

DVS-200 Configuration Guide

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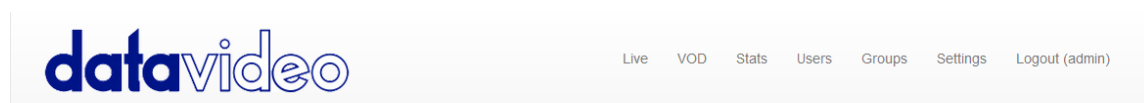
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Web UI Overview

Once you login (Defaults User: admin Password: 000000) you will be presented with the screen shown below.

There are five options available:

- Live – Create and manage live streaming channels
- VOD – Create and manage on demand channels
- Stats – View live server statistics
- Users – Create and manage user accounts
- Groups – Create and manage user groups and channel tags
- Settings – Manage global server settings



Creating a live channel

When creating a new live channel you will be presented with the screen shown below.

The screenshot displays the 'New Channel' configuration page. It includes several sections: 'Channel Info' with fields for Channel Name, Channel Type (Streaming), Channel Description, Player page title, Stream Mode, and HLS Streaming; 'Inputs' with two rows for adding sources, each containing fields for Friendly Name, Pull URL, Audio, Video, and an Enabled toggle; 'Outputs' with a Desktop Output section and a Push URL section, both with fields for URL, Audio, Video, Container, and Action; 'Access Control' with RTSP Publish and RTSP Play sections, each with a dropdown menu and an Enabled toggle; and a 'Record' section at the bottom.

You have the following options:

Channel Name

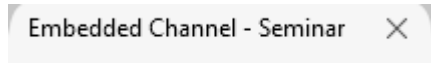
Here you must choose a name for your live channel. The channel name can contain uppercase and lowercase characters but no white space.

Channel Description

Here you can add a brief description of the channels content, this is used by the NVD-30/35 set top boxes.

Player Page title

Here you can change the text that is displayed at the top of the web player's page for this channel only.



HLS streaming

Here you can enable or disable HLS streaming, if HLS is disabled the inbuilt web player is also disabled.

HLS Playlist Type

Here you can select Live or Event, Live mode should be used in most cases. In Live mode the player will play from the end of the HLS playlist (live position) in Event mode the player will always start from the beginning of the Playlist (the start of streaming). When using Event mode you must ensure the HLS playlist length (On the settings page) is set to a value greater than the planned event time.

Please Note: Event mode is currently only supported by the NVD-3X in STB mode.

Inputs

Once you have created a live channel you will be given a RTMP URL that will allow any encoder to push live video to the channel. You can also feed your channel by pulling in an existing stream or using an input card from Black magic design.

Pull URL


Here you can pull any existing IP stream into the channel, RTMP, UDP, RTSP and HTTP streams are supported. You can setup multiple source streams and select the one you want to use using the enable/disable buttons on the far right. To stop pulling in any streams select 'Select No Pull URL'.

Inputs

Friendly Name <input type="text" value="Camera 1"/>	Pull URL <input type="text" value="http://172.16.0.68:8001/1:0:1:2871"/>	Audio <input type="text" value="16 kbps"/>	Video <div>1024kbps/ultrafast (baseline,3.1,keyint=250,gop=open)</div> <div>Passthrough</div> <div>Passthrough</div>	Enabled <div><input checked="" type="checkbox"/> </div> <div><input checked="" type="checkbox"/> </div>
Friendly Name <input type="text" value="Sports Feed"/>	Pull URL <input type="text" value="rtmp://127.0.0.1/Sports3/sports3"/>	Audio <input type="text" value="Passthrough"/>	Video <div>Passthrough</div> <div>Passthrough</div>	Enabled <div><input checked="" type="checkbox"/> </div> <div><input checked="" type="checkbox"/> </div>
Friendly Name <input type="text" value="Camera 2"/>	Pull URL <input type="text" value="rtsp://182.77.55.66/stream1/live"/>	Audio <input type="text" value="Passthrough"/>	Video <div>Passthrough</div>	Enabled <div><input checked="" type="checkbox"/> </div> <div><input checked="" type="checkbox"/> </div>
Friendly Name <input type="text" value="Friendly Name"/>	Decklink Source <input type="text" value="Disabled"/>	Audio <input type="text" value="16 kbps"/>	Video <div>256kbps/veryfast (baseline,3.1,keyint=250,gop=open)</div>	Enabled <div><input checked="" type="checkbox"/> </div> <div><input checked="" type="checkbox"/> </div>
<div>Select No Pull Url </div>				

By default, the audio and video will be set to 'passthrough' in this mode no transcoding is performed, alternatively you can choose to transcode the source audio and or video. Please note that if the source is MPEG2 you must transcode the video and audio.

Convert TS Audio – Should be used when the source has MPEG TS audio and audio is set to passthrough.

Live Stream	<input checked="" type="checkbox"/>	Low Latency	<input type="checkbox"/>	
Video kbps	256 kbps	Bitrate	Variable(VBR)	
Resolution	Passthrough	Deinterlace	Disabled	
h.264 Profile	Baseline	h.264 Level	3.1 (Upto 720p@30hz)	
Compression Efficiency	Default	h.264 Key Interval	250	
		h.264 GOP Type	Open GOP	

For details of transcoding options please see the **transcoding and encoding** options section of this guide.

Decklink Source

Here you can use an input card from Blackmagic Design to feed the channel directly from HDMI or SDI sources. We currently support all Blackmagic Decklink, mini monitor and mini recorder cards using the Desktop video 10.8.4 or newer driver version.

Please Note: You must ensure you select the correct resolution and frame rate to match your input signal, failure to do so will result in colour bars being displayed as the live stream. If your card features HDMI and SDI inputs you must use the Blackmagic Desktop Video Utility to set the input type outside of the DVS-200 software.

☐ Convert TS Audio

Friendly Name

Friendly Name

Decklink Source

DeckLink Mini Recorder 4K

1920x1080 at 25.00 fps




Audio

16 kbps

Video

256kbps/vbr/veryfast
(baseline,3.1,keyint=250,gop=open)


Enabled



Friendly Name

Friendly Name

Select No Pull Url



Decklink Source

720x486 at 29.97 fps (interlaced, lower field first)

720x576 at 25.00 fps (interlaced, upper field first)

1920x1080 at 23.98 fps

1920x1080 at 24.00 fps

1920x1080 at 25.00 fps

1920x1080 at 29.97 fps

1920x1080 at 30.00 fps

1920x1080 at 25.00 fps (interlaced, upper field first)

1920x1080 at 29.97 fps (interlaced, upper field first)

1920x1080 at 30.00 fps (interlaced, upper field first)

1920x1080 at 50.00 fps

1920x1080 at 59.94 fps

1920x1080 at 60.00 fps

1280x720 at 50.00 fps

1280x720 at 59.94 fps

1280x720 at 60.00 fps

2048x1080 at 23.98 fps

2048x1080 at 24.00 fps

2048x1080 at 25.00 fps

3840x2160 at 23.98 fps

Outputs

Decklink Output

Disabled

Push URL

Autocomplete URL...



Access Control

Passthrough

Container

RTMP

Action



As Blackmagic cards feed the system with uncompressed video you must set the H264 video and AAC audio encoding options as required.

Live Stream

☒

Video kbps

256 kbps

Resolution

Passthrough

h.264 Profile

Baseline

Compression Efficiency

Default

Low Latency

☐

Bitrate

Variable(VBR)

Deinterlace

Disabled

h.264 Level

3.1 (Upto 720p@30hz)

h.264 Key Interval

250

h.264 GOP Type

Open GOP

You can setup multiple sources if your card has more than one input or you are using multiple cards. Select the source you want to use using the enable/disable buttons on the far right. To stop pulling in any source select 'Select No Pull URL'.


For details of the encoding options available for Blackmagic sources please see the **transcoding and encoding** options section of this guide.

Datavideo Source

Here you can use an input card from Datavideo to feed the channel directly from HDMI or SDI sources. The Datavideo cards use hardware video compression and software audio compression.

Datavideo input cards will automatically detect the source resolution a frame rate of the connected source.

Please Note: If the source resolution or frame rate is changed while the source is active you should disable and re-enable the source or restart all services from the settings menu, failure to do so may result in incorrect timestamps or aspect ratio in the output stream.

Live Stream	<input checked="" type="checkbox"/>	Low Latency	<input type="checkbox"/>	
CBR Video kbps	3 mbps	Bitrate	Constant(CBR)	
Resolution	Passthrough	Deinterlace	Enabled	
VBR Quality	1000	h.264 Profile	Main	
h.264 GOP Size	250			

You can setup multiple sources if your card has more than one input or you are using multiple cards. Select the source you want to use using the enable/disable buttons on the far right. To stop pulling in any source select 'Select No Pull URL'.

Please Note: Bitrate is used when in CBR mode and Quality is used when in VBR mode. 1000 is the lowest quality settings and 10000 is the highest.

Bitrate – Set the video bitrate when in CBR mode

Quality – Set the video quality when in VBR mode (1000 is the lowest quality settings and 10000 is the highest)

Video Kbps – Set the video bitrate when not set to passthrough

Resolution – Set the video resolution when not set to passthrough

Deinterlace – Deinterlace the source video. Please note this option can be used to disable the hardware de-interlacer, however the card will always output progressive frames even with a interlaced source and the deinterlacer disabled.

H264 Profile – Select Baseline, Main or High compression profiles

H264 GOP Size – Set the size of the GOP (group of pictures)

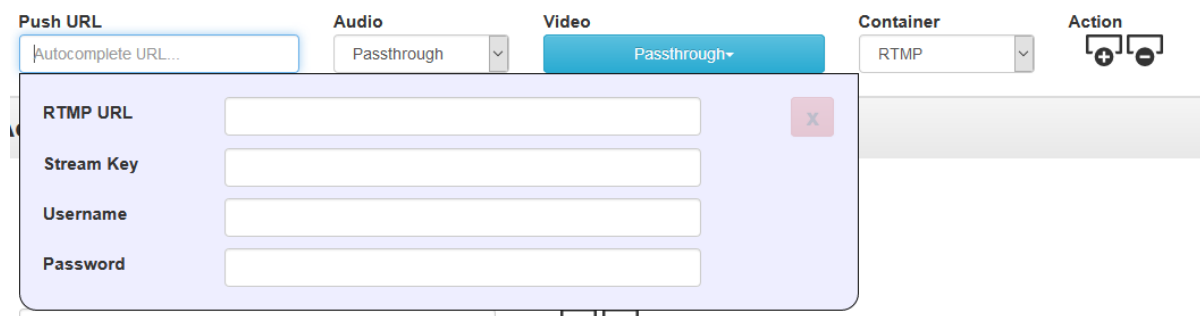
Outputs

Push URL's

Push URL's are optional. Here you can push the incoming stream on to one or more destinations simultaneously. We can push to destinations using RTMP or MPEG-TS protocols.

RTMP

Using RTMP you can push a single stream out to various streaming platforms such as YouTube, Facebook, Wowza etc.



Simply enter the RTMP URLs you would like the stream to be pushed to. By default, the audio and video will be set to 'passthrough' in this mode no transcoding is performed, alternatively you can choose to transcode the source audio and or video.

Please Note: Transcoding requires CPU power, please monitor your CPU usage.

MPEG-TS

Here you can send out a unicast or multicast MPEG-TS stream, examples below.

Unicast



Multicast



Decklink Output

Here you can use an output card from Blackmagic Design to decode the channel to HDMI or SDI. We currently support all Blackmagic Decklink, mini monitor and mini recorder cards using the Desktop video 10.8.4 or newer driver version.

You can setup multiple outputs if your card has more than one output or you are using multiple cards. If your card features HDMI and SDI inputs you must use the Blackmagic Desktop Video Utility to set the input type outside of the DVS-200 software.

Access Control

Here you can restrict what IP addresses can publish or playback using RTMP. In whitelist mode, only the listed IPs can publish or playback, in blacklist mode all but the listed IPs can publish or playback.

Access Control

RTMP Publish

Whitelist

88.97.133.445/24

+

-

RTMP Play

Whitelist

IP/Subnet

+

-

You must enter the IP address followed by its abbreviated subnet mask, for example 255.255.255.0 is a 24-bit mask so is represented as /24. Please consult your IT department if unsure about these settings.

Recording

Here we can enable recording, you have three options:

Always – Audio & Video

The software will record as soon as an input stream is detected and will stop recording when the stream is stopped. Audio and video are recorded together.

Always – Audio Only

The software will record as soon as an input stream is detected and will stop recording when the stream is stopped. Only audio is recorded.

Manually start/stop – Audio & Video

Recording will not happen automatically, the user must start and stop recording manually. When enabled button to start and stop recording will be displayed next to the channel name. Audio and video are recorded together.

Recorded files Suffix

By default, the recorded file is name after the channel name, this option allows you to add additional text into the file name.

Give each recording a unique time stamp

When checked a unique time stamp will be inserted into the file name of each recording. When this option is not checked the recorded file name will always be the same, this means subsequent recording will overwrite the previous file.

Append to recorded file

This option should only be used when 'Give each recording a unique time stamp' is not checked. When checked subsequent recording will be joined to the previous file creating one long recording.

Max. Recorded file size

Here we can limit the recorded file length by size, when this limit is reached a new file will be created. No limit is set by default.

Max. Recorded file interval

Here we can limit the recorded file length by time, when this limit is reached a new file will be created. No limit is set by default.

Auto publish recorded file when done

When enabled a recording will be published as soon as recording is stopped.

Include in group record

Any channel with this checked will start and stop recording together, this can only be used in manual recording mode.

Redirect to VOD if offline

When enabled the DVS-200 web player will redirect to the last published VOD content if the live stream is offline.

Delete recordings older than

Automatically delete recordings older than a certain age.

Delete Older Mode

Choose to delete the recording only or delete the source recording and unpublish the recording.

Managing recordings

Recordings are listed at the top of the channel settings page, a maximum of 10 files are listed per page.

Stream Key - new_channel4(new_channel4)

Channel Name

new_channel4

Channel Type

Streaming

Channel Description

Player page title

Select Files to

Publish

☐ Select All

☐ new_channel4-1491996253-2017-04-12T12:24:13Z

☐ new_channel4-1491996274-2017-04-12T12:24:34Z

☐ new_channel4-1491996302-2017-04-12T12:25:02Z

☐ new_channel4-1491996404-2017-04-12T12:26:44Z

☐ new_channel4-1491996464-2017-04-12T12:27:44Z

☐ new_channel4-1491996478-2017-04-12T12:27:58Z

☐ new_channel4-1491996508-2017-04-12T12:28:28Z

☐ new_channel4-1491996535-2017-04-12T12:28:55Z

☐ new_channel4-1491996556-2017-04-12T12:29:16Z

☐ new_channel4-1491996568-2017-04-12T12:29:28Z

1

2

You have the following options:

Publish

Will publish the selected files, this makes them available to playback and embed (Converts the original file to HLS).

Delete

Will delete the selected files but won't delete the published (HLS) files.

Unpublish (Delete)

Will delete the published (HLS) files but not the original uploaded files.

To publish a file, select its check box, ensure the option to 'Publish' is selected and save the channel. You will be redirected back to the main web interface and see the file is now available to play and embed.

Delete & Unpublish

Will delete the selected files and the published (HLS) files.

General

Visibility level

By default channels are visible to all users. To change this behaviour you should remove the 'All Users' marker and then select only the user accounts you wish to be able to see this channel.

Please Note: Administrators and Power Users can always view all channels; this option only affects viewer and contributor accounts.

Authentication required (Play)

By default, authentication is not required to view a player page or an embedded player. This means if a player was embedded in an external website or if the URL of a player page was sent to someone they would be able to view the channel without having to login. Checking this option will require that the user login with a valid account before the player loads.

Authentication required (Publish)

When enabled the currently logged in user's username and hashed password are added to the RTMP URL, these are required to be included in the RTMP URL to publish to the channel. Only Administrators, Power users and contributors can publish when this mode is enabled.

Random stream key

By default, the channel name is used for the stream key, when enabled and random hashed value is used instead. Optionally you can also set for this value to change daily.

Upload channel logo

Here you can upload a logo, this can be displayed as an overlay on the DVS-200s built in web player, it will also be used by the NVD-30/35 decodes when operating in set top box mode. You can select its position using the **Logo Position** dropdown, selecting **STB Only** will result in it not being shown on the web player.

Upload channel poster

The channel poster is the image shown by the web player before the user hits play. By default, the channel poster uses a snapshot from the live MJPEG preview, alternatively you can upload a static image.

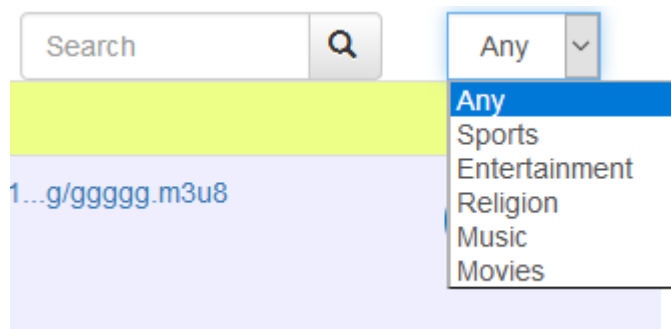
Browser Auto play

When enabled the web player will start playback as soon as the page is loaded.

Channel tag

Here you can assign a channel to a tag, tags are like groups that make it easier to find channels. Tags are used by the DVS-200 web interface and the NVD-30/35 decoders in set top box mode to group channels.

Once you assign channels to tags you can quickly find all channels with that tag using the dropdown menu on the DVS-200 web interface.



Transcoding and encoding options

The following options are available when transcoding or encoding from Blackmagic Design sources. Encoding or transcoding is done in software and will use CPU resources.

Live Stream	<input checked="" type="checkbox"/>	Low Latency	<input type="checkbox"/>	<input type="button" value="X"/>
Video kbps	256 kbps	Bitrate	Variable(VBR)	
Resolution	Passthrough	Deinterlace	Disabled	
h.264 Profile	Baseline	h.264 Level	3.1 (Upto 720p@30hz)	
Compression Efficiency	Default	h.264 Key Interval	250	
		h.264 GOP Type	Open GOP	

Live Stream – Uncheck only if the source is a static video file

Low latency – Disables buffering to reduce delay

Video Kbps – Set the video bitrate when not set to passthrough

Resolution – Set the video resolution when not set to passthrough

Deinterlace – Deinterlace the source video and output progressive, only use with interlaced sources

H264 Profile – Select Baseline, Main or High compression profiles

H264 level – Select the H264 level

Compression efficiency – Faster compression uses less CPU resources but results in a larger average output bitrate, this setting does not affect visual quality.

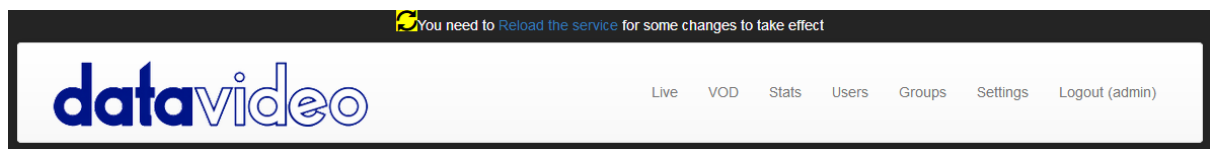
H264 Key Interval – Set the frequency of a key frame (I frame)

H264 GOP Type – Select Open or Closed, if all b-frames from one GOP references only to I- and P-frames of the same GOP then it is commonly called a closed GOP (all frames can be decoded without the need of another GOP).

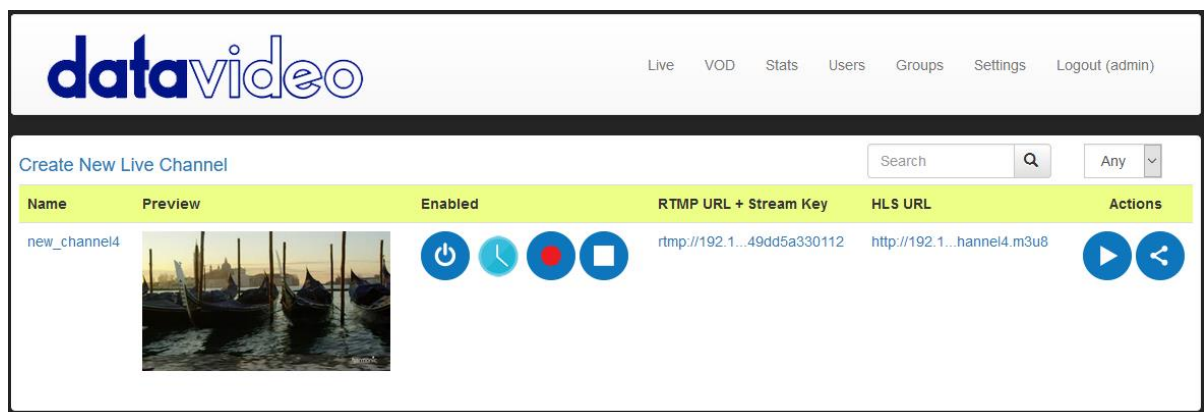
Applying changes

After you save channel settings you will be redirected back to the main web interface. Whenever you see this message across the top of the page you know that the service must be restarted to apply some of your settings.

Please Note: You should only restart the service when you are not live streaming.



Live channel list overview



Enable and disable the channel.



Start recording (only visible when manual recording is enabled).



Stop recording (only visible when manual recording is enabled).



Setup scheduled recoding times (only visible when manual recording is enabled). You can setup as many schedules as you need. Please note that recoding will only commence if the channel is live when the recording is scheduled to start, expired schedules will be hidden after 30 minutes.

Start



Stop


Repeat

Never

▼

Action




Save Schedule

RTMP URL + Stream Key

rtmp://46.101.5.207/new/new_channel

The RTMP URL is used to configure your encoder, for most encoders the part after the last / should be used as the stream key. This URL can be decoded by Datavideo NVD decoders with low latency.

HLS URL

http://46.101.5.207/hls/new_channel/new_channel.m3u8

The HLS URL can also be decoded by Datavideo NVD decoders, HLS will perform better over poor internet connections but latency will be considerably higher.



Open a new tab with the web video player.



Generate the code required to embed the web video player in another website.

Creating a VOD channel

A VOD channel is automatically created for each live channel, this is where published recordings will appear.

To upload content, you must manually create a VOD channel.

Channel Name

Here you must choose a name for your VOD channel. The channel name can contain uppercase and lowercase characters but no white space.

Channel Description

Here you can add a brief description of the channels content, this is used by the NVD-30/35 set top boxes.

Player Page title

Here you can change the text that is displayed at the top of the web player's page for this channel only.

General

Visibility level

By default, channels are visible to all users. To change this behaviour, you should remove the 'All Users' marker and then select only the user accounts you wish to be able to see this channel.

Please Note: Administrators and Power Users can always view all channels; this option only affects viewer and contributor accounts.

Authentication required (Play)

By default, authentication is not required to view a player page or an embedded player. This means if a player was embedded in an external website or if the URL of a player page was sent to someone they would be able to view the channel without having to login. Checking this option will require that the user login with a valid account before the player loads.

Upload channel logo

Here you can upload a logo, this can be displayed as an overlay on the DVS-200s built in web player, it will also be used by the NVD-30/35 decodes when operating in set top box mode. You can select its position using the **Logo Position** dropdown, selecting **STB Only** will result in it not being shown on the web player.

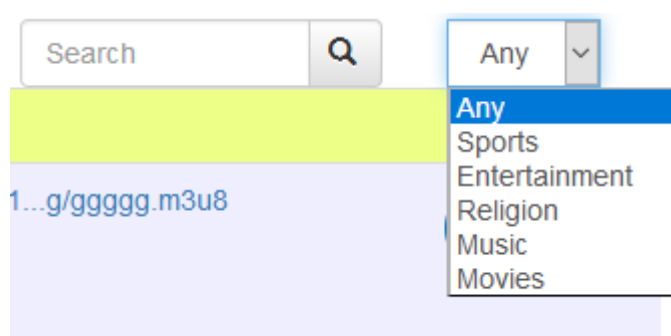
Browser Auto play

When enabled the web player will start playback as soon as the page is loaded.

Channel tag

Here you can assign a channel to a tag, tags are like groups that make it easier to find channels. Tags are used by the DVS-200 web interface and the NVD-30/35 decoders in set top box mode to group channels.

Once you assign channels tags you can quickly find all channels with that tag using the dropdown menu on the DVS-200 web interface.



After you save the channel you will be redirected back to the main web interface, to upload content select your newly created channel. You will see the screen below.

Channel Name

Channel Type

VOD(Video On Demand)

Channel Description

Player page title

Select Files to

☐ Select All

Publish

Upload File

Choose File...

General

Visibility Level

» All Users

Upload Channel Logo

Choose File...

Remove channel Logo

☐

Logo Position

Top Right

Browser Autoplay

Disabled

Authentication Required(Play)

☐

Channel Tag


Music

Click 'Browse' and select the video file to upload, save the channel to start the upload.

Uploading Data (10% complete)

Save Channel

Once the upload is complete the page will refresh, you will see the screen below.

Stream Key - test-vod(Test-VOD) 

Channel Name

Channel Type

VOD(Video On Demand)

Channel Description

Player page title

Select Files to

☐ Select All

Publish

Upload File

Choose File...

Madagascar

You have the following options:

Publish

Will publish the selected files, this makes them available to playback and embed (Converts the original file to HLS).

To publish a file select its check box, ensure the option to 'Publish' is selected and save the channel. You will be redirected back to the main web interface and see the file is now available to play and embed.



Delete

Will delete the selected files but won't delete the published (HLS) files.

Unpublish (Delete)

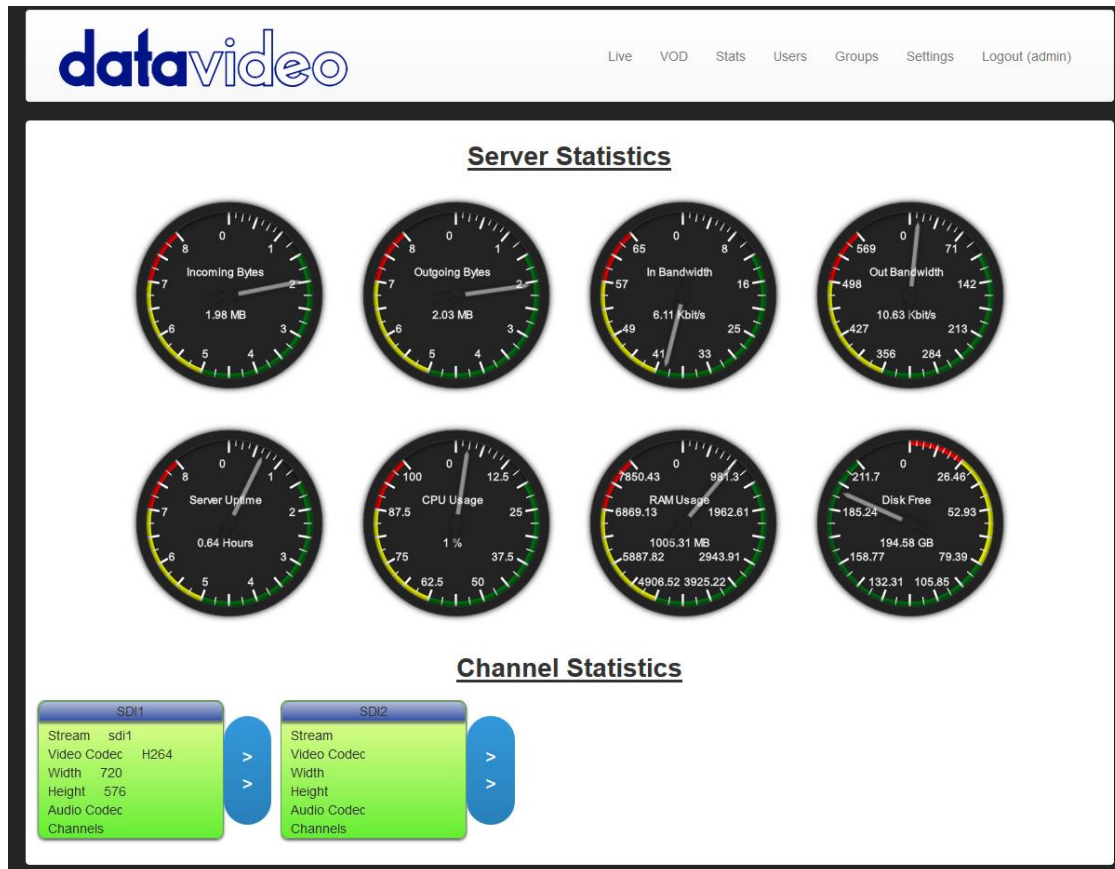
Will delete the published (HLS) files but not the original uploaded files.

Delete & Unpublish

Will delete the selected files and the published (HLS) files.

Stats

The stats tabs provides real time statistics relating to the server and streaming channels.



Server Statistics

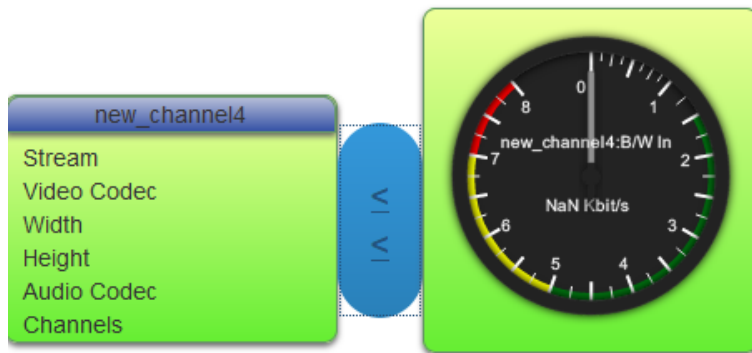
Shows global statistics.

- Incoming Bytes – Shows the amount of data that has been sent into the server
- Outgoing Bytes – Shows the amount of data the has been pulled out of the server
- In Bandwidth – Shows the incoming bandwidth usage for the entire server
- Out Bandwidth - Shows the outgoing bandwidth usage for the entire server
- Server Uptime – Shows the amount of time the server has been powered up
- CPU Usage – Shows the real-time CPU usage as a percentage out of 100
- RAM Usage – Shows the real-time RAM (memory) usage in MB
- Disk Free – Shows the amount of free disk space on the drive that is being used for media storage. By default, this will be the drive DVS-200 is installed on, the media directory can be changed under global settings.

Channel Statistics

Shows channel specific statistics.

Channel Statistics



- Stream – Displays the stream name
- Video codec – Displays the video codec used, usually H264
- Width – Displays the video width (if supported by the encoder)
- Height - Displays the video height (if supported by the encoder)
- Audio Codec - Displays the audio codec used, usually AAC or MP3
- Channels – Displayed the number of audio channels, usually 2

Creating and managing user accounts

To create a new user account click 'Create New User', you will see the screen below.

The screenshot shows the 'datavideo' web application interface. At the top, there is a navigation bar with links: Live, VOD, Stats, Users, Groups, Settings, and Logout (admin). Below the navigation bar, the main heading is 'User Credentials Management'. Under this heading, there is a link for 'admin' and a button labeled 'Create New User'. The main section is titled 'Manage User - newuser'. It contains several form fields: 'User' (a text input with a clear 'X' button), 'Login Role' (a dropdown menu currently set to 'Viewer'), 'Concurrent IP's' (a text input), 'Concurrent Connex per IP' (a text input), 'Active Upto' (a date/time picker), 'Group Membership' (a text input), 'Password' (a text input), and 'Confirm Pass.' (a text input). At the bottom of the form is a blue button labeled 'Save Changes'.

User

Here you must choose a logon name for the user. The name can contain uppercase and lowercase characters but no white space.

Login Role

- Viewer – This role only allows the user to view streams and change their own password. Viewer accounts cannot view stream URLs, create or modify channels or change settings.
- Viewer Plus – This role has all viewer rights but can also download recordings and VOD content
- Admin - This role gives the user full control, users with admin rights can view all channels even if they are not assigned to them.
- Power User – This role has the user the same rights as an admin however power users cannot change global server settings or change other user accounts.
- Contributor – This role has the same rights as a power user except they cannot create channels, change channel visibility, change global settings or view channels not assigned to them. Contributors also won't see system update or service restart messages so can't interrupt streaming.

Concurrent IP's

Limit the number of IP addresses than can use play content using the web player (HLS) simultaneously, default is no limit.

Concurrent Connex per IP

Limit the number of connections that can play content using the web player (HLS) from the same IP address. For example, you may have set concurrent IP's to a value of 1, this would still allow multiple connections from the same public IP address.

Active Upto

Allows you to set an expiry date for the account, if left blank the account will never expire.

Group Membership

Make the user a member of a user group, groups can be manged using the 'Groups' tab.

Password

Here you must choose a password for the user.

Confirm Pass

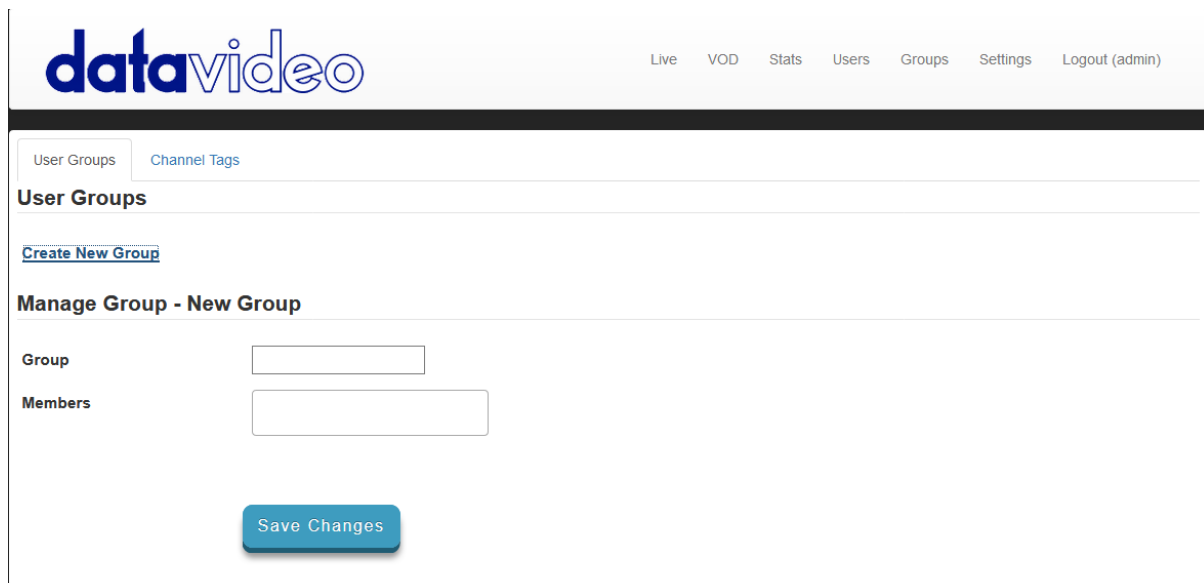
Here you must confirm the password.

Creating and managing user groups

User groups can be used to make managing users easy, you can manually create users and groups within the DVS-200 or you can link DVS-200 to active directory.

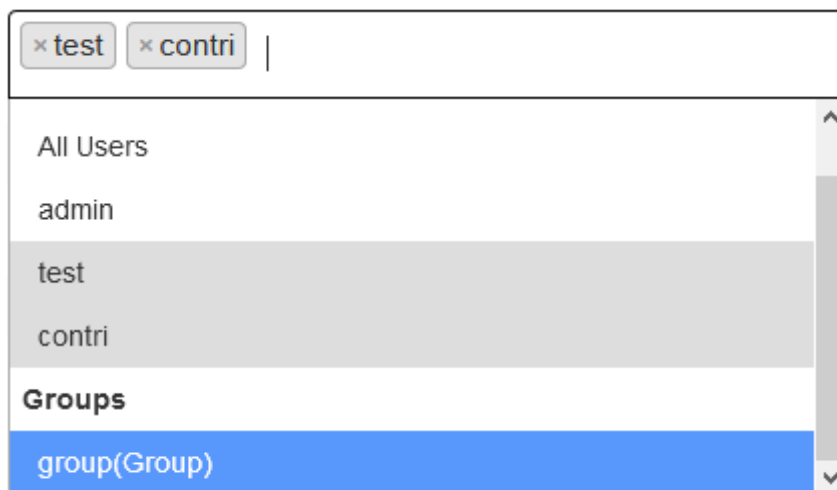
For active directory setup instructions please see the **Settings** section of this guide. To manually create a user group simply click the Create New Group link, enter a group name and add its members.

You can also add a user to a group from the user settings page.



The screenshot displays the DataVideo web interface. At the top, the 'datavideo' logo is on the left, and navigation links for 'Live', 'VOD', 'Stats', 'Users', 'Groups', 'Settings', and 'Logout (admin)' are on the right. Below the navigation bar, there are two tabs: 'User Groups' (selected) and 'Channel Tags'. The main content area is titled 'User Groups' and contains a link for 'Create New Group'. Below this, the section 'Manage Group - New Group' contains two input fields: 'Group' and 'Members'. At the bottom of this section is a blue 'Save Changes' button.

Once created you can add a group to any channels **Visibility Level**.



Creating channel tags

Tags are like groups that make it easier to find channels. Tags are used by the DVS-200 web interface and the NVD-30/35 decoders in set top box mode to group channels.

Tags can be created from the Groups tab as shown below.

User Groups

Channel Tags

Channel Tags

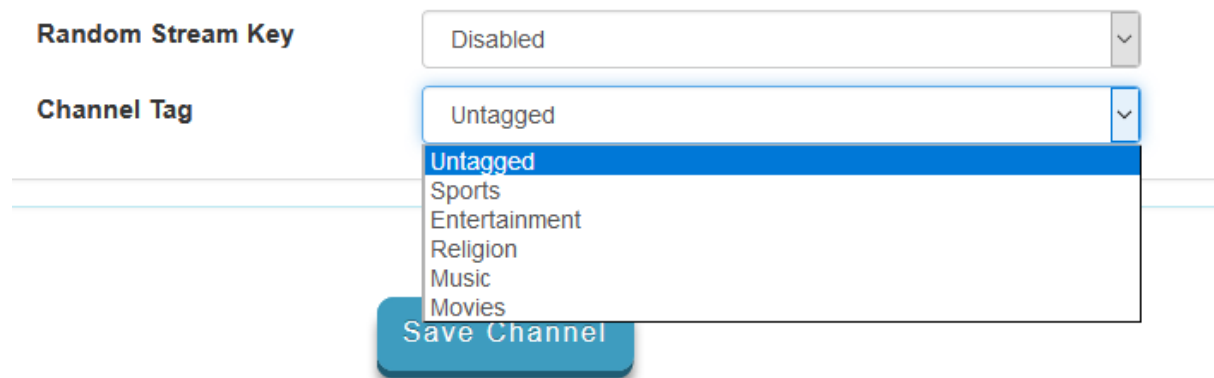
[Sports](#)
[Entertainment](#)
[Religion](#)
[Music](#)
[Movies](#)
[Create New Tag](#)

Manage Tag - New Tag

Tag

[Save Changes](#)

Once created you can assign any live or VOD channel to a tag.

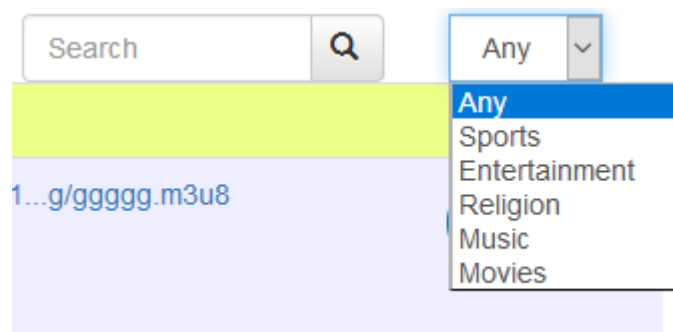


The screenshot shows a 'Save Channel' dialog box. It has two main sections: 'Random Stream Key' and 'Channel Tag'. The 'Random Stream Key' section has a dropdown menu currently set to 'Disabled'. The 'Channel Tag' section has a dropdown menu currently set to 'Untagged'. The dropdown menu for 'Channel Tag' is open, showing a list of tags: 'Untagged', 'Sports', 'Entertainment', 'Religion', 'Music', and 'Movies'. The 'Untagged' option is highlighted in blue. Below the dropdown menu is a blue button labeled 'Save Channel'.

Random Stream Key	Disabled
Channel Tag	Untagged

Save Channel

Once your assign channels tags you can quickly find all channels with that tag using the dropdown menu on the DVS-200 web interface.



The screenshot shows a search bar with the text 'Search' and a magnifying glass icon. To the right of the search bar is a dropdown menu currently set to 'Any'. The dropdown menu is open, showing a list of tags: 'Any', 'Sports', 'Entertainment', 'Religion', 'Music', and 'Movies'. The 'Any' option is highlighted in blue. Below the search bar and dropdown menu is a list of channels. The first channel is highlighted in yellow and has the text '1...g/gggggg.m3u8' next to it.

Search	Any
--------	-----

1...g/gggggg.m3u8

Settings

datavideo

[Live](#) [VOD](#) [Stats](#) [Users](#) [Groups](#) [Settings](#) [Logout \(admin\)](#)

Restart All Services

UI Settings

Custom UI Title(Blank for default)

DVS-200

Reset UI to default Logo

☐

Upload Custom UI Logo

Choose File...

Server Settings

Max VOD file upload size

1 GB

Media storage directory(HLS & recordings)

Path to Media storage

...

HLS Access

Whitelist

IP/Subnet

Poll for DVS Updates

☒

SSL/TLS Support

☐

SSL Certificate File

Choose File...

SSL Chain File

Choose File...

UI Settings

Custom UI Title

Here you can change the title of the DVS-200 web page, the default is 'dv Stream Server'.

dv Stream Server

#

Upload Custom UI logo

Upload a custom logo to replace the default Datavideo logo

Server Settings

Max VOD file upload size

Set the maximum allowed file size for uploads

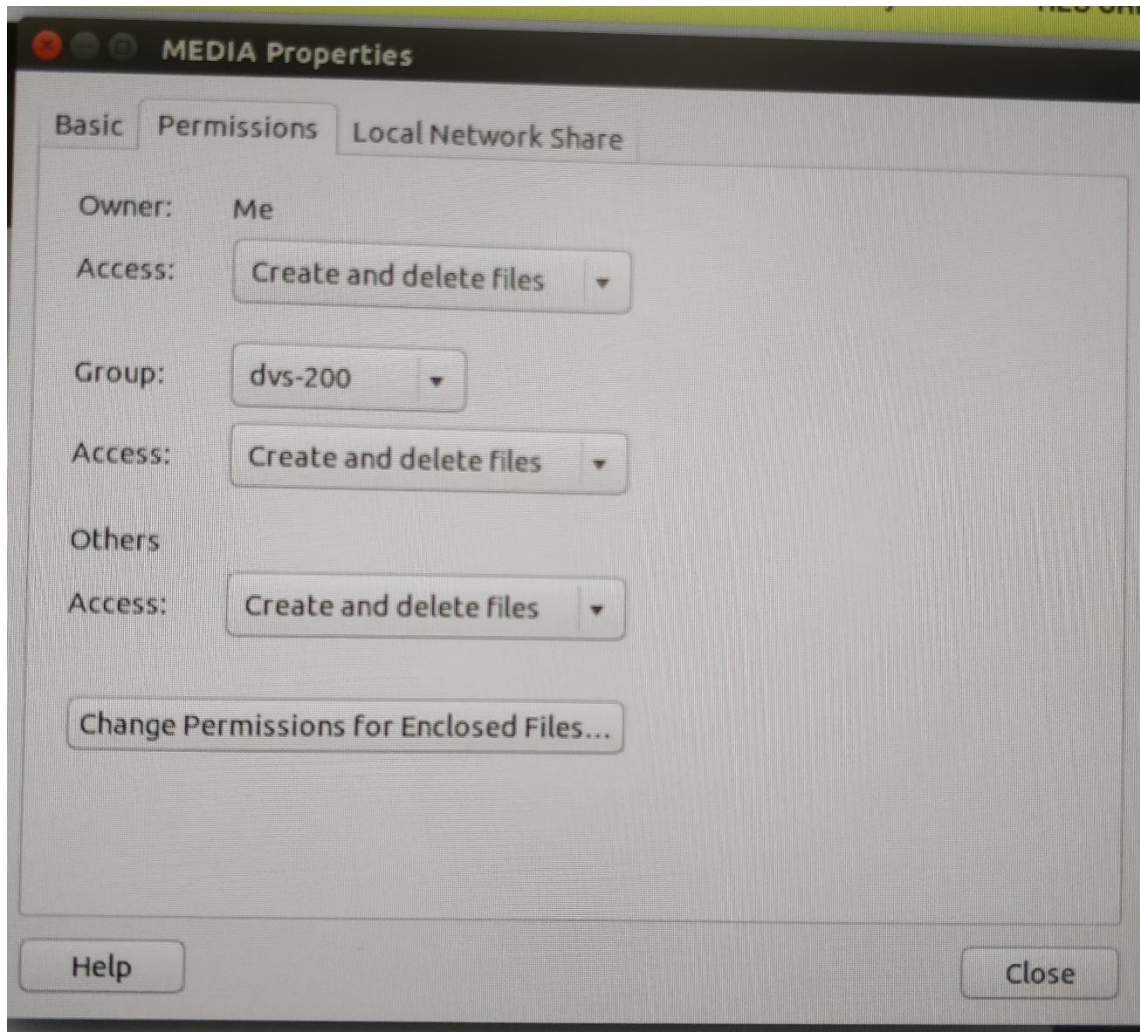
Media storage directory (HLS & recordings)

Change the directory used to store recordings, VOD content, HLS fragments and recording schedules.

Please Note: If you are going to use a folder on a separate auto mounted disk (Ubuntu 14.04 Desktop) you must first run the command below from the terminal.

```
echo 'ENV{ID_FS_USAGE}=="filesystem", ENV{UDISKS_FILESYSTEM_SHARED}="1" | \  
sudo tee -a /etc/udev/rules.d/99-udisks2.rules
```

Please also ensure the permissions for the disk are set correctly (see the image below for Ubuntu Desktop)



HLS Access

Here you can restrict what IP addresses can playback using HLS (The web player). In whitelist mode, only the listed IPs can playback, in blacklist mode all but the listed IPs can playback.

HLS Access Whitelist ▼

192.168.16.0/24 + -

You must enter the IP address followed by its abbreviated subnet mask, for example 255.255.255.0 is a 24-bit mask so is represented as /24. Please consult your IT department if unsure about these settings.

Poll for DVS Updates

By default, the system will check for updates every time you switch tabs, this can cause slow operation when operating offline. Unchecking this option will disable automatic updates.

SSL/TLS Support

When enabled you can upload a SSL certificate and access the DVS-200 using HTTPS. You must upload the certificate and key file at minimum, the chain file is optional.

External Users & Groups via Active Directory

When enabled active directory users and groups can be used for authentication.

To enable active directory:

1. Enter the **Active Directory DNS Domain for example yourdomain.local.**
2. Enter the **Active Directory Server Hostname for example ADSERVER**, you can also enter its IP address.
3. Select the **Active Directory Server Port**, this can be plaintext or SSL.
4. Enter the **Active Directory Username and Active Directory Password.**
5. Save the settings, click the prompt to reload the service at the top of the page.
6. You will now have option to map your AD groups to the DVS-200 Admin, Power User, Viewer Plus and Contributor groups. Any AD user not in these groups will automatically receive viewer only privileges.

Active Directory Admins Group	None Selected
Active Directory Power Group	None Selected
Active Directory Contributors Group	None Selected

Please Note: Active directory users and groups are cached local and updated periodically, changes to AD user or Groups may take 15 minutes to take effect.

RTMP Settings

RTMP Port

The default port of 1935 should generally not be changed, for advanced users only.

Always start on key frame

When enabled clients that connect to the RTMP stream will always start playback on a key frame, this may increase delay.

Disable audio until first video frame is sent

When enabled no audio will be sent until after the first video frame (RTMP clients only).

AV Sync Interval

If the RTMP client's bandwidth is not enough to receive data at the publisher's (encoders) rate, some frames are dropped by server leading to a synchronization problem. When the timestamp difference exceeds the value specified as sync argument an absolute frame is sent fixing that.

Max message size

This setting relates to how much memory the RTMP server can use, the default 10MB should be fine for most cases but if you have issues with very high bitrate streams disconnecting this should be increased.

Idle Streams

If disabled, the server prevents subscribers from connecting to idle/non-existent live streams and disconnects all subscribers when stream publisher disconnects. Default is on.

HLS Settings

HLS fragment length

HLS works by creating multiple .TS video files (chunks) from the incoming RTMP stream, the player then downloads these chunks in order. This setting defines how long each chunk is, larger chunk sizes will increase delay.

HLS Playlist Length

This setting defines how many .TS chunks are stored on the server, longer playlists lengths means live streams can be paused for longer.

HLS AV Sync Interval

Sets the HLS timestamp synchronization threshold. This feature prevents crackling noises after conversion from low-resolution RTMP (1KHz) to high-resolution MPEG-TS (90KHz). Default is 2ms.

Global Player Settings

HTML5 Support

By default, the web player will use HTML5 extensions if the browser supports them, if not it will use FLASH extensions. This setting allows HTML5 extensions to be disabled for all or desktop only browsers.

Maximum Buffer Length

This setting defines how much video the web player can buffer (in seconds) locally, larger buffer sizes result in more delay but better stability on poor networks.

Maximum Buffer Size

This setting allows the buffer to be limited by size, this setting will override the buffer length option (the size can never be exceeded).

Display browser support

To be used to debugging only, when enabled the player will display a message to tell you if it is using FLASH or HTML5 extensions.

Minimum DVR Length

Sets the amount of HLS chunks that must be available on the server before the player displays the pause button, this must be set to a value less than the HLS playlist length for the pause button to be enabled.

Socket commands / API

Using third party applications, users can easily connect to the DVS-200 using Telnet. To establish a connection with the DVS-200 simply open a Telnet connection to the units IP address on port 23.

Please Note: Socket commands are disabled by default, to enable socket commands first ensure you have purchased the optional remote control license and then check the appropriate option in the 'Settings Tab'.

The DVS-200 has three responses to commands:

FAILED: shows that the command could not be executed successfully.

OK: shows that the command is executed without any problem.

Invalid Command: shows that the command was not recognized.

The control commands are as follows:

Add and remove push and pull URLs

add [channel] [push/pull] [URL] – For example 'add mychannel push rtmp://test.com/test/stream or add pull mychannel rtsp://192.168.1.23/stream'

remove [channel] [push/pull] [url] - For example 'remove mychannel push rtmp://test.com/test/stream or remove pull mychannel rtsp://192.168.1.23/stream'

Please note: Pull URLs will be set to enabled when added.

Start and stop recording

Start [channel] – For example start mychannel

Stop [channel] – For example stop mychannel

start all – Starts all channels recording

stop all – Stops all channels recording

restart – restarts all services