

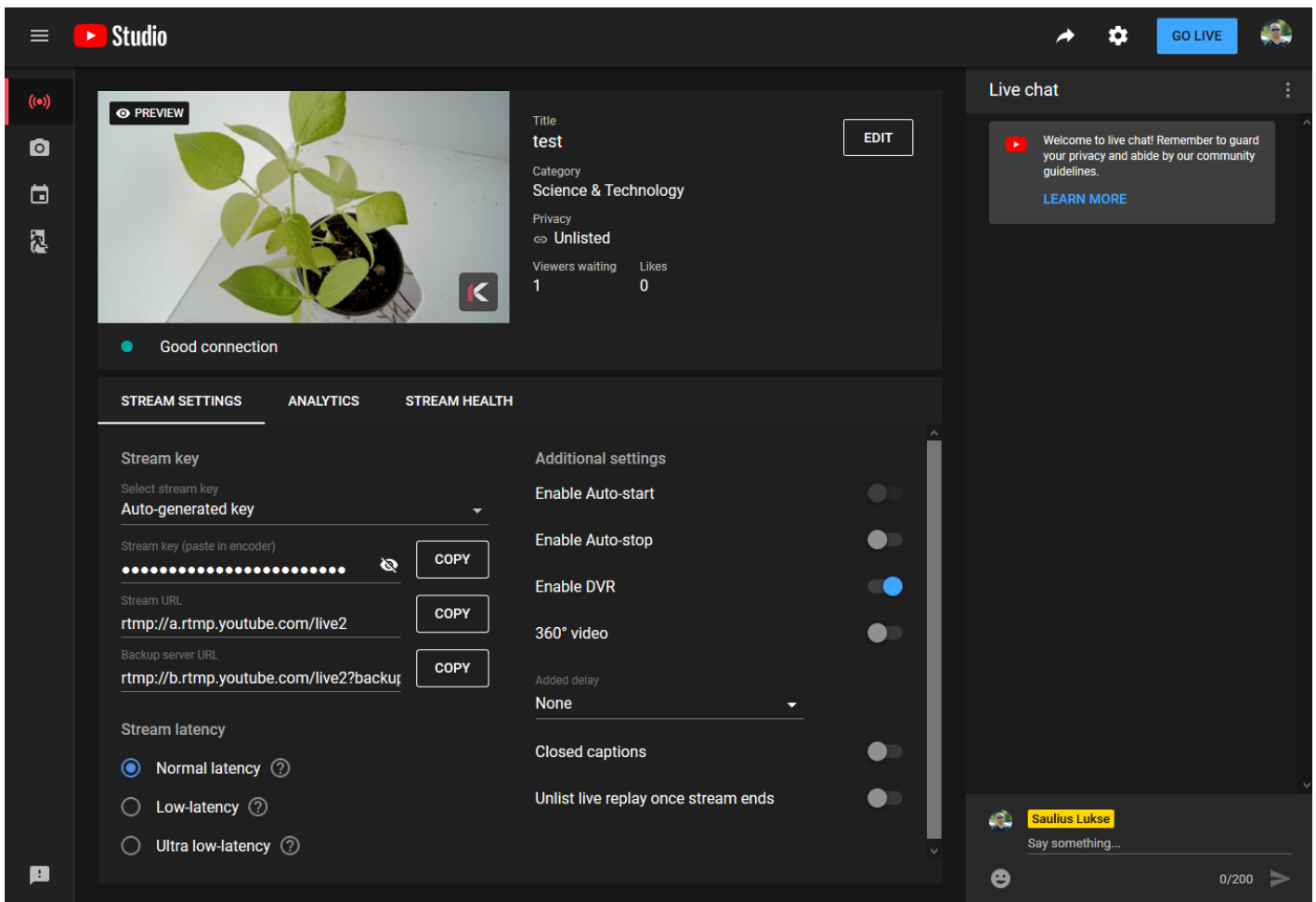
# FFmpeg

## Stream live 1080p @ 30fps video to YouTube

FFmpeg tool can be used to stream live video to youtube, recipe command is below. Also add silent audio with proper encoding.

```
ffmpeg -re \  
-f v4l2 \  
-framerate 30 \  
-video_size 1920x1080 \  
-i /dev/video1 \  
-ar 44100 \  
-ac 2 \  
-acodec pcm_s16le \  
-f s16le \  
-ac 2 \  
-i /dev/zero \  
-codec:a aac \  
-ab 64k \  
-strict experimental \  
-vcodec copy \  
-pix_fmt yuv420p \  
-f flv "rtmp://a.rtmp.youtube.com/live2/[STREAM_ID]"
```

YouTube studio preview



## Record h.264 stream in Windows

List connected devices `ffmpeg -hide_banner -list_devices true -f dshow -i dummy`

```
[dshow @ 03e80ee0] DirectShow video devices (some may be both video and audio devices)
[dshow @ 03e80ee0]   "C2 RVN- 3Q4WH"
[dshow @ 03e80ee0]     Alternative name
"@device_pnp_\\?\usb#vid_16d0&pid_0ed4&mi_00#9&216b562&0&0000#{65e8773d-8f56-11d0-a3b9-00a0c9223196}\global"
[dshow @ 03e80ee0] DirectShow audio devices
[dshow @ 03e80ee0]   "Input (M-Track)"
[dshow @ 03e80ee0]     Alternative name "@device_cm_{33D9A762-90C8-11D0-BD43-00A0C911CE86}\wave_{B212B620-6CA9-46A0-ACB6-F7379A77ADCC}"
[dshow @ 03e80ee0]   "Microphone (C2)"
[dshow @ 03e80ee0]     Alternative name "@device_cm_{33D9A762-90C8-11D0-BD43-00A0C911CE86}\wave_{65AA28A6-DECF-4DE1-9116-8D4F8B360AC2}"
dummy: Immediate exit requested
```

Check device compression options | `ffmpeg -hide_banner -f dshow -list_options true -i video="C2 | RVN-3Q4WH"`

Do not forget to replace camera name.

```
[dshow @ 001a0f00] DirectShow video device options (from video devices)
[dshow @ 001a0f00] Pin "Capture" (alternative pin name "0")
[dshow @ 001a0f00]   vcodec=mjpeg   min s=1920x1080 fps=15 max s=1920x1080 fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=1920x1080 fps=15 max s=1920x1080 fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=1280x1024 fps=15 max s=1280x1024 fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=1280x1024 fps=15 max s=1280x1024 fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=1280x720  fps=15 max s=1280x720  fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=1280x720  fps=15 max s=1280x720  fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=720x576   fps=5  max s=720x576   fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=720x576   fps=5  max s=720x576   fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=720x480   fps=5  max s=720x480   fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=720x480   fps=5  max s=720x480   fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=640x480   fps=15 max s=640x480   fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=640x480   fps=15 max s=640x480   fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=1920x1080 fps=15 max s=1920x1080 fps=30
[dshow @ 001a0f00]   vcodec=mjpeg   min s=1920x1080 fps=15 max s=1920x1080 fps=30
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=1920x1080 fps=5 max s=1920x1080 fps=5
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=1920x1080 fps=5 max s=1920x1080 fps=5
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=1280x1024 fps=5 max s=1280x1024 fps=5
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=1280x1024 fps=5 max s=1280x1024 fps=5
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=1280x720  fps=5 max s=1280x720  fps=10
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=1280x720  fps=5 max s=1280x720  fps=10
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=800x600   fps=5 max s=800x600   fps=10
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=800x600   fps=5 max s=800x600   fps=10
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=720x576   fps=5 max s=720x576   fps=10
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=720x576   fps=5 max s=720x576   fps=10
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=720x480   fps=5 max s=720x480   fps=20
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=720x480   fps=5 max s=720x480   fps=20
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=640x480   fps=5 max s=640x480   fps=30
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=640x480   fps=5 max s=640x480   fps=30
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=1920x1080 fps=5 max s=1920x1080 fps=5
[dshow @ 001a0f00]   pixel_format=yuyv422 min s=1920x1080 fps=5 max s=1920x1080 fps=5
[dshow @ 001a0f00] Pin "Capture" (alternative pin name "1")
[dshow @ 001a0f00]   vcodec=h264   min s=1920x1080 fps=5 max s=1920x1080 fps=30
[dshow @ 001a0f00]   vcodec=h264   min s=1920x1080 fps=5 max s=1920x1080 fps=30
```

```
[dshow @ 001a0f00] vcodec=h264 min s=1280x1024 fps=5 max s=1280x1024 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=1280x1024 fps=5 max s=1280x1024 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=1280x720 fps=5 max s=1280x720 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=1280x720 fps=5 max s=1280x720 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=720x576 fps=5 max s=720x576 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=720x576 fps=5 max s=720x576 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=720x480 fps=5 max s=720x480 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=720x480 fps=5 max s=720x480 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=640x480 fps=5 max s=640x480 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=640x480 fps=5 max s=640x480 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=1920x1080 fps=5 max s=1920x1080 fps=30
[dshow @ 001a0f00] vcodec=h264 min s=1920x1080 fps=5 max s=1920x1080 fps=30
video=C2 RVN-3Q4WH: Immediate exit requested
```

Record h.264 compressed video directly from the camera `ffmpeg -hide_banner -f dshow -s 1920x1080 -r 30 -vcodec h264 -i video="C2 RVN-3Q4WH" output.mp4`

Input #0, dshow, from 'video=C2 RVN-3Q4WH':

Duration: N/A, start: 3447069.727000, bitrate: N/A

Stream #0:0: Video: h264 (Main) (H264 / 0x34363248), yuv420p, 1920x1080, 30 fps, 30 tbr, 10000k tbn, 20000k tbc

Stream mapping:

Stream #0:0 -> #0:0 (h264 (native) -> h264 (libx264))

Press [q] to stop, [?] for help

[libx264 @ 06507020] using cpu capabilities: MMX2 SSE2Fast SSSE3 SSE4.2 AVX FMA3 BMI2 AVX2

[libx264 @ 06507020] profile High, level 4.0

[libx264 @ 06507020] 264 - core 152 r2851 ba24899 - H.264/MPEG-4 AVC codec - Copyleft 2003-2017 - <http://www.videolan.org/x264.html> - options: cabac=1 ref=3 deblock=1:0:0

analyse=0x3:0x113 me=hex subme=7 psy=1 psy\_rd=1.00:0.00 mixed\_ref=1 me\_range=16 chroma\_me=1 trellis=1 8x8dct=1 cqm=0 deadzone=21,11 fast\_pskip=1 chroma\_qp\_offset=-2 threads=34

lookahead\_threads=5 sliced\_threads=0 nr=0 decimate=1 interlaced=0 bluray\_compat=0

constrained\_intra=0 bframes=3 b\_pyramid=2 b\_adapt=1 b\_bias=0 direct=1 weightb=1 open\_gop=0

weightp=2 keyint=250 keyint\_min=25 scenecut=40 intra\_refresh=0 rc\_lookahead=40 rc=crf

mbtree=1 crf=23.0 qcomp=0.60 qpmin=0 qpmax=69 qpstep=4 ip\_ratio=1.40 aq=1:1.00

Output #0, mp4, to 'output.mp4':

Metadata:

encoder : Lavf57.71.100

Stream #0:0: Video: h264 (libx264) ([33][0][0][0] / 0x0021), yuv420p, 1920x1080, q=-1--1, 30 fps, 15360 tbn, 30 tbc

Metadata:

encoder : Lavc57.89.100 libx264

Side data:

cpb: bitrate max/min/avg: 0/0/0 buffer size: 0 vbv\_delay: -1

frame= 121 fps= 27 q=-1.0 Lsize= 973kB time=00:00:03.93 bitrate=2026.3kbits/s  
speed=0.871x

### Press CTRL + X to stop recording

video: 971kB audio: 0kB subtitle: 0kB other streams: 0kB global headers: 0kB muxing overhead:  
0.226249%

[libx264 @ 06507020] frame I: 1 Avg QP: 17.49 size: 43500

[libx264 @ 06507020] frame P: 36 Avg QP: 21.70 size: 15985

[libx264 @ 06507020] frame B: 84 Avg QP: 23.32 size: 4457

[libx264 @ 06507020] consecutive B-frames: 7.4% 0.0% 0.0% 92.6%

[libx264 @ 06507020] mb I I16..4: 46.6% 47.6% 5.8%

[libx264 @ 06507020] mb P I16..4: 3.3% 1.4% 0.0% P16..4: 50.3% 3.0% 5.3% 0.0%  
0.0% skip: 36.6%

[libx264 @ 06507020] mb B I16..4: 0.1% 0.0% 0.0% B16..8: 25.5% 0.1% 0.0% direct:  
5.3% skip: 68.9% L0: 42.0% L1: 57.8% BI: 0.2%

[libx264 @ 06507020] 8x8 transform intra: 34.9% inter: 90.6%

[libx264 @ 06507020] coded y,uvDC,uvAC intra: 23.5% 56.0% 10.3% inter: 4.6% 27.7% 0.6%

[libx264 @ 06507020] i16 v,h,dc,p: 22% 19% 12% 47%

[libx264 @ 06507020] i8 v,h,dc,ddl,ddr,vr,hd,vl,hu: 22% 19% 42% 2% 3% 3% 3% 3% 3%

[libx264 @ 06507020] i4 v,h,dc,ddl,ddr,vr,hd,vl,hu: 27% 30% 18% 5% 4% 3% 5% 2% 6%

[libx264 @ 06507020] i8c dc,h,v,p: 55% 20% 19% 6%

[libx264 @ 06507020] Weighted P-Frames: Y: 0.0% UV: 0.0%

[libx264 @ 06507020] ref P L0: 59.4% 3.3% 25.4% 11.9%

[libx264 @ 06507020] ref B L0: 87.0% 9.8% 3.3%

[libx264 @ 06507020] ref B L1: 93.7% 6.3%

[libx264 @ 06507020] kb/s: 1970.28

Exiting normally, received signal 2.

Revision #11

Created 29 July 2020 05:37:50 by Saulius

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