



Adding Samsung Cameras

INTRODUCTION

This guide helps with adding later Samsung cameras to qulu; where the following difficulties may arise;

- Camera not automatically discovered/added (strong passwords need setting on camera first)
- Image over pixelated (GOP-4 fixed within camera)
- Qulu hi-res stream 1 and low-res stream 2 reversed (Profile reversed within the camera)

Camera Not Discoverable in qulu

Later Samsung cameras have amended security and login, as a result they are not automatically discovered by qulu and other systems, such as ODM etc. They have to be manually added to qulu, but first you need to web browse to the cameras and set/change their passwords.

Once set; within qulu admin simply right-click the qulu MediaServer in the resource tree, select Add Devices >> and enter the camera's IP address and ID and password you just set above.

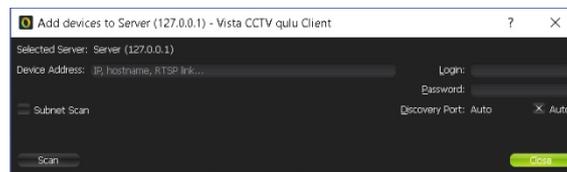


Fig1.

On adding, qulu will attempt to set the streams thus;

- System auto sets H264 stream to 23fps 1920x1080 around 3Mbps [Hi-Res Primary qulu Stream]
- System auto sets Mobile stream to 7fps 320x240 192Kbps [Low-Res Secondary qulu stream used for motion etc]

Camera Image Pixelated

By default, qulu calculates and sets a bit rate on cameras added to it based on "bitrate per second" (Kb/s for example) – this setting then being pushed to the camera by qulu to become its CVBR setting. Some Samsung cameras appear to have a GOP setting fixed at 4. With an fps higher than the GOP additional I-frames (full frames) are sent and the calculated CVBR is too low – resulting in over compressed images.

To address, simply set qulu to calculate a CVBR based on GOP for the affected cameras. Follow the below within qulu admin;

- Right-click on the camera in the qulu resource tree, and select *Camera Settings >> Expert* and select the option "Calculate bitrate per GOP instead of bitrate per second (It'll increase bitrate of camera) (fig2.)

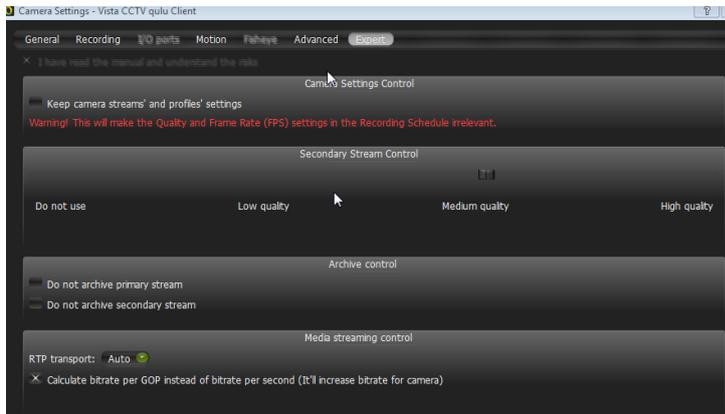


Fig2.

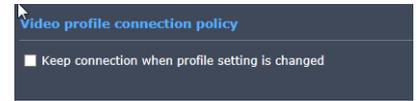


Fig3

You may need to Stop and re-Start the qulu MediaServer for the change to take effect if a reboot of the individual camera has no effect.

Note: reason for the Bitrate change not taking effect may be due to the streams in the Samsung camera not dropping then restarting the stream with the new qulu config changes. You could try ensuring the above option (fig3) within the camera is un-ticked.

Hi and Low Res Streams Reversed

When the Samsung streams are added to qulu, the camera's Profiles settings (fig 4.) should ensure the H.264 stream is used as qulu [Hi-Res] stream 1 and the Mobile stream used as qulu [Lo-Res] stream 2. However, some cameras have intermittently reversed their streams and profiles so they become as figure 5.

Reboot, default and reconfigure the camera, or attempt to correct the Profile within the cameras configuration menu.

Profile	Bitrate(kbps)	Framerate(fps)	ATC(%)	Concurrent user count
MJPEG	0/4096	0/1	0	0
H.264	1964/2210	12/12	100	1
Secondary	100/192	7/7	100	1

Profile	Bitrate(kbps)	Network connection status	IP
Secondary	101	Good	172.16.1.10
H.264	2012	Good	172.16.1.10

Fig 4. Correct Profiles

Profile	Bitrate(kbps)	Framerate(fps)	ATC(%)	Concurrent user count
MJPEG	0/4096	0/1	0	0
H.264	126/192	6/7	100	1
MOBILE	1441/1829	14/14	100	1

Profile	Bitrate(kbps)	Network connection status	IP
H.264	126	Good	74.7.76.98
MOBILE	1456	Good	74.7.76.98

Fig 5. Reversed Profiles