

## Express Devices Integration with ViconNet – FAQ

### General

The Express device family, that includes the HDEExpress NVRs and the Express DVRs, have been introduced over the last 18 month and sold primarily as a stand-alone solution. With the release of ViconNet version 8, these devices are now integrated into the ViconNet VMS and can be used as an edge device in the VMS.

The main advantages of the Express devices are their compact size and extreme ease-of-use. Now combined with the standards-based ViconNet VMS, they allow choosing the perfect solution for any location using analog or IP cameras and are supported in parallel to other Vicon and open standard IP devices.

### Support Information

In order to for the Express devices to be supported by ViconNet, it is required to update the firmware on the device, as well as update the VMS version to ViconNet 8.

The exact software information is listed below in the FAQ section.

### Express DVR vs. Encoder

With the Express DVR (8 and 16 channels) now supported by ViconNet, the Express DVR becomes the perfect solution to use as an encoder and is planned to replace the 16 channel H.264 encoder.

On the last page of this document you will find a comparison matrix between the Express DVR, the 16-channel H.264 encoder and the Kollector Strike as encoder.

*Q: What models of the HDEpress NVRs do we offer?*

The HDEpress NVR is offered in 4, 8 and 16 camera packages. Each of these packages is offered in various storage configurations.

*Q: What models of the Express DVR do we offer?*

The Express DVR is offered in 8 and 16 camera packages. Each of these packages is offered in various storage configurations.

*Q: Do all Express NVRs and DVRs come in the same form factor?*

Almost all Express devices now come in the same 1U chassis. The only exception to this is the 16-channel HDEpress for high storage capacity that uses a 2U chassis to allow it to load 5 hard drives.

*Q: Do we offer a rack mount kit?*

Yes we do. There are two kits, HDXPRES-RK-1U for all 1U chassis and HDXPRES-RK-2U for the 2U model.

*Q: What is the minimum ViconNet version to support the Express devices?*

The minimum ViconNet version supporting the Express devices is 8.0 (build 32).

*Q: Are older models of the HDEpress supported or only the models currently being shipped?*

The currently shipping models, ending with L3 and P3, are the only ones fully supported at this time. Older models (sold in the past) are supported by ViconNet 8 but do not offer support to the IQEye cameras.

*Q: What firmware version do I need on the Express device to be supported by ViconNet 8?*

Model (all drive options)	Minimum Firmware Version
<b>HDXPRES-4L3</b>	39110.1.108019.96
<b>HDXPRES-8L3</b>	39210.1.108019.96
<b>HDXPRES-16L3 (1U)</b>	39310.1.108019.96
<b>HDXPRES-16P3 (2U)</b>	43310.1.108019.96
<b>EXPRESS-8</b>	29210.1.103104.96
<b>EXPRESS-16</b>	29310.1.103104.96

*Q: Can all devices be connected to ViconNet in order to work?*

All Express devices listed with compatible firmware can be added to a ViconNet version 8 system and used like any other device on the VMS.

*Q: Can an Express device work by itself and still have PC and mobile access to it without a ViconNet system?*

Yes it can. The Express devices can still run as a stand-alone recorder and be viewed using a web browser, the iPims software and the nViewer app.

*Q: Can a free JUMP NVR be used as a Nucleus and allow adding Express devices to it?*

No it cannot. The JUMP free NVR is not meant to be used in place of a Nucleus and will not allow adding Express devices to the system.

*Q: Can a free JUMP NVR record cameras connected to Express devices?*

Yes, a free JUMP (that is not the Nucleus) can record cameras from an Express device up to its limit of 6 recorded cameras.

*Q: Can the ZONE and PEAK NVRs record cameras connected to Express devices?*

Yes, all ZONE and PEAK NVRs can record cameras from an Express device up to their model specific limit on recorded cameras.

*Q: Do I need a 3<sup>rd</sup> party license to connect Express devices to ViconNet?*

No. The Express devices, like any Vicon edge device, do not require a 3<sup>rd</sup> party license in the ViconNet system.

*Q: When recording cameras connected to an Express device, how should I count channels for the purpose of storage and NVR calculation on ViconNet?*

Every camera connected and recorded to ViconNet needs to be counted. You cannot count the NVR or DVR as one camera and assume all cameras connected to it become one. For example, on a 16-channel DVR Express, you will account for 16 cameras at the resolution and fps they are set for.

*Q: What frame rates are supported?*

The Express devices allow up to 30 fps from any camera connected to them.

**Q: What resolutions are supported?**

The Express DVR supports up to 960H (960x480) resolution per camera. The HDEExpress NVRs support up to 1080P (1920x1080) resolution per camera.

	Item	Width (Vertical Pixels)	Height (Horizontal Pixels)	Total (Pixels)
Express DVR	CIF	360	240	86,400
	2CIF	720	240	172,800
	VGA	640	480	307,200
	D1	720	480	345,600
	960H	960	480	552,960
	720p	1,280	720	921,600
	1080P	1,920	1,080	2,073,600

**Q: What is 960H and do I need a special camera for it?**

960H means 960 x 480 pixels which is ~1.5 times higher than the D1 resolution the H.264 16 channel encoder and Kollector offer. This is provided regardless of the analog input quality which means you can have a 500TVL camera and still get the encoded image at 960H. It is highly recommended to use high quality (high number of TV lines) analog cameras to get the full benefit of the higher resolution.

**Q: Will the HDEExpress support higher resolutions in the future?**

Yes. In the near future the HDEExpress will offer support for 3MP and 5MP cameras as well. This will require a firmware update and will have certain performance limitations that will be explained when available.

**Q: Can we mix different devices in one system?**

Yes. ViconNet 8 supports any combination of devices; analog cameras from Kollectors or encoders as well as the DVR Express and IP cameras on the network or on HDEExpress are all seen on the Site List in the same way.

**Q: Do the Express devices have an operating system drive?**

No. The operating system is loaded on a memory chip in the unit.

**Q: What operating system is used on the Express devices?**

The Express devices run an embedded Linux-based operating system very much like the IP cameras.

*Q: Do I need to upgrade the system Nucleus?*

Yes. The system Nucleus has to be running ViconNet 8 in order to allow adding Express devices to it.

*Q: Is it required to update all NVRs, workstations and VMDCs?*

Any NVR, workstation or VMDC that needs to be able to view / record and playback the Express devices needs to be updated to ViconNet 8. If not all the computers need to have such access, they can be left at their current version; however, it is advised to update the entire system.

*Q: How do the Express devices show on the Vicon web viewer and mobile apps?*

The Express devices show on the web viewer exactly like a Kollector or encoder do, with the unit name and its cameras under it. It is important to realize that in order for the ViconNet web or mobile viewer to see the Express devices, the web server (running on the Nucleus or as stand-alone) needs to be running ViconNet 8.

*Q: How many hard drives and what sizes can fit in the Express devices?*

Almost all Express devices use a 1U high chassis that supports two hard drives. The maximum drive size supported at this time is 3TB, which brings the maximum storage on these to 6TB. The 2U 16-channel unit can hold up to 5 drives which allows 15TB.

*Q: On the HDEExpress NVR unit, do I have enough PoE ports?*

The 4-channel NVR has 4 PoE ports and the 8-channel has 8 ports. The 16-channel NVR (L3) has only 8 PoE ports built in, due to both size and power supply limitations. To overcome this, the 16-channel unit is provided with an additional 8 PoE port unit (HDXPRES-POE-HUB) that connects back to the NVR.

*Q: Do I always need the HDXPRES-POE-HUB?*

It is very likely that for a 16 camera NVR you will need 16 PoE ports. An exception might be if some cameras are already powered in a different way. The 16-channel HDEExpress comes with the PoE hub. Special orders without the hub need to be discussed with Vicon sales.

*Q: Can cameras be connected to the Express NVR without PoE?*

Yes. If the cameras are already powered either by a direct power source or another PoE device, they can still be connected to the NVR. In other words, the NVR does not have to be the powering device of cameras it is recording.

*Q: Are there video loop outputs on the Express DVR?*

No. The Express DVR comes with analog input only. If the signal needs to be split, you can use a distribution amplifier (V-DA-8-16) to do so.

*Q: How do I connect PTZ cameras to the Express DVR?*

The Express DVR has an RS422/485 port to connect to serial PTZ lines. The best practice of connecting multiple serial devices to RS422/485 is to either connect those to each other in a daisy chain or use an IDL to prevent crosstalk (V1400X-IDL).

Check the Express DVR datasheet for supported PTZ protocols.

*Q: How many audio channels can the Express devices handle?*

The Express DVR has one audio in channel.

*Q: Are events from the Express devices sent to ViconNet? If so which ones?*

ViconNet receives and displays the following events from the HExpress: motion detection and sensor input. From the Express DVR ViconNet supports motion detection, sensor in and video loss. Analytics from cameras connected to the HExpress are not supported at this time.

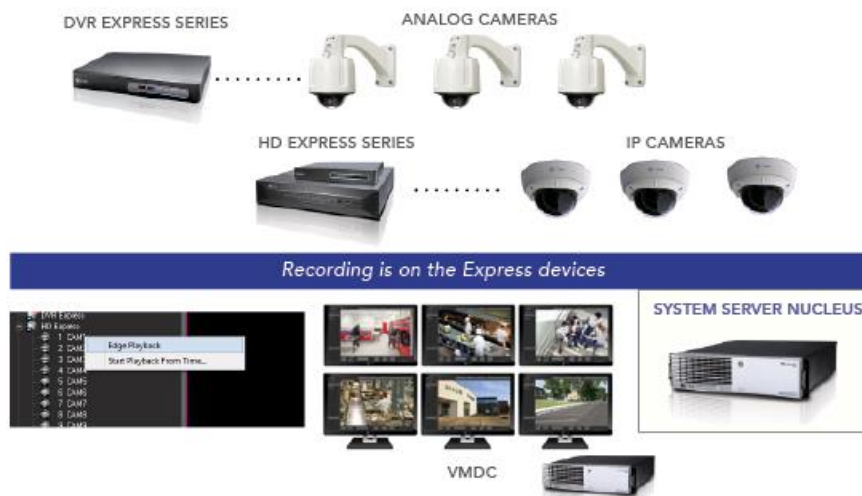
*Q: What recording options are available when using the Express devices with ViconNet?*

When using the Express devices there are three recording options:

- ❖ **Record on ViconNet NVR** – No recording setting on the Express device at all but a ViconNet NVR is set to record the cameras of that device (similar to using an encoder); applicable for NVR or DVR.



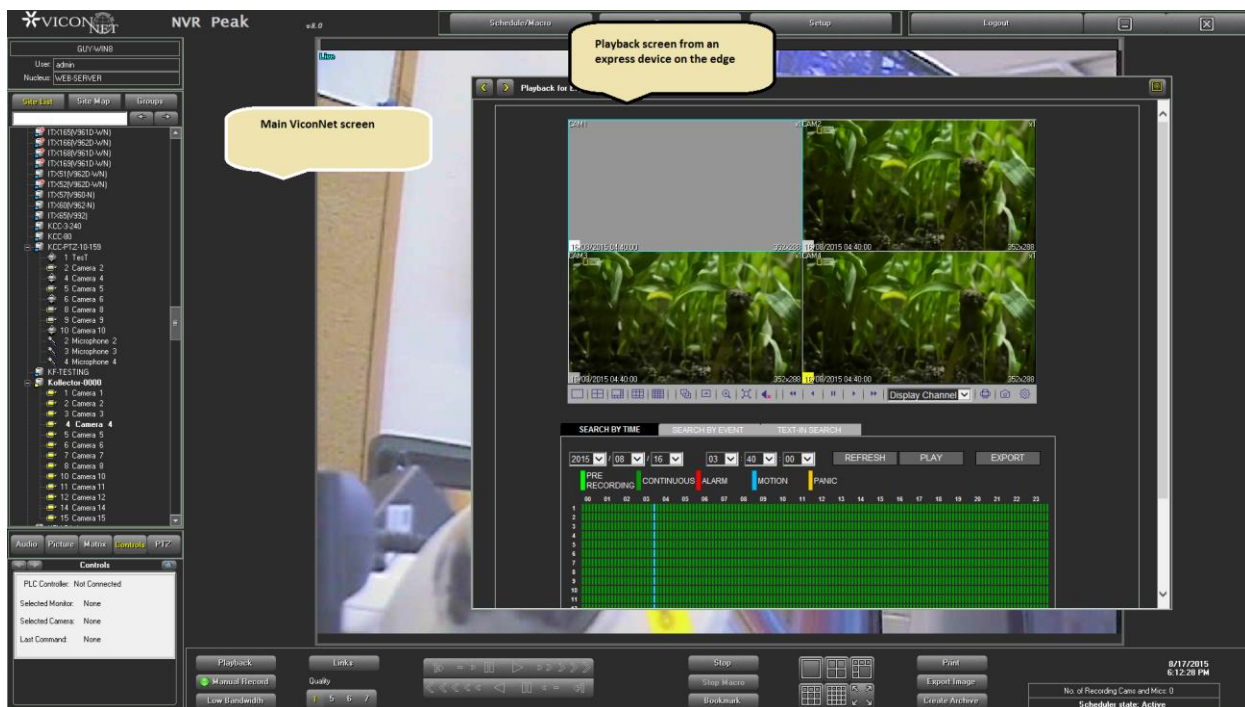
- ❖ **Record on Express Device** – Recording is set on the Express device itself and no ViconNet NVR is recording it (similar to Kollektor); applicable for NVR or DVR.



- ❖ **Dual Recording** – Recording is set on both the Express device AND a ViconNet NVR. This can allow different recording at the different locations and redundancy in case of connection loss (similar to Kollektor dual-recording); applicable for NVR or DVR

### Q: How does playback in ViconNet work with the express devices?

The way playback works depends on the recording method chosen. When the Express device is recorded on ViconNet NVR (as an encoder) the playback is the same as any other device on ViconNet and is done in the ViconNet UI. If the Express device is recording on its internal drives, playback is done from it as an edge device and will open the playback interface for that specific unit. The edge playback interface only allows that edge devices video to be searched, played back and exported. If the recording is on both (dual-recording), both playback options become available.



	Kollektor Strike (as encoder)	Vicon 16ch Encoder	DVR Express	Remarks
<b>Hardware</b>				
Video input	16	16	8 / 16	
Looping out	0	0	0	Can use V-DA-8-16
SD card	0	1; not operational	0	
Internal hard drive	2	NO	2	
Audio in	4	16	1	
Audio out	1; not operational	not supported	1	
Sensor in (DI)	4	8	4	Can use ADAM-6050 to expand
Sensor out (DO)	4	8	1	Can use ADAM-6050 to expand
RS422/485	1	8	1	Can use V1400X-IDL or daisy chain
RS232	1	1	0	
Network ports	1	2	1	
USB ports	4	1; not operational	2	
Power	120-240VAC (Internal P.S.)	PoE / 24VAC (external P..S)	120-240VAC (external P.S.)	
<b>Performance</b>				
FPS per channel	up to 30fps	up to 30fps	up to 30fps	
Resolution per channel	up to D1	up to D1	up to 960H	
Compression	ViconNet / H.264	H.264	H.264	
<b>Supported by ViconNet</b>				
Museum search	YES	YES	NO	
Thumbnail search	YES	YES	YES	
Export	YES	YES	YES	
Archive	YES	YES	YES	
Motion detection	YES	YES	YES	
No. of streams	1 per channel	2 per channel	2 per channel	
Recording on the edge	YES	NO	YES	Use as encoder (no local recording), recorder (local recording) or both in parallel
Edge playback	NO	NO	YES	
<b>Other</b>				
Direct Web interface	NO	NO	YES	
Edge event search	NO	NO	YES	
Edge export	NO	NO	YES	