license server, select Release

		+			
Host/IP Count	Status				
asti-2865 2	Claiming all licenses			Hide In	fo Claim All Release All
License ID	Туре		Revision	Error	Info
1155718797	Hardwa	re (Network)	110		Show Info Release
1849256070	Hardwa	re (Network)	84		Show Info Release

Figure 95: Release a license



Note: *If the license server is in the "Claim All" state, you cannot release an individual license.*

To release all licenses from the license server, select Release All

	+			
Host/IP Count Status				
asti-2865 2 Claimir	ng all licenses		Hide	Info Claim All Release All
License ID	Туре	Revision	Error	Info
1155718797	Hardware (Network)	110		Show Info Release

Figure 96: Release all licenses

9.3.4.4 Update USB License Keys on a license server

You must update USB License Keys on the network license server itself (i.e., the Windows computer running Sentinel license server software). The Telestra web interface cannot update USB License Keys installed on a license server; it can only update license keys on a Telestra server.

To update USB License Keys on a license server, follow these steps:

- 1. Contact <u>support@asti-usa.com</u> for license update (.v2c) files. You will receive one file per USB License Key installed on your license server. Save these files to your local system.
- 2. Verify that all USB License Keys you want to update are plugged into the license server.
- 3. On the computer running license server software, open a web browser, and go to localhost:1947. The Sentinel Admin Control Center opens.
- 4. From **Options**, go to **Update/Attach**.

gemalto [×]	
Options	Update/Attach License to
Sentinel Keys Products Features Sessions	Apply File Select a V2C, V2CP, H2R, R2H, H2H or ID file: Browse No file selected.
Update/Attach	Apply File Cancel
Access Log Configuration Diagnostics Help About	The following file types can be applied: A V2C file contains a license update from your software vendor, or a firmware update for your Sentinel HL keys. A V2C file contains idense update package from your software vendor. An H2R file contains a cancelled detached license, An H2R file contains a cancelled detached license (to be re-attached to its original key). An H2R file contains a rehosted protection key. An H2R file contains in the Sentinel License Manager on a remote machine (occasionally required for creating a detached license). An H2R file contains a rehosted protection key.

Figure 97: Update/Attach navigation

- 5. Under Apply File, select Browse. Find the .v2c files that you received in Step 1.
- 6. Select Apply File. The page reads, "Your update was applied successfully."

10.0 Network Devices

Network Devices allows you to manage Telestra servers and audio and I/O hardware devices connected to the Telestra web interface. Figure 98, "Network Devices" below shows **Network Devices** on the left:

=	TELESTRA	1	💩 Running	: AH-1Z-RevB : main		×		०. ⊈ ा ⊚• ७•
© 	Dashboard Setup -	Hardware						(i) Lost Beat Packets: 0
	Network Backup/Restore	ACU2s						@ Update Firmware
	Licenses	Device Name	Network	MAC Address	Firmware	Latency	Status	Actions
• 📰	Network Devices *	Included in Layout						
	Hardware	No devices detected	f					
	Telestras	Not Included in Lay	out					
÷	Projects	IO_device_54	Connected	00:1a:18:4d:3d:9b	v3.9	Normal	Ready	© 7
÷	Diagnostics ^	paule 6	Connected	00:1a:18:e4:43:f4	v3.9	Normal	Ready	© 7
	Health							
	System Logs							
	SOS Reports	ACE-RIUs						Update Firmware
	Credit Report	Device Name	Network	MAC Address	Firmware	Latency	Status	Actions
ŵ	Simulation *	Included in Layout						
	Protocols	No devices detected	1					
	Terrain	Not included in Law	out					
4110	Audio -			004-40-00-05-54			Deedu	ô 7
	Sound Files	Rio-ossigiiiza 🥐	O connected	00.14.10.00.05.51	v2.0 (1)		Ready	0 /1
	Spectral Analysis							
_								

Figure 98: Network Devices

This chapter discusses the following topics:

- Hardware
- Telestras

10.1 Hardware

Network Devices > **Hardware** displays all of the audio distribution devices, input/output (I/O) devices, and amplifiers connected to the Telestra server. Use this page to view information about hardware devices and edit their settings, such as audio input/output gains, microphone power, alternate gains. Telestra supports the following device types:

- ACU2s
- ACE-RIUs
- Ashly Power Amplifiers
- AI-Tangos
- ACUs
- Crown Power Amplifiers

Go to <u>Hardware User Guides</u> to learn more about the technical specifications of ASTi hardware devices.

Most hardware categories display expected devices (i.e., devices mapped to a Studio layout) under **Included in Layout** and unexpected devices under **Not Included in Layout**. Figure 99, "Hardware devices" below shows ACU2s and ACE-RIUs under **Not Included in Layout**:

ardware							(i) Lost Beat Packets:
ACU2s							Update Firmware
Device Name		Network	MAC Address	Firmware	Latency	Status	Actions
Included in Layou	ıt						
No devices detect	ed						
Not Included in L	ayout						
IO_device_2	ø	⊘ Connected	00:1a:18:4d:3d:9b	v3.9	Normal	Ready	© 7
ACU4	ø	⊘ Connected	00:1a:18:e4:43:f4	v3.9	Normal	Ready	© 7
ACE-RIUs							Update Firmware
Device Name		Network	MAC Address	Firmware	Latency	Status	Actions
Included in Layou	ıt						
No devices detect	ed						
Not Included in L	ayout						
vs_0007b8e0b4c4		⊘ Connected	00:1a:18:00:05:5f	v2.11	Low	Ready	© 7

Figure 99: Hardware devices

Unlike other **Hardware** categories, **AI-Tangos** only displays devices **Discovered on Network**. Disconnected devices do not appear in the table:

Al-Tangos					🕲 Update Firmware
Device Name	IPv4 Address	MAC Address	Firmware	Status	Actions
Discovered on Netwo	ork				
Al-Tango-90:02 🖉	9121901	dc:a6:32:ff:90:02	v2.1.0	Ready	• 7
Al-TangoCE 🖋	10.2107.002	e4:5f:01:8e:6d:6d	v1.0.0	Ready	ج
Al-Tango_	12000	e4:5f:01:d8:39:63	v1.0.0	Tx / Rx	ھ
HT_Tango1 🥒	10.2104.00	e4:5f:01:d8:3d:7f	v1.0.0	Sending	• 7

Figure 100: AI-Tango table

If a device category is empty, it appears at the bottom of the page and displays "No devices detected."

Crown Amps	
No devices detected	

Figure 101: No devices detected

ACU2, ACE-RIU, Ashly Power Amplifier, ACU, and Crown Power Amplifier tables include the following columns:

- *Device Name:* this column shows the device's name. By default, Telestra assigns unique names to devices by combining an abbreviation of the device type with the last four digit's of the device's MAC address (e.g., ACU2-3d:9b). Each device must have a unique name and number. Select Edit Device Name () to change the device's name.
- *Network:* this column shows each device's connection status. Devices included in a Studio layout may be "Connected" or "Disconnected" from the Telestra server.
- MAC Address: this column shows the device's MAC address (e.g., 00:1a:18:00:05:5f).
- *Firmware:* this column shows the device's current firmware version. To update to the latest firmware version, go to Section 10.1.13, "Update a hardware device's firmware" on page 92.
- *Latency*: This column displays the device's latency as either Normal or Low.



Note: Ashly Power Amplifiers do not include Latency.

- *Status*: This column displays one of the following statuses:
 - *Ready:* the device is ready to use.
 - *Boot:* the device is in boot mode and ready for a firmware update.
 - *Dashes:* the device's status is unavailable because it's offline (i.e., disconnected from power, or the Telestra server can't detect it on the network).
 - *Error:* if the device throws an error, select **Open Channel Settings** (^(a)) to view the full error message. Contact ASTi at <u>support@asti-usa.com</u> for further troubleshooting assistance.
- *Actions:* this column lets you view channel statuses, errors, or advanced information about the device, such as specific channel statistics.

In addition to **Device Name**, **MAC Address**, and **Firmware** above, the AI-Tango table includes several unique columns:

- IPv4 Address: this column displays the AI-Tango's IP address or multicast address.
- *Status:* this column reflects the current state of the AI-Tango's LED status indicator. Possible statuses include "Pending Setup," "Updating," "Error," "Find Me," "Sending," and "Tx / Rx" (i.e., sending/receiving)
- *Actions:* select the arrow (↗) to go to the device's advanced settings; alternatively, turn on **Find Me** (●), which causes the device's LED to blink purple for ID purposes.

Al-Tangos					🕲 Update Firmware
Device Name	IPv4 Address	MAC Address	Firmware	Status	Actions
Discovered on Netw	ork				
Al-Tango-90:02 🖉	10.2.100	dc:a6:32:ff:90:02	v2.1.0	Ready	• 7
Al-TangoCE 🥖	10.2 000 002	e4:5f:01:8e:6d:6d	v1.0.0	Ready	• 7
Al-Tango_		e4:5f:01:d8:39:63	v1.0.0	Tx / Rx	• 7
HT_Tango1 🧳	100.2 100.00	e4:5f:01:d8:3d:7f	v1.0.0	Sending	• 7

Figure 102: Unique columns in the AI-Tango table
This section discusses how to:

- Edit a hardware device's name
- View the channel statuses of an audio device or amplifier
- Edit an ACU2 or ACU's microphone power and gains
- Edit an ACU2 or ACU's alternate gains
- Edit an Ashly Power Amplifier's filters and gains
- View an AI-Tango's network status
- Edit AI-Tango network, transmit, and receive settings
- View the AI-Tango's live pin data
- Identify an AI-Tango via Find Me
- Turn on the AI-Tango's digital output defaults
- Reset an AI-Tango or Ashly Power Amplifier
- Update a hardware device's firmware
- View an audio device or amplifier's network statistics
- Reset Lost Beat Packets

10.1.1 Edit a hardware device's name

This section explains how to change the name of a hardware device, customizing it to your specific requirements or preferences. By default, Telestra assigns unique names to devices by combining an abbreviation of the device type with the last four digit's of the device's MAC address (e.g., ACU2-3d:9b). You can modify a device's name in two places: on the **Hard-ware** page or on the device's details page.

To edit a hardware device's name, follow these steps:

1. On the left, go to **Solution** Network Devices > Hardware.

=	TELESTR/		💩 Runnin	g: AH-1Z-RevB : main		×		ଦ୍୍ ଡି ଭି∗ ଏ∙
⊘ ≟	Dashboard Setup -	Hardware						() Lost Beat Packets: 0
	Network Backup/Restore	ACU2s						Update Firmware
	Licenses	Device Name	Network	MAC Address	Firmware	Latency	Status	Actions
• 📑	Network Devices	Included in Layout						
	Hardware	No devices detecte	d					
	Telestras	Not Included in La	yout					
÷	Projects	IO_device_54	O Connected	00:1a:18:4d:3d:9b	v3.9	Normal	Ready	© 7
÷	Diagnostics *	paule d	Connected	00:1a:18:e4:43:f4	v3.9	Normal	Ready	© 7
	Health							
	System Logs SOS Reports	ACE-RIUs						@ Update Firmware
	Credit Report	Device Name	Network	MAC Address	Firmware	Latency	Status	Actions
ŵ	Simulation •	Included in Layout						
	Protocols	No devices detecte	d					
	Terrain	Not Included in La	yout					
	Audio +	RIU-055fgh123		00:1a:18:00:05:5f	v2.8 🛆		Ready	© 7
	Sound Files							
	Spectral Analysis							

Figure 103: Hardware navigation

2. On the right, hover over the orange tab (³), and select **Log in to edit**.

	<u> </u>	. .	•]•
	1697 /	15000	Entries
Basic	Advar	ced	۵.

Figure 104: Log in to edit

3. Log in with the following default credentials:

Username	Password
admin	astirules

4. (Optional) To view the hidden password, select Show Password (③).

Log in to access Username	×
admin	
Password	
•••••	۲
	Login

Figure 105: Login pop-up window

- 5. Select Login .
- 6. On **Hardware**, choose a device to edit.
- 7. Under Device Name, select Edit Device Name ().

ACU2s	
Device Name	Network
Included in Layout	
No devices detected	
Not Included in Layout	
ACU2-3d:9b	Ø © Connected

Figure 106: Edit Device Name icon

8. Enter a unique name for the hardware device, and select Θ to save or \otimes to discard.

ACU2s
Device Name Network
Included in Layout
No devices detected
Not Included in Layout
new_device_name 🛞 🔗 🛇 Connected

Figure 107: Enter a new device name

The new name appears in the table:



Figure 108: New device name

10.1.2 View the channel statuses of an audio device or amplifier

This section describes how to view the channel statuses of audio distribution devices and amplifiers. You can access this information in one of two ways: the quick-access view in the device's **Hardware** table and on the device's details page. These instructions apply to the ACU2, ACE-RIU, Ashly Power Amplifier, ACU, and Crown Power Amplifier. They do not apply to the AI-Tango.

To view a device's channel status in the quick-access view, follow these steps:

- 1. On **Hardware**, choose a hardware device.
- 2. Under Actions, select the gear icon (③).

ACU2s							
Device Name	Network	MAC Address	Firmware	Latency	Status	Actions	
Included in Layout							
ACU2-0a:ac	⊘ Connected	00:1a:18:00:0a:ac	v2.17	Normal	Ready	(i) A	
HT_ACU2	⊘ Connected	00:1a:18:9b:5b:79 🕓	v3.6	Normal	Ready	© 7	

Figure 109: Open quick-access view

The table row expands, displaying a row for each channel and a column identifying the channel's **Status**:

Latency Normal	Status Ready		Actions × 계
Normal	Ready		хл
Normal	Ready		хл
utput Gain 🛈			
10		dB	Save
10		dB	
0		dB	
10		dB	
10 10 0			dB dB

Figure 110: Quick-access view of channel status and settings

"⊙ In Use" means a Studio layout is referencing (i.e., "using") the device's channels, while "⊙ Not In Use" means the channels are available. For example, if a layout is only using Channels A and B, then Channels C and D are not in use.



Note: The quick-access view may vary across devices, as not all devices contain configurable microphone and gain settings.

3. *(Optional)* Expand more rows to simultaneously view channel statuses across multiple devices:

ACU2s									
Device Name	Networ	·k	MAC Address	Firmware		Latency	Status		Actions
Included in Layout									
ACU2-0a:ac	⊘ Conr	nected	00:1a:18:00:0a:ac	v2.17		Normal	Ready		хя
	Status	Mic	Input Gain			Output Gain			
Channel A	⊘ In Use		41		dB	10		dB	Save
Channel B	⊘ In Use		30		dB	10		dB	
Channel C	⊘ In Use		40		dB	0		dB	
Channel D	⊘ In Use		40		dB	10		dB	
HT_ACU2v2	⊘ Conr	nected	00:1a:18:9b:5b:79 🕓	v3.6		Normal	Ready		хл
	Status	Mic	Input Gain 🚯			Output Gain			
Channel A	⊘ In Use		40		dB	10		dB	🗊 Save
Channel B	⊘ In Use	•	40		dB	10		dB	
Channel C	⊘ In Use		40		dB	10		dB	
Channel D	⊘ In Use	•	40		dB	10		dB	

Figure 111: View multiple device's channel statuses simultaneously

4. To collapse quick-access view, select the close icon (×).

ACU2s									
Device Name	Networ	Network MAC Address		Firmware		Latency	Status	Actions	
Included in Layou	Jt								
ACU2-0a:ac	⊘ Conr	Oconnected 00:1a:18:00:0a:ac		v2.17 Normal		Ready	×		
	Status	Mic	Input Gain			Output Gain			
Channel A	🕗 In Use		41		dB	10		dB	Save
Channel B	🕗 In Use		30		dB	10		dB	

Figure 112: Collapse quick-access view

To view a device's channel statuses on the **Details** page, follow these steps:

- 1. On Hardware, choose a hardware device.
- 2. To go to the device's details page, under Actions, select the arrow (↗). Alternatively, select the device's name.

ACE-RIUs							
Device Name	Network	MAC Address	Firmware	Latency	Status	Actions	
Included in Layout							
HT_RIU	⊘ Connected	00:1a:18:00:0b:d5	v2.11	Normal	Ready	© 🔿	
Not Included in Layout	Not Included in Layout						
No devices detected	No devices detected						

Figure 113: Device details navigation

The channel statuses appear in **Channel Settings** or **Channel Statuses**, depending on device type:

< ACE-RIU	: HT_RIU 🥖	
MAC Address Firmware Ver	: 00:1a:18:00:0b:d5 :sion v2:11	Device Status Ready Latency
Channel St Channel A	catuses ⊘ In Use	Channel B ⊘ In Use
Channel C	⊘ In Use	Channel D 📀 In Use

Figure 114: Channel statuses on the device details page

10.1.3 Edit an ACU2 or ACU's microphone power and gains

To edit an ACU2 or ACU's microphone power and gains from the quick-access view, follow these steps:

- 1. On **Hardware**, choose an ACU2 or ACU.
- 2. Under Actions, select the gear icon (③).

ACU2s						
Device Name	Network	MAC Address	Firmware	Latency	Status	Actions
Included in Layout						
ACU2-0a:ac	⊘ Connected	00:1a:18:00:0a:ac	v2.17	Normal	Ready	© 7
HT_ACU2	⊘ Connected	00:1a:18:9b:5b:79 🕓	v3.6	Normal	Ready	© 7

Figure 115: Open quick-access view

3. On the right, hover over the orange tab (¹), and select **Log in to edit**.



Figure 116: Log in to edit

4. Log in with the following default credentials:

Username	Password
admin	astirules

5. (Optional) To view the hidden password, select Show Password (③).

Log in to access	×
admin	
Password	
•••••	۲
	Login

Figure 117: Login pop-up window

- 6. Select Login .
- 7. To enable a channel's microphone power, turn on its corresponding Mic toggle switch.
- 8. To modify a channel's **Input Gain**, specify a value in one of the following ranges, depending on your device type:
 - *ACU2:* -8, +2 to +57 decibels (dB)
 - ACU: -20 to +50 dB
- 9. To modify a channel's **Output Gain**, specify a value in one of the following ranges, depending on your device type:
 - *ACU2:* -25 to +10 dB
 - ACU: -23 to +20 dB

ardware									③ Lost Beat Packe
ACU2s 🛆									Update Firmwa
Device Name	Network		MAC Address	Firmware		Latency	Status		Actions
Included in Layout									
No devices detected	d								
Not Included in La	yout								
ACU2-3d:9bcdef	🖋 🥝 Connect	ed	00:1a:18:4d:3d:9b	v3.9		Normal	Ready		хл
	Status	Mic	Input Gain 🚯			Output Gain 🕕			🗊 Discard
Channel A	🛞 Not In Use		7		dB	10		dB	Save
Channel B	🙁 Not In Use		5		dB	10		dB	
Channel C	🙁 Not In Use		-8		dB	0		dB	Unsaved Chang
	Q Net le Use	-							

Figure 118: Microphone and gain settings in quick-access view

10. Select Save

To edit the microphone power and gains on the device's details page, follow these steps:

1. To go to the device's details page, under Actions, select the arrow (↗). Alternatively, select the device's name.

lardware						<u>∧</u> Lost	Beat Packets: 3 🕤 Reset
ACU2s							Update Firmware
Device Name		Network	MAC Address	Firmware	Latency	Status	Actions
Included in Layout	t						
No devices detecte	ed						
Not Included in La	ayout						
ACU2-3d:9b	ø	⊘ Connected	00:1a:18:4d:3d:9b	v3.9	Normal	Ready	© 7
ACU2-43:4f	ø	⊘ Connected	00:1a:18:e4:43:f4	v3.9	Normal	Ready	© 🔿

Figure 119: Device details navigation

2. Under Channel Settings, edit the Mic Power, Input Gain, and Output Gain:

MAC Address	00:1a:18:4d:3d:9b			Device Status	Ready			
Firmware Version	v3.9			Latency	Normal			
Chapped Cottin								
Channel Settin	igs							
channet Settin	Igs Status	Mic Power		Input Gain 🚯			Output Gain 🚯	
Channel A	Status ONot In Use	Mic Power	7	Input Gain 🕄	dB	9	Output Gain 🕄	dE
Channel A Channel B	Status (2) Not in Use (3) Not in Use	Mic Power	7	Input Gain 🕄	dB	9	Output Gain 🛈	dE
Channel A Channel B Channel C	Status Not In Use Not In Use Not In Use Not In Use	Mic Power	7 5 -8	Input Gain 🛈	dB dB	9 10 0	Output Gain 🛈	dE dE

Figure 120: Microphone power and gain settings on details page

3. Select ^{■ Save}

10.1.4 Edit an ACU2 or ACU's alternate gains

The ACU2 and ACU support the ability to use alternate gain settings instead of the device's standard gain settings. Alternate gain settings enable a hardware device input (e.g., a control selector) to easily switch between preset gains outside of the Telestra web interface. The ACU2 and ACU both use **ControlIn3** input pins. This functionality works similarly to the way that a four-channel press-to-talk (PTT) device works with the **ControlIn2** pins.



Note: To toggle between two of the four settings, use the control knob of an ASTi PTT device or a series of specific resistor values. For specifics about how to set a hardware gain selector, contact ASTi at <u>support@asti-usa.com</u>.

To configure an ACU2 or ACU's alternate gains, follow these steps:

- 1. On Hardware, choose an ACU2 or ACU.
- 2. To go to the device's details page, under Actions, select the arrow (↗). Alternatively, select the device's name.

lardware						🛆 Lost	Beat Packets: 3 D Reset
ACU2s							Update Firmware
Device Name		Network	MAC Address	Firmware	Latency	Status	Actions
Included in Layout	:						
No devices detecte	d						
Not Included in La	yout						
ACU2-3d:9b	ø	⊘ Connected	00:1a:18:4d:3d:9b	v3.9	Normal	Ready	© 7
ACU2-43:4f	ø	⊘ Connected	00:1a:18:e4:43:f4	v3.9	Normal	Ready	۵ 🔿

Figure 121: Device details navigation

3. On the right, hover over the orange tab (\square) , and select Log in to edit.



Figure 122: Log in to edit

4. Log in with the following default credentials:

Username	Password
admin	astirules

5. (Optional) To view the hidden password, select Show Password (③).

Log in to access	×
admin	
Password	
	۲
	Login

Figure 123: Login pop-up window

- 6. Select Login .
- 7. Alternate Gain settings display under Channel Settings. To override the device's standard channel settings with these alternate settings, on Channel A, turn on Hardware Selector, which is controlled by an ASTi four-channel press-to-talk (PTT) device.
- 8. Each channel contains three positions. To configure an alternate gain channel position, do the following:
 - a. To enable a channel's microphone power, turn on its corresponding **Mic** toggle switch.
 - b. To modify a channel's **Input Gain**, specify a value in one of the following ranges, depending on your device type:
 - *ACU2:* -8, +2 to +57 decibels (dB)
 - *ACU:* -20 to +50 dB
 - c. To modify a channel's **Output Gain**, specify a value in one of the following ranges, depending on your device type:
 - *ACU2:* -25 to +10 dB
 - *ACU*: -23 to +20 dB

Alte	ernate Gain	IS									
Ch	annel A Chan	nel B Channel C Ch	nannel D								
Hard	iware Selector										
1	Mic Power			2	Mic Power			3 ^{Mi}	ic Power		
	Input Gain	10	dB		Input Gain	10	dB	Inj	put Gain	10	dB
	Output Gain	10	dB		Output Gain	10	dB	Ou	utput Gain	10	dB

Figure 124: ACU2 Alternate Gains

9. Repeat Steps 7 and 8 for Channels B–D.

10.1.5 Edit an Ashly Power Amplifier's filters and gains

To edit an Ashly Power Amplifier's filters and gains, follow these steps:

- 1. On Hardware, under Ashly Amps, choose a device.
- 2. Under Actions, select the gear icon (③).

Ashly Amps						
Device Name		Network	MAC Address	Firmware	Status	Actions
Included in Layout						
No devices detected						
Not Included in Layout						
Ashly-62:21	ø	⊘ Connected	00:60:2b:06:62:21 🕓	v3.8	Ready	(a) 7

Figure 125: Open quick-access view

Alternatively, access filter and gain settings from the Ashly Power Amplifier's details page. Under Actions, select the arrow (7), or select the device's name.

ardware						<u>∧</u> Los	t Beat Packets: 3 D Reset
ACU2s							@ Update Firmware
Device Name		Network	MAC Address	Firmware	Latency	Status	Actions
Included in Layou	t						
No devices detecte	∋d						
Not Included in La	ayout						
ACU2-3d:9b	1	⊘ Connected	00:1a:18:4d:3d:9b	v3.9	Normal	Ready	© 7
ACU2-43:4f	ø	⊘ Connected	00:1a:18:e4:43:f4	v3.9	Normal	Ready	© 🔿

Figure 126: Device details navigation

3. On the right, hover over the orange tab (¹), and select Log in to edit.

۹	ه ۵	۰.	0]-	
Bask	1697 Adv	/ 15000 anced	Entries	
		⊳) Log ♪	in to edi	t

Figure 127: Log in to edit

4. Log in with the following default credentials:

Username	Password
admin	astirules

5. *(Optional)* To view the hidden password, select **Show Password** (**②**).

Log in to access	×
Username	
admin	
Password	
•••••	۲
	Login

Figure 128: Login pop-up window

- 6. Select Login .
- 7. **Filter** removes low frequencies and enhances the overall sound quality, preventing distortion or overload in certain frequency ranges. To apply a filter to each channel, choose one of the following:
 - **80Hz high pass**: permits frequencies above 80 Hz to pass through while attenuating frequencies below it; eliminates low-frequency rumble or unwanted bass from the channel's audio output.
 - *Bypass:* disables any filters on the channel; choose this option for a transparent audio signal without any alterations or if you're applying external processing or filtering downstream.
 - *400Hz high pass:* allows frequencies above 400 Hz to pass through while attenuating frequencies below it; eliminates mid-range or low-mid frequencies that might cause muddiness or interference.
- 8. To adjust each channel's overall **Software Gain**, specify a value ranging from -50 decibels (dB) to +12 dB.
- 9. To apply the knob's gain on the amplifier's front panel, turn on Front Gain.
- 10. To apply the gain that users can remotely control via Protea software, turn on **Remote Gain**.



Note: For more information about the Ashly Power Amplifier's remote control capabilities, go to the original manufacturer's documentation.

Total Gain is the resulting combination of **Software Gain**, **Front Gain**, and **Remote Gain**:

Ashly Amps 🛆									
Device Name Network		ork	MAC	Address		Firmware	Status	Actio	ons
Included in Layout									
No devices det	ected								
Not Included i	n Layout								
Ashly-62:21	🥒 📀 Co	nnected	00:60	:2b:06:62:21 🕓		v3.8	Ready	×	Z
					♪	Unsaved Changes		🗊 Discard	Save
	Status	Filter		Software Gain (D	Front Gain 💽	Remote Gain 💽	Total Gain	
Channel A	😣 Not In Use	80Hz high pass		-35	dB	-20 dB	20 dB	Muted	
Channel B	🛞 Not In Use	80Hz high pass		-19	dB	-20 dB	20 dB	Muted	
Channel C	🗵 Not In Use	80Hz high pass		-12	dB	-20 dB	20 dB	Muted	
Channel D	🙁 Not In Use	80Hz high pass		-20	dB	-20 dB	20 dB	Muted	
Channel E	🛞 Not In Use	80Hz high pass		-45	dB	-20 dB	20 dB	Muted	
Channel F	🙁 Not In Use	Bypass		-37	dB	-20 dB	20 dB	Muted	
Channel G	🙁 Not In Use	Bypass		-22	dB	-20 dB	20 dB	Muted	
Channel H	🗵 Not In Use	Bypass		-15	dB	-20 dB	20 dB	Muted	

Figure 129: Ashly Power Amplifier gain settings

11. Select ^{∎ Save}

10.1.6 Pair the Ashly Power Amplifier's interface card with a Telestra server

These instructions help you pair the Dante interface cards of Ashly ne8250bd amplifiers (ASTi P/N: NAMP-8 and NAMP-8i) with a Telestra server. ASTi typically pairs Dante cards before shipment, so most customers won't need to complete this step. However, customers that purchased amplifiers from third-party sellers will need to complete this one-time action during setup.



Important: This pairing step is not required for ne8250bc models (ASTi P/N: PAMP-ASH-8 and PAMP-ASH-8i).

To enable the Ashly Power Amplifier's Dante interface card, follow these steps:

- 1. Find the stickers on the back of the amplifiers, and write down the MAC addresses from the Dante sticker (top left, above the Dante card) and the amplifier sticker, (right side, under the power connector). If you're configuring multiple devices, note which MAC addresses correspond to which physical amplifier.
- 2. Turn on the amplifier, and allow about 20 seconds per device for Telestra server discovery.
- 3. Open a web browser on a computer sharing a network with the Telestra server.
- 4. In the address bar, enter the Telestra server's IP address.
- 5. On the left, go to **Solution** Network Devices > Hardware.

=	TELESTRA		💩 Running	g: AH-1Z-RevB : main		×		ଦ୍ଦ୍ ଡି ଭିଟ ଏଟ	
0 	Dashboard Setup -	Hardware						() Lost Beat Packets: 0	
	Network Backup/Restore	ACU2s						Update Firmware	
	Licenses	Device Name	Network	MAC Address	Firmware	Latency	Status	Actions	
• 🚍	Network Devices	Included in Layou							
	Hardware	No devices detecte	ed.						
	Telestras	Not Included in La	ayout						
\$	Projects	IO_device_54	Connected	00:1a:18:4d:3d:9b	v3.9	Normal	Ready	⊚ ↗	
÷	Diagnostics *	paule	Ø Connected	00:1a:18:e4:43:f4	v3.9	Normal	Ready	© 7	
	Health								
	System Logs								
	SOS Reports	ACE-RIUs						Update Firmware	
	Credit Report	Device Name	Network	MAC Address	Firmware	Latency	Status	Actions	
ŵ	Simulation *	Included in Layou	t						
	Protocols	No devices detected							
	Terrain	Not included in L	avout						
	Audio •			004=48-00-05-56			Deadu	0.7	
	Sound Files	RIG-055fgh123	Connected	00.1a.10.0010515T	V2.8 🔼		Ready	© /	
	Spectral Analysis								
_									

Figure 130: Hardware navigation

- 6. Under **Ashly Amps**, use the MAC addresses you recorded in Step 1 to determine which amplifier listing corresponds to which physical amplifier (since multiple devices may show the same default name of "ne8250").
- 7. To go to the device's details page, under Actions, select the arrow (↗). Alternatively, select the device's name.

Ashly Amps									
Device Name		Network	MAC Address	Firmware	Status	Actions			
Included in Layout	Included in Layout								
No devices detected	No devices detected								
Not Included in Layout	Not included in Layout								
Ashly-62:21	ø	⊘ Connected	00:60:2b:06:62:21 🔇	v3.8	Ready	۵ 🕢			

Figure 131: Device details navigation

8. On the right, hover over the orange tab (\square), and select Log in to edit.



Figure 132: Log in to edit

9. Log in with the following default credentials:

Username	Password
admin	astirules

10. (Optional) To view the hidden password, select Show Password (③).

Log in to access	×
Username	
admin	
Password	
•••••	۲
	Login

Figure 133: Login pop-up window

- 11. Select Login
- 12. At the top of the page, select **Dante Card**, and choose the MAC address that matches the correct Dante card based on your notes from Step 1.

			⊠ N	🖄 No Layout Installed - Missing Runtime License 🗸 🗸		م	(4 0 @• U•
0	Dashboard	🕞 Ashly Am	nplifier: HT_Dante	Ø			
÷	Setup 🗸						
	Network Backup/Restore	MAC Address	00:14:aa:03:42:f6	Device Status	IP Address	172.31.66.247	්ට Reset
	Licenses	Model	ne8250 w/AES67	Firmware Version v4.1	Dante Card	00:1d:c1:2c:d1:f0 v Pair	
°.	Network Devices 🗸					O0:1d:c1:2c:d1:f0	

Figure 134: Pairing a Dante interface card

13. Select ^{Pair}. When pairing is complete, **Device Status** says "Ready," and **Dante Card** displays the amplifier's MAC address and a link icon ([®]).

🕞 Ashly Amplifier: HT_Dante 🖋								
MAC Address	00:14:aa:03:42:f6	Device Status Ready	IP Address					
Model	ne8250 w/AES67	Firmware Version v4.1	Dante Card 00:1d:c1:2c:d1:f0					

Figure 135: Paired a Dante interface card

- 14. Repeat the pairing process for each amplifier in your setup.
- 15. (Optional) To unpair a Dante card from the Telestra server, select Unpair the dante card (%).

10.1.7 View an Al-Tango's network status

To view an AI-Tango's network status, follow these steps:

- 1. On Hardware, choose an AI-Tango.
- 2. To go to the device's details page, under Actions, select the arrow (↗). Alternatively, select the device's name.

AI-Tangos							
Device Name	IPv4 Address	MAC Address	Firmware	Status	Actions		
Discovered on Network							
Al-Tango-90:02	912090	dc:a6:32:ff:90:02	v2.1.0	Ready	• 🤊		
AI-Tango_ERS_CE	10.2101002	e4:5f:01:8e:6d:6d	v1.0.0	Ready	• 7		

Figure 136: Device details navigation

- 3. Near the top of the page, **Network Status** includes the following settings:
 - *Packets Sent*: the number of packets the AI-Tango transmitted.
 - *Packets Received*: the number of packets the AI-Tango has received over the network.
 - *Transmit Errors:* the number of transmit errors the AI-Tango has experienced. Most transmit errors occur due to networking issues. Contact ASTi Support at <u>support@asti-usa.com</u> for troubleshooting help.
 - *Version Conflicts:* the number of packets with mismatched versions that the AI-Tango has received or sent. In many cases, the transmitting server or device contains the incorrect version rather than the AI-Tango itself. If you encounter this error, ensure the Telestra server or host device's software is compatible with the AI-Tango. If the problem persists, check your network configuration, or contact ASTi Support at <u>support@asti-usa.com</u> for assistance.
 - *Undersized Packets:* the number of packets below the acceptable length that the AI-Tango has received but not processed. This metric could indicate missarangements in the programs sending packets to the AI-Tango.
 - *Oversized Packets:* the number of packets above the acceptable length received by the AI-Tango, which are not processed. This metric could indicate missarrangements in the programs sending packets to the AI-Tango or that the AI-Tango is sending pin data to itself.
 - *Receive Errors:* the number of receive errors the AI-Tango has experienced. Receive errors typically occur due to malformed packets or networking issues. Contact ASTi Support at <u>support@asti-usa.com</u> for troubleshooting help.
 - *Receive Timeouts:* indicates that the AI-Tango stopped receiving expected packets. Receive timeouts might occur if the transmitting program (e.g., a Telestra server) encounters an error, the AI-Tango experiences networking issues, or the Telestra server's model stops running. This number identifies the number of receive timeouts the AI-Tango has experienced.
 - *Receive Address/Packets:* lists the addresses that a server or device transmitted to the AI-Tango during its current uptime. It also displays the number of packets the AI-Tango received from each address. You might use this data point to identify any unexpected devices communicating with the AI-Tango.

Figure 137, "AI-Tango Network Status" below shows the AI-Tango Network Status fields on the details page:

Network Status			
Packets Sent	1645	Packets Received	238
Transmit Errors	0	Receive Errors	0
Version Conflicts	0	Receive Timeouts	0
Undersized Packets	0	Receive Address	Packets
Oversized Packets	0	10.2.100.16	239

Figure 137: AI-Tango Network Status

10.1.8 Edit Al-Tango network, transmit, and receive settings

To edit the AI-Tango's network, transmit, and receive settings, follow these steps:

- 1. On Hardware, choose an AI-Tango.
- 2. To go to the device's details page, under Actions, select the arrow (7). Alternatively, select the device's name.

Al-Tangos								
Device Name	IPv4 Address	MAC Address	Firmware	Status	Actions			
Discovered on Network								
Al-Tango-90:02	10.21000	dc:a6:32:ff:90:02	v2.1.0	Ready	• 🔊			
AI-Tango_ERS_CE	10.2107.002	e4:5f:01:8e:6d:6d	v1.0.0	Ready	• 7			

Figure 138: Device details navigation

3. On the right, hover over the orange tab (\square), and select Log in to edit.



Figure 139: Log in to edit

4. Log in with the following default credentials:

Username	Password
admin	astirules

5. (Optional) To view the hidden password, select Show Password (③).

Log in to access Username	×
admin	
Password	
	۲
	Login

Figure 140: Login pop-up window

- 6. Select Login .
- 7. Under **Network Configuration**, select **Mode**, and choose the AI-Tango's mode of operation:
 - *DHCP*: requests IPv4 and subnet mask information from another server on your network.
 - *Static*: requires an IP address and subnet mask.
- 8. To change the AI-Tango's **IPv4 Address**, enter *xxx.xxx.xxx*, where *xxx.xxx.xxx* is the IPv4 address.
- 9. To change the AI-Tango's **IPv4 Netmask**, enter *yyy.yyy.yyy*, where *yyy.yyy.yyy* is the device's netmask. The default netmask is 255.255.255.0.
- 10. In **Gateway IP**, enter the IP address of the AI-Tango's gateway device, which serves as an entry and exit point for data traffic between different networks. This setting is blank by default.
- 11. *(Optional)* In **Name Servers**, select the plus sign (+), and enter the IP address of the Domain Name System (DNS) server, which translates human-readable domain names into IP addresses that hardware devices use. To delete a name server, select the trash

icon (¹) next to an IP address.

Network Configuration			* indicates a required field
Mode *	Static v	Gateway IP *	10.2.0.254
IPv4 Address *	10.2.130.101	IPv4 Netmask *	255.255.0.0
Name Servers	+		
10.10.1.10	0		
10.10.1.11	0		

Figure 141: AI-Tango Network Configuration

- 12. Under **Transmit & Receive Settings**, in **Transmit Address**, enter the IP address to which the AI-Tango transmits data over the network. This setting is blank by default.
- 13. In **Transmit Port**, enter the port number (e.g., *NNNNN*) to which the AI-Tango directs traffic. The default port is 54565.
- 14. In **Transmit Period**, define how long in milliseconds (msec) the AI-Tango waits to send data between transmissions. The default value is 1,000 msec.
- 15. *(Optional)* For the Telestra server to send an additional packet every time it detects a change in its analog input, leave **Transmit on Change** enabled. As a result, the Telestra server's model is more responsive to changes in the connected hardware. You might disable this feature if the analog input is overactive, causing the AI-Tango to spam packets over the network.
- 16. (Optional) In Receive Multicast Group, enter a common IP address that allows multiple AI-Tangos to simultaneously receive a single packet from the Telestra server. As a result, the server does not need to send a copy of the same packet to each device, reducing network traffic. Valid multicast addresses range from 224.0.0–239.255.255.255. This setting is blank by default.
- 17. In **Receive Port**, enter a port number (e.g., *NNNN*) on which the AI-Tango listens for network traffic. The default port number is 54564.
- 18. The Telestra server or another device can send packets to the AI-Tango to enable its digital outputs. To enable the digital outputs by default, go to Section 10.1.11, "Turn on the AI-Tango's digital output defaults" on page 87. The digital outputs are disabled by default, although you can enable them per your requirements.

In **Digital Output Timeout**, enter the time in ms the AI-Tango waits before resetting the digital outputs to their default values. This setting helps prevent hardware damage that may occur if a server or device continuously drives the digital outputs while the AI-Tango isn't receiving any packets. The default value is 5,000 msec.

Transmit & Receive Settings *indicates a rec						
Transmit Address *	10.2.100.16		Receive Multicast Group			
Transmit Port *	54567		Receive Port *	54566		
Transmit Period *	16	ms	Digital Output Timeout *	5000	msec	
Transmit on Change						

Figure 142: Transmit & Receive Settings

10.1.9 View the AI-Tango's live pin data

This section explains how to view the AI-Tango's pin data on the details page, which displays a table and diagram depicting the device's six input/output (I/O) ports and their corresponding analog input/digital output (AI/DO) pins. The table provides real-time pin data sourced directly from the physical device, accurately representing the pins' current states. You might use this capability to monitor I/O activity, diagnose issues or anomalies, or ensure the device's ports are properly configured for optimal performance.

To view the AI-Tango's live pin data, follow these steps:

- 1. On Hardware, choose an AI-Tango.
- 2. To go to the device's details page, under Actions, select the arrow (↗). Alternatively, select the device's name.

AI-Tangos					
Device Name	IPv4 Address	MAC Address	Firmware	Status	Actions
Discovered on Netw	vork				
AI-Tango-90:02	10.21000	dc:a6:32:ff:90:02	v2.1.0	Ready	• 🤊
AI-Tango_ERS_CE	10.2107102	e4:5f:01:8e:6d:6d	v1.0.0	Ready	• 7

Figure 143: Device details navigation

3. Under **Pin Data**, hover over an analog input or digital output row to highlight its corresponding pin in the diagram.

n Data	www.asti-usa.co	m	_	_		Front Bac
	•• •••••••••••••••••••••••••••••••••••	I/O Port 2		rt 3	I/O Port 4	•
	I/O Port 1	I/O Port 2	I/O Port 3	I/O Port 4	I/O Port 5	I/O Port 6
Analog Input 1	156	149	254	173	192	192
	158		255			
Analog Input 3	169	172	254	154	100	100
Analog Input 4	130	179	254	159	192	192
Analog Input 5	73	126	254	144	142	141
Analog Input 6	59	177	254	89	100	100
Digital Output 1	On	On	On	On	On	On
Digital Output 1 Default	Off On	Off On	Off On	Off On	Off On	Off On
Digital Output 2	On	On	On	On	On	On
Digital Output 2						

Figure 144: AI-Tango live pin data

4. Select **Pin Legend** (^{CD}) to view the pins' color-coding scheme. AI/DO pins are blue, ground pins are green, and 5 volt (5V) pins are purple.

Pin Data	Pin Legend ×	B	Front Back
ASTI www.asti-usa.com I/O Port 1 I/O Port 2	 Analog Input/Digital Out Ground 5V 	Port 4	•

Figure 145: AI-Tango pin legend

5. To toggle between the AI-Tango's front and rear panels, select **Front** or **Back** (



Figure 146: AI-Tango rear panel

10.1.10 Identify an Al-Tango via Find Me

This section describes how to identify a physical AI-Tango device via the **Find Me** feature. When active, **Find Me** causes the AI-Tango's LED to blink purple, allowing you to easily locate it on a rack containing multiple hardware devices. **Find Me** is located in two places: in the **AI-Tangos Hardware** table and on the device's details page.

To turn on Find Me in the AI-Tangos Hardware table, follow these steps:

- 1. On Hardware, choose an AI-Tango.
- 2. Under Actions, select Find Me (•). The button radiates, and the Status column displays "Find me."

AI-Tangos	🕮 Update Firmware							
Device Name	IPv4 Address	MAC Address	Firmware	Status	Actions			
Discovered on Network								
Al-Tango-90:02 🖋	10.2.1007	dc:a6:32:ff:90:02	v2.1.0	Ready	→● ↗			
AI-Tango_ERS_CE 🖋		e4:5f:01:8e:6d:6d	√1.0.0	Ready	• 7			

Figure 147: Find Me in an AI-Tango Hardware table

- 3. Go to the physical rack of hardware devices, and find the AI-Tango with a purple, blinking LED.
- 4. Select Find Me (•) again to turn it off.

Alternatively, to turn on Find Me on the AI-Tango's details page, follow these steps:

- 1. On Hardware, choose an AI-Tango.
- 2. To go to the device's details page, under Actions, select the arrow (↗). Alternatively, select the device's name.

Al-Tangos					
Device Name	IPv4 Address	MAC Address	Firmware	Status	Actions
Discovered on Netw	ork				
Al-Tango-90:02	912/001	dc:a6:32:ff:90:02	v2.1.0	Ready	• 🔊
AI-Tango_ERS_CE	10.2107.002	e4:5f:01:8e:6d:6d	v1.0.0	Ready	ہ 🖲

Figure 148: Device details navigation

3. On the right, select **Find Me** (**•**). The button radiates, and **Status** blinks purple, displaying "Find me."

≺ AI-Tango: A	Al-Tango-39:6	3 🖉						
IPv4 Address Gateway	10.2.130.101 10.2.0.254	Status Firmware Version	e Find me dev	Netmask	255.255.0.0	MAC Address	e4:5f:01:d8:39:63	Find Me

Figure 149: Find Me on an AI-Tango details page

- 4. Go to the physical rack of hardware devices, and find the AI-Tango with a purple, blinking LED.
- 5. Select Find Me (•) again to turn it off.

10.1.11 Turn on the Al-Tango's digital output defaults

The AI-Tango contains six ports, each with a set of **Digital Output 1** and **Digital Output 2** pins. The digital outputs function like switches that connect to various types of hardware. For example, you might use these pins to turn an LED or buzzer on or off.

Digital Output N **Default**, where N is the digital output number, determines how the pins behave when the AI-Tango isn't receiving any packets. Initially, this setting is **Off**, which means the AI-Tango is not driving the port's digital outputs.

In a typical configuration, a Telestra server or host computer sends User Datagram Protocol (UDP) packets to an AI-Tango. These packets instruct the AI-Tango to enable or disable its digital outputs, overriding **Digital Output** N **Default**. When an AI-Tango stops receiving packets, it waits for the **Digital Output Timeout** period to pass and reverts to the port's **Digital Output** N **Default** value. If it's **Off**, the AI-Tango stops driving the outputs; if it's **On**, the AI-Tango keeps driving the outputs.



Caution: Continuously driving the AI-Tango's digital outputs when it isn't receiving any packets may damage your device. ASTi recommends leaving *Digital Output* N *Default* off.

To turn on the AI-Tango's digital output defaults, follow these steps:

- 1. On Hardware, choose an AI-Tango.
- 2. To go to the device's details page, under Actions, select the arrow (↗). Alternatively, select the device's name.

AI-Tangos								
Device Name	IPv4 Address	MAC Address	Firmware	Status	Actions			
Discovered on Network								
Al-Tango-90:02	9121901	dc:a6:32:ff:90:02	v2.1.0	Ready	• 🔊			
AI-Tango_ERS_CE	10.2107.002	e4:5f:01:8e:6d:6d	v1.0.0	Ready	٦ 🔘			

Figure 150: Device details navigation

3. On the right, hover over the orange tab (, and select Log in to edit.



Figure 151: Log in to edit

4. Log in with the following default credentials:

Username	Password		
admin	astirules		

5. (Optional) To view the hidden password, select Show Password (③).

Log in to access	×
admin	
Password	
•••••	۲
	Login

Figure 152: Login pop-up window

- 6. Select Login .
- 7. **Digital Output 1** and **Digital Output 2** statuses and settings display at the bottom of the **Pin Data** table:

n Data	www.asti-usa.com	n I/O Port 6)	9 77	Network	Front Bac
	I/O Port 1	I/O Port 2	I/O Port 3	I/O Port 4	I/O Port 5	I/O Port 6
Analog Input 1	42	149	254	173	192	192
Analog Input 2	157	159	254	178	141	142
Analog Input 3	168	172	254	154	100	100
Analog Input 4	129	179	255	158	192	192
Analog Input 5	73	126	254	144	142	141
Analog Input 6	59	177	254	89	100	100
Digital Output 1	On	On	On	On	On	On
Digital Output 1 Default	Off On	Off On	Off On	Off On	Off On	Off On
Digital Output 2	On	On	On	On	On	On

Figure 153: AI-Tango digital outputs

The **Digital Output 1** and **Digital Output 2** rows show the outputs' current state as either **On** or **Off**. If a digital output is **On** while its corresponding default is **Off**, it may be receiving packets overriding the default behavior.

(Optional) Hover over the row to view the digital outputs' corresponding pins in the diagram:

n Data						Front Back
ASTI VO Port	www.asti-usa.co	m I/O Port 6) (0 77	Network	Pone *
	I/O Port 1	I/O Port 2	I/O Port 3	I/O Port 4	I/O Port 5	I/O Port 6
Analog Input 1	42	149	254	173	192	192
Analog Input 2	157	159	254	178	141	142
Analog Input 3	168	172	254	154	100	100
Analog Input 4	129	179	255	158	192	192
Analog Input 5	73	126	254	144	142	141
Analog Input 6	59	177	254	89	100	100
Digital Output 1	On	On	On	On	On	On
Digital Output 1 Default	Off On	Off On	Off On	Off On	Off On	Off On
Digital Output 2	On	On	On	On	On	On
Digital Output 2 Default	Off On	Off On	Off On	Off On	Off On	Off On

Figure 154: Highlight digital output pins

 To enable a port's digital output by default, choose an I/O port and Digital Output 1 Default or Digital Output 2 Default. Select On (Off On).

in Data	www.asti-usa.co t 5	m I/O Port 6		0	Network	Front Back
	I/O Port 1	I/O Port 2	1/0 Port 3	I/O Port 4	I/O Port 5	I/O Port 6
Analog Input 2	157	159	254	173	141	142
Analog Input 3	168	172	254	154	100	100
Analog Input 4	129	179	255	158	192	192
Analog Input 5	73	126	254	144	142	141
Analog Input 6	59	177	254	89	100	100
Digital Output 1	On	On	On	On	On	On
Digital Output 1 Default	Off On	Off On	Off On	Off On	Off On	Off On
Digital Output 2	On	On	On	On	On	On
Digital Output 2 Default	Off On	Off On	Off On	Off On	Off On	Off On

In the example below, the Digital Output 1 Default of I/O Port 3 is On.

Figure 155: Enable the Digital Output 1 Default for I/O Port 3

10.1.12 Reset an Al-Tango or Ashly Power Amplifier

This section explains how to reset an AI-Tango or an Ashly Power Amplifier back to its default settings, creating a clean slate for reconfiguration or troubleshooting purposes. Resetting an Ashly Power Amplifier restores the device to ASTi's default configuration, not the original manufacturer's settings.

To reset an AI-Tango or Ashly Power Amplifier to factory defaults, follow these steps:

- 1. On Hardware, choose an AI-Tango or Ashly Power Amplifier.
- 2. To go to the device's details page, under Actions, select the arrow (↗). Alternatively, select the device's name.

Ashly Amps						
Device Name		Network	MAC Address	Firmware	Status	Actions
Included in Layout						
No devices detected						
Not Included in Layout						
Ashly-62:21	ø	⊘ Connected	00:60:2b:06:62:21 🕓	v3.8	Ready	۵ 🕢

Figure 156: Device details navigation

3. In the top right, select ^{S Reset}

4. In the confirmation modal, review the impacted settings, and select Reset



Figure 157: Factory reset confirmation modals

5. Power-cycle the device. When the page refreshes, a "Success" message appears in the top right.

10.1.13 Update a hardware device's firmware

Completing firmware updates on your ASTi hardware devices is essential for optimal performance. Firmware updates not only introduce bug fixes and stability enhancements, but they also maintain compatibility with the Telestra server. If a firmware update is available for an audio distribution or I/O device, an alert (Δ) displays next to the device's **Firmware** version:

A firmware update available. To update, the device to Boot M and click the Upda Firmware button	is , set lode .te	
v3.7 🛆	1	V

Figure 158: Firmware update alert

To update a hardware device's firmware, follow these steps:

- 1. Find the physical devices you want to update, and put them in Boot Mode:
 - a. Unplug the device.
 - b. Toggle DIP Switch #1 down.



Figure 159: Put a device in Boot Mode

- c. Plug the device back in. The red and green LED lights will alternate rapidly.
- 2. Open a web browser on a computer sharing a network with the Telestra server.
- 3. In the address bar, enter the Telestra server's IP address.
- 4. On the left, go to **Solution** Network Devices > Hardware.

=	TELESTR/	1	💩 Runnin	g: AH-1Z-RevB : main		×		ଦ୍ର ଭ୍∙ ଏ∙
0	Dashboard Setup -	Hardware						() Lost Beat Packets: 0
	Network Backup/Restore	ACU2s						@ Update Firmware
	Licenses	Device Name	Network	MAC Address	Firmware	Latency	Status	Actions
• =	Network Devices ^	Included in Layou	ut					
	Hardware	No devices detect	ted					
	Telestras	Not Included in L	.ayout					
÷	Projects	IO_device_54	🖉 🞯 Connected	00:1a:18:4d:3d:9b	v3.9	Normal	Ready	© 7
÷	Diagnostics *	paule	Ø Connected	00:1a:18:e4:43:f4	v3.9	Normal	Ready	© 7
	Health							
	System Logs							
	SOS Reports	ACE-RIUS						₩ Update Firmware
	Credit Report	Device Name	Network	MAC Address	Firmware	Latency	Status	Actions
ŵ	Simulation -	Included in Layou	ut					
	Protocols	No devices detect	ted					
	Terrain	Not Included in L	.ayout					
***	Audio -	RIU-055fgh123	Ø Connected	00:1a:18:00:05:5f	v2.8 🛆		Ready	© 7
	Sound Files							
	Spectral Analysis							

Figure 160: Hardware navigation

5. On the right, hover over the orange tab (³), and select Log in to edit.



Figure 161: Log in to edit

6. Log in with the following default credentials:

Username	Password
admin	astirules

7. (Optional) To view the hidden password, select Show Password (③).

Log in to access	×
Username	
admin	
Password	
•••••	۲
	Login

Figure 162: Login pop-up window

- 8. Select Login
- 9. On **Hardware**, find the device type (e.g., ACE-RIUs) you want to update, and select Update Firmware.

10. In Firmware Update, under Update Method, choose Update to the latest firmware version(s) or Upload a custom firmware update (.tgz) file. You might need a custom firmware update file if you are troubleshooting an issue and an ASTi engineer sends you a patch.



Figure 163: Update to the latest firmware version(s)

If you selected the latter option, select Browse Files, and find the .tgz file on your local system. Alternatively, move the file to the modal's drag-and-drop area.

ACE-RIU Firmware Update	×
Update Method Update to the latest firmware version(s) Upload a custom firmware update (.tgz) file	
📥 Drag & Drop File Here or	
Browse Files Accepted file type(s): .tgz	

Figure 164: Upload a custom firmware update (.tgz) file

11. Under **Devices to Update**, confirm that the devices you configured in Step 1 are in Boot Mode.



Figure 165: Choose devices to update

12. (Optional) Review the listed devices, and clear any you don't want to update.

13. Select Update, and wait for the update to finish.



Caution: To avoid data loss/corruption, do not disconnect the devices from power until the firmware update is complete.

14. If the firmware update succeeded, each device's **Status** displays "⊙ Passed." Take the devices out of Boot Mode to complete the firmware update.

ACE-RIU Fi	rmware Update		×
	Almost	Done	
The firmware your devices b	update is complete. To fin back online, take them out	ish the update p of Boot Mode:	process and bring
Name	Current Firmware	Boot Mode	Status
RIU-05:5f	v2.11	⊗ Yes	⊘ Passed
(i) Take Dev	vices out of Boot Mode		~

Figure 166: Successful firmware update

To take the devices out of Boot Mode, follow these steps:

- a. Unplug the devices.
- b. Toggle each Dip Switch #1 up.
- c. Plug the devices back in.



Figure 167: Take the devices out of Boot Mode

If one or more device's **Status** displays "^③ Failed," close the modal, power-cycle the devices, toggle Boot Mode, and try the firmware update again. If the problem persists, contact ASTi Support at support@asti-usa.com.

ACE-RIU Firmware Update								
	(×						
	0	ops						
Something w	ent wrong. One or more	e of the device(s) f	ailed to update:					
Name	Current Firmwa	re Boot Mode	Status					
RIU-05:5	if v0.0	⊘ Yes	🛞 Failed 🛛	\sim				
S Error: D firmware. power-cycl persists, co	Serror: Device 001a1800055f failed to update for incompatible firmware. To troubleshoot, take the failed devices out of Boot Mode, power-cycle them, and try the firmware update again. If the problem persists, contact ASTi at support@asti-usa.com.							
ⓐ Take De	evices out of Boot Mod	e		~				

Figure 168: Unsuccessful firmware update

Once you take the devices out of Boot Mode, the Update Complete screen appears, and Boot Mode displays "⊙ No." Select Finish to close the window.

ACE-RIU Firmware Update						
	\bigcirc					
Update Complete						
The updated devices are now online and ready for operation:						
Name	Current Firmware	Boot Mode	Status			
RIU-05:5f	v2.11	Ø No	N/A			

Figure	<i>169</i> :	Update	Complete
--------	--------------	--------	----------

10.1.14 View an audio device or amplifier's network statistics

This section describes network statistics for ACU2s, ACE-RIUs, ACUs, Ashly Power Amplifiers, and Crown Power Amplifiers. The AI-Tango's network information is formatted differently. To learn more about the AI-Tango's network, go to Section 10.1.7, "View an AI-Tango's network status" on page 79.

Depending on device type, statistics include underruns, overruns, dropouts, serial in/out, analog in/digital out, and a message describing errors or additional information. These data points help you gauge your device's overall health. You might use this information to monitor performance, troubleshoot networking issues, optimize resource allocation, and maintain optimal system performance and reliability.

To view an audio device or amplifier's network statistics, follow these steps:

- 1. On Hardware, choose an audio device (i.e., ACU2, ACU, ACE-RIU) or an amplifier.
- 2. To view an audio device's statistics, ensure the device is connected to the network. To view an amplifier's statistics, ensure the device is both connected to the network and included in a Studio layout.

Ashly Amps						
Device Name	Network		MAC Address	Firmware	Status	Actions
Included in Layout						
Ashly-7f:68	Connected		00:60:2b:05:7f:68	v4.0	Ready	© 7
Not Included in Layout						
No devices detected						

Figure 170: Amplifier connected to network and in a Studio layout

To learn more about Studio layouts and adding hardware devices to Studio layouts, go to "Layout" and "Audio distribution devices" in the *Studio Technical User Guide*.

3. To go to the device's details page, under Actions, select the arrow (↗). Alternatively, select the device's name.

ardware						∆ Los	st Beat Packets: 3 🤊 Rese
ACU2s							@ Update Firmware
Device Name		Network	MAC Address	Firmware	Latency	Status	Actions
Included in Layou	t						
No devices detecte	≥d						
Not Included in La	ayout						
ACU2-3d:9b	Ø	⊘ Connected	00:1a:18:4d:3d:9b	v3.9	Normal	Ready	© 7
ACU2-43:4f	Ø	⊘ Connected	00:1a:18:e4:43:f4	v3.9	Normal	Ready	© 🔿

Figure 171: Device details navigation
4. At the bottom, open \mathfrak{O} Statistics.

ACU2: ACU2-43:	4f 🖉								
MAC Address 00:1a:18:	e4:43:f4			Device Status	Ready				
Firmware Version v3.9				Latency	Normal				
Channel Settings									
	Status	Mic Power		Input Gain (1)			Out	put Gain 🕕	
Channel A	Not Used		-8		dB	10			dB
Channel B	Not Used		40		dB	10			dB
Channel C	Not Used		40		dB	10			dB
Channel D	Not Used		-8		dB	0			dB
Alternate Gains									
Hardware Selector	Channel D								
Mic Power		 Mic Po 	ower 🐑		2	Mic Power	•		
Input Gain 10	dB	Input	Gain 10	dB	3	Input Gain	10	dB	
			• Colo			Cutout Cala			
Output Gain 10	dB	Outpu	it Gain 10	dB		Output Gain	10	aß	

Figure 172: Open 🕑 Statistics

The O Statistics section displays a table with the following columns:

- *Channel*: identifies the channel name to which the statistics pertain.
- *Underruns:* occur when a device stops processing packets, delaying or disrupting channel audio.
- *Overruns:* occur when a device's buffer receives packets faster than it can process them (i.e., the device is in the layout and receiving or transmitting audio, but it's not connected to the network). This behavior may cause the buffer to overflow, resulting in lost or dropped packets.
- *Dropouts:* occur when communicating devices are out of sync, causing poor network performance or dropped connections.



Important: Contact ASTi Support at <u>support@asti-usa.com</u> if your device is experiencing underruns, overruns, or dropouts.

- *Serial In/Out*: displays the packet counters that a device has transmitted or received over a serial connection. These statistics can be useful for monitoring the performance of a device's serial communication and diagnosing problems that may occur.
- *Analog In/Digital Out:* displays the number of analog input packets that a Telestra has received from the device and the digital output packets that Telestra has transmitted to the device. These statistics can be useful for monitoring the device's analog in/digital out communication performance and diagnosing problems that may occur.
- *Message:* displays error messages or additional information about the device or channel statuses. Examples of messages include the device's MAC address and a "Channel Reservation Error," which occurs when multiple Telestra servers or components in a layout try to use the channel.

🕑 Statistics						^
Channel	Underruns RX / TX (L/R)	Overruns RX / TX (L/R)	Dropouts RX / TX (L/R)	Serial In/Out	Analog In/ Digital Out	Message
Channel A	0 / (0/0)	0 / (0/0)	0 / (0/0)	0/0	0/0	
Channel B	0 / (0/0)	0 / (0/0)	0 / (0/0)	0/0	0/0	
Channel C	0 / (0/0)	0 / (0/0)	0 / (0/0)	0/0	0/0	
Channel D	0 / (0/0)	0 / (0/0)	0 / (0/0)	0/0	0/0	

Figure 173, "ACU2 Statistics" below shows an ACU2's O Statistics:

Figure 173: ACU2Statistics

Ashly Power Amplifier and Crown Power Amplifier & **Statistics** display many of the same elements but don't include **Serial In/Out** and **Analog In/Digital Out**. Figure 174, "Ashly Power Amplifier Statistics" below shows an Ashly Power Amplifier's statistics:

Statistics				· · · · · · · · · · · · · · · · · · ·
Channel	Underruns RX/TX	Overruns RX/TX	Dropouts RX/TX	Message
Channel A	43632634 / 0	0 / 0	0 / 0	
Channel B	43632634 / 0	0 / 0	0 / 0	
Channel C	43632634 / 0	0 / 0	0 / 0	
Channel D	43632634 / 0	0 / 0	0 / 0	
Channel E	43632634 / 0	0 / 0	0 / 0	
Channel F	43632634 / 0	0 / 0	0 / 0	
Channel G	43632634 / 0	0 / 0	0 / 0	
Channel H	43632634 / 0	0 / 0	0 / 0	

Figure 174: Ashly Power AmplifierStatistics

10.1.15 Reset Lost Beat Packets

The **Lost Beat Packets** indicator displays the number of beat packets the Telestra server has not received from the Audio Communications Environment Network (ACENet). The real-time software uses these beat packets to properly synchronize ACENet devices.

Hardware						O Lost Beat Packets: 0
ACU2s						Update Firmware
Device Name	Network	MAC Address	Firmware	Latency	Status	Actions
Included in Layout						
No devices detected						
Not Included in Layout						
IO_device_54	 Connected 	00:1a:18:4d:3d:9b	v3.9	Normal	Ready	⊚ 7

Figure 175: Lost Beat Packets

A Telestra server should have zero lost beat packets during normal operation. A number greater than zero triggers an alert. To reset the number of packets, select ^{O Reset}.



Figure 176: Lost Beat Packet alert

The presence of lost beat packets could indicate that the ACENet devices are not properly communicating with Telestra, and a problem exists with your configuration (e.g., ACENet cannot detect any hardware devices). Contact ASTi at support@asti-usa.com for troubleshoot-ing support.

10.2 Telestras

Network Telestras displays all the Telestra servers connected to the network. To open a new Telestra web interface browser for a specific Telestra server, choose a link under **Telestra Hostname**. Figure 177, "Telestra servers on the network" below shows a list of Telestra servers on the network:

=	TELESTR/	1	🖄 No Layout	Installed	~	Q 🧔	⑦ ⑧▼ (U)
0	Dashboard	Network Teles	stras				
?	Setup - Network	Telestra 🛆 Hostname	IPv4 ♦	Software Version \$	Current Project≑	Current Layout ♦	Changeset ID ♦
	Backup/Restore	AWZ-2	1121028	8.	FRAC1-04_H225_LD	H225	5e2b49ae0e93
	Licenses	awz-telestra-	10.2124.2	8.0.0	Radios	main	71f635a74c35
	Network Devices 🔶	BackupRestore	No. of Concession, Name	8.0.0	BackupRestore _Project1	Layout	2185afa21930
	Hardware	bae-cfe-server	10.2108.000	7:13.0	Aircraft_FastJet_Example_Rev2_RTIs	Fast_Jet_Baseline	e4d0fc8559dd
	Telestras	ejst4-rh7	10.2 MIL	7.15.0			
	Projects	ExtLineNode	10.2124-000	8.0.0	3DAS_HW	main	a7a234582598
	Diagnostics ^ Health	hla-8-t1	1218.0	8.0.0	HLA_MRT_SuperProject_1	FACTT_	9fa35a3f2c8f
	System Logs	hla-8-t2	10.2106.30	8.0.0	HLA_MRT_SuperProject_2	HLA_	28f0f06bab4b
	SOS Reports	hla-e-t1	10.2106.21	7.13.0	HLA_MRT_SuperProject	HLA_	08b5fabfd833
	Credit Report	hla-e-t2	10.2106.22	7.13.0	GMH3_F-18_Support2	HLA_	6fa587e0fd01
	Simulation - Audio -	«« « <mark>1</mark> 2 3	4 5 »	»» Sh	owing results 1 – 10 of 42 total results		5 10 25 5

Figure 177: Telestra servers on the network

11.0 Projects

On **Projects**, the Local tab displays all the projects on your Studio development workstation. To filter local projects, enter the name of a project in the search bar.

Local Global Deleted			
Projects Q Command			£
Projects		Last Revised	Actions
CommandLine_MRT_Project	Ø	Wed May 17 16:56:55 -0400	:

Figure 178: Search for a project

In the table, the **Projects** column identifies the name of each project, while **Last Revised** shows the date and time that a user last modified it.

Local Global Deleted		
Projects		
Q Search projects		<u>ے</u>
Projects 🗸	Last Revised ♦	Actions
1\$	✓ Wed Jun 0714:23:59 -0400	i
1_ Radio		i
14OP_ATTC_RC_RevB	Fri May 12 13:19:07 -0400	I
2_Radio	🖋 Sun Jun 04 15:01:12 -0400	i
20RB	Pri May 12 13:19:18 -0400	i

Figure 179: Local projects

To view a list of all projects sharing a network, go to the **Global** tab. This page displays the name of each global project and the hostname of its associated Telestra server:

Local Global Deleted		
Projects Q Search projects		
Projects	Hostname 🕏	Actions
0_ibook.mark.add	telestra-tedv	:
0_ book.mark.add	awz-telestra-	1
0_ ibookmarkadd2	telestra-tedv	1
0_i bookmarkadd2	awz-telestra-	1
t.mm	paule	
1_ Radio	cmb2-t4	:
1_ Radio	telestra-tedv	
1_ Radio	paule	1
1. Radio	awz-telestra-	
1_ Radio_Copy_2	telestra-tedv	:
14OP_ATTC_021512	telestra-tedv	1
14OP_ATTC_RC_RevB	telestra-tedv	:
14OP_ATTC_RC_RevB	paule	:
14OP_ATTC_RC_RevB	awz-telestra-	:

Figure 180: Global projects

This chapter discusses how to:

- Edit a local project's name
- View a local project's history
- Copy a project
- Export a local project
- Delete a local project

11.1 Edit a local project's name

To edit a local project's name, follow these steps:

1. On the right, hover over the orange tab (\square), and select Log in to edit.



Figure 181: Log in to edit

2. Log in with the following default credentials:

Username	Password
admin	astirules

3. (Optional) To view the hidden password, select Show Password (④).

Log in to access Username	×
admin	
Password	
•••••	۲
	Login

Figure 182: Login pop-up window

- 4. Select Login .
- 5. On the Local tab, find the project you want to rename in the table.
- 6. Under **Projects**, select **Edit project name** ().

Local Global Deleted		
Projects		±
Projects ᢦ	Last Revised \$	Actions
1_		:
1_ adio	Ø Wed Jun 14 15:32:57 0400	i
14OP_ATTC_RC_RevB	Fri May 12 13:19:07 0400	:
2_Radio	🖉 Sun Jun 04 15:01:12 -0400	÷
20RB	Fri May 12 13:19:18 0400	I

Figure 183: Edit a project's name

7. Enter a unique name, and select Θ or \otimes to discard.



Figure 184: Enter a unique project name

The new project name appears in the table:

Local Global Deleted		
Projects Q Search projects		£
Projects 🗢	Last Revised	Actions
1_ 4	Wed Jun 07 14:23:59 -0400	:
1_ Radio	Wed Jun 14 15:32:57 -0400	:
14OP_ATTC_RC_RevB	Fri May 12 13:19:07 -0400	÷
2_Radio	✔ Sun Jun 04 15:01:12 -0400	:
New_Project_Name	Fri May 12 13:19:18 -0400	:

Figure 185: Edited project name

11.2 View a local project's history

Telestra uses Mercurial, a distributed version control system, to record project histories. This built-in feature enables you to view histories directly from your browser without a command-line interface or separate Mercurial client. You can also explore a project's timeline, track changes, and understand its long-term evolution.

To view a local project's history in Mercurial, follow these steps:

- 1. On **■ Projects** > **Local**, choose a project in the table.
- 2. Under Actions, select the vertical ellipsis (:), and then select 🗹 View History.

Local Global Deleted		
Projects		
Q Search projects		A
Projects 🕈	Last Revised 🖨	Actions
1.4	Wed Jun 07 14:23:59 -0400	()
1_ adio	Wed Jun 14 15:32:57 -0400	ピ View History
14OP_ATTC_RC_RevB	Fri May 12 13:19:07 -0400	a Download
2_Radio	Sun Jun 04 15:01:12 -0400	Сору
2Radios Ø	Wed Jun 07 13:24:12 -0400	1 Delete

Figure 186: View a project's history

This option opens a project summary in Mercurial, which includes a list of affiliated changes, tags, bookmarks, and branches.

Mercurial	> <u>proj</u>	j <u>ects</u> > <u>BackupResto</u>	re Project1 / summary
summary <u>sho</u>	rtlog <u>cha</u>	ngelog graph tags bookmarks	<u>branches files zip gz bz2 help</u>
description u owner u last change T	nknown nknown 'hu, 04 Ma	ay 18:38:19 -0400 (5 weeks	ago)
changes			
5 weeks ago 5 weeks ago 8 months ago 8 months ago 8 months ago tags	aceuser aceuser aceuser root root	Added all models. default 15 implicit save to install layout implicit save to install layout implicit save to install layout Added defaults to Project Initialized Project	chanosasi files chanosasi files chanosasi files chanosasi files chanosasi files chanosasi files
bookmarks			
branches			
5 weeks ago	default 🤉	<u>hangeset changelog files</u>	
projects/Backu	pRestore	Project1	

Figure 187: Mercurial project history

11.3 Copy a project

Copying a project duplicates its contents without maintaining a link to the original project. This approach does not retain the original project's version history, making it a standalone project. To copy a project, follow these steps:

- 1. From **Projects**, go to **Local** or **Global**.
- 2. On the right, hover over the orange tab (\square), and select Log in to edit.



Figure 188: Log in to edit

3. Log in with the following default credentials:

Username	Password
admin	astirules

4. (Optional) To view the hidden password, select Show Password (④).



Figure 189: Login pop-up window

5. Select Login

6. Under Actions, select the vertical ellipsis (:) corresponding with the primary server's default project, and then select O Copy.

Local Global Deleted		
Projects Q Search projects		
Projects [▲]	Hostname 🗢	Actions
0_testbook.mark.add	awz-telestra-	1
1_testtookranatti	awz-telestra-	🕒 Сору
1 mathematica in the little	sr-tts-tel8	

Figure 190: Copy a project

7. On **Local**, find the copied project in the table. "_Copy_1" is appended to the end of the project's name:

Local Global Deleted		
Projects		
Q Search projects		£
Projects 😽	Last Revised \$	Actions
Projects v 140P_ATTC_021512	Last Revised €	Actions
Projects 🗸 140P_ATTC_021512 BackupRestoreTest_Project1	Last Revised € Image: Pri May 12 13:18:46 -0400 Image: Pri May 04 18:38:19 -0400	Actions

Figure 191: Copied project on Local

11.4 Export a local project

The Telestra web interface includes the ability to quickly and conveniently export a local project to another Telestra server. Simply download the project you want to export, save it to external media, and upload it on the desired server. If you'd like to simultaneously export multiple projects, create a backup of the projects on **Backup/Restore**. To learn more about backup up and restoring projects and other Telestra resources, go to Section 9.2, "Backup/Restore" on page 39.

To export a local project to another Telestra server, follow these steps:

- 1. On **Projects** > Local, choose a project to export.
- 2. Under Actions, select the vertical ellipsis (:), and then select Download.
- 3. Open a web browser. In the address bar, enter the IP address of the Telestra server where you intend to export the project.

4. On the left, go to **■ Projects**.

= TELESTR	и	& Running: AH-IZ-RevB : main	×	ଦ୍୍ ତି ©∗ ୦∙
Dashboard Setup *	Local Global Deleted			
Backup/Restore Licenses	Q Search projects Projects •		Last Revised \$	Actions
Network Devices ^ Hardware Telestras	1. 1_ lio	1	Wed Jun 07 14:23:59 -0400 Wed Jun 14 15:32:57 -0400	I
Projects Diagnostics	140P_ATTC_RC_RevB 2_Radic 2Radios	1	Fri May 12 13:19:07 - 0400 Sun Jun D4 15:01:12 - 0400 Wed Jun 07 13:24:12 - 0400	1
System Loga SOS Reports	2RadiosMergeConflict 2RadiosMergeConflict_Copy_1	1	Mon Jun 05 16:47:03 -0400 Wed Jun 07 10:56:32 -0400	
Creat Report Simulation + Protocols	3MachineGuns AA_APU_Library AH-12-RevB	1	Mon Jun 05 16:47:27 -0400 Mon Jun 05 16:47:23 -0400 Mon Jun 05 16:55:51 -0400	
Ternain Audio - Sound Files	AH-12-RevC AH-12-RevD	,	Mon Jun 05 16:55:54 -0400 Mon Jun 05 16:55:58 -0400	
Spectral Analysis Text to Speech	BackupRestorc Project1 CommandLine_MRT_Project Example_Project2	1	Thu May 04 18:38:19 -0400 Wed May 17 16:56:55 -0400 Thu May 11 17:16:44 -0400	
	REIS1_02_H145_RevF REIS1_03_H135DA_RevO		Mon Apr 10 12:16:31 -0400 Tue Apr 11 15:34:16 -0400	

Figure 192: Projects navigation

5. On the right, hover over the orange tab (³), and select Log in to edit.



Figure 193: Log in to edit

6. Log in with the following default credentials:

Username	Password
admin	astirules

7. (Optional) To view the hidden password, select Show Password (③).

Log in to access Username	×
admin	
Password	
•••••	۲
	Login

Figure 194: Login pop-up window

- 8. Select Login
- 9. Select the upload button (\triangleq) in the top right:

Local Global Deleted			
Projects			
Q Search projects			
Projects 🗢		Last Revised 🖨	Actions
140P_ATTC_021512	Ø	Fri May 12 13:18:46 -0400	i
BackupRestore Project1	Ø	Thu May 04 18:38:19 -0400	i
CommandLine_MRT_Project	Ø	Fri May 19 17:09:58 -0400	i
Example_Project	Ø	Tue Jun 13 21:08:00 -0400	1
SR_TTS_MRT_Project	Ø	Fri Jun 09 15:22:38 -0400	i
SR_TTS_MRT_Project_Fail	Ø	Fri Jun 09 13:05:55 -0400	i
SpeechRec	Ø	Fri May 19 18:04:53 -0400	1
UDP2TTS	Ø	Fri Jun 09 12:01:22 -0400	i

Figure 195: Upload project button

10. In **Upload Project**, select Browse Files, and find the .tgz file on your local system. Alternatively, drag and drop the tape archive gzip (.tgz) file into the **Upload Project** window.

Upload Project	×
▲ Drag & Drop File Here or Browse Files Accepted file type(s): .tgz Limit: 1 file	
[Close

Figure 196: Upload Project window

11.	Select Upload 1 file 🛓			
		Upload Project	×	
		Ready for upload example_project.tgz		
		Cancel Upload 1 file 🛧		
			Close	

Figure 197: Project ready for upload

12. When the upload is complete, close the window. The new project appears in the table:

Local Global Deleted					
Projects					
Q Search projects					
Projects 🗸	Last Revised ≎	C Actions			
140P_ATTC_021512	🖋 Fri May 12 13:18:46 -0400	Ø :			
BackupRestoreProject1		:			
CommandLine_MRT_Project	Fri May 19 17:09:58 -0400	:			
Example_Project	 Tue Jun 13 21:08:00 -0400 	:			
SR_TTS_MRT_Project	Fri Jun 09 15:22:38 -0400	:			
SR_TTS_MRT_Project_Fail	Fri Jun 09 13:05:55 -0400	I			
SpeechRec	 Fri May 19 18:04:53 -0400 	1			
UDP2TTS	Fri Jun 09 12:01:22 -0400	:			
►example_project	𝖋 Wed Jun 14 11:11:57 −0400	1			

Figure 198: Uploaded project

11.5 Delete a local project

To delete one or more local projects from the Telestra web interface, follow these steps:

- 1. On **Projects** > Local, choose a project from the table.
- 2. On the right, hover over the orange tab (³), and select Log in to edit.

۵.	۲	۰.	•]•
N Basic	97 / 1 Advar	15000 I	Entries
	٩	Log i 🔓	n to edit

Figure 199: Log in to edit

3. Log in with the following default credentials:

Username	Password
admin	astirules

4. (Optional) To view the hidden password, select Show Password (④).

Log in to access	×
admin	
Password	
•••••	۲
	Login

Figure 200: Login pop-up window

5. Select Login .

6. Under Actions, select the vertical ellipsis (i), and then select Delete.

Local Global Deleted			
Projects			
Q Search projects			Č
Projects ⇔		Last Revised 🗸	Actions
tts3_8	P	Mon May 22 11:19:37 -0400	1
tts3_9	Ø	Mon May 22 11:19:37 -0400	1
tts_ 2	P	Mon May 22 10:32:54 -0400	1
CommandLine_MRT_Project	Ø	Wed May 17 16:56:55 -0400	i
14OP_ATTC_RC_RevB	I	Fri May 12 13:19:07 -0400	1
Example_Project	Ø	Mon May 08 17:55:18 0400	
ttsCopy_2.4_Copy_2	Ø	Mon May 08 17:51:35 -0400	C View History
ttsCopy_2.4_Copy_1	Ø	Mon May 08 17:49:23 -0400	لط Download
tts_ Copy_2.4	I	Fri May 05 16:11:56 -0400	Copy
BackupRestoreProject1	ø	Thu May 04 18:38:19 -0400	U Delete

Figure 201: Delete a local project

- 7. To view the deleted project, go to **Deleted**, and find the project in the table. Telestra temporarily archives deleted projects on this tab, permanently removing them after one week.
- 8. *(Optional)* To restore a deleted project, under Actions, select the vertical ellipsis (:), and then select *** Restore**.

Local Global Deleted Projects		
C Search projects	∆ ltems in this folder will be perma	inently deleted after 7 days. Actions
AA_MIL_Radios_Library	-06-12 14:32:28	:
AA_MIL_Radios_Library	-06-12 15:00:17	:
140P_ATTC_021512	-06-12 15:00:21	:
AA_MIL_Radios_Library	-06-12 15:16:49	:
140P_ATTC_021512	-06-12 15:16:53	:
BackupRestore Project1_2	-06-14 11:01:11	:
BackupRestoreProject1_3	-06-14 11:13:11	:
Example_Project	-06-15 10:31:48	()
	Showing results 1 – 8 of 8 total results	야 와 Restore 쇼 Download @ Delete

Figure 202: Restore a deleted project

12.0 Diagnostics

Located in the left sidebar, **© Diagnostics** provides access to essential tools such as **Health**, **System Logs**, **SOS Reports**, and **Credit Report**. In this chapter, learn how to effectively monitor Telestra's health, troubleshoot errors, send a system snapshot to ASTi engineers, and view a credit breakdown or component summary. Whether you're performing maintenance, diagnosing technical issues, or allocating resources, **Diagnostics** provides robust support tools optimizing your server's performance.

This chapter discusses the following topics:

- Health
- System Logs
- SOS Report
- Credit Report

12.1 Health

♥ **Diagnostics** > **Health** verifies Telestra software is running properly and displays low-level, raw information for troubleshooting. 12.1, "Health" above shows **Health**:

=	TELESTR/	1	內 No Layout Installed	~		ର୍ଟ୍ଡେ⊚• ⊍•
0	Dashboard	Health Errors (1)				
–	Setup - Network Backup/Restore	♥ Health				2040 / 15000 Entries Basic Advanced
	Licenses	Entry Name	Status	Value	Message	
	Network Devices •	ASTI Realtime	🛆 Warning	0		
	Hardware	Configuration Daemon	Ø Ok		Running	
	Telestras	HLA Daemon	Ø Ok			
•	Projects	Hostinterface	Ø ok		Running (no hosts yet)	
• 👳	Diagnostics *	Licensing	@ Ok			
	Health	Platform Info	Øok			
	System Logs	Project	Ø Ok			
	SOS Reports	Publisher	Ø 0k			
	Credit Report	Radio Networking	Ø 0k			
*	Simulation ^	RT-XPoint .	Ø 0k			
	Protocols	SIP Calling	Ø 0k			
	Terrain	Sound	© 0k			
**	Audio ^	Speech Recognition	© 0k			
	Sound Files	Text To Speech	© 0k			
	Text to Speech	XPoint	© 0k			

Figure 203: Health navigation

The **Health** page consists of a tree-like structure of subsections. **Entry Name** lists the name of each health entry and its corresponding subsections. Select an entry name to open it. From there, select the chevron to expand and preview a subsection's contents.

Entry Name				
ACENet				
ACU1				
ACU2				
ACU2_1				
ACU2_TEST16				
ACU3				

Figure 204: Preview contents of a Health entry

Quickly navigate to a previous section via the breadcrumbs at the top of the page:

Health	Errors (52)		
⊗ Health	ASTi Realtime	ACENet	ACU1
_			

Figure 205: Health breadcrumbs

Status displays one of the following states:

- \bigcirc *Ok*: the entry is operating normally.
- \triangle *Warning*: the entry's descendant has an error.
- Serror: the entry is producing an incorrect or unexpected result or behaving in unintended ways (e.g., sound files are missing from the expected directory paths in Sounds > Total_Sounds).
- ③ *info:* available in Advanced view, this entry displays a neutral data point that may be useful during troubleshooting (e.g., ♥ Health > ASTi Realtime > Model > Model Credits displays the system's current credit count).

Figure 206, "Health > ASTi Realtime > ACENet Statuses" below shows a variety of statuses on ♥ Health > ASTi Realtime > ACENet:

Health Errors (9)	
Entry Name	Status
✓ ACU2-0a:ac	⊘ Ok
✓ CROWN_00:C0:E7	⊘ Ok
✓ Driver Stats	⊘ Ok
✓ HT_ACU	⊘ Ok
V HT_ACU2v2	⊘ Ok
^ ht_ashly	🛆 Warning
ACENet Module Detected	⊗ Error
ACENet Reservation Timeouts	(info
Boot Mode	(info

Figure 206: Health > ASTi Realtime > ACENet Statuses

Value displays data affiliated with an entry that may be useful for troubleshooting. For example, the ♥ Health > ASTi Realtime > ACENet > Driver Stats > Lost Beat Packets Count entry might show an "⊗ Error" Status with a Value of 498686975, which represents the packet count.

Health	Errors (52)		
🏵 Health	ASTI Realtime ACENet Driver Stats		
Entry Nam	e	Status	Value
Lost Be	at Packets Count	S Error	498686975

Figure 207: Health Value

Message provides additional context information about the entry. For example, the **Model** entry may display "Running" under **Message**. Alternatively, **Message** might display error details, such as the expected file path if a *** Health** > **Sound** > **Total Sounds** descendant throws an error.

In the top right, the **Entries** count (e.g., *NNNN*/15,000) displays the number of entries Telestra is using versus the maximum number of entries (i.e., 15,000). Most systems don't use that many entries (e.g., 2,000); however, systems with overly complex models or a large number of hardware devices (e.g., ACU2s) may grow closer to the maximum. If your system uses the maximum number of entries, contact ASTi at <u>support@asti-usa.com</u> to discuss how you might simplify your model.



Figure 208: Health Entries count

Select Advanced (Advanced) to view "③ info" entries providing additional data points that may be useful during troubleshooting (e.g., entries for **Sound** > **Parameters**).

Health Errors (9)				
& Health Sound				2366 / 15000 Entries Basic Advanced
Entry Name	Status	Value	Message	
✓ Parameters	(info			
Primary Pages Req'd	(info	0		
Recordings Replayed	(info	0		
Recordings Replaying	(info	0		
Sound Repository	(info		/var/tmp/aced-repoz3c9b2ry/repo/sound_repositories/sounds.xml	
Sounds Recorded	(info	0		
Sounds Recording	(info	0		
Sounds Streamed	(info	0		
Sounds Streaming	(info	0		

Figure 209: Sound > Parameters "info" Statuses in Advanced view

To download raw health data to your local system in Yet Another Markup Language (.yaml) file format, select**Download** (



Figure 210: Download Health data

12.1.1 View Health errors

The **Errors** tab identifies the total number of errors occurring on the Telestra server. It also identifies the type of issue and the number of errors in a grouping.

Health Errors (18)		
Path	Status	Error #
✓ ASTi Realtime/ACENet/	🛆 Warning	8
ASTi Realtime/ACENet/paule/Channel A Right/TX Meter	🗵 Error	1
ASTi Realtime/ACENet/paule/Channel A Left/TX Meter	🗵 Error	1
✓ Sound/Total Sounds	▲ Warning	10

Figure 211: Health Errors tab

Expand a directory to view any descendants with errors:

Health Errors (18)	
Path	Status
ASTi Realtime/ACENet/paule	▲ Warning
Firmware Version	⊗ Error
Host Module Detected	⊗ Error
Host Audio Mask	⊗ Error
Host IO Mask	⊗ Error
Host Serial Mask	⊗ Error
ACENet Module Detected	⊗ Error

Figure 212: Expand Health entries

Status flags entries as "⊗ Errors" or "△ Warnings." "△ Warning" entries contain one or more descendants with errors, whereas "⊗Error" entries have experienced some sort of system failure (e.g., disconnected from the host, missing sound files).

Health Errors (18)	
Path	Status
ASTi Realtime/ACENet/	▲ Warning
Firmware Version	⊗ Error
Host Module Detected	⊗ Error
Host Audio Mask	⊗ Error
Host IO Mask	⊗ Error
Host Serial Mask	⊗ Error
ACENet Module Detected	⊗ Error

Figure 213: Types of Health statuses

The Error tab itself displays the total number of errors. Error # displays the error count of each entry; a parent entry's error count is unrelated to the number of children with errors. For example, the ASTiRealtime/ACENet/SR_TTS_ACU2 parent entry displays 8 under Error #, which means eight descendent entries contain errors. However, the Host Audio Mask, Host IO Mask, and Host Serial Mask descendent entries display the error value (e.g., 965).

Figure 214, "Health error count" below shows the **Health** error counts in both the tab and **Error #** column:

Path	Status	Error #
ASTi Realtime/ACENet/L Stats/Lost Beat Packets Count	🛞 Error	1
✓ Sound/Total Sounds	∆ Warning	39
ASTi Realtime/ACENet/SR_TTS_ACU2	🛆 Warning	8
Firmware Version	⊗ Error	1
Host Module Detected	🙁 Error	1
Host Audio Mask	🛞 Error	965
Host IO Mask	🛞 Error	965
Host Serial Mask	🙁 Error	965
ACENet Module Detected	🛞 Error	1
ASTi Realtime/ACENet/SR_TTS_ACU2/Channel A Right/TX Meter	🛞 Error	1
ASTi Realtime/ACENet/SR_TTS_ACU2/Channel A Left/TX Meter	🛞 Error	1

Figure 214: Health error count

Selecting a link under **Path** takes you to a specific error on the **Health** tab, temporarily highlighting the row:

	Health	Errors (18)				
	~					2797 / 15000 Entries
	⊗ Health	ASTi Realtime	ACENet paule	Channel A Right		Basic Advanced
	Entry Name	9	Status	Value	Message	
	RX Meter	-	ØOk	0		
-	TX Meter		S Error	67485493		

Figure 215: Navigate to a specific error

12.2 System Logs

♥ Diagnostics > System Logs serves as a record of important events, errors, and activities occurring on the Telestra server. You might use this page to monitor the server's overall health, troubleshoot issues by gathering relevant information, identify patterns and trends in system behavior, or analyze historical data for insights.

System Logs displays 100 of the most recent log entries, including a Timestamp, the applicable Service, and a descriptive Message for each incident:

=	TELESTR/	1	Running: FRACI-04_H225_RevA : H225	୍ ⊄ ĝ ĝ• ଓ∙
۲	Dashboard	System Logs (Displaying r	nost recent 100 entries)	
æ	Setup +	Timestamp v Service ♦	Message	
	Network	6/15/23 20:21:06 netmon	('[anm timeouts:143]; 'dca632ff9002 timed out!')	
	Backup/Restore	6/15/23 20:20:00 systemd	Starting system activity accounting tool sysstat-collect.service: Succeeded.	
=	Network Devices -	6/15/23 20:20:00 6/15/23 20:18:53 systemd	Started system activity accounting tool. Starting Cleanup of Temporary Directories	
	Hardware	6/15/23 20:18:53	systemd-tmpfiles-clean.service: Succeeded. Started Cleanup of Temporary Directories.	
	Telestras	6/15/23 20:18:33 systemd	dnf-makecache.service: Succeeded.	
۵	Projects	6/15/23 20:18:33	Started dnf makecache.	
• 🌣	Diagnostics + Health	6/15/23 20:18:33 dnf	Updating Subscription Management repositories. Unable to read consumer identify This system is not registered with an entitlement server. You can use subscription-manager to register. Metadata cache infreshed recently.	
-	ooo Duuutu	6/15/23 20:18:29 systemd	Starting dnf makecache	
	SUS Reports	6/15/23 20:15:21 netmon	- ('[anm timeouts:143]; 'dca632ff9002 timed out!')	
	Credit Report	6/15/23 20:14:11 netmon	('[anm timeouts:143]; 'dca632ff9002 timed out!')	
*	Simulation *	6/15/23 20:11:25 netmon	([anm timeouts:143], 'dca632ff9002 timed out!')	
	Protocols	6/15/23 20:10:00 systemd	Starting system activity accounting tool	
	Terrain	e (15/02 00:10:00	sysstat-collect.service: Succeeded.	
	Audio -	6/15/23 20:08:35 sshd	pam unix(sshd;session); session opened for user root by (uid=0)	
	Sound Files Spectral Analysis Text to Speech	6/15/23 20:08:35 systemd	Started User runtime directory frun/user/0. Starting User Manager for UID 0 pam_unik(systemd-user:session): session opened for user root by (uid=0) Reached target Timers.	1
		6/15/23 20:08:35 systemd-logind	New session 1 of user root.	
		6/15/23 20:08:35 systemd	Created slice User Slice of UID 0.	

Figure 216: System Logs

By default, Telestra sorts the logs by **Timestamp**, with the newest logs at the top of the page. To view the oldest logs first or group logs by **Service**, select the sort arrows (\neg, \Rightarrow) in the table header:

System Logs (Displaying most recent 100 entries)			
Timestamp ©	Service	Message	
6/15/ 20:30:00	systemd	Starting system activity accounting tool sysstat-collect.service: Succeeded.	
6/15/ 3 20:30:00		Started system activity accounting tool.	

Figure 217: Sort logs by Timestamp or Service

Within each log, scroll down to view more details, or select the chevron arrow to expand the log:



Figure 218: Expand a log

12.3 SOS Report

♥ Diagnostics > SOS Reports provides a central place to analyze, diagnose, and resolve issues with the Telestra server. These reports document the Telestra server's configuration and performance at a specific point in time, which maybe be useful for troubleshooting or auditing. If you're experience a problem with Telestra, simply generate a report, download the report as a compressed tape archive (tar.xz.tgz) file, and email it to ASTi Support.

To generate and send an SOS report, follow these steps:

1. In the top left, select **Create a report** (⁺), and wait several minutes for the report to generate. A message with a time stamp indicates when the report began generating:

SOS Re	eports
+ 🗊	₿ SOS Report creation in progress since Aug 7, 01:48:22 PM

Figure 219: SOS report generation message

2. Once the report generates, find it in the table, which lists each report's name, date and time of creation, and size in megabytes (MB).

SOS Reports			
+ 0			
Name 🗸	Created At ♦	Size ⇔	
sosreport-rms12-14-dollamd.tar.xz.tgz	12/14/ 14:35:18	25.1 MB	坐
sosreport-rms02-15-nodnfun.tar.xz.tgz	2/15/ 13:02:58	30.4 MB	坐
sosreport-rms- I-04-18-aqsnvvq.tar.xz.tgz	4/18/ 7:54:15	30.1 MB	¥
sosreport-rms04-18wiwujk.tar.xz.tgz	4/18/ 8:02:17	30.1 MB	坐
sosreport-rms04-18-wydzrsttar.xz.tgz	4/18/ 7:44:00	30.1 MB	坐
sosreport-rms05-18-ocaeebb.tar.xz.tgz	5/18/ 15:50:53	31.4 MB	坐
sosreport-rms07-31-uzdowrk.tar.xz.tgz	7/31/ 16:10:02	35 MB	4
sosreport-rms08-07-kmuqpym.tar.xz.tgz	8/7/ 13:50:22	34.8 MB	*

Figure 220: New SOS report

- 3. To download the tar.xz.tgz file to your local system, select the report's download (些) icon.
- 4. Email the SOS report to ASTi Support at <u>support@asti-usa.com</u>.
- 5. *(Optional)* To permanently delete SOS reports from the Telestra server, select one or more reports, and then select **Delete selected reports** ().

12.4 Credit Report

♥ Diagnostics > Credit Report lists and describes all of the components available on the Telestra server, breaking down component usage and cost by model. It includes two tabs called Credit Report and Component Summary.

= TELESTR/	🕹 Running	: 1_TestRadio : main	~	८ 🖞 🖲 छेन कोन
🔒 Setup -	Credit Report Componen	t Summary		
Network	Credit Report			Collapse
Licenses	Component	Count	Price	Model Total
🚍 Network Devices 🔺	∧ Model: RadioModel			650
Hardware	audio/vox	1	50	50
Telestras	audio/wave	1	50	50
🖻 Projects	commpanel/commpanel4	1	50	50
• 🌣 Diagnostics 🔶	iointerfaces/acu2channel	1	0	0
Health	radio/rcubasic	1	400	400
🔒 System Logs	radio/transceiver	1	100	100
🔂 SOS Reports	∧ Model: channels			1250
Credit Report	audio/mixer	1	50	50
& Simulation 🔶	audio/wave	3	50	150
Protocols	commpanel/commpanel4	1	50	50
🔂 Terrain	control/counter	1	0	0
₩ Audio •	control/logictable	3	0	0

Figure 221: Credit Report navigation

This section discusses how to:

- View a credit breakdown
- View a component summary

12.4.1 View a credit breakdown

The **Credit Report** tab displays a table with the following columns:

- *Component*: lists the names of the components available on the Telestra server.
- *Count:* identifies how many components of each type are available on the Telestra server.
- *Price*: lists the price per component.
- *Model Total*: breaks down the amount of dollars spent per model and component.

Credit Report Component Summar	y		
Credit Report			Collapse
Component	Count	Price	Model Total
^ Model: RadioModel			650
audio/vox	1	50	50
audio/wave	1	50	50
commpanel/commpanel4	1	50	50
ointerfaces/acu2channel	1	0	0
radio/rcubasic	1	400	400
radio/transceiver	1	100	100
∧ Model: channels			1250
audio/mixer	1	50	50
audio/wave	3	50	150
commpanel/commpanel4	1	50	50
control/counter	1	0	0
control/logictable	3	0	0

Figure 222, "Credit Report table" below shows the Credit Report tab:

Figure 222: Credit Report table

To collapse a specific model, select the arrow next to the model name.

Model: RadioModel			650
audio/vox	1	50	50
audio/wave	1	50	50
commpanel/commpanel4	1	50	50
iointerfaces/acu2channel	1	0	0
radio/rcubasic	1	400	400
radio/transceiver	1	100	100

Figure 223: Collapse a specific model

To collapse all the models for a top-level view of credits, select ^{Collapse} in the top right.

Credit Report	Component	Summary		
Credit Repor	t			Expand
Component		Count	Price	Model Total
∨ Model: RadioMe	odel			650
∨ Model: channel	S			1250
∨ Model: load-se	rvices			0
∨ Model: radios				500
				Total: 2400

Figure 224: Collapsed models

12.4.2 View a component summary

On **Credit Report**, **Component Summary** lists all of the components in the currently running model. This page displays a table with the following columns:

- *Component*: the name of each component.
- *Count*: the number of components in the model.
- *Price*: the price per component.
- *Subtotal*: the total amount spent on each component type.
- Subtotal: the amount of dollars spent on each component.

At the bottom of the **Subtotal** column, **Total** shows the cumulative amount of credits used across all components:

Credit Report Component Summary			
Component Summary			
Component	Count	Price	Subtotal
audio/mixer	1	50	50
audio/vox	1	50	50
audio/wave	4	50	200
commpanel/commpanel4	2	50	100
control/counter	1	0	0
control/logictable	3	0	0
control/mathfunction	5	0	0
iointerfaces/acu2channel	1	0	0
platform/geocentricposition	1	0	0
radio/rcubasic	4	400	1600
radio/rcucryptokey	1	0	0
radio/transceiver	4	100	400
service/intercombusservice	1	0	0
service/powerservice	1	0	0
service/radiocontrolservice	1	0	0
service/worldpositionservice	1	0	0
statemachine/sincgars	1	0	0
			Total: 2400

Figure 225: Component Summary total

13.0 Simulation

Located in the left sidebar, & Simulation provides access to Telestra's Protocols and Terrain pages:

=	TELESTRA		Crror:	Invalid hostname/identifer rms-	dev found in layout	'main' v	Q Ø @) ⊕• ७•
0	Dashboard	DIS HLA						
1	Setup - Network Backup/Restore Licenses Network Devices -	HLA Management HLA Standard HLA 13 ~						
	Hardware Telestras	RTIS A Upload an RTI	Vendor	Version	Status	License Host	License Port	Delete
â	Projects	pitch_5_5_0_0_linux64_b189	pitch	5_5_0_0_linux64_b189	Inactive	asti.com	8989	۲
	Health	pitch_5_5_3_linux64	pitch	6_6_3_linux64	 Inactive Inactive 	10.2.93.7	8989 N/A	•
	SOS Reports	mak_4.5c	mak	4.5c	Active			
° &	Simulation -	rtis_D38E_x86_64_g++-8.3	rtis	D38E_x86_64_g++-8.3	Inactive	N/A	N/A	۲
***	Terrain Audio •							
	Spectral Analysis Text to Speech							lasted in an admin
		Advanced Simulation Technology inc (703) 471-2104 supportglasti-usa.com					Your last login was: A Uptime: 5 hours, 50 r	ug 10, 2023 12:19:01 PM ninutes, and 5 seconds

Figure 226: 🍪 Simulation navigation

In this chapter, learn how to view and configure high-level architecture (HLA) and Distributed Interactive Simulation (DIS) settings in Telestra, enabling seamless interoperability. These instructions also explain how to access the Telestra server's terrain data, ensuring your application's simulation is both accurate and immersive. Whether you're enhancing training scenarios, replicating real-world conditions, or maximizing your environment's fidelity, **& Simulation** provides the tools you need to bring your world to life.

This chapter discusses the following topics:

- Protocols
- Terrain

13.1 Protocols

Simulation > Protocols includes two sections: the DIS tab contains Distributed Interactive Simulation (DIS) Protocol Data Unit (PDU) counter and interface settings useful for troubleshooting networking issues, while the HLA tab contains run-time infrastructure (RTI) management settings.

To view the **Protocols** page, on the left, go to **& Simulation** > **Protocols**.

=	TELESTR/	1	💩 Running: A	H-1Z-RevB : main	~	Q Q 🛞 🛞 - U-
0	Dashboard	DIS HLA				
÷	Setup *	DIS				
	Backup/Restore	DIS PDU Counte	Providence (Transmitted	DIS Interface Configura	ation
	Licenses Network Devices	Transmitter	0	0	DIS Exercise IDs	1-255
	Hardware Telestras	Receiver	0	0	Ethernet Interface	eth0
•	Projects	Entity State	0	n/a	Subnet Mask	255.255.0.0
~	Diagnostics *	TDL Signal	0	0	DIS Network Address	163.217.169.255
	System Logs	Path Loss	0	0	Rx UDP Port	6994
	Credit Report				Tx UDP Port	6994
° &	Simulation • Protocols				PDUs Sent PDUs Received ①	0
	Terrain				Exercise ID	ASTiNet Domain
	Audio - Sound Files					

Figure 227: Protocols navigation

This chapter discusses how to:

- Troubleshoot DIS PDU Counters
- View DIS interface settings
- Set the HLA standard
- Install an RTI file
- Activate an RTI file

13.1.1 Troubleshoot DIS PDU Counters

On **Protocols**, **DIS PDU Counters** tracks the number of Protocol Data Units (PDUs) that Telestra sends and receives on the Distributed Interactive Simulation (DIS) network. Use these counters to monitor the DIS network's performance and health.

DIS HLA 🗄			
DIS			
DIS PDU Counters			
PDU Type	Received	Transmitted	
Transmitter	8259418	976820	
Receiver	8245111	976820	
Audio Signal	916732	0	
Entity State	226	n/a	
TDL Signal	14	0	
Path Loss	0	0	

Figure 228: DIS PDU Counters

DIS PDU Counters includes the following statistics:

- *Received:* the number of PDUs that Telestra received on the network. This number may include PDUs that Telestra itself transmitted. For example, if Telestra sends 5 PDUs and receives 10 PDUs from the network (e.g., another Telestra server), the total **Received** value is 15, and the total **Transmitted** value is 5.
- *Transmitted*: the total number of PDUs Telestra transmitted to the network.
- Transmitter: the total number of Transmitter PDUs Telestra received and sent.
- Receiver: the total number of Receiver PDUs Telestra received and sent.
- Audio Signal: the total number of Audio Signal PDUs Telestra received and sent.
- Entity State: the total number of Entity State PDUs Telestra received and sent.
- *TDL Signal*: the total number of Tactical Data Link (TDL) Signal PDUs Telestra received and sent.
- Path Loss: the total number of Path Loss PDUs Telestra received and sent.

13.1.2 View DIS interface settings

On **Protocols** > **DIS**, **DIS Interface Configuration** includes the following information:

- *Ethernet Interface*: the current Ethernet interface (e.g., eth0) assigned to the exercise.
- *IP Address:* the Ethernet interface's IP address.
- *Subnet Mask:* the Ethernet interface's subnet mask, which defines the range of IP addresses that belong to a particular subnet on the Transmission Control Protocol/Internet Protocol (TCP/IP) network.
- *DIS Network Address:* the "all systems" IP address (e.g., 255.255.255.255) that the Telestra server uses to transmit messages to all participants on the network. Telestra supports broadcast, unicast, and multicast.
- *Version:* the current DIS version.
- *DIS Rx UDP Port:* the User Datagram Protocol (UDP) port on which the Telestra server receives packets.
- **DIS Tx UDP Port**: the UDP port on which the Telestra server is transmitting packets.
- *PDUs Sent:* the total number of Protocol Data Units (PDUs) the Telestra server sent (i.e., the sum of transmitted **Transmitter PDUs**, **Receiver PDUs**, and **Signal PDUs**).
- *PDUs Received*: the number of PDUs the Telestra server has received, which may also include PDUs that this Telestra sent.
- *Exercise ID*: the exercise IDs assigned to this Telestra server. DIS exercise IDs are unique identification numbers that identify a particular training exercise within a distributed simulation environment.
- *ASTinet Domain:* the domain name currently assigned in the Telestra server's actively running project. The default domain name is **domain**.

Figure 229, "DIS Interface Configuration" below shows an example of the Telestra server's **DIS Interface Configuration** settings:

DIC Fuerciae IDe	4.055
DIS Exercise IDs	1-200
Ethernet Interface	ethO
IP Address	10.2.101.26
Subnet Mask	255.255.0.0
DIS Broadcast Address	192.168.255.255
DIS Version	7
DIS Rx UDP Port	3000
DIS Tx UDP Port	3000
PDUs Sent	0
PDUs Received*	23932037
Exercise ID	ASTINet Domain

Figure 229: DIS Interface Configuration

13.1.3 Set the HLA standard

To set the high-level architecture (HLA) standard, follow these steps:

- 1. From & Simulation > Protocols, go to the HLA tab.
- 2. Log in with the following default credentials:

Username	Password
admin	astirules

3. (Optional) To view the hidden password, select Show Password (④).

Log in to access	×
Username	
admin	
Password	
•••••	۲
	Login

Figure 230: Login pop-up window

4. Select Login .

5. On HLA Management, select HLA Standard, and choose IEEE 1516e for HLAe or HLA 1.3 for HLA 1.3.



Figure 231: HLA Standard

13.1.4 Install an RTI file

ASTi's HLA communications environment supports RTIs from Marine Corps Special Orders (MCSO), MAK Technologies, and ViRTC. Download the RTI compatible with the corresponding Telestra release, as specified in "Choose a compatible HLA RTI file" in the *HLA Installation Guide*. If you are running a hardened Telestra server, manually upload and install the RTI, as described below.

To install one or more run-time infrastructure (RTI) files in the Telestra web interface, follow these steps:

- **TELESTR/** Q _ @ @ • U· AH-1Z-RevB : main DIS HLA DIS DIS Interface Configuration DIS PDU Counters PDU Type Received () Transmitte Exercises 1-255 Transmitter DIS Exercise IDs 1-255 Receiver Ethernet Interfac eth0 Audio Signal IP Address Subnet Mask 255.255.0.0 n/a TDL Signal DIS Network Address 163.217.169.255 Path Loss Version Rx UDP Por Tx UDP Port 6994 PDUs Sent PDUs Received (ASTINet D Exercise ID
- 1. On the left, go to **Simulation** > **Protocols**.

Figure 232: Protocols navigation

- 2. Go to the HLA tab.
- 3. Log in with the following default credentials:

Username	Password
admin	astirules

- 4. On HLA Management, select ⁽²⁾ Upload an RTI
- 5. In **Upload RTIs**, select Browse Files, and find up to five RTI files on your local system. Accepted file types include tape archive GNU ZIP (.tar.gz, .tgz, .gz), shell script (.sh), and Red Hat Packet Manager (.rpm).

	📤 Drag & Drop File Here	
	or	
	Browse Files	
Д	.ccepted file type(s): .tar.gz, .gz, .tgz, .sh, .rpm	ı
	Limit: 5 files	

Figure 233: Browse RTI files

6. Review the RTI files to upload. To clear a file, select the trash can icon (b).

Upload RTIs	×
Ready for upload rtis_D38E_x86_64_g++-8.3.tar.gz	Ŵ
Cancel Upload 1 file 🛓	
	Close

Figure 234: Upload RTI file(s)

Select Upload 1 file 2. The number of files on the button changes depending on your selection.

7. When the files are finished uploading, an "Upload is complete!" message displays, and a check (☉) appears next to each green status bar. Close the pop-up window, and confirm the new RTI files appear in the **RTIs** table:

HLA						
A Management						
Standard						
A 1.3 🗸						
TIS 🌲 Upload an RTI						
lame	Vendor	Version	Status	License Host	License Port	Delete
oitch_5_5_0_0_linux64_b189	pitch	5_5_0_0_linux64_b189	Inactive			Û
vitch_5_5_0_0_linux64_b189	pitch	5_5_0_0_linux64_b189 5_5_3_linux64	InactiveInactive)
pitch_5_5_0_Linux64_b189 pitch_5_5_3_Linux64 tis_D35G_Linux_g++-4.1	pitch pitch rtis	5_5_0_0_linux64_b189 5_5_3_linux64 D35G_linux_g++-4.1	Inactive Inactive Active	N/A	N/A	0 0
vitch_5_5_0_0_Linux64 vitch_5_5_3_Linux64 tis_D35G_Linux_g++-41 nak_4.5c	pitch pitch rtis mak	5_5_0_Linux64_b189 5_5_3_Linux64 D35G_Linux_g++-4.1 4.5c	Inactive Inactive Active Inactive	N/A	N/A	

Figure 235: New RTI file in the RTIs table



Note: *Telestra supports multiple RTI versions and vendors; however, only one may be active at a time.*

8. *(Optional)* To delete an RTI from the **RTIs** table, select the RTI's corresponding trash can icon (ு).

13.1.5 Activate an RTI file

To activate a high-level architecture (HLA) run-time infrastructure (RTI) file, follow these steps:

1. On **HLA Management**, choose an RTI file from the **RTIs** table. In the **Status** column, turn on on the RTI's corresponding toggle switch, which now displays "Active:"

RTIS 🛃 Upload an RTI						
Name	Vendor	Version	Status	License Host	License Port	Delete
pitch_5_5_0_0_linux64_b189	pitch	5_5_0_0_linux64_b189	Inactive			Ô
pitch_5_5_3_linux64	pitch	5_5_3_linux64	Inactive			Ô
rtis_D35G_linux_g++-4.1	rtis	D35G_linux_g++-4.1	Inactive	N/A	N/A	Ô
mak_4.5c	mak	4.5c	Active			Ô
rtis_D38E_x86_64_g++-8.3	rtis	D38E_x86_64_g++-8.3	Inactive	N/A	N/A	Û

Figure 236: Active RTI file

- 2. *(Optional)* If your RTI vendor requires the RTI to withdraw a license from an external license server, do the following:
 - a. In License Host, enter xxx.xxx.xxx, where xxx.xxx.xxx is the license server's IP address.
 - b. In License Port, enter the license server's port number (e.g., 27001).

RTIS 🖆 Upload an RTI						
Name	Vendor	Version	Status	License Host	License Port	Delete
pitch_5_5_0_0_linux64_b189	pitch	5_5_0_0_linux64_b189	Inactive			Û
pitch_5_5_3_linux64	pitch	5_5_3_linux64	Inactive			Û
rtis_D35G_linux_g++-4.1	rtis	D35G_linux_g++-4.1	Inactive	N/A	N/A	Û
mak_4.5c	mak	4.5c	Active	99.218.115.212	27001	۵
rtis_D38E_x86_64_g++-8.3	rtis	D38E_x86_64_g++-8.3	Inactive	N/A	N/A	Û

Figure 237: RTI License Host and License Port



Note: Alternatively, you may configure a Pitch RTI license in the Local RTI Component (LRC) .settings file. Go to Pitch documentation for more information.

13.2 Terrain

To add third-party terrain data, follow the instructions on the page to mount the media containing your data. 13.2, "Terrain" above shows Level 0 Data and Supplying Additional Terrain on Terrain:

Terrain Level 0 Data ASTi DTED Level 0 is not installed				
Supplying Additional Terrain				
Adding Supplied Terrain				
You can install your own terrain data by mounting the media containing your data, and following these steps:				
 At a command prompt, change to the root directory of the new DTED data. 				
• Run the Command asticli terrain convert. / /var/customer/terrain/ 🔮 , which converts the new DTED files to ASTi format files located in /var/customer/terrain/ .				
The newly added terrain data will be made active immediately.				
Removing Supplied Terrain				
Terrain data installed using the process above can be removed by following these steps:				
• At a command prompt, execute asticli terrain cleanup -r /var/customer/terrain 🕒				
The data in /var/customer/terrain/ will be deactivated and removed.				

Figure 238: Terrain
14.0 Audio

Located in the left sidebar, **W** Audio provides access to the Telestra's Sound Files, Spectral Analysis, and Text to Speech pages.

=	TELESTR/	1	💩 Running: 1_1 🖬 : main	~				۹ 4	•	• •	0 •
۲ ۲	Dashboard Setup ^	Sound Files							1	Actio	ons 💌
	Network	🗌 Waveset 🗈			Duration	Size	Info	Add	Сору	Delete	Move
	Licenses	🗋 🗸 🖻 Raptor-18 🖋				146 MB		+	(P	Û	÷
=	Network Devices *	🗌 🗸 🖉 ReiserH135 🖋				272 MB		+	c.	Û	÷
	Hardware Telestras	🗋 🗸 🖄 ReiserH145 🖋				521 MB		+	c.	Û	÷
۵	Projects	🔲 🗸 🕢 Sentinel-42 🖋				99.2 MB		+	ø	Û	÷
≎	Diagnostics *	🗌 🗸 🗋 Talon-27 🖉				0		+	c.	Û	÷
	Health System Logs	🗌 🗸 🕢 Vanguard-49 🖋				69.2 MB		+		Û	÷
	SOS Reports										
	Credit Report										
	Protocols										
	Terrain										
° 🗰	Audio ^										
	Sound Files Spectral Analysis										
	Text to Speech	ASTI © Advanced Simulation Tec (703) 471-2104 support@as	chnology Inc. ti-usa.com			Uptime:	Yo 2 weeks, 6	our last log days, 6 ho	jn was: Ji urs, 29 m	logged i il 27, inutes, and	n as: admin 01:20:31 PM I 4 seconds

Figure 239: ₩ Audio navigation

In this chapter, discover how to upload and organize waveform audio file format (.wav) and Telestra Sound Recording (.tsr) files on **Sound Files**, producing waveset directories for spectral analysis and model creation. Next, generate Level D comparison plots on **Spectral Ana-lysis**, which compares actual aircraft recordings with recordings of Telestra and your simulator. Last of all, go to **Text to Speech** to preview voices from Telestra's built-in text-to-speech (TTS) engine. Whether you're creating wavesets, seeking Level D certification, or evaluating TTS, **# Audio** offers powerful capabilities tailored to your simulation sound scape.

This chapter discusses the following topics:

- Sound Files
- Spectral Analysis
- Text to Speech

14.1 Sound Files

Upload, access, and manage sound files (i.e., .wav files) on the **Sound Files** page. **Sound Files** provides sound file information (e.g., format, length, and size), download links, and the ability to preview sound files via the audio player.

This section describes how to:

- Add a waveset
- Upload sound files
- Edit a waveset or sound file's name
- Move wavesets or sound files
- Copy a waveset or sound file to another directory
- Preview sound files
- View a sound file's metadata
- Download sound files or wavesets
- Delete a waveset or sound file
- Switch between tree and grid views

14.1.1 Add a waveset

To add a waveset to the root directory, follow these steps:

1. On the left, go to **W** Audio > Sound Files.

=	TELESTRA	🙆 Ru	unning: 3MachineGuns : MH60	~				٩	4 💿	<u>۰</u>	U -
0 	Dashboard Setup v	Sound Files									2
	Network Backup/Restore	+ 10 6 11 4								٤Ξ	ш
	Licenses	Name			Duration	Size	Info		Actions		
=	Network Devices 🗸	□ > ② A220_Baseline 🖋				8.2 MB	1	+ 0	E6	ė	Φ
	Hardware	□ > ② A320_Baseline 🖋				215 MB	1	+ 0	6	ė	\oplus
	Telestra Servers					12 MB	1	+ 0	6	ė.	Φ
•	Projects	> 20 Aircraft_1 /				2.88 MB		+ 0	6	ė	Φ
♡	Diagnostics \lor	> @ Ambience Ø				1.04 GB		+ 6	6	à	Φ
	Health	> 20 Archives Ø				1.03 GB	1	+ 0		8	Φ
	System Logs	→ Crypto-9 /				23.9 MB		+ 6		à	4
	SOS Reports	→ Cn Eng aircraft engineering 09 20 0	DR 35 21 AM #			103.68					
	Credit Report		00_00_1nm 9								*
\$	Simulation \lor	> ⊠ Eng_aircraπ_engineering_1 /				2.88 MB		+ 0		-	Ψ
	Protocols					12 MB		+	<u></u>	ė	4
	Terrain										
° +#+	Audio 🗸										
	Sound Files										

Figure 240: Sound Files navigation

2. Log in with the following default credentials:

Username	Password
admin	astirules

3. *(Optional)* To view the hidden password, select **Show Password** (●).

Log in to access	×
Username	
admin	
Password	
•••••	۲
	Login

Figure 241: Login pop-up window

- 4. Select Login .
- 5. On Sound Files, select Add a new waveset to the root directory (**).
- 6. Enter a unique name for the waveset, and select the check mark (Θ) , or press Enter.

+	Add a new waveset to root	
- r	Talon-48	\odot \otimes
)

Figure 242: Add a waveset to the root directory

The new waveset appears at the root directory:

Sound Files			5
\land \land A220_Baseline \mathscr{I}	8.2 MB	+	≛ ↔
□ > ⓐ A320_Baseline 🖋	215 MB	+	≜ ↔
□ > ② AAAA Ø	12 MB	+	≜ ↔
□ > 2 Aircraft_1 🖋	2.88 MB	+	♣ ↔
□ > 2 Ambience 🖋	1.04 GB	+	♣ \$
> 2 Archives 🖋	1.03 GB	+ 🗅 🕞	₽ \$
Crypto-9 🖋	23.9 MB	+	₽ \$
□ > ② Eng_aircraft_engineering_09_20_2023_0 Ø	1.03 GB	+	₽ \$
□ > ② Eng_aircraft_engineering_1 Ø	2.88 MB	+	₽ ↔
□ > □ Talon-48 🖋	0	+ 🗅 🕞	F 🕁

Figure 243: New waveset at root directory

To add a nested waveset, do the following:

1. On **Sound Files**, choose a waveset, and select **Add sound files or wavesets** (•). A pop-up box appears, prompting you to add another waveset and/or upload one or more sound files from your local system.

Sound Files								2
+ © © B A							ŧ	888
Name Name	Duration	Size	Info			Actions		
> D A220_Baseline &		8.2 MB		+	Ð	6	ė.	÷
□ > ② A320_Baseline 🖋		215 MB		+	Ф	6	ė	÷
		12 MB		+	Φ	6	쓰	÷
> 2 Aircraft_1 /		2.88 MB		+	Ф	6	à	÷
□ > ② Ambience &		1.04 GB		+	Φ	6	ė	÷
□ > □ Archives Ø		1.03 GB		+	Ð	6	ė.	÷
□ > ② Crypto-9 Ø		23.9 MB		+	Ф	6	ė,	÷
□ > © Eng_aircraft_engineering 08_35_21_AM Ø		1.03 GB		+	Φ	6	쓰	÷
□ > ② Eng_aircraft_engineering_1 𝖋		2.88 MB		+	ſЪ	6	di	÷
□ ~ ► Talon-48 /		0		+	Φ	6	đ	÷

Figure 244: Add a waveset and/or sound files to an existing waveset

2. *(Optional)* In Add a new directory to *lexisting waveset*, where *existing waveset* is the destination folder, enter a unique name for the new waveset.

dd a new waveset to	/Talon-48	
Example Waves	set	0 8

Figure 245: Add a waveset to another waveset

3. Select the check mark (\bigcirc) , or press Enter. The nested waveset appears in the table:

∨ 🖨 Talon-48 Ø	
> 🗅 Example_Waveset 🖉	

Figure 246: Nested waveset

14.1.2 Upload sound files

To upload one or more sound files to **Sound Files**, follow these steps:

1. On **Sound Files**, choose a waveset, and select **Add sound files or wavesets** (**•**). A pop-up box appears, prompting you to add another waveset and/or upload one or more sound files from your local system.

Sound Files									2
A 0 0 0 +								E	Ħ
Name	Duration	Size	Info			Actio	ons		
> D A220_Baseline /		8.2 MB		+	đ	6	B	ė.	÷
□ > 12 A320_Baseline 🖋		215 MB		+	Φ	Cò.	8	æ	\oplus
		12 MB		$^{+}$	Ø	6	B	ė,	÷
> D Aircraft_1 /		2.88 MB		+	Φ	6	Ð	di,	÷
> ID Ambience 🖋		1.04 GB		$^{+}$	Φ	C6	Ð	é	÷
> D Archives /		1.03 GB		+	Ð	6	ŝ	ė.	\oplus
□ > © Crypto-9 #		23.9 MB		+	Φ	65	Ð	di,	÷
□ > 00 Eng_aircraft_engineering 08_35_21_AM 𝒴		1.03 GB		$^{+}$	Ø	6	8	ė,	\oplus
□ > □ Eng_aircraft_engineering_1 Ø		2.88 MB		+	ф,	6	Ð	di.	÷
🗌 🗸 🖻 Talon-48 🖋		0		+	Φ	C6	8	é	\oplus

Figure 247: Add a waveset and/or sound files to an existing waveset

2. Under Upload files to /waveset, select Browse Files, and find the Waveform Audio File Format (.wav), Telestra Sound Recording (.tsr), or tape archive GNU ZIP (.tgz) files on your local system. Alternatively, select and move the files into the Drag & Drop File Here box.

Example_Way	veset	\odot \otimes
Upload files to /Tal	on-48	
£	Drag & Drop File Here or	
Accente	Browse Files	107
Accepte	Limit: 10 files	ı.gz
Accepted .way for	nat:	

Figure 248: Browse to local sound files



Important: Telestra only accepts .wav files with a sample rate of 48 kHz, 16-bit pulse-code modulation, and mono (i.e., single-channel) audio. You can upload up to 10 files at once.

3. Select Upload 1 file 🛆

Examp	ole_Wav	reset				
Upload file	es to /Talo	on-48				
	4	Drag	& Drop	File H	ere	
			or			
	(Bro	wse Fi	les		
	Accepted	d file t	ype(s):	.wav,	.tsr, .tg	z
		Lim	iit: 10 fi	es		
<u> </u>						
Ready	for uplo	ad				
Cra	sh.wav					Ē
	Cance	el	Uploa	ເd 1 f	ile 🕰	

Figure 249: Upload a sound file

\equiv	
—	

Note: The button label changes based on the number of files.

The new waveset and/or uploaded sound files appear in the destination waveset:

∨ 🖨 Talon-48 🖋		247 kB	
> 🗅 Example_Waveset 🖋		0	
Crash.wav 🖋	0:02 sec	247 kB	i

Figure 250: New waveset and sound file

14.1.3 Edit a waveset or sound file's name

To edit the name of a waveset or sound file, follow these steps:

- 1. On **Sound Files**, choose an item to edit.
- 2. Next to the item's name, select the pencil icon (\mathscr{P}) .



Figure 251: Sound file pencil icon

 Enter a unique name for the waveset or sound file. Select the check mark (∅), or press Enter. This waveset name should match the name of a sound library in your Studio project.



Figure 252: New name for sound file

4. Select the green check (Θ) to save changes.

14.1.4 Move wavesets or sound files

To move a single item, under Actions, select and move the item's arrow cross $(\mathbf{\Phi})$ to the destination directory:

Sound Files							2
+ 00 Co 🗴 🖌						Ĩ	E
Name	Duration	Size	Info		Actio	ons	
□ > □ A220_Baseline Ø		8.2 MB		+ 0	Cò	Û	≜ ↔
□ > D A320_Baseline 🖋		215 MB		+	69	Û	4
		12 MB		+	Cò -	Û	* +
\rightarrow 2 Aircraft_1 \mathscr{P}		2.88 MB		+	Cò	Û	4
□ > ☑ Ambience Ø		1.04 GB		+	Cò	Û	≜ ⊕
Talon-48 → D Archives 🖋		1.03 GB		+	6	Û	± ↔
□ > I Crypto-9 Ø		23.9 MB		+ 0	6	Û	4
> 2 Eng_aircraft_engineering_09_20_2023_08_35_21_AM Ø		1.03 GB		+	6	Û	*
$\rightarrow \square$ Eng_aircraft_engineering_1 \mathscr{P}		2.88 MB		+ 0	6	<u>P</u>	<u>ب</u>
\supset \square Talon-48 \mathscr{I}		250 kB		+ 0	G	Talo	n-48 ↔
□ > □ Test4 Ø		12 MB		+ 0	G	Ê	≝ ∲

Figure 253: Move a single Sound Files item

To move multiple items, select the items' check boxes. Then, select the cross arrow (•) of a selected item to move all the items to the destination directory:.

Sound Files									5
+ 10 20 20 4								िम्⊟	000
Name Name	Duration	Size	Info			Act	ions		
□ > ☑ A220_Baseline 🖋		8.45 MB		+	¢)	6		齿	⇔
□ > □ AAAA_78 Ø		239 MB		+	ίΩ.	6		쓰	¢
☐ > 2 Aircraft_1	l N	2.88 MB		+	t)	6	•	4	÷
□ ∨ 🖨 Ambience 🖋	\bigcirc	1.04 GB		+	Ð	6		齿	\Leftrightarrow
		2.9 MB			¢0	6		4	⇔
		1.04 GB		+	đ	6	Û	4	÷
Access_Door.wav 🖉	0:01 sec	154 kB	(j)					J.	₽⊕
□ > ☑ Archives 🖋		1.03 GB		+	¢)	6		4	↔

Figure 254: Move multiple Sound Files items

To restore a single nested waveset to the root directory, under **Actions**, select its arrow cross $(\mathbf{\Phi})$, and move the waveset to the header row:

Sound Files	Non-48	Actions
□ > D A220_Baseline 🖋	8.2 MB	b 🔂 🗎 🖶 🕂
□ > D A320_Baseline 🖋	215 МВ 🛃	• 🗈 💼 📥 🔶
	12 MB	D 🖸 🗎 🕁 🕂
\rightarrow 2 Aircraft_1 \mathscr{P}	2.88 MB	D 🗈 🗊 🛃 🕂
□ > ☑ Ambience Ø	1.04 GB 🛛 🛨	s 🖬 💼 🕹 💠
□ ∨ 🕞 Archives 🖋	1.03 GB 🕂	• 🖬 🏚 🔶
□ > ② Ambience 🖋	1.03 GB 🕂 🚺	• 🖬 💼 🛃 🕂
□ > ☑ Talon-48 Ø	250 kB 🕂 🕻	b Eò 🗈 Talon-48 🚓

Figure 255: Select and move a waveset to root



Important: You can't move or copy sound files and Telestra Sound Recording (.tsr) files to the root directory. Invalid destinations (i.e., the current directory, sound files) are disabled.

To move multiple nested wavesets to the root directory, select the items' check boxes. Then select one of the items' arrow crosses (\clubsuit), and move your mouse to the header row. Alternatively, at the top of the page, select **Move selected to root directory** (\square).

Sound Files Move selected to root directory + the to the								E	7
Name Name	Duration	Size	Info			Acti	ions		
□ > ☑ A220_Baseline 🖋		8.2 MB		+	Ф	69	•	4	⇔
□ > ☑ A320_Baseline 🖋		215 MB		+	Ф	Cò	•	ek.	⇔
> Z AAAA 🖋		12 MB		+	Ф	69	•	4	⇔
> 🗋 Aircraft_1 🖋		2.88 MB		+	Ф	6	1	4	⇔
→ ② Ambience Ø		1.04 GB		+	đ	69	•	쓰	⇔
□ ∨ 🖨 Archives 🖋		1.03 GB		+	Ф	66	•	4	⇔
$ \rightarrow \square$ Ambience \mathscr{P}		1.03 GB		+	Ō	0		ek.	⇔
✓ > ☑ Talon-48		250 kB		+	Ф	63		4	\$

Figure 256: Move selected waveset to root directory



Important: If you select a waveset that already exists in the root directory, then **Copy selec***ted to root directory* and **Move selected to root directory** are disabled.

14.1.5 Copy a waveset or sound file to another directory

To copy multiple wavesets or sound files to another directory, follow these steps:

- 1. On **Sound Files**, select the items you want to copy.
- 2. Choose a destination directory, and select **Copy selected items to this waveset** (^(a)).

> 🗈 Ambience 🖉	1.04 GB	+ to the field it and the this
> 🗈 Archives 🖉	1.03 GB	waveset (%
> 2 Crypto-9	23.9 MB	= 💽 🖻
> 🗵 Eng_aircraft_engineering_09_20_2023_08_35_21_AM 🖋	1.03 GB	- 🖸 🗈 💼
> 🗈 Eng_aircraft_engineering_1 🖋	2.88 MB	+ 🗅 ն
> 2 Talon-48	250 kB	+ 🗅 🛍

Figure 257: Copy to another waveset

The copied items now appear in the destination waveset:

∨ 🖨 Crypto-9 🖋	
> 🗈 Talon-48 🖋	
> 🛛 aaa_simulator_engineering_	_14_11_03_PM Ø

Figure 258: Copied waveset

3. To copy wavesets to the root directory, at the top of the page, select **Copy selected to** root directory (^a).

Sound Files
+ Copy selected to root directory
Name
🗌 🗸 🖨 A220_Baseline 🖋
✓ > Ia Talon-48 Ø

Figure 259: Copy to root



Important: You can't move or copy sound files and Telestra Sound Recording (.tsr) files to the root directory. Invalid destinations (i.e., the current directory, sound files) are disabled.

The copied items now appear in the root directory:

Sound Files								5
+ 00 (3) (2) (4)							E≡	#
Name	Duration	Size	Info		,	Actions		
□ > □ A220_Baseline Ø		8.45 MB		+	ΰo (6	de la	⇔
□ > @ A320_Baseline Ø		215 MB		+	to (6	凼	⇔
		12 MB		+	to (۵	4	⇔
> 🗈 Aircraft_1 🖋		2.88 MB		+	to (۵	쓰	↔
> 🗈 Ambience 🖋		1.04 GB		+	¢) (ò	de la	⇔
> 2 Archives Ø		1.03 GB		+	¢	6	de la	⇔
□ > b Crypto-9 Ø		23.9 MB		+	ζο (<u>ن</u>	de la	⇔
> D Eng_aircraft_engineering_09_20_2023_08_35_21_AM Ø		1.03 GB		+	ζο (ò 🗊	凼	⇔
□ > ⊡ Eng_aircraft_engineering_1 🖋		2.88 MB		+	ĊD [۵	凼	⇔
> 🗈 Talon-48 🖋		250 kB		+	0	6	4	⇔

Figure 260: Waveset copied to root

14.1.6 Preview sound files

To preview one or more sound file, follow these steps:

- 1. On **Sound Files**, choose a sound file.
- 2. Select the sound file's play button ()) or name. At the top of the page, the media player expands and plays the .wav file from your computer's speakers.

Sound Files Crashwav () Crashwav () 0.00				0:02	0:02		ଯ ଏ	i)	1
Aircraft_1		2.88 MB		+	ю	Ló	U	8	₩
> 2 Ambience d		1.04 GB		+	đ	6	Û	쓰	⇔
Archives 🖋		1.03 GB		+	đ	6	1	坐	⇔
Crypto-9 🖋		23.9 MB		+	¢0	6	1	齿	⇔
bit Eng_aircraft_engineering		1.03 GB		+	Ō	6	Û	쓰	⇔
□ > <a>D Eng_aircraft_engineering_1		2.88 MB		+	Ō	6	Û	쓰	⇔
□ ~ 🖨 Talon-48 🖋		250 kB		+	đ	6	1	쓰	⇔
Example_Waveset 🖉		247 kB		+	đ	6	1	쓰	⇔
Crashway /	0:02 sec	247 kB	í				1	쓰	⇔

Figure 261: Media player



Important: You can't play Telestra sound recording (.tsr) files in the Telestra web interface; you can only upload them for storage and management.

- 3. To stop the audio and keep the playhead's position, select **Pause audio** (U).
- 4. To stop the audio and reset the playhead to the start, select **Stop audio** (\blacksquare) .



Figure 262: Stop playing audio

Alternatively, select the play, pause, or stop button next to the sound file in the table:



Figure 263: Control audio from the table

5. (*Optional*) To continually repeat the audio, select Loop audio for this track only (\mathfrak{C}) .

6. (Optional) Select Volume control ((4)) to adjust the volume up or down.



Figure 264: Volume control

- 7. To view the media player's history, do the following:
 - a. In the media player, select the notes icon (=).
 - b. Loaded Tracks displays previously played audio clips. Select a clip to replay it:



Figure 265: Loaded Tracks

8. Select Close the media player (a) to collapse it.

14.1.7 View a sound file's metadata

To view a sound file's metadata, follow these steps:

- 1. On Sound Files, choose a sound file.
- 2. Under **Info**, select the sound file's information icon (③), and a pop-up window displays the following:
 - Creation date and time
 - Date and time of last modification
 - Sample rate (e.g., 48 kHz)
 - Sample time (e.g., PCM16)
 - Number of channels, if any



Figure 266: Sound file metadata

3. Select outside of the pop-up window to close the metadata.

14.1.8 Download sound files or wavesets

To download a single item, on **Sound Files**, under **Actions**, select **Download this soundfile** or **Download this waveset** (

- ~ >	Talon-48 🖋		250 kB		+	Φ	6	Û	Ł	÷
	Example_Waveset 🖋		247 kB		+	¢	63	Û	凼	⇔
	Crash.wav 🥖	0:02 sec	247 kB	í				Û	齿	÷

Figure 267: Download an item on Sound Files

To download multiple items, select the items' check boxes. At the top of the page, select **Download selected** (<).



Figure 268: Download multiple items on Sound Files

Save the sound files or wavesets to your local system, a USB device, or an external hard drive.

14.1.9 Delete a waveset or sound file

To permanently delete one or more wavesets or sound files, follow these steps:

- 1. On **Sound Files**, select the items you want to delete.
- 2. Above the table, select **Delete selected** (**•**).



Figure 269: Delete items via toolbar button

Alternatively, select **Delete this soundfile** or **Delete this waveset** (**1**) from the table.

🗋 🕑 Crashwav 🖋 0:02 sec 247 kB 🛈 🚺 🛃 💠



3. In the confirmation window, select ^{confirm}. The deleted items disappear from **Sound Files**.

14.1.10 Switch between tree and grid views

This section explains how you can toggle between two display options when viewing wavesets and sound files. By default, **Sound Files** displays items as an expandable list in tree view, but you can also view them as tiles in grid view.

To change how your items appear on Sound Files, select Grid View (*) in the top right:

Sound Files									5
+ 10 10 10 10 10 10 10 10 10 10 10 10 10	Duration	Size	Info			Acti	ons	E	
A220_Baseline 𝒞		6.64 MB		+	Ō	6	Ū	坐	⇔
□ > ☑ A320_Baseline 🖋		215 MB		+	Ō	G		4	⇔

Figure 271: Switch to Sound Files grid view

Sound Files now displays items as folder icons and purple tiles. Select the breadcrumbs at the top of the page to quickly backtrack to previous sections:



Figure 272: Breadcrumbs in Sound Files grid view

14.2 Spectral Analysis

Spectral analysis assesses the accuracy and fidelity of a simulator's auditory cues. During Level D certification, a regulatory agency (e.g., the FAA) compares a simulator's sound effects to the real aircraft. These effects include engine noises, ambient sounds, warning alarms, and other audio cues that pilots encounter during an actual flight. High-fidelity sounds help create an immersive training experience meeting the highest standards.

The **Spectral Analysis** page compares aircraft recordings to simulator recordings that engineers produced with Studio's **LevelDCapture** or **RecordReplay** components. It then generates performance plots that you can send to the FAA or another regulatory agency for Level D certification.

Conducting spectral analysis in the Telestra web interface requires multiple steps:

1. Upload one or more wavesets (i.e., actual aircraft recordings) on **Sound Files**, as described in Section 14.1, "Sound Files" on page 136.

These wavesets appear on **Spectral Analysis** > **Wavesets**, where you can choose a waveset to configure and analyze. To learn more about wavesets, go to Section 14.2.1, "Choose a waveset to configure and analyze" on the facing page.

- 2. Define the **Test Cases** to include in your simulator's performance plots, as described in Section 14.2.2, "Define spectral analysis test cases" on page 152.
- 3. Use **Reference Sets** to create, store, and review your simulator's initial baseline and past performance data. To learn more about reference sets, go to Section 14.2.3, "Map reference sets to test cases on Aircraft Baseline" on page 154.
- 4. Complete **Analysis** by mapping the test cases and reference sets to simulator (i.e., Telestra) recordings, as described in Section 14.2.4, "Map Telestra recordings to reference files and test cases" on page 156.
- 5. To view, download, and archive this performance data for future certifications, go to Section 14.2.5, "Compare spectral analysis absolute and difference results" on page 159, Section 14.2.9, "Download spectral analysis results" on page 167, and Section 14.2.8, "Save spectral analysis results" on page 165.

14.2.1 Choose a waveset to configure and analyze

To choose a waveset to configure and analyze, follow these steps:

- 1. On **W** Audio > Sound Files, upload pertinent aircraft and simulator speaker reference files and Telestra recordings, and organize them into waveset directories. To add and manage sound files, go to Section 14.1, "Sound Files" on page 136.
- 2. Go to **W** Audio > Spectral Analysis.

=	TELESTRA		🖄 No Layou	it installed	*		۵ ۵	⊙ ⊕•	0-
© 4	Dashboard Setup - Network	Wavesets	Wavesets	Test Cases	Reference Sets				
=	Backup/Restore Licenses Network Devices * Hardware	Ambience					Configure &	Analyze 7	
a >	Telestras Projects Diagnostics	Archives					Configure &	Analyze 7	
	Health System Logs SOS Reports	Crypto-9 Lancer-38			Clear I	Clear Data 🔹	Contigure &	nalyze A	
۵	Credit Report Simulation Protocols	Raptor-18b				Clear Data 💰	Configure &	Analyze 7	
• •	Terrain Audio • Sound Files	ReiserH135				Clear Data 💰	Configure &	Analyze 7	
	Spectral Analysis Text to Speech	ReiserH145 Sentinel-42				Clear Data 💰	Configure &	Analyze A	

Figure 273: Spectral Analysis navigation

This page displays all the wavesets on **Sound Files**. Green wavesets contain saved spectral analysis results, whereas white wavesets are blank. To edit the recordings associated with a waveset, go to **Sound Files**.

3. *(Optional)* Telestra automatically saves test cases, reference sets, and mapping configurations associated with a waveset, even if you don't save any results. To clear these configurations and start fresh, select **Clear Data**.



Figure 274: Clear existing waveset data

4. On Wavesets, choose a waveset, and select Configure & Analyze.

=	TELESTR/		🖄 No Layout Installed		¥		Q \$ (0.0-	٥-
0 -	Dashboard Setup - Network	B Wavesets	ts	Test Cases	Reference Sets				
=	Backup/Restore Licenses Network Devices * Hardware	Ambience					Configure & A	nalyze 7]
a ⊽	Telestras Projects Diagnostics ^	Archives				Clear Data 🚿	Configure & A	nalyze A	
	Health System Logs SOS Reports	Lancer-38			Clear D	ta ∳ View Reference	Sets 🕂 An	alyze 7	
ŵ	Credit Report Simulation * Protocols	Raptor-18b				Clear Data 🚿	Configure & A	nalyze 🗷]
• 🏘	Terrain Audio Sound Files	ReiserH135				Clear Data 💰	Configure & A	nalyze 7	J
	Text to Speech	Sentinel-42				Clear Data 💰	Configure & A	nalyze 7	ן ר

Figure 275: Spectral Analysis wavesets

14.2.2 Define spectral analysis test cases

In spectral analysis, a test case refers to a specific set of input data or conditions that the Federal Aviation Administration (FAA) or other regulatory agencies use to evaluate simulated audio's performance and accuracy. On the **Test Cases** page, you will need to define which **Aircraft** and **Simulator** speaker test cases to analyze. This page also includes a **Back-ground Noise Profile**, a predefined FAA allowance curve that Telestra uses as a baseline. This curve complies with background noise levels that the FAA and other regulatory agencies mandate.

To add a custom **Aircraft** or **Simulator** speaker test case to **Spectral Analysis**, follow these steps:

 To add a generic test case template, under Aircraft or Simulator, select Add Test Case (+).

Test Ca	ases : Raptor-18		
Aircraft		+	-
ID ⊽	State 🗢		
5b1 🖋	Ready for engine start.	ø	Ŵ
5b2 🥒	All propellers feathered, if applicable.	ø	1

Figure 276: Generic Aircraft test case template

2. An AircraftID number references a predefined load condition or maneuver that occurs during testing, such as takeoff, landing, or turbulence. Likewise, a Simulator ID references a simulator speaker number. To edit the ID, select the pencil () icon, and enter a unique number or character sequence.



Important: Make sure the test case ID matches the end of your sound file name (e.g., 5b1 in soundfile_5b1.wav or 11 in soundfile_11.wav). Telestra uses these unique identifiers to automatically match sound files in a waveset to corresponding test cases.

3. For **Aircraft** test cases, **State** describes the aircraft configuration, operational mode, or environmental conditions that regulatory agencies use to evaluate the aircraft's safety and performance (e.g., "All propellers feathered, if applicable."). For **Simulator** test cases, **State** identifies the speaker position (e.g., **Left Forward**).

To edit the **State**, select the pencil (\mathcal{A}) icon, and enter a unique phrase.

Test Cases	: Raptor-18		
Aircraft		+	•
ID ⊽ State	€ €		
5b1 🖋 Read	ly for engine start.	⊗।⊘	Ô

Figure 277: ID and State for custom test case

4. To add a predefined, regulatory test case, follow these steps, select the drop-down arrow, and choose one or more test cases from the listed options (e.g., **5b1 - Ready for engine start.** for aircraft, **Left Forward** for speakers). Alternatively, select the category header (e.g., **Fixed Wing Propeller**, **Speakers**) to add a set.



Figure 278: Add a set of test cases

5. Select Add Selected, and the test cases that you selected populate the page:

Test Ca	ases : Raptor-18		
Aircraft		+	•
ID 🗢	State 🗘		
5b1 🥒	Ready for engine start.	Ø	1
5b2 🖋	All propellers feathered, if applicable.	Ø	Ŵ
5b3 🖋	Ground idle or equivalent.	Ø	Ŵ
5b4 🖋	Flight idle of equivalent.	Ø	Û
5b5 Ø	All engines at maximum allowable power with brakes set.	Ø	Û
5b6 🖋	Climb.	Ø	1
5b7 🖋	Cruise.	Ø	Ŵ
5b8 Ø	Inital Approach.	Ø	Ŵ
5b9 🖋	Final Approach.	Ø	Ŵ

Figure 279: Populated test cases

- 6. To permanently delete a test case, select the trash can (\mathbf{b}) .
- 7. Select Reference Sets → to continue.

14.2.3 Map reference sets to test cases on Aircraft Baseline

Next, Telestra brings you to **Reference Sets**, where you will map the test cases you previously defined to aircraft reference files. If this is the first time you're configuring a waveset and/or certifying a simulator, you will see the **Aircraft Baseline** tab, which stores original aircraft recordings that engineers use for tuning reference before certification. These recordings serve as the control sample for future certifications.

To map reference sets on Aircraft Baseline, follow these steps:

1. On Aircraft Baseline, click Select a Subdirectory, and choose the subdirectory that contains your original aircraft recordings. These recordings serve as a tuning reference before certification and the control sample for future certifications.

Select a Directory:		
No Selection	~	+
No Selection Archives CAWS GPWS		
h145_aircraft_engineering_i TCAS		\exists

Figure 280: Aircraft Baseline subdirectory

2. Select the plus sign (⁺), and the subdirectory appears on the page.

3. Expand the subdirectory to view the test cases you defined in Section 14.2.2, "Define spectral analysis test cases" on page 152.



Figure 281: Expanded Aircraft Baseline reference set

4. Telestra automatically matches the last digit in the sound file name to the test case ID (e.g., **Test Case ID 5a1** matches AW169_5a1.wav). Verify each mapping is correct, and make adjustments if needed.

h145_aircraft_engineering_	± ~
sai) Ready for engine start.	
h145_aircraft_engineering6a)wav	
5a2: All engines at idle.	
h145_aircraft_engineering5a2.wav	
5a3: Hover.	
h145_aircraft_engineering5a3.wav	
5a4: Climb.	
h145_aircraft_engineering5a4.wav	
5a5: Cruise.	
h145_aircraft_engineering5a5.wav	
5a6: Final Approach.	
h145_aircraft_engineering5a6.wav	

Figure 282: Matching IDs in reference set

5. (Optional) To delete a subdirectory, select the trash can (b).



Figure 283: Delete a reference set subdirectory

6. Select Analysis \rightarrow to proceed.

14.2.4 Map Telestra recordings to reference files and test cases

To map your Telestra recordings to the aircraft reference recordings and test cases, follow these steps:

 On Analysis, confirm Aircraft Reference Set displays the correct directory. By default, this field displays the aircraft reference set you selected in Section 14.2.3, "Map reference sets to test cases on Aircraft Baseline" on page 154. If needed, select the drop-down box to change directories.

6	-6	•		
Malysis : Raptor-18	lest Cases	Kererence Sets	Analysis	Analyze →
Aircraft Reference Set				
H145_aircraft_master_05_1211_50_20_AM	1		1	~
 Aircraft Name 	Aircraft Reference File		Aircraft Record File	
Aircraft				
Sal Ready for engine start.	H145_aircraft_master_05_	1211_50_20_AM_5a1.wav	library000_group65535_index001.tsr	
✓ 5a2 All engines at idle.	H145_aircraft_master_05_	1211_50_20_AM_5a2.wav	library000_group65535_index002.tsr	
✓ 5a3 Hover.	H145_aircraft_master_05_	1211_50_20_AM_5a3.wav	library000_group65535_index003.tsr	
✓ 5a4 Climb.	H145_aircraft_master_05_	12_ 11_50_20_AM_5a4.wav	library000_group65535_index004.tsr	
✓ 5a5 Cruise.	H145_aircraft_master_05_	12_ 11_50_20_AM_5a5.wav	library000_group65535_index005.tsr	
✓ 5a6 Final Approach.	H145_aircraft_master_05_	1211_50_20_AM_5a6.wav	library000_group65535_index006.tsr	

Figure 284: Verify Aircraft Reference Set

2. Review the list of test cases, **Aircraft Reference Files** (i.e., original aircraft recordings), and **Aircraft Record Files** (i.e., synthetic Telestra recordings), and select the mappings you want to analyze.

6				
Wavesets	Test Cases	Reference Sets	Analysis	
Analysis : Raptor-18				Analyze →
Aircraft Reference Set				
H145_aircraft_master_05_1211_50_20_AM				
Aircraft Name	Aircraft Reference File		Aircraft Record File	
Aircraft				
✓ 5a1 Ready for engine start.	H145_aircraft_master_05_12_	11_50_20_AM_5a1.wav	library000_group65535_index001.tsr	
✓ 5a2 All engines at idle.	H145_aircraft_master_05_12_	11_50_20_AM_5a2.wav	library000_group65535_index002.tsr	
Sa3 Hover.	H145_aircraft_master_05_12_	11_50_20_AM_5a3.wav	library000_group65535_index003.tsr	
≤ 5a4 Climb.	H145_aircraft_master_05_12_	11_50_20_AM_5a4.wav	library000_group65535_index004.tsr	
✓ 5a5 Cruise.	H145_aircraft_master_05_12_	11_50_20_AM_5a5.wav	library000_group65535_index005.tsr	
5a6 Final Approach.	H145_aircraft_master_05_12_	11_50_20_AM_5a6.wav	library000_group65535_index006.tsr	

Figure 285: Choose aircraft mappings to analyze

3. Telestra automatically matches the last digit in the .tsr file name to the last digit of the Aircraft Reference File name (e.g., H145_aircraft_master..._5a1.wav matches lib-rary000_group65535_index001.wav).

Wavesets	Test Cases	Reference Sets	Analysis	
Analysis : Raptor-18				Analyze →
Aircraft Reference Set				
H145_aircraft_master_05_1211_50_20_AM				
 Aircraft Name 	Aircraft Reference File		Aircraft Record File	
Aircraft				
✓ 5a1 Ready for engine start.	H145_aircraft_master_05_1211_5	0_20_AM_5a1.wav	library000_group65535_index001.tsr	~
✓ 5a2 All engines at idle.	H145_aircraft_master_05_1211_5	0_20_AM_5a2.wav	library000_group65535_index002.tsr	~
✓ 5a3 Hover.	H145_aircraft_master_05_1211_5	0_20_AM_5a3.wav	library000_group65535_index003.tsr	~
✓ 5a4 Climb.	H145_aircraft_master_05_1211_5	0_20_AM_5a4.wav	library000_group65535_index004.tsr	~
✓ 5a5 Cruise.	H145_aircraft_master_05_1211_5	0_20_AM_5a5.wav	library000_group65535_index005.tsr	~
✓ 5a6 Final Approach.	H145_aircraft_master_05_1211_5	0_20_AM_5a6.wav	library000_group65535_index006.tsr	~

Figure 286: Review Aircraft Record File mappings

Verify Aircraft Record File is correct, and make adjustments if needed.

4. If this is the first time you're analyzing a waveset, **Simulator Reference Set** shows no selection because you haven't created any simulator reference sets yet. Proceed to the next step.

If you're recertifying a waveset, confirm **Simulator Reference Set** displays the correct subdirectory. By default, this field populates the speaker reference set you selected in Section 14.2.3, "Map reference sets to test cases on Aircraft Baseline" on page 154. Telestra will compare this reference set against the new simulator recordings.

Simulator Reference Set			
No Selection			~
Simulator Name	Simulator Reference File	Simulator Record File	
Background Noise			
0 Background Noise	Background Noise Profile	library000_group65535_index000.tsr	~
Speaker			
11 Left Forward	No File	library000_group65535_index011.tsr	~
12 Right Forward	No File	library000_group65535_index012.tsr	~
13 Left Eyebrow	No File	library000_group65535_index013.tsr	~
14 Right Eyebrow	No File	library000_group65535_index014.tsr	~
15 Left Aft / Rear	No File	library000_group65535_index015.tsr	~
16 Right Aft / Rear	No File	library000_group65535_index016.tsr	~
17 Subwoofer	No File	library000_group65535_index017.tsr	~
□ 18 Aft	No File	Select a file	~

Figure 287: Verify Simulator Reference Set

5. Review the list of test cases, **Simulator Reference Files** (i.e., original simulator speaker recordings), and **Simulator Record Files** (i.e., synthetic Telestra recordings), and select any mappings you want to analyze.

Simula	Simulator Reference Set				
H14	5_simulator_recurrent_05_12_2023_14_19_41_PM				
	Simulator Name	Simulator Reference File	Simulator Record File		
Bac	ground Noise				
	0 Background Noise	Background Noise Profile	library000_group65535_index000.tsr		
Spe	aker				
	11 Left Forward	H145_simulator_recurrent_05_12_2023_14_19_41_PM_11.wav	library000_group65535_index011.tsr		
	12 Right Forward	H145_simulator_recurrent_05_12_2023_14_19_41_PM_12.wav	library000_group65535_index012.tsr		
	13 Left Eyebrow	H145_simulator_recurrent_05_12_2023_14_19_41_PM_13.wav	library000_group65535_index013.tsr		
	14 Right Eyebrow	H145_simulator_recurrent_05_12_2023_14_19_41_PM_14.wav	library000_group65535_index014.tsr		
	15 Left Aft / Rear	H145_simulator_recurrent_05_12_2023_14_19_41_PM_15.wav	library000_group65535_index015.tsr		
	16 Right Aft / Rear	H145_simulator_recurrent_05_12_2023_14_19_41_PM_16.wav	library000_group65535_index016.tsr		
	17 Subwoofer	H145_simulator_recurrent_05_12_2023_14_19_41_PM_17.wav	library000_group65535_index017.tsr		

Figure 288: Choose simulator speaker mappings to analyze

6. Telestra automatically matches the last digit in the .tsr file name to the last digit of the **Simulator Reference File** name (e.g., H145_simulator_recurrent...11.wav matches library000_group65535_index0011.tsr). Verify each mapping is correct, and make adjustments as needed.

Simulator Reference Set					
H145_simulator_recurrent_05_12_2023_14_19_41_PM					
Simulator Name	Simulator Reference File	Simulator Record File			
Background Noise					
✓ 0 Background Noise	Background Noise Profile	library000_group65535_index000.tsr <			
Speaker					
 11 Left Forward 	H145_simulator_recurrent_05_12_2023_14_19_41_	PM_11.wav library000_group65535_index011.tsr ~			
 12 Right Forward 	H145_simulator_recurrent_05_12_2023_14_19_41_	PM_12.wav library000_group65535_index012.tsr ~			
✓ 13 Left Eyebrow	H145_simulator_recurrent_05_12_2023_14_19_41_	PM_13.wav library000_group65535_index013.tsr ~			
✓ 14 Right Eyebrow	H145_simulator_recurrent_05_12_2023_14_19_41_	PM_14.wav library000_group65535_index014.tsr ~			
15 Left Aft / Rear	H145_simulator_recurrent_05_12_2023_14_19_41_	PM_15.wav library000_group65535_index015.tsr ~			
16 Right Aft / Rear	H145_simulator_recurrent_05_12_2023_14_19_41_	PM_16.wav library000_group65535_index016.tsr ~			
 17 Subwoofer 	H145_simulator_recurrent_05_12_2023_14_19_41_	PM_17.wav library000_group65535_index017.tsr v			

Figure 289: Review Simulator Record File mappings

7. To view spectral analysis results, select Analysis A^{Analyze} .

14.2.5 Compare spectral analysis absolute and difference results

After analyzing the reference sets and simulator recordings, Telestra brings you to **Spectral Analysis Results**. This page displays performance plots for each test case, visually assessing how closely the Telestra recordings match the reference sets. The performance plots depicted here identify specific frequencies or ranges where improvements may be needed to achieve a more accurate and realistic simulation.

On the left, **Spectral Analysis Results** lists all of the aircraft and simulator speaker test cases that you previously defined. Select the name of each test case to view a graph of its performance plots:



Figure 290: Test case performance plots

The X-axis represents the frequency range, typically measured in Hertz (Hz). It covers the audible spectrum from low frequencies (e.g., 50 Hz) to high frequencies (e.g., 16.00 kHz). The Y-axis, on the other hand, represents the amplitude or intensity of the audio signal, measured in decibels (dB). It indicates the strength or loudness of the sound at each frequency.

By default, the graph shows the **Difference** between the reference set and Telestra recording. **Difference** displays one bar representing the reference and recording data's difference in magnitude (e.g., a 1 dB bar at 50 Hz). Hover over a band to view its individual difference in Hz.



Figure 291: Individual band difference

To simultaneously display the differences of all bands, turn on **Show values**. Likewise, turn off **Hide values** to remove them.



Figure 292: Show/hide band values

To view a band-by-band comparison of the reference file and Telestra recording, select **Absolute** (



Figure 293: Absolute view of Spectral Analysis Results

Absolute displays a graph with both reference and recorded data (e.g., reference data of 90 dB at 50 Hz and recorded data of 91 dB at 50 Hz). Blue bands represent reference data, whereas purple bands represent recorded data (i.e., Telestra recordings).



Figure 294: BothAbsolute and Difference view

The Absolute view appears on the left, while the Difference view appears on the right.

14.2.6 Expand or zoom in on spectral analysis results

To collapse the vertical sidebar and view spectral analysis results full screen, select **Enlarge View** ($\stackrel{\bigotimes}{\cong}$). Likewise, select **Minimize View** ($\stackrel{\bigotimes}{\cong}$) to expand the sidebar and revert to the graph's default size.



Figure 295: Minimize spectral analysis results

To zoom in on spectral analysis results, select **Zoom in** $(\bigcirc$) until you have reached the desired level of detail. Likewise, select **Zoom out** $(\bigcirc$) to view less detail.



Figure 296: Zoom in on spectral analysis results

To zoom in on a particular section, select **Enable Drag to Zoom** (\square), and select and drag a box over the graph. Select the bidirectional arrows (\square , \square , \square , \square) to move forward, backward, up, or down along the graph.



Figure 297: Enable Drag to Zoom

Select Reset to revert the graph to its default view.



Figure 298: Reset the spectral analysis graph

14.2.7 Adjust spectral analysis tolerance settings

To flag out-of-tolerance bands, in the top right, go to Tolerance and turn on **Check Tolerance**. Green bands are within tolerance, whereas red bands are not. This setting is enabled by default.



Figure 299: Out-of-tolerance bands

FI-I-I-I	ľ
=	

Note: Exported PDF results do not display out-of-tolerance bands.

Two dotted lines identify the tolerance threshold. By default, the tolerance threshold is +5 dB to -5 dB.



Figure 300: Tolerance threshold

To adjust the threshold at which Telestra marks the data as "out of tolerance," move the **Per Band** slider. For example, if **Per Band** is the default value of 5 decibels (dB), and the band's value is 10 dB, the data is out of tolerance.

In the bottom left, the **Average Difference** displays in dB. The default **Average Difference** tolerance is 2 dB.



Figure 301: Average Difference

To adjust the threshold at which Telestra considers the **Average Difference** out of tolerance, move the **Average Difference** slider. For example, if **Average Difference** is the default value of 2 decibels (dB), and the recording's **Average Difference** is 10 dB, the recording is out of tolerance.



Figure 302: Per Band and Average Difference

14.2.8 Save spectral analysis results

To archive spectral analysis results in the Telestra web interface, follow these steps:



1. On Spectral Analysis Results, select Save

Figure 303: Save spectral analysis results

2. When Save Reference Sets opens, select Aircraft (Aircraft Simulator Both) to save only aircraft results, Simulator (Aircraft Simulator Both) to save only simulator speaker results, or Both (Aircraft Simulator Both) to save separate copies of aircraft and simulator speaker results.



Note: These options show up based on available results. For example, if you analyze aircraft results but not speaker results, the slider buttons won't display, permitting you to save only aircraft results.

- 3. In Name, enter unique names for the aircraft and/or simulator speaker results.
- 4. Under Aircraft and/or Simulator, select Kind, and choose one of the following result types:
 - *Master:* Telestra creates a "master" copy and archives it on **Reference Sets** > **Master**. Choose this option if you plan to send these results to the FAA or another regulatory agency for the simulator's original certification.
 - *Recurrent*: Telestra archives a copy of the results on **Reference Sets** > **Recurrent**. Choose this option if the simulator is already certified and you plan to use these results for recertification.
 - *Engineering*: Telestra archives a copy of the results on **Reference Sets** > **Engineering**. Choose this option to create a snapshot of intermediate, unofficial results for future reference.

To save Aircraft or Simulator results as Master or Recurrent, you must analyze all corresponding test cases on Analysis. Otherwise, Master and Recurrent are unavailable, and you can only save as Engineering. For example, to save Aircraft results as Master or Engineering, go to Analysis, select all Aircraft test cases, and verify that each test case maps to a Telestra Sound Recording (.tsr) file.

Figure 304, "Save Reference Sets" below shows aircraft and simulator speaker options to **Save Reference Sets**:

Save Reference Sets ×							
	Aircraft	Simulator	Both				
Aircraft							
Name							
Master_Aircraft_Results_0	7_26_NN						
Kind	Kind						
Master							
Simulator							
Name							
Master_Sim_Speaker_Results_07_26_23							
Kind							
Master ~							
Save							

Figure 304: Save Reference Sets

5. Select

14.2.9 Download spectral analysis results

To download spectral analysis results, follow these steps:

1. On Spectral Analysis Results, select LEXPORT to PDF



Figure 305: Export spectral analysis results as a PDF

2. In **Export to PDF**, clear the **Aircraft** and **Simulator** speaker test cases that you don't want to include.

a	A 1
	Sht - Ready for engine start
	ShE - Climb
	565 - All engines at maximum allowable power with brakes set.
~	5b4 - Flight idle of equivalent.
~	5b3 - Ground idle or equivalent.
~	5b9 - Final Approach.
~	5b8 - Inital Approach.
~	5b2 - All propellers feathered, if applicable.
~	5b7 - Cruise.
	Simulator
~	0 - Background Noise
~	18 - Aft
~	11 - Left Forward
~	13 - Left Eyebrow
~	15 - Left Aft / Rear
~	14 - Right Eyebrow
~	12 - Right Forward
~	17 - Subwoofer
~	16 - Right Aft / Rear
slude	Difference Plots?
Save	As? optional

Figure 306: Spectral analysis export options

3. To remove difference plots from the PDF, clear Include Difference Plots?

- 4. In Save As?, enter a unique name for the PDF.
- 5. Select Export to PDF, and the PDF downloads to your local system.

14.3 Text to Speech

Telestra includes its own built-in text-to-speech (TTS) capability. To take advantage of this feature, make sure the TTS option is enabled on your USB License Key. To learn more about licensing options, go to Section 9.3, "Licenses" on page 46. To purchase a TTS licensing option, contact <u>sales@asti-usa.com</u>.

To preview ASTi's selection of TTS voices, follow these steps:

1. On the left, go to ****** Audio > Text to Speech.

	& Running: FRAC1-04_H225_RevA : H225	i v	Q	년 () (ŷ* 수)*
음 Backup/Restore Licenses	Text-to-Speech Settings 🖪	Text-to-Speech	Voices	
📇 Network Devices 🔸	Prompt	Name 🗸	Accent⇔	Controls
Hardware	Wind zero eight zero at eight Visibility one zero, light	Alan	American	
Projects	rain Ceiling twenty five hundred broken, thirty three hundred broken, and forty five hundred overcast Temperature four, I L S runway one and I L S	Andy	American	Ď
🌣 Diagnostics 🔶	240/250 characters used	Austin	American	Þ
Health		Betina	American	
읍 System Logs 읍 SOS Reports	Speech Rate	BobW	American	Ď
Credit Report		Brian	American	Þ
n Simulation -	Slow Normal Fast	Chris	American	D
Protocols		Collin	American	Þ
° ŧ∰ Audio ▲		David	American	
🗄 Sound Files				-
Spectral Analysis Text to Speech	powered by Cross 471-2104 supportgasti-usa.com		Uptime: 1 day,	You are not logged I hour, 6 minutes, and 19 second

Figure 307: Text to Speech navigation

2. To generate a sample prompt, under **Text-to-Speech Settings**, select Random. Alternatively, in **Prompt**, enter your own custom message of up to 250 characters.

Text-to-Speech Settir	ngs 🖪			
Prompt				
Wind zero eight zero at eight Visibility one zero, light rain Ceiling twenty five hundred broken, thirty three hundred broken, and forty five hundred overcast Temperature four, I L S runway one and I L S				
240/250 characters used	x Random ⊗ Clear			

Figure 308: Sample TTS prompt

Custom prompts require you to spell out numbers and acronyms and avoid special characters. To see examples of these rules, select the memo information icon (^E).

Те	Text-to-Speech Rules X	E
Pro W br fo	Follow these rules when crafting a custom message: • Spell out numbers (e.g., "seven zero three two" for "7032"). • Exclude special characters	y one zero, light rain Ceiling twenty five hundred and forty five hundred overcast Temperature ray seven approaches are in use.
240, Spe Slow	 Exclude special characters (e.g., decimal points in numbers, hyphens, semicolons, brackets, and parentheses): 119.25: one one nine point two five Forty-two: forty two [information] Sierra: information Sierra Add spaces in between acronyms and initials (e.g., V F R for VFR, I L S for ILS). 	Random O Clear

Figure 309: TTS rules

- 4. (Optional) To remove the current prompt, select \bigcirc clear.
- To adjust the speed of the TTS voice, under Speech Rate, move the slider (•) to Slow (0.7) or Fast (1.3). By default, the Speech Rate is Normal (1).

Speech	n Rate				
1		I	1		1
Slow			Normal		Fast

Figure 310: Speech Rate slider

6. Under Text-to-Speech Voices, choose a voice from the table.

7. To preview the voice, under **Controls**, select the play button (**b**). When the TTS voice loads, audio plays from your system's speaker.

Text-to-Speech Voices						
Name 🗸	Accent ⇔	Controls				
Alan	American	\mathbf{b}				
··帅· Andy	American					
Austin	American	Þ				
Betina	American	\mathbf{b}				

Figure 311: Playing a TTS voice

8. To stop the voice, select the stop button (\blacksquare) .