

# ANT-35000 to ANT-36000 connection options

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MPEG-TS is a “fire and forget”. If a packet is lost or delayed the decoder will have a jitter / stutter. There is no hand shaking

Proprietary is a more reliable connection method between the ANT-35000 and ANT-36000, but does require some “hand shaking” so will be susceptible to long links or links with long delays or long ping times.

RTSP (Real Time Streaming Protocol) is a standard for media between server and client. Whether using UDP, TCP or Multicast there is setup hand shaking. IP video cameras can stream a RTSP stream which can be successfully connected by client over the internet on the other side of the world.

## Document info

Version	date	author	Comments
1.0	23-Jul-19	David M	35000 to 36000 connection setups
1.1	2-Sep-19	David M	Minor textual adjustments
1.2	25-Nov-19	David M	Addition of RTSP multicast

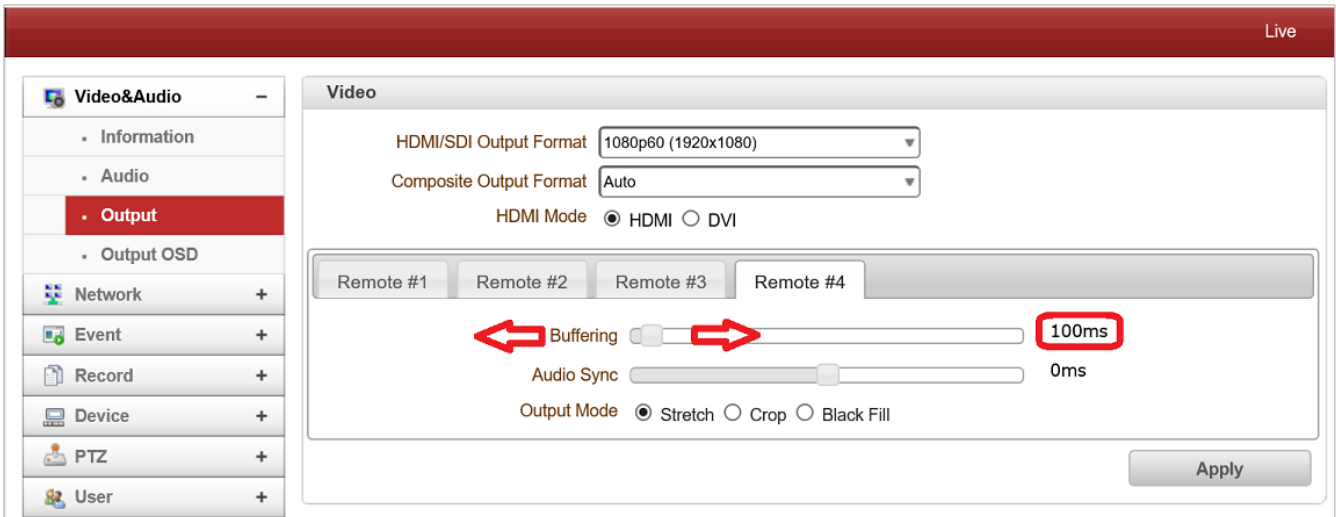
# Setup

## 1. Decoder buffer

This can be adjusted to aid the "smoothness" of the video. If, for example, the network is long and jittery, then a higher buffer value would give a smoother video. A higher buffer value will increase the latency of the overall system. This parameter requires the user to adjust the setting to find the best video.

### 1.1. ANT-36000 -> Video&Audio -> Output

Figure 1 : Decoder buffer

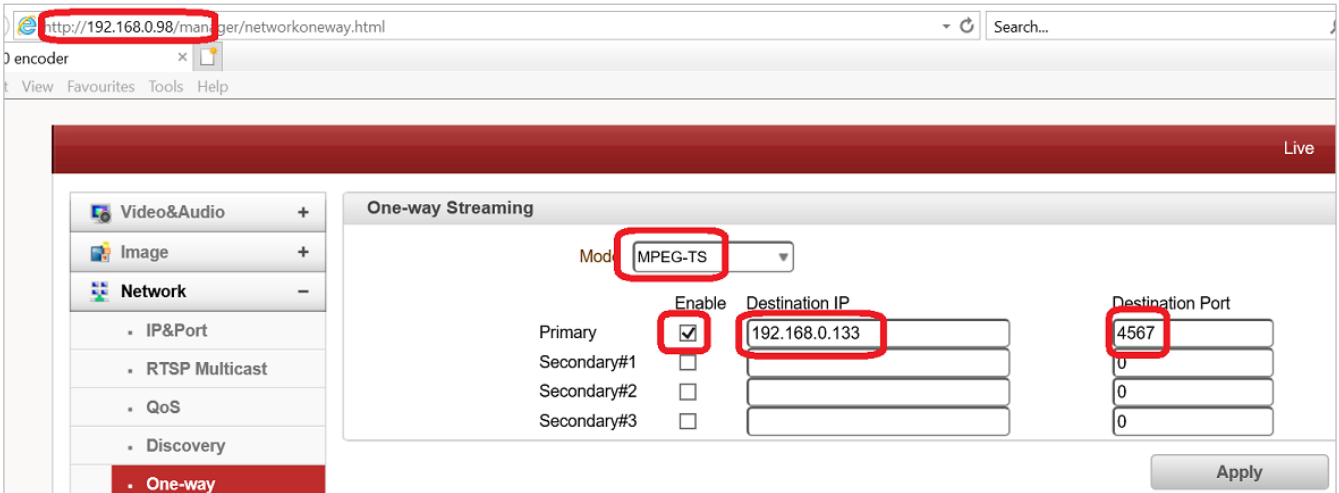


## 2. MPEG-TS

In the example below the encoder has the decoders IP address, and the decoder has the encoders IP address

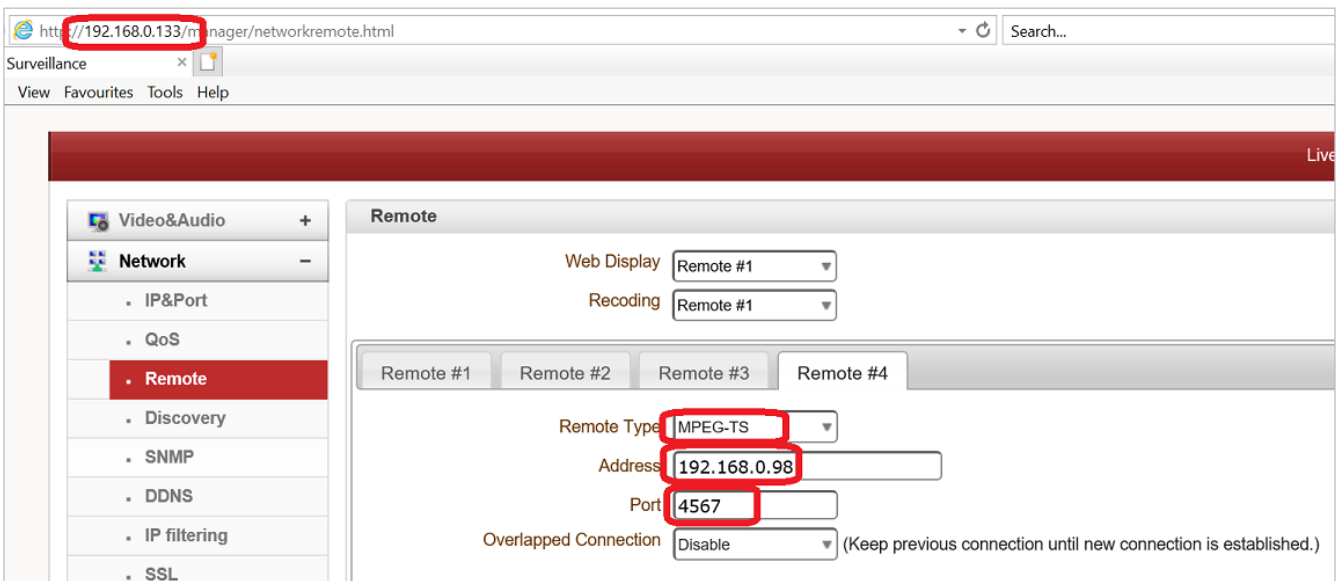
### 2.1. ANT-35000 -> Setup -> Network -> One-way

Figure 2 : encoder "one way"



### 2.2. ANT-36000 -> Network -> Remote

Figure 3 : decoder MPEG-TS



### 3. Normal - Proprietary

This used the proprietary connection method. IN the example the UDP is selected as this is more reliable on longer links. If TCP is used then the hand shaking will require a better network link, if not this may cause stuttering of the video.

#### 3.1. ANT-35000 -> Setup -> Network -> IP&Port

The Base port configuration. 2222 is the default setting

Figure 4 : Encoder IP And Port settings – base port

<ul style="list-style-type: none"> <li>Video&amp;Audio +</li> <li>Image +</li> <li><b>Network -</b></li> <li style="background-color: #f00; color: white;">. IP&amp;Port</li> <li>. RTSP Multicast</li> <li>. QoS</li> <li>. Discovery</li> <li>. One-way</li> <li>. SRT</li> <li>. SNMP</li> <li>. DDNS</li> <li>. IP filtering</li> <li>. E-mail</li> <li>. FTP</li> <li>. SSL</li> <li>. Connecting</li> <li>Event +</li> <li>Record +</li> <li>Device +</li> <li>PTZ +</li> <li>User +</li> <li>System +</li> </ul>	<div style="border: 1px solid #ccc; padding: 5px;"> <p><b>Local</b></p> <p>IP Mode <input type="text" value="Fixed IP"/></p> <p>Local IP <input type="text" value="192.168.0.98"/></p> <p>Local Gateway <input type="text" value="192.168.0.1"/></p> <p>Local Subnet <input type="text" value="255.255.255.0"/></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p><b>DNS</b></p> <p><input type="radio"/> Obtain DNS server address automatically</p> <p><input checked="" type="radio"/> Use the following DNS server addresses</p> <p>Primary DNS Server <input type="text" value="8.8.8.8"/></p> <p>Secondary DNS Server <input type="text" value="8.8.8.8"/></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p><b>IPv6</b></p> <p>IPv6 Address <input type="text"/></p> <p>IPv6 Subnet Prefix Length <input type="text" value="0"/></p> <p>IPv6 Default Gateway <input type="text"/></p> <p>IPv6 LinkLocal <u>fe80::21c:63ff:feb3:ee2/64</u></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p><b>Port</b></p> <p><span style="border: 2px solid red; border-radius: 50%; padding: 2px;">Base Port</span> <input type="text" value="2222"/> (1025-65535)</p> <p>HTTP Port <input type="text" value="80"/> (80, 1025-65535)</p> <p>HTTPS Port <input type="text" value="443"/> (443, 1025-65535)</p> <p>RTSP Port <input type="text" value="554"/> (554, 1025-65535)</p> <p>Audio Receive Port <input type="text" value="2280"/> (1025-65535)</p> </div>
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### 3.2. ANT-36000 -> Network -> Remote

The setup is:

Parameter	Value	comments
Media Protocol	UDP	other options are TCP and Multicast
Address	IP address of encoder	
Port	As setup in Figure 4	default is 2222
Remote channel	the encoder channel to view	default is Channel#1, see table below other options
ID	encoder username	default is admin and
Password	encoder password	default is 1234

Encoder channel to decoder setting for "Normal" decode options

Encoder	Decoder
Primary	Channel#1
Secondary#1	Channel#1Secondary#1
Secondary#2	Channel#1Secondary#2
Secondary#3	Channel#1Secondary#3

Figure 5 : decoder "Normal" settings

The screenshot shows the 'Remote' configuration page in the ANTRICA web interface. The left sidebar contains a navigation menu with categories like Video&Audio, Network, Event, Record, Device, PTZ, and User. The 'Network' section is expanded, and 'Remote' is selected. The main content area shows settings for 'Remote #1'. The 'Remote Type' is set to 'Normal', 'Media Protocol' to 'UDP', 'Address' to '192.168.0.98', and 'Port' to '2222'. The 'Remote Channel' is set to 'Channel#1'. The 'Use Streaming Server' is set to 'Off'. The 'SS IP Address' is '0.0.0.0' and 'SS Port' is '0'. The 'ID' is 'admin' and the 'Password' is masked with dots. The 'Overlapped Connection' is set to 'Disable'.

## 4. RTSP - unicast

This is a widely used connection method. Again with the option to use TCP or UDP.

### 4.1. ANT-35000 -> Setup -> Network -> IP&Port

The RTSP port configuration. 554 is widely accepted default setting

Figure 6 : Encoder IP And Port settings – RTSP port

<ul style="list-style-type: none"> <li>Video&amp;Audio +</li> <li>Image +</li> <li>Network -</li> <li style="background-color: #f00; color: white;">. IP&amp;Port</li> <li>. RTSP Multicast</li> <li>. QoS</li> <li>. Discovery</li> <li>. One-way</li> <li>. SRT</li> <li>. SNMP</li> <li>. DDNS</li> <li>. IP filtering</li> <li>. E-mail</li> <li>. FTP</li> <li>. SSL</li> <li>. Connecting</li> <li>Event +</li> <li>Record +</li> <li>Device +</li> <li>PTZ +</li> <li>User +</li> <li>System +</li> </ul>	<div style="border: 1px solid #ccc; padding: 5px;"> <p><b>Local</b></p> <p>IP Mode <input type="text" value="Fixed IP"/></p> <p>Local IP <input type="text" value="192.168.0.98"/></p> <p>Local Gateway <input type="text" value="192.168.0.1"/></p> <p>Local Subnet <input type="text" value="255.255.255.0"/></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p><b>DNS</b></p> <p><input type="radio"/> Obtain DNS server address automatically</p> <p><input checked="" type="radio"/> Use the following DNS server addresses</p> <p>Primary DNS Server <input type="text" value="8.8.8.8"/></p> <p>Secondary DNS Server <input type="text" value="8.8.8.8"/></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p><b>IPv6</b></p> <p>IPv6 Address <input type="text"/></p> <p>IPv6 Subnet Prefix Length <input type="text" value="0"/></p> <p>IPv6 Default Gateway <input type="text"/></p> <p>IPv6 LinkLocal <u>fe80::21c:63ff:feb3:ee2/64</u></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p><b>Port</b></p> <p>Base Port <input type="text" value="2222"/> (1025~65535)</p> <p>HTTP Port <input type="text" value="80"/> (80, 1025~65535)</p> <p>HTTPS Port <input type="text" value="443"/> (443, 1025~65535)</p> <p style="border: 2px solid red; padding: 2px;">RTSP Port <input type="text" value="554"/> (554, 1025~65535)</p> <p>Audio Receive Port <input type="text" value="2280"/> (1025~65535)</p> </div>
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### 4.1. ANT-36000 -> Network -> Remote

The address is the encoders RTSP URL, which in this case is;  
 rtsp://admin:4321@192.168.0.98:554/video1+audio1  
 The Port can be ignored (allowed to be blank) as the RTSP port is in the URL.

Figure 7 : decoder - RSTP setup

The screenshot displays the 'Remote' configuration page in the ANTRICA web interface. On the left, a navigation menu includes 'Video&Audio', 'Network', 'Event', 'Record', 'Device', and 'PTZ'. Under 'Network', 'Remote' is selected. The main area shows settings for 'Remote #1' through 'Remote #4'. The 'Remote Type' is 'RTSP', 'Media Protocol' is 'UDP', and the 'Address' is 'rtsp://admin:4321@192.168.0.98:554/video1+audio1'. The 'Port' is '554'. The 'Overlapped Connection' is 'Disable'. Below this, the 'RTSP disconnection Detection time' is set to 20. An 'Apply' button is at the bottom right.

## 5. RTSP – multicast

This allows multiple clients to access the same server using the same stream and this does not load the server as only 1 stream is generated.

Tested with VLC 3.0.8, ANT-35000 with V3.907R01\_T913 & V3.911B02\_T913, ANT-36000 with V4.907R01\_T913

### 5.1. ANT-35000 setup

#### 5.1.1. ANT-35000 -> Setup -> Network -> IP&Port

The RTSP port configuration. 554 is widely accepted default setting

Figure 8 : Encoder IP And Port settings – RTSP port

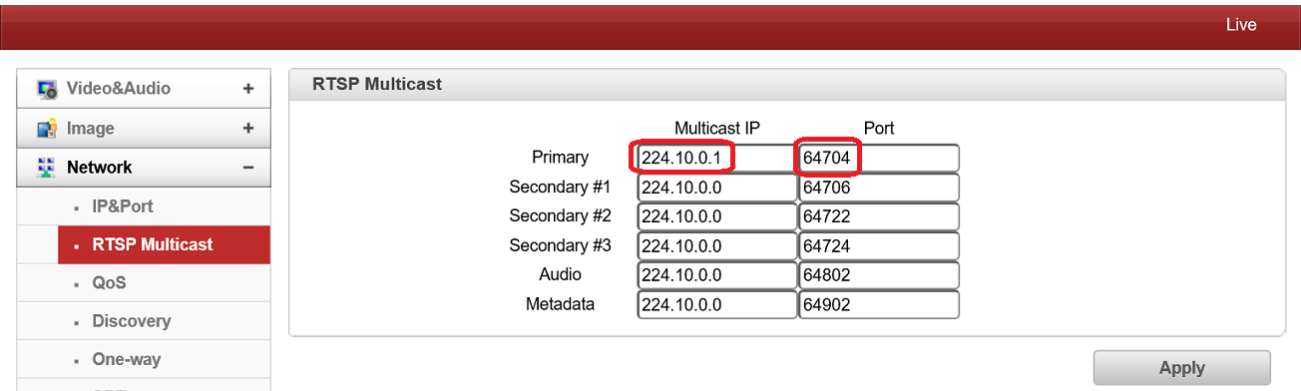
<ul style="list-style-type: none"> <li>Video&amp;Audio +</li> <li>Image +</li> <li>Network -</li> <li style="background-color: #f00; color: white; padding: 2px;">IP&amp;Port</li> <li>RTSP Multicast</li> <li>QoS</li> <li>Discovery</li> <li>One-way</li> <li>SRT</li> <li>SNMP</li> <li>DDNS</li> <li>IP filtering</li> <li>E-mail</li> <li>FTP</li> <li>SSL</li> <li>Connecting</li> <li>Event +</li> <li>Record +</li> <li>Device +</li> <li>PTZ +</li> <li>User +</li> <li>System +</li> </ul>	<div style="border: 1px solid #ccc; padding: 5px;"> <p><b>Local</b></p> <p>IP Mode <input type="text" value="Fixed IP"/></p> <p>Local IP <input type="text" value="192.168.0.98"/></p> <p>Local Gateway <input type="text" value="192.168.0.1"/></p> <p>Local Subnet <input type="text" value="255.255.255.0"/></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p><b>DNS</b></p> <p><input type="radio"/> Obtain DNS server address automatically</p> <p><input checked="" type="radio"/> Use the following DNS server addresses</p> <p>Primary DNS Server <input type="text" value="8.8.8.8"/></p> <p>Secondary DNS Server <input type="text" value="8.8.8.8"/></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p><b>IPv6</b></p> <p>IPv6 Address <input type="text"/></p> <p>IPv6 Subnet Prefix Length <input type="text" value="0"/></p> <p>IPv6 Default Gateway <input type="text"/></p> <p>IPv6 LinkLocal <u>fe80::21c:63ff:feb3:ee2/64</u></p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p><b>Port</b></p> <p>Base Port <input type="text" value="2222"/> (1025-65535)</p> <p>HTTP Port <input type="text" value="80"/> (80, 1025-65535)</p> <p>HTTPS Port <input type="text" value="443"/> (443, 1025-65535)</p> <p style="border: 2px solid red; padding: 2px;">RTSP Port <input type="text" value="554"/> (554, 1025-65535)</p> <p>Audio Receive Port <input type="text" value="2280"/> (1025-65535)</p> </div>
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### 5.1.2. ANT-35000 -> Setup -> Network -> RTSP Multicast

In the web GUI navigate to the "RTSP Multicast" page. The items highlighted in Figure 9 are the multicast destination IP address and destination port for the primary video stream. If this was viewed by unicast RTSP it would be RTSP://admin:1234@192.168.10.100:554/video1

Figure 9 : ANT-35000 RTSP multicast settings



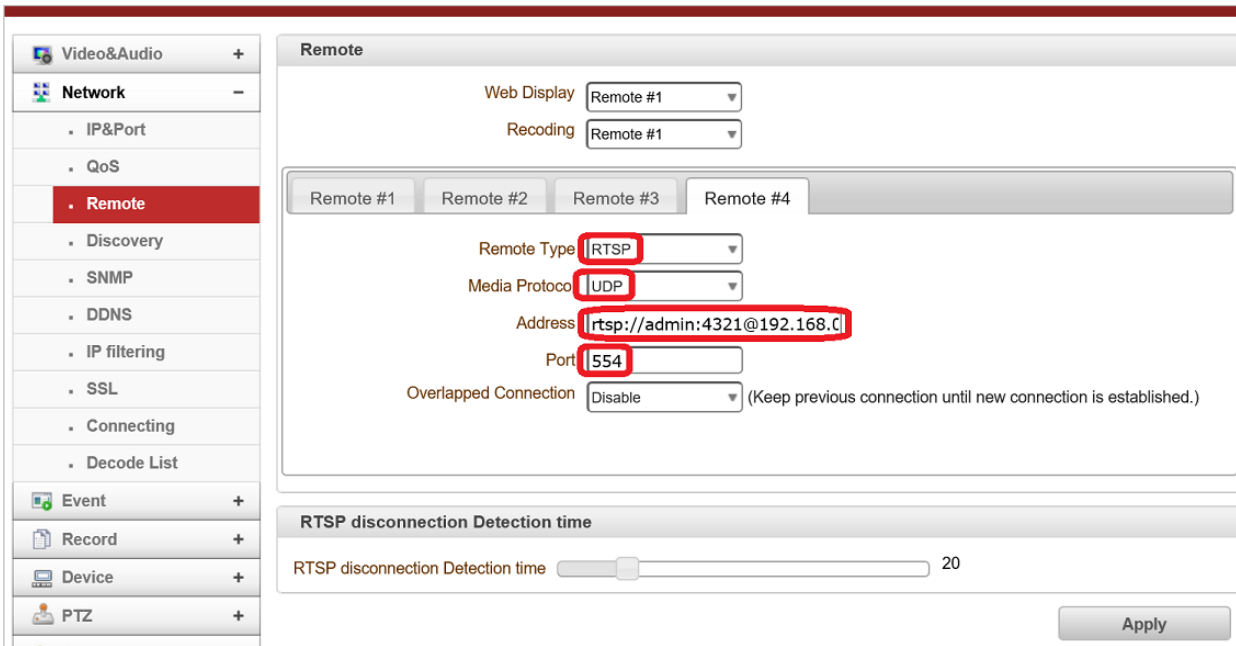
## 5.2. single line URL

### 5.2.1. ANT-36000 -> Network -> Remote

Using the ANT-36000 decoder in the "Remote" setup page, see example in Figure 10, the setup will be:

Parameter	Value	Comments
Remote Type	RTSP	
Media Protocol	UDP or TCP	this is a customer's choice
Address	rtsp://admin:1234@192.168.10.100:554/video1?transport=multicast	same as VLC
Port	554	

Figure 10 : ANT-36000 additional parameter

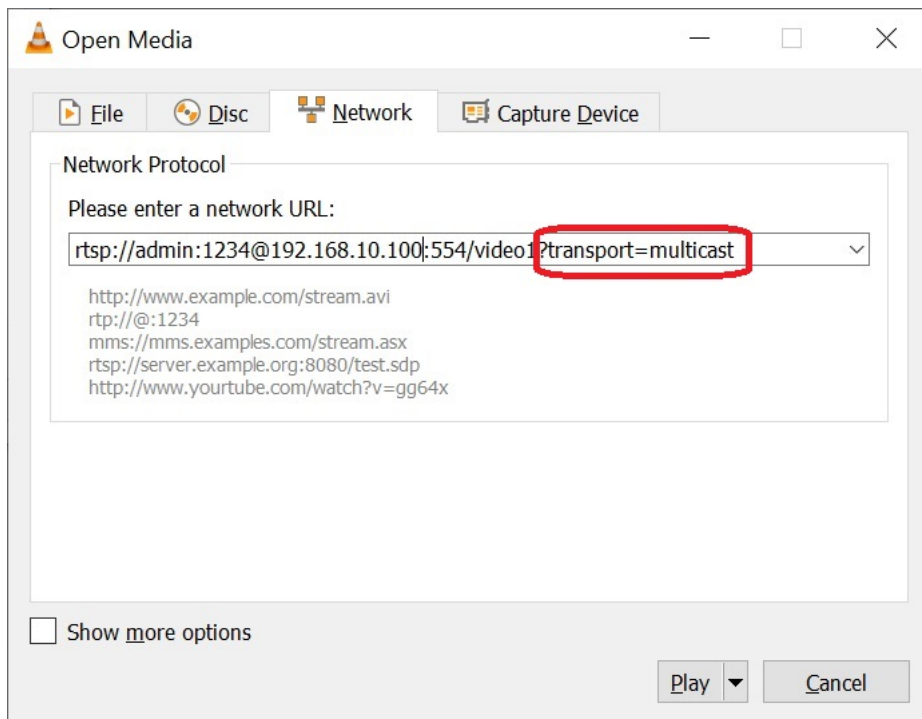


### 5.2.1.VLC setup

In VLC in the network setup add "?transport=multicast" to the end of the Access URL, as highlighted in Figure 11. The complete URL is then

**rtsp://admin:1234@192.168.10.100:554/video1?transport=multicast**

Figure 11 : VLC additional parameter



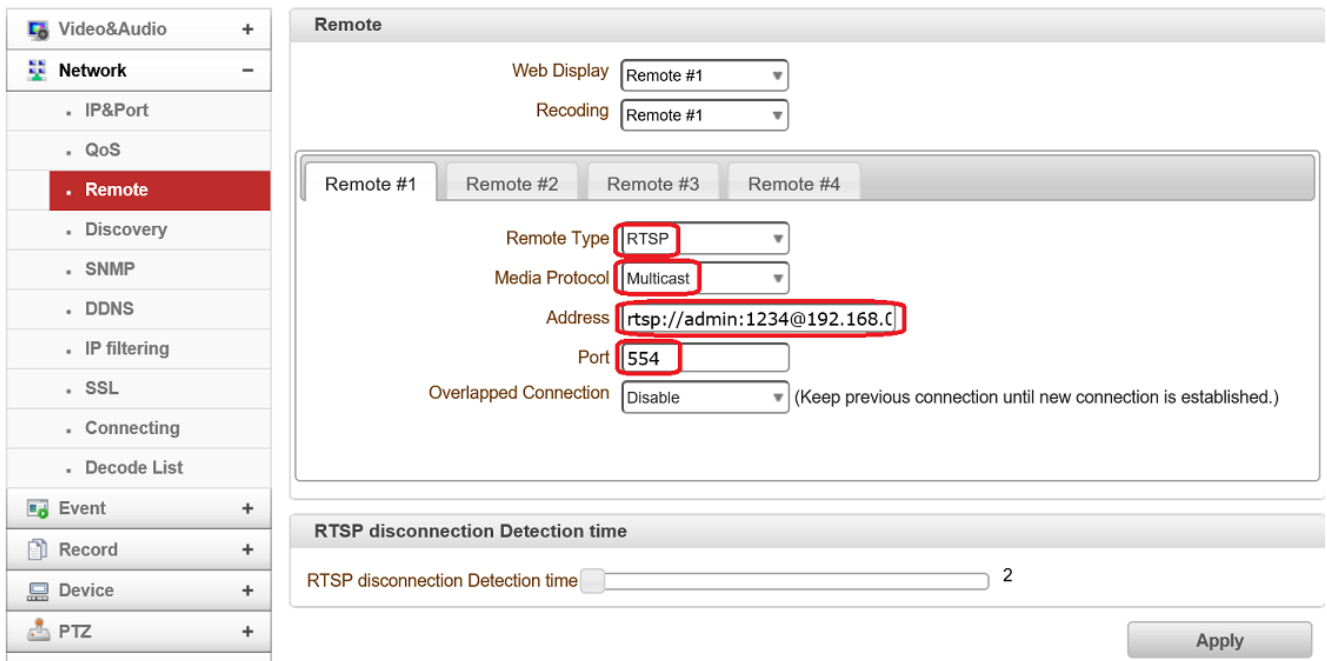
### 5.3. additional parameter

#### 5.3.1. ANT-36000 setup

Using the ANT-36000 decoder in the "Remote" setup page, see example in Figure 12, the setup will be:

Parameter	Value	Comments
Remote Type	RTSP	
Media Protocol	Multicast	
Address	rtsp://admin:1234@192.168.10.100:554/video1	The basic RTSP connection URL
Port	554	

Figure 12 : ANT-36000 additional parameters



#### 5.3.1. VLC setup

In VLC in the network setup select "Show more option" and the command " :rtsp-mcast=1" after the network cache setting, as highlighted in Figure 13. Please note the space between the end of the cache setting the rtps-mcast command.

Figure 13 : VLC RTSP settings

