GPU Hardware Acceleration

There are different ways to access hardware encoders and decoders. Vendors usually have their own APIs (NVIDIA has CUDA, Intel has QSV, AMD has AMF) and operating systems may also have their own APIs that use whatever HW capabilities are available (Windows has DXVA and D3D11VA, Linux has VAAPI, VDPAU and V4L, macOS has VideoToolbox). By merely adding -c:v h264_qsv to your first command, you're trying to use the VAAPI hardware initialization with the QSV encoder, which won't work for obvious reasons. You either use -hwaccel qsv with -c:v h264_qsv or -hwaccel vaapi with -c:v h264_vaapi.

Intel

Intel HW Acceleration Notes:

```
apt-get install i965-va-driver
#add non-free non-free-firmware to debian apt config
apt-get install i965-va-driver-shaders
apt-get install intel-media-va-driver-non-free
```

check at least one renderD device is available:

```
ls -l /dev/dri
```

check supported QSV/VA-API codecs:

```
  iHD driver indicates support for the QSV and VA-API interfaces.
  i965 driver indicates only support for the VA-API interface, which should
only be used on pre-Broadwell platforms.
```

```
sudo apt install vainfo
sudo vainfo --display drm --device /dev/dri/renderD128
```

Check the OpenCL runtime status:

```
ffmpeg -v verbose -init_hw_device vaapi=va:/dev/dri/renderD128 -
init_hw_device opencl@va
sudo apt install -y intel-opencl-icd
```

This enables QSV or VA-API

If you wish to use the second GPU on your system, change renderD128 to renderD129.

```
apt-get install intel-microcode
echo "options i915 enable_guc=2" >> /etc/modprobe.d/i915.conf
```

```
sudo apt-get install intel-gpu-tools
```

show all supported hardware devices by ffmpeg version

```
ffmpeg -v verbose -init_hw_device list
```

```
apt-get install va-driver-all libva-drm2 mesa-va-drivers
usermod -a -G render root
usermod -a -G video root
```

From:
http://wuff.dyndns.org/ - **Wulf's Various Things**

Permanent link:
http://wuff.dyndns.org/doku.php?id=howto:intel-hw-accel

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