



# SightLine

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APPLICATIONS

## EAN-Using VLC

PN: EAN-Using-VLC

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**Alerts**

The following notifications are used throughout the document to help identify important safety and setup information to the user:

 **CAUTION:** Alerts to a potential hazard that may result in personal injury, or an unsafe practice that causes damage to the equipment if not avoided.

 **IMPORTANT:** Identifies crucial information that is important to setup and configuration procedures.

 *Used to emphasize points or reminds the user of something. Supplementary information that aids in the use or understanding of the equipment or subject that is not critical to system use.*



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## 1 Overview

This document describes how to configure the 1500-OEM / 3000-OEM / 4000-OEM to stream H.264 video data to a host system. It also describes how to configure the VideoLan (VLC) Media Player to display or record video.

### 1.1 Additional Support Documentation

Additional Engineering Application Notes (EANs) can be found on the [Documentation](#) page of the SightLine Applications website.

The [Panel Plus User Guide](#) provides a complete overview of settings and dialog windows located in the Help menu of the Panel Plus application.

The Interface Command and Control (IDD) describes the native communications protocol used by the SightLine Applications product line. The IDD is also available as a PDF download on the [Documentation](#) page under Software Support Documentation.

### 1.2 SightLine Software Requirements

**ⓘ IMPORTANT:** The Panel Plus software version should match the firmware version running on the board. Firmware and Panel Plus software versions are available on the [Software Download](#) page.

### 1.3 Application Bit Requirements

The functions described in this EAN require Application Bits (app bits) purchased from SightLine. App bits are enabled with a license file provided by SightLine at initial unit purchase or during a license upgrade process. License files use a hardware ID that is applicable to a specific hardware serial number. For questions and upgrade support contact [Sales](#).

Table 1: Application Bits Requirement Table

Function	Initial Software Release	Required Application Bit(s) v7 License
Encoding	2.22.xx	Encoding (H.264) 0x0000 0004 Optional add for H.265 (4000 only): Encoding (H.265) 0x0001 0000 HD bits as applicable for application

### 1.4 Third Party Software

VLC Software can be downloaded from the [VideoLAN](#) website.

**ⓘ IMPORTANT:** VLC uses a very large display buffer, which creates a long delay in the displayed video. While this delay can be minimized (see [Correct the Delay in Playback](#)), VLC should not be used as a standalone control application. It should only be used as a viewing station or for testing.

## 2 Configuring Unicast and Multicast

This procedure describes how to use the Panel Plus application for configuring SightLine OEM boards to stream Unicast and Multicast video. General knowledge of IP addressing is recommended for implementing static IP addressing.



See the appropriate OEM startup guide to configure and connect the appropriate video processing board to stream video:

1. Start Panel Plus and connect to the video processing board
2. Ensure that the status bar has properly updated.
3. Select the *Compression* tab in Panel Plus.
4. In the *Streaming* section, type in the destination IP address and UDP port number.

To stream to the same host that Panel Plus is currently running on, click *Use My IP*. To stream to multiple clients, click *Use Multicast*.

See the [EAN-Encoding](#) document for more information on types of IP addresses and differences in streaming options between boards. Consult your network administrator when using the *Multicast* option.

5. Click *Send* and note the IP address and UDP port. Both the address and port assignments will be used to create the URL for VLC.
6. In the *CODEC/TRANSPORT* section, select an *MPEG2-TS* format, or an RTP MPEG2-TS format.

VLC cannot stream RTP H.264 directly. VLC can stream RTP H.264 with the help of an SDP file or RTSP. For more information on using VLC with an SDP file and RTSP see the [EAN-RTSP](#) document.


7. For VLC to work, the board must be streaming. See [Configuring VLC for streaming](#) section for configuring VLC to enable streaming. Confirm that video is being displayed.
8. From the main menu, go *Parameters » Save to board* to keep the streaming options persistent through restarts and power cycles.
9. Open the *Connect* tab and click (*click to disconnect*).
10. Exit Panel Plus.

If Panel Plus is running, it will consume the video stream and VLC may not work.



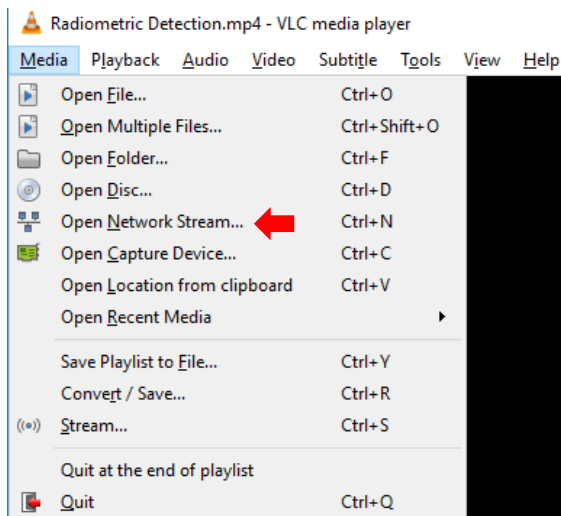
### 3 Multicast

The Multicast option will replace the IP address with a multicast IP address (244.10.10.10 or similar). This allows the network video stream to display on multiple computers. The Multicast address shown in this section is for example purposes only. Any valid Multicast IP address can be used.

 For issues regarding the transmission of Multicast packets on a network, consult your network administrator.

### 4 Configuring VLC for Streaming

1. Open the VLC application.
2. From the main menu, select *Media\Open Network Stream*.




3. Enter the network URL. Examples of a URL used for VLC:

Unicast:

- `udp://@:15004` for MPEG2-TS H.264
- `rtp://@:15004` for RTP TS formats (RTP MPEG2-TS H.264 and RTP MPEG2-TS MPEG4)

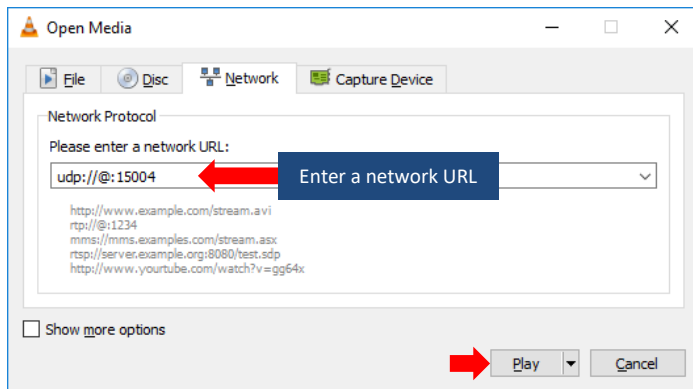
Multicast:

- `udp://@224.10.10.10:15004` or `rtp://@:224.10.10.10:15004`

 Use the UDP port number set in the compression tab in Panel Plus. if it is different from 15004. For example: - `udp://@:15008`.



- Click the *Play* button.

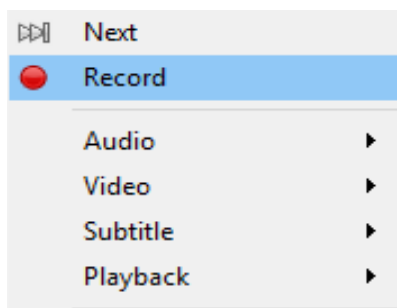


A permanent shortcut can also be created to stream directly from the UDP port specified.

- Use Windows file explorer to navigate to the VLC install directory in Program Files (x86).
- Right click on the *vlc.exe* and select *Create Shortcut*. Depending on the Program Files (x86) folder security permissions, a new shortcut may need to be saved to the desktop.
- Rename the new *vlc.exe* shortcut to *VLC-SLA-Stream* (or similar name).
- Change the target line to include the URL. Right-click on the shortcut and select *Properties*.
- Change the target line to `C:\Program Files (x86)\VideoLAN\VLC\vlc.exe\udp://@:15004`
- Click *OK*.

## 5 Configuring VLC for Recording

- Follow [Configuring VLC for Streaming](#) to start streaming the video to VLC player.
- Before creating a recording from VLC, make sure to specify a directory location for the saved recordings. From the main menu, go to *Tools » Preferences » Input / Codecs*. In the *Record directory or filename* field, use the *Browse* button to specify a directory.
- Right-click on the displayed video and select *Record*. The video file will be saved into the directory chosen in the previous step. The file name will be generated with a *.TS* extension

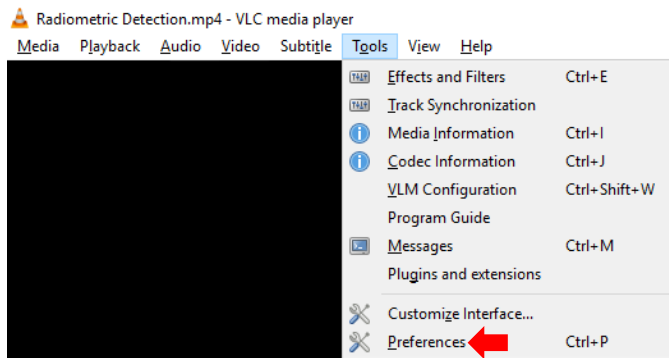




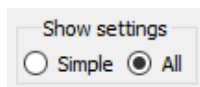
## 6 Correct the Delay in Playback

In its default configuration VLC introduces a display delay of one or more seconds to the video. This can be modified using the steps below.


1. Start VLC. From the main menu go to *Tools » Preferences*.

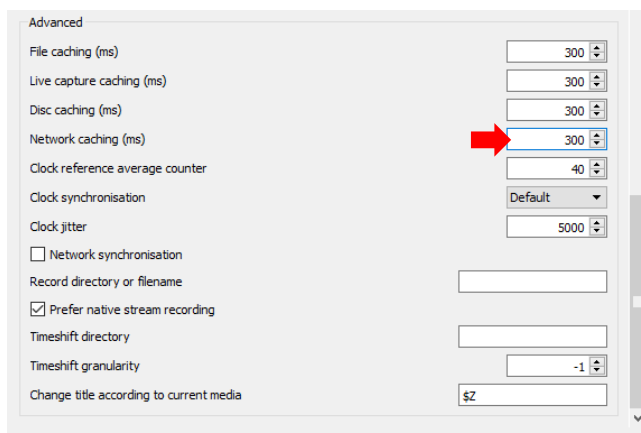


2. In the bottom of the *Preferences* dialog window in the *Show settings* section, click the *All* option.



3. Click on the *Input / Codecs* option in the list.
4. Scroll to the *Advanced* section.
5. Change the *Network Caching* value to *300 ms*.

 A lower value of 200 ms can be entered. A slightly higher value should be tested before using though.



6. Click *Save* and exit the program.





## 7 VLC Debugging Messages

The VLC player can display debugging messages during video streaming and playback (Figure 1).

1. From the main menu in VLC, go to *Tools » Messages*.
2. In the *Messages* window, change *Verbosity* to 2 (*debug*).
3. Debug messages will appear in the window.

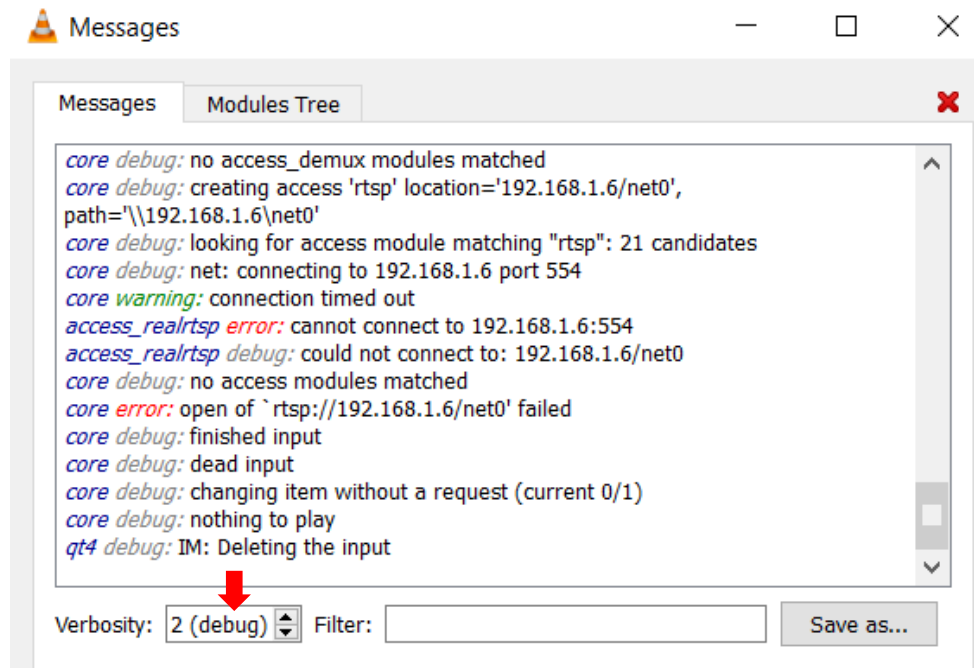


Figure 1: Debug Messages Dialog Window

## 8 Questions and Additional Support

For questions and additional support, please contact [Technical Support](#). Additional support documentation and Engineering Application Notes (EANs) can be found on the [Documentation](#) page of the SightLine Applications website.