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Standard Operation Procedure for First Time Users

1. Log in to Windows with default account and password (***admin/admin***).
2. Open **AVerCaster Streaming Service Management** and log in with default account and password (***admin/avercaster***).
- Operate on **AVerCaster Pro** server: type <http://127.0.0.1> in the URL field and click enter, or double-click the shortcut icon  on the desktop to link to the **AVerCaster Streaming Service Management** login page, and then enter the default account and password.
- Access from remote desktop: type the IP address of the **AVerCaster Pro** server in the URL field and click enter, and then enter the default account and password.
3. Set up the country/region where **AVerCaster Pro** is located.
Click tab **Administration** and select the country/region where **AVerCaster Pro** is located.



4. Set up signals

Click tab **Configuration** and set up the signal input and broadcast options.



Note: Supported signals and functions might vary depending on different models. Please refer to the Table of Contents on the next page for specific setup and operation steps.

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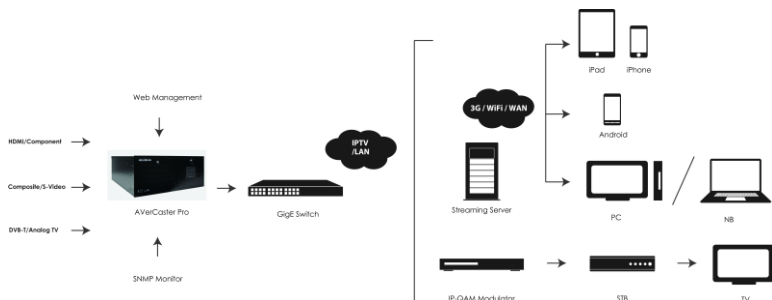
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Chapter 1 Introduction of AVerCaster Pro

AVerCaster Pro series products are audio/video encoder/transcoder solutions especially designed and developed by **AVerMedia Technologies, Inc.** to welcome the unstoppable trend in Internet/digital TV and broadcasting applications. **AVerCaster Pro** series products provide comprehensive all-in-one solutions to fulfill demands in audio/video encoder/transcoder and streaming services. **AVerCaster Pro** series products support not only real-time video streaming but also multi-display output, bitrate and resolution configurations, and other encoding profiles, letting administrators to complete configurations from input signals to streaming tasks quickly and transmitted high quality videos to various receiving terminals such as TV sets, desktop PCs or mobile devices. Administrators can easily integrate **AVerCaster Pro** series products into currently running IPTV/OTT equipments and working processes.

AVerCaster Pro supports various and multiple input sources, multiple encoding/transcoding formats, and multiple streaming tasks of single input source too. Administrators are free to combine or create freely based on different needs easily. Moreover, **AVerCaster Pro** complies with 3GPP rules and regulations, expanding its services to a wide range of mobile device users in its service area. Reliable, high compatibility and expandability, **AVerCaster Pro** solves the problems and fits into current environment infrastructures.

Features



- Supports various input sources such as IP, ASI and SDI, providing the clients with the most flexible applications based on different needs.
- Provides a good variety of video encoding formats, including popular formats such as MPEG in broadcasting and H.264 in IPTV services, and adjustable resolution and output options for the administrators to freely combine options and even create new profiles based on different requirements.
- Supports multiple streaming tasks of single input source.
- Supports multiple encoding formats, including MPEG-2, H.264/ AAC, H.264 / MP3, H.263 / H.264 / MPEG-2 audio/AMR, AAC, and MP3 °
- Complies with standard video streaming protocols, so standard set-top boxes are able to receive the video streams and displays on TV monitors.
- Complies with 3GPP rules and regulations; with service distributors it supports wide range of 3G mobile devices.
- Has built-in **AVerCaster Streaming Service Management** page, allowing administrator to operate and manage streaming configurations and tasks

remotely.

- Supports SNMP (Simple Network Management Protocol), allowing for remote monitor on server status and traffics.
- Supports SAP (Session Announcement Protocol), allowing clients or cooperated service provider equipments on the same network to detect available channels multicast by **AVerCaster Pro**.

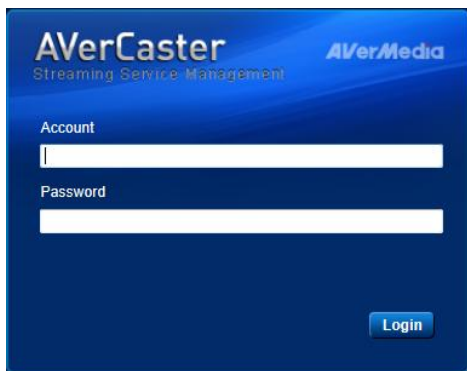
Chapter 2 Getting Started with AVerCaster Streaming Service Management

2.1 Administrator Login

Administrators have to log in to **AVerCaster Streaming Service Management** first to start using the editing and managing functions provided to operate **AVerCaster Pro**. By default, **AVerCaster Pro** is DHCP-enabled so administrators only have to confirm the IP address of **AVerCaster Pro** and to enter the IP address on the browser URL to log in to **AVerCaster Streaming Service Management**.

For example, if the IP address of **AVerCaster Pro** is 192.168.1.1, to log in to **AVerCaster Streaming Service Management** from another computer, administrators only need to open any one of the fully-tested and recommended browsers (ex, **MS IE**) listed in the following content, type in <http://192.168.1.1> on browser URL, and then the administrators can access **AVerCaster Streaming Service Management** from afar.

For using local computer to operate **AVerCaster Pro**, the administrators only need to key in the local IP address <http://127.0.0.1> on browser URL to log in to **AVerCaster Pro Streaming Service Management**.



Enter the account and password, and then click **Login** to log in to **AVerCaster Pro**

Streaming Service Management. The default account and password are ***admin*** and ***avercaster*** respectively.

Note: Changing the default account and password right after your first login is highly recommended to safely protect your configurations and system data.

Note: **AVerCaster Streaming Service Management page has been widely tested on various browsers. Microsoft IE 8~10, Firefox, and Google Chrome** are highly recommended for operations. 1024*768 or higher is recommended for resolution settings.

2.2 AVerCaster Streaming Service Management



No.	Part	Descriptions
1	Main function Tabs	<p>Broadcast List: displays all currently running streaming task list. Administrator operates basic operations such as play, stop, pause and delete here.</p> <p>Configuration: provides various signal input setup options and Encoding Profiles for administrator to configure streaming tasks.</p> <p>Encoding Profile: provides administrator with various options in creating a new profile based on different requests.</p> <p>Redundancy: provides administrator with redundant channel setup, allowing administrator to add redundant channel for broadcast content.</p> <p>Watermark: provides watermark configuration for administrator to add and edit a watermark before applying it onto the live streaming video.</p> <p>Log: displays a list of history log messages for</p>

		<p>administrators to view and track server activities.</p> <p>Administration: displays crucial information on AVerCaster Pro, provides functions such as backup and recovery, and allows the administrator to manage account and password to better protect the configuration data.</p>
2	Signal source and configurations	Numbered from left to right in an ascendant order, corresponding to the physical locations of the input signal locations. Administrators can configure or modify the input signal settings here.
3	TS-IP input and configurations	Administrators can configure or modify the incoming TS-IP stream here. (Note: available only when model supports)
4	Status and information	Move the mouse over the icon of and configured port to see detailed setup information.
5	Assistive function buttons	<p>Shutdown: click to select Shut Down or Reboot the server.</p> <p>Language: click to select interface language. English, simplified Chinese and traditional Chinese are supported.</p> <p>Help: click to view User Manual.</p> <p>Log Out: click to log out AVerCaster Streaming Service Management.</p>
6	Performance and network speed	<p>CPU and Memory usage</p> <p>Upload and Download speed</p>
7	Signal panel expand button	Click to expand and close the section of signal source and configurations.

Note: Please refer to the following chapters to learn more about the operations on configuring and managing on **AVerCaster Pro**.

Port icon and its status are as described below:



Greyed out, indicating this port hasn't been set up or activated. Click to expand downwards a page to setup up input signals or start the channel scan.



Signal type (here: DVB-T) in white with green background, indicating the port is configured as the shown signal (here: DVB-T) signals, and currently streaming.



Signal type (here: Analog TV) in white with grey background, indicating the port is configured as the shown signal (here: Analog TV)) signals, and currently NOT streaming.



Signal type (here: HDMI) in white with red background, indicating the port is configured as the shown signal (here: HDMI)) signals, but streaming error occurs.




Signal type (here: HDMI) in white with yellow background, indicating the port is not functioning and is being supported by a redundant channel.



Signal type (here: HDMI) in white with blue background, indicating the port is selected as a redundant channel.

Chapter 3 Basic Settings and Operations

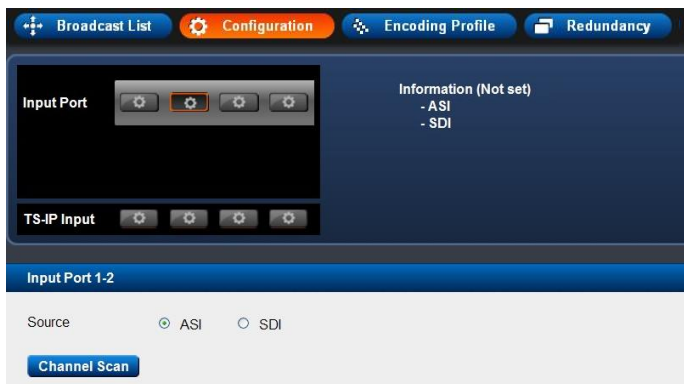
First thing in setting up **AVerCaster Pro** is to acquire input source signals.

Log in with default account and password, go to Configuration page, and click the port icon  to expand downwards the input source signal setup fields.

3.1 Setting up Input Source Signals



Please refer to the configuration examples below to complete setting up input source signals and streaming tasks.

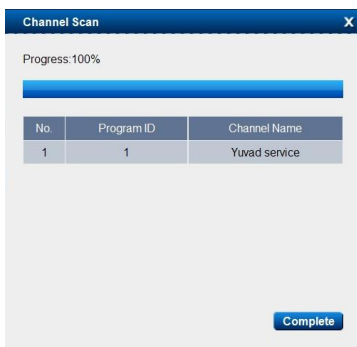
3.1.1 Input Source Signal Type : ASI



To set up input port X as input port for ASI signals,

Note: The X indicates any of the supported ports.

1. Click tab **Configuration** to enter configuration page.
2. Click  in the **Input Port** section and port information is displayed on the panel below.
3. Click **ASI** to select it as input source signal, and then click .
4. During channel scanning, there is progress bar indicating the signal scan status.









5. When scan is complete, all the available channels are listed in scanned order.

No.	Program ID	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark
1	1	Yuwad service	   13 over TCP	Bypass				10.1.4.10	


Note: The number in Column **Program ID** indicates TS Program Number.

Note: Icons shown in column **Information** represent as below:

- a.  : represents the encode of the program is MPEG-2
-  : represents the encode of the program is H.264
-  : represents the encode of the program is H.263
- b.  : represents this is video program.
-  : represents this is audio program.
- c.  : represents this program is encrypted, and doesn't support streaming function.



: represents the program is not encrypted nor scrambled.


Note: **AVerCaster Pro** provides channel name editing function, allowing you to edit the names of channels for easier management. After editing channel name, please click  on the right to start streaming and so to complete the modification. For more details on name editing, please refer to the descriptions in 3.2.



3.1.2 Input Source Signal Type : 3G HD/SD-SDI




To set up input port X as input port for SDI signals,

Note: The X indicates any of the supported ports.

1. Click tab **Configuration** to enter configuration page
2. Click  in the **Input Port** section and port information is displayed on the panel below.
3. Click **SDI** to select it as input source signal.


4. Click to select NTSC or PAL according to the TV signal system to obtain the source signals.
5. Enter a value in pixels to crop the black margins. (0 for no cropping)
6. Tick the Enable box of Loudness Control will lower the volume difference among each channel.
7. Enter a value ranging from 0 to 100 or drag the **Volume Control** bar to adjust the volume. Click  to mute or  to set to maximum volume.
8. Click to select a preferred method to deinterlace video.

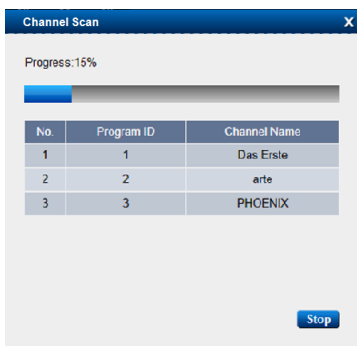
Note: **AVerCaster Pro** provides channel name editing function, allowing you to edit the names of channels for easier management. After editing channel name, please click  on the right to start streaming and so to complete the modification. For more details on name editing, please refer to the descriptions in 3.2.

3.1.3 Input Source Signal Type: TS-IP Streams



To set up for IP source,

1. Click tab **Configuration** to enter configuration page.
2. Click  to the right of TS-IP streams and port information is displayed on the panel below.
3. Click to select **IP Source** as signal source, and complete the information of the IP source, such as IP address and port number, and then click **Channel Scan**.
4. During channel scanning, there is progress bar indicating the signal scan status.




5. When scan is complete, all the available channels are listed in scanned order.

No.	Program ID	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark	
1	100	Das Erste		TS over TCP	H.264 Main Profile 1280x720@30 (8 Mbps)			10.1.4.7	None	
2	101	arte		TS over TCP	H.264 Main Profile 1280x720@30 (8 Mbps)			10.1.4.7	None	
3	102	PHOENIX		TS over TCP	H.264 Main Profile 1280x720@30 (8 Mbps)			10.1.4.7	None	

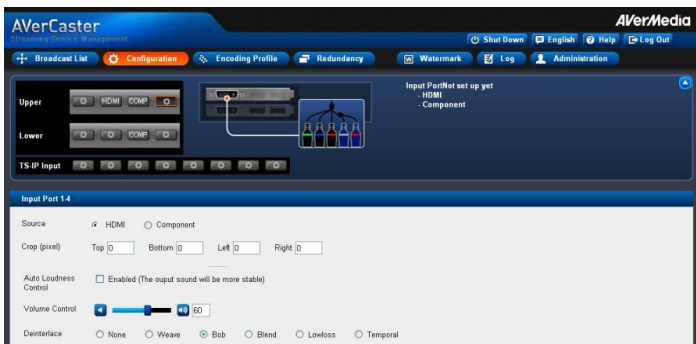
Note: The number in Column **Program ID** indicates TS Program Number.

Note: Icons shown in column **Information** represent as below:

- : represents the encode of the program is MPEG-2
- : represents the encode of the program is H.264
- : represents this is video program.
- : represents this is audio program.
- : represents this program is encrypted, and doesn't support streaming function.
- : represents the program is not encrypted nor scrambled.


Note: **AVerCaster Pro** provides channel name editing function, allowing you to edit the names of channels for easier management. After editing channel name, please click  on the right to start streaming and so to complete the modification. For more details on name editing, please refer to the descriptions in 3.2.

3.1.4 Input Source Signal Type: HDMI




To set up input port X as input port for HDMI signals,

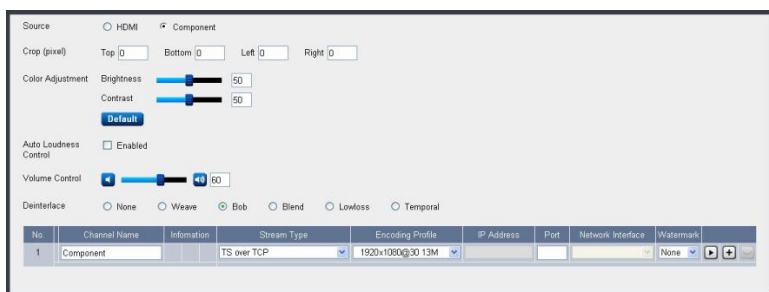
Note: The X indicates any of the supported ports.

1. Click tab **Configuration** to enter configuration page.
2. Click  in the **Input Port** section and port information is displayed on the panel below.
3. Enter a value in pixels to crop the black margins. (0 for no cropping)
4. Click **HDMI** to select it as input source signal.
5. Tick the Enable box of Loudness Control will lower the volume difference among each channel.

6. Tick the Enable box of Loudness Control will lower the volume difference among each channel.
7. Drag the **Volume Control** bar to adjust the volume of input source.
8. Click to select a preferred method to deinterlace video.


Note: **AVerCaster Pro** provides channel name editing function, allowing you to edit the names of channels for easier management. After editing channel name, please click  on the right to start streaming and so to complete the modification. For more details on name editing, please refer to the descriptions in 3.2.

3.1.5 Input Source Signal Type: Component (YPbPr)




To set up input port X as input port for component signals,

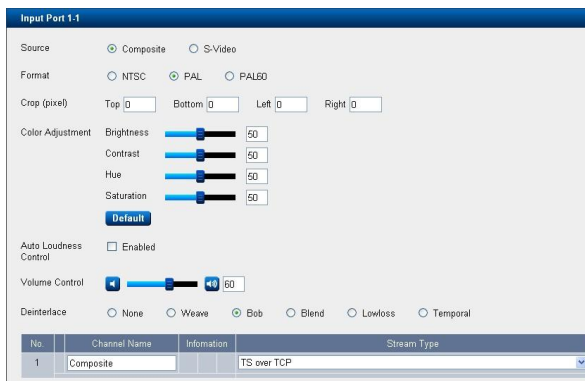
Note: The X indicates any of the supported ports.

1. Click tab **Configuration** to enter configuration page.
2. Click  in the **Input Port** section and port information is displayed on the panel below.
3. Click **Component** to select it as input source signal.

4. Enter a value in pixels to crop the black margins. (0 for no cropping)
 5. Enter a value ranging from 0 to 100 or drag the **Brightness/Contrast** control bar to adjust color of input source. Click **Default** to set all adjustments to default value.
- (Note: available only when model supports)
6. Tick the Enable box of Loudness Control will lower the volume difference among each channel.
 7. Drag the **Volume Control** bar to adjust the volume of input source.
 8. Click to select a preferred method to deinterlace video.

Note: **AVerCaster Pro** provides channel name editing function, allowing you to edit the names of channels for easier management. After editing channel name, please click  on the right to start streaming and so to complete the modification. For more details on name editing, please refer to the descriptions in 3.2.

3.1.6 Input Source Signal Type: Composite



Input Port 1-1

Source: ☒ Composite ☐ S-Video

Format: ☐ NTSC ☒ PAL ☐ PAL60

Crop (pixel): Top Bottom Left Right

Color Adjustment: Brightness Contrast Hue Saturation

Default

Auto Loudness Control: ☐ Enabled



Volume Control:


Deinterlace: ☐ None ☐ Weave ☒ Bob ☐ Blend ☐ Lowloss ☐ Temporal

No.	Channel Name	Information	Stream Type
1	Composite		TS over TCP

To set up input port X as input port for composite signals,

Note: The X indicates any of the supported ports.

1. Click tab **Configuration** to enter configuration page.
2. Click  in the **Input Port** section and port information is displayed on the panel below.
3. Click **Composite** to select it as input source signal.
4. Click to select NTSC or PAL according to the TV signal system to obtain the source signals.
5. Enter a value in pixels to crop the black margins. (0 for no cropping)
6. Enter a value ranging from 0 to 100 or drag the **Brightness / Contrast / Hue / Saturation** control bar to adjust color of input source. Click  to set all adjustments to default value. (**Note:** available only when model supports)
7. Tick the Enable box of Loudness Control will lower the volume difference among each channel.
8. Drag the **Volume Control** bar to adjust the volume of input source.
9. Click to select a preferred method to deinterlace video.

Note: **AVerCaster Pro** provides channel name editing function, allowing you to edit the names of channels for easier management. After editing channel name, please click  on the right to start streaming and so to complete the modification. For more details on name editing, please refer to the descriptions in 3.2.

3.1.7 Input Source Signal Type: S-Video

Input Port 1.1

Source ☐ Composite ☒ S-Video

Format ☐ NTSC ☒ PAL ☐ PAL60

Crop (pixel) Top Bottom Left Right

Color Adjustment

Brightness 50

Contrast 50

Hue 50

Saturation 50

Default


Auto Loudness Control ☐ Enabled

Volume Control 60


Deinterlace ☐ None ☐ Weave ☒ Bob ☐ Blend ☐ Lowloss ☐ Temporal

To set up input port X as input port for S-Video signals,

Note: The X indicates any of the supported ports.

1. Click tab **Configuration** to enter configuration page.
2. Click  in the **Input Port** section and port information is displayed on the panel below.
3. Click **S-Video** to select it as input source signal.
4. Click to select NTSC or PAL according to the TV signal system to obtain the source signals.
5. Enter a value in pixels to crop the black margins. (0 for no cropping)
6. Enter a value ranging from 0 to 100 or drag the **Brightness / Contrast / Hue / Saturation** control bar to adjust color of input source. Click **Default** to set all adjustments to default value. (**Note:** available only when model supports)

7. Tick the Enable box of Loudness Control will lower the volume difference among each channel.
8. Drag the **Volume Control** bar to adjust the volume of input source.
9. Click to select a preferred method to deinterlace video.


Note: **AVerCaster Pro** provides channel name editing function, allowing you to edit the names of channels for easier management. After editing channel name, please click  on the right to start streaming and so to complete the modification. For more details on name editing, please refer to the descriptions in 3.2.

3.1.8 Input Source Signal Type: DVB-T

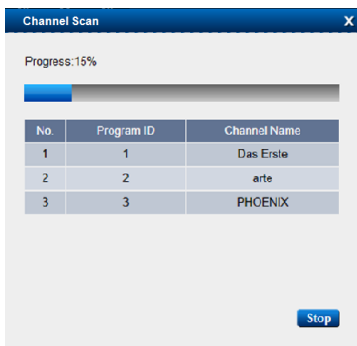


To set up for DVB-T source,







1. Click tab **Administration** to go to administration page.
2. Select the country where the services are provided under **Signals/ Country Settings**.
3. Click tab **Configuration** to enter configuration page.

- Click  in the **Input Port** section and port information is displayed on the panel below.
- Click **DVB-T** to select it as input source signal, and then click **Channel Scan**.
- During channel scanning, there is progress bar indicating the signal scan status.

Note: Country selection in step 2 would apply to **AVerCaster Streaming Service Management** system settings.





- When scan is complete, all the available channels are listed in scanned order.





No.	Program ID	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark
1	100	Das Erste	  TS over TCP	H.264 Main Profile 1280x720@30 (8 Mbps)				10.1.4.7	None
2	101	arte	  TS over TCP	H.264 Main Profile 1280x720@30 (8 Mbps)				10.1.4.7	None
3	102	PHOENIX	  TS over TCP	H.264 Main Profile 1280x720@30 (8 Mbps)				10.1.4.7	None


Note: The number in Column **Program ID** indicates TS Program Number.

Note: Icons shown in column **Information** represent as below:

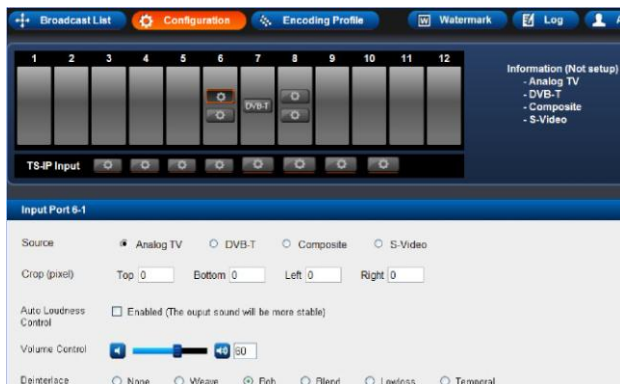
-  : represents the encode of the program is MPEG-2

 : represents the encode of the program is H.264

- b.  : represents this is video program.
-  : represents this is audio program.
- c.  : represents this program is encrypted, and doesn't support streaming function.
-  : represents the program is not encrypted nor scrambled.




Note: **AVerCaster Pro** provides channel name editing function, allowing you to edit the names of channels for easier management. After editing channel name, please click  on the right to start streaming and so to complete the modification. For more details on name editing, please refer to the descriptions in 3.2.

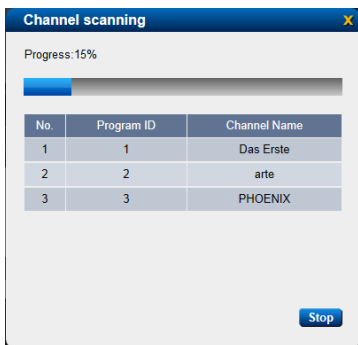
3.1.9 Input Source Signal Type: Analog TV (ATV)



To set up for Analog TV source,













1. Click tab **Administration** to go to administration page.

2. Select the country where the services are provided under **Signals/ Country Settings**.
3. Click tab **Configuration** to enter configuration page.
4. Click  in the **Input Port** section and port information is displayed on the panel below.
5. Click **Analog TV** to select it as input source signal.
6. Enter a value in pixels to crop the black margins. (0 for no cropping)
7. Tick the Enable box of Loudness Control will lower the volume difference among each channel.
8. Enter a value ranging from 0 to 100 or drag the **Volume Control** bar to adjust the volume. Click  to mute or  to set to maximum volume.
9. Click to select a preferred method to deinterlace video.
10. Click **Channel Scan**.
11. During channel scanning, there is progress bar indicating the signal scan status.









Note: Country selection in step 2 would apply to **AVerCaster Streaming Service Management** system settings.


12. When scan is complete, all the available channels are listed in scanned order.

No.	Program ID	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark	
1	100	Dans Ende	 	TS over TCP	H.264 Main Profile 1280x720@30 (8 Mbps)			10.1.4.7	None	 
2	101	arte	 	TS over TCP	H.264 Main Profile 1280x720@30 (8 Mbps)			10.1.4.7	None	 
3	102	PHOENIX	 	TS over TCP	H.264 Main Profile 1280x720@30 (8 Mbps)			10.1.4.7	None	 

Note: Icons shown in column **Information** represent as below:

-  : represents the encode of the program is MPEG-2
-  : represents the encode of the program is H.264
-  : represents this is video program.
-  : represents this is audio program.
-  : represents this program is encrypted, and doesn't support streaming function.
-  : represents the program is not encrypted nor scrambled.

13. Drag the **Volume Control** bar to adjust the volume of input source.

Note: **AVerCaster Pro** provides channel name editing function, allowing you to edit the names of channels for easier management. After editing channel name, please click  on the right to start streaming and so to complete the modification. For more details on name editing, please refer to the descriptions in 3.2.

3.2 Stream Type and Other Settings

After completing setting up for the input source signals, administrators now can move on to next settings on Stream Type, Configuration, IP address, Port, IP interface and Watermark based on different needs.

You can select a default option from the drop-down menu options, or create a new profile on **Encoding Profile** page.

[illegible]

The screenshot displays the NetworkMiner application interface. The main window is titled "NetworkMiner" and contains a table of network devices. The table has columns for "Device Name", "Address", "Device Type", "Counting Profile", "IP Address", "Port", "Network Interface", and "Network Type". The table lists several devices, including "192.168.1.1", "192.168.1.2", "192.168.1.3", "192.168.1.4", "192.168.1.5", "192.168.1.6", "192.168.1.7", "192.168.1.8", "192.168.1.9", "192.168.1.10", "192.168.1.11", "192.168.1.12", "192.168.1.13", "192.168.1.14", "192.168.1.15", "192.168.1.16", "192.168.1.17", "192.168.1.18", "192.168.1.19", "192.168.1.20", "192.168.1.21", "192.168.1.22", "192.168.1.23", "192.168.1.24", "192.168.1.25", "192.168.1.26", "192.168.1.27", "192.168.1.28", "192.168.1.29", "192.168.1.30", "192.168.1.31", "192.168.1.32", "192.168.1.33", "192.168.1.34", "192.168.1.35", "192.168.1.36", "192.168.1.37", "192.168.1.38", "192.168.1.39", "192.168.1.40", "192.168.1.41", "192.168.1.42", "192.168.1.43", "192.168.1.44", "192.168.1.45", "192.168.1.46", "192.168.1.47", "192.168.1.48", "192.168.1.49", "192.168.1.50", "192.168.1.51", "192.168.1.52", "192.168.1.53", "192.168.1.54", "192.168.1.55", "192.168.1.56", "192.168.1.57", "192.168.1.58", "192.168.1.59", "192.168.1.60", "192.168.1.61", "192.168.1.62", "192.168.1.63", "192.168.1.64", "192.168.1.65", "192.168.1.66", "192.168.1.67", "192.168.1.68", "192.168.1.69", "192.168.1.70", "192.168.1.71", "192.168.1.72", "192.168.1.73", "192.168.1.74", "192.168.1.75", "192.168.1.76", "192.168.1.77", "192.168.1.78", "192.168.1.79", "192.168.1.80", "192.168.1.81", "192.168.1.82", "192.168.1.83", "192.168.1.84", "192.168.1.85", "192.168.1.86", "192.168.1.87", "192.168.1.88", "192.168.1.89", "192.168.1.90", "192.168.1.91", "192.168.1.92", "192.168.1.93", "192.168.1.94", "192.168.1.95", "192.168.1.96", "192.168.1.97", "192.168.1.98", "192.168.1.99", "192.168.1.100".

The table gives a general idea on the limitations and required information on successful setups for each streaming task.

Stream Type	Limitations on Encoding Profiles	IP Address	Port ³	Network Connector	Required Information
TS over TCP	HD (High Definition) resolution option is available only when there is HDMI or Component input signals.		✓	✓	
TS over UDP		✓	✓	✓	
TS Multicast		✓**	✓	✓	TTL、SAP
TS over RTP		✓*	✓	✓	
TS RTP Multicast		✓**	✓	✓	TTL、SAP
TS over HTTP					
RTSP					
Apple HTTP Live Streaming (HLS)					
FLV over HTTP					
RTMP Publish					FMS server address, backup FMS server address, streaming task name
Record				✓	
HLS Push					Number of segments, segment duration
MPEG-DASH Push					

*Must be out of multicast address range (224.0.0.0 ~ 239.255.255.255)

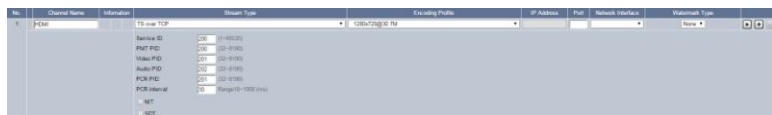
**Must be within multicast address range (224.0.0.0 ~ 239.255.255.255)

***Port number has to be within range 1024 ~ 65535


Note: **AVerCaster Pro** provides various stream types and Encoding Profiles for you to combine for use based on your needs. You can create your own specific Encoding Profiles on Configuration page. To create new Encoding Profiles, please refer to the content in **Advanced Operations**.

3.2.1~3.2.11 Listed below are examples of various streaming configurations:

3.2.1 TS over TCP



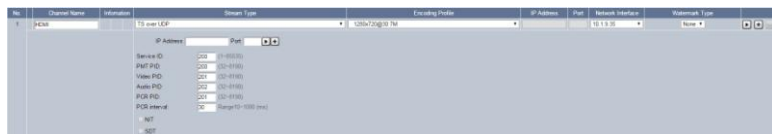
TS over TCP refers to transport stream over TCP protocol. Setup steps are as follows:

1. Select an Encoding Profile based on your needs.
2. A port number is required. (default range: 1024~65535)
3. Select network interface.
4. Click  to start streaming.


When settings are completed correctly, a new task is added on the Broadcast List.

Connection example: tcp://network interface:port number

3.2.2 TS over UDP



TS over UDP is transport stream over UDP protocol. Setup steps are as follows:


1. Select an Encoding Profile based on your needs.
2. Enter Target IP address
3. Enter port number (default range: 1024~65535)
4. Select network interface.
5. Click  to start streaming.

When settings are completed correctly, a new task is added on the Broadcast List.
Connection example: `udp://@target IP address:port number`

3.2.3 TS Multicast



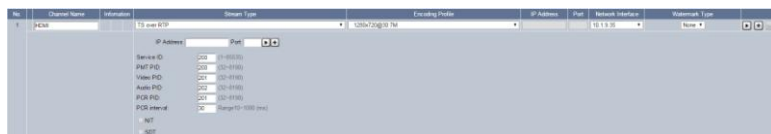
TS Multicast refers to multi-cast transport stream over UDP protocol. Setup steps are as follows:

1. Select an Encoding Profile based on your needs.
2. Enter multi-cast address (default range: 224.0.0.1~239.255.255.255).
3. Enter port number (default range: 1024~65535).
4. Select network interface.
5. Enter TTL parameter (default range: 1~255).
6. To activate SAP, tick **SAP Enable** under TTL.
7. Select a watermark if needed.
8. Click  to start streaming.


When settings are completed correctly, a new task is added on the Broadcast List.

Connection example: `udp://@multicast IP address: port number`

3.2.4 TS over RTP



TS over RTP is transport stream over RTP protocol. Setup steps are as follows:

1. Select an Encoding Profile based on your needs.
2. Enter target IP address.
3. Enter port number (default range: 1024~65535).
4. Select network interface.
5. Select a watermark if needed.
6. Click  to start streaming.

When settings are completed correctly, a new task is added on the Broadcast List.


Connection example: `rtp://@target IP address: port number`

3.2.5 TS RTP Multicast



TS RTP Multicast refers to multi-cast transport streams over RTP protocol. Setup steps are as follows:

1. Select an Encoding Profile based on your needs.
2. Enter multicast IP address (default range: 224.0.0.1~239.255.255.255)

3. Enter port number (default range: 1024~65535).
4. Select network interface.
5. Enter TTL parameter (default range: 1~255).
6. To activate SAP, tick **SAP Publish** under TTL.
7. Select a watermark if needed.
8. Click  to start streaming.


When settings are completed correctly, a new task is added on the Broadcast List.

Connection example: rtp://@multicast address:port number

3.2.6 TS over HTTP

No.	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark Type	
1	TS over HTTP	TS over HTTP	TS over HTTP	TS over HTTP	192.168.1.100	8080	eth0	None	
		Service ID	255	255					
		PMF PID	255	255					
		Video PID	255	255					
		Audio PID	255	255					
		PCR PID	255	255					
		PCR interval	1	Change(10-1000 times)					
		RTT							
		RTT							

TS over HTTP refers to transport streams over HTTP protocol. Setup steps are as follows:

1. Select an Encoding Profile based on your needs.
2. Select a watermark if needed.
3. Click  to start streaming.

When settings are completed correctly, a new task is added on the Broadcast List.


Connection example: http://AVerCaster IP address/system serial number.ts

3.2.7 RTSP

No.	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark Type
1	Comcast	RTSP		2200000 (2 of 1, 2M for iOS, Android)				None

The **RTSP** (Real Time Streaming Protocol) is a network control protocol designed for entertainment and communication systems to control streaming media servers.

Setup steps are as follows:

1. Select an Encoding Profile based on your needs.
2. Select a watermark if needed.
3. Click  to start streaming.

When settings are completed correctly, a new task is added on the Broadcast List.

Connection example: `rtsp://AVerCaster IP address/system serial number.sdp`


3.2.8 Apple HTTP Live Streaming (HLS)

No.	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark Type
1	Comcast	Apple HTTP Live Streaming (HLS)		2200000 (2 of 1, 2M for iOS, Android)				None
Enable Adaptive Encoder								
Number of Segments: 20 (Range 1-20)								
Segment Duration: 00:02 (Range 100-10000 sec)								
Service ID: 200 (Range 1-10000)								
TNT PID: 200 (10-1100)								
Video PID: 201 (10-1100)								
Audio PID: 202 (10-1100)								
PCR PID: 203 (10-1100)								
PCR Interval: 200 (Range 10-1000 sec)								

Apple HTTP Live Streaming (HLS) uses HTTP protocol to broadcast audio and video signals to mobile iOS devices such as iPhone and iPad or to Mac desktops. HLS technology transforms incoming video streams to a series of TS files and a *.m3u8 index file. Users can receive online broadcasting by visiting the *.m3u8 address on the server.

Setup steps are as follows:

1. Select an Encoding Profile based on your needs.
2. Select a watermark if needed.

- Click  to start streaming.

Note: Please use **Quick Time** player or VLC for this preview function.


When settings are completed correctly, a new task is added on the Broadcast List.

Connection example: <http://AVerCaster IP address/system serial number.m3u8>

3.2.9 FLV over HTTP

No.	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark Type	
1	Composite		FLV over HTTP	H.264 Baseline Profile 320x240@29.97 (300 Kbps)				None	

FLV over HTTP refers to FLV format over HTTP protocol. Setup steps are as follows:

- Select an Encoding Profile based on your needs.
- Select a watermark if needed.
- Click  to start streaming.

When settings are completed correctly, a new task is added on the Broadcast List.

Connection example: <http://AVerCaster IP address/system serial number.flv>


3.2.10 RTMP Publish

No.	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark	
1	Composite		RTMP Publish	H.264 Baseline Profile 320x240@29.97 (300 Kbps)				None	
		FMS Server Address: Backup FMS Server: Stream		Example: rtmp://fms.qipq.com Example: rtmp://backup-fms.qipq.com					

RTMP Publish uses RTMP protocol to transport stream media to Flash Media Server.

Setup steps are as follows:

- Select an Encoding Profile based on your needs.
- Enter FMS server address. For example, [rtmp://fms-IP/app](http://fms-IP/app)

3. Enter FMS backup server address (not necessary but must not be the same as FMS server address).
4. Enter stream name (must be English characters or Arabic numbers).
5. Select a watermark if needed.
6. Click  to start streaming.



When settings are completed correctly, a new task is added on the Broadcast List.

Connection example: `rtmp://fms-ip/app`

3.2.11 Record

No.	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark Type
1	Record	Record	Record	H264+1080p30 1300		10.1.1.102		None

Record saves files to your preferred location in MP4 format. Setup steps are as follows:

1. Select an Encoding Profile based on your needs.
2. Click  and enter Server Address, Storage Path, Username and Password.
3. Select network interface.
4. Select a watermark if needed.
5. Click  to start recording.


When settings are completed correctly, a new task is added on the Broadcast List.

Connection example: `http://server address/record`

3.2.12 HLS Push

	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Streamcast Type
1	HLS-001	<div> <div>R.T.S. Push</div> <div> <input type="checkbox"/> Enable Adaptive Stream </div> <div>Location (URL)</div> <div>Account</div> <div>Password</div> <div>Number of Segments</div> <div>Segment Duration</div> <div>Service ID</div> <div>PMT PID</div> <div>Video PID</div> <div>Audio PID</div> <div>PCSI PID</div> <div>PCR Interval</div> </div>	<div>1280x720 @ 30 fps (H.264, AAC)</div> <div>Range 1-10</div> <div>Range 150-10000 (ms)</div> <div>001 (0-1001)</div> <div>200 (20-199)</div> <div>210 (20-199)</div> <div>212 (20-199)</div> <div>211 (20-199)</div> <div>0 (Interval = 1000 (ms))</div>			10.0.0.1	None	

HLS Push allows you to upload videos in a series of TS files and a *.m3u8 index file for live broadcasts to a CDN account for large-scale distribution to HLS clients. Setup steps are as follows:

1. Select an Encoding Profile based on your needs.
2. Enter Location (URL). For example, `http://server address:port number/upload`.
3. Enter Account and Password.
4. Enter Number of Segments and Segment Duration.
5. Select a watermark if needed.
6. Click  to start streaming.

When settings are completed correctly, a new task is added on the Broadcast List.


Connection example: `http://server address/upload/index.m3u8`

3.2.13 MPEG-DASH Push

No.	Channel Name	Information	Session Type	Encoding Profile	IP Address	Port	Network Interface	Watermark Type	
1	Test-123	<div> <div>MP4-GADP Push</div> <div> <div>Enable Adaptive Bitrate</div> <div> <div>Location (URL)</div> <div>Account</div> <div>Password</div> <div>Number of Segments</div> <div>Segment Duration (ms)</div> </div> </div> </div>	<div> <div>MP4-GADP</div> <div>MP4-GADP or the GSE Android</div> </div>			<div> <div>8.8.8.8</div> </div>	<div> <div>8080</div> </div>	<div> <div>Watermark</div> </div>	<div> <div>+</div> <div>-</div> </div>

MPEG-DASH Push uses HTTP protocol to stream videos in a series of MPEG files and a

media presentation description (MPD) file for live broadcasts to a CDN account for large-scale distribution. Setup steps are as follows:

1. Select an Encoding Profile based on your needs.
2. Enter Location (URL). For example, `http://server address:port number/upload`.
3. Enter Account and Password.
4. Select a watermark if needed.
5. Click  to start streaming.


When settings are completed correctly, a new task is added on the Broadcast List.

Connection example: `http://server address/upload/index.mpd`

3.3 Adding Watermark

After setting up watermark options, administrators can select a watermark on Configuration page to be applied onto the live streaming video.

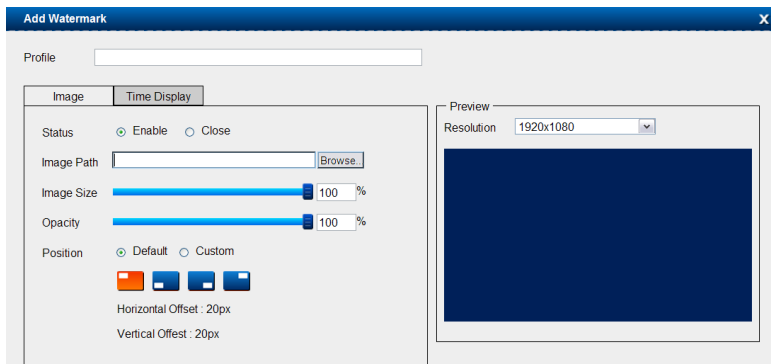
Setup steps are as follows:

1. Click tab **Watermark** to enter **Watermark** setting page.
2. Click  to open **Add Watermark** dialogue box.
3. Enter a name for the new watermark profile.
4. AVerCaster Pro provides two types of watermark. Click tab **Image** or **Time Display** based on your needs. For more details on **Image** and **Time Display** configurations, please refer to the descriptions in 3.3.1 and 3.3.2 respectively.

- After completing all the settings above, click **Save**. A new watermark profile is added on the page as shown below.

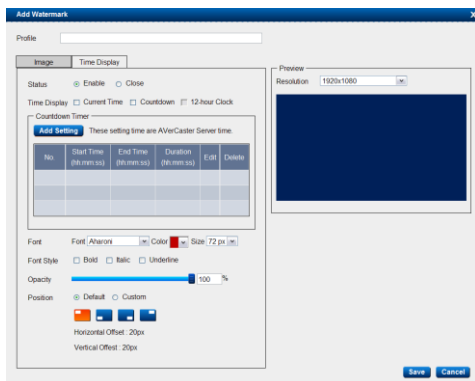


3.3.1 Image Watermark

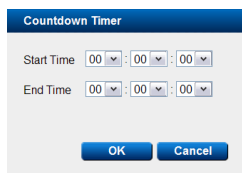


- Click to select **Enable** or **Close** to enable or disable image watermark display.
- Click **Browse...** to upload an image file.
- Enter a value or drag the bar to adjust the image size and opacity.
- Click to select **Default** or **Custom** to adjust the image position by default or by custom.
- Select the correct resolution of your video from the drop-down menu to preview watermark on the video.

3.3.2 Time Display



1. Click to select **Enable** or **Close** to enable or disable time display.
2. Click to select displaying the **Current Time**, **Countdown**, or a **12-hour Clock**.
3. To display a countdown, click **Add Setting** to open a **Countdown Timer** dialogue box. Set up the start and end time, and click **OK**.















4. Select the correct resolution of your video from the drop-down menu to preview watermark on the video.

3.4 Operations on Playback

After completing all the settings above, administrators can proceed to playback

operations with the buttons on the right of each broadcast task.


Icons and descriptions are as follows:

No.	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark	
1	Composite		TS over TCP	H.264 2720x480@25 97 (4 Mbps)		1235	10.1.4.7	None	  
	Composite		TS over UDP	H.264 Main Profile 480x300@25 97 (700 kbps)	IP Address	Port	10.1.4.7	None	  
	Composite		TS over TCP	MPEG-2 720x480@25 97 (4 Mbps)			10.1.4.7	None	  
	Composite		Apple HTTP Live Streaming(HLS)	H.264 Main Profile 480x300@25 97 (700 kbps)				None	  
			Segment file number:	20					
			Segment duration(s):	10.00					
			Discontinuity flag	<input type="checkbox"/> Enable					



Click to start streaming. During streaming, the icon is changed to .



Click to stop streaming. When streaming is stopped, the icon is changed back to .





Click to add a new streaming task of the selected source. (supported only in specific models)




Click to delete the selected streaming task.









Click to display the program in an independent preview window. Upon clicking this button to activate preview function, the icon is changed to  and there pops up a preview window.  indicates the preview function is not supported in the selected program.

3.4.1 Adding New Streaming Tasks


To add a different new streaming task with the same source, click  and there would be new row created right below the selected source. To delete a streaming task, click







Note: This function is available only when the signal source is SDI/ASI/IP Source.


No.	Program ID	Channel Name	Information	Stream Type	Encoding Profile	IP address	Port	Network Interface
1		TV2	 	TS over UDP	MPEG-2 720x480@29.97 [4M bps]			10.1.4.48
				IP address	Port	 		
				IP address	Port	 		









3.4.2 Editing Encode Streaming Task

The options available for an ongoing streaming task are grayed out. To edit an ongoing streaming task, click  to stop the streaming task.

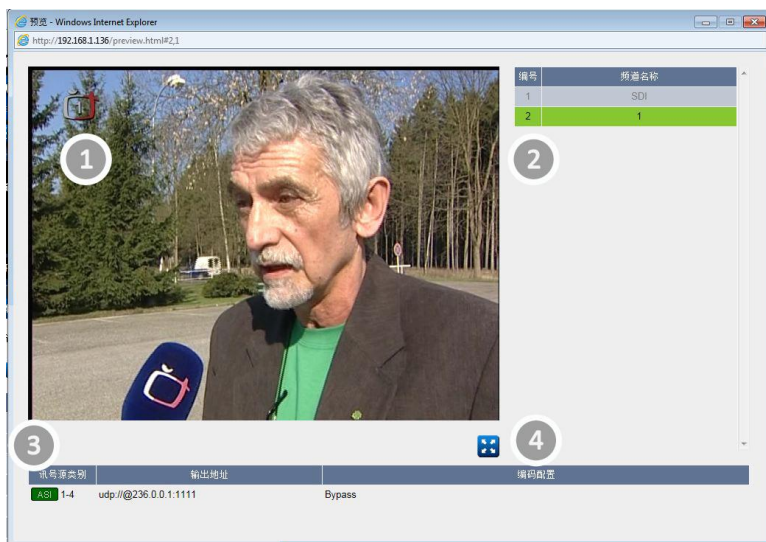
No.	Program ID	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark	
1	100	1-2-3-4-5-6-7-8	 	Apple HTTP Live Streaming (HLS)	H.264 Main Profile 1280x720@30 (9 Mbps)				None	 
				Segment file number:	25					
				Segment duration (ms):	10000					
				Discontinuity flag:	<input checked="" type="checkbox"/> Enable					

3.4.3 Previewing Streaming Task

AVerCaster Pro provides program preview function. During streaming, the  icon on the right of the streaming task indicates preview function is supported for the ongoing streaming task.

No.	Program ID	Channel Name	Information	Stream Type	Encoding Profile	IP Address	Port	Network Interface	Watermark	
1	304	1-2-3-4-5-6-7-8	 	TS over HTTP	H.264 Main Profile 1280x720@30 (9 Mbps)				None	 
	304	1-2-3-4-5-6-7-8	 	TS over HTTP	H.264 Main Profile 1280x720@30 (9 Mbps)				None	 

Click to watch the streaming programs in a popup preview window. Click the program on the right list available with preview function to switch and preview.



Preview Window Interface and Operations:

No.	Descriptions
1	Preview window of ongoing streaming programs; double-click to go to full screen for basic operations such as play/pause and volume control.
2	Channel list. Channels in green blocks indicate preview function available, you can switch channels directly. Channels in grey blocks indicate preview function not available.
3	Configurations of current preview channel
4	Click to go to full screen.

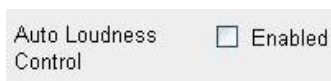
Note: AVerCaster Pro uses VLC player and only supports usage in Microsoft IE. Users must install VLC player to use preview function. For first time users of VLC

player · please restart IE browser, Firefox ad Google Chrome after installation of VLC player.

Note: AVerCaster Pro supports preview function by stream type is as follows:

- TS over TCP
- TS Multicast
- TS RTP Multicast
- TS over HTTP
- FLV over HTTP
- RTSP

3.4.4 Auto Loudness Control





AVerCaster Streaming Service Management provides Auto Loudness Control. Enable the ALC will lower the volume difference among streaming videos/ channels.

3.4.5 Volume Control



AVerCaster Streaming Service Management provides volume control bar. Detailed descriptions on volume control are as below:

- The volume range is 0 (mute) ~ 100 (maximum), administrators can drag to adjust or enter a specific value. The default value is 60.

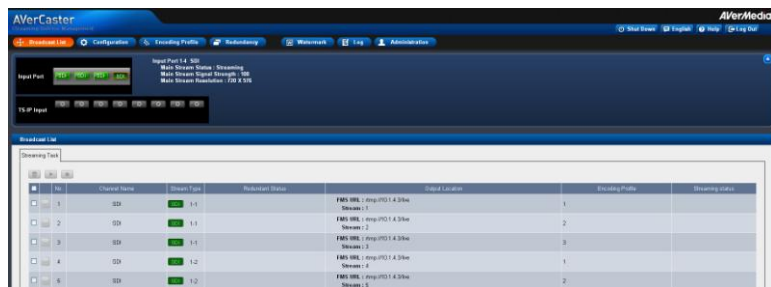
- Any adjustment of volume applies immediately to all the streaming tasks under the selected input source.
- Volume control is not restricted to ongoing streaming tasks. The default value is 60.
- Click  to mute or  to set to maximum volume.

Note: Volume control is not available on all signal source configuration page.

3.5 Broadcast List

Broadcast List page includes all streaming tasks configured on **Configuration** page.

Administrators can easily view and manage all streaming task configurations on this page.



ID	Channel Name	Stream Type	Redundancy Status	Output Location	Encoding Profile	Streaming Status
1	SD	1:1	ON	FMS URL : http://192.1.4.30/m/Stream_1	1	
2	SD	1:1	ON	FMS URL : http://192.1.4.30/m/Stream_2	2	
3	SD	1:1	ON	FMS URL : http://192.1.4.30/m/Stream_3	3	
4	SD	1:2	ON	FMS URL : http://192.1.4.30/m/Stream_4	1	
5	SD	1:2	ON	FMS URL : http://192.1.4.30/m/Stream_5	2	

All streaming tasks configured and played on **Configuration** page appear on **Broadcast List** page.

Administrators can tick the checkbox on the left of the streaming task to activate edit function. Icons and descriptions are as follows:



Delete the selected encode stream



Play the selected encode stream



Stop playing the encode stream

3.6 Log History

Log page includes all events happened and actions taken on the server for administrators to view and track activities on the **AVerCaster Pro** easily.

Viewing log messages

The screenshot shows the AVerCaster Pro web interface. The top navigation bar includes tabs for Broadcast, Configuration, Encoding Profiles, Webstreaming, Winsock, Log, and Administration. The Log page is active, showing a search area with Start Date, End Date, and Log Level filters. Below the search area is a table displaying log entries.

No.	Date and Time	Log Level	Message
1	20150519 07:36:28	Information	Stop streaming at device AVerMedia Capture Stick-1
2	20150519 07:36:28	Warning	The IP Program list file doesn't exist or doesn't configured yet. Please see web-management again.
3	20150519 07:36:28	Warning	The IP Program list file doesn't exist or doesn't configured yet. Please see web-management again.
4	20150519 07:36:28	Warning	The IP Program list file doesn't exist or doesn't configured yet. Please see web-management again.
5	20150519 07:36:28	Warning	The IP Program list file doesn't exist or doesn't configured yet. Please see web-management again.

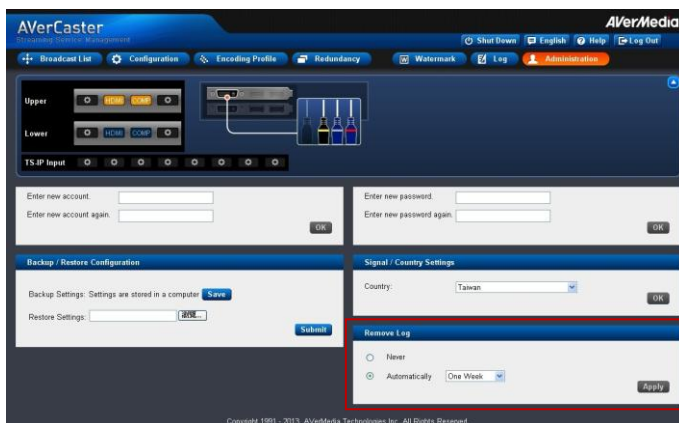
1. Click tab **Log** to enter log page.
2. By default, all types of log messages of the current date will be listed below. To view specific session, click **Start Date** and **End Date** columns to select a date from a pop-up calendar
3. Select how many items to be displayed in a page from the drop-down menu.
4. Select a type (All / Critical / Error / Warning / Information) of log messages to be displayed from the **Log Level** filter.
5. Click **View** to display logs.

Exporting log history

Log messages can be exported as a *.txt file.



1. Follow the steps above to display the logs you need.
2. Click **Export**.
3. Click **Save**, a popup dialogue box appears for you to choose a storage location for keeping the file. Enter a file name and click **Save**.

Removing log history

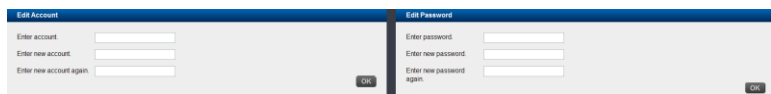


1. Click tab **Administration** to go to administration page and find Remove Log field.
2. Click to select **Never** to never clear log history until you change the setting. Or click to select **Automatically** to periodically (One Week / One Month / Three Month) erase the log history.
3. Click **Apply** to confirm the change.

3.7 Editing Account and Password

To edit current account and password, click tab **Administration** to go to the edit page. To set up a new account, enter the current valid account, the new account name and then click  to confirm the change. To set up a new password, enter the current valid password, the new password, and then click  to confirm the change.

Note: Modifying the default account and password is highly recommended you're your maintenance and information safety. Please keep your account and password in a safe place where those who don't have access to edit cannot acquire.



The image shows two side-by-side web forms. The left form is titled 'Edit Account' and contains three input fields: 'Enter account', 'Enter new account', and 'Enter new account again'. The right form is titled 'Edit Password' and contains three input fields: 'Enter password', 'Enter new password', and 'Enter new password again'. Both forms have a small 'OK' button at the bottom right.

Note: Default Account: admin ; Default Password: avercaster

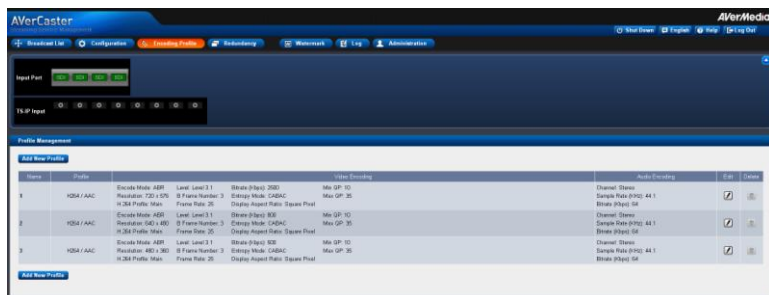
Chapter 4 Advanced Operations

4.1 Customizing Encoding Profiles

Before **AVerCaster Pro** streams the encoded incoming signals over the network, configurations on audio and video have to be made. **Configuration** page provides administrators with various default profiles for ready use. Administrators can also create a new profile and customize it based on different needs.

4.1.1 Adding New Encoding Profile

- Click tab **Encoding Profile** to enter **Encoding Profile** page.



- Click **Add New Profile** to open **Add New Profile** dialogue box.
- Enter a name for the new Encoding Profile.

Add New Profile

Name: AVerMedia

Profile: H.264 / AAC

Reference Profile:

Video Encoding

Encode Mode: VBR

Resolution: 1920x1080

Display Aspect Ratio: Auto

Pixel Aspect Ratio: 1:1

Keep Source Aspect Ratio: Yes

H.264 Profile: Main

Level: Level 4

Frame Rate: 29.97

Key Frame Interval (Frame):

Entropy Mode: CABAC

Fixed GOP: Yes

Slice Number: 1

B Frame Number: 0

Present: Very Fast

Fast Encode: Yes

Visual Optimization: Auto

Quality (%):

Audio Encoding

Channel: Stereo

Sample Rate (kHz): 8

Encode Mode: AAC-LC

Bitrate (kbps): 16

Save Cancel

Audio Encoding

Channel: Stereo

Sample Rate (kHz): 8

Encode Mode: AAC-LC

Bitrate (kbps): 16

8. **AVerCaster Pro** provides various video encode options such as MPEG-2 、H.264 、H.263 as well as audio encoded options such as AAC only and MP3 only for you to combine freely based on your needs.

Add New Profile

Name: AVerMedia

Profile: H.264 / AAC

Reference Profile:

Video Encoding

Encode Mode: VBR

Resolution: 1920x1080

Display Aspect Ratio: Auto

Pixel Aspect Ratio: 1:1

Keep Source Aspect Ratio: Yes

H.264 Profile: Main

Level: Level 4

Frame Rate: 29.97

Key Frame Interval (Frame):

Entropy Mode: CABAC

Fixed GOP: Yes

Slice Number: 1

B Frame Number: 0

Present: Very Fast

Fast Encode: Yes

Visual Optimization: Auto

Quality (%):

Audio Encoding

Channel: Stereo

Sample Rate (kHz): 8

Encode Mode: AAC-LC

Bitrate (kbps): 16

Save Cancel

Audio Encoding

Channel: Stereo

Sample Rate (kHz): 8

Encode Mode: AAC-LC

Bitrate (kbps): 16

9. After making the selection for **Profile**, the system would auto select an option for **Reference Profile** based on the option made in **Profile**. You can still adjust the

option according to your needs.

Add New Profile

Name: AVerMedia

Profile: H.264 / AAC

Reference Profile:

Video Encoding

Encode Mode: VBR

Resolution: 1920x1080

Display Aspect Ratio: Auto

Pixel Aspect Ratio: 1:1

Keep Source Aspect Ratio: Yes

H.264 Profile: Main

Level: Level 4

Frame Rate: 29.97

Key Frame Interval (Frame):

Entropy Mode: CABAC

Fixed GOP: Yes

Slice Number: 1

B Frame Number: 0

Present: Very Fast

Fast Encode: Yes

Visual Optimization: Auto

Quality (%):

Audio Encoding

Channel: Stereo

Sample Rate (KHz): 8

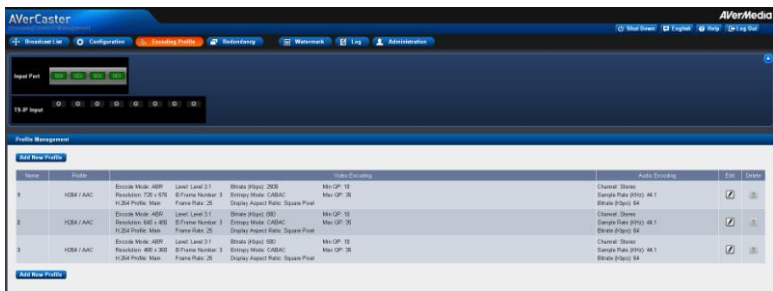
Encode Mode: AAC-LC

Bitrate (Kbps): 16


Save **Cancel**

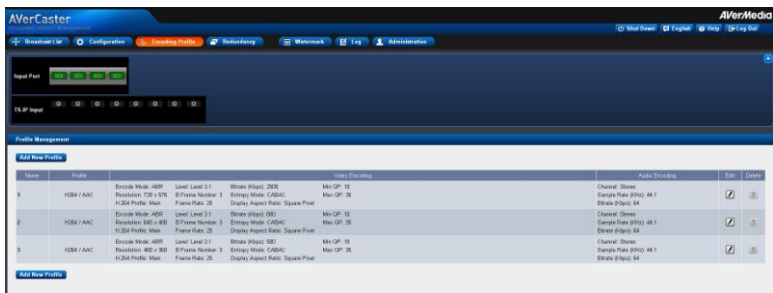
If entered values are not within supported range, reference parameter range would appear to the right of the field.


10. Adjust the values according the reference parameter range to the right of the field and click **Save**. A new profile is added on the page as shown below.



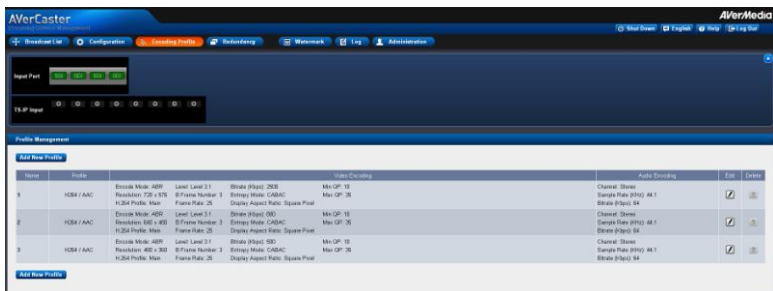
4.1.2 Editing or Deleting Newly Added Encoding Profiles

To modify a newly added Encoding Profile, click  on the right of the Encoding Profile.



To delete a newly added Encoding Profile, click .

Note: You cannot delete the customized profiles in use or once used in the streaming service.



Note: You cannot modify or delete any Encoding Profile which is in use at that moment.

4.2 Limitations on Encoding Profile Configuration

	Video Resolution	H.264				MPEG-2		H.263	
		Max. Macroblocks Per Frame ¹	Min. Level ²	Frame Rate ³	Max. Bitrate ⁴	Frame Rate	Max. Bitrate (Kbps)	Frame Rate	Max. Bitrate
HD 16:9	1920x1080	8160 ⁵	4	Refer to the table in note 3.4.9	25 / 29.97 / 30 / 50 / 59.94 / 60 ⁶	40000 ≥ X ≥ 10			
	1760x990	6820	4						
	1600x900	5700	3.2						
	1024x576	2304	3.0						
	1280x720	3600 ⁵	3.1		25 / 29.97 / 30 / 50 / 59.94 / 60 ⁷				
NTSC	864x486	1674	3.1	Refer to the table in note 3.4.9		10000 ≥ X ≥ 10			
	720x480	1350	2.2		25 / 29.97				
	704x480	1320	2.2		25 / 29.97				
	640x480	1200	2.2						
	544x480	1020	2.2						
	480x480	900	2.2						
	352x480	660	2.1						
	320x240	300	1.1		25 / 29.97				
	128x96	48	1						
	96x96	36	1						
PAL	1024x576	2304	3.0	Refer to the table in note 3.4.9		10000 ≥ X ≥ 10			
	720x576	1620	2.2		25 / 29.97				
	704x576	1584	2.2		25 / 29.97				

	640x576	1440	2.2				
	544x576	1224	2.2				
	480x576	1080	2.2				
	352x576	792	2.1				
	352x288	396	1.1		25 / 29.97		
	384x288	432	2.1		25 / 29.97		
	176x144	99	1			V ⁶	V ⁷
SD 4:3	480x360	690	2.1	Refer to the table in note 3.4.9			
	240x160	180	2.2				
	120x90	48	2.2				
SD 16:9	640x360	920	2.2	Refer to the table in note 3.4.9			
	480x270	510	1				
	320x180	240	1				
	160x90	60	1				
Audio	Channel	Mono / Stereo			Stereo		Mono
	Sample Rate (KHz)	Note ⁸			32 / 44.1 / 48		8
	Bitrate (Kbps)				128 / 192		4.75 / 5.15 / 5.9 / 6.7 / 7.4 / 7.95 / 10.2 / 12.2

Note:

1. Max. Macroblocks Per Frame is the multiplication of the round-offs of both width/16 and length/16.

Take 480x360 for example, $480 \div 16 = 30$, $360 \div 16 = 23$ (22.5 is rounded off to 23) ; therefore, Max. Macroblocks Per Frame = $30 \times 23 = 690$

2. Min. Level is the value when Max. Macroblocks Per Frame is smaller than or equal to the Max. Allowed Frames of Level⁹

3. The calculation of the Max Frames Per Second of certain resolution:

The Max. Decoding Speed Per Sec (Microblocks) of the selected Level⁹ / the Max. Macroblocks Per Frame of the selected resolution

AVerCaster system doesn't support FPT higher than 30 for H.264

4. The smallest bitrate is 10Kbps for all

Please refer to the table on Baseline · Main · High according to the selected Level⁹ to get the largest bitrate;
The largest value cannot be larger than 10000Kbps (SD) / 20000Kbps (HD)

5. Only available when cards inserted are compatible with HDMI or components, and related functioned are activated

6. The supported Frame Rate of H.263 / AMR are 10 / 15 / 18 / 22 / 25 / 29.97 / 30

7. The bitrate tolerance range of H.263 / AMR is 100Kbps \geq X \geq 1000Kbps

8. Audio and Sample rate

Sample Rate	AAC		MP3		HE-AAC	
	Mono	Stereo	Mono	Stereo	Mono	Stereo
8	16, 20, 24, 32, 48, 64, 80, 96, 112, 128	16, 24, 32, 40, 48, 64, 80, 96, 112, 128, 160, 192, 224, 256	8, 16, 24, 32, 48, 56, 64, 80, 96, 112, 128	8, 16, 24, 32, 48, 56, 64, 80, 96, 112, 128		
11.025	16, 20, 24, 32, 48, 64, 80, 96, 112, 128, 160	16, 24, 32, 40, 48, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320	8, 16, 24, 32, 48, 56, 64, 80, 96, 112, 128	16, 24, 32, 48, 56, 64, 80, 96, 112, 128		
22.050	16, 20, 24, 32, 48, 64, 80, 96, 112, 128, 160, 192	16, 24, 32, 40, 48, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320	16, 24, 32, 48, 56, 64, 80, 96, 112, 128	24, 32, 48, 56, 64, 80, 96, 112, 128		
24	16, 20, 24, 32, 48, 64, 80, 96, 112, 128, 160, 192	16, 24, 32, 40, 48, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320	16, 24, 32, 48, 56, 64, 80, 96, 112, 128	24, 32, 48, 56, 64, 80, 96, 112, 128		
32	16, 20, 24, 32, 48, 64, 80, 96, 112, 128, 160, 192	16, 24, 32, 40, 48, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320	32, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224	32, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224	6, 8, 10, 12, 14, 16, 20, 24, 28, 32, 40	12, 16, 20, 24, 28, 32, 40, 48, 56, 64, 80
44.1	16, 20, 24, 32, 48, 64, 80, 96, 112, 128, 160, 192	16, 24, 32, 40, 48, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320	32, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224	32, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224	6, 8, 10, 12, 14, 16, 20, 24, 28, 32, 40	12, 16, 20, 24, 28, 32, 40, 48, 56, 64, 80
48	16, 20, 24, 32, 48, 64, 80, 96, 112, 128, 160, 192	16, 24, 32, 40, 48, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320	32, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224	32, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224	6, 8, 10, 12, 14, 16, 20, 24, 28, 32, 40	12, 16, 20, 24, 28, 32, 40, 48, 56, 64, 80

9. Reference table of Max. Allowed Frames, Max. Decoding Speed Per Second (Macroblocks), and Max. Bitrate:

Level	Max. Frame Size (Macroblocks)	Max. Decoding Speed Per Sec (Macroblocks)	Max. Bitrate (Kbps)	
			Baseline Main	High
1	99	1485	64	80
1.1	396	3000	192	240
1.2	396	6000	384	480
1.3	396	11880	786	960
2	396	11880	2000	2500
2.1	792	19800	4000	5000
2.2	1620	20250	4000	5000
3	1620	40500	10000	12500
3.1	3600	108000	14000	17500
3.2	5120	216000	20000	25000
4	8192	245760	20000	25000
4.1	8192	245760	50000	62500
4.2	8704	522240	50000	62500
5	22080	589824	135000	168750
5.1	36864	983040	240000	300000

4.3 SNMP support


If you want the Routing and Remote Access service to participate in a Simple Network Management Protocol (SNMP) environment as an SNMP agent, you need to install the SNMP service.

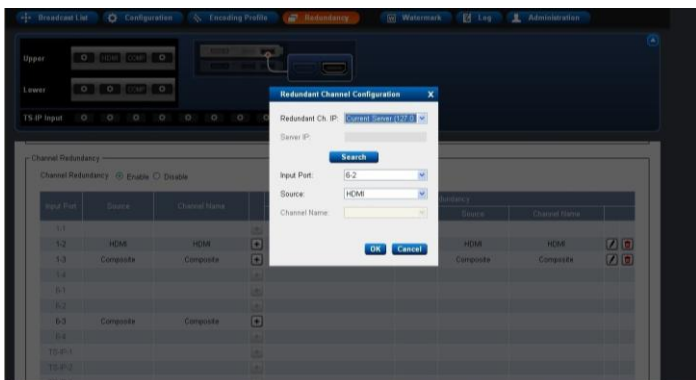
Routing and Remote Access supports the following management information bases (MIBs):

- Internet MIB II
Objects in the Internet MIB II are documented in RFC 1213, "Management Information Base for Network Management of TCP/IP-based internets: MIB-II."
- IP Forwarding Table MIB
Objects in the IP Forwarding Table MIB are documented in RFC 1354, "IP Forwarding Table MIB."

- Microsoft RIP Version 2 for Internet Protocol MIB
- Microsoft BOOTP for Internet Protocol MIB
- Internet Group Management Protocol MIB
Objects in the Internet Group Management Protocol MIB are documented in RFC 2933, "Internet Group Management Protocol MIB."

4.4 Redundancy Setup

To keep the broadcasting stable, you can set redundant channel for each stream. After you have channels setup, go to Redundancy page. Click on  to configure redundant channel.



Select redundant channel IP from the drop-down list. You can use current server or assign IP address to set another device as redundant server.

Redundancy

Redundancy ☐ Enable ☒ Disable

Redundancy

Redundancy ☒ Enable ☐ Disable

Input Port	Source	Channel Name	Redundancy					
			Redundant Server IP	Input Port	Source	Channel Name		
6-1								
6-2	HDMI	HDMI	+	127.0.0.1	6-2	HDMI	HDMI	
6-3	Composite	Composite	+	127.0.0.1	6-3	Composite	Composite	
6-4			+					

Current Server

When choosing local server as redundant one, you will need to select input port as well as source type of the redundant channel.

Redundant Channel Configuration X

Redundant Ch. IP: Current Server (127.0.0.1)

Server IP: Current Server (127.0.0.1)
Assign IP Address

Search

Input Port: 6-2

Source: HDMI

Channel Name:

OK **Cancel**

Redundant Server

When choosing other server as redundant one, input server IP and click on OK to locate the device.

Redundant Server IP Configuration X

Redundant Ch. IP: Assign IP Address

Server IP:

OK **Cancel**

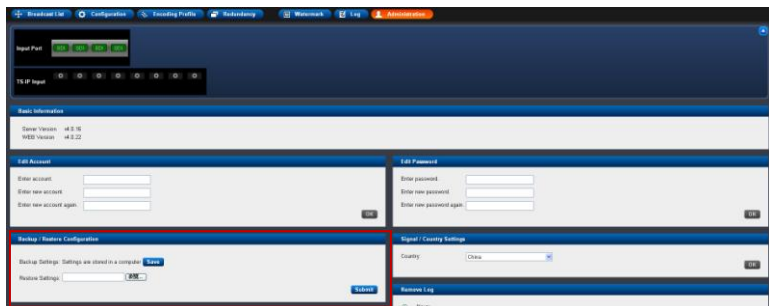
You can examine the redundant task in Broadcast list.

The screenshot shows the AVerCaster software interface. The top navigation bar includes tabs for Broadcast List, Configuration, Encoding Profile, Redundancy, Watermark, Log, and Administration. The main area displays a diagram of the input ports and a status window showing 'Input Port 2-1 D-Sub', 'Main Stream Status: Stream Error', and 'Redundant Status: Redundant Signal Error'. Below this, the 'Broadcast List' tab is active, showing a table of broadcast tasks. The table has columns for No., Channel Name, Stream Type, Redundant Status, Output Location, Encoding Profile, and Streaming status. A single task is listed with No. 1, Channel Name 'D-Sub', Stream Type '2-1', and Redundant Status '127.0.0.1 (5-1) Activating Redundant Signal Strength: 0'.

No.	Channel Name	Stream Type	Redundant Status	Output Location	Encoding Profile	Streaming status
1	D-Sub	2-1	127.0.0.1 (5-1) Activating Redundant Signal Strength: 0	http://127.0.0.1:80/av1001.flv	1280x720@30 4M (for Flash)	

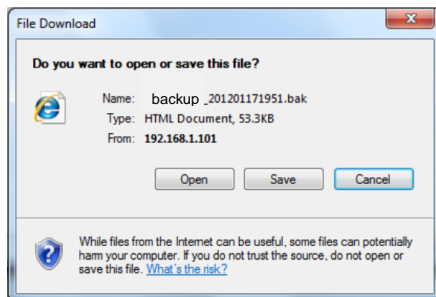
Chapter 5 Troubleshooting

5.1 Backing up Encoding Profiles



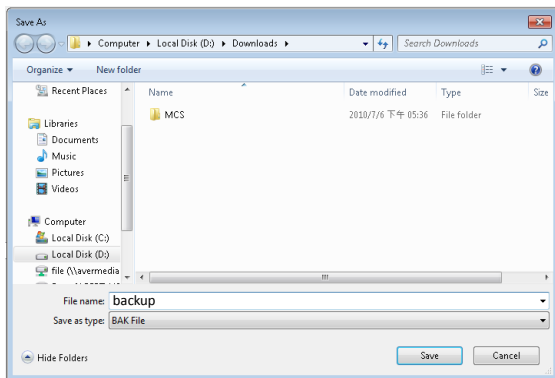
AVerCaster Pro provides backup utility. Administrators can back up current Encoding Profiles to a specified path.

1. Go to **Administrator** page and find **Backup/ Restore Configuration** field.
2. Click **Save** and there pops up a dialogue box asking if you want to save the file.



Note: Naming rule of the backup file is: **backup_yyyymmddtt.bak**

3. Click **Save**, a popup dialogue box appears for you to choose a storage location for the file. Enter a file name and click **Save**.



4. Specify a location for keeping the file, and click **Save**.
5. The backup file includes all configurations on signal and streaming settings , and Encoding Profiles.

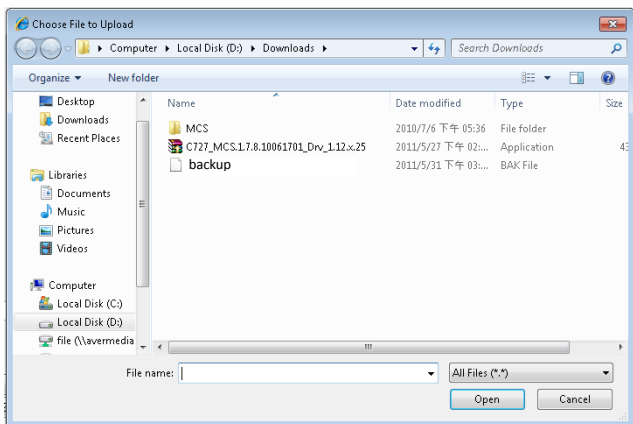
5.2 Recovering Encoding Profiles

To use the previous Encoding Profiles to replace the current settings, use the **Backup/Recover** utility to recover a previously saved backup.

1. Go to **Administrator** page and find **Backup/ Restore Configuration** field.



2. Click **Browse** to locate the previously saved backup file that you want to recover.
3. Click **Open**.



4. Click **Submit**, and the recovery process begins.

5.3 Display Issues

If there is no output display of a channel due to signal streaming interruption or disconnection.

Find the channel on **Broadcast List** of the service management webpage. Click **Pause** to stop streaming and then click **Play** again.

If there is no signal output after clicking **Play**. Please check if the network card connected to the Internet is selected.

5.4 Reset Configurations

To reset password, please go to Start\AVerMedia Encoder\Reset Password to reset the account and password to default.

To reset configurations, please go to Start\AVerMedia Encoder \Reset Configuration to reset the configurations of **AVerCaster Streaming Service Management** back to defaults.
(Account and Password not included)

FCC Class A User Information



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Federal Communications Commission (FCC) Statement (Class A digital device)

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense. Changes and modifications not expressly approved by the manufacturer or registrant of the equipment could void your authority to operate the equipment under Federal Communications Commission rules.

Responsible Manufacturer:

AVerMedia Technologies, Inc.

No. 135, Jian 1st Rd., Zhonghe Dist., New Taipei City 23585, Taiwan

TEL: +886-2-2226-3630

USA Office:

AVerMedia Technologies U.S.A.

47358 Fremont Blvd., Fremont, CA 94538

Technical Support: <http://solutions.avermedia.com>

ICES-003

CAN ICES-3 (A)/NMB-3(A)

European Union Directives conformance statement



This product is herewith confirmed to comply with the requirements set out in the Council Directives on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility Directive 2004/108/EC.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Responsible Manufacturer:

AVerMedia Technologies, Inc.

No. 135, Jian 1st Rd., Zhonghe Dist., New Taipei City 23585, Taiwan

TFI : +886-2-2226-3630

European Community Contact:

AVerMedia Technologies Europe B.V.

Distributieweg 13, 2742 RB Waddinxveen, The Netherlands

TEL: +31 (10) 7600-500

中國：產品已符合 CCC 認證

- 仅适用于非热带气候条件下安全使用。
- 《ལྷོ་ཁྱུང་གི་མཐོ་བོ་ཞིག་གི་སྒྲིབ་ཀྱི་རྒྱུ་ལོན་ན་ཉེན་མེད་ཅིང་བྱ་བ་འཕྲུག་པ།》
- “ཆོ་བ་ཤི་ས་ལྷོ་ཁྱུང་གི་སྒྲིབ་ཀྱི་རྒྱུ་ལོན་ན་ཉེན་མེད་ཅིང་བྱ་བ་འཕྲུག་པ།”
- غەیری ئىسسىق بەلباغ ھاۋا كىلىماتى شارائىتىدىلا بىخەتەر، ئىشلەتكىلى بولىدۇ
- Dan hab yungh youq gij dienheiq diuzgen mbouj dwg diegnat haenx
ancienz sawjyung.
- 仅适用于海拔 2000m 以下地区安全使用。
- 《2000m གླ་མཚོ་ལོ་ལྷན་པའི་སྒྲིབ་ཀྱི་རྒྱུ་ལོན་ན་ཉེན་མེད་ཅིང་བྱ་བ་འཕྲུག་པ།》
- “གླ་མཚོ་ལོ་ལྷན་པའི་སྒྲིབ་ཀྱི་རྒྱུ་ལོན་ན་ཉེན་མེད་ཅིང་བྱ་བ་འཕྲུག་པ།”

دېڭىز يۈزىدىن 2000 مېتر تۆۋەن رايونلاردا بىخەتەر ئىشلەتكىلى بولىدۇ .

- Hai dou gaxgonq, wngdang sien duenh denvasen bae.

声明

此为 A 级产品。在生活环境中，该产品可能会造成无限电干扰。在这种情况下，可能需用户对其干扰采取切实可行的措施。

海拔部分警语:仅适用于在海拔 2000m 以下安全使用。在海拔 2000m 以上使用时，可能会有安全隐患。

中国子公司：

上海市静安区武宁南路 488 号智慧广场 1510 室