SONICLEAR

Video Recording

OPERATION GUIDE

Kiloview E3 Video Encoder

For

Gov Video Recorder 10
Court Video Recorder 10
Interview Video Recorder 10

About This Manual

This manual covers the installation procedures for the video recording using SoniClear software and systems, including the following products:

- SoniClear Gov Video Recorder 10
- SoniClear Court Video Recorder 10
- SoniClear Interview Video Recorder 10
- Kiloview E3 Video Encoder

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SoniClear Video Recording

Overview

SoniClear video recording products are designed to make it easy to capture digital video along with digital audio. The software works with compatible Axis video cameras and encoders, and keeps the audio and video synchronized during playback. The user can select audio from any microphone or the microphone in the camera while viewing synchronized video of the event. The current release supports a single Axis camera or encoder that is connected via Ethernet.

SoniClear Video Kit for Kiloview E3 Encoder

This manual covers the Kiloview E3 encoder kit for use with Gov Video Recorder 10, Court Video Recorder 10, and Interview Video Recorder 10. Additional video kits are available that utilize an Axis camera. Contact SoniClear Sales for more information.

The Kiloview E3 Video Encoder Kit includes the following hardware:

- Kiloview E3 video encoder
  https://www.kiloview.com/en/kiloview-e3/

Recommended Optional Equipment:

The follow equipment can be used with Kiloview E2 encoder to optimize the configuration for various requirements:

- **Microphones for recording audio.** Various SoniClear microphones will work with video, including multichannel recording interfaces, such as the SoniClear HA6 USB audio interface. Consult with SoniClear for recommended audio additions to the video kit:

  https://www.soniclear.com/products/#hybrid-audio-kits

Recording with the Video Recording Kit

Using the Kiloview E3 Video Encoder Kit

The Video Recording Kit with the Kiloview E3 encoder is supplied ready to use. Once the SoniClear software has been installed and the computer has been configured for video, you can start recording using these setup steps:

1. Set up the computer and microphones as required for the recording.

2. Connect the Kiloview E3 encoder HDMI or SDI video input to any existing camera or video feed.

3. Connect the encoder to the supplied power adapter.

4. Connect the Kiloview E3 encoder to the laptop or desktop computer using an Ethernet cable.

5. Run SoniClear and record as directed in the SoniClear Users Guide.

Setting Up the Recording Computer

The SoniClear software will need to be set up on your compute following the configuration and installation steps listed in this section.

Hardware Requirements

The SoniClear video recording requires a computer that has the following minimum hardware specifications:

- Intel-based desktop or laptop computer with i5 or i7 processor.
- Windows 10 or 11 Operating System.
- SoniClear-compatible microphones.

Network Address Configuration

If the camera is connected to the computer (either directly or through an Ethernet switch), the laptop will need to be configured to connect to the camera without the use of an Ethernet router to assign an IP address. This is accomplished by setting a fixed IP address in the laptop network settings:

1. Open the Network and Sharing Center (Click Start button, enter "network", and select "Network and Sharing Center" control panel search result).

2. Click Change Adapter Settings link in left column.

3. Double click on Ethernet adapter entry to open the Connection Status dialog for that adapter.

4. Click the Properties button.

5. Double click on the Internet Protocol Version 4 entry to edit the connection settings.

6. Select the option "Use the following IP address".

7. Set the IP address to 192.168.0.20 (or similar address on the same "subnet").

8. Uncheck the option "Validate settings upon exit".

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
⦿ Use the following IP address:

IP address: 192 . 168 . 0 . 20
Subnet mask: 255 . 255 . 255 . 0
Default gateway: .   .

○ Obtain DNS server address automatically
⦿ Use the following DNS server addresses:

Preferred DNS server: .   .
Alternate DNS server: .   .

☐ Validate settings upon exit   Advanced...

OK   Cancel

9. Make sure the Subnet mask is set to 255.255.255.0 and click OK.

10. Make sure the "Default gateway" field is blank if the camera is directly connected to the computer (since there is no gateway used in this type of connection).

11. Make sure the DNS fields are also blank if this is a direct connection to the camera.

12. Click OK to close the Local Area Connection Properties dialog. This may display a diagnostic error dialog because this setting does not support connection to the Internet. Dismiss these dialogs.

13. Disconnect any Ethernet cable if it is not connected to the Axis camera.

14. Reboot the computer.

15. The computer will reset the Ethernet port to the new static address set in the when you connect to the camera.

16. To confirm the port setting, make sure the camera is connected, and wait for the alternate IP address to be set (done when the little circle on the Ethernet

connection turns to a warning triangle). Then click Start and enter cmd.exe into the search field. Run the cmd.exe program displayed, which will bring up a command line dialog.

17. On the command line enter the command: ipconfig. This will display the current computer IP address.

18. If the displayed IP address is not the one specified, enter the following additional commands:

    ipconfig /release
    ipconfig /renew
    ipconfig

    The release and renew steps should force the IP address to the new setting, which will be confirmed by the last ipconfig command.

19. If the IP address does not set correctly, contact SoniClear Support for assistance.

IMPORTANT NOTE: after making these setting changes, the Ethernet port can only be used for connection to the camera. Use the Wi-Fi connection or second Ethernet port for Internet access, if that is required.

Network Device Power Settings

By default, the Ethernet network hardware in the computer will have power settings enabled. This will interfere with recording of video information sent through the Ethernet connection. The power saving settings must be disabled following these steps:

1. Open the Device Manager control panel (Click Start, type "device manager", and select the Device Manager control panel search result).

2. Open the Network Adapters section of the device list.

3. Double click on the Ethernet network device. (If there is more than one Ethernet device, configure the device that will be connected to the Axis camera).

4. In the device properties dialog select the Power Management tab.

5. The options displayed for power management will vary, depending on the type of network device. The generic option is "Allow the computer to turn off this device to save power". This should be unchecked. For Intel network devices the dialog will display is a set of options under the section "Power Saver Options". Uncheck all these options to fully disable power saving.

6. Click OK.

7. Close all programs and reboot the computer.

Disable Wi-Fi

To ensure proper access to the camera via the Ethernet port, it may be necessary in some cases to disable the Wi-Fi transmitter while using the computer with the camera. This is because some systems will try to connect to the camera via Wi-Fi and fail to connect to the Ethernet port. The most reliable way to turn off Wi-Fi is to disable the Wi-Fi driver in the Device control panel. Alternatively, it is possible on many laptop computers to manually disable the Wi-Fi from a button. However, this requires that the system user be properly training on this detail and that they exercise care to make sure the Wi-Fi is turned off before starting SoniClear.

NOD32 Antivirus Setup

SoniClear has been tested for compatibility with the Eset NOD32 antivirus product. SoniClear video recording has not been tested with any other antivirus product and only NOD32 is recommended and supported.

By default, the NOD32 antivirus scanning product tries to monitor the recording files being written by SoniClear. With audio this generally does not interfere. However, with the high data volume produced by video recording the antivirus product can introduce processor overhead and disk drive delays that will cause problems.

To prevent this type of interference, add exclusions in the antivirus software setup for the following file types:

    *.video
    *.index
    *.state
    *.mp3
    *.wav
    *.bkc
    *.bkm
    *.txt

Adjust the settings for NOD32 Real Time Scan following these steps:

1. Open the Eset NOD32 control panel: Click the Start button, click All Programs, scroll down and click Eset folder and the Eset NOD32 folder, then click the Eset NOD32 program icon.

2. In the NOD32 window click the Setup link in the left panel.

3. Click the link "Enter advanced setup…" in the right panel.

4. Double click on the Computer link to open that section.

5. Double click on the "Antivirus and antispyware" link to open that sub-section.

6. Click on the Exclusions link to open the Exclusion editing panel.

7. Click the Add button and enter an exclusion item listed above (such as *.video).

8. Repeat the Add operation to add all the file exclusions.

9. Click OK to close the setup window.

10. Click the link "Enter advanced setup…" in the right panel.

11. Double click on the Computer link to open that section.

12. Double click on the "Antivirus and antispyware" link to open that sub-section.

13. Click on the Real-time file system protection link to open those options.

14. Click on the Setup button for ThreatSense engine parameter setup.

15. Click on Extensions option.

16. Enter an exclusion item listed above, without the "*." characters (such as VIDEO)

17. Click the Add button.

18. Repeat the Add operation to add all the file exclusions.

19. Click OK twice to close the editing dialogs and close the main NOD32 window.

Adjust the NOD32 web scanning feature to prevent the camera video from being scanned while recording:

1. Open Eset control panel (click on NOD32 icon in System Tray icon).

2. Click on Setup button on left.

3. Click on "Enter advanced setup" link.

4. Expand "Web and Email" settings tree.

5. Expand "Web access protection" settings tree.

6. Click on "URL address management" link.

7. Click the Add button and enter the IP address of the camera (such as 192.168.0.90).

8. Click OK to save the new IP address exclusion. Click Yes to accept security warning, if you get one.

Configure Windows Firewall

After the SoniClear software has been installed the Windows Firewall must be modified to allow access from the SoniClear software to the Axis camera or encoder. Follow these steps:

1. Click Start button and select Control Panel.

2. Ensure that "Small Icons" is set as the display type.

3. Click on Windows Firewall.

4. Click on link in left column, "Allow a program or feature through Windows Firewall".

5. Click the Change Settings button.

6. Click the Allow Another Program button.

7. If SoniClear 10 is shown on the list of programs:

    a. Select SoniClear 10 on the list.

    b. Click the Add button.

8. If SoniClear 10 is not shown on the list, continue:

    a. Click the Browse button.

    b. Navigate to the folder were SoniClear was installed, select the SoniClear10.exe program, and click Open.

    c. Click the Add button.

9. Ensure that both check boxes for SoniClear 10 allowing access on Home/Work and for Public networks are checked.

10. If using the Video Encoder option, these steps will need to be repeated to add the SoniClearVideoProxy.exe program located in the proxy\bin folder under the folder where SoniClear10.exe is located.

11. Click OK button.

12. Close Control Panel.

Troubleshooting Connection to the Video Encoder

If you have trouble connecting to a video encoder, here are a few tips on how to determine the solution:

1. Rule out IP address problems. Make sure the IP address of the device is on the same subnet as the computer. Other issues can include problems with the device being assigned to the same address as another device on the network, not being accessible because of network connection problems, being behind a hardware firewall, etc.

2. Use the command line ping command to ensure that the recording computer can access the video device address.

3. Try temporarily disabling the Windows firewall. If you disable it and the device still cannot connect, the problem is not the Windows firewall.

4. Some antivirus programs include a proprietary firewall that replaces or augments the Windows firewall. Sometimes disabling the antivirus product will allow a connection (indicating a setting needs changing in the antivirus software). However, most antivirus programs include several scanning mechanisms, so it can be difficult to disable the product entirely. Consult the documentation for the product to determine the correct antivirus and/or firewall settings.

5. Connect to the video device using the browser. If you can connect with the browser but not SoniClear, most likely cause is a firewall or antivirus program blocking the packets based on the RTSP protocol port number or blocking the application from accepting a connection (see VLC technique below).

6. Use the freeware video software VLC to connect to the Kiloview E3 (see www.videolan.org). From the Media pulldown menu selection, use the Open Network Stream feature and enter the RTSP connection URL, such as:

   rtsp://192.168.0.80:554/ch01

   If VLC can connect and SoniClear cannot connect, the issue is not related to the network connectivity or the firewall.

Installing Video Software

Install Axis Camera Software

Software for the Axis camera must be installed on the recording computer. Run the Axis software installation program provided with the Video Recording Kit and following the instructions on screen:

InstallAxisCameraSoftware4_21_2.exe

Note: the version number of this installer will be updated from time to time, with the version number shown in the installer executable name.

You will need to install the Axis software on all workstations that will be playing video using SoniClear software. Run the provided Axis Camera Software Installer on each playback computer to install the H.264 and AAC decoders required for playing these types of recordings.

SoniClear Video Proxy Software

The Kiloview E3 encoder communicates with the SoniClear recording software through the SoniClear Video Proxy software that also runs on the recording computer in the background. The proxy receives the standard RTSP feed from the encoder and translates it into the proprietary Axis RTSP protocol required by SoniClear. When the video proxy feature is enabled in the program preferences the proxy software is automatically launched by the SoniClear video recording software.

The parameters for connecting to the Kiloview E3 encoder must be set in the .INI configuration file for the SoniClear Video Proxy. The location of this file is in the ETC folder of the SoniClear software installation, which by default is here:

C:\Program Files (x86)\SoniClear10\etc\proxy.ini

If there is a proxy configuration file specifically for the Kiloview E3 encoder has also been installed in this folder, copy the contents of that file over the proxy.ini file to enable the proper settings. Otherwise, enter the following default values into the proxy.ini file manually. Be sure to update the user name, password, and uri (URL) fields with the appropriate values for your configuration, if they are different from the default values.

```
--------------------------------

[general]
service = 80
user = user
password = password
# This can be relative to the current directory or a full path
log-file = C:\ProgramData\SoniClear\settings\SoniClearVideoProxy.log
# error, warning, info or none
log-level = info
# GStreamer Logging Folder
gstreamer-log-path=C:\ProgramData\SoniClear\settings\gstreamer-logs
#GStreamer Logging Level
gstreamer-log-level=3,rtsp*:6
#GStreamer Number of Logs to Retain (default 5)
#max-gstreamer-log-files=6

[kiloview1]
# Currently only rtsp is supported
type = rtsp
# Normal RTSP URL - JTech default address
uri = rtsp://192.168.0.80:554/ch01
# Option/al settings below
user = user
password = password
#protocols = udp,tcp,http
# Latency in milliseconds
latency = 200
#timeout for failed connection to device
connect-timeout=10
#timeout for detecting stream inactivity
inactivity-timeout=5


--------------------------------
```

Proxy.ini Configuration Details

The following table describes each of the configuration values contained in the proxy.ini file:

FIELD	DEFAULT VALUE	COMMENT
[general]		General settings section
service	service = 80	HTTP connection port
user	user = user	User name for connecting from SoniClear recording software to the Video Proxy
password	password = password	Password for authenticating SoniClear recording software access. This value should be modified when installing the software for improved security
log-file	log-file = C:\ProgramData\SoniClear\settings\SoniClearVideoProxy.log	Location for general SoniClear logging errors encountered in the proxy software.
log-level	log-level = info	Options for logging are error, warning, info, or none
gstreamer-log-path	gstreamer-log-path=C:\ProgramData\SoniClear\settings\gstreamer-logs	Location of the detailed GStreamer logs
gstreamer-log-level	gstreamer-log-level=3,rtsp*:6	See GStreamer docmentation
max-gstreamer-log-files	max-gstreamer-log-files=6	Number of log files to retain before deleting. Default is 5 log files.
[kiloview1]		Kiloview E3-Specific Configuration
type	type = rtsp	Video source type, currently only RTSP is supported
uri	uri = rtsp://192.168.0.80:554/ch01	URL location of the Kiloview RTSP stream
user	user = user	Stream authentication, user name
password	Password=abcd123	Stream authentication, password (use secure password)
protocols	protocols = udp,tcp,http	Communication protocols supported by encoder
latency	latency = 200	Latency in milliseconds
inactivity-timeout	inactivity-timeout=5	Timeout for detecting stream inactivity

Video and Audio Decoder Licensing

The SoniClear video software and solution kits provide a license package that allows for installation of the H.264 and AAC decoders included in the Axis Camera Software Installer.

If you wish to install the Axis camera software on more systems than provided by SoniClear or the Axis cameras being installed, an additional 50-unit license pack (Axis part number 0160-060) must be purchased first. Contact SoniClear to purchase this license product. It can also be purchased from any Axis distributor, or as a drop-ship item from B&H:

www.bhphotovideo.com/c/product/600593-REG/

IMPORTANT LICENSING INFORMATION: A single license for the H.264 and AAC decoders is included with each camera or encoder device. Before running the Axis Camera Software Installer on more than one recording or playback computer you must have a license for the decoders that will be copied to each computer in this installation process. A copy of the license agreement is included with the decoder license package. Some applications, such as commercial recording and distribution of video content for profit, may require additional licensing arrangements with MPEGLA, the patent licensing organization for H.264 and AAC. More information is available on their website at: www.mpegla.com. See the section "Request A License", and "AVC/H.264 License Agreement".

Install SoniClear 10 Software

Install the SoniClear software following the directions in the SoniClear Installation Guide for Gov Video Recorder 10 or Interview Video Recorder 10. For Court Video Recorder 10 consult the [Court Recorder Installation Guide](#).

Configure SoniClear 10 Software Preferences for the Kiloview Encoder

The SoniClear software preferences must be configured for recording with Kiloview E3 video encoder. This includes enabling video support, specifying how to connect to the encoder, and video options.

The steps for editing the SoniClear preferences are:

1. Select the Edit/Preferences/Recording Options dialog

2. Check the Enable Video option.

3. Select "One Camera".

4. Configure the address for connecting to the camera:
    - Select the "Proxy" option for camera type
    - In the field next to the camera type selection, enter the following URL:
      axrtsphttp://localhost/kiloview1

      Note: H.264 and AAC decoders licensing is required for recording and playback. See the section "*Install Axis Video and Audio Software*" above for details.

5. For the User field enter:
    user

6. Enter in the Password field:
    password.

7. Set the Adjust Sync field to:
    0 (the number zero)
    Note: this may need to be adjusted based on characteristics of the microphone equipment used in this computer.

8. Set the Adjust Export field to:
    0 (the number zero)
    Note: this may need to be adjusted based on characteristics of the encoder to

provide accurate audio/video sync when exporting to MP4 or WVM format.

After setting this information in the preferences, exit and restart the program to ensure the Video Proxy is launched in the background.

The Video Preview window should be displayed on the screen. If not, contact SoniClear Support for assistance.

Transcriber Live Configuration

Transcriber Live supports video monitor and video playback functionality. This feature must be configured in Edit/Preferences/Recording Options by checking the Enable option in the Video section.

SoniClear Player Configuration

SoniClear Player (in Export CD Image and Manage LAN Archive) supports video monitor and video playback functionality. This feature is enabled by default. To disable video, uncheck the Enable check box in the Video section of the Edit/Preferences/Recording Options dialog.

Configure Camera Audio Playback

When playing back camera audio in SoniClear software products, the sound will be played through the current default Windows audio output device. This can be set in the Windows Sound control panel. The audio device selection can be the same output device that SoniClear uses for playback (headphones or speaker), or a different device.

Kiloview E3 Video Encoder Configuration

When purchasing a Kiloview E3 video encoder from SoniClear, the encoder has been pre-configured and can be used without making additional changes during installation. However, if the encoder was purchased from somewhere other than SoniClear, it will need changes to the device settings to be compatible with SoniClear.

The following section describes general instructions on how to set up the recording system using the encoder.

Connect the Encoder

The encoder is connected to the computer using an Ethernet cable. It is recommended that the encoder be connected directly to the recording computer for improved reliability and security.

The encoder is powered from the power adapter supplied with the unit.

Configure the KiloView E3 Encoder

The stock settings for the Kiloview E3 encoder are not compatible with SoniClear. The settings described here are an overview of the adjustments needed. Some settings may be different, depending on the HDMI or SDI source or custom network configuration.

Configure the Kiloview E3 encoder following these general steps:

1. Set the encoder to a fixed IP address from the front panel of the unit, following the instructions provided in the Kiloview Quick Start Guide. The default address of the encoder is determined using DHCP. The address used for the SoniClear Kiloview kit is 192.168.0.80.

2. Open the Windows Internet Explorer browser (Kiloview recommends Chrome or Edge browsers).

3. Enter the URL address of the camera (the IP address number), such as 192.168.0.80.

4. The default login to the encoder is user "admin" and password "admin". The password must be reset the first time connecting to the encoder.
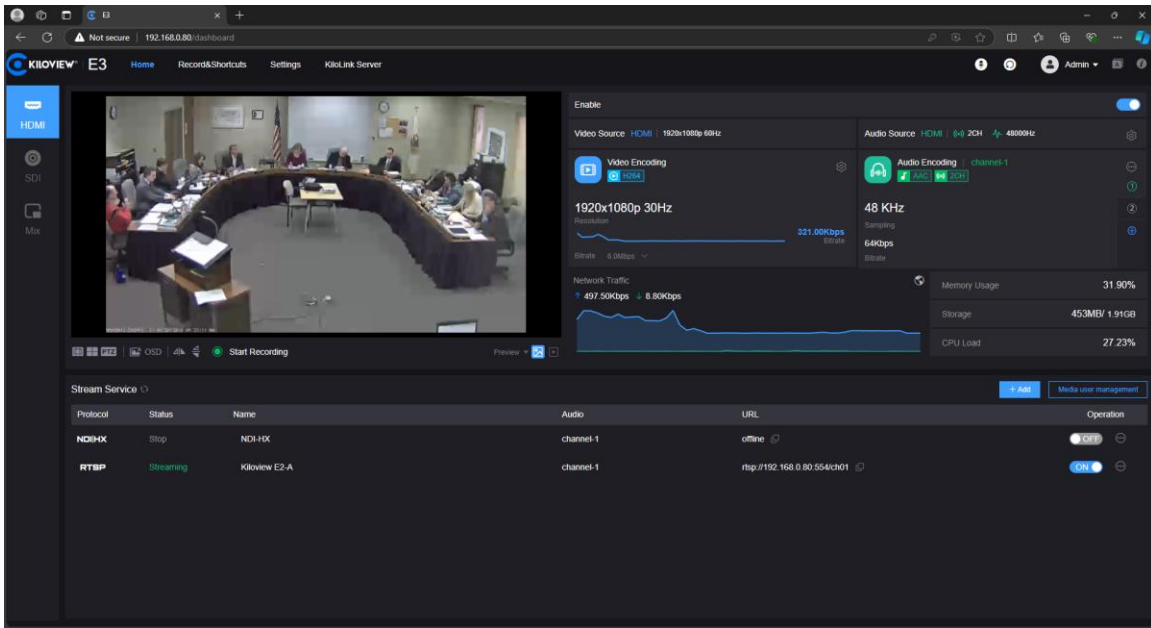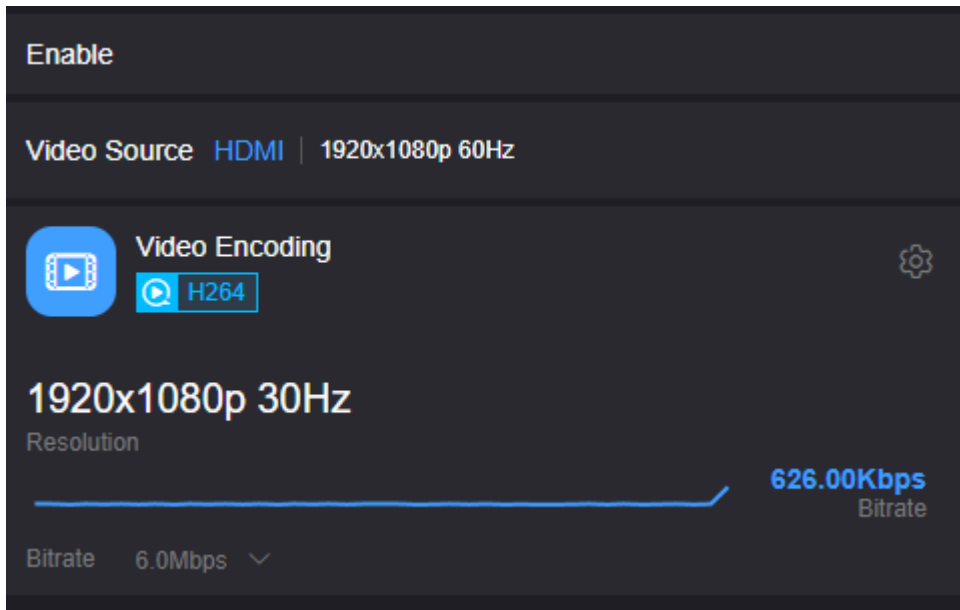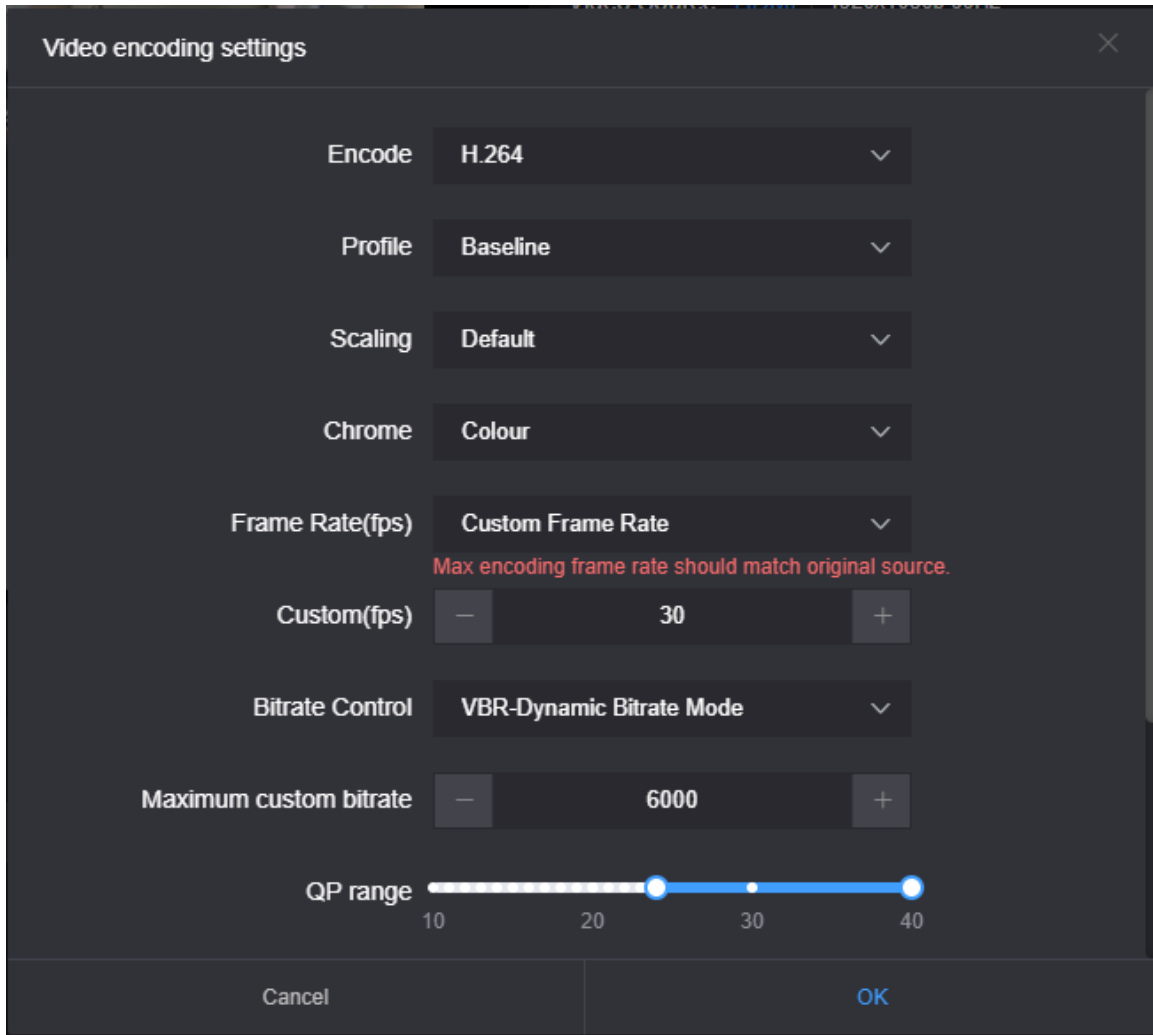
Kiloview E3 Web Interface

5. Select the HDMI source for HDMI video, the SDI source for SDI video, or the Mix source for a combination of both inputs. Although the encode can stream all three of these video sources at the same time, SoniClear can only record one of the streams from the encoder at a time.
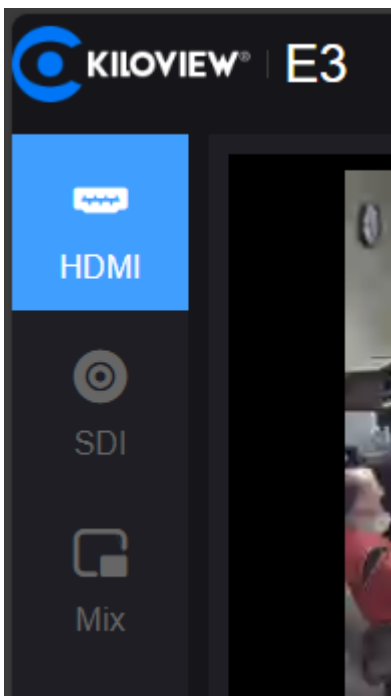
6. In the Video Source section of the encoder display, click the wheel settings icon to display the video options:

Video encoding settings

Encode	H.264
Profile	Baseline
Scaling	Default
Chrome	Colour
Frame Rate(fps)	Custom Frame Rate

Max encoding frame rate should match original source.

Custom(fps)	− 30 +
Bitrate Control	VBR-Dynamic Bitrate Mode
Maximum custom bitrate	− 6000 +

QP range   10   20   30   40

Cancel   OK

7. Set the Encoding type (codec) to H.264

8. Set the Profile to Baseline.

9. Set Scaling to Default.

10. Set Chrome to Colour.

11. Set Frame Rate(fps) to Custom Frame Rate

12. Set the Custom(fps) value to 30.

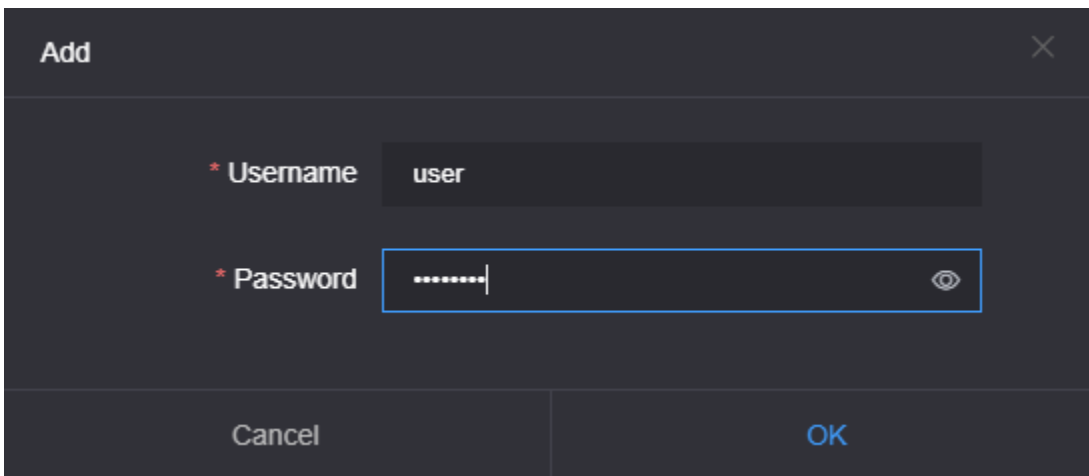13. Set Bitrate Control to VBR-Dynamic Bitrate Mode.
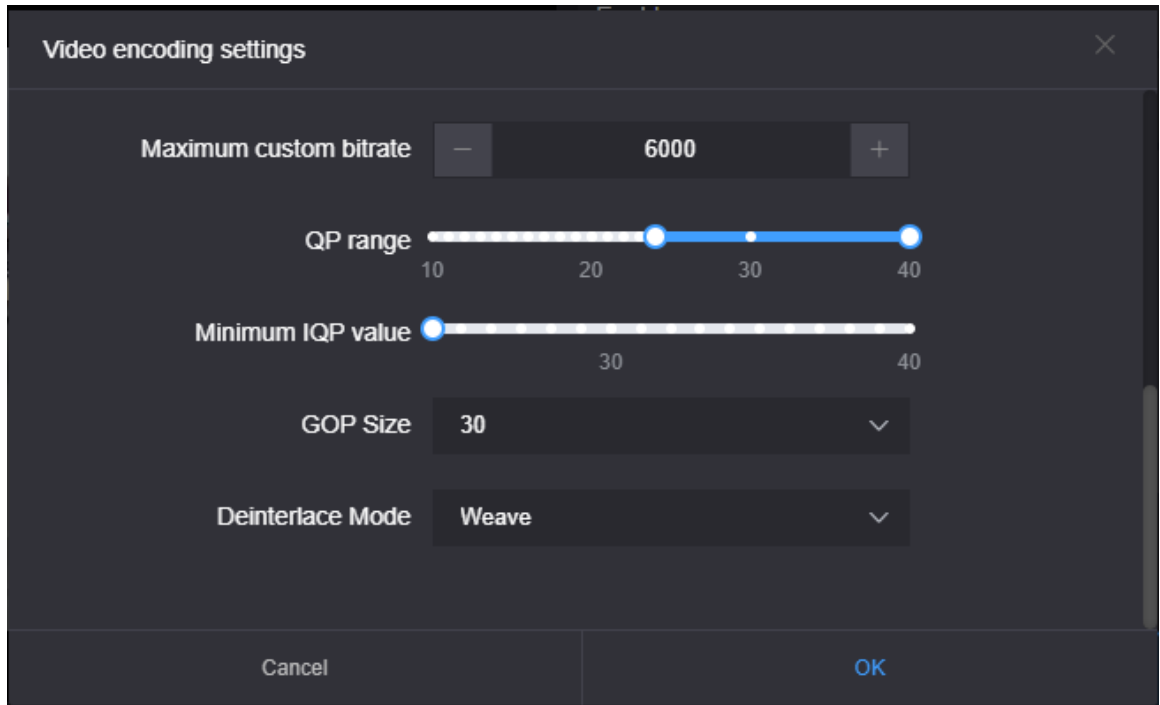
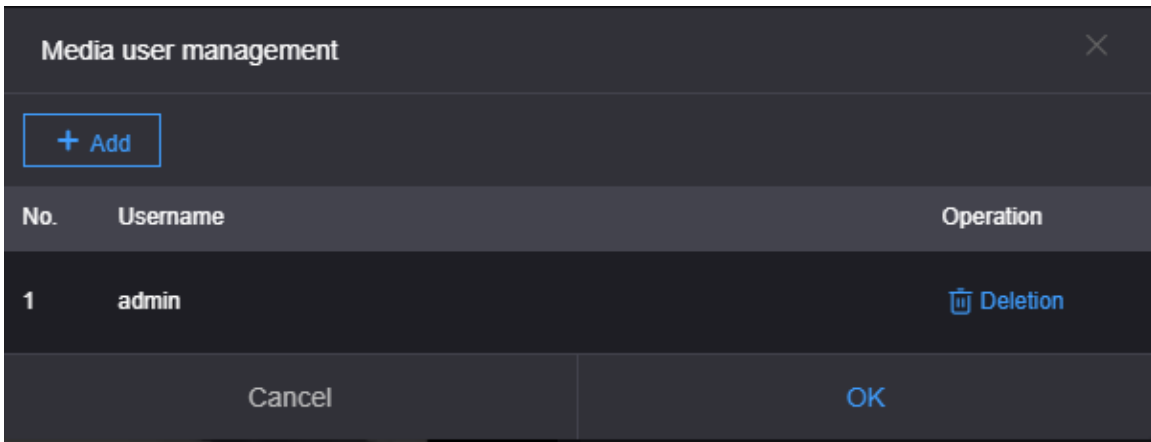14. For Maximum custom bitrate, QP range, and Minimum IQP value, use the default settings or adjust to match desired encoding quality and recording file size.

15. Set the GOP Size to 30.

16. Set the Deinterlace Mode to match what is needed based on the input source.

17. Click OK button to save settings.

18. In the Audio Source section of the encoder display, click the settings wheel to display the options for audio encoding:

Audio source settings

Audio Source: Line-IN

Cancel   OK
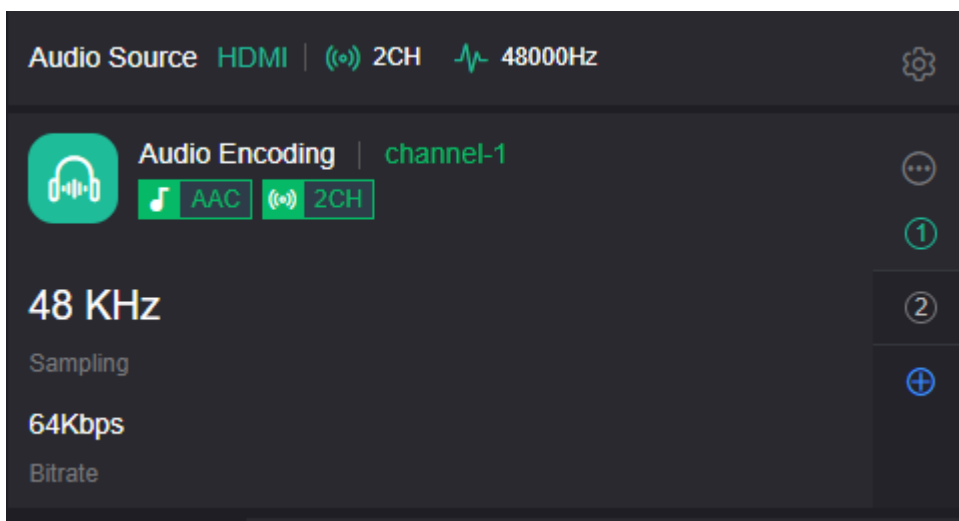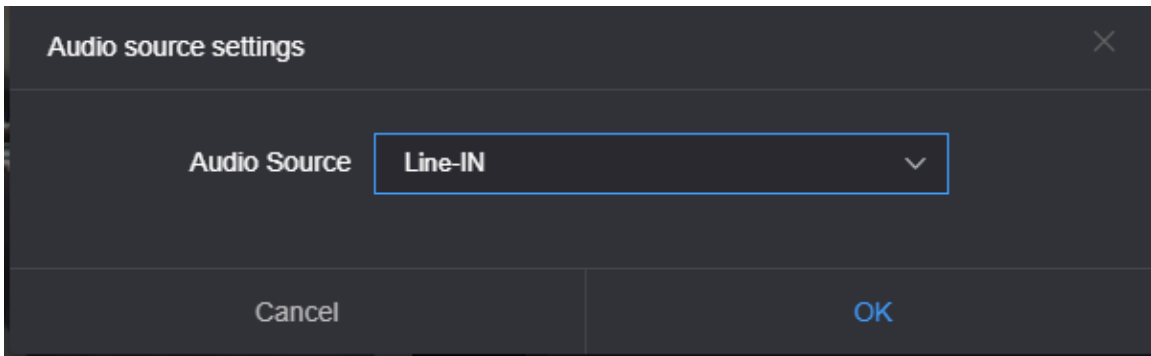
19. Set the Audio Source to HDMI or SDI (for audio embedded in the video signal), or to Line-IN for input from the 3.5mm audio jack on the encoder unit.

20. The default Audio Encoding settings of 48KHz, AAC, 2Channel audio are compatible with SoniClear, but can be modified clicking the settings wheel icon in that section.

21. Click on the Media user management link and click on +Add to add a new user to authenticate access to the RTSP stream:

Media user management

+ Add

No.	Username	Operation
1	admin	🗑 Deletion

Cancel   OK

Add

* Username   user

* Password   ••••••••   👁

Cancel   OK

Note that the user name and password values must match in the SoniClear Video Proxy configuration file, proxy.ini (see instructions above).

22. Add an RTSP feed in the Stream Service section by clicking on the +Add button:

Stream Service ⟳						+Add	Media user management
Protocol	Status	Name		Audio	URL		Operation
NDIHX	Stop	NDI-HX		channel-1	offline ⎘		OFF ⊖
RTSP	Streaming	Kiloview E2-A		channel-1	rtsp://192.168.0.80:554/ch01 ⎘		ON ⊖

23. Click on the three dot icon to the right of the new RTSP feed to adjust the settings:

Edit Kiloview E2-A

Protocol	RTSP
* Name	Kiloview E2-A
Audio	channel-1
Service port	554
Tunnel Port	8554
Session ID	ch01
RTSP Authentication	ON

Multicast

| Multicast | OFF |
| Multicast IP Address | 224.0.0.1 |

Cancel   OK

24. Set a name for the stream.

25. Select the audio encoding source that has been set above.

26. The default Service Port of 554 is compatible with SoniClear.

27. The Tunnel Port is not used by SoniClear.

28. Set the Session ID for creating the URL to connect to this stream. The string "ch01" is used in the default SoniClear kit settings.

29. Leave RTSP Authentication set to ON.

30. Leave Multicast set to Off.

31. Click OK button to save these settings.

32. The URL for connecting to this streaming source will be displayed in the Stream Service listing:

33. Enter the authentication (user name and password) and the connection URL string into the SoniClear Video Proxy settings file, proxy.ini (see above for details).

Hardware Warranty and Repair

Any hardware included in a SoniClear video recording kit is covered by the Limited Warranty provided by the manufacturer. SoniClear does not provide hardware repair services. SoniClear will coordinate repair services and ensure proper installation of the SoniClear software installed on the computer, on customer request.

Hardware Information:

Hardware Model: Kiloview E3 Video Encoder

Hardware Serial Number: _____

SoniClear Order Number: _____

SoniClear Purchase Date: _____

Default Encoder Login   User: _____

                                                     Password: _____

Notes:
   1. For improved security, the default password supplied for the encoder and the video proxy should be changed before deploying the video recording system. The updated passwords will need to be changed in the program preferences and in SoniClear proxy.ini file.

   2. The default encoder settings included in this kit are configured for using the HDMI video input. The SDI input or the Mixed video of both inputs can be used instead by changing the stream source.