

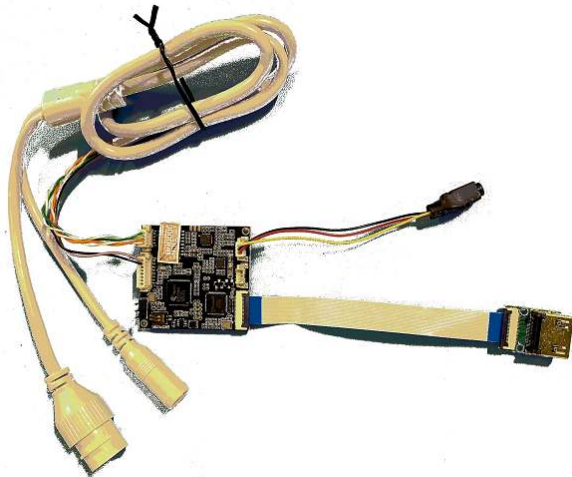
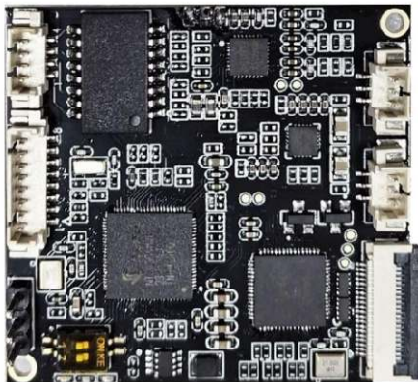
ANT-1770H – HTTP API guide for 1080p60 board / UAV style encoder

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Document info

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1. Obtain Encoder Status and Related Parameters

http://192.168.1.168/get_ctl

where 192.168.1.168 is the device's default IP address.

Accessing the above URL of the device, returns a standard XML file that describes the device's current status. For specific meanings, refer to the corresponding webpage.

1.1. dual-stream encoding

For encoders with dual-stream or multi-channel encoding, use the following commands to obtain main/aux stream information and OSD information:

http://192.168.1.168/get_ctl?type=hdmi_main

Accessing the above URL, returns XML ,describing the current HDMI main stream information of the device.

http://192.168.1.168/get_ctl?type=hdmi_ext

Accessing the above URL, returns XML, describing the current HDMI auxiliary stream information of the device.

http://192.168.1.168/get_ctl?type=osd0

Accessing the above URL, returns XML, describing the current OSD information of the HDMI main stream.

http://192.168.1.168/get_ctl?type=osd1

Accessing the above URL, returns XML, describing the current OSD information of the HDMI auxiliary stream.

1.2. 2-stream or multi-channel encoding

For encoders with more than 2-stream or multi-channel encoding, use the following commands to obtain multi-stream information:

http://192.168.1.168/get_ctl?type=stream0

Accessing the above URL returns an XML file describing the current information of the 1st HDMI stream of the device.

http://192.168.1.168/get_ctl?type=stream1

Accessing the above URL returns an XML file describing the current information of the 2nd HDMI stream of the device.

.....

http://192.168.1.168/get_ctl?type=stream10

Accessing the above URL returns an XML file describing the current information of the 11th HDMI stream of the device.

http://192.168.1.168/get_ctl?type=osd0

Accessing the above URL returns an XML file describing the current OSD information of the 1st stream of the device.

http://192.168.1.168/get_ctl?type=osd1

Accessing the above URL returns an XML file describing the current OSD information of the 2nd stream of the device.

.....

http://192.168.1.168/get_ctl?type=osd10

Accessing the above URL returns an XML file describing the current OSD information of the 11th stream of the device.

http://192.168.1.168/get_ctl?type=net

Accessing the above URL returns an XML file describing the current network information of the device.

http://192.168.1.168/get_ctl?type=osd0

Accessing the above URL returns an XML file describing the current OSD information of the device's HDMI main stream.

http://192.168.1.168/get_ctl?type=osd1

Accessing the above URL returns an XML file describing the current OSD information of the device's HDMI auxiliary stream.

http://192.168.1.168/get_ctl?type=audio

Accessing the above URL returns an XML file describing the device's audio encoding information and extended information.

http://192.168.1.168/get_ctl?type=graphic

Accessing the above URL returns an XML file describing the device's image information.

http://192.168.1.168/get_ctl?type=version

Accessing the above URL returns an XML file describing the current encoder software version information.

2. Encoding-related Parameter Settings

1st-channel encoding: http://192.168.1.168/set_ctl?type=hdmi_main&....
or http://192.168.1.168/set_ctl?type=stream0&....

2nd-channel encoding: http://192.168.1.168/set_ctl?type=hdmi_ext&....
or http://192.168.1.168/set_ctl?type=stream1&....

3rd-channel encoding: http://192.168.1.168/set_ctl?type=stream2&....

4th-channel encoding: http://192.168.1.168/set_ctl?type=stream3&....

.....

Parameter Description

venc : Specifies H.264 or H.265 encoding; mandatory to set as either H264 or H265.

input : Selects the video input interface; currently configurable as HDMI, VGA, YpbPr or CVBS.

input_method : Encoding algorithm; configurable as baseline profile, main profile or high profile.

chan_name : Sets the channel name; default value is chan.

mirror : Image mirror control; 0 = disabled, 1 = enabled.

flip : Image flip control; 0 = disabled, 1 = enabled.

h264_fps : H.264 encoding frame rate; configurable range [0-60].

h265_fps : H.265 encoding frame rate; configurable range [0-60].

used : CBR or VBR mode; set to cbr for CBR mode, vbr for VBR mode.

cbr_BitRate : CBR encoding bitrate; configurable range [16-12000].

vbr_MaxBitRate : VBR maximum encoding bitrate; configurable range [16-12000].

vbr_MinQp : VBR minimum Qp; configurable range [1-51].
vbr_MaxQp : VBR maximum Qp; configurable range [MinQp-51].
venc_gop : I-frame interval; configurable range [5-200].
fluctuate : Fluctuation level; configurable range [0-5], default 0 (auto).
des_width : Encoded video width.
des_height : Encoded video height.
buffer_mode : UDP buffer size; configurable as 1~7, corresponding to 188× the set value respectively.
ts_pid_id : MPEGTS transport stream ID; configurable range [16-7936].
ts_vid_id : MPEGTS PMT start PID; configurable range [256-3840].
ts_aud_id : MPEGTS audio start PID; configurable range [256-3840].
program_id : MPEGTS program table ID.
program_name : MPEGTS program name.
http_src : HTTP address; default is /hdmi.
http_port : HTTP port; configurable range [1-65535], takes effect after restart.
http_open : HTTP enable status; 0 = disabled, 1 = enabled.
rtsp_src : RTSP address; default is /hdmi.
rtsp_port : RTSP port; configurable range [1-65535], takes effect after restart.
rtsp_open : RTSP enable status; 0 = disabled, 1 = enabled.
rtsp_mode : RTSP mode; 0 = pull video + audio, 1 = pull video only, 2 = pull audio only.
sing_ip : Unicast address; default is 200.0.0.1.
sing_port : Unicast port; configurable range [1-65535].
sing_open : Unicast enable status; 0 = disabled, 1 = enabled.
ttl : TTL value (for multicast); configurable range [0,255].
multi_ip : Multicast address; default is 238.0.0.1.
multi_port : Multicast port; configurable range [1-65535].
multi_open : Multicast enable status; 0 = disabled, 1 = enabled.
accessshm : RTMP authorized address.
accessshm_enable : RTMP authorization enable status; 0 = disabled, 1 = enabled.
rtmp_method : RTMP push mode; 0 = domain name access, 1 = IP address access.
rtmp_url : RTMP push address (domain name on web page); only effective when rtmp_method=0.
rtmp_enable : RTMP enable status; 0 = disabled, 1 = enabled.
rtmp_server_port : RTMP port; configurable range [1-65535].
rtmp_server_ip : RTMP server IP address.
rtmp_app_name : RTMP app name; default is live.
rtmp_node : RTMP node name; default is hdmi.
rtmp_user : RTMP authentication username.
rtmp_pwd : RTMP authentication password.
rtmp_mode : RTMP push mode; 0 = push video + audio, 1 = push video only, 2 = push audio only.
onvif_open : ONVIF enable status; 0 = enabled, 1 = disabled.
rtp_enable : RTP enable status; 0 = disabled, 1 = enabled.
rtp_server : RTP server IP address.
rtp_port : RTP port; configurable range [1-65535].
srt_enable : SRT enable status; 0 = disabled, 1 = enabled.
srt_mode : SRT mode; 0 = Listener mode, 1 = Caller mode.
srt_server_port : Listener mode listening port.
srt_connect_port : Caller mode server port.
srt_connect_server : Caller mode server IP address.
srt_latency : SRT latency value.
srt_encrypto : SRT encryption; 0 = disabled, 1 = enabled.
srt_passwd : SRT encryption password.
srt_stream_id : SRT stream ID.

Notes

(a) If the current device supports H.265, venc can be set to H265 or H264; if the device only supports H.264, the venc configuration is invalid.

- (b) Input selection depends on device interface support.
- (c) If venc is set to H265, input_method must be set to main profile.
- (d) If the current device only supports H.264, the h265_fps configuration is invalid.
- (e) accessshm and accessshm_enable are only used for RTMP authentication; the two parameters are invalid if the device does not support this function.
- (f) The resolution combination of des_width × des_height (e.g., 1920×1080, 1680×1056, 1280×720, etc.) is subject to the encoder's web interface.

Special Note : The actual configurable range of all parameters is subject to the corresponding device's web interface.

3. Network Device Parameter Settings

http://192.168.1.168/set_ctl?type=net&.....

Available parameters are as follows:

ip : Set the device's IP address
mask : Set the device's subnet mask
gateway : Set the device's gateway address
dns0 : Set the device's DNS0 address
dns1 : Set the device's DNS1 address
mac : Set the device's MAC address
dhcp : 1 = Enable DHCP, 0 = Disable DHCP

4. Extended Parameter Settings

http://192.168.1.168/set_ctl?type=audio&.....

Available parameters are as follows:

input : Audio input mode; 0 = Built-in audio, 1 = External line-in audio, 2 = Audio mixing (supported by some devices)
aac_bitrate : AAC audio encoding bitrate; optional values: 24000, 32000, 44100, 48000, 64000, 96000, 128000, 192000, 256000
aac_type : AAC type; set to LC-AAC or HE-AAC
rtsp_g711 : RTSP G711 enable status; 0 = Disabled, 1 = Enabled
hls_enable : HLS function enable status; 0 = Disabled, 1 = Enabled
hls_name : HLS stream name
hls_port : HLS port number
vo_res : HDMI output resolution setting; configurable range [0-6]
0 = 1920×1080P60, 1 = 1920×1080P50, 2 = 1920×1080P30
3 = 1280×720P60, 4 = 1280×720P50, 5 = 720×576P50, 6 = 720×480P60
audio_hdmiout : HDMI output audio source selection; configurable range [0-3]
0 = Disable HDMI audio output, 1 = Audio from HDMI video source
2 = Audio from line-in, 3 = Audio mixing
hdmi_volume : HDMI output volume setting; configurable range [0-100]
audio_lineout : 3.5mm headphone jack audio source selection; configurable range [0-3]
0 = Disable 3.5mm audio output, 1 = Audio from HDMI video source

2 = Audio from line-in, 3 = Audio mixing

line_volume : 3.5mm headphone jack output volume setting; configurable range [0-100]

recordVideoEnable : Video recording switch; 0 = Disabled, 1 = Enabled

sdrecord_mode : Video recording mode; 0 = Non-cyclic recording, 1 = Cyclic recording

file_time : Single recording file duration

1 = 15 minutes, 2 = 30 minutes, 4 = 60 minutes, 8 = 120 minutes, 800 = Unlimited

file_format : Recording stream type; 0 = Main stream, 1 = Auxiliary stream

sdcard_free : Remaining (available) space of the storage device (read-only parameter); Unit: MB

sdfree_percent : Remaining (available) space percentage of the storage device (read-only parameter)

Note :

(1) audio_type=1 and aac_type=LC-AAC, aac_bitrate value range is 48000, 64000, 96000, 128000, 192000, 256000.

(2) audio_type=1 and aac_type=HE-AAC, aac_bitrate value range is 24000, 32000, 44100, 48000

(3) audio_type=2 ,aac_bitrate value range is 32000, 44100, 48000, 64000, 96000, 128000, 192000, 256000.

5. OSD Parameter Settings

1st-channel encoding: http://192.168.1.168/set_ctl?type=osd0&.....

2nd-channel encoding: http://192.168.1.168/set_ctl?type=osd1&.....

3rd-channel encoding: http://192.168.1.168/set_ctl?type=osd2&.....

4th-channel encoding: http://192.168.1.168/set_ctl?type=osd3&.....

.....

Available parameters are described as follows:

logo_enable : Logo display status; 0 = Disabled, 1 = Enabled

logo_x : Starting X coordinate of the logo [0-1920]

logo_y : Starting Y coordinate of the logo [0-1080]

txt_enable : Text OSD display status; 0 = Disabled, 1 = Enabled

txt_x : Starting X coordinate of the text [0-1920]

txt_y : Starting Y coordinate of the main stream text [0-1080]

txt_str : Text content displayed for the main stream

txt_size : Font size of the main stream; configurable range [8-72]

txt_alpha : Font transparency; configurable range [0-7]

txt_color : Font color; configurable range [0-0xFFFFFFFF]

Example: Red: 0xFF0000, Green: 0x00FF00, Blue: 0x0000FF

Note: Chinese characters are supported with UTF-8 encoding. The actual configurable range of parameters is subject to the corresponding device's web interface.

6. Image Information Settings

http://192.168.1.168/set_ctl?type=graphic&...

Available parameters are described as follows:

LumaVal : Brightness; configurable range [0-100]
 ContrVal : Contrast; configurable range [0-100]
 HueVal : Hue; configurable range [0-100]
 SatuVal : Saturation; configurable range [0-100]

7. Language Selection

http://192.168.1.168/set_ctl?type=language&lang=x

x=1 : Set to English
 x=0 : Set to Chinese

8. Device Reboot

http://192.168.1.168/set_ctl?type=reboot

9. Device Reset (Delete Configuration Files)

http://192.168.1.168/set_ctl?type=reset

10. For example, calling an interface in VC:

10.1. Check the status

```
ShellExecute(NULL,NULL,L"http://192.168.0.70/get_ctl?type=hdmi_main",NULL,NULL,SW_SHOW
NORMAL);
```

10.2. Set encoding is cbr, encoding bitrate is 1000

```
ShellExecute(NULL,NULL,L"http://192.168.0.70/set_ctl?type=hdmi_main&used=cbr&cbr_BitRate=
1000",NULL,NULL,SW_SHOWNORMAL);
```

There are various XML parsers available online; you may choose one suitable for your needs and write a program to view the status.

In this example, we use the RapidXML parser for Windows-based programming.

```
void xml_traverse_node(xml_node<>* node)
{
    xml_node<>* sub_node = node->first_node();
    while(sub_node)
    {
        if(sub_node->name_size() <= 0 && sub_node->value_size() > 0)
            //Create an array to receive the node values          this-
        >xml_traverse_node(sub_node);
        sub_node = sub_node->next_sibling();
    }
}
int getxmldata()
{
    char Temp[1024];
    char Xml[20000];
    ULONG xmlSize = 0;
    string strXml = "";
```

```
HINTERNET hSession = InternetOpen(_T("UrlTest"), INTERNET_OPEN_TYPE_PRECONFIG,
NULL, NULL, 0);
if(hSession != NULL)
{
    HINTERNET hHttp = InternetOpenUrl(hSession, L"http://192.168.0.70/get_ctl", NULL, 0,
INTERNET_FLAG_DONT_CACHE, 0);
    if (hHttp != NULL)
    {
        ULONG Number = 1;
        while (Number > 0)
        {
            InternetReadFile(hHttp, Temp, 1024 - 1, &Number);
            for(ULONG i=xmlSize,j=0; i < xmlSize+Number; i++,j++)
                Xml[i] = Temp[j];
            xmlSize += Number;
        }
        Xml[xmlSize] = '\\0';
        InternetCloseHandle(hHttp);
        hHttp = NULL;
    }
    InternetCloseHandle(hSession);
    hSession = NULL;
}
strXml = Xml;
xml_document<> doc;
try
{
    doc.parse<0>(const_cast<char*>(strXml.c_str()));
}
catch(parse_error &e)
{
    AfxMessageBox(L"Error opening file!!!");
    return FALSE;
}
xml_node<>* root = doc.first_node();
xml_traverse_node(root);
return 0;
}
```