

# APPLICATION NOTES

**PRODUCTS SUPPORTED:**  
VIEW® Pro Encoders and Decoders

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CONFIGURING VIEW PRO DEVICES  
FOR LOW LATENCY APPLICATIONS

## Overview

This application note describes the configuration steps required to achieve low latency with the VIEW Pro Network Media Streaming System. VIEW Pro system Encoders E110 and E120, and Decoders D110 and D210 can be used in low latency applications.

## Configure Encoders and Decoders

Low latency can be achieved with the E110 and E120 Encoders, and D110 and D210 Decoders.

Encoder	Decoder	Resolution	Frame Rate	Color Format	Bitrate in Mb/s	End to End Latency in ms.
E110 / E120	D110	1280*720	60	4:2:0	8	80
E110 / E120	D110	1920*1080	60	4:2:0	8	82
E110 / E120	D110	1280*720	24	4:2:0	8	70
E110 / E120	D110	1920*1080	24	4:2:0	8	86
E110 / E120	D210	1280*720	60	4:2:0	8	136
E110 / E120	D210	1920*1080	60	4:2:0	8	152

**NOTE:** Even lower latency can be achieved, but audio and video may not sync properly. audio may lag by a few milliseconds. See video-only stream with low latency details at the end of this document. Contact ClearOne TechSupport for further assistance.

To achieve low latency, follow the outlined steps below for your VIEW Pro encoders and decoders.

## Encoder Settings

**NOTE:** For VIEW CONSOLE versions 1.0.42 and later, omit steps 4, 5, and 6, as there is no longer a Basic Sources tab.

1. Initialize the VIEW CONSOLE software.
2. After creating a project, Add an E110 or E120 Encoder to the Project File in the Devices tab.
3. Use the “Match” button to link the Encoder in the project file to a physical device.
4. Select the “Sources” tab on the right-hand side of the application.
5. Uncheck all of the Audio and Video Sources.
6. Click “Apply”.
7. Select the “Advanced Editor” tab on the right-hand side of the application.
8. Click the “Add New Stream” button.
9. In the Advanced Stream Editor, assign a Stream Name.
10. Select the Video Preset “RTSP Lan Mode” from the “Video Preset File” dropdown menu, as shown below.
11. Click “Apply”.
12. Exit the Advanced Stream Editor.

The screenshot shows a form titled 'Basic Features' with the following fields:

- Stream Name: New Stream
- Audio Device: HDMI Audio Input 1
- Video Device: HDMI Input 1
- Audio Preset File: (empty)
- Video Preset File: RTSP Lan Mode

The New Stream with the “RTSP Lan Mode” Video Preset is now assigned.

Add New Stream		Edit Stream Presets			
Device Streams					
<input checked="" type="checkbox"/>	Audio Only	Name	Audio Preset	Video Preset	Actions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	E2 S1		RTSP Lan Mode	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

The Assigned Video Preset has the following Parameters assigned:

The 'RTSP Lan Mode' configuration dialog box contains the following parameters:

- Description: RTSP Lan Mode
- Video Bitrate (Mb/s): 8
- Frame Rate: 60
- Allow Bandwidth Spikes: Off
- Use 444 Mode: Off

Buttons: Save, Cancel

## Decoder Settings

1. Add a D110 or D210 Decoder to the Project File in the Devices tab.
2. Use the “Match” button to link the Decoder in the project file to a physical device.
3. Select the “Information” tab on the right-hand side of the application.
4. Check the “Show Advanced Options” checkbox.
5. Select the “60”ms option (or “30”ms for video-only streams) from the “Network Latency (ms)” drop-down menu, as shown below.

**Display 1**

Information | Display Output | **Advanced Features** | Display Control

**Show Advanced Options**

IP Address **192.168.17.40**

Enable Static IP  0.0.0.0

Enable DHCP

Do not log

Enable Switch Latency (seconds)  4

Enable Video Rotation  0 degrees

Enable Volume Bar  5 %

Network Subnet Mask 255.255.0.0

Gateway IP 0.0.0.0

TTL 1

Network Latency (ms) 60

6. Click “Apply”.
7. Send the Configuration to the E110 or E120 Encoder and D110 or D210 Decoder.

**NOTE:** The 30ms Network Latency setting is for video-only streams. The audio stream at 30ms latency cannot sync with video. The video stream latency details with this setting:

Decoder	Resolution	Frame Rate	Color Format	Bitrate (Mb/s)	End to End Latency (ms.)
D110	1280*720	60	4:2:0	8	56
D110	1920*1080	60	4:2:0	8	58
D110	1280*720	24	4:2:0	8	82
D110	1920*1080	24	4:2:0	8	80
D210	1280*720	60	4:2:0	8	120
D210	1920*1080	60	4:2:0	8	108

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