American Dynamics

From Tyco Security Products

VideoEdge Camera Handler Internal Release Notes

VideoEdge 4.4
Camera Handler ADAPACSD-4.4.0.2001004
Camera Handler APACMIDTIER-4.4.0.2002004
Camera Handler Hikvision-4.4.0.2000002

In case of discrepancy, the information in this document supersedes information in other document(s), media(s) or provided verbally.

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General Purpose

The purpose of this document is to provide a detailed list of supported manufacturers and manufacturers' camera lines integrated and supported by the American Dynamics VideoEdge Network Video Recorder version 4.4 and the VideoEdge Camera Handler version 4.4.

Cameras and Encoders supported and available with current version 4.4:

- American Dynamics
  - •American Dynamics eight channel encoder
  - •American Dynamics Fixed IP
  - •American Dynamics illustra 210 Series
  - •American Dynamics illustra 400 Series
  - •American Dynamics illustra 600/600LT/610/610LT Series
  - •American Dynamics illustra 625 PTZ Cameras
  - •American Dynamics IP SpeedDome Cameras
  - •ADAPACSD Cameras
  - •APACMidtier Encoders and Cameras
- ACTi Corporation Cameras
- Arecont Vision Cameras
- AXIS Cameras and Encoders
- Bosch Cameras
- CBC Cameras
- FLIR
- Panasonic Cameras
- Samsung Encoders and Cameras
- SONY Encoders and Cameras
- VIVOTEK Encoders and Cameras
- Hikvision Encoders and Cameras

Note

1. You can upgrade your VideoEdge Camera Handler version at http://www.americandynamics.net

2. Please reference NVR Installation and User Manual to Configure Storage. NVRs can require a tremendous amount of storage space depending on the number of cameras, codec, resolution, and frame rates, recording modes, and the duration for which you wish to preserve video recordings. At the outset of your use of the NVR system, you will need to have storage configured to record data

What's New in This Release

This camera handler release provides

- Integration for the following cameras for ADAPACSD:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed IP Cameras					
ADDCI200P	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
PTZ Cameras					
ADSDI200P10	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified

Firmware Requirements

Models	Minimum Camera Firmware Version
ADDCI200P	V01.33
ADSDI200P10	V0.1.3426

Limitations

The following limitations which only apply to ADSDI200P10

- When set resolution to 2048*1536 for stream 1, the stream 2 is unavailable on camera webGUI;
- The highest resolution of stream 2 is always lower than stream1's
- The resolution is 1920x1088 when set it to 1920x1080 for H264 stream.
- The Medium is maximum for quality when set resolution as 2048*1536 or 1920*1080.
- If there is one stream configured as h264/2048x1536, the all stream (H264 and MJPEG) fps can only reach the half of the setting value, and their maximal value can only reach 12.5 ;
- When the codec is H264 and the resolution is 2048x1536, the codec does not support 1fps.
- The camera's webpage need to be added into trusted website in IE.
- The POE+ compatibility of camera is not good , it supports Gigabit PSE-G300,but it doesn't support Cisco catalyst 2960-S.
- The camera module of ADSDI200P10 and ADDCI200P do not support the Chinese OSD display

Known Issues

- For ADSDI200P10 camera
  The camera doesn't support http request with authentication , so it can be added to NVR with any password group.
- For all camera
  The RTSP service doesn't support RTSP request with authentication.

Special Points

• For the single-stream mode, by default, the MJPEG stream max fps can't reach 25(PAL), but itcan reach 25 by special configuration.

Configuration Procedure:

1. Make NVR work under the single-H264 stream mode.
2. Check the resolution of H264 and make sure the resolution is less than 2048x1536.
3. Switch to single MJPEG stream.

After above setup, the MJPEG fps can reach the normal value.

• The range list of image quality is low, mid and high on camera, handler converts them to1, 50, 100.
Camera to NVR: low-1, mid-50, high-100.
NVR to Camera: 1-low, 50-mid,100-high.
• Please make sure bitrate mode is CBR on camera web GUI, when set bitrate on NVR web GUI.
• For ADSDI200P10 camera, its bitrate range is 100-12000, but the range is 1-8000 on NVR, so valid range for user is 100-8000; Similarly, For ADDCI200P camera, the valid range for user is 500-8000. Handler shall give the actual bitrate value of camera to NVR, when set invalid value to camera on NVR web GUI.

• Integration for the following cameras for APACMidtier

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed IP Cameras					
ADCi150-X011	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
ADCi550-B011	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
ADCi550-D011	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
ADCi550-X011	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
PTZ Cameras					
ADCi150-S037	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
ADCi550-S020	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
ADCi550-S120	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
ADCi350-S019	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
Encoders					
ADCe150-E004	H.264, MJPEG	Yes	4/0	4.4	Tested & Certified

Firmware Requirements

Models	Minimum Camera Firmware Version
ADCi150-S037	V1.02.7_STD-1
ADCi550-S020	V1.02.6_STD-1
ADCi550-S120	V1.02.6_STD-1
ADCi350-S019	V1.01.6_STD-1
ADCi150-X011	V1.04.6_STD-1
ADCi550-B011	V1.01.7_STD-1
ADCi550-D011	V1.01.7_STD-1
ADCi550-X011	V1.01.7_STD-1
ADCe150-E004	V1.05.4_STD-1

Limitations

- For ADCi150 serials cameras.

The camera's time will restore to 1970 after power off

- For the camera ADCi150-S037

Because structure of dome cover is not good, the image of special area is blurry when the dome move to almost the horizontal levle

- For ADCe150-E004

When enable dual stream, due to encoder performance limitation, the H264 primary stream maybe has chance of jitter under certain MAX. resolution combination, then user want to get the smooth video, user can reduce the second video configuration.

- For ADCe150-E004

Due to encoder performance limitation, if audio is enabled, the video stream has the chance of jitter. So suggest user don't enable audio and make sure audio is disabled on camera and NVR web GUI.

Known Issues

- For all cameras

Change any stream parameter (resolution) on NVR, sometimes user need to reboot to take effect if no video available after modification

- For 550 serials cameras

User make sure camera motion detection is disable, if not, the high CPU load may cause the recorded video file is abort on NVR

Special Points

• After camera added to NVR, it's not recommended that user change any configurations from camera web gui

• It is not recommended that change the two video stream parameters at the same time on NVR web gui.

• For 550 serial cameras except speed dome

It has two sensor mode, and they are "Full HD" and "XVGA", and the highest resolution is different between Full HD and XVGA, so user must select the sensor mode on camera web gui before the camera is added into NVR. Sensor mode modification is not supported by NVR handler.

• For the camera which sensor mode is "CMOS", the camera video standard is neither PAL nor NTSC, so the video standard display "UNKNOW" on NVR web page.

• For the camera that support back light compensation control, the option supports 2 settings, namely

1. "0"- Disable back light compensation function
2. "1"- Enable back light compensation function

• For the camera that support day night mode setting, handler is only support "auto", "day" and "night", not support "Response to event trigger".

• For PTZ function of ADce150-E004

1. ADce150-E004 is four channel encoder, it has four PTZ drivers, the four drivers are map to four channel orderly by handler, NVR controls channel 1 using PTZ driver 1, controls channel 2 using PTZ driver 2, controls channel 3 using PTZ driver 3, controls channel 4 using PTZ driver 4.So before camera is added to NVR, user make sure the PTZ driver has been configured.
2. For the baud rate of PTZ, the recommended baud rate is 4800.

• Integration for the following cameras for Hikvision:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed IP Cameras					
DS-2CD753F-E	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
DS-2CD793PF-E	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
DS-2CD853F-E	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
DS-2CD7264FWD-EZ	H.264, MJPEG	Yes	1/0	4.4	Tested & Certified
Encoders					
DS-6708HFI	H.264, MJPEG	Yes	8/0	4.4	Tested & Certified
Generic					
All other models	Module dependent			4.4	Generic functionality

Firmware Requirements

Models	Minimum Camera Firmware Version
DS-2CD753F-E	V4.1.1 130228
DS-2CD793PF-E	V4.1.1 130228
DS-2CD853F-E	V4.1.1 130228
DS-2CD7264FWD-EZ	V4.1.1 130228
DS-6708HFI	V1.0.0 130309

Limitations

- Due to the performance limitation of the MJPEG / MPEG4 / H264 models, while streaming MJPEG and H264 or MPEG4 simultaneously, the camera might not deliver the requested frame rate. Please refer to the Hikvision product catalog for details.
- For IP Camera serials, Camera will reboot after codec changed, reboot time needs 45 second, while changing resolution, quality, GOP or FPS does not need to reboot camera
- For all serials, QuickTime player cannot play the MPEG4 stream due to the MPEG4 stream is generated in Advanced simple profile
- For DS-2CD853F and DS-2CD753F-E,

  H264's max FPS as below:

  50Hz(PAL): 12.5 fps(1600x1200) 12.5 fps(1600x912) 25 fps(1280x960) 25 fps(1280x720)

  60Hz(NTSC): 15 fps(1600x1200)15 fps(1600x912)25 fps(1280x960)25 fps(1280x720)

  MJPEG's max FPS as down below:

  50Hz(PAL):12.5fps(704x480) 12.5fps(352x240) 12.5fps(320x240)

  60Hz(NTSC):15fps(704x480) 15fps(352x240) 15fps(320x240)

- For DS-2CD853F and DS-2CD753F-E, Resolution set to 1600x912, 1600x1200

  Case 1: VideoStand 50Hz(PAL), users can not set FPS to 15, 16, 18, 20, 22

  Case 2: VideoStand 60Hz(NTSC), users can not set FPS to 16, 18, 20, 22

  Due to camera does not support.

- Users change dry contact active state will cause camera/encoder reboot.

Known Issues

- [DS-2CD853F, DS-2CD753F-E] Resolution set to 1600x912, 1600x1200, FPS set to 12, real FPS will reach 12.5
- [DS-2CD753F-E] There is stream re-connection (period: 24hours).
- [DS-6708HFI, DS-6708HWI] There are missing frame (missing rate < 0.0135%).

- [DS-6708HFI, DS-6708HWI] It's interactive between the values of Brightness, Contrast, hue, Saturation, when change one of them, the other will change accordingly.

Special Points

- When add camera into NVR, users should restore camera to factory default through camera web page.
- Users should use NVR configure page to set camera codec parameters including FPS, resolution, quality after add camera to NVR. Users can use camera web page to set other codec properties (bitrate, bitrate control type, key frame interval, etc.)
- Before use Events (Dry contacts) function, users should configure alarm input arming schedule on camera's web page (for example, configure schedule to 7x24 hrs.).

Continual Support

At any given time there is only one camera pack available for the VideoEdge NVR. This camera pack provides full support to all existing (updates and add-ons) and new cameras available for the VideoEdge NVR. The following is a list of all existing manufacturers and cameras supported by the VideoEdge NVR:

- American Dynamics
  - American Dynamics eight channel encoder
  - American Dynamics Fixed IP
  - American Dynamics illustra 210 Series
  - American Dynamics illustra 400 Series
  - American Dynamics illustra 600/600LT/610/610LT Series
  - American Dynamics illustra 625 PTZ Cameras
  - American Dynamics IP SpeedDome Cameras
  - American Dynamics ADPAPCSD Cameras
  - American Dynamics APACMidier Encoder and Cameras
- ACTi Corporation Cameras
- Arecont Vision Cameras
- AXIS Cameras and Encoders
- Bosch Cameras
- CBC Cameras
- FLIR
- Panasonic Cameras
- Samsung Encoders and Cameras
- SONY Encoders and Cameras
- VIVOTEK Encoders and Cameras
- Hikvision Cameras

General Limitations

- For all IP Cameras on NVR, the "Max Bit Rate" field may be available for certain cameras on certain codecs. This is currently not a supported feature on NVR 4.2, NVR 4.2.1 and NVR 4.3, 4.4. TFS 60814 VideoEdge Hybrid 4.2.1.798 > Camera List > Advanced edit > function and streams
  > The Camera stream configuration reports a max bit rate parameter but you cannot change it nor is it available in 4.2
- In NVR 4.2.0 or later, the NVR does not provide any GUI for PTZ operations other than enabling PTZ and maybe Absolute Focus/Iris. Enabling PTZ only applies to Encoders, not PTZ Cameras.

- It is recommended not to configure cameras on multiple Recorders as this may impact on stream and general performance of the camera.

American Dynamics

Supported American Dynamics cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Video Encoders					
ADEIP8H	MJPEG, MPEG4	Yes	16/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADEIP8M	H.264, MJPEG	Yes	16/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Box Cameras					
ADCIPEBPN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPEBPPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPEBPPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPEBN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPEBPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPEBPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Indoor Mini Dome Cameras					
ADCIPE3312ICN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3312ISN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3312ICPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3312ISPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3312ICPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3312ISPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Outdoor Mini Dome Cameras					
ADCIPE3712OCN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3712OSN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3712OCPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3712OCPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3712OSPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3712OSPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
IP Dome Cameras					
ADVEIPSD22N	H.264, MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADVEIPSD22P	H.264, MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADVEIPSD35N	H.264, MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADVEIPSD35P	H.264, MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
illustra 210 Mini Dome Cameras					
ADCi210-D111	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D011	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D121	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D021	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D113	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D013	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D123	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D023	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
illustra 600 Mini Dome Cameras					
ADCi600-D111	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D011	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D121	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D021	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D321	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D131	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D031	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D141	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D041	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D341	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D113	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D013	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D123	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D323	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D133	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D033	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D143	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D043	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D343	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
illustra 610 Mini Dome Cameras					
ADCi610-D111	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D011	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D121	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D021	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D321	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D131	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D031	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D141	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D041	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D341	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D113	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D013	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
ADCi610-D123	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D023	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D323	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D133	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D033	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D143	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D043	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
illustra 610LTMini Dome Cameras					
ADCi610LT-D111	H.264, MJPEG	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610LT-D113	H.264, MJPEG	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
illustra 600 Telephoto Lens Mini Dome Cameras					
ADCi600-D521	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D541	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D523	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D543	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
illustra 610 Telephoto Lens Mini Dome Cameras					
ADCi610-D521	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D541	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D523	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D543	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
illustra 400 WDR Indoor Mini Dome Cameras					
ADCi400-D011	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D013	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D031	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D033	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
illustra 400 WDR Outdoor Mini Dome Cameras					
ADCi400-D021	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D023	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D041	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D043	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
illustra 400 WDR Bullet Cameras					
ADCi400-B021	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-B022	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-B041	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
illustra 400 Box Cameras					
ADCi400-X001	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
illustra 600/610 Bullet Cameras					
ADCi600-B021	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-B041	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-B021	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-B041	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
illustra 600/610 Box Cameras					

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
ADCi600-X011	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-X011	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
illustra 600LT Bullet Cameras					
ADCi600LT-B021	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
illustra 600LT Box Cameras					
ADCi600-X011	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
illustra 625 PTZ Cameras					
ADCi625-P13x	H.264, MJPEG	No	No	4.2.1, 4.3, 4.4	Tested & Certified
ADCi625--P23	H.264, MJPEG	Yes	4/0	4.2.1, 4.3, 4.4	
ADCi625-P12	H.264, MJPEG	No	No	4.2.1, 4.3, 4.4	Tested & Certified
ADCi625-P22	H.264, MJPEG	Yes	4/0	4.2.1, 4.3, 4.4	
illustra 600/610 Biscuit Cameras					
ADCi600-M111	H.264, MJPEG	No	No	4.3, 4.4	Tested & Certified
ADCi610-M111	H.264, MJPEG	No	No	4.3, 4.4	Tested & Certified
ADAPACSD Fixed IP Cameras					
ADDCI200P	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
ADAPACSD PTZ Cameras					
ADSDI200P10	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
APACMidtier Fixed IP Cameras					
ADCi150-X011	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
ADCi550-B011	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
ADCi550-D011	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
ADCi550-X011	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
APACMidtier PTZ Cameras					
ADCi150-S037	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
ADCi550-S020	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
ADCi550-S120	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
ADCi350-S019	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
APACMidtier Encoders					
ADCe150-E004	H.264, MJPEG	Yes	4/0	4.3, 4.4	Tested & Certified

ACTi Corporation

This version of the VideoEdge camera handler is fully integrated with ACTi Corporation line of IP cameras. ACTi has number of API's (Application Programming Interface) camera handlers to communicate with their cameras. This version of the VideoEdge NVR is fully integrated with the ACM models (cameras using firmware version v3.13.16-AC) and TCM models (cameras using firmware version v4.11.09-AC). As ACTi continues to release new cameras to the market, the VideoEdge camera handler provides a generic camera driver that can connect to any ACM or TCM cameras not listed in the available camera list. The generic ACTi driver will gather the required information and present this to the VideoEdge NVR

Supported ACTi Corporation cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed Cameras					
ACM5611	MJPEG	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Bullet Cameras					
ACM1231	MJPEG	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
TCM1231	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM1511	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Cube Cameras					
ACM4201	MJPEG	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM4201	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Fixed Dome Cameras					
ACM3401	MJPEG	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
ACM3511	MJPEG	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
ACM3701	MJPEG	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
ACM7411	MJPEG	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM3401	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM3411	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM3511	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
TCM7411	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM7811	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Box Cameras					
TCM5311	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
TCM5611	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Arecont Vision

VideoEdge camera handler is fully integrated with the Arecont Vision line of megapixel cameras including full support for the 180˚ and 360˚ lines of panoramic view cameras. Arecont Vision cameras operating system (firmware) is continually evolving; please make sure your camera is running the most current firmware available from Arecont Vision (available from http://www.arecontvision.com)

VideoEdge camera handler supports the following firmware versions:

- **M-JPEG cameras** – firmware version 64327 or higher
- **H.264/M-JPEG cameras** – firmware version 65139 or higher

Supported Arecont Vision cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed Cameras					
AV1115	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1115DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1115AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1125	H.264	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1125DN	H.264	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1125IR	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1300	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1300DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1300AI	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1300M	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1305	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1305DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1305AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1310	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1310DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1315	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1315DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1325	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1325DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AV1325IR	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2100	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV2100DN	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV2100AI	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV2100IR	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2100M	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2105	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV2105DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV2105AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2110DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2115	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2115DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2115AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2125	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2125DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2125IR	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2805	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2805DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2815	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2815DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2825	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2825DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2825IR	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3100	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV3100DN	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV3100AI	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV3105	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3105DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3105AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3110DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3115	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3115DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3115AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3125	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3125DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3125IR	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3155	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AV3155DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5100	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5100DN	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5100AI	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5100M	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5105	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5105DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5105AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5110DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5115	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5115DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5115AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5125DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Mini Dome Cameras					
AV1355	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV1355DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV2155	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV2155DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV5155	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
AV5155DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Tested & Certified
Panoramic Mini Dome Cameras					
AV8180	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV8185	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV8185DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV8360	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV8365	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV8365DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV20185DN	H.264, MJPEG	No	No	4.3, 4.4	Tested & Certified
AV20185CO	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
AV20365DN	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
AV20365CO	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
MegaVideo Box Cameras					
AV1115	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1115DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1115AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1300AI	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1300DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1305	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AV1305AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1305DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1310	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1310DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1315	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1315DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2100AI	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2100DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2105	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2105AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2105DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2110DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2115	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2115DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2115AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2805DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2805AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2815	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2815DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV3110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV3100AI	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV3100DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV3105AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV3105DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV3115	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV3115DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV3115AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5100AI	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5100DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5105	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5105AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5105DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5110DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5115	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5115DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5115AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV10005	MJPEG	No	No	4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AV10115	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
MegaDome Dome Cameras					
AV10255	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
AV1355	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2155	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV3155	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5155	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1355	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1355DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2155DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV3155DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5155DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
MegaView Bullet Cameras					
AV1325	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1325IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1325DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2825	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2825IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2825DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1125IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV1125DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2125IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV2125DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV3125IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV3125DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5125IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed
AV5125DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3,	Works as designed

Note

Each of the 8xxx cameras are comprised of four individual cameras housed together as a “single camera”. Please make sure you have sufficient camera licenses available with your VideoEdge NVR. When adding cameras to the NVR ensure that four camera slots are available (e.g. when adding three separate cameras the first camera should be added to slot 1 (this camera will use slots 1,2,3,4), the second cameras should be added to slot 5 (it will use slots 5,6,7,8) and the third camera should be added to slot 9 (it will use 9,10,11,12), and so on.

AXIS Communications

VideoEdge camera handler is fully integrated with the AXIS communications line of IP cameras and video encoders. AXIS has number of API's (Application Programming Interface) camera handlers to communicate with their cameras. The VideoEdge NVR is fully integrated with the VAPIX® API Version 2 (cameras using firmware version 4.xx) and VAPIX® API Version 3 (cameras using firmware version 5.xx). As AXIS continue to release new cameras to the market, the VideoEdge camera handler provides a generic AXIS camera driver that can connect to any VAPIX® 2 & 3 camera. The generic driver will gather all required information, including camera name and functionality, and present it to the VideoEdge NVR.

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported (Minimum Camera Pack Version)	Certification
Encoders					
M7001	H.264, MJPEG	Yes	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Q7401	H.264, MJPEG	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q7404	H.264, MJPEG	Yes	8/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q7406	H.264, MJPEG	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Q7414	H.264, MJPEG	Yes	8/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
240Q	MJPEG, MPEG4	No	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
241Q	MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
241QA	MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
241S	MJPEG, MPEG4	No	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
241SA	MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
243Q	MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
243SA	MJPEG, MPEG4			4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
247S	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Fixed Cameras					
M1011	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M1011-W	H.264, MJPEG, MPEG4	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
M1031-W	H.264, MJPEG, MPEG4	Yes	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
M1054	H.264, MJPEG	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M1103	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M1104	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M1113	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported (Minimum Camera Pack Version)	Certification
M1114	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1311	H.264, MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1343	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1343-E	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P1344	H.264, MJPEG, MPEG4	Yes	1/0	4.0, 4.01, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1344-E	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P1346	H.264, MJPEG, MPEG4	Yes	1/0	4.0, 4.01, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1346-E	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P1347	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1347-E	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q1755	H.264, MJPEG, MPEG4	Yes	2/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Q1755-E	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
206	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
206-M	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
206-W	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
207	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
207-MW	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
207-W	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
210	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
210A	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
211	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
211-A	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
211-M	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
211-W	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
223M	MJPEG, MPEG4	No	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
225FD	MJPEG, MPEG4	No	2/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Fixed Dome Cameras					
M3011	H.264, MJPEG, MPEG4	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3014	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
M3113-R	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3113-VE	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3114-R	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3114-VE	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3203	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
M3203-V	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3204	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3301	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3301-V	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3304	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3304-V	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported (Minimum Camera Pack Version)	Certification
P3343	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3343-V	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3343-VE	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3344	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3344-V	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3344-VE	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3346	H.264, MJPEG	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3346-V	H.264, MJPEG	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3346-VE	H.264, MJPEG	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
209FD	MJPEG, MPEG4	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
209FD-R	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
209MFD	MJPEG, MPEG4	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
209MFD-R	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
216FD	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
216FD-V	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
216MFD	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
216MFD-V	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PTZ Cameras					
212PTZ	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
212PTZ-V	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
213PTZ	MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
214PTZ	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
215PTZ	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
215PTZ-E	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
PTZ Dome Cameras					
P5512	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P5512-E	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P5522	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P5522-E	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P5532	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P5532-E	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P5534	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P5534-E	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q6032-E	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q6034	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q6034-E	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
231D+	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
232D+	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
233D	MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
M5013	H.264, MJPEG	Yes	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported (Minimum Camera Pack Version)	Certification
M5014	H.264, MJPEG	Yes	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Thermal Cameras					
Q1910	H.264, MJPEG	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q1910-E	H.264, MJPEG	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q1921	H.264, MJPEG	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Q1921-E	H.264, MJPEG	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Bosch

Supported Bosch cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AutoDome (Supported Firmware v15500552)					
VJR-821-ICCV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-811-ICCV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-821-IWCV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-811-IWCV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
VJR-821-ICTV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-811-ICTV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-821-IWTV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-811-IWTV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VG5-825-ECEV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
VG5-825-ETEV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
NBN (Supported Firmware v5950050)					
Dinion NBN-498-28	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
Dinion NBN-498-28V	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-498-28WV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-498-28W	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-921-P	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
Dinion NBN-921-2P	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-921-IP	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-832V-P	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-832V-IP	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
Dinion NBC-265-P	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
AutoDome 700 (**Supported Firmware** 5.80.0625)					
VG5-713-CCE2	H.264, MJPEG	Yes	2/0	4.3, 4.4.0	Works as designed
VG5-723-CCE2	H.264, MJPEG	Yes	2/0	4.3, 4.4.0	Works as designed
VG5-713-ECE2	H.264, MJPEG	Yes	2/0	4.3, 4.4.0	Works as designed
VG5-714-ECE2	H.264, MJPEG	Yes	2/0	4.3, 4.4.0	Works as designed
VG5-723-ECE2	H.264, MJPEG	Yes	2/0	4.3, 4.4.0	Works as designed
VG5-724-ECE2	H.264, MJPEG	Yes	2/0	4.3, 4.4.0	Works as designed

CBC

Supported CBC Cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed IP Cameras					
MP1A	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
MP1DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
MP2A	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
MP2DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
MP3DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
MP5A	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
MP5DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Indoor Dome Cameras					
MP8D-L4	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

FLIR

In this release the VideoEdge camera pack is fully integrated with FLIR's D, PT and F series, multi sensor, pan tilt and fixed thermal security cameras.

The following cameras are supported with minimum camera firmware version *nexus-server-GD_v2.5.9.17*.

Supported FLIR cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed Cameras					
F-112	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-117	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-124	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-304	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-307	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-313	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-324	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
F-334	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-348	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-606	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-610	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-612	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-618	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-625	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-645	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-VIS	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Outdoor Dome Cameras					
D-313	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
D-324	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
D-334	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
D-348	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
D-618	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
D-625	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
D-645	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Multi-Sensor Pan Tilt Cameras					
PT-112	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-117	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-124	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-304	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-307	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-313	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-324	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
PT-334	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-348	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-606	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-610	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-612	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-618	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-625	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-645	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Panasonic Corp

VideoEdge camera handler is fully integrated with the Panasonic line of IP cameras. Panasonic, generally, doesn't change the core API interface for their cameras. VideoEdge camera handler is based on Panasonic core API package version 1.28, supporting both WV and DG versions of the listed cameras. As Panasonic continue to release new cameras there may be instances where specific Panasonic cameras are not listed in the available camera pack. A generic Panasonic camera handler is available for these cameras.

Supported Panasonic cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Encoders					
GXE500	H.264, MJPEG, MPEG4	Yes	3/0	4.3, 4.4	Tested & Certified
Fixed Dome Cameras					
NW484	MJPEG, MPEG4	No	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NW484S	MJPEG, MPEG4	No	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
NW502S	H.264, MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SF332	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SF335	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SF336	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SF342	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SF346	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SW352	H.264, MJPEG, MPEG4	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SW355	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
NF284	MJPEG, MPEG4	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NF302	MJPEG, MPEG4	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP508	H.264, MJPEG	No	3/0	4.3, 4.4	Works as designed
SF538	H.264, MJPEG	No	3/0	4.3, 4.4	Works as designed
SF548	H.264, MJPEG	No	3/0	4.3, 4.4	Works as designed
SW558	H.264, MJPEG	No	3/0	4.3, 4.4	Works as designed
SP509	H.264, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SF539	H.264, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SF549	H.264, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SW559	H.264, MJPEG	Yes	3/0	4.3, 4.4	Tested & Certified
SW152	H.264, MJPEG	No	No	4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
SW155	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
SF132	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
SF135	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
PTZ Dome Cameras					
NW960	MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
NW964	MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NS950	MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NS954	MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
NS202	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
NS202A	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SC384	H.264, MJPEG, MPEG4	Yes	3/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SC385	H.264, MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SC395	H.264, MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SC386	H.264, MJPEG, MPEG4	Yes	3/0	4.3, 4.4	Tested & Certified
SC396	H.264, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
ST162	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
ST165	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
SW172	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
SW174W	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
SW175	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
Fixed Cameras					
NP244	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NP304	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NP502	H.264, MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP102	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP105	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP302	H.264, MJPEG, MPEG4	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SP305	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP306	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP304	H.264, MJPEG, MPEG4	Yes	1/0	4.3, 4.4	Works as designed
SF334	H.264, MJPEG, MPEG4	Yes	1.0	4.3, 4.4	Works as designed
SW314	H.264, MJPEG, MPEG4	No	1/0	4.3, 4.4	Works as designed
SW316	H.264, MJPEG, MPEG4	Yes	1/0	4.3, 4.4	Works as designed
SW316L	H.264, MJPEG, MPEG4	Yes	1/0	4.3, 4.4	Tested & Certified

Samsung

Supported Samsung Cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Encoders					
SPE-100	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SPE-400	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Tested & Certified
Box Series Cameras					
SNZ-5200	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
SNB-2000	H.264, MJPEG, MPEG4	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
SNB-3000	H.264, MJPEG, MPEG4	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
SNB-3002	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
SNB-5000	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SNB-7000	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
Bullet Series Cameras					
SNO-5080R	H.264, MJPEG, MPEG4	No	1/0	4.2.1, 4.3, 4.4	Works as designed
Fixed Dome Series Cameras					
SNV-5010	MJPEG, H.264	No	No	4.2.1, 4.3, 4.4	Tested & Certified
SNV-3080	H.264, MJPEG, MPEG4	No	2/0	4.2.1, 4.3, 4.4	Works as designed
SNV-3120	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SNV-5080	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SNV-5080R	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SNV-7080	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SNV-7080R	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SND-3080	H.264, MJPEG, MPEG4	No	2/0	4.2.1, 4.3, 4.4	Tested & Certified
SND-3082	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SND-3080F	H.264, MJPEG, MPEG4	No	2/0	4.2.1, 4.3, 4.4	Works as designed
SND-3080C	H.264, MJPEG, MPEG4	No	2/0	4.2.1, 4.3, 4.4	Works as designed
SND-3080CF	H.264, MJPEG, MPEG4	No	2/0	4.2.1, 4.3, 4.4	Works as designed
SND-5080	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
SND-5080F	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SND-7080	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
SND-7080F	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
PTZ Series Cameras					
SNP-3120	H.264, MJPEG, MPEG4	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
SNP-3120V	H.264, MJPEG, MPEG4	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
SNP-3120VH	H.264, MJPEG, MPEG4	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
SNP-3371	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Tested & Certified
SNP-3302	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Works as designed
SNP-3302H	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Works as designed
SNP-3371TH	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Works as designed
SNP-5200	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Tested & Certified
SNP-5200H	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Works as designed
SNP-3430H	H.264, MJPEG, MPEG4	Yes	8/0	4.2.1, 4.3, 4.4	Works as designed

SONY

This version of VideoEdge camera handler provides full integration with the SONY line of Video Encoders and IP cameras. SONY has number of API's (Application Programming Interface) camera handlers to communicate with their cameras. The VideoEdge NVR is fully integrated with SONY's 3rd, 4th, and 5th generations of IP cameras. As SONY continues to release new cameras there can be instances where specific SONY cameras are not listed in the camera pack camera-list. A generic SONY camera handler is available in these instances.

Supported SONY cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Encoders					
SNT-EX 101	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNT-EX 101E	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNT-EX 104	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNT-EP 104	H.264, MJPEG, MPEG4	Yes	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNT-EP 154	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNT-EX 154	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Fixed Cameras					
SNC-CS20	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH160	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-CH140	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH240	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-CH180	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH280	H.264, MJPEG, MPEG4	Yes	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH120	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH220	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH260	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CM120	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CS50N	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-CS50P	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH110	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-CH210	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-EB520	H.264, MJPEG, MPEG4	No	1/1	4.3, 4.4	Tested & Certified
SNC-EM520	H.264, MJPEG, MPEG4	No	0/0	4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
SNC-EM521	H.264, MJPEG, MPEG4	No	0/0	4.3, 4.4	Works as designed
Mini Dome Cameras					
SNC-DH140	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH140T	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH240	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH240T	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH280	H.264, MJPEG, MPEG4	Yes	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH120	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH120T	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH220T	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH160	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH260	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DS10	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DS60	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DM110	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DM160	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DF50N	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DF50P	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DF80N	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DF80P	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DF85N	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNCDF85P	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH220	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-DH110	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH110T	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH210	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-DH210T	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH180	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
PTZ Dome					
SNC-RS44N	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RS44P	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RS84N	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RS84P	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RS86N	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RS86P	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RH124	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-RH164	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RX530N	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RX530P	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RX550N	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RX550P	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RX570N	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
SNC-RX570P	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-EP550	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Works as designed
SNC-EP580	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Tested & Certified
SNC-ER250/ER521	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Tested & Certified
SNC-EP520/EP521	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Works as designed
SNC-ER550	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Works as designed
SNC-ER580	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Works as designed

VIVOTEK Corp

VideoEdge camera handler is fully integrated with the VIVOTEK line of IP cameras. VIVOTEK, generally, doesn't change the core API interface for their cameras. VideoEdge camera handler is based on VIVOTEK API “URL Command Document for All Series Version 1.4a”, supporting all the listed cameras. As VIVOTEK continue to release new cameras there may be instances where specific VIVOTEK cameras are not listed in the available camera pack. A generic VIVOTEK camera handler is available for these cameras.

Supported VIVOTEK cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions	Certification
Video Encoders					
VS8801	H264, MPEG4, MJPEG	Yes	8/8	4.3, 4.4	Tested & Certified
Fixed IP Cameras					
FD8136	H264, MPEG4, MJPEG	Yes	1/0	4.3, 4.4	Works as Designed
FD8135H	H264, MPEG4, MJPEG	Yes	3/1	4.3, 4.4	Tested & Certified
FD8335H	H264, MPEG4, MJPEG	Yes	3/1	4.3, 4.4	Works as Designed
FE8171V	H264, MJPEG	Yes	1/1	4.3, 4.4	Works as Designed
FE8171	H264, MJPEG	Yes	1/1	4.3, 4.4	Works as Designed
FE8172	H264, MJPEG	Yes	1/1	4.3, 4.4	Tested & Certified
FE8172V	H264, MJPEG	Yes	1/1	4.3, 4.4	Works as Designed
SF8172	H264, MJPEG	Yes	1/1	4.3, 4.4	Works as Designed
SF8172V	H264, MJPEG	Yes	1/1	4.3, 4.4	Works as Designed
AF5127	H264, MJPEG	Yes	1/1	4.3, 4.4	Works as Designed
AF5127V	H264, MJPEG	Yes	1/1	4.3, 4.4	Works as Designed
IP8362	H264, MPEG4, MJPEG	Yes	1/1	4.3, 4.4	Tested & Certified
PTZ Cameras					
SD8313E	H264, MPEG4, MJPEG	Yes	3/2	4.3, 4.4	Tested & Certified
SD8323E	H264, MPEG4, MJPEG	Yes	3/2	4.3, 4.4	Works as Designed
SD8312E	H264, MPEG4, MJPEG	Yes	3/2	4.3, 4.4	Works as Designed
SD8322E	H264, MPEG4, MJPEG	Yes	3/2	4.3, 4.4	Works as Designed
SD8311E	H264, MPEG4, MJPEG	Yes	3/2	4.3, 4.4	Works as Designed
SD8321E	H264, MPEG4, MJPEG	Yes	3/2	4.3, 4.4	Works as Designed
SD8362E	H264, MPEG4, MJPEG	Yes	3/2	4.3, 4.4	Works as Designed
PZ8111	H264, MPEG4, MJPEG	Yes	1/1	4.3, 4.4	Tested & Certified
PZ8121	H264, MPEG4, MJPEG	Yes	1/1	4.3, 4.4	Works as Designed
PZ8111W	H264, MPEG4, MJPEG	Yes	1/1	4.3, 4.4	Works as Designed
PZ8121W	H264, MPEG4, MJPEG	Yes	1/1	4.3, 4.4	Works as Designed
Generic					
All other models	H264, MPEG4, MJPEG (model dependent)	YES (model dependent)	(model dependent)	4.3, 4.4	Works as Designed

Hikvision

Supported Hikvision cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed IP Cameras					
DS-2CD753F-E	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
DS-2CD793PF-E	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
DS-2CD853F-E	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
DS-2CD7264FWD-EZ	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
Encoders					
DS-6708HFI	H.264, MJPEG	Yes	8/0	4.3, 4.4	Tested & Certified
Generic					
All other models	Module dependent			4.3, 4.4	Generic functionality

Camera Specific Release Notes

This section is a collection of camera release notes as provided with each camera release. This section provides detailed description for each manufacturer cameras, performance limitations and supported features.

American Dynamics 8 Channel IP Encoder (M&H)

Supported Key Functions

- Video Streaming – Single and Dual
- Video Codec – MJPEG, MPEG4 and H.264 and MPEG4 MJPEG
- Audio Streaming – Audio Codec are AAC, G.711 ulaw and G.711 alaw
- PTZ – Applies to analog cameras that have mechanical Pan, Tilt, and Optical Zoom
- Dry Contact Events – Camera is polled for dry contact event at 100ms interval
- Reset to Factory Defaults
- Query Device
- Reboot Device

Required Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: user
- Password: user617

Limitations

- Changing the video source requires reboot of the encoder. During the reboot, the device will not respond.
- Changing the interlacing parameter would require the encoder to be restarted. During the reboot, the device will not respond.

- Changing streaming parameters like bit-rate, quality, frame-rate, key frame interval and others would require the stream to be restarted, hence a small glitch in play out might be observed during this time.
- Focus and Iris is not supported by thin Client Web GUI, because 8 Channel Encoder supports only relative value change and does not support absolute change of values. However it is supported in Pattern.
- Consecutive audio channel pairs should be configured with same codec otherwise RTSP will send a 500 message. Pairing as below {PCMU,PCMA},AAC.
- Due to the limitation in the Encoder firmware, the QCIF video stream uses the 172x112 resolution.
- “Pattern” cancel feature is not supported in a consistent manner. During “Pattern Cancel”, pattern recording is cancelled. Upon reinitiating the recording on a pattern, old recorded pattern sequence is overwritten.
- “Focus” and “Iris” support has been removed, to maintain consistency, the “Auto Iris” feature is also disabled.
- During Tilt having stopped at zero-tilt position in Dome camera where a flip of 180 degree happens, might leads to the camera tilting continuously.
- It has been observed that CBR operation for MPEG-4 at lower frame-rate settings is blocky and full of artifacts. To improve the same, a constant quality settings operating as VBR is found to be more effective. This has been incorporated in the solution.
- Due to the limitation in the encoder, simultaneous PT and Z operation using the encoder on a camera is not supported.
- Due to the limitation in the encoder while operating in resolution QCIF, GOP settings 2 and in CBR transmission mode, it is possible to observe up to 50% frame drops depending on the complexity of input scene.
- Bitrate / Quality or any streaming parameter changes using the encoder webpage does not reflect or take effect on the already started or existing streaming session. Either the encoder needs to be restarted or the streaming session needs to be restarted for these parameters to take effect.
- QC1681: ADEIP8H PTZ zoom in feature can’t work with SpeedDome UD8(Pelco-P protocol).
- QC1682: ADEIP8H PTZ zoom in and zoom out feature can’t work with Pelco Dome(Pelco-D protocol).
- QC1862: ADEIP8H on rare occasions the MJPEG stream may send the bad frames that the fame size is only several dozen bytes.

Note

Please refer to AD 8-Channel IP Encoder (M) and (H) Release Notes for additional information.

American Dynamics Fixed IP Camera

Supported Firmware

- v1.57 or later

Supported Key Functions

- Video Streaming: Single
- Video Codec: MJPEG and MPEG-4
- Audio Streaming: Model specific, G.711 ulaw, A/V, single stream only
- Dry Contact Event - 1 Dry Contact, http poll for dry contact event at 100ms interval
- Query Device

Required Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: 9999

Limitations

- The camera will reboot when changing codec (audio or video), resolution, frame rate,key frame interval, video quality, audio volume, enable audio / audio in and any other audio / video properties. Reboots will take about 20 to 30 seconds and 1 minute to be back online.
- Single HTTP stream to send audio/video interleaved MPEG4 video.
- When camera is rebooted or codec is changed, adjusts focus under grey and will take 30 seconds to go to color.
- When changing codec from MJPEG to MPEG4, if the default bit rate is larger than 8000, an error message will be received when changing the video codec properties; the workaround is to change the bit rate to 8000 or lower than 8000.

Note

Please refer to AD Fixed Camera Release Notes for additional information.

American Dynamics Fixed Camera (illustra 400 series)

Supported Firmware

- v2.20 or later

Supported Key Functions

- Video Streaming – Single, Dual
- Video codec – H.264 and MJPEG
- Audio Streaming – G.711 ulaw and G.726, single stream only
- Dry Contact Events – Single. Camera is polled for dry contact event at 100ms interval
- Query Device
- Device Reboot

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username:admin
- Password:9999

Limitations

- The camera will reboot when changing codec (audio or video), resolution, frame rate, key frame interval, video quality, audio volume, enable audio / audioin and any other audio / video properties. The reboots will take about 20 to 30 seconds.
- All audio and video streams will be lost when the camera reboots. All audio and video streams will then need to be re-established.
- When the camera is rebooting, video and audio properties may not be available to get / set new value.
- Due to camera internal resource contention, both profiles (streams) must have the same resolution. If profiles (streams) are set to obtain different resolutions the requested FPS will not be obtainable for MJPEG.
- To achieve optimal H.264 Motion Detection results, the recommended settings are:
    - Stream 1 is H.264, 30fps, D1 or D2 resolution, default quality
    - Stream 2 is MJPEG, 7 fps, CIF, default quality
- For some properties' value are retrieved from camera itself (e.g. resolution, quality), result in that when user adds the camera, the return value is not the default value defined in the NVR, but the actually value in camera.
- VideoCodecKeyFrameInterval is not supported by the camera handler, but the user can change it from the camera web page.
- For AudioInputVolume, the microphone input and line-in input have different ranges.:
- Microphone input:
    - A setting of 'low (1)' is 20dB
    - A setting of 'high (10)' is 26 dB
- Line-in:
    - A setting of 'low (1)' is 6 dB
    - A setting of 'high (10)' is 18dB.
- Due to camera internal resource contention, changing the resolution or quality or bit rate may affect the frame rate performance. Please refer to camera limitation.
- Changing the video codec/audio codec may cause the RTSP service in the camera to crash, and can't get the video/audio streaming, the workaround is to reboot or power cycle the camera
- With camera firmware v2.20, the FPS selections for the MJPEG codec from the camera web GUI shows only "3,5,7,10,12,15,30" for NTSC and "3,5,7,10,12,15,25" for PAL. This, however, does not affect the FPS selections from the VideoEdge client, which remain supporting 1 - 30 for NTSC and 1-25 for PAL.
- To meet the single stream fps, the user can enable dual stream on NVR, configure the stream codec/resolution/fps/quality for Stream 1 and then configure Stream 2 to lowest resolution/fps/quality. Once Stream 2 is configured the user can disable Stream 2 on the NVR. Alternatively the user can access the camera's web GUI settings to change stream 2 to the lowest/resolution/fps/quality.
- TFS#96482 illustra 400 Camera will be 'Unknown' in NVR camera list after rebooting the NVR while the camera is offline. The workaround is to first create a password group with the password "9999", then add the illustra 400 camera with this new group, not the default group.
- Please refer to the AD illustra 400 Camera Release Notes for additional information.

American Dynamics Fixed Camera (illustra 210, illustra 600 and illustra 610 Domes)

Supported Key Functions

- Video Streaming
- Audio Streaming – Supports G711mulaw stream (600/610/210). illustra 610LT does not support audio.
- Dry Contact Events – Single camera is pulled for Dry Contact at 100ms interval (600/610/210). illustra 610LT does not support dry contact events.
- Query Device
- Reboot

Unsupported Key Functions

- PTZ Operation
- Power off devices
- Get device log
- Find Devices
- Reset to factory default

Audio/Video Streaming Feature

- Supports both MJPEG and H264 codec.
- Camera will takes around 25-seconds to restart network services after changing the codec or resolution settings.
- Supports two video streams at the same time
- The rtsp audio only stream URL is

  rtsp://camera_ip:7777/audio.
- The rtsp video only stream URL is

  rtsp://camera_ip:7779/primarystream

rtsp://camera_ip:7781/secondarystream (handler uses this).

- The rtsp A/V mixed stream URL is

  rtsp://camera_ip:7778/primarystream

  rtsp://camera_ip:7780/secondarystream.

- The end user can modify the port numbers via camera webpage.
- Handler will select one stream from camera, so the rtsp URL for MJPEG or H264 can be either of these two URLs

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTP/RTSP

Default Username & Password

- Username: admin
- Password: admin

Limitations

- When the primary and secondary streams are configured with the same codec, changing stream on the NVR may change the opposite stream to the one you wish to change. The illustra 600 primary and secondary streams configuration will not necessarily reflect stream one and stream two on the NVR. The camera only identifies the streams by the stream codec (ignoring FPS and resolution). In some instances when NVR streams are both configured with the same Codec, changing one of the streams will not necessarily change the parameters on the specified stream.
- illustra 600/610 camera only supports one 720P/1080P stream. If there is one 720P/1080P stream on the NVR, it is impossible to set another. Please refer to the camera limitation.
- If the secondary stream is enabled via the Camera Web GUI, the camera will keep streaming even when no user requires the stream. To meet the FPS set in the NVR, the other stream should be set to a lower resolution, quality and FPS. Please refer to the camera FPS limitation document.
- To meet the single stream fps, the user can enable dual stream on NVR, configure the stream codec/resolution/fps/quality for Stream 1, and then configure Stream 2 to lowest resolution/fps/quality. Once Stream 2 is configured the user can disable Stream 2 on the NVR. Alternatively the user can access the camera's web GUI settings to change stream 2 to the lowest resolution/fps/quality.
- Changing codec and/or resolution will cause the network service to reboot; this takes about 25 seconds. It will continue to deliver previous video/audio streams in the first 15 seconds. During this time, the camera will be offline. If the user refreshes the NVR web GUI, the properties will be "unknown", the camera may still be rebooting. If the video stream is not created successfully, the properties will show "unknown".
- For some properties, values that are retrieved from the camera itself (such as resolution or quality), when a user adds the camera, the return value is not the default value but the value defined by the camera.

- NVR only supports audio in 8KHz.
- Defect 7180: illustra 600, add 720p and 1080p resolution for MJPEG stream, change the codec or resolution of stream 1 will report an error. illustra 600 camera only supports one 720P/1080P stream. If there is one 720P/1080P stream on the NVR, it is impossible to set another. Please refer to the camera limitation.
- Defect 7119: The overnight soak Auto Exposure switch appears to occur earlier than expected for 720p PAL and 1080p camera.
- The GOP of H264 must be below 120. If the GOP is too big, several seconds are needed to create a key frame. This will cause a mosaic image effect when opening the NVR if it is not a I-Frame. It is suggested to set the GOP size the same as the frame rate. On the camera, the default factory GOP is 30 for NTSC, 25 for PAL, it is not recommended to change this.
- When changing the FPS, the corresponding RTSP stream will restart. This may result in a minor video loss dependent on the GOP size configured, because the video needs a key frame.
- It is recommended to configure the camera within the camera FPS limitations. If the parameters exceed the limitations, the camera performance may be affected.
- Rebooting the camera to factory default can resolve the camera performance. Once this is complete, reconfigure the camera within the camera FPS limitations.
- NVR does not support changing the quality of H264.
- Although the NVR does not support changing the quality of H264, this can be managed through the camera web GUI. Any resolution change made to the H264 stream on the NVR, will change the quality setting of the H264 stream on the camera GUI from High to Medium. In fact, it is High. This is camera parameter value map issue related to the firmware. It is to be done through the camera web GUI the rate control must be either CBR or CVBR.
- To support dual streams, it is recommended the interval between changing codec/resolution should be greater than 30 seconds. Otherwise the camera may keep rebooting.
- Dry contact messages that have been lost on the NVR maybe received if the camera is set beyond camera FPS limitations. Please refer to the camera FPS limitation document.
- When changing the codec of steam 1 in an NVR that has dual streams, the error “unable to determine stream 2 – malformed request” will be reported. When the “back” button (refresh in the web GUI) is clicked, the codec will have changed to the configured codec. This is a limitation.
- If Motion Meta Data is enabled, changing codec/resolution of stream1 or stream2 after the camera reboots, the Motion Meta status will be disabled. This is a limitation.
- If the default exposure is configured on the illustra 600 or 610, a 2 to 3 second video freeze will be experienced as the camera changes mode from day to night. When the available light caught by the camera lens drops sufficiently, the camera changes from Day mode (color images) to Night mode (black and white images). This freeze is related to the time it takes the camera lens to readjust to the light difference when it is set to the default exposure rate and the effect on the NVR as the mode changes over. A workaround for this is to increase the exposure setting. This is a limitation.
- For resolution/frame rate/quality limitation, refer to the camera FPS limitation document.
- Video and audio may become out of sync when navigating playback to specific times on the victor Client clips.
- If the codec on the camera primary stream is MJPEG, when this camera is added into a NVR, the camera will need to change the codec to H264 and reboot. The camera will be offline for about 20 seconds
- Wrong video timestamp will make NVR create a lot of sessions and have a minor video loss in playback.
- If a user changes the rate control of an illustra 210 model on the Camera Web GUI to VBR it may cause a pulsation effect on the H264 stream when using default resolution, FPS and quality values. The Default for the Rate Control is CBR.

- The Factory default values for the illustra Camera models are:
    - •illustra 210 = H264, Maximum available Fps, D1
    - •illustra 600 = H264, Maximum available Fps , 1280X720
    - •illustra 610 = H264, Maximum available Fps , 1920X1080

Special Points

- Some properties are normalized to a percentage (1-100), but the real value in camera is a range from -127 to 128. This results in the values in the NVR not covering all values in the camera.
- The same illustra 600 series camera should not be added to more than one NVR.
- When the camera is added to NVR, it is recommended not to change settings from the camera web page (especially video and audio) because the change may need to reboot the video codec and this will affect the NVR.
- When changing the video resolution, frame rate, quality, bit rate, audio codec, the code stream will reboot. At this time, the related property cannot be accessed.
- Resolutions on stream1 and stream2 cannot be changed at the same time.
- 610LT models have removed some functionality available in the 610 standard models. This removed functionality is IR illuminator support, SD card support, and TV input/output support.
- The illustra 210 models have no support for Region of Interest, Face Detection and Pseudo Multi Pass Encoding.

American Dynamics Fixed Camera (illustra 600, 610 and 600LT Series Box and Bullets)

Supported Firmware

- v1.0.16 or later

Supported Key Functions

- Video Streaming (MJPEG, H.264 and Dual Streaming supported)
- Audio Streaming
- Dry Contact Event (1 Contact Polling every 100ms)
- Query Device
- Reboot

Unsupported Key Functions

- PTZ Operation
- Power off Devices
- Get Device Log
- Find Devices
- Reset to Factory Default

Audio/Video Streaming Feature

- The rtsp audio only stream URL is:

  rtsp://camera_ip/audio.sdp
- The rtsp video only stream URL is:

  rtsp://camera_ip/video.sdp

  or

rtsp://camera_ip/video2.sdp

- The rtsp A/V mixed stream URL is:

  rtsp://camera_ip/live1.sdp

  or

  rtsp://camera_ip/live2.sdp

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTP/RTSP

Default Username & Password

- Username: admin
- Password: admin

Limitations

- When a factory defaulted camera is added to an NVR, the default settings are: H.264, 7 FPS, CIF. When the user wishes to change the settings they can for single streaming increase the FPS and resolution to max and click Save. For dual streaming, user can enable 2nd stream by selecting Alarm or Record. They should change the codec to MJPEG and click Save.
- To meet the highest single stream FPS, the user can enable dual stream on the NVR, configure the stream codec/resolution/fps/quality for Stream 1, and then configure Stream 2 to lowest resolution/fps/quality. Once Stream 2 is configured the user can disable it on the NVR. Alternatively the user can access the camera's web GUI settings to change Stream 2 to the lowest resolution/fps/quality. For some properties' the value is retrieved from camera itself (resolution, frame rate, quality, brightness, contrast, sharpness) result in that when user adds the camera, the return value is not the default value defined in the NVR, but the actual value in camera.
- The camera will reboot when changing codec (audio or video), resolution, frame rate, key frame interval, video quality, audio volume, enable audio/audio in or any other video/audio properties. Average time for reboot is 30 seconds.
- Changing the video/audio codec or resolution may cause the RTSP service in the camera to crash. With the camera failing to restart and set new streams, the workaround is to reboot or power cycle the camera and reset stream settings.
- All streams will be lost when camera reboots and be automatically reestablished on startup.
- When the camera is rebooting, NVR video and audio properties may not be available to get or set. Any changes made to these settings during reboot time will not be saved.
- In the NVR, under image settings the Video Standard will always display NTSC in the dropdown list, irrespective of it being NTSC or PAL. For PAL cameras, FPS will show 25 as max FPS.
- When the primary and secondary streams are configured with the same codec on the camera web GUI, changing stream on the NVR may change the opposite stream to the one you wish to change. Stream 1 and Stream 2 on the NVR will not necessarily reflect primary and secondary

steams configuration on the camera. The camera only identifies the streams by the stream codec (ignoring FPS and resolution). In some instances when NVR streams are both configured with the same codec, changing one of the streams will not necessarily change the parameters on the specified stream.

- It is recommended to configure the camera to the cameras FPS limitations. If the parameters exceed the limitations, the camera performance may be affected. Factory defaulting the camera, and adding to an NVR can resolve this performance issue. Once this is completed, reconfigure the camera stream without exceeding stream limitations. Please refer to camera release notes.
- If the dual stream resolution/FPS is high, the video may be abnormal, a reboot or factory default may resolve this issue.
- Changing the resolution, quality or bit rate of either stream (even when second stream is not active) may affect the frame rate performance. Please refer to the camera release notes for additional information.
- The NVR handler does not support changing the quality of H.264, this can be managed through the camera web GUI.
- It is recommended to only change one video codec parameter at a time to avoid stream corruption.
- Due to the 2 variants of FPS supported by either MJPEG or H.264, it is recommended to first only change the codec, and then change the resolution and frame rate, or the operation will fail.
- Video and audio are out of sync when playback in victor unified client while live view is sync.
- QC2267 Wrong sequence number in RTSP video stream is received in NVR which causes missing frame.
- QC2279 After soaking for 4 days, video disordered and large timestamp in video is observed. Normal interval is circa 5000 but 200000 is found.
- The NVR handler does not support *VideoCodecKeyFrameInterval*, but the user can change it from the camera web GUI.
- QC2360: Jitter will be observed in live view via the NVR and victor, due to camera performance limitations. This due to the camera taking more than 33 ms to send out the key frame. This does not happen in recorded video. Refer to camera release notes.
- QC2342: RTSP and HTTP stream might be unavailable when user frequently change codec, resolution and FPS too quick. A waiting time of 2 minutes is recommended.
- QC2364: i600 & i610:WW: When dual streaming with CBR set to 4M, when enabling motion detection and recording to SD card, FPS will drop to less than 10 FPS. This is due to a camera performance limitation. Please refer to camera release notes.

Special Points

- Do not add the same camera to more than one NVR.
- When the camera is added to NVR, it is recommended not to change settings from the camera web page (especially video and audio) because the change may need to reboot the video codec and this will affect the NVR.
- QC2286 There is a jitter on H.264 streams if opening dual streams for illustra 610 cameras. (Stream 1: H.264,1920x0180 25 FPS & Stream 2: JPEG, CIF, 7 FPS). To improve performance, lower the Frame Rate or resolution of the second stream.
- When changing between PAL and NTSC, the FPS will change as the same rule. The maximum FPS will raise to 30 when PAL is set to 25 and changed to NTSC

- QC2293 It may take 2 minutes when changing other FPS to 3 FPS. The reason for this is a mismatched GOP and frame rate will cause a longer re-connection time due to waiting for another frame. GOP size is much larger than Frame Rate, it may take a longer time for video to restart.
- Some properties are normalized to a percentage (1-100), but the real value in camera is a range from 0 to 255. This results in the values in NVR not covering all values in camera.

American Dynamics illustra 625 PTZ, illustra 600 /610 Biscuit Cameras

Supported Firmware

- v1.0.0.x or later (illustra 625PTZ)
- TBD (illustra 600/610 Biscuit)

Supported Key Functions

- Video Streaming (Single and Dual)
- Video Codec - H.264 and MJPEG
- Audio Streaming - Audio codec supported on Feature Plus cameras only
- PTZ - Applies to cameras that have mechanical Pan, Tilt and Optical Zoom
- Dry Contact Events - HTTP Server Push is available in iAP13 for use of obtaining the dry contact event. Supported on Featured Plus cameras only.
- Query Device

Unsupported Key Functions

- Find devices
- Reboot device
- Power off device
- Get device log
- Reset to factory default
- Digital PTZ - Applies to cameras that can support digital PTZ

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: admin

Audio/Video Streaming Feature

Common characteristics:

The specific Auto/Video Stream feature characteristics by model families are:

Model Family	Audio/Video Stream Feature
ADCi625-P13x ADCi625-P12x	1. MJPEG and H.264 2. Support Dual Video Streams
ADCi625-P23x ADCi625-P22x *(Feature Plus)*	1. MJPEG and H.264 2. Support Dual Video Streams 3. G711a
ADCi600-M111 ADCi610-M111	1. MJPEG and H.264 2. Support Dual Video Streams
Generic	1. Dependant on camera support: MJPEG, MPEG 4 and H.264 2. Dependant on camera support: Dual video streams 3. Dependant on camera support: G711a, G711u, AAC and G726 if audio capability is detected

The creation/deletion of audio streams does not affect previously created video streams.

Event Stream Feature

Maximum number of dry contact events supported by model families are:

Model Family	Number of Sensor Input
ADCi625-P13x ADCi625-P12x	0
ADCi625-P23x ADCi625-P22x *(Feature Plus)*	1 ~ 4
ADCi600-M111 ADCi610-M111	0
Generic	Auto Detect

Limitations

- Digital PTZ is not supported.

  Note

  Please refer to the American Dynamics illustra 625 PTZ Camera Release Notes for additional information

- NVR Image Settings - Auto Focus and Iris values are read only. These cannot be set using the NVR Image Setting Page. The user can set auto iris on the victor live surveillance pane. For auto focus, users can enable this feature using the i625 Camera GUI.
- NVR Image Settings Tab - Day/Night drop down list provides three options:
  - **Auto -** Corresponds to automid on the Camera GUI
  - **Day -** Corresponds to ‘OFF’ on the Camera GUI
  - **Night -** Corresponds to ‘ON’ on the Camera GUI

  User can access i625 Camera GUI to configure autolow and autohigh settings.

Known Issues

- H264 quality control can only be controlled through the camera web page. The handler is using the basic configuration for video stream. user can set VBR with 5 pre-defined quality levels available: Lowest, Low, Medium, High and Highest.or set CBR with specific range 500-10000. MJPEG video quality control is available through NVR web page.
- Generic Function: The handler will attempt to auto detect most features such as VPA/LENS properties, PTZ/Focus/Iris/Audio/Dry-Contact capabilities.
- When using victor, the zoom function using the AD2089 keyboard and i625 PTZ connected via victor will not work. Suggested workaround is that the user should use the zoom function on the victor surveillance pane or the camera GUI.
- TFS 77590 - Changing two streams at the same time via NVR interface may result in one of the streams not being set correctly. It is recommended to only configure one stream at a time.
- TFS 78171 - For i625 PTZ Cameras, the NVR GUI Alerts tab may provide feature options for both Dry Contacts and/or Alert Pre/Post Buffer for both Feature Plus and non-Feature Plus cameras. Currently these features are unsupported on the NVR GUI and should not be used.
- At this moment, only dry-contact input #1 is supported on the i625PTZ Feature Plus cameras.

MJPEG Usage Consideration

MJPEG video does not use any temporal compression but uses spatial compression. This makes its bandwidth requirements much greater than H.264.

General recommendation:

- Maximum Possible Quality Setting: 100
- Recommended Maximum Setting: 90
- Recommended High Quality Setting: 75
- Recommended Medium Quality Setting: 55

In addition to the above, MJPEG at high resolution and frame rate will use a very large amount of bandwidth. For high resolution, the following is recommended:

Resolution	FPS	Recommended Max Quality
1920x1080	30	60
1920x1080	15	70
1920x1080	7	80
1280x720	30	70
1280x720	15	80
1280x720	7	90

Special Points

- QC 2433 - NVR Configuration Stream may fail when user is streaming live video on the Camera GUI and setting up streaming configuration on the NVR at the same time. Users should not stream live video on the Camera GUI while configuring camera streams on the NVR.
- QC 2434 - Camera Live GUI stream may fail to start if the Camera GUI is left open during the NVR Stream Configuration. Users should log out of the Camera then log back in again.

American Dynamics IP SpeedDome

Serial Number

NVR will use the camera's MAC address as the camera serial number.

Supported Key Functions

- Video Streaming 4 max
- Video Codec –
- MJPEG, MPEG4 and H.264
- Audio Streaming – Audio codecs are AAC, G.711 ulaw and G.711 alaw. No PCM audio stream
- Mechanical Pan and Tilt and Optical Zoom
- Dry Contact Events – Up to 4 dry contact events are support. The camera is polled for dry contact event at 30s interval.
- Query Device

PTZ Methods

- PTZSpeed
- PTZNudge: Zoom, Pan, Tilt
- PTZFilp
- Preset: Add, Set, Select, Clear Preset
- Pattern: Select, Record (Begin, End, Cancel), Clear

Required Network Ports

- Port 5001 is for IDP (command and control)
- Port 554 is for RTSP

Default Username & Password

- User name: admin
- Password:admin

Bandwidth Efficiency

Bandwidth efficiency has been improved for American Dynamics IP SpeedDome cameras running firmware version 2.0 or later.

The VideoEdge NVR will use an algorithm to control video quality according to the camera firmware version. If version is less than 2.0, the video quality will be altered by changing cameras quality value. If version is 2.0 or later, the video quality will be altered by changing the camera's bitrate value. The conversion from quality to bitrate is:

Camera Firmware	Approx Bitrate at Quality Setting (Max FPS, Max Resolution)				
	20	**40**	**60**	**80**	**100**
PAL v1.x firmware	1,140,000	5,240,000	9,220,000	16,780,000	25,160,000
NTSC v1.x firmware	1,180,000	5,320,000	8,160,000	15,100,000	24,750,000
PAL v2.x firmware	278,600	557,000	1,080,000	2,130,000	4,220,000
NTSC v2.x firmware	290,000	550,000	1,070,000	2,120,000	4,200,000

Note

Since the NVR uses CBR to control bitrate, the bandwidth of H.264 and MPEG4 are the same. This handler does not support VBR.

Limitations

- Only one audio stream (G711aulaw or G711mulaw) can be used at one time
- Dual video streaming supports H.264/MJPEG and MPEG4/MJPEG, but does not support H.264/MPEG4.
- No PCM audio stream
- Unable to add an IP SpeedDome if it is beyond the IP broadcast range of the NVR
- If Auto Flip is disabled, then the amount of distance of tilt down will be larger when it is close to -90 degrees than other positions.
- If Auto Flip is enabled, then the tilt down operation in NVR will lock the motor which make auto flip failure because the tilt down in NVR is not continues (e.g. moveBy) and the moving amount of distance is very tiny.
- Camera digital PTZ is not supported in this release. So it is not implemented normalization for digital PTZ part.
- In H.264 single stream, the maximum frame rate is 20fps @ D1 resolution @ quality 70.

- The maximum frame rate in dual streaming mode is:
    - When codec is H.264/MJPEG:
        - The maximum frame rate for the H.264 stream is 15fps @ D1 resolution @ quality 70, or 25fps @ 2CIF resolution @ quality 70, or 25fps @ D1 resolution @ quality 40; while the secondary MJPEG stream is 7fps @ CIF resolution @ quality 70
    - When codec is MPEG4/MJPEG:
        - The maximum frame rate for the MPEG4 stream is up to 30fps at any resolution and quality if the secondary MJPEG stream is set to 7fps @ CIF resolution @ quality 70. If the secondary MJPEG stream is set to 25fps @ D1 resolution @ quality 70, then the frame rate for the MPEG4 stream is up to 25fps @ D1 resolution @ quality 90.
- The zoom speed is fixed.
- Audio will not work unless it is enabled through the camera web interface.
- In victor, the Iris restore button does not work for ADIPDome Camera on victor Surveillance view. (TFS 48541)

Known Issues

- When using IP Dome firmware 2.0.0.645 for streaming H264 only, users should not use rewind instant play back with victor client. Users should use Search and Retrieve, or don't configure using a H264 stream. Refer to QC 10255 for more info.
- The default values for some properties defined on NVR are different from camera's default.
- The dry contact state always returns unknown.
- The definition of preset and pattern in NVR might be changed by user via web-client.
- The NVR will not recognize any presets or patterns already on the dome when it is added to the NVR.
- The NVR will not recognize any presets or patterns added to the dome via its web interface and in fact the NVR may overwrite them.
- Preset and pattern definitions made on the NVR will be mirrored to the device, but not the other way around.
- Preset and pattern definitions should be retained in case of network loss or disconnection / reconnection.
- Preset and pattern definitions will not be deleted when the dome is deleted from the NVR.
- Clients should show only the presets and patterns that have been defined using the NVR (not all 96 slots, defined or not). Presets and patterns defined through the device web configuration will not be shown
- When using the settings H.264 codec, D1 resolution, 25/30 (PAL/NTSC) FPS and the quality is above 90, video will freeze when opening Live View.
- Iris restore button does not work for when using surveillance with victor.

Note

Please refer to the AD IP SpeedDome Release Notes for additional information.

ACTi Corporation

Supported Key Functions

- Video Streaming
- Query Device
- Dry Contact Events
- Reboot

Unsupported Key Functions

- Audio Streaming
- PTZ
- Power Off
- Get Log
- Restore Factory Defaults
- Find Device

Minimum Firmware

- For ACM models – v3.13.16-AC
- For TCM models – v4.11.09-AC

Required Network Ports

- Port 80 is for HTTP
- Port 7070 is for RTSP

Default Username & Password

- Username: admin
- Password: 123456

Supported Resolution

All resolutions less than or equal to 1280x720 are dynamically acquired by the camera.

Limitations

- Resolutions larger than 720p are unsupported due to an incompatible algorithm used by the camera when the stream's resolution is larger than 720p.
- HUE feature on all cameras is unsupported, due to the manufacturer’s firmware team's recommendation not to change HUE and not to use VIDEO_HUE command for ACTi cameras.
- Due to camera limitation, the actual frame rate might be higher or lower than the requested frame rate. (Please refer to ATP results).
- For some cameras, RTP stream is not enabled by default. The handler will enable it before creating the stream pipeline. Do not change the stream method while configured on the NVR.
- By default, the B2 header function of the camera is enabled, which is not supported by the NVR. Therefore, the handler will disable this function when a camera is added to the NVR. Don't enable B2 header while camera is added to NVR.
- Dry contact active state in NVR is read-only, this cannot be modified.
- The scope of the image will be changed with a change of resolution, but the base pointer is neither the image’s corner nor center.
- The handler will use FPS as GOP. This is because when the camera streams on the RTP protocol, GOP is fixed to 0, which means 1 key frame per second.
- Due to the camera's FPS limitation. When single/dual streaming the FPS available is dependent on several factors e.g. a codec or resolution change may cause FPS on both streams to change.
- Due to the camera's limitation, camera will add to NVR with a lower FPS than supported. When adding a dual streaming camera to the NVR both streams’ codec will be set to H.264 highest resolution. Even if the second stream is not actively configured on the NVR, it is still affecting full FPS performance on stream one – in order to extend stream one FPS the user is required to lower the resolution on stream two.
- The hander will restart the stream when the resolution or codec is changed, which may cause a video loss for a few seconds.
- The contrast in camera web GUI displays as 0-100, but the vendor asked us to support 1 to 100, so the contrast supported in NVR GUI is 1-100.
- Focus and iris functions are excluded from support, because all cameras do not support them. However it is possible that future cameras will support these functions.
- WDR feature is currently not supported due to the related API VIDEO_WDR not working correctly on the official release.
- If the FPS is set to variable mode in the camera's web GUI, the NVR field for FPS will automatically become read only.

- The ACTi generic camera driver will not support the following features:
    - Image settings:
        - •Lens day/night mode
        - •Brightness
        - •Contrast
        - •Sharpness
    - H.264 stream
- Resolutions larger than 720p are unsupported. Should a camera support a higher resolution, this will not be available via NVR.

Known Issues

- The TCM3511 has an issue with Reverse playback in the VEClient. The user will experience a stutter with the H.264 stream due to the first key frame being received every second.
- Interval between video frames (frame spacing) is not always stable, but video is not affected - no video freeze, stutters or pixellation have been observed.
- Due to camera stream limitations, in dual streaming a change in codec or resolution on one stream may cause another stream's FPS to be changed. The handler is not able to force the NVR camera details to refresh the web page, therefore, the displaying FPS may not be right. Refreshing the web page will update the properties.
- The minimum FPS recommended for ACTi stream configuration should be above 3, due to FPS 1 or 2 causing the following issues:
    - NVR and victor refresh frequently (including the Video panes refreshing)
    - The time stamp interval between the nearest frames is incorrect

Error Messages

- Sometimes adding an ACTI camera onto the NVR may fail with a timeout message. This is caused by 1) APIs for codec and FPS work very slowly. Codec API may take up to 4.9 seconds and FPS API may take up to 2.5 seconds. Or 2) as specified by ACTI support, frequent API calls may cause the camera to work abnormally.

  Resolution: Add camera to NVR again.

  To avoid this issue, it is recommended configure camera as following before add to NVR:

  ACM: @ MJPEG @Highest-Resolution @highest-fps

  TCM: Dual stream @H.264 @ Highest-Resolution @highest-fps
- Restoring factory defaults may cause the camera to 1) crash; 2) NVR report timeout when adding it into NVR; 3) Camera to report "Please contact your provider. Error code: 00000001, other error" when trying to connect to the camera GUI.

  Resolution: Hardware reset
- Camera may crash when POE/power cable are unplugged and plugged in again. When the issue happens, the camera's web GUI may display "01072915212: Rtsp:Error. Create socket 01072915214:Rtsp:Error. create socket".

Resolution: Power Cycle first. If problem persists, carry out hardware reset.

- Sometimes the camera's web GUI will report "Error: Streaming Engine is not running", when the issue happens there is no stream given out. The camera can be restored after a manual reboot.

  Resolution: Hardware reset

- Sometimes modifying contrast or saturation will cause the camera to crash, when this happens, the user may receive the following message on the camera's web GUI: "Please contact your provider. Error code: 00000001, Other error".

  Resolution: Hardware reset

Special Points

- Do not factory default unless necessary, because sometimes it may cause many issues (refer to above known issues and limitations)
- Do not modify the camera's root user name. This is because the NVR only supports a password change.
- Do not add one camera into two or more NVRs.
- When the camera is added to the NVR, it is recommended not to change settings from the camera web page.
- When the camera is added onto the NVR, do not turn off "stream on RTP" setting, this will cause camera stop providing a live RTP stream.
- When the camera is added into NVR, do not change B2 header setting, this will cause the NVR to be unable to parse the stream.
- Only constant FPS mode is supported in RTP streaming due to camera limitation.
- The NVR Video smoothing function is enabled on this handler because the NVR stream refreshes frequently when it is disabled.
- NVR will display 1 when the camera's contrast setting value is 0. Refer to above limitation for detail.
- Handler had hard coded the camera's connection count to 1. Because the connection count is missed in some cameras' response data.
- Before adding a camera onto the NVR, it is recommended to set the settings as close as the handler defaults (H.264 / MJPEG 5FPS 1280x720) , otherwise adding action may fail with a timeout error. Refer to above known issues.

Arecont Vision

Supported Key Functions

- The Arecont Vision AV8xxx employs four, two-megapixel cameras in 180˚ or 360˚ panoramic views. Models are available in a variety of options including H.264 or MJPEG video formats, Day/Night, Heater/Blower, recessed or IP66 housings.
- Using the American Dynamics victor unified client, operators can view each image independently or combination of them in a multi camera view in victor.
- Video Streaming – Single and Dual
- Video Codec – MJPEG and H.264 (Note: AVxxx0 models only support MJPEG)
- Query Device

Camera Serial Number

NVR will use the camera's MAC address as the camera serial number.

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: <The password should be left blank>

Limitations

- It is advised that the user does not configure the same camera on two NVRs at the same time. This is due to ssn accumulation in the streaming URL on the handler, therefore only one camera can be accessed by one NVR at the same time.
- The Arecont 10MP camera(AV10XXX),will not support NVR motion detection as its lowest supported resolution exceeds NVR limitations.
- Due to a Quick Time player limitation, for 10MP cameras, the video stream with a full resolution (3648x2752) can't be streamed on the NVR web page.
- Streaming large amounts of data to Quicktime may cause a distorted image to appear. This is due to Quicktime or the network card on the host on which Quicktime is running, Preventing large bit rate streams particularly during the start up of H.264 due to the bursting of all frames since the previous Key frame. This result may be a green/mosaic screen especially on motion scenes. This may occur for both live and historic playback on NVR and Victor client.
- The AV8xxx will be viewed with Victor Client. Not all functionality is supported by the Web-Client.
- Due to camera limitation, the actual frame rate may be lower than the requested frame rate.
- Due to camera RTSP performance limitation, for AV8XXX series, the camera can only deliver approximately 2 FPS per lens.
- Due to an NVR performance limitation the max fps is limited to 30 for AV1115, AV1125, AV1315, AV1325, AV2115, AV2125.
- For AV8XXX, AV20XXX models it is highly recommended to have all four inputs from the camera set to the same storage section in the VE-NVR. Mixing may cause mixed retention times for some inputs compared to others.
- In order to control bitrate of the H.264 stream user can set quality levels via the NVR camera stream detail page. The bitrate will change according to a number of factors: complexity, light change and movement in the scene. In a scene with a lot of movement at the lowest quality, the bitrate of the stream will be higher than in a still scene at the highest quality.
- Due to the camera limitation, the bitrate and quality cannot be set through the camera's web interface. The bitrate and quality values have to be included in the RTSP URL for them to work.
- When upgrading the camera handler pack, note that the parameters of video streams may be changed to the default values. It is recommended to recheck video codec parameters when upgrading or restoring configuration backups.
- Due to camera limitation, for Arecont cameras all MJPEG only cameras (Arecont: AVxx00, AV8180, AV8360 - CBC: MP1A, MP2A, MP5A and MP8D-L4) will stream at a higher FPS (reaching max FPS) when setting to 15FPS. FPS of 14 and lower are not affected by this issue.
- On VideoEdge NVR Version 4.0 motion detection for MJPEG stream is not supported for video resolution greater than D1. VideoEdge NVR version 4.1 increases the resolutions to 1280x960 supporting second stream from a megapixel camera.
- NVR 4.1 or above motion detection can only handle a resolution of 800x600 (or 800x592), not 1600x1200 (or 1600x1184) for AV8XXX cameras. (Maximum resolution for NVR to handle motion detection is 1280x960).
- Due to camera MJPEG video stream non-compliance, motion detection might not work on some models.
- For AV8XXX cameras, motion detection can only be enabled if single MJPEG is set for every lens.
- VideoEdge NVR requires a minimum of four (4) frames per second to provide reliable motion search results. Due to the limitation of the Arecont Vision camera to produce two streams at the minimum frame-rate required for motion data generation video motion search performance will vary.

- The AV8xxx provides an option to "Equalize Brightness" across all four imagers. This will cause all the lenses to have the same brightness as the first lens. The VE-NVR camera handler has this value unassigned when cameras are added. If the camera has this value set by the camera's web configuration page the camera's brightness cannot be changed by the NVR.
- Due to camera performance limitation and network status, refreshing the camera list within the Victor Client may take 0.1 to 1 second to get each property from the camera. In addition changes to properties on the VE-NVR may take 2 to 30 seconds.
- AV818X and AV2018X are 180° view cameras. Its layout is 4x1 and its sequence is "1,4,2,3". Therefore to display a full view of 4X1, Victor Client should be used. In order to display all cameras correctly the images of input 1 and 2 are inverted 180° by default.
- AV836X and AV2036X are 360° cameras. Its layout is 2x2 and its sequence is "1,2,3,4" and has no rotate issue (all are the same).
- Different Arecont panoramic camera models may produce different bit rates for the same scene.
- Due to the camera firmware issue on AV8185DN, the camera stream may restart on the NVR.
- Due to a camera hardware limitation, for AV8185 and AV8365 cameras, the sensor size is 1600x1200, so the NVR resolution setting is 1600x1200, but it streams at 1600x1184
- If an Arecont camera in the NVR becomes offline, and the NVR can reach another non-Arecont device via the same IP address, NVR will mistake the device as the Arecont camera. User may happen to see the normal codec setting in NVR web page, but no video.

Known Issues

- For MJPEG cameras (AV1300, AV1310, AV2100, AV2110, AV3100, AV3110, AV5100, AV5110, AV8180, AV8360, MP1A, MP2A, MP5A, MP8D-L4 etc.). if we set the password to the user (admin), the JPEG stream can't be retrieved by GSTREAMER (although using the correct user and password). It seems there is bug in the camera's http server. (Lack of one CRLF when doing unauthenticated request, the same as AV1300, AV2100 etc MJPEG single lens camera)Arecont Ticket number -TECHSUP-8433.
- For H.264 camera (AV8185, AV8365, fw version: 65031), if we set the password to the user (admin), the H.264 stream can't be retrieved by GSTREAMER (although using the correct username and password). It seems there is a bug in camera's RTSP server. (It returns a bad response when doing unauthenticated request.) MJPEG stream can be retrieved normally by http using user and password. New firmware (version 65043) has no such issue. DN cameras (AV8185DN, AV8365DN, fw version: 65166) have no such issue.
- QC6721, QC6731: AV8185DN (AV8365DN) sometimes changing the rtp SSRC value when in streaming. The work around is to replace the flowing SSRC with original one in current handler. It may impact performance a little. it is fixed in camera firmware release 65167.
- QC6831: AV8185DN - NVR receiving H.264 frames with timestamp prior to last one received. This is a firmware issue.is fixed in firmware version 65167 or later.(Arecont ticket: TECHSUP-15516) NVR receiving H.264 frames with timestamp prior to last one received for cameras AV3105, AV5105, AV8365, AV10005. (Arecont ticket: TECHSUP-20512)
- QC6727, QC6873, QC9342, QC9351: A number of Arecont cameras have been identified as having firmware issues where cameras may unexpectedly stop sending Frames for a short time (3-7 seconds). In some instances this will trigger a lost video alert. Cameras where this issue has been observed are AV3115DN, AV5125IR, AV8185DN. (Arecont ticket: TECHSUP - 15613.
- QC6873: AV8185, AV10005 series - observed 7 seconds of video loss on camera stream several times this is a firmware issue. (Arecont ticket: TECHSUP-15751).
- For some properties' the values are retrieved from the camera itself (e.g. resolution). When an Arecont camera is added to the NVR, the return value is not the default value defined in the NVR, but the actual value in camera.

- For Arecont's MJEPG version cameras, the D/N camera does not return suffix DN for the model. So NVR will not get D/N option.
- On Internet Explorer, if changing the default user name and password, the camera may not be accessed successfully.
- Due to camera firmware defect, the camera does not return the full model name, the NVR cannot support the daynight and auto Iris settings for all the Arecont cameras. The settings can be configured in the settings via the camera web GUI. (Note: Please refer to the Arecont Vision Camera Release Notes published by Arecont Vision for additional information.)
- TFS78158: victor 4.3, 4.4(7.0.492.46) if the recording is played in reverse, the recording will jump several seconds and pause after playing for about 40s. This is a bandwidth issue. The Arecont camera is a HD camera, therefore there is a lot of data in the network at the beginning of playing in reverse on victor.
- QC6867: Arecont Panoramic AV8185DN does not send a heart beat to the device_manager - this causes a device_controller reboot.This is because sometimes the gstreamer pipeline will block the device_controller sending a heart beat signal to the device_manager when it fails to create a stream.
- QC9487: On the AV8185 camera, the camera continually rebooted itself during daytime hours. This was caused by the NVR smoothing mechanism. Please refer to QC7685.
- Higher video bit rate may occur under low light conditions, which may cause video loss.
- TFS78348: All configuration will be factory defaulted, if the camera is rebooted as a result of the camera being powered off. User should use the "save to all " button in the cam web gui, which can write the data into the flash. When the camera is restarted the camera will not return to the factory default configuration.
- TFS83823: AV1300 & CBC MP2A can't be added into NVR in cam pack 16.With the NVR query mechanism change on NVR4.2 and later, when the user adds a camera onto the NVR, all the handlers would send the CGI to the camera. AV1300 and CBC MP2A can return the web page to the NVR. This caused a camera dump. It is a camera firmware issue and there is a related ticket (23044). The firmware version is 64327 for AV1300, and 64328 for CBC MP2. We have made a work around to add a 3 second delay to the Arecont handler query device to ensure the camera is working normally.
- TFS87014: Arecont: changing stream 1 and stream 2 codec at the same time can cause video loss on NVR and victor. If this happens then user should reapply the codec on one stream.

Special Points

- It is recommended when the camera is added to the NVR, not to change any property parameters on camera web GUI.
- Arecont only support two resolutions, one is half, the other is full, and we will convert it to width x height according to the actual picture size.
- MJPEG over RTSP is not supported.
- Video Codec Properties are all set to DB. The properties on the camera web page are not used, and these settings are for default stream fetching by web.
- Internet Explorer may cache the history data, if Internet Explorer is used to get the properties of an Arecont camera by the direct URL (such as http://<ip>/get1?brightness), a page refresh should be used to get new data.
- Brightness and sharpness are retrieved from the Arecont camera GUI. There for if the user changes the value on the camera GUI it will change the values displayed on NVR.NVR's value range can't cover all the values of the device.Camera's range is -50, 50 and NVR's range is

1,100. The normalization will be: -50,-41 to 1,10 and -39,50 to 11,100. -40 is not normalized. When the value is read from camera, it is normalized to 11.

- The range of image quality for H.264 is (17, 36). And the normalization are:

36	5
35	10
...	
21	100

- Arecont default has blank username and password. Users can use any password or username to access the camera. But if the password has been set to user admin or viewer, users should use correct username and password to access the camera. Only by doing "Factory default" can set the password to be blank. (NOTE: a blank password does not mean ZERO length string. If user empties the password input in camera's web page, and saves to the camera, still means there is a password set.)
- The VideoCodecKeyFrameInterval is the same for all 4 lenses. The default value is set to 30 by the handler and the camera's default value is 51. (NOTE: the panoramic camera's register address for key frame interval setting is [3:100] not as the individual camera's [3:21]. The setting value is the p frames number between I frames, not containing I frame. (For example, if user wants to set key frame interval 30, the http command should be http://<cameraip>/set?page=3&reg=100&val=29))
- Models AV8185DN or AV8365DN retrieved by http://<cameraip>/get?model has a "DN" suffix after the digital model value, i.e. 8185DN or 8365DN, while single lens DN cameras return only digital model value without "DN" suffix, for example, AV3105DN camera returns 3105, not3105DN. User can get the model type with "DN" suffix by http://<cameraip>/get?model=fullname(Confirmed by Arecont supporter). Anyway, what is displayed on NVR should be a full model type, which means DN camera should have "DN" information in camera model type.
- For H.264 stream, using default bitrate=8192 Kbits and qp=24.
- For saturation range from camera to NVR, its mapping relationship is:

1	0
2	20
3	40
4	60
5	80
6	100

Conversion formula: NVR_Saturation = (Camera_ Saturation - 1)*20.Note: In order to meet equal difference between adjacent members on NVR, the least member of camera's saturation (0) is ignored.

Supported Resolutions

Model	Maximum Resolution	Resolution Options on NVR

AV1115	1280 x 1024	1280 x 1024 & 640 x 512
AV1125	1280 x 1024	1280 x 1024 & 640 x 512
AV1300	1280 x 1024	1280 x 1024 & 640 x 512
AV1305	1280 x 1024	1280 x 1024 & 640 x 512
AV1310	1280 x 1024	1280 x 1024 & 640 x 512
AV1315	1280 x 1024	1280 x 1024 & 640 x 512
AV1325	1280x1024	1280 x 1024 & 640 x 512
AV1355	1280 x 1024	1280 x 1024 & 640 x 512
AV2100	1600 x 1200	1600 x 1200 & 800 x 600
AV2105	1600 x 1200	1600 x 1200 & 800 x 600
AV2110	1600 x 1200	1600 x 1200 & 800 x 600
AV2115	1920 x 1080	1920 x 1080 & 960 x 540
AV2125	1920 x 1080	1920 x 1080 & 960 x 540
AV2155	1600 x 1200	1600 x 1200 & 800 x 600
AV2805	1920 x 1080	1920 x 1080 & 960 x 540
AV2815	1920 x 1080	1920 x 1080 & 960 x 540
AV2825	1920x1080	1920 x 1080 & 960 x 540
AV3100	2048 x 1536	1024 x 768
AV3105	2048 x 1536	2048 x 1536 & 1024 x 768 (1024 x 768 only for MJPEG)
AV3110	2048 x 1536	1024 x 768
AV3115	2048 x 1536	2048 x 1536 & 1024 x 768 (1024 x 768 only for MJPEG)
AV3125	2048 x 1536	2048 x 1536 & 1024 x 768 (1024 x 768 only for MJPEG)
AV3155	2048 x 1536	2048 x 1536 & 1024 x 768 (1024 x 768 only for MJPEG)
AV5100	2560x1920	1280 x 960
AV5105	2560 x 1920	2560 x 1920 & 1280 x 960 (1280 x 960 only for MJPEG)
AV5110	2560 x 1920	1280 x 960
AV5115	2560 x 1920	2560 x 1920 & 1280 x 960 (1280 x 960 only for MJPEG)
AV5125	2560 x 1920	2560 x 1920 & 1280 x 960 (1280 x 960 only for MJPEG)
AV5155	2560 x 1920	2560 x 1920 & 1280 x 960 (1280 x 960 only for MJPEG
AV20185DN	2560x1920	2560x1920 &1280x960
AV10005	3648x2752	3648x2752 & 1824x1376
AV8180	1600x1184	1600x1184 & 800x592

Axis Communications

Supported Key Functions

- Video Streaming – Single and Dual
    - Video Codec – MJPEG, MPEG4 and H.264
- Audio Streaming
    - Audio codec supported depends on camera functionality
- Dry contact events

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: root
- Password: pass

Note

These are associated with password group 0 (default)

Supported Camera API and Models

- Camera API: VAPIX 2 and VAPIX 3. The NVR will interface with any AXIS Cameras that support VAPIX 2 or VAPIX 3. The feature and performance of the cameras might vary due to VAPIX 2 or VAPIX 3 or camera limitations
- Model: Models that support VAPIX2 and VAPIX 3 Camera API. If the camera model is not on the list, then select AXIS-generic

Camera Serial Number

NVR will use the camera's MAC address as the camera serial number.

Supported Key Functions

- Video Streaming – Single and Dual
- Audio Streaming – Audio codec supported depends on the camera.
- PTZ – Applies to cameras that have mechanical Pan and Tilt and Optical Zoom.
- Dry Contact Events
- Query Device
- Reboot Device

Video/Audio Stream Feature

- For VAPIX 3 cameras, all MJPEG, MPEG-4 and H.264 streams can have different frame rates, resolution and quality.
- Cropped resolutions are not supported and do not appear in the resolution selection list.

Limitations

- Due to limitation in the Axis Encoder PTZ support, AD Ultra 8 analog PTZ presets are not supported on Axis Encoders. (Axis Ticket 317075).
- When working with Axis encoders the number of Presets is supported at:
    - 32 for Pelco analog cameras. It is known from Axis that this is a Pelco driver limitation (Axis ticket 317074).
    - 20 presets on M7001 encoder (Axis Encoder limitation)
    - 50 for Bosch analog cameras
- Preset capabilities for the UltraDome 8 analog cameras do not function properly with the Axis encoders. This issue is not limited to the Victor Client; it occurs when trying to add/select/delete presets through the Axis web interface itself as well. This is an Axis encoder issue. As AD Ultra 8 analog cameras do not support presets, they can be added on NVR GUI and victor client, but do not function when executed.
- For Pelco analog cameras added to M7001 will produce shaky video and video loss (Axis Encoder limitation - Axis Ticket 317173).
- The original NVR requires Axis cameras to have absolute PTZ capabilities in order to support PTZ presets. Since Axis tech support guarantees that their encoders will support preset functionality even if the absolute PTZ is absent, the QC11942 fix will always enable the preset support for all Axis encoders as long as the PTZ is enabled both in the NVR and the Axis encoder.
- For cameras that claim to support absolute and auto focus but fail to provide minFocus and maxFocus (the focus range), the NVR web page (Image Settings -> Lens/Sensor) will display

the Auto-Focus option but will not display the focus range when Auto-Focus is disabled. The AXIS 215 is an example of such a camera.

- The victor client activity window shows an unexpected extra offline entry and online entry for the AXIS 207W camera after it has been disconnected and then reconnected. This second offline/online entry is due to an apparent flaw in the AXIS 207W camera
- Q1755 without PT head installed will still show up as a PTZ camera in NVR. However, none of the PTZ functions will work. This limitation could apply to all cameras that has built-in PT/PTZ head support.
- Older versions of the AXIS handler may have set the “exposure”, “input gain”, “wdr” and other parameters on some AXIS cameras to invalid values.
- The camera’s web interface can be used to determine whether the camera parameters have been set to invalid values. Click “Setup->System Options->Advanced->Plain Config” and then select the appropriate parameter group (image source, PTZ, etc). The invalid values will be displayed but will be appended with “(not supported?)”. The AXIS handler will also see the “(not supported?)” in the parameter value strings it reads from the camera. If any invalid values are found then use the camera’s web interface to change invalid settings to valid settings.
- An attempt to add a preset to AXIS encoders (with AD Ultra 8 analog PTZ camera) will result in a “Error: query not implemented” HTTP error being returned in response to a “http://<ipaddress>/AXIS-cgi/com/ptz.cgi?query=position&camera=1” HTTP request. The reason for this is that the Sensormatic driver for the AD Ultra 8 camera does not allow the position to be queried. The parameter list retrieved from the encoder will report that absolute pan, tilt, zoom is not supported
- An attempt to add a PTZ preset for AXIS Q1755 fails because the getPositionSync method returns “Not supported” error as a result of the AXIS Q1755 not returning pan and tilt position info when PTZ position is queried. The zoom position is returned but not the pan and tilt position. Since the Q1755 cannot pan and tilt without the motor accessory then perhaps the need to set presets for zoom only is not critical.
- When an AXIS 240Q or 241Q four-port encoder is added to the NVR, camera slots will be created for all four ports regardless of whether the encoder inputs are receiving analog signals. If an analog signal is not preset, black video will be received by the NVR and recorded / streamed to viewing clients. To conserve NVR disk space and reduce network traffic, the camera slots associated with the unused inputs can be deleted from the NVR but they cannot be added again unless the entire encoder is deleted and re-added.
- The latest firmware (4.47) in the AXIS 210A camera and some other VAPIX 2 camera and encoder models have a flaw that limits the FPS of MJPEG streams to the FPS of an existing MPEG-4 stream until the MPEG-4 stream is destroyed. For example, if the configured FPS of two MJPEG streams are 20 FPS and 5 FPS and the FPS of the MPEG-4 stream is 15 FPS then the actual FPS of the MJPEG streams will be 15 FPS and 5 FPS until the MPEG-4 stream is destroyed. Similarly, if the MPEG-4 stream is 1 FPS then the actual FPS of the two MJPEG streams will be 1 FPS. A workaround is to ensure that the FPS of an existing MPEG-4 stream is greater that the configured FPS of the MJPEG streams. Another workaround is to revert the AXIS firmware to an older version (4.40 for example) which does not exhibit this symptom.
- After an AXIS camera has been disconnected from the network, it can take up to 22 seconds to raise an alarm and attempt a reconnect after the dry contact connection to the device is lost. However, the loss of the video stream from that camera will be detected within a few seconds and an alarm will be raised.
- If the camera’s own web GUI is used to rotate an image (instead of using the NVR web client “Image Settings” screen) then the change does not take effect on existing streams until an FPS or resolution change causes the stream to be destroyed and recreated. It is better to use the NVR web client “Image Settings” screen to rotate the image because that will cause the stream to be destroyed and recreated.
- When using /AXIS-cgi/com/ptz.cgi?camera=1&areazoom=<int>,<int>,<int less than 100> AXIS API to zoom out on AXIS 214 PTZ camera, the zoom position will reverse to maximum zoom in

when the request causes a zoom out to go beyond the widest zoom out position. This, according to AXIS technical support, is a bug within the AXIS 214 PTZ camera (v4.40). The above mentioned API is used by NVR Web client and VE API to perform PTZ Nudge operation.

- An AXIS VAPIX 2 camera will momentarily disrupt an MPEG-4 video stream as a result of changing the audio codec which causes the NVR to stop/recreate the video stream. During recorded playback by Victor Client, a blank image appears for a very short period at the point in time where the audio codec was changed.
- If the customer needs to change the active state of a dry contact input then it should be changed before adding a corresponding alarm sensor otherwise an alarm/alert may be caused as a result of changing the active state.
- For H.264 video streams, the NVR web client does not allow the H.264 video quality and H.264 video bit rate setting to be examined or changed. Be advised that the AXIS handler never changes the camera's H.264 quality, Variable/Constant bit rate mode or H.264 video bit rate settings. If the customer uses the camera's own web interface to change the "variable bit rate", "constant bit rate" or "video bit rate" setting then that change will not take effect on active streams. It will be necessary to cause the NVR to tear down and recreate the video stream. That can be achieved by using the NVR web client to change the FPS setting of the stream.
- The AXIS 221 and AXIS 223 cameras are falsely recognized as PTZ cameras due to the "Properties.PTZ.PTZ=yes" parameter read from the cameras. As a consequence, Victor Client will show the PTZ icon and the NVR web client will show the PTZ link when using the AXIS 221 or AXIS 223M camera.
- The AXIS API does not provide same the functionally across different cameras. When lens WDR property set to "1", the AXIS camera's wide dynamic range settings will be set to "on" for some cameras and for others for WDR"3". Setting to "0" will turn all to "off"
- Audio volume increment can be set in increment s of "3". Current implementation does not incorporate the "mute", "auto" or a non integer value
- The zoom speed on AXIS 233D is fixed
- AXIS Q7406 does not support PTZ positioning query. Hence NVR will not be able to obtain auto-focus and auto-Iris status
- Due to AXIS cameras limitations the NVR is not able to use the same HTTP connection for multiple PTZ functions, which might result in higher PTZ latency
- A change was made to the AXIS handler to designate AXIS camera by VAPIX version
- AD Ultra 8 analog PTZ are not supported on Q7406, 241Q and 243Q
- AXIS 212 can't pan or tilt if the camera is in full zoom out mode
- AXIS 212 can't zoom out stop near full zoom distance and cannot set to full out
- AXIS 214 when to full zoom out position will suddenly zoom in for "some-amount" of distance
- AXIS 221 and 223 are falsely recognized as PTZ cameras
- The NVR web client provides no control for changing the "capture mode" of an Axis P1346 camera and other megapixel cameras. Therefore it may be necessary to use the camera's own web GUI to set the desired capture mode to enable the use of associated video resolutions. After changing the capture mode, it will be necessary to refresh the NVR web client camera details page to select from the currently available resolutions. Also see QC6117 regarding the need for VEAPI and encoder profile enhancements to support HDTV and other capture mode settings (3MP, 2MP, etc) on Axis cameras.
- If an Axis P5522 PTZ camera is not receiving sufficient power for its PTZ operations then it will disable the PTZ motor and remove the PTZ.Limits and PTZ.Support parameter groups from the camera parameter list. As a consequence, no PTZ controls will be available in the NVR web client and Victor Client for that camera. The symptom may also occur when other PTZ camera models receive insufficient power.

- The default palette setting of an Axis Q1910 or Q1921 thermal camera can only be changed by using the camera's web interface "Setup -> Video & Audio -> VideoStream -> Image Appearance.Palette". Changing the default palette has no effect on established streams. The NVR uses whatever the default palette is when the stream is established. After the customer changes the default palette then it is necessary to destroy and recreate the stream received by the NVR. The stream can be destroyed and recreated by simply using the NVR web client to change the video frame rate.
- The Sequence portion of the NVR web client PTZ page may appear or disappear when the page is refreshed. Refer to QC 9903 for more info.
- If the MJPEG quality level is set to 100 at high resolutions (1920x1200 for example) then live viewing problems (high latency, momentary loss of video, etc) may be observed in a Victor Client surveillance screen if that workstation is also trying to live view using the NVR web client. To avoid the problem, either reduce the quality level or reduce the number of live viewing clients that are running on the workstation. Also the FPS provided by the camera may drop dramatically as a result of increasing the quality level to 95 or higher. Refer to QC 9761 for more info.
- The Axis M5013 and M5014 have a single speed PTZ movement therefore the camera PTZ movement is affected only by the interval between the start and stop commands from Victor Client, not the speed values in the start command. The consequence is that PTZ movements may be larger than desired. Refer to QC 9770 for more details.
- The Axis M3204 and other models that have the exposure setting at "automatic" (default) will reduce FPS to improve image quality when poor lighting conditions occur. To avoid the FPS reduction when the lights are turned off in the room being viewed then change the exposure setting from "automatic" to "hold current" however the consequence is that the image quality could be very poor (dark). Refer to QC 9897 for more info.
- A frame rate drop or a brief video loss may occur at the moment that lights are turned off in a room being viewed when receiving MJPEG from Axis Day/Night cameras. To avoid the problem, either use MPEG-4 or H.264 to receive the stream. Refer to QC 9651 for more info.
- The NVR Web client allows selection of 8 Kbps audio bit rate and AAC Audio Codec but not the audio sampling rate. Selecting the 8 Kbps audio bit rate setting will result in a loss of audio if the sampling rate is 16 KHz or higher. Use the camera's own web interface to change the audio sample rate to 8 KHz if the 8 Kbps audio bit rate is selected. This limitation occurs on Axis cameras that support AAC Audio Codec and the 16KHz (or higher) Audio Sample Rate. Please refer to Axis camera documentation for details. Refer to QC 9623 for more info.
- After going to a PTZ preset position on an Axis P5512 camera, the NVR web client will report an error although the camera actually goes to the preset position. Refer to QC 10265 for more info.
- After enabling dry contact inputs, ensure that LAN connectivity to the camera is maintained otherwise frequent NVR event log messages will be generated about failed attempts to re-establish dry contact event streams and an infrequent reload of the Axis handler may occur due to a race condition flaw in libcurl version 7.21.3.
- The number of presets allowed is capped at 50 for the victor Client. When working with encoders, only the first 32 presets function properly. Axis documentation claims each channel can support 100; however this does not appear to be the case.
- The dry contacts will return the same result when set to high or low for all cameras

Note

Please refer to AXIS cameras release notes published on the AXIS website for more information about AXIS cameras and limitations.

Supported Key Functions

- Video Stream
- Query Device
- Audio Stream
- Events
- PTZ

Video Stream

Supports MJPEG and H264 streams

NVR supports dual H264, or one H264 and one MJPEG

Audio Stream

Supports audio codec G.711

Audio stream is mixed with video stream

Dry Contact Event

Supports polling mode at a 250ms interval

Unsupported Key Functions

- Reboot
- Power Off
- Get Log
- Factory Defaults
- Find Device

Default Ports

- Port 80 for HTTP
- Port 554 for RTSP

Default Username & Password

Service user and default password is blank.

Supported Resolutions

Model	Max Resolution (Default Value)	Resolution List in NVR 4.2+
AutoDome JR800 HD	1280x720	1280x720, 4CIF, CIF
Dinion NBN-498-P IVA	4CIF	4CIF, CIF
Dinion HD 1080p D/N IVA	1920x1080	1920x1080, 1280x720, 4CIF, 704x432, 512x288, CIF, 256x144
Dinion NBN-921-P IVA	1280x720	1280x720, 4CIF, CIF
NBC-265-P	1280x720	1280x720, 4CIF, CIF
AutoDome 800 HD	1280x720	1280x720, 4CIF, CIF

Limitations

- Due to a camera limitation, the handler can only support one MJPEG stream. If a second MJPEG stream is enabled, the NVR will produce an error message.
- Bosch camera supports two H264 streams. Handler default stream is H264 stream1. Due to camera limitations, H264 stream 2 resolution depends on H264 stream1 resolution.

Note

H264 stream 1 and stream 2 refer to H264 streams from the camera corresponding with the camera encoder profile1 and profile 2, not streams 1 and 2 on the NVR.

Resolution List on H264 Stream 1	Current Value of H264 Stream 1	Resolution List on H264 Stream 2	Resolution List on MJPEG Stream
1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	1920x1080	1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144
1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	1280x720	1280x720 4CIF 704x432 512x288 CIF 256x144	1280x720 4CIF 704x432 512x288 CIF 256x144
1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	4CIF or below	4CIF 704x432 512x288 CIF 256x144	4CIF 704x432 512x288 CIF 256x144

From the table above, the resolution on both H264 stream 2 and MJPEG stream must be equal or les than H264 stream 1. This means, when changing H264 stream 1 resolution to a smaller one, ensure it is equal to or less than the resolution on both H264 stream 2 and MJPEG stream.

- Due to a camera limitation, if the user starts MJPEG stream or H264 stream2 with HD resolution, please make sure H264 stream 1 resolution is equal to or higher than the resolution on MJPEG stream or H264 stream 2.
- Bosch has implemented the CGI to get the Camera Type instead of the Model name labeled on the camera. So the Camera Type is shown in the model list on the NVR.
- Bosch cameras do not support changing the Video Standard, only viewing the Standard. Bosch cameras have 3 Video Standards: NTSC, PAL and HD. If the camera video standard is HD, “UNKNOWN” will be displayed on the NVR Camera Image Settings page.

- When setting up Dry Contacts on NBN-921-P IVA serials and NBN-498 serials, it is necessary to activate the Alarm Inputs on the camera GUI first. Users must change the Active dropdown list value from 'None' to 'N.O.' or 'N.C.' on the camera, as 'None' means disabled and this does not automatically change when Dry Contacts are activated on the NVR.
- Due to a camera limitation, for Bosch Dinion HD 1080P D/N IVA, if the users sets stream 1 codec H264 and 30 FPS, stream 2 codec H264 then the streams can only reach 10 FPS, due to stream 2 being dependent on stream 1.
- Handler supports Generic functions including dual stream and audio stream with the following limitations:
    - Cameras need to provide three streams, including two H264 streams and one MJPEG stream. So the handler can support dual H264 streams or one H264 stream and one MJPEG stream.
    - Resolution list includes HD resolution (1080P and 720P) and SD resolution (CIF and 4CIF), but cameras may only support one or several of them.
    - Audio codec G711 can be supported by the audio stream, other codecs are not supported.
- It is found that different camera firmware versions can return different camera types. This causes the handler to recognize the camera as Generic camera. Please ensure the Bosch camera has the recommended firmware version before adding it to the NVR.
- Due to camera limitations on the AutoDome Jr 800 HD, it supports single H264 stream when the resolution is set to 1080P or 720P 50 (PAL)/60 (NTSC) FPS on H264 stream 1, and H264 stream 2 is only a copy of H264 stream 1 when 1080P is selected for stream 1. It supports dual H264 streams when resolution and FPS are set to 720P and 25 (PAL)/30 (NTSC) FPS or below, and H264 stream 2 can be set to 4CIF and CIF resolution.
- Due to camera limitation, when setting 1080P for MJPEG stream on the Autodome Jr 800HD, it is shows 1920x1072.

Known Issues

- (QC12412) The FPS is only 2.75 when MJPEG streaming (25 fps) is in use. It is a known camera limitation. Confirmed with Bosch support that for most of the Bosch cameras FPS can only reach up to 5 FPS.
- (QC12489) Audio and video is not synchronized with MJPEG stream on victor client. This is due to the MJPEG stream limitation on the FPS only reaching a low rate.
- (QC12493) When setting Brightness and Contrast on the NBC-265-P, it returns an error message. This is because it uses different CGI from other cameras, so these properties and functions are not supported.
- (QC12522) Frequent Video Loss for Bosch Dinion HD 1080p D/N IVA is caused by the default NVR storage setting. The recommended mount option when setting up the NVR is: *nofail,noatime,nodiratime,attr2,nobarrier,noquota,allocsize=4M*
- (QC12606) Bosch Dinion 1080P frequent video loss during dual stream soaks.
  (QC12607) Bosch NBN-498-P IVA frequent video loss.
  (QC12542) (TrickPlay) Pause then Play causes Victor to freeze and sometimes crash.
  These three defects are due to setting the GOP structure to "IBP" on the camera GUI. It should be set to "IP".
- When the network connection drops from the NVR to the cameras, then after a while, reconnected, the device may not work as well. After restarting the camera, it will work as normal.
- (QC12742) Wrong format on resolutions on the AutoDome Jr and Dinion1080P. Due to an NVR web client known Issue, when Stream 2 is enabled with the same codec as Stream 1, the setting

is a copy of the Stream 1 settings. But Bosch dual H264 stream support has a different resolution list. So when the client applies, it shows and applies a different resolution value on Stream 2.

- Due to the NVR web client known issue, when setting the resolution for the second H264 stream, set it on the advance edit page. This is due to the fact it is a copy setting of H264 stream 1 on camera list page with editing status, and real available resolution may not be included in the copy of the resolution list.
- Due to camera known issue, for Dinion HD 1080P D/N IVA camera, set resolution 4CIF (704x480) on H264 Stream 1 and 768x432 on H264 Stream 2, then the user only can get an actual resolution 704x432 for H264 Stream 1. And set resolution 768x432 on H264 Stream 1 and 4CIF (704x480) on H264 Stream 2, user can only get actual resolution of 704x432 for H264 Stream 1.
- (QC12778) Green line at top of victor Unified Client live stream on Bosch AutoDome Jr 800HD. This is a camera issue, we can find a green line on top of player when play H264 stream from Bosch AutoDome Jr 800 HD by VLC directly.

Special Points

- Bosch camera has 8 profile configurations on the web page, and each profile may configure a set of codec parameters. Handler specifies H264 Stream 1 on camera to profile Configure 1 and H264 Stream 2 on camera to profile Configure 2 and the MJPEG stream on camera to profile Configure 3, so when the NVR sets stream codec parameters, the parameter is written in the special profile configured.
- Changes to codec parameters should only be made on the NVR web GUI and not the camera web page as they may not be implemented.
- The ranges of Brightness and Contrast are 0-255 in Bosch cameras. The Handler converts this value to 0-100 using the following formulae:

  Camera to NVR: *Camera(brightness/contrast)*100/255*
  NVR to camera: *NVR(brightness/contrast)*255/100*
- When adding the camera to the NVR, the GOP structure must be set to "IP" in profile configure of the camera web page, so the FPS value is usable.
- The default GOP is 15, when the stream restarts, the default value will be set. If the user would like to set the GOP value only after the stream on the NVR restarts.
- When enabling audio stream on NVR for all Bosch cameras, ensure audio is enabled on camera web GUI.

CBC

Supported Key Functions

- Video Streaming – Single and Dual
- MJPEG and H.264 video codecs
- Query Device

Unsupported Key Functions

- PTZ Operation
- Audio Streaming
- Dry Contact Events
- Power off devices
- Get device log
- Find Devices
- Reboot
- Reset to factory default

Camera Serial Number

NVR will use the cameras MAC address as the camera serial number.

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: <The password should be left blank>

Supported Resolution

Model	Max Resolution	Resolution Options on NVR
MP1A	1280x1024	1280x1024 / 640x512
MP1DN	1280x1024	1280x1024 / 640x512
MP2A	1600x1200	1600x1200 / 800x600
MP2DN	1600x1200	1600x1200 / 800x600
MP3DN	2048x1536	2048x1536 / 1024x768 (For MJPEG – only 1024x768)
MP5A	2560x1920	2560x1920 / 1280x960
MP5DN	2560x1920	2560x1920 / 1280x960 (For MJPEG – only 1280x960)
MP8D-L4	1600x1200	1600x1200 / 800x600

Limitations

Note

Refer to Limitations stated for Arecont Vision as they also apply for CBC products.

- Due to NVR 4.1 motion detection only handling resolution up to 1280x960 for AV1XXX, AV8XXX, AV2100, AV2105 and AV2110, motion detection can only handle resolution as half.
- Due to camera limitation, for CBC cameras all MJPEG only cameras (Arecont: AVxx00, AV8180, AV8360 – CBC: MP1A, MP2A, MP5A and MP8D-L4) will stream at a higher FPS (reaching max FPS) when setting to 15FPS. FPS of 14 and lower are not affected by this issue.
- When upgrading to latest camera handler pack, note that the parameters of video streams may be changed to the default values. It is recommended to recheck video codec parameters when upgrading or restoring configuration backups.

Known Issues

Note

Refer to Known Issues stated for Arecont Vision as they also apply for CBC products.

- Live view and playback streaming (instant playback) on the NVR does not "pace" delivery of large amounts of data well, causing overflows in network buffers at the VEclient. This issue is more noticeable when using higher bitrate cameras and will cause skipping in live video and playback on the VEclient. For video retrieval on higher bitrate cameras it is advisable to search and retrieve the clip, this will display the recorded video without this issue.
- NVR receiving H.264 with timestamp prior to last one received. This is a firmware issue. Beta firmware has been received from Arecont and resolved the issue, awaiting formal release (Arecont Ticket: TECHSUP: 15516).

Special Points

CBC model cameras with firmware version 62414 will be configured as their Arecont equivalent, also taking the Arecont model. In firmware 64238 CBC model cameras will be identified as a CBC model, but for codec parameters. CBC model cameras still correspond with Arecont model cameras.

Supported Key Functions

- Video Streaming – Single and Dual
- PTZ – Applies to cameras that have mechanical Pan and Tilt and Optical Zoom.
- Query Device
- Reboot Device

Unsupported Key Functions

- Find devices
- Power-off device
- Get device log
- Reset to factory default
- Digital PTZ – Applies to cameras that support digital PTZ.
- Audio Streaming

Camera Serial Number

NVR will get the serial number from each camera.

Required Ports

- Port 8080 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username:admin
- Password:indigo

Firmware Requirements

Nexus Server **F, D & PT-Series'**	Nexus server must be updated to v2.5.9.17 or later. **Note:** v2.5.9.17 is in beta
F, D & PT-Series'	FLIR Camera Firmware must be v2.5.9.15 or later.

Video Stream Feature

Specific video stream feature characteristics are:

PT-Series, F-Series & D-Series: MJPEG, MPEG4 and H.264. Support dual video streams.

Limitations

	Model	Known Camera Limitations
1	F-Series D-Series PT-Series	Due to a necessity of FLIR camera video hardware re-start, it may take about 48 seconds for the video stream to come back after any stream property changes.
2	F-Series D-Series PT-Series	Camera may take more than 5s to respond to a CGI command, this may cause NVR to timeout. This is camera performance issue. If this happens, user needs to perform the same request.
3	F-Series D-Series PT-Series	User can only view camera's video standard format setting (NTSC or PAL) on NVR. We do not recommend the Video Standard be changed from the default. This is due to the requiring FLIR camera hardware change. The effect of changing the Video Standard are: Incorrect Image Resolution and FPS will be displayed on Camera WebGUI, NVR and victor Client.
4	F-Series D-Series PT-Series	NVR requires a response from cameras within 5 seconds. As a result, changing resolution on the NVR may result an error message. If the change is made again on the NVR it will work. The error message is not always received.
5	F-Series D-Series PT-Series	MJPEG Live video Pixilated is caused by a low Q set by default on the camera (Q=25). Once this value is set to 75 the Pixilation disappears. The problem only arises with MJPEG.
6	F-Series D-Series PT-Series	After changing video channel resolution, frame rate and/or video codec type on a stream, video stream will become unavailable for about 45 seconds. This is because changing video channel configuration parameters (Bitrate, Frame rate, Resolution and Video Codec Type) requires reset of camera's video hardware.
7	F-Series D-Series PT-Series	User is able to add camera to NVR using wrong password from password group. This is because FLIR camera doesn't require authentication.
8	F-Series D-Series PT-Series	Video freeze may occur when changing heat distributions or many moving objects are detected by camera. Wireshark traces shown that the camera under test stops transmitting UDP/RTP packets for a short period of time.
9	D-Series PT-Series	Camera zoom in and zoom out only work on NVR. Camera zoom in and zoom out do not work on Victor Client. This is because Victor Client uses "Continuous Zoom" method to implement zoom in and zoom out and FLIR cameras have no CGI support for continuous zoom.
10	D-Series PT-Series	Preset cannot be used to set Zoom In and Zoom Out. PTScanListPointCurrentValuesSet is used to save a preset position. This CGI does not save the zoom setting into the preset position.
11	D-Series PT-Series F-Series	The video source format of FLIR cameras is pre-configured at the factory. Switching the video source format through FLIR web or Nexus interface will not take effect until the required FLIR camera hardware components are installed. Customers must contact FLIR to obtain the required hardware components and follow their installation procedure.

Known Issues

Model	Known Issues
F-Series	Due to VE-API limitation, ZOOM only camera will not be supported as PTZ camera. Therefore, ZOOM feature of F-Series will not be supported.
F-Series D-Series PT-Series	Communication channel between NVR client and camera server through port 8080 becomes unavailable occasionally. If HTTP connections through port 8080 cannot be established, FLIR camera sever will not be able to respond to CGI commands sent by NVR client. When this happens, user must try to re-establish the HTTP connection through port 8080. Table 1 lists steps for trouble shooting HTTP connection between NVR client and FLIR camera server (Nexus Server).

D-Series	D-Series camera returns incorrect firmware version number in the IRDeviceVersionGet CGI response. Camera firmware version number is only available on the main page of the camera's web configuration tool. The camera firmware version number displayed on NVR is incorrect.
F-Series	Video image streamed from a F-Series camera always has a big border when being displayed on NVR and Victor Client.
F-Series D-Series PT-Series	Video image of moving objects looks interlaced on Quick Time and Java Applet Web Browser. The interlacing may only have minimal effect on the Victor Client with no noticeable effect to the Victor Client image. The interlacing will noticeably affect the Image displayed on the NVR Live View and Java Applet on the Alarms page.

Setup

Step	Setting up a new camera
1	Models: PT-Series/D-Series/F-Series Reset the camera to manufacturing default Open Camera Web Browser Select Configuration File Go to Factory Backup & Recovery Window Select Restore to restore camera to "factory defaults"
2	Models: PT-Series/D-Series/F-Series Adding CGI Interface The FLIR camera's CGI Interface must be enabled through Camera Web Configuration Tool. This step must be performed before setting up a FLIR camera's IP address on NVR. Steps for enabling the "Nexus CGI Interface" Open Camera Web Browser: Select "communications" Select "Network Remote /VMS" On Interface Configuration Page Select "Nexus CGI Interface". Select "Add" Click Create. Click Save. Stop Server Start Server. Note on port number for Nexus Interface: Port 8080 is the designated port for communication between NVR and FLIR camera server (Nexus Server). Port is automatically set to "8080" by default

3	Models: PT-Series/D-Series/F-Series Steps for enabling the Second stream on the PT-Series/D-Series Before setting a FLIR camera's IP address on NVR, the user must enable the second stream for each camera LEN on the PT-Series/D-Series/F-Series. Steps for enabling the second stream on each camera for PT-Series/D-Series: Open Camera Web Browser On FLIR Systems Nexus Configuration Page: Select "Modules" Select "Video" On VIDEO Configuration Page Select Device ID #1 , Select Enabled=yes Select "Save" Select Device ID #3, Select Enabled=yes Select "Save" Stop Nexus Server Start Nexus Server Steps for enabling the second stream for F-Series: Open Camera Web Browser On FLIR Systems Nexus Configuration Page: Select "Modules" Select "Video" On VIDEO Configuration Page Select Device ID #1 , Select Enabled=yes Select "Save" Stop Nexus Server Start Nexus Server
4	This steps are required only if incorrect camera model name is displayed on NVR. Use the following steps to change the model: Go to " ip>/.serial". Change model name (i.e. F-324) This field is shown as the "Name:" in the IRDeviceVersionGet CGI response.

5	The following describes the steps for installing a dictionary file to a FLIR camera. **Note**: In order for a FLIR camera to properly respond to all the CGIs, the camera must be installed with the correct dictionary file version specified in this release note. **1** Open Internet Explorer. Go to http://<camera ip> **2** Select "Server Status" **3** In the "Nexus dictionary file" Window **a** Select "Browse" **b** Enter the path of the folder which contains the correct Nexus dictionary file to be uploaded. **c** Select "Upload" **4** Use the following two steps to re-start Nexus Server **a** 4.Select "Stop" **b** 5.Select "Start"
6	The following describes the steps for Installing a Nexus Server file to a FLIR camera. **Note**: In order for the camera to properly respond to all the CGIs, all FLIR camera must installed with the correct Nexus Server file specified in this release notes. **1** Open Internet Explorer. Go to http://<camera ip> **2** Select "Server Status" **3** Select “Stop” **4** In the "Nexus Server Upload and Download" Window: **a** Select "Browse" **b** Enter the path of the folder which contains the correct Nexus Server file to be uploaded. **c** Select "Upload" **d** Wait until the upload is completed. It usually takes at least 7 minutes for the upload to be completed. **5** Use the following two steps to re-start Nexus Server **a** Select "Start"

Troubleshooting

Error Message on NVR	Possible root causes	Trouble shooting steps
NVR Failed to add camera. No values returned. The specified device is not recognized. Verify IP address and camera type”	-NVR Lost communication with Camera - Camera is offline - Camera server is not running	Ping camera IP to make sure camera is connected network. Open a web browser. Issue “ServerWhoAmI” CGI command, “ SERVERWhoAmI” If camera responds the above CGI with no error, this means communication between NVR and Camera communication through port 8080 has been established. ServerWhoAmI CGI command response format is as follow: Camera’s response: { "SERVERWhoAmI": { "Return Code" : 0, "Return String" : "No Error", "Id" : <session ID> "Owner" : <owner ID>, "ip" : "<NVR Client IP>" } } If camera fails to respond to the “SERVERWhoAmI” CGI command, Open FLIR camera web configurator. Select “communication” Select “Remote Network / VMS” On Interface Configuration page Verify if Nexus CGI Interface has been added. Verify if port 8080 is used for the Nexus CGI Interface. Make sure Nexus CGI Interface is the only interface using Port 8080. Click Create button, Click Save. Use the following steps to restart camera server (Nexus Server) -Select “Stop” to stop Nexus Server -Select “Start” to restart Nexus Server

Known Issues related to Camera failed to respond to a “SERVERWhoAmI” CGI	Possible causes	Recommended Workaround
NVR returned “Device Error” when trying to change image resolution setting.	Camera failed to respond to a CGI on a timely manner. NVR Time out occurred.	Re-try the command
Change video channel configuration parameters (for example: Resolution) on NVR results an error.	Camera denied remote control request.	If problem persisted, follow the follow steps to re-gain remote control of the camera. Reset camera to manufacturing settings. Re-add CGI Interface. For PT-Series/D-Series, Re-enable second streams (ch1 and ch3) on each camera. For F-Series, re-enable second stream (video ch1) on camera.

Panasonic Corp

Supported Key Functions

- Audio Streaming – Audio codec supported depending on the camera.
- Video Streaming – Single and Dual (R)
- PTZ – Applies to cameras that have mechanical Pan and Tilt and Optical Zoom.
- Dry Contact Events
- Query Device
- Reboot Device

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: 12345

Supported Camera API & Models

Model	Minimum Camera Firmware Version
GXE500 (Encoder)	1.36
SW559/SF549/SF539/SP509 SW558/SF548/SF538/SP508	1.30
SC386/SC396/SC384/SC385/SW395 SW316/SW316L SP334/SP304/SW314/SW155/SW152 SF332/SF335/SF336/SF342/SF346 SP302/SP305/SP306/SW352/SW355 SP102/SP105/SF135/SF132 ST162/SW172/ST165/SW174W/SW175 NW484/NW502S/NP502	1.66
NW960/NW964/NS950/NS954	1.64E (Discontinued Models)
NP304/NF302/NP244/NF284	1.64 (Discontinued Models)
NS202/NS202A	2.74P0 (Discontinued Models)
Generic Fixed - for all unlisted Panasonic IP Fixed Cameras	N/A

Note

The Panasonic camera handler supports Generic camera for those unlisted models. If one camera is not in the supported list but compatible with the Panasonic CGI interface "External interface specifications of Panasonic WV-Series Network Camera Ver.1.35", it can be supported as a Generic camera.

Camera Serial Number

NVR will use the camera’s MAC address as the camera serial number.

Audio/Video Stream Feature

- Common characteristics
- Changing the settings of the current codec will reboot the codec and will affect all the video streams
- Video quality settings for MJPEG ranges from 0 – 9, while for MPEG4, camera has low, normal and fine. Normalized values in the NVR for the same is 0 – 100, this makes the increment step for MJPEG being 10 and that of MPEG4 being 50
- Video quality and bit rate control settings for H.264 must be done via the camera web page

The specific Video stream feature characteristics by model families are:

Model	Video Stream Feature

GXE500 SF332, SF335, SF336, SF342, SF346, SP302, SP305, SP306, SW352, SW355, NW502S, NP502, SW316, SW316L, SP334, SP304, SW314, SC386, SC396, SC384, SC385, SW395	Dual stream When camera is in H.264 mode, H.264 + H.264 H.264 + MJPEG When camera is in MPEG4 mode, MPEG4 + MPEG4 MPEG4 + MJPEG
SW559, SF549, SF539, SP509, SW558, SF548, SF538, SP508, SW155, SW152, SF135, SF132, ST162, SW172, ST165, SW174W, SW175, SP102, SP105	Dual stream: H.264 + H.264 H.264 + MJPEG
NW484, NW960, NW964, NS950, NS954, NP304, NF302, NP244, NF284, NS202, NS202A	Single stream: MPEG4 or MJPEG
Generic	Single stream: H.264 or MPEG4 or MJPEG (Depends on camera capability)

Note

1. Changing the resolution/bitrate/quality/fps settings of the current codec will restart the codec and will affect all the video streams from this camera.
2. Video quality settings for MJPEG ranges from 0 - 9, while for MPEG4, camera has low, normal and fine. Normalized values in the NVR for the same is 0 - 100, this makes the increment step for MJPEG being 10 and that of MPEG4 being 50.
3. Video quality and bit rate control settings for H.264 must be done via the camera web page.

The specific Audio Stream feature characteristics by model families are:

Model	Audio Stream Feature
GXE500 SW559, SF549, SF539, SP509, SC386, SC396, SW316, W316L,SP334, SP304, SW314, ST162, SW172, ST165, SW174W, SW175, NW502S, NP502, NW960, NW964, NS950,NS954, SF332, SF335, SF336, SF342, SF346, SP302, SP305, SP306, SW352, SW355, NP304, NF302, NP244, NF284, NS202, NS202A, SC384,SC385, SW395	G726
SW558, SF548, SF538, SP508, SW155, SW152, SF135, SF132, NW484, SP102, SP105	No Audio
Generic	Depends on camera capability

Note

The creation/deletion/modification of audio streams does not affect previously created video streams

Event Stream Feature

HTTP Server push functionality available in Panasonic is used to efficiently obtain the dry contact event. The maximum number of dry contact events supported by each camera family:

Model	Max # of Dry Contact Supported
NW484, SF332, SF335, SF336, SF342, SF346, SP302, SP305, SP306, SW352, SW355, NP304, NF302, NS202, NS202A, NP244, NF284, SW316, SW316L, SP334, SP304, SW314, ST162, SW172, ST165, SW174W, SW175,	1
NW502S, NP502, NW960, NW964, NS950, NS954, SC384, SC385, SW395, GXE500, SW559, SF549, SF539, SP509, SW558, SF548, SF538, SP508, SC386, SC396	3
SP102, SP105, SW155, SW152, SF135, SF132	0
Generic	Dynamically acquire from camera

Limitations

Model	Limitations
All	1.The model prefix of every Panasonic camera is irrelevant when it is added to the NVR. For example, a Japanese model "DG-SC385" is expected to have the same characteristics as the world wide model "WV-SC385". 2.Fractional frame rate settings are not supported in the NVR. 3.NVR web GUI allows the Sharpness/Brightness/Saturation (under Image Settings, Video Properties) to be changed. If the value is changed and saved then the new displayed value may slightly differ from the value that was saved. That slight difference is expected behavior. The difference is due to the conversion of a 0 to 100 value to a different range value that is actually stored on the camera. For example, the actual sharpness (or aperture) range on the camera could be 0 to 31 or 0 to 63. 4.A cache mechanism has been used to cache many properties of the camera (The setting under Image Settings). The cache is been updated only when the last updating time exceeds 300 seconds or after some camera properties is changed by NVR client. So it's not recommended to modify the camera setting directly on camera web GUI.
NW502S, NP502, SP334, SP304, SW314, SC386, SC396, SC384, SC385, SW395,SW559, SF549, SF539, SP509, SW558, SF548, SF538, SP508, SW155, SW152, SF135, SF132, ST162, SW172, ST165, SW174W, SW175, SW316,SW316L	When Wide Dynamic Range is enabled (under Image Settings, Lens/Sensor properties), these camera models have a defined limitation that Back Light Compensation (under Image Settings, Video Properties) is not available. These camera models will display Back Light Compensation as read only setting "0".
GXE500, SF332, SF335, SF336, SF342, SF346, SP302, SP305, SP306, SW352, SW355, NW502S, NP502, SW316, SW316L, SP334, SP304, SW314, SC386, SC396, SC384, SC385, SW395,SW559, SF549, SF539, SP509, SW558, SF548, SF538, SP508, SW155, SW152, SF135, SF132, ST162, SW172, ST165, SW174W, SW175, SP102, SP105	1.The camera models which can support either H.264 with MJPEG or support MPEG-4 with MJPEG must be switched between those modes using the camera direct web interface. 2.Note that with certain models, an audio stream occurs as part of either an H.264 or MPEG-4 stream, The audio stream will fail if the video-stream format is switched off. It is best to settle on a video encoding format before the camera is added to the NVR. 3.Due to the performance limitation of the multi-codec models which can support MJPEG with either H.264 or MPEG-4, while streaming MJPEG with H.264 or MPEG-4 simultaneously, the camera might not deliver the requested frame rate. Please refer to the Panasonic product catalog for details. 4.To achieve the best available frame rate for MJPEG, the camera web interface must be used to ensure that the H.264(1) and H.264(2) streams are set for transmission off, and similar for cameras in MPEG-4 Video encoding format. For cameras which send audio over a low-bandwidth video stream, such as SW352, SW355, SC384, and SC385, this also requires the audio to be disabled. Even so, due to processing and bandwidth limitations, some camera models may not deliver the maximum listed frame rate when streaming MJPEG at the maximum resolution (especially at a high video-quality level).
SW355	A change in the audio bit-rate can take a long time for a response in the WV-SW355 (and perhaps other models) for unknown reasons. The bit-rate change request can be successful, but due to various timing constraints, there can be an error message "Failure to set Bitrate = XX for audio input", for XX = 16 or 32, with further text "Device handler internal error" or "No VE Text response after waiting 5000 milliseconds". If successful, the audio configuration page for the camera will be re displayed after 10 to 12 seconds will show the updated bit-rate value.
SC386,SC396, SC384, SC385, SW395, NS202, NS202A, NW960, NW964, NS950, NS954	Some cameras have an Auto-Focus function that can be triggered, such as the SC386, using the Image Settings Lens/Sensor properties web-page. The Auto-Focus check box does not show the current auto-focus status and will always appear as unchecked; the check box can just be used as a button to trigger one time auto focus.
SW559, SF549, SF539, SP509, SC386, SC396, SW316, W316L,SP334, SP304, ST165, SW174W, SW175, NW502S, NP502, SF335, SF336, SF346, SP305, SP306, SW352, SW355, SC384,SC385, SW395, SW558, SF548, SF538, SP508, SW155, SF135, SP105	TFS87603 For some cameras whose highest MJPEG resolution is 1280x960 or higher, when using MJPEG if a high quality setting is used while using the highest resolution, it results in streaming at a very high bit rate. This results in problems with Quick time playing out the stream, as there is limitation of playback of streams with high bit rate. However VLC seems to play it out normally. Solution is to use lower quality settings or enabling the Traffic Smoothing in NVR Dynamic Bandwidth page.
Generic	Generic camera handler provides video (single stream only), audio and events. No PTZ functions are supported.

Note

Please refer to Panasonic cameras release notes published on the Panasonic website for more information about Panasonic cameras and limitations.

Known Issues

Model	Known Issues
All	The video bitrate control and quality is not available in this version due to a known NVR client issue. It's recommended to set these codec setting by Camera web GUI before the camera is added to NVR. For the models that support both of H.264 and MPEG-4 codecs, they can't support these codec simultaneously. The real currently supported codec needs to be explicitly set at the camera. TFS85127 If audio bit rate is modified while streaming live in victor client, live audio may become corrupt; re-adding the camera to the live view pane will fix this issue. TFS87704 On Victor client you may rarely experience that the screen will be black once you exit form instant play back this may happen if you change the resolution on the NVR while in instant playback If the camera supports PTZ then there will be no relative focus or iris supported
NW484, NW960, NW964, NS950, NS954, NP304, NF302, NP244, NF284, NS202, NS202A	By default, the MPEG-4 capability is turned off programmatically. This will effectively disabled the audio capability, since the Panasonic handler utilizes MPEG-4 stream for audio streaming. MJPEG frame rate can be reduced if customer manually enables the MPEG-4 capability directly through the camera's web interface.
NW502S, NP502	Max frame rate for dual streaming is 15fps for VGA and 10 fps for QVGA. For single video stream, when the resolution is 1.3 mega pixels, the maximum frame rate for H.264 is 30fps. When the resolution is 3 mega pixels, the maximum frame rate for H.264 is 15fps
SF332, SF335, SF336, SW352, SW355, SP302, SP305, SP306, SF342, SF346, SP102, SP105, NP304, NF302, NP244, NF284, SW559, ST162, ST165	These cameras support two aspect ratios 4:3 & 16:9. MPEG-4 is not available when 16:9 is selected TFS87454 When either H.264 or MPEG-4 transmission is set to On, the maximum frame rate for MJPEG is 5fps
NP304, NF302, NP244, NF284	It is not recommended to use audio in this model, due to the camera limitation on the number of RTSP session. Using audio might resulted in losing live video. At very low frame-rate settings for MPEG-4, i.e. 1fps - 3 fps it has been observed the effective frame-rate is much lower of the order between 0.5 fps - 1.5 fps. It is recommended to use higher frame-rate settings in these models.
SC384, SC385, SW395, SC386, SW396	In order to enable all four patterns, user needs to change the pattern setup by camera web GUI, otherwise only part of the patterns can be used.
NP244, NF284, NS202A, NW484, NS954, NW964, NF302, NP304	TFS89776 In MPEG-4 mode, while streaming at more than 2048 Kbps these camera models only support 1 effective stream in RTSP (Documented in "Function list of camera_encoder.pdf" from Panasonic or Section 8.1 in "CGI Common Ref Panasonic_Network_camera ver1.35.pdf"). Any access to camera web GUI while using the camera in NVR might result in an error message "Too many concurrent session" displayed on camera web GUI. This shall result in display of blue screen instead of the actual video. Selection of MJPEG in camera web GUI should restore the video. Because the audio stream is also attached with video stream, the audio may be always inaccessible in this case.
NW960, NW964, NS950, NS954	TFS87705 Due to a Camera limitation, Patterns cannot be cancelled during its set up phase. The "X" button is recommended not to be used in this case and the user should instead use the Stop button. If the user does click on the "X" button, the user should wait till the counter counts down to zero. The user can then add the pattern again using the start and stop buttons TFS87706 Due to camera limitation, the pattern learning process cannot be cancelled and stopped during adding a pattern via Victor client. User can do subsequent pattern operations until the learning process completed.

NW964	TFS87906 It has been rarely observed that the camera may reboot, when creating/editing a preset or pattern operation with Victor client. TFS87774 Due to the camera limitation on its API, the active statuses of the second and third dry contact are not available. They are just showed as "NA" on the NVR web page.
ST162, ST165	TFS89170 In Victor client, if user does a quick nudge of the pan/tilt button, the pan/tilt will keep on moving until it reaches its axis limited During PTZ control on the ST165 the motor will cause a lot of noise via the internal mic, the audio output will be muted automatically by the camera at that time. User can either use the external mic and/or disable this muting feature via camera web page. Refer to the camera operation manual for the details.
SF132, ST152, SC385	TFS91657 It has been rarely observed that there may be 5 seconds of video loss on the MJPEG stream of these cameras due to the camera firmware issue.
SF132	TFS89746 Due to the camera limitation, the Back Light Compensation setting will automatically become 0 after changing the Wide Dynamic Range.
SW314	TFS89750 In rare cases SW314 PTZ details page on NVR web GUI may wrongly display the "Enable PTZ" button. After refreshing the page, the button will disappear.
GXE500	If selecting H.264 or MPEG4 codec, note this camera will only support one stream configuration for these codec across all streams. It means that changing the stream configuration of any one channel will affect all channels. If the dual stream of H.264 or MPEG4 is enabled, changing one stream configuration will affect another. This encoder will only support a single audio stream which out handler will associate with the first channel. Due to performance limitation, Panasonic limits the stream by number and bandwidth, to avoid stream loss it is recommended to lower the codec bitrate on the camera GUI TFS85502 Though the encoder supports 256 presets, only 255 presets can be set by Victor client this is a victor client issue to do with the video overlay. TFS87009 Due to the slow response from the camera, the active status of some of the dry contacts will appear as "NA" on the NVR web page. If the web page is refreshed then the normal status will show. Encoder firmware v1.36 does not support Pelco-P protocol. Therefore it is recommended to upgrade to encoder firmware v1.40 which support Pelco-P protocol. The default Pan/Tilt speed Panasonic provided in the Pelco-D protocol file for GXE500 is relatively slow. It is recommended to change the speed in the protocol file before uploading the file into Encoder. Please refer to the Panasonic GXE500 Installation Guide for details.

Special Points

- The handler will ignore the model prefix of every camera. So for example, "WV-SC385" and "DG-SC385" will be regarded as the same camera with same features. Currently four prefixes have been seen for Panasonic cameras, they are WV/DG/WJ/BB.
- It is recommended when the camera is added to the NVR, not to change any property parameters on the camera web GUI (unless specified on the release notes)
- When a camera is added, the default video codec will be H.264 if it is supported by the camera and selected as the Video encoding format on the camera-direct web-page. If not, then MJPEG will be used to establish the first video stream. If not, MPEG-4 will be used if it is available.
- For the cameras that support pattern, the supported pattern count is based on configuration of the camera which might be 1, 2 or 4.
- For those cameras that support image white-balance, the option supports 3 settings, namely
    - “1” - Automatic white balance control mode. (AWC)
    - “2” - Automatic tracing white balance mode.(ATW1)
    - “3” - Automatic tracing white balance mode under a sodium lamp.(ATW2)
- Some Video Properties like Brightness/Saturation/Sharpness are normalized to percentage (0-100), but the real value in camera is range from nCameraMin to nCameraMax which result in the values in NVR not covering all values in Camera.

a When getting the properties from the camera, the formula is (x stands for the camera value and f(x) for the NVR value):

$$f(x) = Int\left(\frac{(x - \text{nCameraMin}) * 100}{\text{nCameraMax} - \text{nCameraMin}}\right)$$

b When set the properties from NVR to camera, the formula is(x stands for the NVR value and f(x) for the camera value):

$$f(x) = Int\left(\frac{x * (\text{nCameraMax} - \text{nCameraMin})}{100} + \text{nCameraMin}\right)$$

Supported Key Functions

- Video Stream
- Audio Stream
- PTZ
- Query Device
- Dry Contact Events

Video Stream

Supports MPEG4, MJPEG and H264 streams

(Only viable dual streaming is a combination of MPEG4 + MJPEG, H264 + MJPEG, or H264 + MPEG4 refer to Limitations for further details)

Audio Stream

Supports G711mulaw stream

Audio stream is mixed with video stream

Dry Contact Event

Count varies from camera models

Uses HTTP Server Push mode at 1s interval

Unsupported Key Functions

- Power Off
- Get Log
- Factory Defaults
- Find Device
- Reboot

Default Ports

- Port 80 for HTTP
- Port 554 for RTSP

Default Username & Password

Username: admin

Password: 4321

Limitations

- The following models have been tested and confirmed with Samsung SNV-5010, SNZ-5200, SND-3080, SND-5080, SND-7080, SNP-3120, SNP-3371/3302(b), SNP-5200, SPE-400. All other models listed have been confirmed with Samsung to work as designed under the Samsung API but have not been tested by American Dynamics. There may be potential risks when using these non-tested models.
- Interface '*CameraName*' is not supported as the camera has no CGI command for this interface.
- Video standard change is not supported. The SND 3080, SNP 3120, SNB 3002 are fixed PAL / NTSC. For other cameras there is a setting for changing PAL/NTSC on the Camera Web Gui but this only changes the analog output.
- Samsung cameras have no CGI command for getting autofocus status, and only a few cameras support setting it to on. The handler does not support autofocus property.
- Samsung cameras do not directly support video codec quality, but use compression rate on the MJPEG stream for this purpose. A high level of compression equals a low level of quality. The cameras' valid compression value range is 1-20. NVR reverse converts it to 5-100%. Quality is not supported for H264 or MJPEG4 for any cameras.
  SND-3080 does not support MJPEG stream compression. The camera’s web page has a quality setting, but there is no specified API. So, the handler will not support MJPEG stream quality for this camera.
- Most APIs of the camera run very slowly. Test results found setting a factory default can speed up the response. Therefore, before adding a camera to the NVR, setting the camera to factory default is recommended.

  Test results:

  •Changing resolution, FPS, quality will take about 30 seconds;

  •Adding camera to NVR can take more than 15 s.

  •Needs about 60s to display video when changing stream from stream 1 to stream 2; after clicking the apply button.

  •Enabling dry contact might make the NVR consider the camera as offline, thereby audio tab and dry contact tabs disappear. If this happens, click **Refresh**
- Do not change the camera's video profile settings on the Camera Gui when the camera is added to the NVR, otherwise changing FPS, resolution, bitrate or creating video stream may fail. Also after the camera is added into NVR, the user MUST not change the current video standard setting, or change the 2M/3M setting on the SND 7080.

- For SPE-400, each Samsung encoder's channel has an independent IP. To add an encoder to the NVR, the user should add every channel one by one. Only the first channel supports audio. Each channel supports 1 AlarmIn.
- Some of the camera information (e.g. FPS ranges) provided by Samsung Support differs from the camera's actual capabilities as found on the Web Gui. The Handler uses API results for these details.
- On SNZ 7080, SND 5080, SNV 5010, SNB 3002, valid FPS for MJPEG is limited to “1-5” if "E-mail/FTP profile" or "Record Profile" is enabled on the Camera Gui. To get full FPS of 1-30, the user must make (on camera webpage) another MJPEG profile for "E-mail/FTP profile" and "Record Profile".
- On SND 5080 and SNV 5010, after changing resolution, the valid FPS range will also be changed. Camera's current FPS will be set to the max (if prior FPS was larger than the new max value) or min (if prior FPS was smaller than the min).
- On SND 5080 and SNV 5010, after changing resolution, valid max bitrate will be changed. Camera's current bitrate will be set to the min one (if prior bitrate was smaller than the new min value), otherwise it will be set to the max one.
- MJPEG quality on SNZ-5200, SNP 5200 and SNP 3371 can be very bad at higher FPS, even when setting quality to 100. No such limitation on other models.
- Dual streaming will reduce the FPS. If both streams are set to 30 FPS, you will get approximately 15 FPS on each stream. Reducing the FPS on Stream 2 will increase the FPS on Stream 1. This has been confirmed as a camera limitation by Samsung.
- If you enable audio on H264 or MPEG4, the FPS will drop roughly in half. This is because the camera opens another video stream and extracts the audio from it.
- Some cameras (SND-3080 and cameras covered by it) cannot provide MPEG4 and H.264 at same time. They can support either H264 & MJPEG or MPEG4 & MJPEG. Before adding this camera to the NVR you must go to 'Setup' on the camera web gui and choose “video select” as either H264 or MPEG4. The user must not change this setting when the camera is already added to the NVR.
- Generic Handler Limitations:
    - The camera MUST be able to provide at least two profiles, and the codec of profile1 MUST be H264, the codec of profile2 MUST be MJPEG;
    - The camera MUST support set/get FPS with real FPS value (not the index of it in valid FPS list). For example, if a camera's valid FPS are "1-25", should support by giving "1-25" itself, not only support "0-24" as index.
    - The camera MUST support set/get resolution with forward index. For example: if the supported resolutions that are given by camera are: 1024x768,640x480,1280x720,800x600, handler assume the index is based

zero and start from 1024x768. Then if handler wants to set 1280x720 to camera, the index is '2'.

- Handler uses TYPE2 (Samsung different cameras use different APIs, defined in their formal datasheet, named TYPE1 and TYPE2, TYPE2 is used by most cameras) command to communicate with generic camera.
- Since most on-sale cameras do not support bitrate feature, generic camera will not support it.
- Generic camera does not support PTZ, lens and image settings. For codec settings, there are some limitations:
  - The compression (generic uses it as quality) valid value MUST be continuous from 1-20, 1 is best, 20 is worst;
  - The GOP valid value MUST be continuous from 1-15;
- Default values of codec properties:
  - Default FPS is the middle one (if the middle one is not supported, use previous one); For example, if valid FPS are 1,2,3,4, default value is '2', if the valid FPSs are "1,2,3", default value is '1';
  - Default Quality is 70;
  - Default resolution is the first one in the valid list. For example, if the valid resolution list which giving by the camera is: 1024x768,640x480,1280x720,800x600, handler use '1024x768' as default.
  - Default key frame interval is 14.

Known Issues

- (QC 12380) Several cameras' (such as SNZ-5200, SND-5080, SNP-3430H, SNP-5200, SNV-5010, SNZ-5200) valid resolutions are not listed in min-max (image width) order. It is because these cameras use resolution index to communicate with the camera, and their resolutions are not ordered from min to max.
- Although the key cameras in some groups (SND-3080, SND-7080) support brightness, some cameras covered by them do not support it, so the NVR web image page will display the brightness property value as BLANK.
- When the resolution is lower than 800x600, the image's bottom edge may have a mosaic or color block.
- (QC 12382) Found duplicate Timestamps in NVR4.2.1 At Higher FPS, more duplicated time stamps were found. This issue causes the NVR to sometimes restart the video stream.
  At higher FPS, the count of duplicate timestamps is increased
  When the issue happens, NVR4.2.1, 4.3, 4.4 log will report a [isLargeTimeChange] issue.The vendor confirmed they have found this issue.
- For SPE series and SNB-3000 series (for example, SND-3080), AlarmIn reacts very slowly. It can be up to 4 seconds from manually triggering AlarmIn pins before the camera reports the alarm.
- (QC 12584) For SND-3080, camera may report false alarms for both AlarmIns when setting active state for any AlarmIn. When the active state is set to HIGH, the camera randomly reports false alarm status, which will cause wrong alarms in NVR.
- (QC 12384) Live view latency is about 500ms (H264, MJPEG, MPEG4).

- (QC 12385) If FPS is too low, RTSP connects to camera may timeout and then the NVR will have no video. The following cameras were found to have this issue:
    - For SNV-5010 and SND-7080, the MJPEG video will not display when the user sets fps to 1 and resolution to less than 1280*720.
    - For SND-3002 and SND-5080, the MPEG4 video will not display when the user sets FPS to <=5.
- (QC 12379) Video and audio are sometimes out of sync on Instant Playback and Search & Retrieve in victor.
- (QC 12625) Samsung SND 7080 gives a blurry / melting screen on victor at 320x180, 640x480, 800x600, 800x450 and 1920x1080 resolutions on H264 stream. This is a confirmed issue with Samsung due to a multi-slice algorithm which is not supported by the NVR. Enabling a second stream or an audio stream fixes this. Samsung have confirmed this and it may also affect. SNB-5000, SND-5080, SND-5080F, SNV-5080, SNV-5080R, SNV-5010, SNO-5080R, SNB-7000, SND-7080F, SNV-7080, SNV-7080R, SNP5200, SNO-7080R, SNP6002.
- (QC 12624) Samsung SND 7080 shows an incorrect TimeStamp on Victor when on single stream. This is also due to the multi-slice algorithm.
- (QC 12570) PTZ Controls will not work on the SNP 3120 using 1.26_120402 firmware. This is a camera firmware bug.
- Quickly adding PTZ presets caused the SNP 5200 to auto zoom in.
- NVR has a known limitation. Right after adding the camera into the NVR, enable second stream (by enabling Live, Record, Alarm or Analytics), and then click “Apply”, the NVR will report an error message like: “Could not get unused Stream for Stream 2, codec H264”. This is because Samsung handler does not support H264+H264 but the NVR wants to use this group. To avoid this issue, after enabling the second stream, the user must change the codec type so it is a different codec to Stream 1.
- Changing property may fail to update correctly if the following operations are done together, before clicking [Apply] button: enable secondary stream, change the codec type to MJPEG, change the property (FPS, resolution, etc). If this issue occurs, change the property again.

Special Points

- Some cameras (SNP-3430H, SND-3082, SNB-2000, SNB-3000, SNV-3080) have big differences to the key camera which were confirmed by the vendor. The handler changed the key camera or used Generic camera to represent them. Because we don't have these cameras for testing, there is a risk.
- If added into an NVR, cameras should not be modified outside of the NVR, or the NVR may not work properly.
- As confirmed by Samsung, F/W upgrade/downgrade problems happen frequently with SNP-3120 series. Please use the Supported Firmware Version only, and be careful when upgrading / downgrading camera of SNP-3120 series. Downgrading to 1.22_110120_1 firmware also resets the camera to default IP.

Camera Generation

Generation	Model Family
3rd Generation Cameras	SNC-CS50N/P, DF50N/P SNC-DF80N/P, DF85N/P SNC-RZ50N/P, RX530N/P SNC-RX550N/P, RX570N/P
4th Generation Cameras	SNC-CM120 SNC-CS20 SNC-DM110, DM160 SNC-DS10, DS60
5th Generation Cameras	SNC-CH110, DH110, DH110T SNC-CH210, DH210, DH210T SNC-CH120, CH160, CH220 SNC-DH120, DH120T, DH160 SNC-DH220, DH220T, DH260 SNC-CH140, CH180, CH240 SNC-CH280, DH140, DH140T SNC-DH180 SNC-DH240, DH240T, DH240 SNC-CH260, DH260, DH280 SNC-RH124, RH164, RS46N/P SNC-RS44N/P, RS86N/P, RS84N/P SNT-EX101, EX101E, EX104 SNT-EX154, EP104, EP154 SNC-EP520 SNC-EP521 SNC-EP550 SNC-EP580 SNC-ER520 SNC-ER521 SNC-ER550 SNC-ER580 SNC-EB520 SNC-EM520 SNC- EM521

Supported Key Functions

- Video Streaming – Single and Dual
    - Video Codec – MJPEG, MPEG4 and H.264
- Audio Streaming
    - Audio codec supported depends on camera functionality
- PTZ – applies to cameras with mechanical pan, tilt and optical zoom
- Dry contact events – HTTP server push functionality is available for increase in efficiency and speed of obtaining dry contact events

Unsupported Key Functions

- Find devices
- Power-off devices
- Get device log
- Reset to factory default
- Digital PTZ – on cameras that support internal digital PTZ

Audio/Video Stream Feature

- Changing the stream settings such as codec, resolution, FPS or quality of a selected video stream may require up to 5 seconds of time delay to re-establish the video stream.
- Video quality settings for MJPEG can range from 1–10. VE-NVR normalized values are 10–100 with increment step of 10. Video quality setting is not applicable for MPEG4 or H.264.
- Video bit-rate control settings for MPEG4 and H.264 must be done via the camera web page.

Required Network Parts

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: admin

Limitations

The following limitations which apply to the previously released5th generation cameras also apply to all new Sony camera models documented in this release:

- PTZ functions are not supported on all Sony Encoders due to the Sony API performance limitation.
- Relative Focus and Iris are not supported on all Sony Encoders.
- Relative iris is not supported, which means Victor client won't be able to adjust the Iris. However the absolute Iris adjustment is available through NVR or Camera web page.
- Due to a limitation in NVR motion detection stream selection algorithm, the MPEG4 stream cannot be utilized for motion detection. This limitation requires quality setting in the MPEG4 stream, which is not supported by the cameras.
- The NVR supports dual-streams for Sony 5th generation cameras with some camera performance limitations. Please refer to Sony camera documentation for more information. Recommendations:
    - •Refer to the Camera GUI to determine possible available dual stream combinations before setting the stream configuration in the NVR. Resolution, FPS and quality settings in stream 1 will affect the possible configuration settings for stream 2.
    - •If the resolution of the primary stream is much larger than 640x480, created a secondary stream, at 640x480 or less.
    - •On some cameras, configuring Stream 1 to a high resolution and frame rate settings with H.264, the camera may not allow dual stream. In such case, an attempt to enable the motion detection meta data will fail.
    - •The NVR in some cases may detect an attempt from a user to set a non supported dual stream combination and will report an error. It will then automatically configure the stream to its known limitation, according to what is shown on the camera GUI
    - •The configuration limits available for a secondary stream might be different between two cameras of the same model, same firmware level, and same primary stream configuration depending on some other camera configuration choices, such as Wide-Dynamic-Range (which, in some implementations, may cut the maximum available frame-rate in half).
    - •Over-configuration of streams can have different results on different camera models. In some instances, the camera attempts to run the configuration with a result that camera responses to direct commands become slower and slower. To recover from this over-configured settings may require camera reboot using the direct camera web interface or camera power-cycle.
    - •It is recommended to change stream parameters (Codec, FPS, Quality, and Resolution) one step at a time, as repeated and excessive stream changes can cause the camera to continuously alarm on the NVR/Victor Client. Power cycling or rebooting the camera will normally clear the fail condition.
- The web client camera details screen will mark MJPEG video resolutions that are greater than 2040 pixels in width or height as "unsupported". An attempt to select and apply an "unsupported" resolution from the drop down list will fail.
- An unrecognized Sony camera configured as SONY Generic will be assumed to be 5th-generation, with resolution choices comparable to CH220, CH260, DH220, DH260 -- 1920x1440 max, 320x240 minimum. If that camera is configured (from the camera GUI) to have a max

resolution of 1920x1080, then an alternate list of resolutions is used with 320x192 min. The available FPS are consistent with other 5th-generation cameras. The optional Vpa and Lens properties are configured as EMPTY and controls would not be offered. Dual streams with H264, MPEG4, and MJPEG would be available, but there would be no audio and no contact alarms. The PTZ functionality will work if the PTZ camera is compatible with 5th-generation PTZ cameras.

- An invalid password group will cause the MAC address field and some VPA and Lens properties to display “unknown”. Errors will occur when attempting to change the FPS, resolution, quality or VPA and Lens properties.
- When there is a MPEG4 recording, set the resolution and fps value first before enabling audio. If fps or resolution must be changed after the audio, be sure to disable, re-enable and re-configure the audio to avoid 1 second audio lag in play back.
- SONY 5th generation cameras set with motion-detection using MJPEG will present the limitation that if H.264 has been used for the primary stream, it cannot be used for the secondary
- Digital PTZ is not supported.
- VideoEdge NVR Web Client has a resolution limitation with SONY megapixel cameras, and won’t display video with resolution of width or height at 2048 pixels or higher.
- Due to the above limitation, it is recommended to set the aspect ratio of CH210, DH210/210T to 16:9 prior to configuring them on VideoEdge NVR. The 4:3 aspect ratios can be set after they are configured on the NVR. However, re-adjusting the FPS, resolution may be necessary for them to work properly with the NVR

Known Camera Limitations

Model(s)	Known Camera Limitation/Behavior	Notes
All encoders	The relative Pan & Tilt are the only two PTZ functions supported. The Pan & Tilt capability is only available in Web client. They do not work in victor client	
SNC-RZ50	PTZ functions are not supported	
All 3rd Generation Cameras	Required Set up Procedure for Dry Contacts: • Dry Contact Settings on both camera Web Gui and NVR must be set to normally closed. Sony 3rd generation cameras do not support dual streams	The required set up ensures correct signal being generated when sensor is triggered. MJPEG, MPEG4, H264 are supported
All 4th Generation Cameras	Due to the camera performance limitation on the RTSP/RTP protocol the camera can support only 1 video stream, either MJPEG or MPEG4	

Model(s)	Known Camera Limitation/Behavior	Notes
SNT-EX101, SNT-EX104	Camera Focus does not work on Victor Client. This is because Victor Client uses “PTZSpeed” method to implement Focus. 4.3, 4.4.0 Sony Handler does not support PTZSpeed.	Login cam web GUI to focus
SNT-EX104	Due to camera performance issue, video and audio frame loss may occur in Sony encoder.	
SNC-EP580	Video becomes unavailable after changing from H264 to MP4V in some settings, e.g., Sometimes, video may become unavailable after changing h264@1080p@30fps directly to MP4V@1080p@20fps on NVR. No error message is displayed on NVR web page but camera codec setting remains un-changed.	In the case video becomes unavailable after changing from Stream 1 of camera must be changed to MP4V using camera’s web GUI before changing codec from H.264 to MP4V stream on NVR.
SNC-EP580, SNC-ER520, SNC-RH124	Enabling blc will fail if auto IRIS is disabled.	Required Steps for enabling blc for IRIS: **1** Set Auto Iris mode to auto, **2** Set blc to on.
SNC-EB520	MJPEG video can't be streamed simultaneously on both NVR and camera web gui for the following settings: **1** FPS30 704x576 **2** FPS30 720x576.	
SNC-EP580, SNC-EP520, SNC-EP521, SNC-EP550	MJPEG Single Stream Limitation MPEG4 FPS Limitation MPEG4 Stream Limitation	When camera resolution is set to MJPEG@1920x1280@any fps > 6 on videoedge, camera will select its own settings and disregard user’s setting from NVR. FPS for MPEG4 stream has maximum value of 20. Video loss may occur when camera is set to mp4v@1080@20fps.

Model(s)	Known Camera Limitation/Behavior	Notes
All 5th Generation Cameras	Dual Stream Limitation	Over configuration issue described in this release notes document applies to Dual streaming. When resolution is setting is too high for camera to accommodate, camera will select its own settings and disregard user's setting from NVR. Workaround may not be available in some cases. See (Note1-Note5) for details.
SNC-ER520	On camera web page, the resolution of Image 2 can't be higher than Image 1. If image1 resolution is 640x480 or higher, the highest fps of both images is 15. In the case when nvr only have one single stream enabled, user must check if there are 2 streams enabled on camera via camera web gui. User should use the camera web gui to disable stream 2 before selecting the max resolution and fps settings for stream 1 on NVR The Sony SNC-ER520 has a slower camera inquiry CGI response time than other Sony camera models. The camera inquiry CGI response time for this camera is about 0.85 seconds.	The slower CGI response doesn't cause any NVR timeout issues. User may experience slow NVR response when do the configuration on NVR.

Model(s)	Known Camera Limitation/Behavior	Notes
All Sony Cameras	**1** Set camera to factory default via camera web gui or SNC toolbox before adding the camera to NVR **2** Retrieving camera configuration on NVR does not required authentication.	Sony camera CGI Get commands does not require authentication.
	Due to Sony camera over-configuration issues, camera may not respond to the following resolution change request. If this happens, camera will return its own setting. For example: *From*: H264@5fps 640x480 MJPEG@5fps 640x480 *To*: H264@5fps 720x576 MJPEG@5fps 640x480	In this case, user will see the newly requested resolution setting listed on NVR. No error message is displayed on NVR. User must refresh NVR screen and check camera setting via camera web gui to confirm if change request is executed successfully. Workaround: Repeat command on NVR
	Bit rate behavior is inconsistent for different models	Bit rate may not be set successfully in NVR 4.3, 4.4 but it will be normal in NVR 4.4
All Models TFS#95734	The focus value is set from 0-45056, which is not user-friendly.	Workaround is to enable autofocus , or change settings on Camera Web GUI
Sony Generic	The Sony Camera Handler supports generic cameras for those unlisted models. If one camera is not in the supported list, but is compatible with the Sony interface, it can be supported as a generic camera.	

Known Issues

Model(s)	Known Camera Limitation/Behavior	Notes
All Megapixel Models	For an unknown reason, the QuickTime plug-in/player may not be able to live view video from the megapixel cameras at their highest resolution and 1fps.	
All 4th Generation Cameras	The victor Client video reverse play back on Search and Retrieve as well as exported clips is not as smooth as expected.	
All models that support audio	The NVR & victor client does not support playback G726 audio with bit rate of 24kps.	
RH124/DH180 TFS#95742	When focusing in victor, the image can be focused but the listed focus value on NVR is always 0	
All models TFS#95962	If one camera with dry contact enable in NVR is offline, it will slow response to click alerts tab and change the dry contact status in NVR. It may take 30s to show the alert page, and take 60 to change dry contact active state.	Workaround: Remove offline defects
SNC-DH180 TFS#96217	The focus value range doesn't match with the range of the handler encoder profile. The focus value range is 0-2399 in sony handler encoder profile, but 0-2345 in NVR web page.	No workaround
SNC-EB520 TFS#96474	Camera supports 600x800. However this resolution is not listed in the camera resolution list on the NVR.	No workaround
All Models TFS#94675	If a user changes password group to incorrect password, it can still retrieve parameters on NVR but cannot change camera configuration.	Sony camera inquiry does not require authentication.

Model(s)	Known Camera Limitation/Behavior	Notes
All Models TFS#96690	Sony Camera stream becomes unavailable after downgrading camera pack 18 to cam pack 17.	
All Models	Unable to retrieve Stream 1 properties". / "Unable to retrieve camera configuration". The above errors may be displayed on NVR's camera stream configuration page after user edits the video stream setting(s). Due to camera limitation, camera fails to response to NVR's CGI command within predefined NVR timeout of 5 seconds. NVR timeout occurs.	To recover Stream properties, Refresh Camera configuration page

Camera Pack Downgrade Issues

Sony Camera stream becomes unavailable after downgrading camera pack.

Downgrading Procedure:

Downgrade the camera pack by uploading the desired pack to the NVR Web admin GUI

ssh to the NVR

Query for the Sony h264 libraray

rpm –qa | grep "[Ss]ony"

If an rpm is found similar to "gstreamer-venvr-plugins-h264parse-Sony…, this package will need to be uninstalled

Remove the rpm using the name of the file just found on the system {rpm –e –nodeps gstreamer-venvr-plugins-h264parse-Sony…]

URLs For Acquiring Video and Audio via RTSP

Camera Generation	Video URL	Audio URL
3rd Generation Cameras	rtsp://<user>:<password>@<cam ip address>:554/media	rtsp://<cam ip address>/media/audio

Camera Generation	Video URL	Audio URL
4th Generation Cameras	rtsp://<user>:<password>@<cam ip address>:554/media	rtsp://<cam ip address>/media
5th Generation Cameras	rtsp://<user>:<password>@<cam ip address>:554/media/video<stream ID>	rtsp://<cam ip address>/media/audio

Supported Key Functions

- Video Streaming – Single and Dual
    - Video Codec – MJPEG, MPEG4 and H.264
- Audio Streaming
    - Audio codec – G711 PCMU
- PTZ
    - Applies to cameras that have mechanical Pan and Tilt and Optical Zoom.
- Dry Contact Events
- Query Device

Supported Camera API & Models

Supported devices are suggested by vendor and they are divided into two kinds: key model and non-key model. Non-key models are utilizing same firmwares as key models, and are covered by key models.

The Handler is developed based on key models. Non-key models were not tested. Users should be aware of this.

Model	Minimum Camera Firmware Version
FD8136	0101a
FD8135H FD8335H	0201a
FE8171V FE8171	0100h
FE8172 FE8172V	0100g
SF8172 SF8172V	N/A
AF5127 AF5127V	N/A
IP8362	0101b
SD8313E	0202b
SD8362E	0201c
PZ8111 PZ8121 PZ8111W PZ8121W	0104a
VS8801	0200a
Generic – for all unlisted VIVOTEK models	N/A

Note

1The VIVOTEK camera handler supports Generic camera for those unlisted models. Models not listed above can be added as generic models. Handler will provide features according to its capabilities. However, as information that can be dynamically acquired from the models is limited, generic models may not perform as well as models listed above.

Coverage of key and non-key models

Key Model	Covered Non-key Models
FD8136	
FD8135H	FD8335H
FE8171V	FE8171
FE8172	FE8172V, SF8172, SF8172V, AF5127, AF5127V
IP8362	
SD8313E	SD8323E, SD8312E, SD8322E, SD8311E, SD8321E
SD8362E	
VS8801	
PZ8111	PZ8121, PZ8111W, PZ8121W
Generic	All other VIVOTEK models

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: root
- Password: (None)

Camera Serial Number

NVR will use the camera's MAC address as the camera serial number.

Video / Audio / Event Stream Feature

Models	Features			
	Video	Audio	Dry contact	PTZ
Generic	Codec: H264 or MPEG4 or MJPEG (Depends on camera capability) Dual stream: (Depends on camera capability)	(Depends on camera capability)	(Depends on camera capability)	(Depends on camera capability)
FD8136	Single Stream: H264, MPEG4, MJPEG Dual stream: H264 + H264 H264 + MPEG4 H264 + MJPEG MPEG4 + MPEG4 MPEG4 + MJPEG MJPEG + MJPEG	Codec: G711(PCMU)	1 alarm inputs with active status, Polling mode.	Flip
FD8135H[1][2] FD8335H	Single Stream: H264, MPEG4, MJPEG Dual stream: H264 + H264 H264 + MPEG4 H264 + MJPEG MPEG4 + MJPEG MJPEG + MJPEG Note: MPEG4 Is not supported on dual stream due to camera limitation	Codec: G711(PCMU)	3 alarm inputs with active status, Polling mode.	Flip
FE8171V[1] FE8171	Single Stream :H264, MJPEG Dual stream: H264 + H264 H264 + MJPEG MJPEG + MJPEG	Codec: G711(PCMU)	1 alarm inputs with active status, Polling mode.	Flip
FE8172[1][3] FE8172V SF8172 SF8172V AF5127 AF5127V	Single Stream :H264, MJPEG Dual stream: H264 + H264 H264 + MJPEG MJPEG + MJPEG	Codec: G711(PCMU)	1 alarm inputs with active status, Polling mode.	Flip

Models	Features			
	Video	Audio	Dry contact	PTZ
IP8362[1]	Single Stream :H264, MPEG4, MJPEG Dual stream: H264 + H264 H264 + MPEG4 H264 + MJPEG MPEG4 + MPEG4 MPEG4 + MJPEG MJPEG + MJPEG	Codec: G711(PCMU)	1 alarm inputs with active status, Polling mode.	Flip
SD8313E[1] SD8323E SD8312E SD8322E SD8311E SD8321E	Single Stream :H264, MPEG4, MJPEG Dual stream: H264 + H264 H264 + MPEG4 H264 + MJPEG MPEG4 + MPEG4 MPEG4 + MJPEG MJPEG + MJPEG	Codec: G711(PCMU)	3 alarm inputs with active status, Polling mode.	Absolute, Continuous, Stepped, Zoom, Focus, Flip, Preset
SD8362E[1][4]	Single Stream :H264, MPEG4, MJPEG Dual stream: H264 + H264 H264 + MPEG4 H264 + MJPEG MPEG4 + MPEG4 MPEG4 + MJPEG MJPEG + MJPEG	Codec: G711(PCMU)	3 alarm inputs with active status, Polling mode.	Absolute, Continuous, Stepped, Zoom, Focus, Flip, Preset
VS8801[1]	Single Stream :H264, MPEG4, MJPEG Dual stream: N/A	Codec: G711(PCMU)	8 alarm inputs with active status, Polling mode.	Stepped, Zoom, Focus, Flip, Preset

Models	Features			
	Video	Audio	Dry contact	PTZ
PZ8111[1] PZ8121 PZ8111W PZ8121W	Single Stream : H264, MPEG4, MJPEG Dual stream: H264 + H264 H264 + MPEG4 H264 + MJPEG MPEG4 + MPEG4 MPEG4 + MJPEG MJPEG + MJPEG	Codec: G711(PCMU)	1 alarm inputs with active status, Polling mode.	Continuous, Stepped, Zoom, Focus, Flip, Preset

Note:

[1] The models are recommended by VIVOTEK as key models and other models can be covered by these models. Non key models are supposed to have same features as their key models
[2] Only 'Stream 2' of this model supports MPEG4 codec.
[3] The model has two FOV(Field of View) modes: "Fisheye mode(MAX 15fps)" and "1080P Full HD(MAX 30fps)". Changing the FOV option will erase the motion detection, privacy mask, and preset positions you previously configured. Meanwhile, resolution list, frame rate list are also changed. This setting should NOT be changed after the device is added into NVR, or it may cause error.
[4] The model has two FOV(Field of View) modes: "Full HD(MAX 1080P 30fps)" and "Exceptional frame rate(720P 60fps)". Changing the FOV option will have resolution list, frame rate list changed. This setting should NOT be changed after the device is added into NVR, or it may cause error.

Video

RTSP URL for getting the stream from camera:

rtsp://<ip>/live.sdp for stream1
rtsp://<ip>/live<num>.sdp for stream2 and above. Here <num> stands for 2, 3…

Audio

The handler supports the following audio features:

1. Supports G711 PCMU stream;
2. There is no dedicated URL for audio streaming. Audio and video are originally mixed in the stream out of camera. Handler extracts the audio stream from the mixed stream with the RTSP SETUP command..

Dry Contact

Information about handler supports dry contact:

1. Interface Count - The dry contact count varies for camera models – it is got dynamically from camera;
2. HTTP Client Polling is used to monitor alarm status. The polling interval is 250ms.

Limitations

1. The VS8801 has the following limitations:

    1) The encoder only supports PTZNudge operations and preset, no PTZSpeed operations. But currently Victor client only supports PTZSpeed operations, so the PTZ cannot be operated by Victor client.
    2) There is a camera limitation on the video stream proformance, if all 8 channels are being used the combined max FPS should be around 20FS. When the limitation is reached, the web client of the VS8801 shows “Note: Frame rates are not guaranteed when all red-marked streams are used.” within “Overview” part of “Audio and video” page.
    3) The encoder has a limitation that changing one channel’s audio codec will lead to all other channels’ audio codec changed as well.
    4) Interlace is not supported. Because interlace types that VIVOTEK supported are not supported by NVR.
    5) Brightness, Contrast, Sharpness, and Saturation will always be shown as 0 in the NVR, even after users apply non-zero values to them via NVR. This is caused by a camera limitation: the returned values from the camera are always the minimum of valid values, it is recommended that the user does not change these values on the NVR as errors can be caused. User should change these settings via the camera web client.

2. when the FE8172 is added to the NVR, MJPEG is selected and the camera is set to constaint bit rate the image quality may not be as desired. To increase the image quaity the users can change the Bit Rate to Fixed Quality on the camera web client before adding to the NVR however this will mean the user cannot stream the camera at the top two resolutions 1536x1536 and 1920x1920.
3. Due to a Quicktime limitation when quality is set to fixed this will cause low frame rates in quicktime and NVR but this does not affect Victor.

4. Video streaming is unstable at high resolution when light conditions are low. VIVOTEK suggests setting bitrate control to CBR for more reliable streaming. However users need to be aware that it may produce lower than desired frame rate. Also, in NVR4.3, 4.4 the bitrate control can only be adjusted through the camera’s web interface.

5. Switching from Day mode to Night mode may cause frame drops and video loss, depending on the light condition, complexity of the scene and the resolution setting. Setting the bitrate control to CBR may reduce the video loss.

6. Because of the multifarious settings of cameras, it is recommended to restore all devices to factory default before adding them into NVR.

7. The Range of the vpaSharpness for most models is [-5, 5], while for VS8801 it is [-3,3]. [-5, 5] is converted to [0, 100], and [-3,3] is converted to [20,80] in the NVR. 0 is darkest, and 100 is brightest.

8. The SD8362 and FE8172 Models are slightly different from all other models:

    1) They have a particular setting called Field of View (FOV). Resolution list, default resolution, and fps list vary with FOV setting. Once added into the NVR, FOV should NOT be changed. Otherwise errors may occur. To change FOV, the camera must be removed from the NVR first, then changed and re-add it into the NVR.
    2) These two models support bitrate for MJPEG, which is not supported by any other models. Because it’s a common way that MJPEG does not support bitrate, handler does not support this (same as other handlers).

9. The FE8171V, FE8172 Models and all other fisheye models: The NVR cannot play the MPEG4 streams from these models because they have custom data embedded, which will cause The NVR to restart the stream frequently . So for fisheye models, MPEG4 is not supported, but H264 and MJPEG are still supported.

10. Due to NVR limitation the max frame supported is 30 so for camera model SD8362 and all other models the support more than 30 max frame rate the max frame rate will be 30.

11. Generic models have the following limitations:

    1) VIVOTEK models support capability acquisition CGI. However, the acquired capabilities do not including everything, and some of them can be false . The Handler has filtered the wrong capabilities for key models but for other models, if the device reports wrong capability The NVR will not be able to show the right settings.
    2) The resolution list got for generic devices may be not correct. For example, FD8136 returns resolution list as:capability_videoin_resolution='176x144,320x200,640x400,1280x720,1280x800'But resolution list in the web of the camera does NOT contain 1280x720.
    3) The PTZ capability got for generic devices may not be correct.
    4) Fisheye series do NOT support PTZ, but they may report they do.
    5) There is no way to get the bitrate range from the device supplying a constant range.
    6) These functions are not supported:LensProperties, BitRateControl, VideoCodecProfile
    7) If the encoder is recognized as generic, the NVR may not stream properly at channel 2 and above. Because for VIVOTEK cameras, live2.sdp, live3.sdp, … are used for streams at channel 1, but VIVOTEK encoder uses them for channel 2 and above.

12. If SCHEDULE mode is selected for Day/Nght Mode, the schedule should be set through camera's web client.

13. For all PTZ models Pan, Tilt, Zoom, Focus, and Iris cannot be set in one CGI. So if multiple operations are set together, the handler only sets the BIG operation to cameras. Here BIG means greater percentage value. Because If PTZ commands are set simultaneously the camera will only carry out 1 command.

14. For all PTZ models: Diagonal PTZ is NOT supported.

15. The SD8313E and SD8362E: If continuous pan and tilt set are used, the camera will move up to the top, then slowly move toward the direction of the pan command says.

16. All PTZ models do not return an error code for PTZ and preset operations, so the handler will not know if the operations are carried out. The handler considers such PTZ operations as correctly carried out. However, handler can know and will report the error status caused by networking issues.

17. e-PTZ is not supported.

18. As the SD8313E, SD8323E, SD8312E, SD8322E, SD8311E, SD8321E share same FW, they all are regarded as SD83X3 model by the handler. SD8313E is fully tested, but we cannot guarantee the handler work with others as well as with SD8313E.

19. Similar to SD83X3 The PZ8111, PZ8121, PZ8111W, PZ8121W share same FW, they all are regarded as PZ81X1 model by the handler. PZ8111is fully tested, but we cannot guarantee the handler will work with others as well as with the PZ8111.

20. As the FD8235H does not support dual stream MPEG4 If the user wants to change the codec of one stream to MPEG4, he / she should make sure the codec of the other stream is not MPEG4.

21. GOP is not supported. VIVOTEK does not support GOP setting . VIVOTEK gives another way: to change the TIME period (in seconds) between two I frames. If needed, users should change this through camera's web client.

22. Max frame rate is limited to 30(NTSC, mega pixel) or 25(PAL) due to NVR limitation.

23. NVR4.3, 4.4 has a limitationon supporting VideoCodecBitRateControl, VideoCodecMaxBitRate, VideoCodecProfile, VideoCodecQuality, so the NVR4.3, 4.4 handler does not support these features.

24. Back light compensation is not supported due to bad support to the CGI.

25. Rarely during overnight soak the IP8362 was in night mode and then changed to day mode for a few seconds, which then caused the screen togo white for 2 seconds and then returned to night mode. No obvious light change was noticed during the whole process.

26. During test, the IP8362, FE8172, SD8362, VS8801, PZ8111 were found that their actual frame rate cannot meet the set one. This case may also happen on other models. This is a camera hardware issue.

The recorded test result:

Model	Codec	Set frame rate (fps)	Factual frame rate (fps)
IP8362	H264/MJPEG	30	13.29
FE8172	H264/MJPEG	30	16.41
SD8362	H264	30	13.84
SD8362	MJPEG	30	13.76
VS8801	H264	30	21.83
PZ8111	H264/MJPEG	30	29.06

27. TFS91825, TFS93248, TFS93249, TFS95335-Videoloss may be observed for 1 second this is due to an NVR issue, it has been seen rarely on the following durning testing FD83235, VS8801, IP8362, FE8171.
28. TFS92830, TFS93656- Due to NVR limitation if dual steam is switched off the change may not be made the user should reapply the single stream settings
29. TFS95187: VS8801 Audio not working on all channels(encoder issue) this is due to a camera issue in earlier firmware .Firmware version V0201c or above should be used. However, as the max connection count is limited to 16 by firmware, which just meets the need of NVR, if streams are occupied by any client other than NVR, audio / video may not be streamed to NVR. Users should keep the device dedicated to NVR.
    For example, if a VLC is streaming video from a VS8801, NVR will only be able to stream 15 streams from this VS8801.
30. TFS93727: VIVOTEK IP8362 - Significant video freeze in Instant Playback throughout long period of video during night/day mode transition - Does not occur in Search and Retrieve.
31. TFS96714: VIVOTEK IP8362 - Video changes from night mode to day mode for just a few seconds this has been confirmed by vivotek as a camera issue.

Known Issues

1. In web client of NVR, if change codecs for both streams and click ‘SAVE’ button, there are very small chances that one of the streams is not turning to the desired codec. In this case, user needs to change the codec again.

2. If there are to many clients connected to the encoder VS8801 then the audio stream will not work as expected.

3. TFS92735After a long period of soaking the PZ8111, the NVR cannot show its settings in camera list. If the web browser is used to see its web client, it will show“503 Service Unavailable There are too many connections in use right now. Please try again later.”This has been fixed in Firmware version 0104a1 and later but may occur in earlier version.

4. Video stutter may occur on MJPEG stream for the FD8135H this has been confirmed by vivotek as a camera hardware issue.

5. FE8171/FE8172, PZ81x1 and other models supporting line in and mic: User should choose the right audio input via the camera web client according to the deployment. If internal mc is selected then the user must change the volume via the camera web client as the NVR does not know which audio input is used. The volume in the NVR refers to the external mic.

Special Points

1. The handler should work with all supported models. However, , not all models were tested. Below key models have been fully tested: FD8135H, SD8313E, VS8801, IP8362, FE8172, PZ8111.

2. It is recommended when the camera is added to the NVR, That no property parameters are chnaged on the camera web GUI (unless specified on the release notes)

3. Select internal or external microphone on the device or via camera web client respectively before audio is enabled.

4. If PTZ camera is connected to VIVOTEK encoder, please set RS485 settings in “Camera control” on camera web client before using PTZ. (Due to NVR4.3, 4.4 limitation, PTZ of encoder is not supported by NVR4.3, 4.4.)

5. Conversion algorithm for video codec settings (Brightness, Contrast, Sharpness and Saturation):

   NVR value == (Camera value + 5) * 10

6. Conversion algorithm for audio volume: No conversion is made. All values shown in NVR are according to the user manual of VIVOTEK models. Please refer to “audioin_c<0~(n-1)>_ gain“ part in model-specific user manuals.

7. white balance : 0 represents "manual", 1 represents "auto"

8. WDR :
   For FD8135H, 0 represents “off”, 1 represents “on”.
   For FE8171, FE8172, IP8362, 0 represents “off”, 1 represents “Low”, 2 represents “High”.
   For SD8313E, SD8362E: 0 represents “off”, 1 represents “manual”, 2 represents “auto”.

9. For PZ8111, Pan, Tilt operations are limited in a certain degrees because of its mechanical design.

ADAPACSD

Supported Key Functions

- Video Stream
- PTZ (Only for ADSDI200P10)
- Query Device

Video Stream

Supports MJPEG and H264 streams

(Only viable dual streaming is a combination of H264 + MJPEG refer to Limitations for further details)

Supported resolution list:

Model	Max resolution(default value)	Resolution list in NVR4.3, 4.4	
ADSDI200P10	2048x1536	H264	MJPEG
		2048x1536,1920x1080,1280x720	720x576
ADDCI200P	1920x1080	H264	MJPEG
		1920x1080,1280x720	720x576

PTZ

Supports Pan, Tilt, Zoom, preset functions

Unsupported Key Functions

- Audio Stream
- Dry Contact Events
- Power Off
- Get Log

- Factory Defaults
- Find Device
- Reboot

Default Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: 1234

Limitations

The following limitations which only apply to ADSDI200P10

- When set resolution to 2048*1536 for stream 1, the stream 2 is unavailable on camera webGUI;
- The highest resolution of stream 2 is always lower than stream1's
- The resolution is 1920x1088 when set it to 1920x1080 for H264 stream.
- The Medium is maximum for quality when set resolution as 2048*1536 or 1920*1080.
- If there is one stream configured as h264/2048x1536, the all stream (H264 and MJPEG) fps can only reach the half of the setting value, and their maximal value can only reach 12.5 ;
- When the codec is H264 and the resolution is 2048x1536, the codec does not support 1fps.
- When the resolution is 1920x1080, the top border of image is distort after do Flip of image.
- The MJPEG image is cropped, so the scope of MJPEG image is smaller than H264.
- The DOF is not good and it is hard to focus on, the image looks blur and white.
- Outdoor scene change barely whatever you change the WDR level on the camera webGUI.
- The camera's webpage usually cannot be displayed completely in IE.
- The POE+ compatibility of camera is not good , it supports Gigabit PSE-G300,but it doesn't support Cisco catalyst 2960-S.

Known Issues

- For ADSDI200P10 camera
  The camera doesn't support http request with authentication , so it can be added to NVR with any password group.
- For all camera
  The RTSP service doesn't support RTSP request with authentication.

Special Points

- For the single-stream mode, by default, the MJPEG stream max fps can't reach 25(PAL), but I can reach 25 by special configuration.

  Configuration Procedure:

  1. Make NVR work under the single-H264 stream mode.
  2. Check the resolution of H264 and make sure the resolution is less than 2048x1536.
  3. Switch to single MJPEG stream.

  After above setup, the MJPEG fps can reach the normal value.

- The range list of image quality is low, mid and high on camera, handler converts them
- to1,50,100.
- Camera to NVR: low-1, mid-50, high-100.
- NVR to Camera: 1-low,50-mid,100-high.
- Please make sure bitrate mode is CBR on camera web GUI, when set bitrate on NVR web GUI.
- For ADSDI200P10 camera, its bitrate range is 100-12000, but the range is 1-8000 on NVR, so valid range for user is 100-8000; Similarly, For ADDCI200P camera, the valid range for user is 500-8000. Handler shall give the actual bitrate value of camera to NVR, when set invalid value to camera on NVR web GUI.

APACMidtier

Supported Key Functions

- Video Streaming - Single and Dual(H264+H264 and H264+MJPEG)
- Audio Streaming - Only support G711mulaw
- PTZ - Applies to cameras that have mechanical Pan and Tilt and Optical Zoom.
- Dry Contact Events
- Query Device

Unsupported Key Functions

- Power Off
- Get Log
- Factory Defaults
- Find Device
- Reboot

Default Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: root
- Password: root

Limitations

- For ADCi150 serials cameras.
  The camera's time will restore to 1970 after power off

- For the camera ADCi150-S037
  Because structure of dome cover is not good, the image of special area is blurry.

- For ADCe 150-E004
  The dual stream mode, due to encoder performance limitation, the H264 primary stream is often jitter and not smooth in certain resolution combination, then user want to get the smooth video, user can reduce the second video configuration.

- For ADCe 150-E004
  Due to encoder performance limitation, if audio is enabled, the video stream can often jitter. So suggest user don't enable audio and make sure audio is disabled on camera and NVR web gui.

Known Issues

- For all cameras
  Change any stream parameter (resolution) on NVR, sometimes, user can't see the living stream using any player, for example, QT, VLC, Victor, the issue is belong to camera FW's issue, user can restore this issue by reboot.

- For 550 serials cameras

  When camera is working, sometimes, RTSP server can stop work, even if user don't make any operation on camera. Then user must restore RTSP server by reboot.

  User make sure camera motion detection is disable, if not, the high CPU load can cause the recorded video file is abort on NVR

Special Points

• After camera added to NVR, it’s not recommended that user change any configurations from camera web gui

• It is not recommended that change the two video stream parameters at the same time on NVR web gui.

• For 550 serial cameras except speed dome

It has two sensor mode, and they are “Full HD” and “XVGA”, and the highest resolution is different between Full HD and XVGA, so user must select the sensor mode on camera web gui before the camera is added into NVR. Sensor mode modification is not supported by handler.

• For the camera which sensor mode is “CMOS”, the camera video standard is neither PAL nor NTSC, so the video standard display “UNKNOW” on NVR web page.

• For the camera that support back light compensation control, the option supports 2 settings, namely

1. “0”- Disable back light compensation function
2. “1”- Enable back light compensation function

• For the camera that support day night mode setting, handler is only support “auto”, ”day” and “night”, not support “Response to event trigger”.

• For PTZ function of ADce150-E004

1. ADce150-E004 is four channel encoder, it has four PTZ drivers, the four drivers are map to four channel orderly by handler, NVR controls channel 1 using PTZ driver 1, controls channel 2 using PTZ driver 2, controls channel 3 using PTZ driver 3, controls channel 4 using PTZ driver 4.So before camera is added to NVR, user make sure the PTZ driver has been configured.
2. For the baud rate of PTZ, the recommended baud rate is 4800.

Hikvision

Supported Key Functions

- Video Stream
- Query Device
- Audio Stream
- Events(Dry Contacts)
- PTZ
- Reboot
- Factory Defaults

Unsupported Key Functions

- Power Off
- Get Log
- Find Device

Default Ports

- Port 443 is for HTTPS
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: 12345

Limitations

- Due to the performance limitation of the MJPEG / MPEG4 / H264 models, while streaming MJPEG and H264 or MPEG4 simultaneously, the camera might not deliver the requested frame rate. Please refer to the Hikvision product catalog for details.
- For IP Camera serials, Camera will reboot after codec changed, reboot time needs 45 second, while changing resolution, quality, GOP or FPS does not need to reboot camera
- For all serials, QuickTime player cannot play the MPEG4 stream due to the MPEG4 stream is generated in Advanced simple profile
- For DS-2CD853F and DS-2CD753F-E,

  H264's max FPS as below:

  50Hz(PAL): 12.5 fps(1600x1200) 12.5 fps(1600x912) 25 fps(1280x960) 25 fps(1280x720)

  60Hz(NTSC): 15 fps(1600x1200)15 fps(1600x912)25 fps(1280x960)25 fps(1280x720)

  MJPEG's max FPS as down below:

  50Hz(PAL):12.5fps(704x480) 12.5fps(352x240) 12.5fps(320x240)

  60Hz(NTSC):15fps(704x480) 15fps(352x240) 15fps(320x240)
- For DS-2CD853F and DS-2CD753F-E, Resolution set to 1600x912, 1600x1200

  Case 1: VideoStand 50Hz(PAL), users can not set FPS to 15, 16, 18, 20, 22

  Case 2: VideoStand 60Hz(NTSC), users can not set FPS to 16, 18, 20, 22

  Due to camera does not support.
- Users change dry contact active state will cause camera/encoder reboot.

Known Issues

- [DS-2CD853F, DS-2CD753F-E] Resolution set to 1600x912, 1600x1200, FPS set to 12, real FPS will reach 12.5
- [DS-2CD753F-E] There is stream re-connection (period: 24hours).
- [DS-6708HFI, DS-6708HWI] There are missing frame (missing rate < 0.0135%).
- [DS-6708HFI, DS-6708HWI] It's interactive between the values of Brightness, Contrast, hue, Saturation, when change one of them, the other will change accordingly.

Special Points

- When add camera into NVR, users should restore camera to factory default through camera web page.
- Users should use NVR configure page to set camera codec parameters including FPS, resolution, quality after add camera to NVR. Users can use camera web page to set other codec properties (bitrate, bitrate control type, key frame interval, etc.)
- Before use Events (Dry contacts) function, users should configure alarm input arming schedule on camera's web page (for example, configure schedule to 7x24 hrs.).