Random Notes

Out-of-place stuffs...

SQ11 Info

Useful info on sq11 mini cam...

sq11_info.txt

```
Operating Instructions SQ11

Charging
Attention! Before using for the first time, fully charge the mini
camera
battery!

This mini video camera has a built-in lithium-ion battery. You can
perform
charging in one of the following ways:
1. Connect the mini video camera to the USB port of your PC, stop
recording
   first.
2. Connect the mini camera to a charger from a 220V network or a
portable 5V
   charger. In this case, you can continue to use the mini-camera in
the
   charging process. In the charging process, the blue and red LEDs
will light
   constantly.

After the mini camera battery is fully charged, the blue LED will light
constantly and the red LED will turn off.

- If the built-in battery is empty or there is not enough space on the
memory
  card to continue, the blue and red LEDs on the mini camcorder will
blink for
  5 seconds simultaneously, after which the mini camcorder will save
the
  recorded video and automatically turn off.
- If the memory card is not installed, the blue and red LEDs of the
Mini
  Recorder will blink simultaneously for 5 seconds, after which the
Mini Camera
  will automatically turn off.
- If the camcorder is in the standby mode and does not take any action
```

```
on it,
  the camcorder automatically turns off after 1 minute to save the
charge of
  the built-in battery.

Video recording

- Shooting video with a resolution of 1280X720P
Press the <On / Off> button to turn on the mini camera - the blue LED
will
light up - the mini camcorder is in the video recording standby mode
with 720p
quality. Press the <On / Off> button once to start recording video -
the blue
LED will blink 3 times and go out - 720p video is recorded. The video
will be
automatically saved every 5 minutes. To stop recording, press the <On /
Off>
button.

- Shooting video with a resolution of 1920X1080P
Press the <On / Off> button to turn on the mini camera - the blue LED
will
light constantly. Press the <Mode> button once to enter the video
capture mode
with 1080p resolution - the red and blue LEDs will light
simultaneously, the
mini camera is in the video recording standby mode with 1080p quality.
To start
recording, press the <On / Off> button once - the blue LED will go out,
and the
red LED will blink 3 times and go out - the video is recorded with a
quality of
1080p. The video will be automatically saved every 5 minutes. To stop
recording, press the <On / Off> button.

- Motion sensor video recording
To do this, while in the 720p or 1080p video recording standby mode,
press and
hold the <Mode> button of the mini video camera for 3 seconds - the
camcorder
enters the motion sensor recording mode. If motion is detected, the
video
recording will start automatically, with red and blue LEDs blinking at
the same
time. When recording motion sensor, the video recording is
automatically saved
every 5 minutes.

- Photo
Press the <On / Off> button to turn on the camera - the blue LED will
```

```
light up.
Press the <Mode> button twice to enter the photographing mode - the red
LED
will stay lit. To take a picture, press the <On / Off> button once -
the red
LED blinks once, the photo is saved. The resolution of the received
photos is
4032x3024.

- Night light
Press the <On / Off> button to turn it on. Press and hold the <On /
Off> button
for 2 seconds - the red LED will blink twice - the night illumination
is on. To
turn off the night illumination, press and hold the <On / Off> button
for 2
seconds, the red LED will blink three times - the night illumination is
turned
off.

- Shutdown
To turn off the camcorder, press and hold the <On / Off> button for 6
seconds.
If the Mini Camcorder is in the standby mode and is not in use, it
automatically turns off after 1 minute.

- Viewing files
Do connect the camcorder in the off state to the computer - after a few
seconds it
will automatically be detected as a removable disk. The blue indicator
will
indicate the transfer of information, and the red indicator will
indicate the
charging of the built-in battery.

Parameters
- Video resolution: 1920x1080, 1280x720
- Frame rate: 15, 30 frames per second
- Video file type: AVI
- Photo resolution: 4032x3024
- Photo file type: JPEG
- Viewing angle: 140 °
- Night illumination: 6 IR LEDs (range of 5 meters, DO NOT emit light!)
- Motion sensor: Yes (range 5 meters)
- Recording while charging: +
- Duration of work:
  > 100 minutes (1 hour 40 minutes) in constant recording mode
  > About 5 hours in motion sensor mode
  > 24/7 24/7 clock when external power is connected
- Support for memory cards: Micro SD up to 64GB
- Cyclic recording: +
```

```
- Operating temperature: -10 ° C + 60 ° C
- Humidity of the environment: 15-85%
- Dimensions: 23x23x23 mm, 15 grams

Mini camera SQ11 with night illumination, motion sensor and viewing
angle 140°.
Mini DV SQ11 is an improved version of the previous SQ8 and SQ9

The camera SQ11 has a built-in motion sensor, can shoot photos with a
resolution of 4032x3024, and can also be used for recording in the
process of
charging from a 220V network or portable chargers, which increases the
battery
life by 30-40 times.
```

Solar panel stuff

solar_power_system_calc.txt

```
- inverter?
- battery?
- solar panel?

1) load calculation
- assume 4x25w led light, 2x80w fan, 1x40w tube light, 1x50w tv
- total power = 100w + 160w + 40w + 50w = 350w

2) inverter selection
- load = 350w (oonsider: 500w)
- recommended: 800w-1000w

3) battery selection
- assume 12v dc battery
- for 350w ac load, i(dc) = 350w/12v = ~30a
- assume battery operation of 8h
- battery capacity = 30a x 8h = 240ah
# 250ah battery available!

4) battery charging current calculation
- assume 250ah
- charging current = ~10% current rating (Ah)
- charging current = 25A

5) solar panel selection
- solar panel current = charging current + load current = 25 + 30 = 55A
- solar panel power = 12v x 55A = 660W
- solar panel options: 125w / 180w / 375w / 440w
```

```
- solar panel count = 660W / 180W = ~4!
```

Chakras (From Avatar:The last Airbender)

Interesting...

chakras.txt

```
release all 7 chakras (from avatar :p)

1-earth (base of spine) root
  => survival, block by fear
  => release/surrender all fears

2-water (lower ab - below navel) sacral
  => pleasure, block by guilt
  => release all blame/guilt (forgive yoursef)

3-fire (stomach) solar plexus
  => power, block by shame
  => release letdowns and disappointments

4-love (heart)
  => love, block by grief
  => release all sadness and loss

5-sound (throat)
  => truth, block by lies
  => release denials and lies

6-light (center of forehead) @third eye
  => insight, block by illusion
  => release all illusions (collective conscious)

7-thought (crown of the head)
  => pure cosmic energy, block by earthly attachment
  => release all earthly attachments
```

FFmpeg

```
ffmpeg -i "concat:vts_01_0.vob|vts_01_1.vob" -vcodec libx265 ~/temp/test.mp4
ffmpeg -i test.mp4 -codec:a aac -b:a 128k -ac 2 -af volume=10 -codec:v copy
test1.mp4

ffmpeg -i in.mp4 -c:v copy -c:a copy -map_chapters -1 out.mp4
```

```
ffmpeg -itsoffset 1 -i vsrc.mp4 -i vsrc.mp4 -c:a copy -c:v copy -map 0:v:0 -map 1:a:0 vdst.mp4
```

Video Notes

NTSC

- used mainly in US, Japan
- 60 Hz, 525 lines at 30 fps (480i)
- resolution ⇒ 720 x 480 (DVD-NTSC?)

PAL

- used mainly in UK, Europe, SE Asia
- 50 Hz, 625 lines at 25 fps (576i)
- resolution ⇒ 720 x 576 (DVD-PAL?)

Standard	Supported Aspect Ratio
MPEG	1:1 4:3 2.11:1 16:9
TV	4:3 16:9

Settings	Resolution
Fullscreen (Std)	4:3
Widescreen	16:9 (LetterBox)
Widescreen	16:9 (Anamorphic)

Issue Running ImageMagick's Convert

I got the following error message

```
convert-im6.q16: attempt to perform an operation not allowed by the security policy `EPS'
```

I got the solution from here. It turns out, there is a security feature that we need to grant. Edit file `/etc/ImageMagick-6/policy.xml`. Find the following line,

```
<policy domain="coder" rights="none" pattern="EPS" />
```

and change the `rights` value to `read|write`.

Live Video Streaming using ffmpeg

Dumping this here as it is for now...

```
# may run on ramdisk?
```

```
- hls?

ffmpeg -f v4l2 -i /dev/video0 -strict experimental -pix_fmt yuv420p
playlist.m3u8

- generic segmenter?

ffmpeg -f v4l2 -framerate 25 -video_size 640x480 -i /dev/video0 -f segment -
segment_time 10 -segment_format_options movflags=+faststart out%03d.mp4

- option to place keyframe every 2s (every 50 frames at 25fps)

  -c:v libx264 -r 25 -g 50

*note: segment_time should be multiple of keyframe interval

We need to modify /etc/apache2/mods-available/mime.conf

AddType application/x-mpegURL .m3u8
AddType video/MP2T .ts
```

Analysis of Android (cheap, china made) disk parition layout

Dumped...

```
https://spflashtool.com/download/
SP_Flash_Tool-5.1916_Linux.zip

=> ./adb shell

$ cat /proc/mtd
dev:    size   erasesize  name
$ cat /proc/dumchar_info
Part_Name    Size                StartAddr           Type MapTo
preloader    0x0000000000880000  0x0000000000000000  2    /dev/misc-sd
mbr          0x0000000000080000  0x0000000000000000  2
/dev/block/mmcblk0
ebr1         0x0000000000080000  0x0000000000080000  2
/dev/block/mmcblk0p1
pro_info     0x0000000000300000  0x0000000000100000  2
/dev/block/mmcblk0
nvram        0x0000000000500000  0x0000000000400000  2
/dev/block/mmcblk0
protect_f    0x0000000000a00000  0x0000000000900000  2
/dev/block/mmcblk0p2
protect_s    0x0000000000a00000  0x0000000001300000  2
```

```
/dev/block/mmcblk0p3
seccfg       0x0000000000020000   0x0000000001d00000   2
/dev/block/mmcblk0
uboot        0x0000000000060000   0x0000000001d20000   2
/dev/block/mmcblk0
bootimg      0x0000000000600000   0x0000000001d80000   2
/dev/block/mmcblk0
recovery     0x0000000000600000   0x0000000002380000   2
/dev/block/mmcblk0
sec_ro       0x0000000000040000   0x0000000002980000   2
/dev/block/mmcblk0
misc         0x0000000000080000   0x00000000029c0000   2
/dev/block/mmcblk0
logo         0x0000000000300000   0x0000000002a40000   2
/dev/block/mmcblk0
expdb        0x0000000000a00000   0x0000000002d40000   2
/dev/block/mmcblk0
android      0x0000000035200000   0x0000000003740000   2
/dev/block/mmcblk0p4
cache        0x000000000e200000   0x0000000038940000   2
/dev/block/mmcblk0p5
usrdata      0x000000009e360000   0x0000000046b40000   2
/dev/block/mmcblk0p6
bmtpool      0x0000000001500000   0x00000000ff7700a8   2
/dev/block/mmcblk0
Part_Name:Partition name you should open;
Size:size of partition
StartAddr:Start Address of partition;
Type:Type of partition(MTD=1,EMMC=2)
MapTo:actual device you operate

$ getprop ro.build.ab_update
- returns nothing... so, using A-only partition scheme (instead of newer A-B
scheme)
```

From:
https://www.azman.my1matrix.cc/ - **Azman @MY1**

Permanent link:
https://www.azman.my1matrix.cc/doku.php?id=notes:random&rev=1775354829

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