

RTSP Streaming

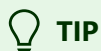
Requirements

1. compatible camera
2. If you use ROCK 5B, you can also use HDMI RX as the video source.

Server Configuration

Based on FFmpeg

Based on Gstreamer



TIP

When using HDMI RX, input sources with lower than 720P resolution may cause encoding failure.

After testing, ffmpeg-rockchip is not compatible with the rkmpv and librva versions we released for Debian 11 systems, Debian 12 systems are not affected.

If you are using our Debian 11 system, please go to [ffmpeg-rockchip official build tutorial](#) , build rkmpv and librva and then build ffmpeg-rockchip.

Installation of compilation dependencies

```
sudo apt-get update
sudo apt-get install build-essential cmake git libdrm-dev librva-dev
librockchip-mpp-dev libsd12*-dev libx264-dev libx265-dev pkg-config
```

Compile and install ffmpeg-rockchip

```
git clone https://github.com/nyanmisaka/ffmpeg-rockchip
pushd ffmpeg-rockchip/
./configure --prefix=/usr --enable-gpl --enable-version3 --enable-libdrm --
enable-rkmpv --enable-rkrga --enable-libx264 --enable-libx265 --enable-ffplay
make -j$(nproc)
```

```
sudo make install
popd
```

Running mediamtx and ffmpeg-rockchip

! INFO

Here we assume that `/dev/video-camera0` is the video source you want to use. If your camera is assigned a different name, replace the corresponding device name in the following command line.

`-vf "fps=30"` and `-s 3840x2160` correspond to the frame rate and resolution respectively, which need to be adjusted according to the output of the command `sudo v4l2-ctl -d /dev/video-camera0 --all`, or else the encoding performance will be affected or even the startup of the push stream will fail due to the failure of reading the camera information automatically. The `-c:v` option specifies the encoder to be used, currently ffmpeg-rockchip supports `h264_rkmpp`, `hevc_rkmpp` and `mjpeg_rkmpp` hardware encoders.

```
wget https://github.com/bluenvion/mediamtx/releases/download/v1.9.0/
mediamtx_v1.9.0_linux_arm64v8.tar.gz
tar -xzvf mediamtx_v1.9.0_linux_arm64v8.tar.gz
nohup ./mediamtx &
ffmpeg-rockchip/ffmpeg -f v4l2 -i /dev/video-camera0 -vf "fps=30" -s 3840x2160 -
c:v h264_rkmpp -rc_mode AVBR -b:v 20M -minrate 10M -maxrate 40M -profile:v main
-level 5.1 -f rtsp rtsp://0.0.0.0:8554/stream

# If you only want to record the camera to a file, use the following command
# ffmpeg-rockchip/ffmpeg -f v4l2 -i /dev/video-camera0 -vf "fps=30" -s 3840x2160
-c:v h264_rkmpp -rc_mode AVBR -b:v 20M -minrate 10M -maxrate 40M -profile:v main
-level 5.1 /tmp/tmp.mp4
```

Client configuration

Using VLC Player

The following is an example of how to watch RTSP video stream by running VLC under Windows.

1. Download and install VLC

A screenshot of the VLC media player window title bar. It shows the VLC logo on the left, followed by the text "VLC media player". On the right side, there are three standard window control buttons: a minus sign for minimize, a square for maximize, and an X for close.

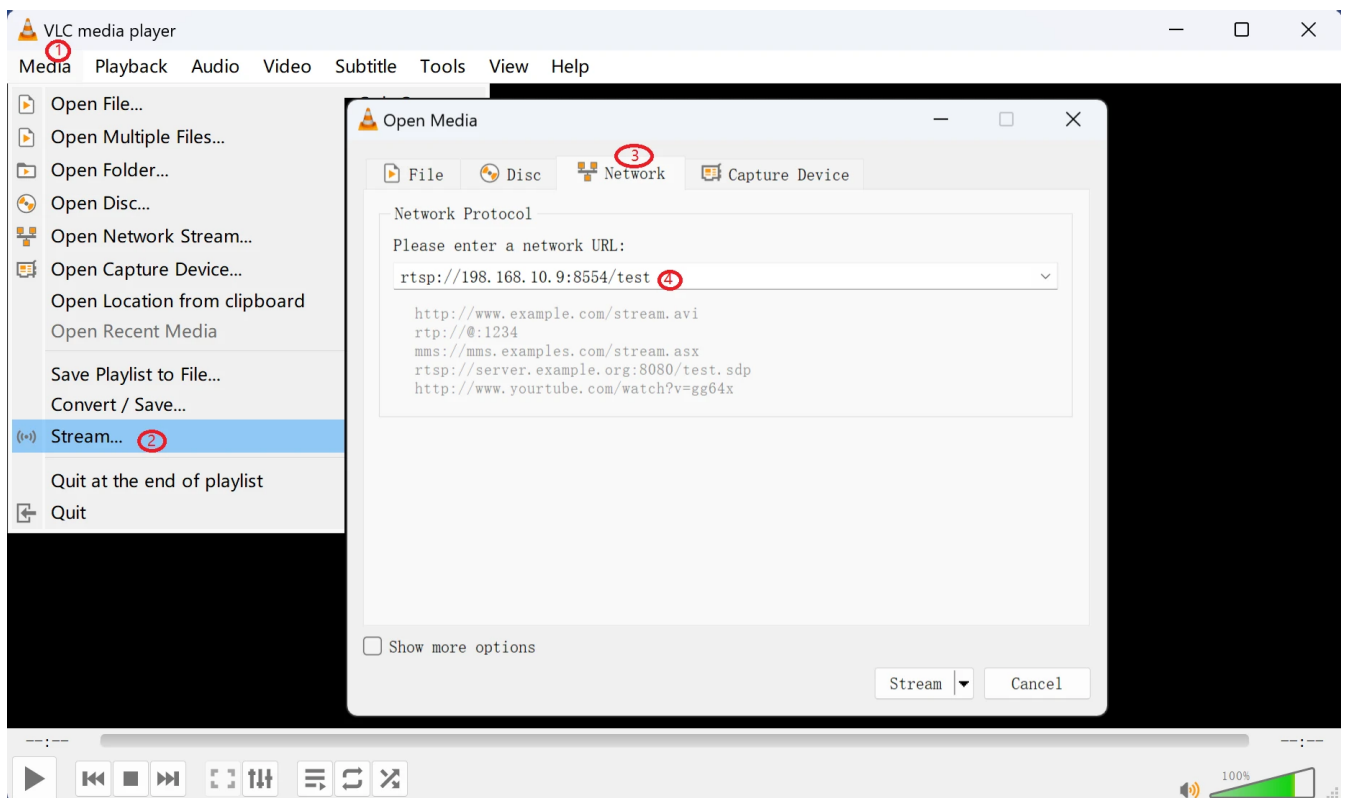


2. Click "Media - Open Network Streaming" to enter the RTSP stream address.

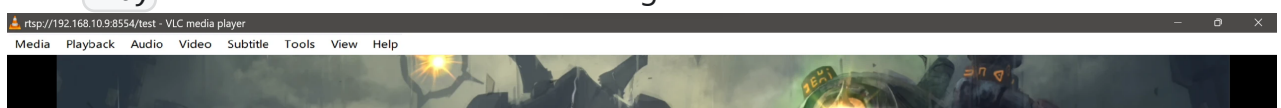


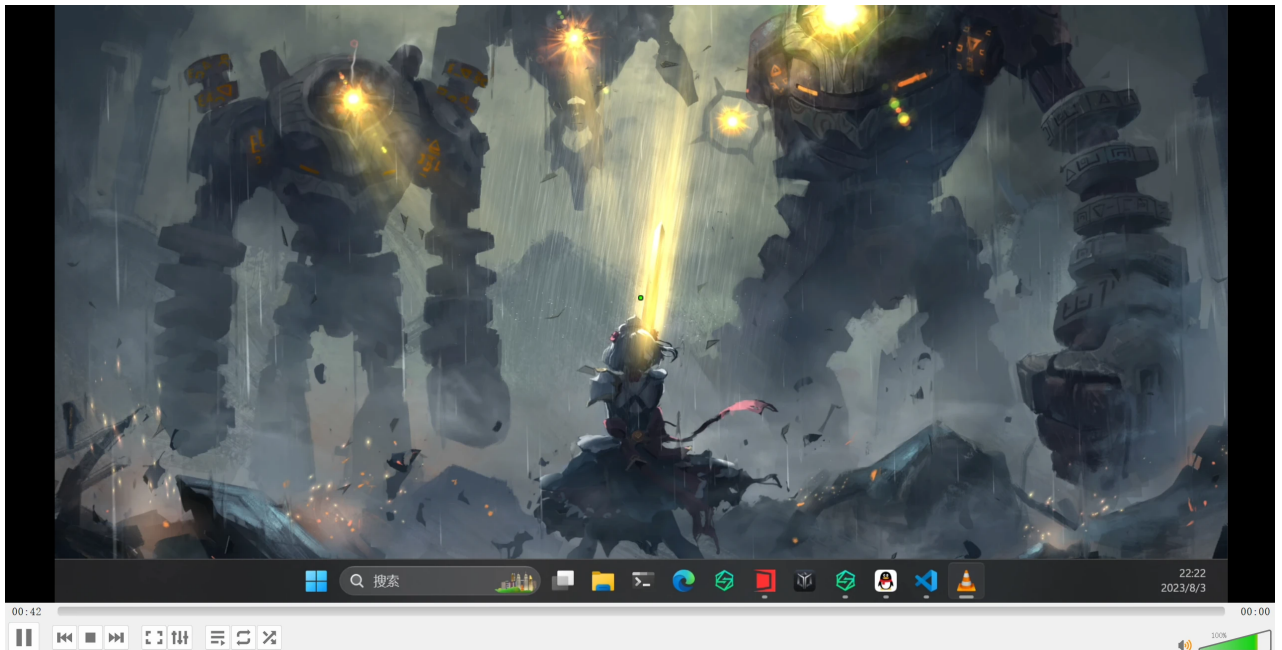
TIP

A communicable IP address is necessary.



3. Click **Play** to view the RTSP remote streaming content.





Using the ffplay player on a development board

It is also possible to play directly with the ffplay utility for FFmpeg mentioned above

TIP

Should be replaced with the URL and IP address specified in the server command line. The `-vcodec` option is the specified codec, please adjust it according to the encoding of the RTSP stream. The hardware decoders supported by ffmpeg-rockchip are `av1_rkmpp`, `h263_rkmpp`, `h264_rkmpp`, `hevc_rkmpp`, `mpeg1_rkmpp`, `mpeg2_rkmpp`, `mpeg4_rkmpp`, `vp8_rkmpp`, `vp9_rkmpp`.

```
ffmpeg-rockchip/ffplay -vcodec h264_rkmpp rtsp://192.168.10.9:8554/stream
```

Reference Links

- [ffmpeg-rockchip](#)

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