

ССТУ

## **KNOWLEDGE BASE ARTICLE**

## WIRING AND CONFIGURING HIKVISION CAMERA FOR 2 WAY AUDIO APPLICATION

**PRODUCTS:** HIKISION CAMERA -EXTERNAL MICROPHONE- EXTERNAL SPEAKERS

**TOPICS COVERED IN THIS KBA**: How to connect and configure a standalone camera to be used for two-way audio applications – How to Configure the Camera Parameter to record Video/Audio on the NVR

#### **Requirements**

- Laptop/PC
- 12V 250mA (To Power the MIC)
- HIK-2FP2020 (no need if the camera has Built in MIC)
- 3.5mm Stereo audio plug
- Hikvision camera that supports an external MIC or has built in MIC
- External Speaker

#### Note:

o Two-way Audio application is only supported on stand-alone cameras application

#### Steps:

- A- Wiring-up the External MIC and Speaker
- B- Configuring the Camera (to be used as stand-alone 2-way Audio Device)
- C- (Optional not required for the 2-way Audio Application) Configuring the Camera Parameter to record Video/Audio on the NVR:







#### A- Wiring the MIC and the Speaker:

#### Step 1 - Wiring up the external microphone:

- I. The 3.5mm stereo plug has four wires, two are for audio (red = left and white = right), and the other two are grounds.
- II. Connect the two grounds together.
- III. From the 12v power supply, you will need to connect the positive to the red wire on the HIK-2FP2020.
- IV. Connect the ground wires that you connected earlier to the negative of the power supply, and the ground of the HIK-2FP2020.
- V. Connect both the white and red wires from the 3.5mm plug together and connect those to the white wire of the HIK-2FP2020.
- VI. Connect the 3.5MM plug to the input marked 'IN' on the camera.
- VII. Please see the wiring diagram below (Yellow = White)





#### Step 2 - Wiring up the External Speaker:

CCTV

- 1. Power-up the speaker using External power source.
- 2. Connect the 3.5mm plug to the input marked 'OUT' on the bottom of the camera.

As below: this should be how it looks after wiring up the MIC and the speaker:







## ССТУ

## **KNOWLEDGE BASE ARTICLE**

### B- Configuring the Camera to be used as two-way Audio device:

- I. Login to the camera's web interface using **Internet Explorer**. Make sure that you install the Webplugins if you are prompted.
- II. Configuration -> Video/Audio -> Video. Here we need to change the Video Type from Video Stream to Video/Audio for both the Main Stream and Sub Stream.

	KVISION	Live View	Playbac	k Picture	Co	onfiguration	
	Local	Video Audio	ROI	Display Info. on Stream			
Ē	System	Stream Type		Main Stream(Normal)		<ul> <li>Image: A set of the set of the</li></ul>	
0	Network	Video Type		Video&Audio		<u> </u>	
	Video/Audio	Resolution		1280*720P		<ul> <li>Image: A set of the set of the</li></ul>	
30 Ea	Image	Bitrate Type		Constant	×	<ul> <li></li> </ul>	
	Event	Video Quality		Medium	×	1	
	Sterage	Frame Rate		10	×	✔ fps	
	Storage	Max. Bitrate		512		Kbps	
		Video Encoding		H.264	×	/	
		H.264+		OFF	×	<ul> <li>Image: A start of the start of</li></ul>	
		Profile		Main Profile	×	<ul> <li>Image: A start of the start of</li></ul>	
		I Frame Interval		15			
		SVC		OFF	×	•	
		Smoothing		0	50	[ Clear<->Smo	oth ]
	Local	Video Audio F	ROI Dist	olay Info. on Stream			
	System	Stream Type	Su	b-stream	$\checkmark$		
•	Network	Video Type	Vid	leo&Audio	~		
ę.	Video/Audio	Resolution	640	)*480	~		
1	Image	Bitrate Type	Co	nstant	~		
圁	Event	Video Quality	Me	dium	$\sim$		
B	Storage	Frame Rate	8		✓ fps		
		Max. Bitrate	128	3	Kbps		
		Video Encoding	H.2	264	✓		
		Profile	Ma	in Profile	<b>~</b>		
		SVC		F			
		Smoothing				ar<->Smooth 1	
					1.1.1.0.00		
		🗎 Save	•				







111. Click on the **Audio** tab. We have found that it works best on the **G.711ulaw** audio encoding method. Adjust the input volume of the microphone depending on the environment and use the environmental noise filter if it is required.

HIKVISION	Live View	Playback	Picture	Configuration
🖵 Local	Video Audio	ROI Display Info.	on Stream	
System	Audio Encoding	G.711ulaw		$\sim$
Network	Audio Input	LineIn		~
Video/Audio	Input Volume		0	80
Image	Environmental No	bise Filter ON		$\checkmark$
Event				
Storage	🖹 Sa	ave		

IV. Configure the Network settings and add the camera on the Hik-Connect app or IVMS-4200



# **CSD** CENTRAL SECURITY DISTRIBUTION



## **KNOWLEDGE BASE ARTICLE**

### Below are the methods of testing the Two-Way Audio:

#### Method 1: Using Hik-Connect:

After adding the camera on the Hik-Connect app

1- By default, the audio is muted, and the microphone is disabled.



2- Toggle the audio on by clicking the **Audio** symbol and toggle the Microphone on by clicking the **Microphone** symbol. You will need to scroll across the bottom toolbar to see the microphone symbol.









#### Method 2: Using IVMS-4200

1- After adding the camera to the IVMS-4200 software, right click and click on "start Two Way Audio" as below:







### C- (<u>Optional – not required for the 2-way Audio Application</u>) Configuring the Camera Parameter to record Video/Audio on the NVR:

Method 1) Web-Interface of the NVR Method 2a) Local-GUI of the NVR V3.X

Method 2b) Local-GUI of the NVR V4.X

#### Method 1) Web-Interface of the NVR:

- I. Login to the NVR's web interface using Internet Explorer and make sure that the plugins are installed.
- II. Add the camera to the NVR using the local IP-address
- III. Select Configuration on the top toolbar, and then Video/Audio on the left side toolbar. Change the Video Type from Video to Video & Audio for both the Main Stream and Sub Stream, then click Save.

HI	VISION	Live View	Playback	Picture	Configur	ration	
	Local	Video Display Ir	nfo. on Stream	Channel-zero			
	System	Camera	[D1] Ca	imera 01	~		
6	Network	Stream Type	Main St	tream(Normal)	~		
0.	Video/Audio	Video Type	Video&	Audio	~		
1 10	Image	Resolution	3072*2	048	$\checkmark$		
	Event	Bitrate Type	Consta	nt	$\sim$		
	Storage	Video Quality	Higher		$\sim$		
6	Vehicle Detection	Frame Rate	Full Fra	ime Rate	Ƴ fps		
FQ FQ		Max. Bitrate	256	256		Kbps 🥑	
0	VCA	Video Encoding	H.265		$\sim$	~	
		H.265+	OFF		$\checkmark$		
	Local	Video Display	Info. on Stream	Channel-zero			
-	System	Camera	[D1] (	Camera 01	~		
	Network	Stream Type	Sub-s	stream	~		
0.	Video/Audio	Video Type	Video	&Audio	~		
1	Image	Resolution	640*4	180	~		
Ē	Event	Bitrate Type	Cons	tant	~		
	Storage	Video Quality	Media	um	$\sim$		
	Vehicle Detection	Frame Rate	8		Ƴ fp	s	
R R	VCA	Max. Bitrate	128		Kt	ops	
0	VOA	Video Encoding	H.264	4	~		
		🗎 s	ave				





#### Method 2a) Local-GUI of the NVR V3.X:

CCTV

Right click with the mouse -> Menu -> Record -> Parameters -> Record. Change the Stream
 Type from Video to Video & Audio for the Main Stream (Continuous) which will change the
 Main Stream (Event) automatically. Click Apply.

		Record	A second s	
Schedule	Record Sub-Stream Capture			
Baramalara	Camera	[D1] CCTV LAB IPC		
Parameters	Encoding Parameters	Main Stream(Continuous)	Main Stream(Event)	
🕏 Advanced	Stream Type	Video & Audio	~ Video & Audio	
The Holiday	Resolution	Video	3840*2160	
	Bitrate Type	Video & Audio	Variable	
	Video Quality		Higher	
	Frame Rate	Full Frame	- Full Frame	
	Max. Bitrate Mode	General	~ General	
	Max. Bitrate(Kbps)	1024	~ 2048	
	Max. Bitrate Range Recommended	20328~33881(Kbps)	20328~33881(Kbps)	
	Video Encoding	H.265	• H.265	
	I Frame Interval	50	50	
	Enable H.265+			
	More Settings			
	Note Different frame rate of continuous and e	vent recording may cause problems in the exported AVI video.		
A Live View				

II. Click on the **Sub-Stream** option at the top of the page. Change the **Stream Type** from **Video** to **Video & Audio** and click **Apply**.

		Record
I Schedule	Record Sub-Stream Capture	
	Camera	[D1] CCTV LAB IPC
Parameters	Stream Type	Video & Audio
2 Advanced	Resolution (max.: 720P)	Video
e Holidav	Bitrate Type	Video & Audio
	Video Quality	
	Frame Rate	Full Frame
	Max. Bitrate Mode	General
	Max. Bitrate (Kbps) (max.: 2M)	768
	Max. Bitrate Range Recommended	960~1600(Kbps)
	Video Encoding	H264 -
	I Frame Interval	50
+ Live View	-	Apply Back





## ССТУ

## **KNOWLEDGE BASE ARTICLE**

#### Method 2b: Via the local NVR GUI (V4):

From the top toolbar, click the camera symbol. Video Parameters -> Main Stream
 Parameters. Change the Stream Type from Video to Video & Audio for Main Stream
 (Continuous), which will change the Main Stream (Event) automatically. Click Apply.

<b>NVR</b> 4.0	R D			99 <b>.</b> 🗐 🗌 🗌
Camera > Display Privacy Mask Video Parameters > Main Stream Parameters	Camera [D1] Camera 01 Encoding Parameters Stream Type Resolution Bitrate Type	Main Stream(Continuous) Video & Audio Video & Video & Video & Audio Curstam	Main Stream(Event) Video & Audio - 3072'2048 - Constant -	
Sub-Stream	Video Ouality Frame Rate Max. Bitrate Mode Max. Bitrate(Kbps)	Higher - Full Frame - General - 256 -	Higher - Fuil Frame - General - 256 -	
	Max. Bitrate Range Recom Video Encoding Enable H 265+	16420~16384(Kbps) H.265 -	15420~16384(kbps) H.266	
	Copy to	Арру		

II. Click on the **Sub-Stream** option from the left-hand side and change the **Stream Type** from **Video** to **Video & Audio**.

<b>NVR</b> 4.0	Q D I			
Camera Display Privacy Mask Video Parameters Main Stream Parameters Bub-Stream	Camera [D1] Camera 01 Stream Type Resolution (Max: 720P) Bitrate Type Video Quality Frame Rate Max: Bitrate Mode Max: Bitrate (Klps) (Max: 2M) Max: Bitrate Range Recommended Video Encoding	Video & Audio Video Video Video & Audio Comstant Medium Bitps General 128 272-453(Kbps) H 264	· · ·	
	Copy to			





## ССТV

## **KNOWLEDGE BASE ARTICLE**

#### Below are the methods of testing the MIC

Method 1: using IVMS-4200 Software

Method 2a: Using the Local-GUI of the NVR V3.X

Method 2b: Using the Local-GUI of the NVR V4.X

Method 3: Using the Web Interface of the NVR 3: Using IVMS-4200 software

#### Method 1: Using iVMS-4200 software:

- I. By default, the audio is turned off.
- II. Start the live feed of the camera and toggle the audio on via the bottom toolbar.



## **CSD** CENTRAL SECURITY DISTRIBUTION



## **KNOWLEDGE BASE ARTICLE**

### Method 2a: Using the Local-GUI of the NVR V3.X (Sound will go through the HDMI if the monitor/TV has speakers).

- I. Start the Live View of the camera
- II. Left click anywhere on the screen with the mouse to bring up the toolbar shown below.
- III. Toggle the audio on and adjust the volume to suit.



## Method 2b: Using the Local-GUI of the NVR V4.X

(Sound will go through the HDMI if the monitor/TV has speakers).

- I. Start the Live View of the camera
- II. Left click anywhere on the screen with the mouse to bring up the toolbar.
- III. Toggle the **audio on** and adjust the volume to suit.







CCTV

## **KNOWLEDGE BASE ARTICLE**

#### Method 3: Using the web interface of the NVR/Camera:

- I. Open the Live View of the camera through the web interface using Internet Explorer.
- II. By default, the audio is muted, and the microphone is turned off.



III. Click on both of the icons highlighted below to enable audio/microphone.



IV. If the microphone is wired up correctly and the settings on the camera have been configured correctly, you should now be hearing sound.