SONY

SNC-MPEG4 series
Ver1.11 technical information

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1. About this document

This document describes some technical information regarding the change of SNC-MPEG (SNC-P1, SNC-P5, SNC-RZ25, SNC-DF40 and SNC-DF70) series firmware ver1.11, such as newly added CGI parameters and so on.

2. Forced I-Frame insertion

2.1. When you acquire the MPEG4 bit stream

At the timing of acquiring the MPEG4 bit stream by putting the CGI command /mpeg4, the internal process of building the MPEG4 bit stream will generate forced I-Frame automatically, which makes it enable to quickly retrieve the MPEG4 bit stream.

2.2. CGI parameter to generate forced I-Frame arbitrarily

The following CGI command will make it enable to generate forced I-Frame at the timing as you like

http://ip_address/command/camera.cgi?M4InsertIFrame=on

The above CGI command will also have an effect on the already established bit stream.

3. RTP expiration

Originally the camera had the RTP expiration time of 60 seconds, which means that the camera will stop transmitting video and audio bit stream in UDP mode unless it receives RTCP(control) packet for 60 seconds.

The following CGI command will make it enable to enlarge the expiration time, depending on the network environment and so on.

http://ip_adr/command/camera.cgi?RtpExpire=<value>
<value> : range of 1000 to 86400000 (1[sec] to 24[hours]), unit is milliseconds

4. Stabilization of JPEG file size

4.1. Newly applied compression table

From this version, JPEG file size stabilization function is newly added. The following is the table of quality, file size and compression ratio in VGA mode.

Level	Size	Compression ratio
1	approx. 18KB	1/50
2	approx. 22.5KB	1/40
3	approx. 30KB	1/30
4	approx. 45KB	1/20
5	approx. 60KB	1/15

4.2. Newly added "JpTargetRatio" parameter

Image quality parameter in JPEG mode is correspondent to "JpQuality" parameter as the

above. From this version, it has some extension as follows.

When "JpQuality" is set to "0", JPEG file size will be determined by "JpTargetRatio" parameter instead, which will give you more flexible setting. For example,

http://ip_address/command/camera.cgi?JpQuality=0&JpTargetRatio=25
This will allow you to generate the JPEG file by 1/25 compression ratio.

<value> : range of 10 to 50

4.3. Compatibility to former firmware version (less than 1.11)

While the former firmware determines its image quality according to the "Q Factor" parameter which is exactly related to quality, not to compression ratio, this firmware will keep track of targeted compression ratio continuously. So you might need to be careful of the difference between the former version and the new version implementation, particularly in the case of recording application.

i) When you happen to retrieve larger JPEG file after upgrading the firmware
This will be the case when the shot scene has pretty low spatial frequency such as flat surface. It might have some discordance for the capacity in the recording application. You will be able to lessen the retrieved JPEG file by setting lower image quality.

ii) When you happen to retrieve smaller JPEG file after upgrading the firmware
This will be the case when the shot scene has pretty high spatial frequency such as detailed area. It is no problem because the recording application is supposed to have enough margin.

[The way to be compatible to the former version]
When you want the camera to be compatible to former version, you can use the range of 11 to 15. For example,

http://ip_address/command/camera.cgi?JpQuality=13
This will allow you to get the same compression ratio of "3" of the previous version.

5. Improvement of the latency of camera setting change

This feature comes from the feedback that it takes pretty long time to change some camera-related parameters. From this version, you can put the "TempCamera=on" parameter to reduce the setting time. The following is the example.

http://ip_address/command/camera.cgi?ImageSize=640,0&JpQuality=4&TempCamera=on

5.1. Applicable parameters

"TempCamera=on" method is applicable to the following parameters.

ImageSize
AreaSelect
AreaSet
JpFrameRate
JpQuality

JpTargetRatio
M4FrameRate
M4BitRate
M4IFrameInterval
Saturation

5.2. Limited condition

The applied parameters with "TempCamera=on" will not be preserved in the flash memory of the camera. So when you reboot the camera it will not keep the latest setting.