



# SightLine

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APPLICATIONS

## EAN-Decoder

PN: EAN-Decoder

11/9/2018

**Contact:**

Web: [sightlineapplications.com](http://sightlineapplications.com)

Sales: [sales@sightlineapplications.com](mailto:sales@sightlineapplications.com)

Support: [support@sightlineapplications.com](mailto:support@sightlineapplications.com)

Phone: +1 (541) 716-5137

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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

The 3000-OEM can act as a decoder for SightLine generated compressed video, either live streams or recorded streams. This document covers how to set the 3000-OEM up as a decoder.

 *Ensure that the encoder is setup to stream H.264 or MPEG4. Currently these are the only compression options that are supported by the decoder.*

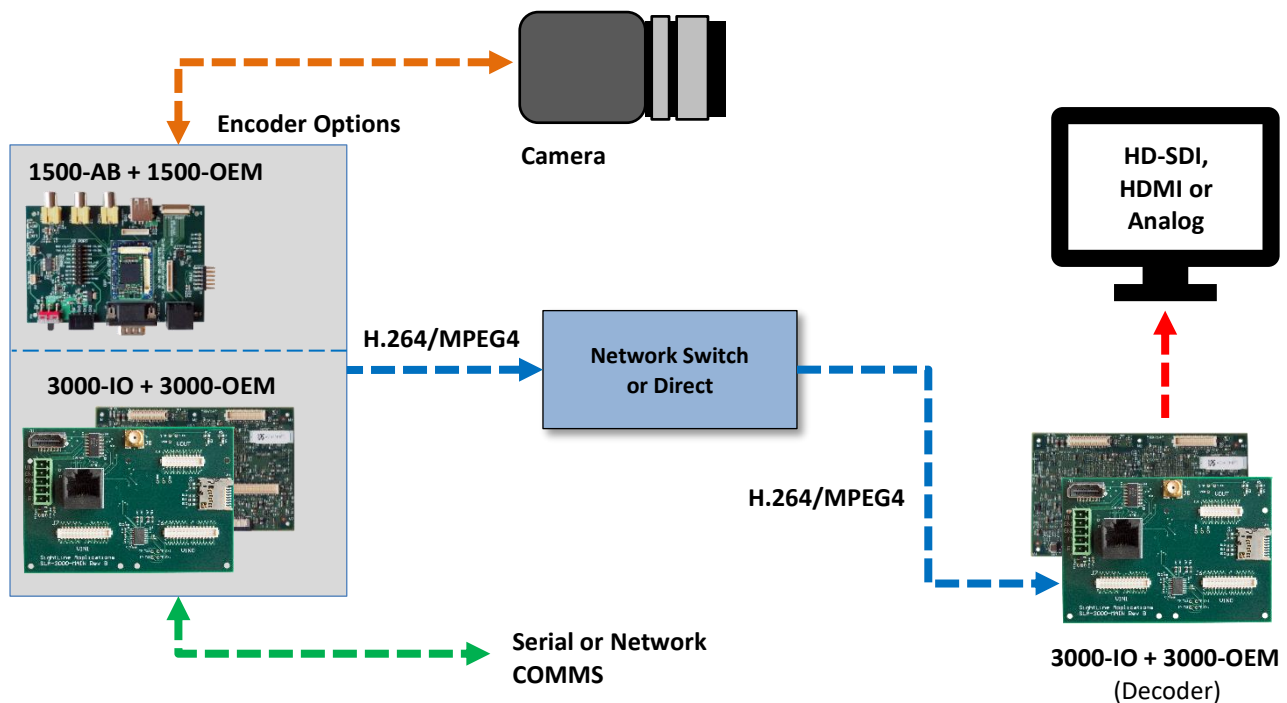


Figure 1: 3000-OEM Network Decoder Setup

### 1.1 Associated Documents

[EAN-Startup Guide 3000-OEM](#): Describes steps for connecting, configuring, and testing the 3000-OEM video processing board on the 3000-IO interface board.

[EAN-Network Configuration](#): Describes how to assign a static IP address to the board, set telemetry destinations and ports, and provide configuration information for both the 3000-OEM and the 1500-OEM video processing boards.

[EAN-Encoding](#): Encoding settings for outbound streams and decoding options for viewing SightLine network streams.

[Interface Command and Control \(IDD\)](#): Describes the native communications protocol used by the SightLine Applications product line. The IDD is also available as a local download on the [Software Download](#) page.

Panel Plus User Guide: Provides descriptions of all the settings in the Panel Plus application. (Located in the Panel Plus application in the *Help* menu.)



## 1.2 SightLine Software Requirements

The decoder is supported in software version 2.25.xx and higher and is only compatible with the 3000-OEM.

**ⓘ IMPORTANT:** The Panel Plus software version should match the firmware version running on the board.

## 1.3 Application Bit Requirements

The functions described in this EAN require Application Bits (app bits) purchased from SightLine. App bits reside on the hardware unit and 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 [SightLine Sales](#).

**Table 1: Application Bits Requirement Table**

Function	Minimum Software Version	Required Application Bit(s)
Decoding	2.25.xx	IP Encoding 0x0004

## 2 Setup

*Set up the encoder first before setting up the decoder. This step is required for both IP video and microSD card playback. For more details on how to set up the encoder, see the [EAN-Encoding](#) document.*

### 2.1 Encoder Setup

Before starting, it is important to know the IP address of the encoder and the IP address of the decoder.

1. Connect Panel Plus to the board acting as the encoder (1500-OEM or 3000-OEM).
2. Go to the *Compression* tab.
3. Select *H.264 (MPEG2-TS) or MPEG4* as the codec/transport.
4. In the *IP Address* field enter the IP address of the 3000-OEM acting as the decoder.
5. In the *Port* field enter the port number of the decoder (15004 is the default port used by the decoder).
6. Click *Send* when complete.
7. Save and activate the settings:
  - a. Main menu » *Parameters* » *Save to Board*.
  - b. Main menu » *Reset* » *Board*.
  - c. Wait for the system to boot, and then reconnect to the board. Make sure the board connects.



## 2.2 Decoder Setup

1. Connect to the board using the Panel Plus application. See the [EAN-Startup Guide 3000-OEM](#) for connection instructions.
2. From the main menu, go to *Configure » Acquisition Settings*.
3. Set the Camera Index. Any *Camera Index* may be set with the *Camera Type IP Camera*. *Cam 2* is used in this example.
4. Select *IP Camera* from the *Camera Type* drop-down menu for the desired camera index. The *Apply* button will turn red indicating input field changes have been detected.



Figure 2: 3000-OEM IP Camera Configuration

5. Save and activate the settings:
  - a. Main menu » *Parameters » Save to Board*.
  - b. Main menu » *Reset » Board*.
  - c. Wait for the system to boot, and then reconnect to the board.
6. From the main menu in Panel Plus, go to *Configure » Decoder Parameters*.
7. Set the *IP Stream* to *0.0.0.0*. Set the *Port* number to the port specified in the encoder setup (*15004*).
8. Click *Apply* when complete.

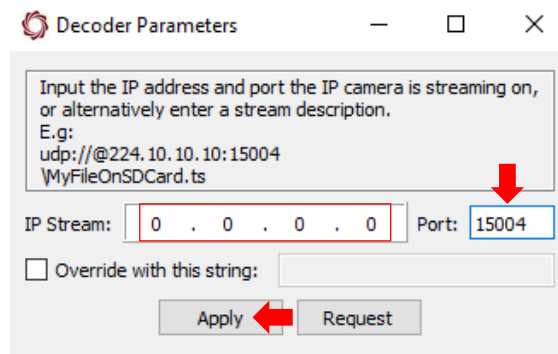


Figure 3: Decoder Parameters

9. To display video on any of the 3000-OEM outputs (Analog, HDMI, or HD-SDI) open the *Multi-Camera* tab and select the radio buttons adjacent to the desired output.



10. To display video in Panel Plus select the *Multi-Camera* tab and select the radio button adjacent to *Network 0*.

*Only one network output (Network 0) is supported when using the IP Camera input on the 3000-OEM. Simultaneous encoding and decoding can result in packet loss and degraded video.*

Decode @ P+	Display	Cameras				Multi	Blend	None	Resolution
		0	1	2	3				
<input checked="" type="radio"/>	Network 0	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Out=In
<input type="radio"/>	Network 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Out=In
	Analog	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	NTSC
	HDMI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	720p60
	HD-SDI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	720p60

Send

Figure 4: Output Display Options

### 2.2.1 Using Multicast

Follow the steps outlined in the previous section and enter a multicast address i.e., 224.10.10.10 in the encoder setup. Enter the same multicast address in the decoder setup.

*When switching to a multicast setup, save the new settings to the board (decoder) and reset or power cycle the board.*

## 3 Decoding Video from microSD Card

This section covers playback of recorded video from a microSD card. The following diagram outlines a typical setup. The microSD card is inserted into the slot on the video processing board and acts as a simulated camera. See the [EAN-File Recording](#) document for more information on recoding and viewing files on a microSD card.

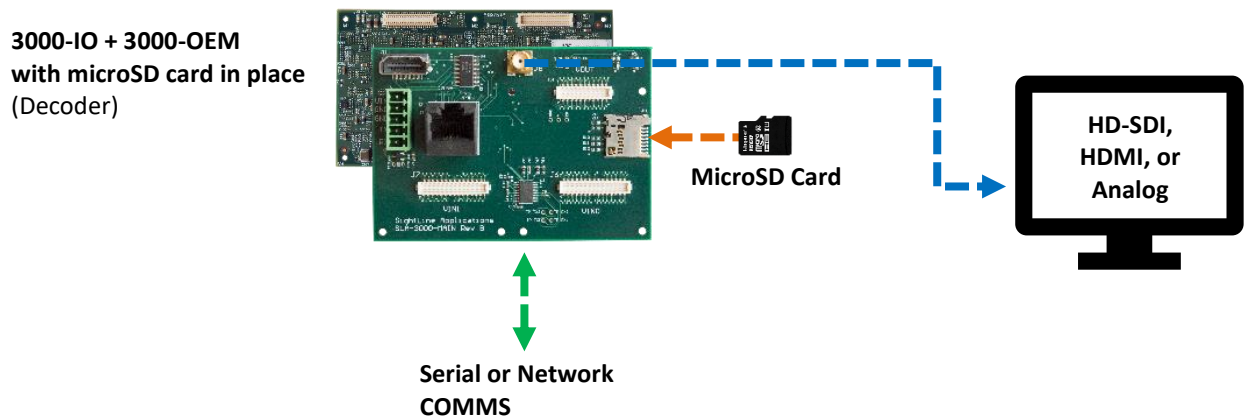


Figure 5: microSD Card Configuration

*Video played back from a microSD card may play back slower or faster than frame rate depending on the size of the video.*



### 3.1 MicroSD Card Setup

**ⓘ IMPORTANT:** The Decoder must be setup first before completing the following steps (see [Decoder Setup](#)).

1. From the main menu in Panel Plus go to *Configure » Decoder Parameters*.
2. Check the *Override with this string* box.
3. Enter the name of the file on the microSD card being used. Start the name with a backward slash (\). The backslash (\) is a special character that is automatically replaced with the microSD card path.

*The full path to the SD card can also be used In the Override with this string field, e.g., /media/mmcbk0p1/TestingDecoder\_000.ts*

4. Click *Apply* when complete.

*Decoding is not started automatically when the 3000-OEM is powered on. To start decoding, click the Apply button in the Decoder Parameters dialog window or send the Decoder Parameters (0x99) message. Once the file has finished playing it will automatically start over.*

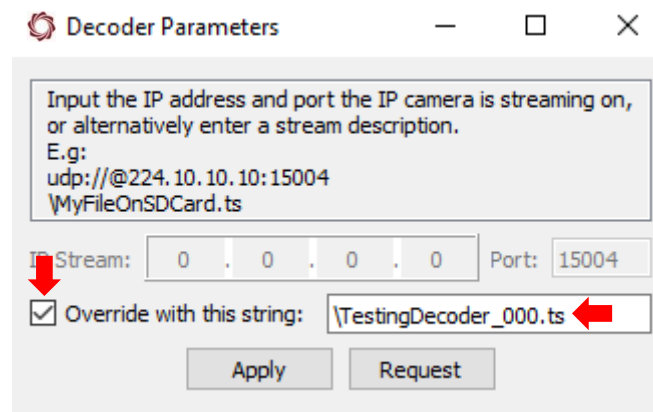


Figure 6: Decoder Parameters





## 4 Troubleshooting

Problem	Recommendation
Decoder does not play live stream.	Ensure that the system that is encoding video is a SightLine system and is setup to use MPEG2-TS H.264 or MPEG2-TS MPEG4.
Decoder does not play back from the microSD card.	The system is designed to play back videos recorded from a SightLine system, other videos will not work. If the video does not play, try converting it using FFMPEG as shown:  <i>ffmpeg.exe -i input.mp4 -f mpegts -vcodec h264 -bf 0 -qp 24 -g 10 output.ts</i>
Cannot see video from decoded source and another camera at the same time.	When using the 3000-OEM as a decoder there is only one output channel available. This can be used to output the video from the decoded source or another camera, but not both simultaneously.
Video played back from SD card looks corrupted.	Make sure that the system is <u>not</u> receiving network video from another system at the same time it is trying to decode from the microSD card. If it is receiving video from another system, turn off that system. Cycle power on the 3000-OEM decoder and try again.

### 4.1 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 Support pages of the SightLine Applications [website](#).