

Freedom Client

Off-site Configuration & Operation Guide

Most CCTV systems have 2 streams the first stream is used for the **recording** and is often referred to as the '**main stream**' this stream provides the best quality but requires more data and network bandwidth to do so. The second stream is known as the '**sub-stream**' or 'extra stream' this is often used for viewing cameras 'off-site' or when large quantities of HD cameras need to be displayed on a PC or network link that have performance limitations. This stream requires less data and network bandwidth to use and is typically of a lower quality than the 'main stream'.

When designing a system for off-site operation, you need to consider, what bitrate your **recording** stream and '**sub-stream**' bitrate is set to in relation to what the '**UPLOAD**' speed is available at the 'remote' site. On many ADSL2 connection the ISP will quote upload speeds of 1mbp/s in reality it can be a lot less ~650kbp/s. When you take into account that the typical **recording** bitrate required for HD video is over 2Mbps and a typical sub-stream bitrate is ~128Kbp/s, we can conclude in this case that viewing cameras using 'sub stream' would be possible but playback of recorded footage off-site may not be practical.

If your upload speed at the camera site is too low to effectively playback your 'main-stream' recording, consider the following options;

1. If your recording hardware supports it, record '**main-stream**' and '**sub-stream**' simultaneously, this will require additional HDD capacity or a loss in recording retention.
2. Playback 'sub-stream' remotely from off-site and when you find, the relevant footage download the 'main-stream' version remotely or locally.
3. If your recorder supports it, playback using **transcoded** footage, which re-encodes the recording to a lower bitrate on-the-fly. This solution does not require additional HDD capacity; Freedom Server Pro™ via Freedom Client supports this capability

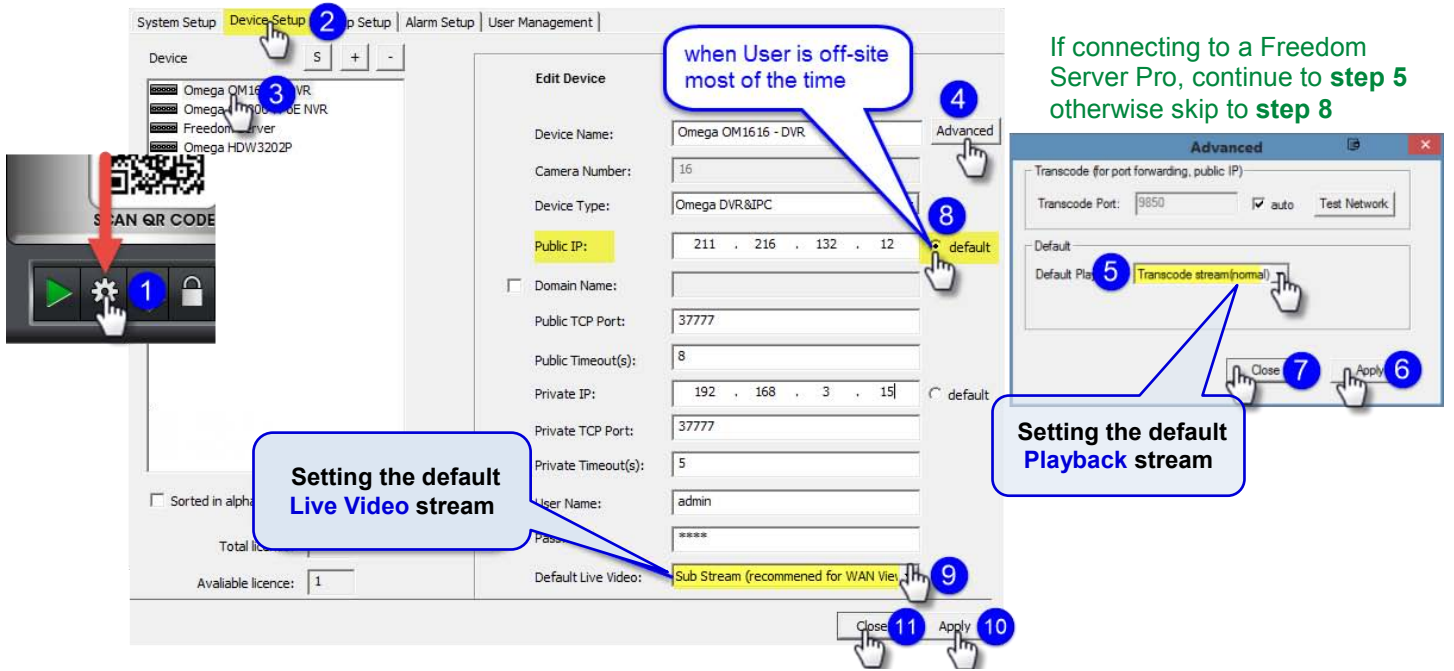
This upload bandwidth limitation from the camera site also affects **how many cameras** can be viewed or played back **at any one time** over a low bandwidth connection.

Setting up Freedom Client off-site use (User must have setup rights)

There are 2 main settings in the 'Client-end' of the Freedom software that relate to low bandwidth support; these are '**Default Live Video**' and '**Default Playback – Stream quality**'. 'When off-site the default **Live Video**' should be set to '**sub stream**'. The 'default playback stream' option is set to 'Main Stream' as default. The availability of the other playback stream types depend on your recorder type and whether 'sub-stream' recording is enabled or whether the recorder is a **Freedom Server Pro (transcode)**.

On the next page are examples of the configuration options available on the Freedom Client software.

Image below: Freedom Client off-site configuration
 Navigate to **Setup** → **Device Setup**



Changing stream quality ‘on the fly’ in playback.

In Playback you have the option to change stream quality ‘on the fly’ by ‘right clicking’ over video tile and choosing one of the options under the Stream Quality menu.

Note: the available options for stream quality vary depending on recorder type and whether sub-stream is being recorded

