

Grandstream Networks, Inc.

Wavestore Video Recorder System Configuration Guide Surveillance IP cameras & IP video Encoders/Decoders







TABLE OF CONTENTSWAVESTORE CONFIGURATION GUIDE

SURVEILLANCE IP CAMERAS & IP VIDEO ENCODERS/DECODERS

Contents

INTRODUCTION	3
ACCESS WAVESTORE SERVER	3
Adding IP Cameras and/or IP Video Encoders/Decoders	5
Example 1: Adding Grandstream IP camera using RTSP	7
Example 2: Adding Grandstream IP camera using HTTP	10
Adding Audio to IP Cameras and/or IP Video Encoders/Decoders (using RTSP ONLY)	13
MONITORING IP CAMERAS ON WAVESTORE	15



INTRODUCTION

The purpose of this document is to guide you to configure/monitor Grandstream IP cameras & IP Video Encoders/Decoders using Wavestore server.

This guide is applicable to Wavestore version 5.18.876 and higher and to the following Grandstream IP cameras (GXV3651_FHD, GXV3662, GXV3615WP_HD with firmware 1.0.1.71 or higher; GXV3615, GXV3611_HD, GXV3601_LL, GXV3601, GXV3601_HD, GXV3601_LL with firmware 1.0.4.38 or higher) and IP Video Encoders/Decoders (GXV3501 with firmware 1.0.4.38, GXV3504 with firmware 1.0.4.39 or higher; GXV3500 with firmware 1.0.1.71 or higher – Decoding functionality is available on GXV3500 only)

Be aware that different firmware revisions may have different web interface formats and functionality.

ACCESS WAVESTORE SERVER

Wavestore server can be reached from the server directly or from a different computer using "WaveView".

- 1. Accessing from server directly :
 - a.Server : localhost
 - b.User name : install
 - c. Password : a
 - d.Connect to server group : Keep it checked

📶 Login			? ×
Server	localhost		
<u>p</u> erver.	localitost		
<u>U</u> ser name:	install		_
Password:	•		
X Connect	to server group		
		ОК	Cancel

- Figure 1: Login window (Wavestore server) -

2. Accessing from a different computer using "WaveView" :

a.Server : IP address of your Wavestore server (i.e. 192.168.50.3)

- b.User name : install
- c.Password : a
- d.Connect to server group : Keep it checked



🕖 Login			? ×
<u>S</u> erver:	192.168.50.3		
<u>U</u> ser name:	install		•
Password:	•		
X Connect	to server group		
		ОК	Cancel

- Figure 2: Login window (WaveView) -

3. Once successfully logged in, the main screen will be displayed as shown in figure 3.



- Figure 3: Wavestore main screen -



ADDING IP CAMERAS AND/OR IP VIDEO ENCODERS/DECODERS

1. Enter to "Setup" mode, from *View* > *Setup*

File	View	Windows	Help
	• N	lain	
С	Se Se	etup	

Setup screen will be displayed as shown in figure 4.

11 WaveView	
<u>F</u> ile <u>V</u> iew <u>W</u> indows <u>H</u> elp	
Users Devices Network Email Server Group Schedule Custom Channel Tree Advanced	
L Wavastines	User Settings
137553 L	
Users Δ	User Setting
install	General
user	Name: user level: user 👻
	Max bandwith: unlimited Y Kh/sec logoff time: 0 mins
	New password:
	Disabled Cameras Login Permitted Schedule
	Can change password Force user to change password on next login
	General Permissions Playback PTZ: Priority: 1-Lowest
	Backup Permissions
	Backup Transcoding/exporting
	Decrypt for wavestore archive (wsb) Decrypt for transcoding
	Reencrypt with password for wsb
<u>Add</u> Remove	

- Figure 4: Wavestore Setup screen -

- 2. Click on "Devices" in the top bar
- 3. In the new window, click on "Add IP Capture" (Button in right bottom of the page)
- 4. Device settings window will be displayed (Figure 5)



WaveView			And the owner of the owner		
<u>F</u> ile <u>V</u> iew <u>W</u> indows <u>H</u> elp					
Users Devices Network Email Se	erver Group Schedule Custom Cha	nnel Tree Advanced			
⊈ Wavestore₊			Device Settings		Save Reset
Device Tree	△ General				`
Wavestore [192.168.50.3]	Name:		HTTP 2		
I Camera 1	Type:		HTTP		
8- 9 2 Camera 2	Subtype:				
🗊 🌻 3 Camera 3	Cameras:				
	Audios:			Add Audio	
	Talkback channels:				
	Spot monitors:				
	Alarm inputs:				
	Auxiliary outputs:				
	Network Capture				
	Camera type:	Custom			
	<u>R</u> equest:				
	IP address:				
	Use custom port:	80			
	Username:				
	Password:				
	Enable debug info:				
N					_

- Figure 5: Device settings page -

5. In General section; Select Type to use from the list

Notes:

RTSP can be used when configuring the cameras to use H.264 or MJPEG **HTTP** can only be used when configuring the camera to use MJPEG. When using HTTP, Audio cannot be used.

- 6. In Network Capture section, enter the following :
 - a. <u>Camera Type</u> : Select *Grandstream* from the list (when using RTSP type) If using HTTP, you will need to select *Custom* (*Please refer to example 2*)
 - b. <u>Request</u>: This field will change automatically to */0* This will use TCP as transport protocol, if you want to use UDP, change this request to *<BU>/0* or *<UB>/0*
 - c. <u>IP address</u> : Enter the IP address of your Grandstream IP camera (Example: 192.168.50.143)
 - d. <u>Use custom port</u>: This field will change automatically to 554 when using RTSP or to 80 when using HTTP (By default, this field is unchecked)
 If your Grandstream IP camera is configured to use a different port instead, you will need to check this field and specify the port used.
 - e. <u>Username</u> : Enter Grandstream IP camera's username (Default is admin)



f. **<u>Password</u>** : Enter Grandstream IP camera's password (Default is *admin*)

Example 1: Adding Grandstream IP camera using RTSP

1- Preparing the IP camera

- a. Login to your IP camera web interface.
 <u>http://<IP_address_of_your_camera</u>> (Login : admin ; Password : admin (by default))
- b. Under "Video & Audio" adjust your settings for Primary and/or secondary stream.
 In this example, we will use H.264 (MJPEG can also be used, following same steps)

Video Settings	
Primary Stream Settings	
Preferred Video Codec:	H264 💌
Resolution:	2560*1920 (4:3)
Bit Rate:	4096 💌 kbps
Maximum Frame Rate:	5 v fps
Bit Rate Control:	
I-frame Interval:	30 Frame(1-100)
Secondary Stream Settings	

- Figure 6: Video Settings (Primary Stream Settings) -

c. Save to apply your settings.

2- Configuring your Wavestore server

a. Starting from step 5 (described above), select **RTSP** in *Type* list under *General section*



General		
Name:	НТТР 2	
Туре:	RTSP	
Subtype:		
Cameras:		
Audios:		Add Audio
Talkback channels:		
Spot monitors:		
Alarm inputs:		
Auxiliary outputs:		

- Figure 7: General section, Device settings -

- b. In Network Capture section, configure the following :
 - i. <u>Camera Type</u> : Select "Grandstream"
 By selecting Grandstream, Wavestore will stream video from Primary Stream.

When using Grandstream IP Video Encoder GXV3504; *Camera Type* can be *Grandstream*: First channel/port *Grandstream ch2*: Second channel/port *Grandstream ch3*: Third channel/port *Grandstream ch4*: Fourth channel/port

ii. **<u>Request</u>** : This field will change automatically depending on which channel you selected previously.

By default, the streaming will be over TCP, if you need to use UDP, add **U** in the request as follow : **<UB>/0** or **<BU>/0** (when using first channel)

<u>Notes</u>: Each Grandstream IP camera has 2 video streams, Primary and secondary stream.

To stream from the Secondary stream, you will need to change the request to **/4** (For example : **/4** or **<UB>/4**)

/0 is Primary stream/4 is Secondary stream

- iii. <u>IP Address</u> : Enter the IP address of your IP camera or IP Video Encoder (for example : 192.168.50.143)
- iv. <u>Use Custom Port</u>: By default, this option is not checked and the field will be configured automatically to use default RTSP port 554. If you are using a different port on your IP camera, you need to check this option and specify the port used.
- v. Username : Enter "admin"



Save

vi. **<u>Password</u>** : Enter "admin" (if using default password)

Network Capture	:	
Camera <u>t</u> ype:	Grandstream	-
<u>R</u> equest:	<8>/0	
IP address:	192. 168. 50. 143	
Use custom port:	554	¢
<u>U</u> sername:	admin	
Password:	•••••	
Enable <u>d</u> ebug info:		
		Camera Setup Page

- Figure 8: Network Capture section, Device settings -
- c. Press **Save** button in the top right corner of the page to save your settings.
- d. Once you save the settings, the camera will be added to **Device Tree** as shown in figure 9



- Figure 9: Device Tree -



- e. In Device Tree panel, click on your IP camera (camera 3 in this example)
- f. In **General** section, enable the added IP camera by Checking **Enabled** option to be able to display this IP camera stream on the main screen. (By default, this option is unchecked)
- g. You can rename your camera using *Name* field (for example : GXV3651_FHD)
- h. Press Save button in the top right corner of the page to save your settings



- Figure 10: Enabling IP camera, General section -

Example 2: Adding Grandstream IP camera using HTTP

1- Preparing the IP camera

- a. Login to your IP camera web interface.
 <a href="http://<IP_address_of_your_camera">http://<IP_address_of_your_camera> (Login : admin ; Password : admin (by default))
- b. Under "Video & Audio" adjust your settings for Primary and/or secondary stream.
 In this example, we can use MJPEG <u>only</u>

Video Settings	
Primary Stream Settings	
Preferred Video Codec:	MJPEG -
Resolution:	1280*960 (4:3)
Bit Rate:	4096 💌 kbps
Maximum Frame Rate:	13 💌 fps
Bit Rate Control:	© CBR VBR
I-frame Interval:	30 Frame(1-100)
+Secondary Stream Settings	

- Figure 11: Video Settings (Primary Stream Settings) -



c. Save to apply your settings.

2- Configuring your Wavestore server

a. Starting from step 5 (described above), select HTTP in Type list under General section

General			
Name:	нттр з		
Type:	НПР		-
Subtype:			
Cameras:			
Audios:		Add Audio	
Talkback channels:			
Spot monitors:			
Alarm inputs:			
Auxiliary outputs:			



- b. In *Network Capture* section, configure the following :
 - i. Camera Type : Select "Custom"
 - ii. Request : In this field you will need to enter the following :

/goform/stream?cmd=get&channel=0

Channel=0 is for Primary stream, for Secondary stream use channel=4

- iii. <u>IP Address</u> : Enter the IP address of your IP camera or IP Video Encoder (for example : 192.168.50.143)
- iv. <u>Use Custom Port</u>: By default, this option is not checked and the field will be configured automatically to use default HTTP port 80. If you are using a different port on your IP camera, you need to check this option and specify the port used.
- v. Username : Enter "admin"
- vi. **<u>Password</u>** : Enter "admin" (if using default password)



Network Capture		
Camera type:	Custom	•
Request:	/goform/stream?cmd=get&channel=0	
IP address:	192. 168. 50. 143	
Use custom port:	80	
Username:	admin	
Password:	•••••	
Enable debug info:		
		Camera Setup Page

- Figure 13: Network Capture section, Device settings -



d. Once you save the settings, the camera will be added to Device Tree as shown in figure 14



- Figure 14: Device Tree -



- e. In **Device Tree** panel, click on your IP camera (camera 4 in this example)
- f. In **General** section, enable the added IP camera by Checking *Enabled* option to be able to display this IP camera stream on the main screen. (By default, this option is unchecked)
- g. You can rename your camera using *Name* field (for example : GXV3651_FHD_HTTP)

h. Press Save button in the top right corner of the page to save your settings Save

6XYS651PHD	General	
	Enabled:	×
	Name:	GXV3651_FHD_HTTP
	Capture type:	нтр
	Sort ID:	4 📮
	Encrypted:	
	Audio link:	None 💌

- Figure 15: Enabling IP camera, General section -

ADDING AUDIO TO IP CAMERAS AND/OR IP VIDEO ENCODERS/DECODERS (USING RTSP ONLY)

1- Enabling Audio on your IP camera

- a. Login to your IP camera web interface.
 <a href="http://<IP_address_of_your_camera">http://<IP_address_of_your_camera (Login : admin ; Password : admin (by default))
- b. In "Configuration -> Video & Audio" page, enable Audio under "Audio Settings" section.
- c. Select "PCMU" as "Preferred Audio Codec" and press "Save" button.

Audio Settings	
Preferred Audio Codec:	PCMU 💌
Microphone Volume:	5
Speaker Volume:	0

- Figure 16: IP camera Audio Settings -



2- Add Audio channel for your IP camera on Wavestore

- a. Click on View > setup > Devices and go to the Capture of your Camera
- b. Then Click on RTSP (Device Tree panel) and click on Add Audio button

Add Audio



c. Then you will need to enable the **Audio** and then click on **Save** Save (You can also rename the audio channel using **Name** field as shown in figure 17, in this example, we renamed audio channel to GXV3651_FHD_Audio

General	
Enabled:	×
Name:	GXV3651_FHD_Audio
Capture type:	RTSP
Sort ID:	5 \$
Encrypted:	

- Figure 17: Enabling Audio channel -

d. Then click on the camera name (for example: GXV3651_FHD) in *Device Tree* panel and click on *Audio link* and choose the Audio channel you enabled (GXV3651_FHD_Audio in our example) and click on **Save**.

Ge	eneral —	
	Enabled:	×
	<u>N</u> ame:	GXV3651_FHD
	Capture <u>t</u> ype:	RTSP
	Sort ID:	3 🗘
	Encrypted:	
	<u>A</u> udio link:	GXV3651_FHD_Audio

- Figure 18: Selecting Audio channel -



MONITORING IP CAMERAS ON WAVESTORE

1-	After completing the above steps	, click on View > Main

2- In **Device Tree** panel, double-click or drag and drop the camera you want to display on the main screen. Video stream will be displayed on the main screen including Audio if configured.

File View Windows Help

Main
Setup



- Figure 18: Wavestore View screen (Layout 1) -

3- The layout display can be adjusted to display more streams at same time, using Layouts list in the Toolbar





Available layouts are:



For example, if you want to display to IP cameras at same time, choose Layout 2x2 and add your cameras from **Device Tree** panel.



- Figure 19: Wavestore View screen (Layout 2x2) -

References:

For more information about the Grandstream IP Cameras and other products capabilities, please visit <u>http://www.grandstream.com</u> or contact us at <u>esupport.grandstream.com</u>

For more information about Wavestore server please refer to http://www.wavestore.com