Color Video Camera

SRT Introduction
Software Version 2.0

BRC-AM7

Table of Contents

Description

This document describes how to enable SRT connectivity (hereinafter referred to as the "SRT function") when using the Sony BRC-AM7 series color video cameras.
The product is referred to as the "camera" or "unit" in this document.
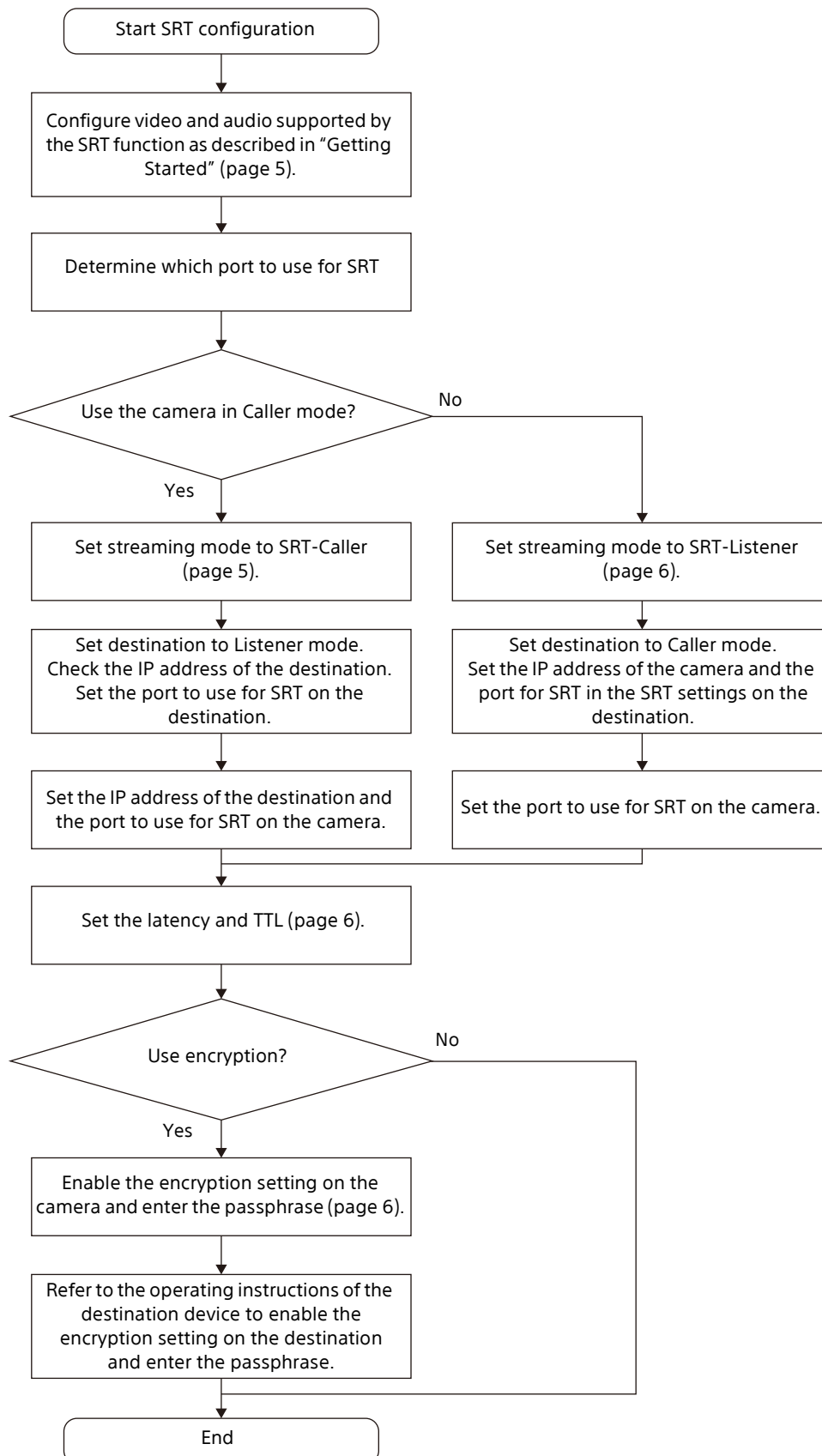

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Flowchart

The following flowchart shows the procedure for configuring the SRT function of the camera.

```
                        ┌─────────────────────────┐
                        │  Start SRT configuration │
                        └─────────────────────────┘
                                    │
                                    ▼
                  ┌──────────────────────────────────┐
                  │ Configure video and audio supported by │
                  │ the SRT function as described in "Getting │
                  │        Started" (page 5).         │
                  └──────────────────────────────────┘
                                    │
                                    ▼
                  ┌──────────────────────────────────┐
                  │ Determine which port to use for SRT │
                  └──────────────────────────────────┘
                                    │
                                    ▼
                        ◇ Use the camera in Caller mode? ◇ ───No───┐
                                    │                               │
                                   Yes                              │
                                    ▼                               ▼
          ┌────────────────────────────┐      ┌────────────────────────────┐
          │ Set streaming mode to SRT-Caller │      │ Set streaming mode to SRT-Listener │
          │          (page 5).          │      │          (page 6).          │
          └────────────────────────────┘      └────────────────────────────┘
                        │                                   │
                        ▼                                   ▼
          ┌────────────────────────────┐      ┌────────────────────────────┐
          │ Set destination to Listener mode. │      │ Set destination to Caller mode.  │
          │ Check the IP address of the destination. │  │ Set the IP address of the camera and the │
          │ Set the port to use for SRT on the │      │ port for SRT in the SRT settings on the │
          │        destination.         │      │        destination.         │
          └────────────────────────────┘      └────────────────────────────┘
                        │                                   │
                        ▼                                   ▼
          ┌────────────────────────────┐      ┌────────────────────────────┐
          │ Set the IP address of the destination and │  │ Set the port to use for SRT on the camera. │
          │ the port to use for SRT on the camera. │      └────────────────────────────┘
          └────────────────────────────┘
                        │
                        ▼
          ┌────────────────────────────┐
          │ Set the latency and TTL (page 6). │
          └────────────────────────────┘
                        │
                        ▼
              ◇ Use encryption? ◇ ───No───┐
                        │                  │
                       Yes                 │
                        ▼                  │
          ┌────────────────────────────┐  │
          │ Enable the encryption setting on the │  │
          │ camera and enter the passphrase (page 6). │
          └────────────────────────────┘  │
                        │                  │
                        ▼                  │
          ┌────────────────────────────┐  │
          │ Refer to the operating instructions of the │
          │ destination device to enable the │
          │ encryption setting on the destination │
          │ and enter the passphrase. │  │
          └────────────────────────────┘  │
                        │                  │
                        ▼                  ▼
                        ┌──────────────┐
                        │     End      │
                        └──────────────┘
```

Getting Started

This section describes the setup required for enabling the SRT function of the unit.

Setting the IP Address using the RM-IP Setup Tool

An appropriate IP address must be configured to support IP-based communication between the camera and devices with which to communicate. Configure an IP address to support IP communication between your computer and the camera using the "RM-IP Setup Tool."
For details, refer to the "RM-IP Setup Tool Guide."

Note

The DHCP setting cannot be enabled using the RM-IP Setup Tool.

Setting the Initial Password

Configure the default password (initial password) according to the instructions in the BRC-AM7 Help Guide.

Related section in the Help Guide
• "Initializing the Unit Using the Web App" – "Initializing the Unit"

Setting the Camera Codec

For the SRT function, only the [Video Stream 1] channel can be used.
H.265 is supported from software version 2.0.
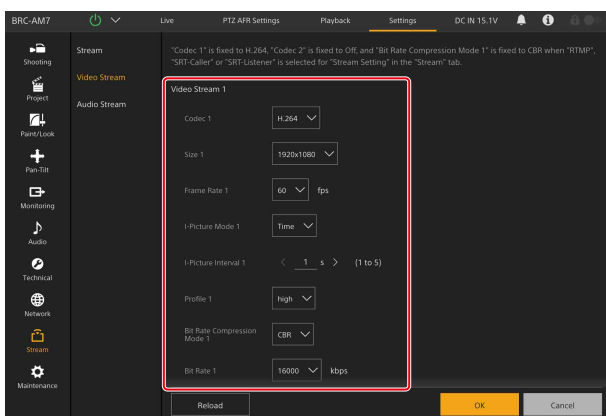
Setting the Camera Audio

Configure the audio settings using [Stream] – [Audio Stream] in the web menu.
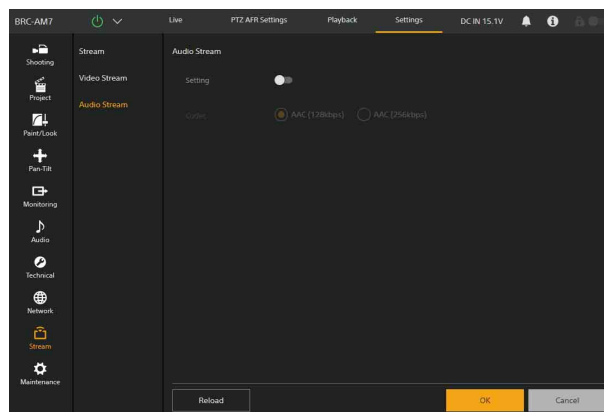
Configuring the SRT Settings

Before starting SRT communication, configure the port to use and whether the camera will be used in SRT Caller mode or Listener mode.
• The Caller is the side that starts the communication, and the Listener is the side that listens for the communication.
• One side must be set as a Caller and the other side as a Listener.
• Generally, a device inside a firewall is set as the Caller, and a server device with a global IP address is set as the Listener.
• The camera can be operated as either the Caller or Listener. When the camera is set as the Caller, set the destination as the Listener. When the camera is set as the Listener, set the destination as the Caller.
• Some devices may support operation as Caller only or Listener only. In that case, set the camera mode accordingly for the mode of the destination.
• For details about setting the SRT mode of the destination, refer to the operating instructions for the destination.
• For details about setting up the SRT environment, refer to the information provided by the SRT Alliance.
  https://www.srtalliance.org/srt-deployment-guide/

Using the camera in Caller mode

Configure the following settings.

1 Set [Stream] – [Stream] – [Stream Setting] – [Setting] to [SRT-Caller] in the web menu.

2 Enter "srt://" + IP address of the destination + ":" + port number in [SRT] – [Destination].
Input example: srt://192.168.0.1:5000

3   Press the [OK] button.
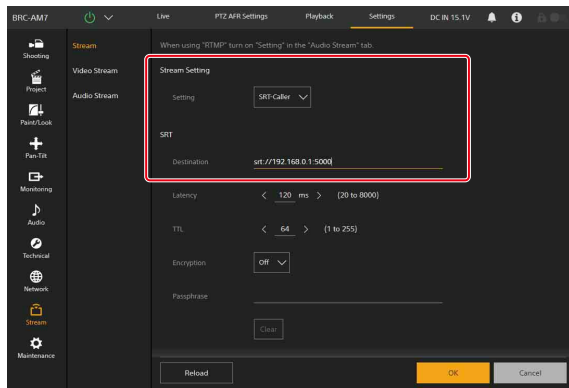
Using the camera in Listener mode

Configure the following settings.

1   Set [Stream] – [Stream] – [Stream Setting] – [Setting] to [SRT-Listener] in the web menu.

2   Enter the port number of the camera in [SRT] – [Port Number].

3   Press the [OK] button.
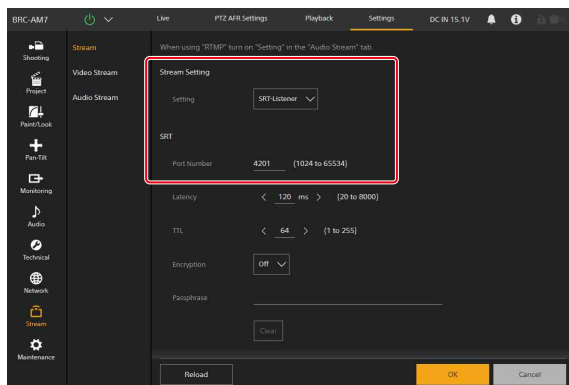
Setting the Latency and TTL

1   Set [Latency] and [TTL] according to your communication environment.

2   Press the [OK] button.
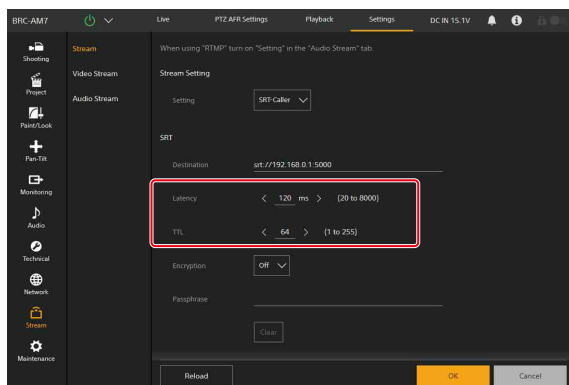
- It is recommended that you measure the RTT to your destination beforehand and set a sufficiently large latency accordingly.

- For details about adjusting the latency according to the communication environment, refer to the information provided by the SRT Alliance. https://www.srtalliance.org/srt-deployment-guide/

Setting encryption

Set the following if you want to encrypt transmitted data using a passphrase.

1   Select the key length for the encryption to use in [Encryption].
To disable encryption, select [Off].

2   Enter the passphrase you want to set in [Passphrase].

3   Press the [OK] button.
To change the setting, press the [Clear] button to delete the existing passphrase and enter a new passphrase.
When encryption is enabled, enter the key length and passphrase configured on the camera on the destination device.
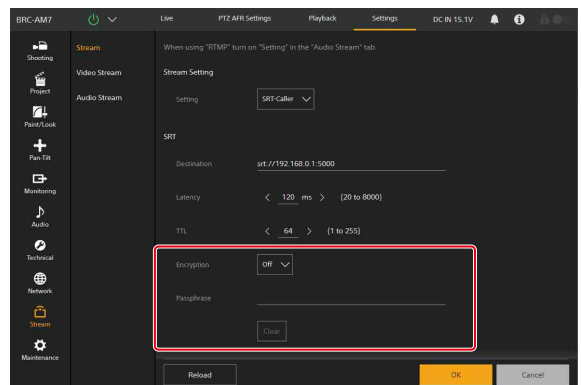
Setting the Adaptive Rate Control (ARC) function

When the Adaptive Rate Control function is enabled, interruptions in the image caused by communication line congestion can be reduced.

1   To enable the Adaptive Rate Control function, set [ARC] to on.

2 **Press the [OK] button.**
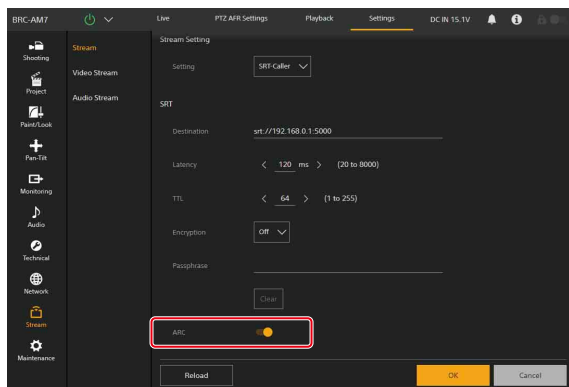
Troubleshooting

This section describes how to troubleshoot problems that may occur with the SRT function of the camera.

Unable to connect
Case 1   Check the status of the network connection.
Case 2   Check the Caller/Listener mode settings. When the camera is set to Caller mode, set the destination to Listener mode. When the camera is set to Listener mode, set the destination to Caller mode.
Case 3   Check the passphrase setting of the destination. The settings on the camera and destination must both be the same.
Case 4   The destination device may be using an unsupported image quality or picture size. Select settings that are supported by the destination using [Stream] – [Video Stream] in the web menu.

Video is interrupted or distorted
Case 1   Your network may be unstable. Try using a stable connection, such as a wired connection.
Case 2   [Latency] may not be set to a latency value recommended by the SRT Alliance. For details about adjusting the latency, refer to the information provided by the SRT Alliance.
https://www.srtalliance.org/srt-deployment-guide/

Image deteriorates and then recovers
The Adaptive Rate Control (ARC) function detected a network instability and is now operating. Try one of the following actions:
• Connect to a stable network.
• Connect to a faster network.
• Select a lower bit rate using [Stream] – [Video Stream] – [Video Stream 1] – [Bit Rate 1] in the menu.
• Set [Stream] – [SRT] – [ARC] to off in the menu to disable ARC.

Appendix

Starting/Stopping SRT Streaming when the Camera is in SRT-Caller Mode

When the camera is set to SRT-Caller mode, you can start/stop SRT streaming from the live operation screen.
Before starting streaming, set the device that will receive the SRT stream to SRT-Listener mode beforehand.

Starting streaming

1 **Enter the following in the address bar of a web browser.**

> http://<IP address>/index.html

The live operation screen appears.

2 **Open the 📷 (Stream) tab on the camera control panel and press the [Stream now] button.**
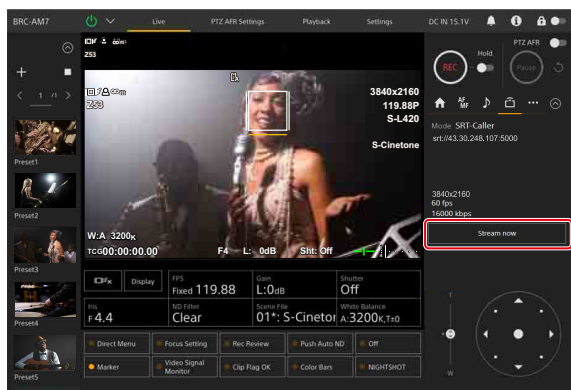
3 **Press the [OK] button in the streaming confirmation dialog to start streaming.**
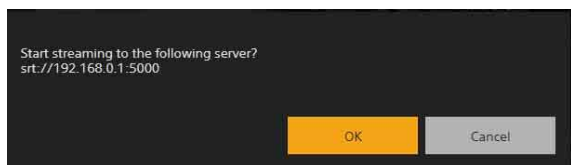
If streaming starts successfully, a [Stream] mark is displayed on the live operation screen.
If streaming does not start successfully, the following type of error message will be displayed. Press the [OK] button to close the message dialog, and check that there are no problems with the settings and network status on the camera and the SRT receiving device.
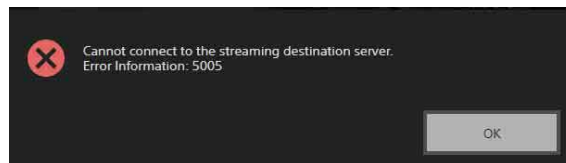
Stopping streaming

1 **Press the [Stop stream] button on the 📷 (Stream) tab.**

2 **Press the [OK] button in the stop streaming confirmation dialog to stop streaming.**
Streaming stops and the [Stream] mark disappears from the live operation screen.
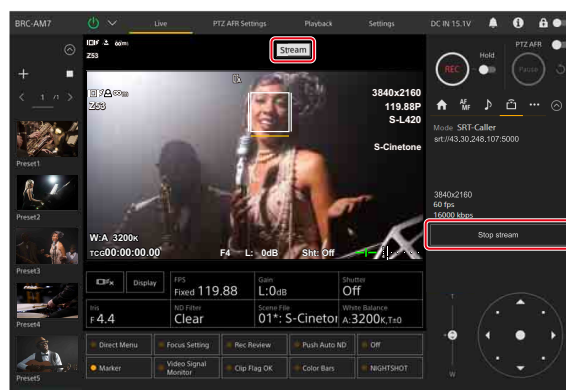
Connecting an SRT-Compatible Device (reference information)

This section describes how to connect an SRT-compatible device using a simple connection.

Note

The procedure may vary depending on the version of the application you are using. For details, refer to the operating instructions for each device.

Makito X4 Decoder

1 **Press [Control Center].**

2 Scroll down to [Streams] and press the [ADD STREAM] button.
The setup screen for a new stream appears. Configure the following stream settings.

3 Enter an arbitrary stream name in [Stream Name].

4 Set [Protocol] to [SRT].

5 Set [Mode] to [Caller] or [Listener].

6 If you selected [Caller], configure [Address] and [Destination Port]. If you selected [Listener], configure [Port].

7 Configure [Latency] and [Encrypted], as required.

8 Press the [APPLY CHANGES] button.

9 Check the [DECODER] corresponding to the SDI output connected to the display.
Example: [DECODER 0] is connected to output 1.

10 Press the [Stream] button and select the created stream setting from the displayed list.

11 Press [APPLY CHANGES].

12 Press the [START] button.
If streaming is successful, the [DECODER] and [Streams] displays will change.

vMix

1 Press [Add Input].

The [Input Select] screen appears.

2 Press the [Stream / SRT] tab.

3 Set [Stream Type] to [SRT(Caller)] or [SRT(Listener)].

4 If you selected [SRT(Caller)], configure [Hostname] and [Port]. If you selected [SRT(Listener)], configure [Port].

5 Configure [Latency] and [Encrypted], as required.

6 Press the [OK] button.

OBS Studio

1 **Click [+] in the [Sources] pane and select [VLC Video Source].**

2 **Enter an arbitrary source name and press [OK].**
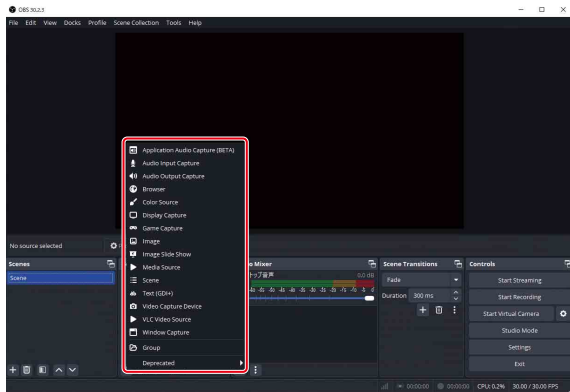
3 **Click [+] in [Playlist] and select [Add Path/URL].**
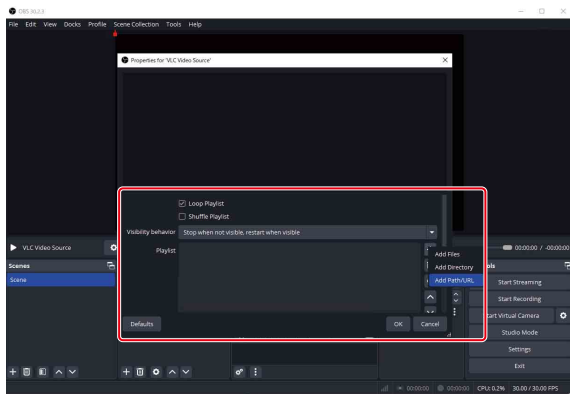
4 **Enter the address and port of the destination.**
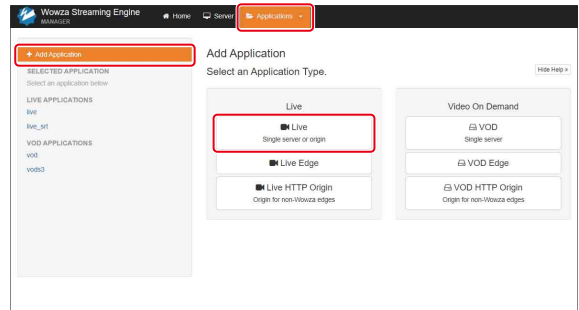srt://<IP address of camera>:<port number>

5 **Press the [OK] button.**
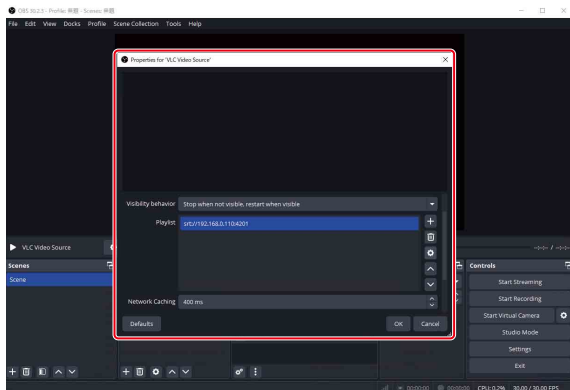
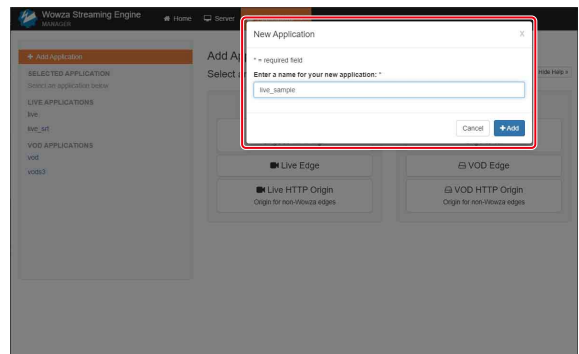SRT streaming starts in Caller mode.

Wowza Streaming Engine

Create an application for receiving an SRT stream.

1 **Press the [Applications] tab.**

2 **Press the [+Add Application] – [Live] button.**

The [New Application] screen appears.

3 **Enter an arbitrary application name and press the [+Add] button.**

Next, configure the SRT input settings.

4 **Press the [Server] tab.**

5 **Press the [Stream Files] – [+Add Stream File] button.**
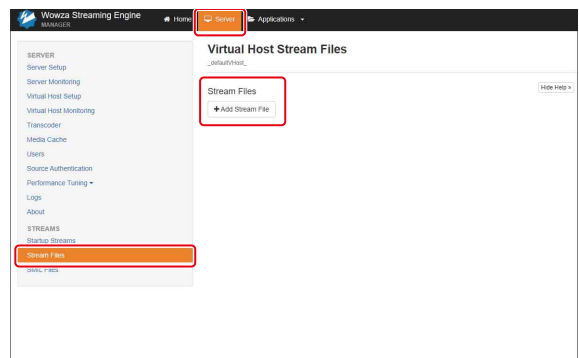
The [Add Stream File] screen appears.

6 **Enter an arbitrary stream file name.**

7 **Enter the following in [Stream URI].**
srt://0.0.0.0:<port number to use>

8 **Press the [+Add] button.**
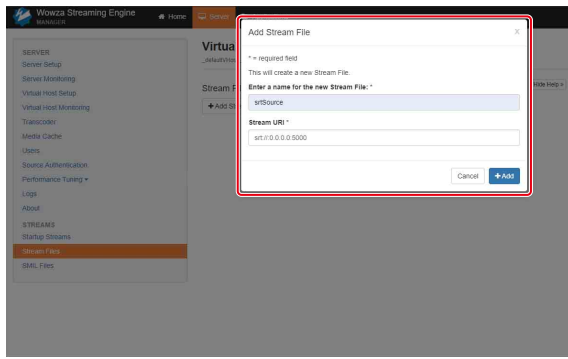
A new SRT setting is added to the [Streams Files] list.
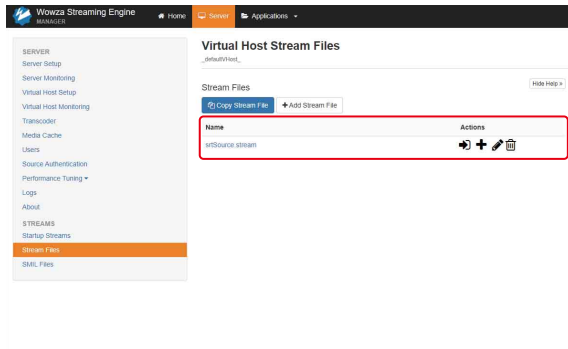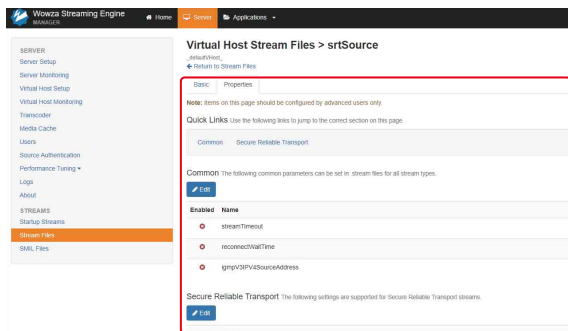

9 **To change an SRT setting, press the SRT name you want to change in the [Streams Files] list.**
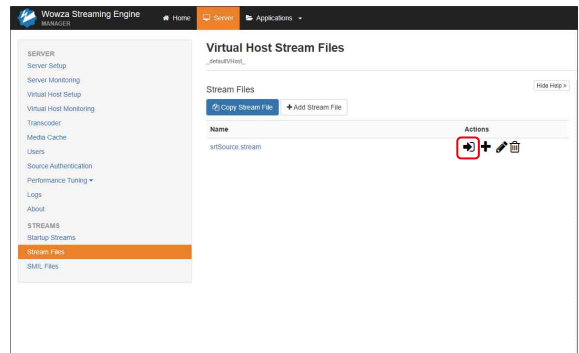The corresponding SRT setup screen appears.

10 **Change the setting, as required.**
You can press the [Secure Reliable Transport] – [Edit] button on the [Properties] tab and change the latency, encryption, and other settings.

When the configuration is finished, start the SRT connection.

11 **Press [Connect to this stream] from the [Actions] icon.**

The [Connect a Stream File] screen appears.

12 **Select the application created for SRT from [Application Name].**
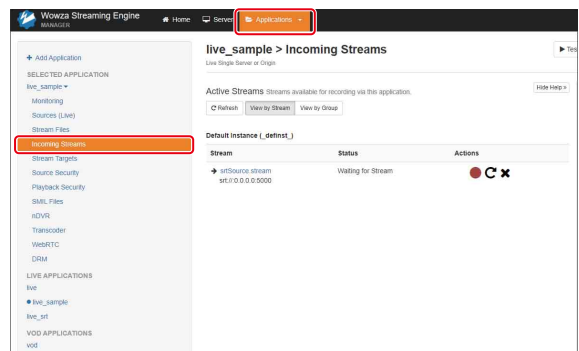
13 **Set [MediaCaster Type] to [srt].**

14 **Press the [OK] button.**
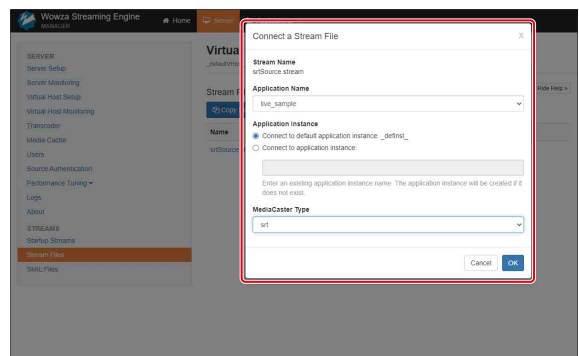
15 **Press the [Applications] tab.**

16 **Select the application created for SRT and press [Incoming Streams].**
You can check the SRT reception status.
SRT reception starts and [Status] changes to [Active].

Revision History

Date	Revision	Revised content
October 31, 2024	1.0	First edition
May 30, 2025	2.0	H.265 codec support