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## 3<sup>rd</sup> PARTY INTEGRATION

Sometimes it is necessary to combine video surveillance equipment from other providers with uniview tec products. uniview tec makes this possible through providing cameras and recorders that are Onvif compliant. When Onvif protocol is not possible, we can also integrate through RTSP.

## LOCATING CAMERAS AND SETTING IP ADDRESSES

To begin, the devices must be able to communicate with each other. All network devices are configured for either a static IP address or to automatically obtain (DHCP) an IP address. A static address is fixed and must be manually configured. The IP address needs to match the network where the device is going to be connected. With a DHCP address the device will automatically obtain an address from the network where it's connected. This IP address is controlled by the network and can dynamically change. Which type of addressing is best is determined by the network where it's going to be connected but is beyond the scope of this tech note. We recommend in most cases when setting up the video surveillance equipment, a static IP address be used.

To change a cameras IP address often requires software. Most camera manufactures provide software specifically for their equipment which is used for locating and making basic settings changes. In some cases the software from the provider is the <u>only</u> way to access their camera setup.

# Note - To make any changes you almost always require the username and password for the device. If you don't have this you will likely need to contact the camera provider for assistance with resetting the camera.

Guard Tool is our program for uniview tec equipment. It might also be used to locate and make basic changes to 3<sup>rd</sup> party devices. Guard Tool is available for downloaded from our website at www.univiewtechnology.com/support-center/client-software-vms.

Once you have installed the necessary software on a computer that is connected to the same network as the equipment that you want to configure, you are ready to change IP addresses.

For our example, we will demonstrate how this is accomplished with uniview tec cameras.

Guard Tool will locate the uniview tec cameras. Select the desired camera and right click on it. Then click on Modify Network Address. The default login is admin and 123456.

As previously stated the address to use will depend on the network where the device is connected. For example the default IP addresses scheme for the PoE ports (NIC2) on a uniview tec NVR is 172.16.0.x.

🗘 Gua	rd Tool				
Devic	e Management D	lisk Calculator			
Re	fresh Login	Maintenance Upgrade 🔻	DST Batch C	onfigure	/NVR
All	IP	Device Name	Model	Version	
	192.168.10.73	IPCSD425X	IPCSD425X	QIPC-B2202.	7.11.C03111
	192.168.10.76	HNRXAI16	HNRXAI16	NVR-B3506.2	.11.C12510.
	192.168.10.86	HNR08	HNR08	NVR-B3502.9	.8.C12510.2
	192.168.10.114	Modify Network Addre	RB2447MX	ANPR-B1105	.2.2.C00501
	192.168.10.211	Restart Device	4K180	QIPC-B8701.	13.11.23022
	192.168.10.212	Change Password	13MX	GIPC-B6202.9	9.5.C03135.I

As such, if the uniview tec NVR's NIC2 is 172.16.0.1 and a camera is being added to this network it would need to have an address in the range of 172.16.0.2 to 172.16.0.254. As well, the address needs to be available and not used by any other device. After changing the cameras IP address, rescan with the software to ensure it has changed.

# REGISTERING 3<sup>RD</sup> PARTY CAMERAS TO UNIVIEW TEC RECORDER

Registering a camera can be done directly at the uniview tec recorder or through its browser interface. For this example we will demonstrate adding through browser.

Browse to the recorder's Setup and then navigate to Camera. This is where the cameras will be added.

uniview tec	:	📮 Live	e View	📖 P	Playback	٠	Setup	
Client	~	Came	ra		Fishey	e		
System	~				0.0	0.0"		
Camera	~	Auto	Switch to H.	265	() On	00	Note: Effect	tive wł
Camera		Auto	Switch to Sr	nart Enco	ding Advan	ced Mo	de 🗸	Note:
Encoding		Defe	ach I	Andle.	Auto Seard		arah Caamant	
OSD		Ketr	esn	viodity	Auto Searci	n se	arch Segment	
Image			No.		Camera ID		Addres	5
Sebadula			1		D1		172.16.0.	18
schedule			2		D2		172.16.0.	31
N								

Camera

If the uniview tec recorder has PoE ports then the default configuration for these ports is Plug and Play. When connected to these ports uniview tec cameras will automatically register to the recorder. Some 3<sup>rd</sup> party cameras support uniview tec's Plug and Play and will automatically register if directly connected to these PoE ports.

If the camera needs to be manually registered, click on the channel that corresponds to where it is connected and then click Modify at the top of the camera list to get to registration page.

If the NVR does not have PoE ports click on Add at the top of the camera page to get to the registration page.

Add Mode	Plug-and-Play 🗸
Protocol	Plug-and-Play
11010001	MvDDNS
IP Address	Domain Name
Port	80
Username	admin
Password	
Remote Camera ID	1 *
Extended Transmission	⊖ On ) Off
Search Save	Cancel

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On the registration page click on Add Mode and select IP Address from the list. Next click on Search.

The NVR will locate all available cameras.

Select the camera that you want to add and then click OK.

You will then be taken back to the Modify screen.

Status	IP Address	Configure	Port	Qty	Protocol	Vendor	Model	Serial No.
	172.16.0.22	Ø	80	1	Private	univiewtec	IPT4212MX	210235TKXKA216000173
	172.16.0.52	Ø	80	1	Private	univiewtec	IPB4K28AIX	210235TUHF3223000674
	172.16.0.58	Ø	80	24	ONVIF	univiewtec	HNR162X	210235XGC03233000020
	172.16.0.76		80	24	ONVIF	univiewtec	HNRXAI16	210235XB533211000035
	172.16.0.86	Ø	80	16	ONVIF	UniviewTec	HNR08	210235TA0MF18C00008
Added	172.16.0.13		80	1	Private	univiewtec	IPB4K212MX	210235TM3R321700013
Added	172.16.0.14		80	1	Private	univiewtec	IPT528AIX	210235TQ71321A000209
Added	172.16.0.15		80	1	Private	univiewtec	IPT528AIX	210235TQ71321A000410
Added	172.16.0.16		80	1	Private	univiewtec	IPFE5360X	210235TTBL321B000277
Added	192.168.2.17		80	5	Private	univiewtec	IPFE12360X	210235U3A83234000008
Added	192.168.10.73		80	1	Private	univiewtec	IPCSD425X	210235XGV63235000026
Added	192.168.10.114		80	1	ONVIF	univiewtec	IPLPRB2447MX	210235U3BY3234000015
ind:14 Se	lected:0							

On the Modify screen, enter the Username and Password for the camera. The IP Address and Port should have populated from the Search.

Note - If the camera was not discovered in Search there might be an issue with its settings or it might need to be manually entered on the Modify screen. The IP address, communication port and login settings would then need to be typed in.

Click on Save and you will return to the Camera page.

Once back on the Camera page monitor the camera icon in the Status column.

If the icon is green go to the Live View page to check your video. If it is not green, hover over the icon for more information.

If the icon is blue, the NVR is still trying to negotiate the connection. Give it a minute and then click on Refresh in the upper left corner.

If the icon is greyed out the NVR was unable to negotiate the connection.

Add Mode	IP Address 🗸
Protocol	ONVIF V
IP Address	172.16.0.19
Port	80
Username	
Username Password	
Username Password Total Camera Number	



Status

If the icon does not go green hover the mouse pointer over the status icon and it will provide more information to assist with troubleshooting.

### WHY A CAMERA MIGHT NOT CONNECT

- Login, network or port settings are incorrect.
- Camera or NVR might require a firmware update.
- The camera is not Onvif compliant (preferably profile S and above) or Onvif is not enabled. Refer to Onvif.org to verify compliance. For cameras that don't support Onvif refer to adding cameras using an RTSP Stream.

#### ADDING CAMERAS USING RTSP STREAM

In some instances you may have to add a 3<sup>rd</sup> party camera using an RTSP stream. To add a camera using an RTSP stream, from the NVR Camera menu click on Add. If editing an existing channel, click on it and then click Modify.

Once on this camera page you will want to change the Add Mode to IP Address and the Protocol to Custom. Enter the IP Address and the login credentials for the camera. Next you will need to define the RTSP protocol settings. To do this you will need to click the Protocol button. Camera Fisheye Advanced Add Mode IP Address  $\mathbf{v}$ Protocol Custom Custom Custom1 Protocol IP Address 172.16.0.15 Port 0 Username admin Password .....  $\mathbf{v}$ Remote Camera ID Extended Transmission ⊖On ⊚Off Search Save Cancel

Camera	Fisheye	Advanced
Add Mode	IP Address 🗸	
Protocol	Custom 🗸	
Custom	Custom1 v	Protocol
IP Address	172.16.0.15	Λ
Port	0	42
Username	admin	
Password	•••••	•
Remote Camera ID	1 ~	
Extended Transmission	⊖ On ()) Off	
Search Save	Cancel	

Protocol	
Custom	Custom1 v
Protocol Name	Custom1
Port	554
Transfer Protocol	UDP
Enable Main Stream	
Resource Path	rtsp:// <ip>:<port>/</port></ip>
Enable Sub Stream	
Resource Path	rtsp:// <ip>:<port>/</port></ip>
Example : rtsp:// <ip address="">: One channel: rtsp://192.168.0.1:554/unicast/ Multi-channel: rtsp://192.168.0.1:554/unicast/ rtsp://192.168.0.1:554/unicast/ rtsp://192.168.0.1:554/unicast/ [%C±N] : %C means the remo</ip>	<pre><rort number="">/<resource path="">; (c1/s0/live; /c1%C1/s0/live; Add selected camera ID (c1%C-1/s0/live; Add selected camera ID+1 c(%C-1/s0/live; Add selected camera ID-1 te camera ID selected, N means offset.</resource></rort></pre>
	Save Cancel

On the Protocol page you will need to fill in the information for the RTSP stream of the camera you are adding. The best source for this will be from the camera manufacturer. If that is not possible, it can often be sourced with the program Onvif Device Manager.

After entering the information click the Save button on the Protocol page.

Note: If you are adding multiple cameras that are the same model, you can make your Resource Path generic by inserting <IP Address> and <Port number> where indicated in the RTSP stream. This will allow you to use the same Custom definition for those cameras since they would not need to be defined individually. At the bottom of the Protocol page are examples of how this can be done.

Once you return to the camera Modify page click the Save button. This should add the camera as a RTSP stream. Monitor the camera status icon. If the camera does not connect you may want to test the RTSP stream. We suggest testing with the program VLC Media Player to confirm that the RTSP is valid.

Note: RTSP does not support advanced functions like motion detection and PTZ control.

## LOCATING THE RTSP STREAM SETTINGS





For locating an RTSP stream we recommend using Onvif Device Manager (ODM). Searching online it can be located at <u>https://sourceforge.net/projects/onvifdm</u>

Download and install it on a computer that can be connected to the same network as the camera.

Once ODM is opened it will start locating Onvif devices.

Type in the user name and password at the top left of the screen.

Next select your device.

To the right there will be several options.

Click on Live Video.

At the bottom of the video screen it will display the RTSP stream.

This is what will be needed in the recorder.

It is recommended to test the RTSP since ODM is not always able to detect it correctly.



#### **RTSP TESTING**

To test the RTSP stream we recommend using VLC Media Player. Searching online it can be located at https://www.videolan.org/vlc

Download and install it on a computer that can be connected to the same network as the camera.



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VLC is a free and open source cross-platform multimedia player and framework that plays most multimedia files as well as DVDs, Audio CDs, VCDs, and various streaming protocols



Open VLC.

Click on Media and then select Open Network Stream.

<u> </u>	VLC media player				
Med	dia Playback Audio Video	Subtitle	Tools	View	Help
Þ	Open File	Ctrl+0			
Þ	Open Multiple Files	Ctrl+S	hift+0		
Þ	Open Folder	Ctrl+F			
<b></b>	Open Disc	Ctrl+D			
÷	Open Network Stream	Ctrl+N	l –		
5	Open Capture Device	Ctrl+C			
	Open Location from clipboard	Ctrl+V			
	Open Recent Media		•		<u> </u>
	Save Playlist to File	Ctrl+Y			
	Convert / Save	Ctrl+R			
((-))	Stream	Ctrl+S			
	Quit at the end of playlist				
÷	Quit	Ctrl+Q	2		

Type in RTSP stream into URL field and click Play.

If the stream information is correct video will be displayed. If no video is displayed the RTSP stream is incorrect. The camera manufacture is often the best source for assisting with this task.

📥 Open Media	-	- [	×
File So Disc The Network Capture Device			
Please enter a network URL: rtsp://192.168.10.114/media/video1			~
http://www.example.com/stream.avi rtp://g:1234 mms://mms.examples.com/stream.asx rtsp://server.example.cogi8080/best.sdp http://www.yourtube.com/watch?v=gg64x			
Show more options			
	Play	<b>•</b>	Cancel

# ADDING UNIVIEW TEC CAMERAS TO 3<sup>RD</sup> PARTY NVR

uniview tec cameras are Onvif profile S compliant but sometimes when registering with a 3<sup>rd</sup> party NVR it may be necessary to use RTSP.

#### Camera

uniview tec camera RTSP rtsp://"user":"password"@"IP address"/media/video"stream" - This is the Onvif stream Example rtsp://admin:admin@192.168.1.20/media/video2

## NVR / HVR

To access a camera that is connected to a uniview tec NVR or HVR use the following RTSP. rtsp://<IP address>:<Port>/unicast/c<Channel>/s<Stream>/live

Stream – 0 for main stream or 1 for sub stream.

```
Example
```

```
rtsp://192.168.10.200:554/unicast/c1/s0/liv
e - Channel 1 Stream Main
or
rtsp://192.168.10.200:554/unicast/c10/s1/li
ve - Channel 10 Stream Sub
```

This can also be found in the NVR or HVR if you go to Port under Network in Setup.

System V Camera V Storage V Alarm V Alert V RTSP URL Format	Client	*
Camera V Storage V Alarm V Alert V HTTP Port HTTP Port HTTP Port HTTP Port RTSP Port RTSP URL Format	System	*
Storage V Alarm V Alert V RTSP URL Format	Camera	*
Alarm ¥ Alert ¥ RTSP URL Format	Storage	~
Alert   RTSP URL Format	Alarm	~
Network	Alert	*
	TCP/IP P2P	
P2P	DDNS	
P2P HTTP Redirect Port	Port	
P2P DDNS Port Network HTTP Redirect Port	Port Mapping	
P2P DDNS Port Port Mapping	Email	