

Professional JVC camcorders GY-HM200 and GY-LS300

Streaming to Ustream

Setup Guide



JVC

USTREAM

Follow these steps to setup GY-HM200 / GY-LS300 streaming to Ustream:

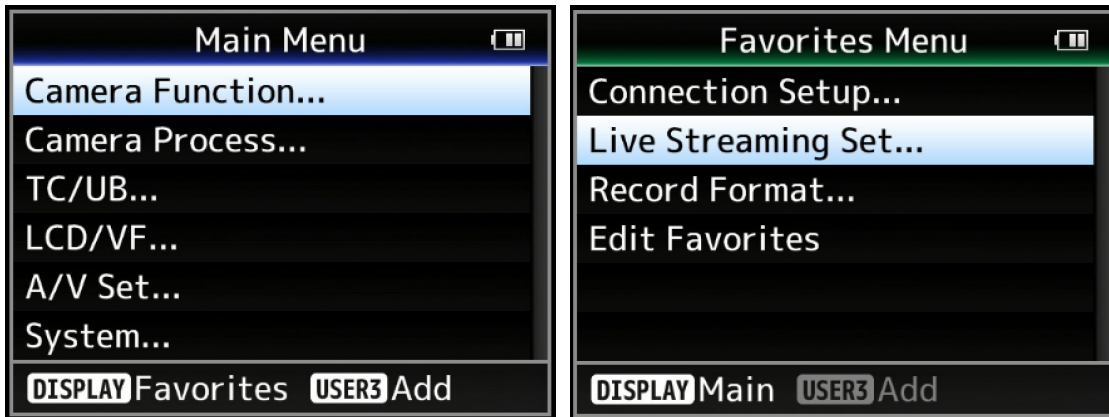
1. Select recording format to enable network / streaming.
2. Plug USB adapter, enable camera network function and connect to Wi-Fi (LAN) network.
3. Verify camera's IP Address by pressing *Status* button.
4. Using PC/Mac browser, type camera's IP Address to access Settings and Remote page.
5. Find *RTMP URL* and *Stream Key* from your Ustream account.
6. Copy and paste these values into camera's Streaming / RTMP settings and click Save.
7. Assign one of User Buttons to Stream function. Example: *User 7*, next to Zoom control

Following controls will be used during setup:

- *Menu* button and Joystick for navigation
- *User 3* button to confirm Recording Format changes
- *Status* button to verify camera's IP Address and connection information



By pressing *Menu* button two menu screens are available – *Main Menu* and *Favorites Menu*. Pressing *Menu* button for two seconds toggles between *Main Menu* and *Favorites Menu*. Any items from the *Main Menu* can be added to the *Favorites Menu* for quick access. Example: Added Connection / Streaming Setup and Record Format to the Favorites Menu.

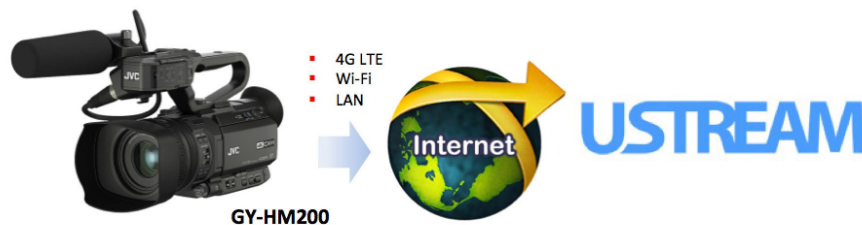


1. Selecting camera Recording Mode and Streaming resolution / bitrate.

While Streaming and Recording to SD card are available simultaneously, some recording modes may inhibit streaming functions. Example: Streaming is not available when in 4K or 1080 HD422 recording modes. Progressive streaming formats are not available when recording interlaced video formats; HD streaming is not possible when recording SD etc.

Setting camera to 1080p (24-60) H.264 (not 422) recording mode enables all streaming formats.

Recording Mode	Streaming			
	270p	480i	720p	1080i
4K	N/A			
HD422				
HD + Web				
1080p (24-60)	All streaming formats available			
1080i	Available		Not Available	
720p	Available			Not Available
480i	Available			Not Available



2. Plug Wi-Fi, Ethernet (LAN) or 4G LTE adapter into USB Host connector.

Supported Wi-Fi and LAN adapters:

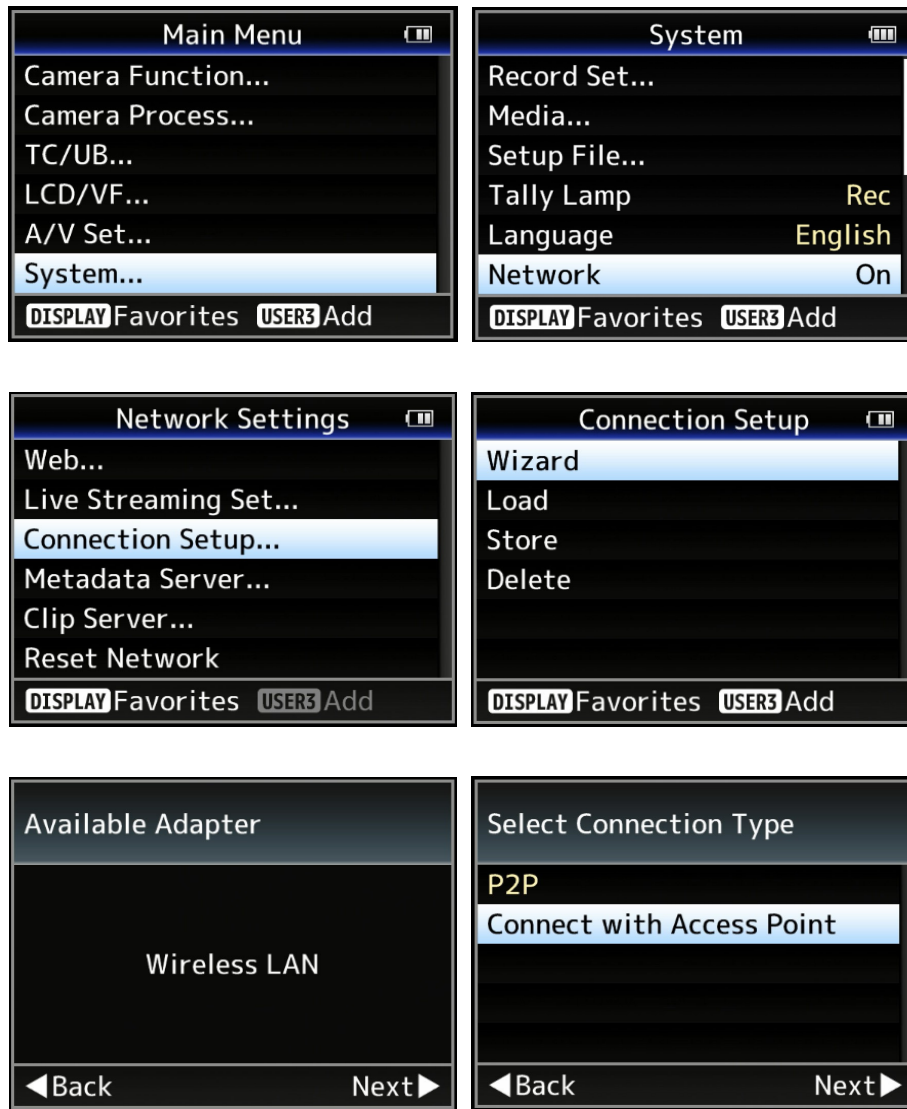
Manufacturer	Model	2.4 GHz	5 GHz	Ethernet (RG-45)
BUFFALO	WLI-UC-GNM	√		
	WLI-UC-GNHP	√		
	WLI-UC-GN	√		
	WLI-UC-G300HP	√		
Tenda	W311MI	√		
EnGenius	EUB9707	√		
ASUS	USB-N53	√	√	
TRENDnet	TEW-664UB	√	√	
Panda Wireless	PAU03	√		
Panda Wireless	PAU04	√		
Panda Wireless	PAU05	√		
TRENDnet	TU2-ET100			√
Cisco	USB300M			√
Plugable	USB2-E100			√

Supported 4G LTE cellular broadband modems:

Provider	Model	4G LTE	XLTE
Verizon	UML290	√	
Verizon	UML295	√	√
AT&T	AirCard 313U	√	



Enable Network function and connect to available network.



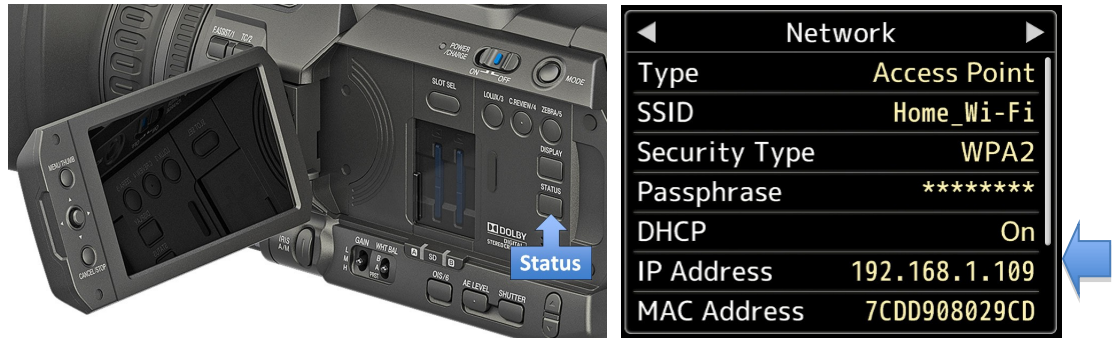
Follow menu prompts until successful connection is established.

Connection status is displayed in the upper right corner of Viewfinder and LCD screen:



Network symbol is Yellow while obtaining IP address and White when connected to network.

3. Press Status button and using left-right joystick controls, navigate to the *Network Status* page. (Press Status again to cancel)



Note that 192.168.1.109 is camera's IP Address. (Your IP address may be different)

4. Now, you will need PC/Mac connected to the same network.



Enter <http://192.168.1.109> in PC/Mac browser to access camera's Remote Control.

User Name: **jvc** Password: **0000** (four zeroes)



5. Open your Ustream account page in the new browser window and navigate to *Channel Settings*. Click on *Broadcast Settings* and select *Encoder Settings*

The screenshot shows the Ustream interface for channel 'GYHM200'. On the left is a navigation menu with 'Broadcast settings' highlighted. The main content area is titled 'Broadcast Settings' and includes sections for 'Auto-recording', 'Multi-quality streaming', and 'Encoder settings'. The 'Encoder settings' section is circled in red and contains a 'Manual Entry' form with two fields: 'RTMP URL' (value: rtmp://1.19958973.fme.ustream.tv/ustreamVi) and 'Stream Key' (value: G4jxvJrG82UhAaEj8PpEPwCMPCt8HCMJ). Both fields have red checkmarks next to them.

6. Copy and Paste RTMP URL and Stream Key (one by one) into camera's RTMP setup page.

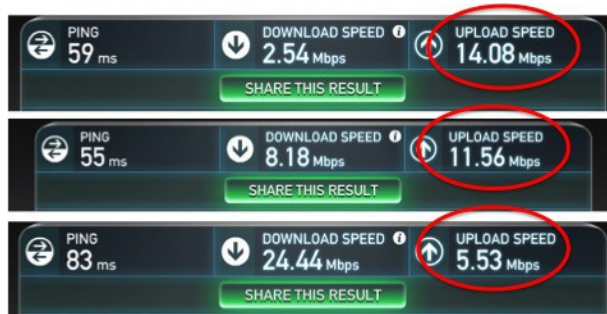
The screenshot shows a camera's 'Settings > Live Streaming' menu. The 'Destination Server' is set to 'Ustream'. The 'Type' is set to 'RTMP'. The 'URL' field contains 'rtmp://1.19931266.fme.ustream.tv/ust' and the 'Stream Key' field contains 'ZmxYcZYuuLgHCZG6sYa2DRy4b6U'. Two blue arrows point to the right from the URL and Stream Key fields. At the bottom are 'Cancel' and 'Save' buttons.

Click **Save** to complete setup.

Selecting Streaming Format and Bitrate.

Depending on local conditions and type of connection (Wi-Fi, Ethernet or 4G LTE) different streaming formats and bitrates may be chosen to provide smooth streaming and pleasant viewing experience. Keep in mind that slightly lower resolution but stable stream is always preferable vs. higher resolution video, which stops and breaks abruptly.

It is always good idea to check you connection speed with Speed Test tools utilizing smart phone, tablet or PC prior to start streaming. Check *Upload speed*, not *Download* since you will be uploading (pushing) video to the server.



JVC camcorders offer wide range of streaming bitrates from as low as 0.2 Mbps for Skype-like video to broadcast-quality streaming @ 5-8-12 Mbps.

Format	Streaming - Bit Rate, Mbps							
	0.2	0.3	0.8	1.5	3	5	8	12
480x270p								
720x480i	recommended							
1280x720p					recommended			
1920x1080i							recommended	

The rule of thumb is to select *streaming bitrate* at approximately 50-65% of *available upload speed*. Depending on type of video: low motion (interview, focus group, “talking head” etc.) or high-motion (sports, action, stage) chose 480i or 720p/1080i formats.

Speed Test		Type of Video	
Download	Upload	Low Motion	High Motion
-	1.5	480i @ 0.8 Mbps	
	3	720p @ 1.5	480i @ 1.5
	5	720p @ 3 Mbps	
	7	720p / 1080i @ 5 Mbps	

8. And finally, one of camera's eight *User Buttons* can be assigned to Streaming function.

Menu – Camera Function – USER Switch Set – USER7 – Live Streaming

Example: We chose *Rec/7* (User 7) button located next to zoom rocker.



Setup is complete and now, you can stream live to Ustream by pushing *Rec/7* button.

All settings are stored in the camera (four separate Ustream channels/accounts can be saved).



For more information visit: pro.jvc.com and ustream.tv