

NexLog[®] The logo consists of a green square with the text "DX" in white, bold, sans-serif font, and the word "SERIES" in a smaller, white, sans-serif font below it.

Motorola ASTRO P25

AIS Implementation Guide

Version 2025.5[7256]

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Eventide Communications LLC

One Alsan Way

Little Ferry, NJ 07643

201-641-1200

www.eventidecommunications.com

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1. DEPLOYMENT OVERVIEW

The purpose of this document is to describe the requirements for a successful integration between Eventide Communications® *NexLog® DX-Series* 740/840 recorders and the Motorola ASTRO 25, P25 radio system via the Motorola MCC 7500 Archiving Interface Server (AIS) and Voice Processing Module (VPM). This integration deployment applies to *NexLog DX-Series* recorders running software version 2023.1 or later and Motorola ASTRO System Release version 2019.2 or later.

Figure 1-1 illustrates an example of a combined Eventide Communications/Motorola Solutions configuration, where the Eventide Communications *NexLog DX-Series* recorder resides in the Customer Enterprise Network (CEN), and the AIS and VPM reside within the Radio Network Infrastructure (RNI).

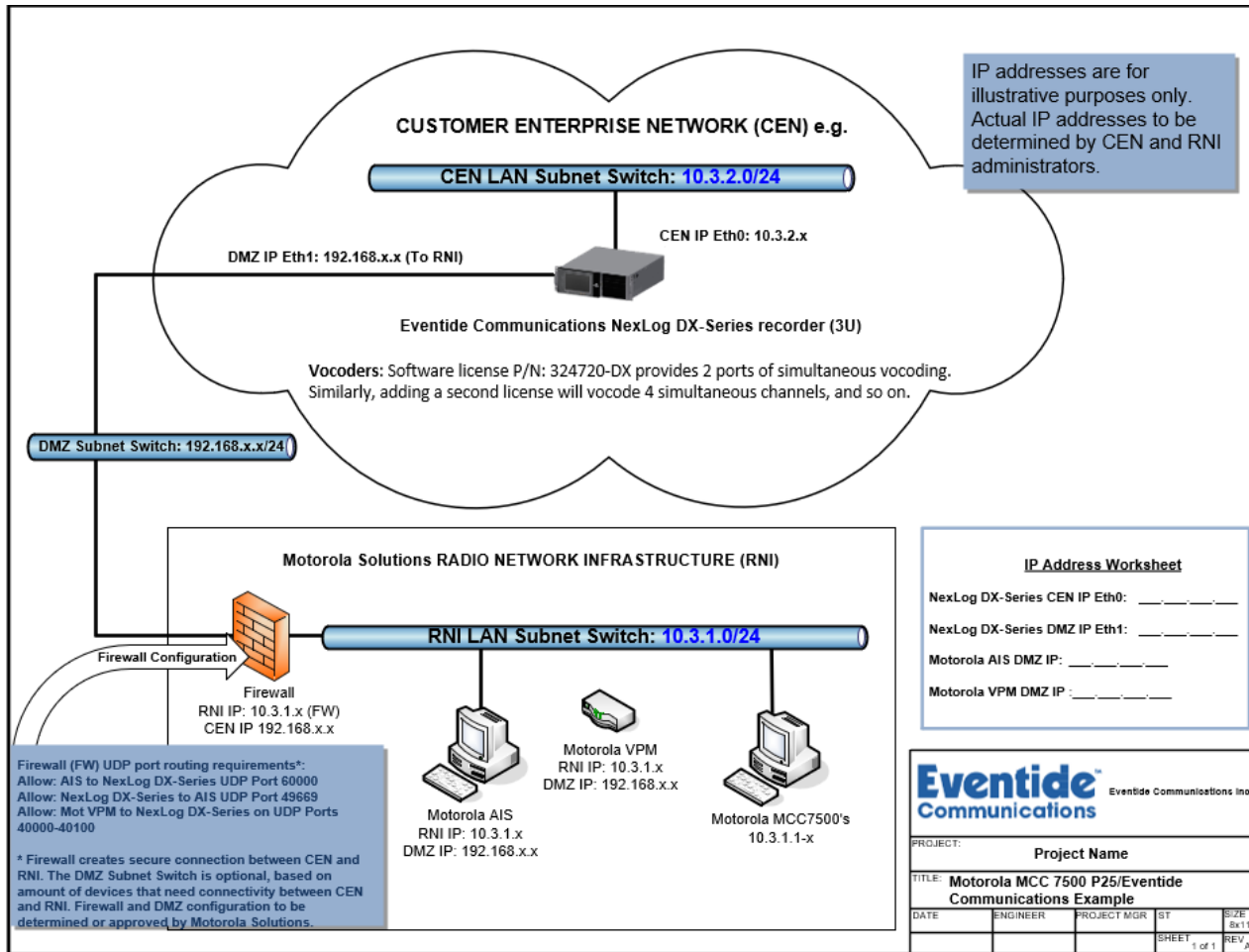


Fig. 1.1 Combined Eventide Communications/Motorola Solutions Network Configuration

- Any hardware required for the RNI is installed and configured at the customer site by the assigned Motorola Solutions representative or other authorized personnel.
- The Eventide Communications *NexLog DX-Series* recorder is physically installed in the CEN datacenter by the Eventide Communications partner/reseller.
- The Eventide Proxy for AIS is installed and IP addresses configured on the AIS server by the Motorola Solutions representative.
- Connectivity between the AIS Server and the *NexLog DX-Series* recorder should be verified by Eventide Communications or its partner/reseller.
- Eventide Communications or its partner/reseller performs the final configuration of P25 Talk Groups, P25 conventional channels, and/or analog conventional channels to be sent to the *NexLog DX-Series* recorder.
- Voice data being received by the *NexLog DX-Series* recorder is verified by Eventide Communications or its partner/reseller via the recorder's front panel or using *MediaWorks DX*.

- The *MediaWorks DX* application is installed and configured on one or more workstations within the CEN by the end customer, Eventide Communications, or their partner/reseller.
- Voice data and metadata being received by the *MediaWorks DX* client application is verified by the end customer, Eventide Communications, or their partner/reseller.
- Final acceptance by end customer.

2. REQUIREMENTS

The following sections cover all required high-level and low-level installation tasks for this deployment.

2.1. Licensing

The Eventide Communications partner/reseller must request an ASTRO P25 recording API license from Eventide Communications. The request must include the following:

- ASTRO System Release Version
- End user site name, as known by Motorola Solutions (e.g. City of Richmond, VA)
- Name of Motorola Solutions Sales or Service representative that supports the end-user site

Eventide Communications will acquire and execute the appropriate license documents within 2-3 weeks.

Note

Licensing must be completed before installation planning can proceed.

2.2. IP Network Connectivity

The Eventide Communications *NexLog DX-Series* recorder is equipped with two (or more) IP Network Interface Cards (NIC). One NIC connects to the Customer Enterprise Network and enables playback, management, and control of recordings that reside on the *NexLog DX-Series* recorder. The second NIC connects to the Motorola Solutions RNI via a firewall provided either by Motorola Solutions or an approved third party.

2.3. Software Connectivity

To enable the *NexLog DX-Series* recorder to access voice media and metadata on the AIS, the Eventide Communications software referred to as “The Eventide Proxy for AIS”, must be installed on the AIS server. This software acts as a gateway used for communication between the *NexLog DX-Series* recorder

and the Motorola ASTRO P25 radio system. The Eventide Proxy for AIS uses the MCC 7500 Logging API to perform the following functions on behalf of the *NexLog DX-Series* recorder:

- Relay events and commands to and from the recorder.
- Request Logging Resource Assignments (note that the AIS limits the quantity to 256).
- Request Logging Resource De-assignments.
- Request Critical Resource Selects (critical resources will be given priority for audio delivery to the recorder if the AIS computer is running at, or near, full capacity).
- Assign the Logging Destination (the network address of the recorder).
- Receive call-by-call event data.
- Receive change notifications from the radio system's Network Management System.

In summary, the Eventide Proxy for AIS will be used to communicate between the recorder and the Motorola ASTRO P25 radio system.

2.4. Detailed Deployment Checklist

The *NexLog DX-Series* Recording Integration with Motorola ASTRO P25 AIS deployment must satisfy the following requirements:

1. Physical Installation:

The Eventide Communications partner/reseller will physically install the *NexLog DX-Series* recorder and run and connect all required cabling. Depending on whether this is a new or existing ASTRO 25 installation, Motorola Solutions/partner/reseller will physically install the AIS, VPM, and any other required components.

2. Collect Required Data and IP Addresses:

The most effective way to ensure a successful installation/turn up is to have all required information available and have remote access to the *NexLog DX-Series* recorder on the end customer's network. Eventide Communications must have remote access and/or confirm the availability of the following information before proceeding with the on-site installation.

The data required includes:

- Username/password for access to the Motorola ASTRO P25 system.
- Username/password for the Motorola AIS Server.
- IP addresses of all relevant components.
- Voice resources or Talk Groups to be recorded.

- Completing the worksheets in Appendix A.

3. Configure the *NexLog DX-Series* recorder on the CEN.

- a. From the front panel, or from the Web Configuration Manager configure the IP Address, netmask, gateway, and broadcast IP of the recorder (as specified in Appendix A), by navigating to Networking -> **Network Interfaces**). Refer to Section 7.2.2, Network Interfaces of the *NexLog DX-Series* User Manual for further details.
- b. Eventide Communications/partner verifies the *NexLog DX-Series* recorder software version. If the recorder is not running the latest software version, it must be upgraded to the latest version at this time.

 Note

Motorola recommends establishing connectivity by using the firewall to set up a DMZ domain and implementing double NAT through the DMZ.

- c. Before upgrading, be sure to archive the current configuration. Refer to *Section 7.4.2. Archive Configuration* of the *NexLog DX-Series* User Manual.
- d. Configure and verify Motorola AIS connectivity to and from the *NexLog DX-Series* recorder.

 Note

A Motorola Solutions representative may need to program the AIS/VPM with any decryption keys necessary for any encrypted talk-groups/channels to be recorded.

4. The Motorola Solutions representative or a designated resource configures the firewall as follows:

- a. UDP packets to be passed on port 60000 from the AIS to the *NexLog DX-Series* recorder.
- b. UDP packets to be passed on port 49669 from the *NexLog DX-Series* recorder to the AIS.
- c. Eventide Communications/partner confirms that the AIS can send, and that the *NexLog DX-Series* recorder can receive, UDP packets on port 60000.

d . Eventide Communications/partner confirms that the *NexLog DX-Series* recorder can send, and that the AIS can receive UDP packets on UDP port 49669.

e . You can verify steps a through d by installing “udptesttool.exe” on the AIS (via USB thumb drive) to transmit UDP test packets, while the *NexLog DX-Series* recorder is running a packet capture from the setup menu, that is, from Setup -> Networking -> **Packet Capture** .

f . Alternatively, you can verify steps a through d by running the Netcat utility from the *NexLog DX-Series* recorder under Utilities -> Network Utilities -> **Netcat** .

Note

If you plan on selecting more than 100 talk groups for recording, any additional talk groups over 100 will use from port 40101 upwards. So additional ports above 40100 must be opened accordingly.

5. The Motorola Solutions representative or designated resource configures the firewall as follows:

a . Allow the Motorola VPM to send UDP packets to the *NexLog DX-Series* recorder on UDP ports 40000-40100.

b . Eventide Communications/partner verifies that the *NexLog DX-Series* recorder can receive UDP packets on ports 40000-40100. Since udptesttool.exe cannot be run on the VPM, the AIS will be used to transmit test UDP packets from the RNI.

c . This can be done by installing “udptesttool.exe” on the AIS (via USB thumb drive), while the *NexLog DX-Series* recorder is running a packet capture from the setup menu, i.e., Setup -> Networking -> **Packet Capture** . Or, if the VPM is processing live data, instead run a packet capture on the recorder.

d . Confirm access to the Motorola AIS Server and ASTRO 25 resources.

Motorola Solutions/end customer provides a list of conventional available channels or Talk Groups requested to be recorded. (See Appendix A).

6. Install the Eventide Proxy for AIS on the AIS Workstation.

- Eventide Communications/partner or Motorola Solutions installs the Eventide Proxy for AIS on the AIS workstation, typically from a USB thumb drive.

7. Create and configure a Virtual Recording Interface board on the *NexLog DX-Series* recorder.

- a . Eventide Communications/partner on recorder selects Recording -> Boards -> Add Virtual Recording Interface.
- b . Select the Eventide AIS Proxy template.
- c . Select Detect Proxy. Available conventional channel resources or Talk Groups are now displayed on-screen.
- d . Verify that all channel resources and/or talk groups requested for recording are available for selection (there may be more than requested).
- e . Select Channel Allocation, Static or Dynamic and select Dynamic. Static allocation is no longer supported.

8. Partner/customer performs final acceptance testing:

- a . Eventide Communications/partner verifies each recording resource name against the requirements in Appendix A and confirms recording quality on every channel.
- b . Eventide Communications/customer verifies capture of metadata (e.g. radio ID, etc.).

9. On-site acceptance:

- Customer accepts the solution with Motorola Solutions partner.

10. Backup configuration files:

- Eventide Communications/partner, Motorola Solutions, back up configuration files for the AIS, VPM, Firewall and *NexLog DX-Series* recorder.

11. All parties confirm completion:

- Eventide Communications will follow up with partner to verify and assist with any issues post-installation.

3. TROUBLESHOOTING

Symptom: When applying the Eventide AIS Proxy Template, no resources are returned from the AIS. There are several possible causes.

Possible Cause: The *NexLog DX-Series* recorder is unable to reach the AIS from the CEN.

Resolution Steps:

1. Check to ensure that the *NexLog DX-Series* recorder can ping the AIS. If not, the likely cause is a misconfigured firewall between the CEN and RNI.
2. Check to ensure that the *NexLog DX-Series* recorder can receive UDP packets from the AIS by using a UDP test tool to send UDP packets from the AIS desktop to the *NexLog DX-Series* recorder and vice versa. If none are received, the likely cause is a misconfigured firewall between the CEN and RNI.

Other Possible Cause: The Eventide Proxy for AIS does not have the proper ASTRO 25 domain credentials.

Resolution Steps: Check with your Motorola Solutions technical resource to ensure that the username and password used for the Eventide Proxy for AIS is the same username/password that is used to configure an MCC 7500 console on the ASTRO 25 domain.

Symptom: The *NexLog DX-Series* recorder is receiving data from the AIS, but no audio.

Possible Cause: The AIS is not configured with Radio IDs.

Resolution Steps: Check with the Motorola Solutions technical resource to ensure the AIS is configured with Radio IDs.

Other Possible Cause: The firewall settings for the VPM are incorrectly configured.

Resolution Steps: Ping the VPM NAT IP address from the recorder. If the VPM cannot be reached, check the firewall settings.

4. CONTACT INFORMATION

Technical Support

E-Mail: service@eventidecommunications.com

Phone: 1-201-641-1200, (Dial 6, then 2) between the hours of 7:00 A.M. and 7:00 P.M. EST Monday through Friday, except Eventide Communications business holidays.

Sales E-Mail: loggers@eventidecommunications.com

Phone: 1-201-641-1200, extension 2640

5. GLOSSARY

Table 5.1 Term or Acronym / Description

Term or Acronym	Description
CEN	Customer Enterprise Network.
RNI	Radio Network Infrastructure.
NAT	Network Address Translation IP to be routed to RNI via the Firewall DMZ.
VPM	Voice processing Module.

A. APPENDIX A

Upgrading the Eventide Proxy for AIS and the NexLog DX-Series recorder when upgrading the ASTRO 25 Version.

The *NexLog DX-Series* license keys to record Motorola ASTRO are tied to the system release version of Motorola ASTRO and will only record that particular version of ASTRO. (e.g. 2022.1). Before an upgrade can begin, the reseller must obtain a new *NexLog DX-Series* license key for recording the version of Motorola ASTRO that the system will be upgraded with (e.g. 2022.1).

Upgrade license keys can be quoted and ordered by contacting Eventide Communications sales. The upgrade procedure is the same if you are using either a NexLog DX-Series 740 or 840 recorder. Small differences are referenced in this Appendix in italicized text.

When the Motorola ASTRO 25 Version is upgraded, the Eventide Proxy for AIS must also be upgraded. This process is required to maintain Motorola API support and to meet the license requirements from Motorola Solutions and Eventide Communications LLC.

Three phases must be completed:

- Phase 1 - Backup of configurations.
- Phase 2 - *NexLog DX-Series* license upgrade to match the new ASTRO P25 version.
- Phase 3 - Software deployment and configuration on Windows AIS workstation.

Phase 1: Backup configurations stored in Windows AIS Workstations.

- Save a copy of existing/working configurations. These configurations store IP information, including database username, password, and the previously-selected Talk Groups used for recording. The location of the AIS configuration file (EventideAisProxy.ini file) is found in

C:\ProgramData\Eventide.

Note

If the AIS was re-imaged or is a new install, no information will be available. If so, skip phase 1 steps and treat this as a new installation.

Phase 2: NexLog DX-Series license upgrade:

To upgrade the NexLog DX-Series license key:

1. From the Web Configuration Manager, navigate to System -> **License Keys**.
2. Add the license key provided by the Eventide Communications LLC Orders team. If a license was not received, contact your sales representative at loggers@eventidecommunications.com or contact service@eventidecommunications.com
3. For information about license changes, see Section 7.1.3 “License Keys” of the NexLog DX Users Manual.

Note

Before commencing Phase 2, the license key must have already been applied to the NexLog DX-Series recorder to match the ASTRO P25 release version.

Phase 3: Upgrading the Motorola AIS API:

The Motorola AIS API is version-controlled. API versions must match the released version, otherwise, this violates the Terms of Service and the Terms of Eventide Communications LLC support. The following procedure applies to a Motorola AIS Windows workstation running an upgraded Motorola AIS API version.

To upgrade the Motorola AIS API version:

1. Sign in to the Windows AIS.
2. Open Add/Remove Programs or Settings -> **Apps** and then select Installed Apps (Windows 11).
3. Locate the Eventide - AIS_Proxy - AIS Proxy service for Eventide NexLog DX-Series recorders.
4. Select the three dots (...) to the right and then select **Uninstall**.
5. Once the un-installation process completes, reboot the AIS Windows workstation.
6. The Eventide Communications NexLog DX AIS Proxy download file, **AIS_Proxy software Eventide_NexLogDX_AisProxy-202X.exe** is available from the recorder in the Web Configuration Manager, under Utilities -> Downloads -> AIS Proxy.

7. Download the software and transfer the file to the AIS Windows workstation using either USB or DVD drive. It is also available from the Eventide Communications [partners resources site](#).

The Eventide Proxy for AIS is the same for all versions of ASTRO. The installation dialog presents a drop-down menu to select the ASTRO version.

Note

The Eventide Proxy for AIS Proxy software is still required to be removed and re-installed in order to select the updated ASTRO version.

8. Right-select the Eventide_NexLogDX_AisProxy-202X.[xx].exe file.
9. In the installation dialog that opens, select default the destination folder:
C:\Program Files (x86)\Eventide\AIS_Proxy.

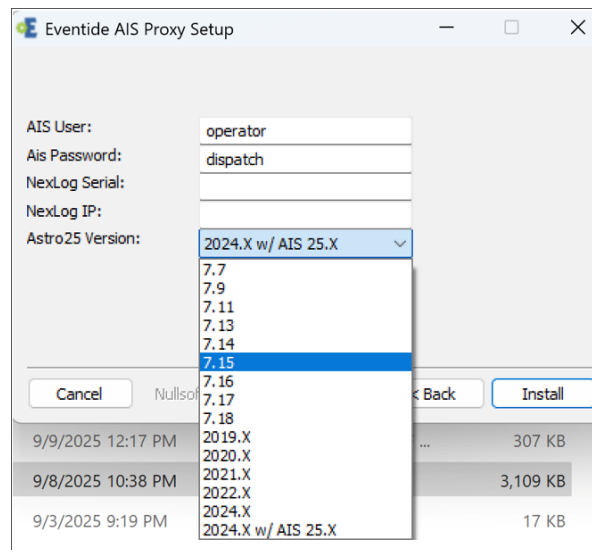


Fig. A.1 Upgrading the Motorola AIS API Version

10. Important: Assuming that the configuration was previously saved (Phase 1) during the installation, in the Eventide AIS Proxy Setup dialog:
 - a. From the ASTRO 25 version drop-down menu, select the ASTRO 25 version.

- b . Select the Install button.
- c . Finally, close the dialog but *do not yet reboot*.

The location of the previously-working saved AIS configuration file (EventideAisProxy.ini file) is C:\ProgramData\Eventide.

1. Stop the EventideAIS Service by following these steps:

- a . Type “services.msc” or “services” and then select **Services** to open the Services console.
- b . Locate the service name (EventideAIS).
- c . Select Stop.

2. Open the Eventide directory at C:\ProgramData\Eventide.

3. Delete EventideAisProxy.ini. It should be an empty file.

4. Copy the backup file saved from the steps in Phase 1.

5. After restoring the file, reboot the Windows AIS proxy.

The Eventide AIS Service is set to “Automatic” and will resume after the reboot. After the AIS reboots, the AIS proxy with the previously-working configuration will connect to the recorder and should clear any alerts related to communications failures with the AIS. It should also resume recording with no additional configuration changes from the recorder.

B. APPENDIX B

RNI Usernames and Passwords:

Credentials for ASTRO 25 System with access to all channels and Talk Groups:

Username:_____ Password: _____

Credentials for the Motorola AIS server with Administrator/software installation privileges:

Username: _____ Password: _____

 Note

You may choose not to document these credentials here; however, it is critical that they are available prior to the installation.

IP Address Configuration

Location Device	IP Address	Gateway (if applicable)	Notes
NexLog DX-Series CEN IP (Eth0)			
NexLog DX-Series RNI(DMZ) IP (Eth1)			
Motorola AIS RNI (DMZ) IP			Optional Network Attached Storage
Motorola VPM RNI (DMZ) IP			

Customer List of Talk Groups to be recorded - Attach below.

Description of resources to be recorded:

#	Channel Name	Clear/ Encrypted?	P25 Talk group/ Conventional/Analog	Notes
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

