

Decoder Configuration - Quick Start

Important

1. **Decoder** and **Encoder** settings should match exactly, meaning the 'Video Codec', 'Video Codec Profile', 'Latency', 'Audio Codec', 'Audio Sampling Rate', 'Protocol', 'Streaming IP' and 'PORT', should match the settings on the Encoder side, otherwise the stream will not open. Refer to example below
2. **ULL (Ultra Low Latency)** mode is supported only in **RTP**. Only PCM or OPUS audio compression in this mode
3. AAC_LC is not supported in ULL.

Getting started

1. Please download the latest F/W for the XVC-ULTRA decoder from: <https://www.xvtec.com/downloads/>
2. Connect the HDMI and Network cable to the XVC-ULTRA Decoder.
3. Connect the provided power supply. The XVC-ULTRA Decoder will power on and boot automatically.
4. A blue screen will appear after about 40secs.
5. Enter the IP of the XVC-ULTRA Decoder in a browser (e.g. Chrome) - this will allow setting up the Decoder. (**Default User name/Password** : Admin/Admin)
6. The **IP** of the unit can be discovered via the XVC management tool (Windows application) that can be downloaded from:
[https://www.xvtec.com/wp-content/downloads/management system/XVCManagementTool_0.1.7.3.exe](https://www.xvtec.com/wp-content/downloads/management%20system/XVCManagementTool_0.1.7.3.exe)
7. Check the installed F/W version by browsing to the unit's IP, and pressing the 'System settings' menu item in the side bar. Upgrade to the latest version if required.
8. Optimal Screen resolution is selected automatically via the EDID negotiation and set to the preferred resolution. If a different resolution is required follow the instructions below:
 - a. Go to '**Display Settings**' and select the desired resolution of the screen
 - b. Select the target resolution from the list box, and press **Apply**
9. Go to '**Channel settings**' to setup the rest of the parameters. (Refer to the example below)

Notes

10. '**Latency**' defines the decoding latency. Three options are supported, 'Normal', 'Reduced' and 'Ultra Low'. 'Reduced' and 'ULL' assume 'I' and 'P' frames only. 'ULL' works in slices thus reducing encoding and decoding latency.
 - If Latency settings in the **Encoder** is set to 'ULL', the **Decoder** can be set to either 'ULL' or 'Reduced'
 - If your environment introduces varying network delay (e.g. ping reports big differences in the round trip delay), consider selecting 'Reduced' in the '**Latency**' option.
 - The final latency is affected by the **Buffering** time. Buffering time should be set according to network conditions. Below are recommended values as a starting point.
 - i. '**Ultra Low**' - 'Buffering' should be set to 7-50ms. (Assuming a LAN, with 1Gbit switch and the ping time is less than the buffering time)
 - ii. '**Reduced**' - 'Buffering' should be set to 50-150ms
 - iii. '**Normal**' - 'Buffering' should be set to 150ms -1000ms, (Depends on GOP structure of the Encoder and the network conditions)
11. In RTP mode, '**Incoming stream IP**' should be set to the IP of the compressed stream arriving from an Encoder.
 - a. If the Encoder is streaming to a multi-cast address, then the decoder's '**Incoming stream IP**' should be set to the same multi-cast address.
 - b. If the Encoder is sending the stream to a uni-cast address (to a specific Decoder), then the decoder's '**Incoming stream IP**' should be set to '**0.0.0.0**'
 - c. The '**Video Port**' and the '**Audio Port**' should match the ports of the compressed A/V stream set by the Encoder.
12. It is recommended to use 1Gbit Ethernet switch

Decoder settings example

13. Below is an example of the **Encoder** and **Decoder** settings. **Note**, all parameters of the **Encoder** and **Decoder** match.

Encoder Parameter	Decoder Parameter
Compression: H265	Video Codec: H265
Pixel depth: 10 bit/pixel, Color Format: 4:2:2	Video Codec Profile: 4:2:2,10bit
Encoding Latency: Ultra Low	Latency: Ultra Low
Audio Compression: Opus	Audio Codec: Opus
Detected Fs: 48000 (Auto detected)	Audio Sampling: 48Khz
Streaming mode: RTP	Protocol: RTP
RTP destination IP: 239.240.240.250	Incoming stream IP: 239.240.240.250
Video RTP destination port: 10000	Video port: 10000
Audio RTP destination port: 10008	Audio port: 10008

Encoder

Decoder

14. Up to four channels with different setting can be defined. Switching between them is done from the 'Channel Selection' page as shown below: