ANT-1772 to encode a stream over IP and an ANT-1772 to decode that TS over IP stream

Contents

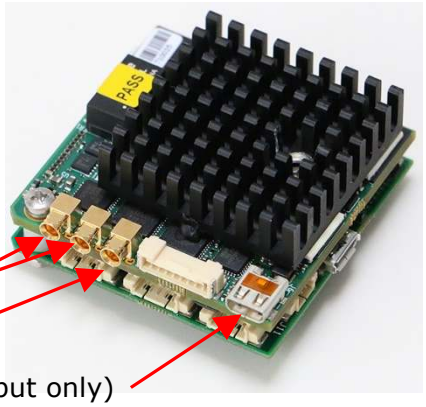
1. TS as IP protocol, HD-SDI (1080p30) to HDMI (1920 x 1080 p30)

Confirmed with Firmware 2.3.6.4, 2.3.8.5 & 2.3.8.6

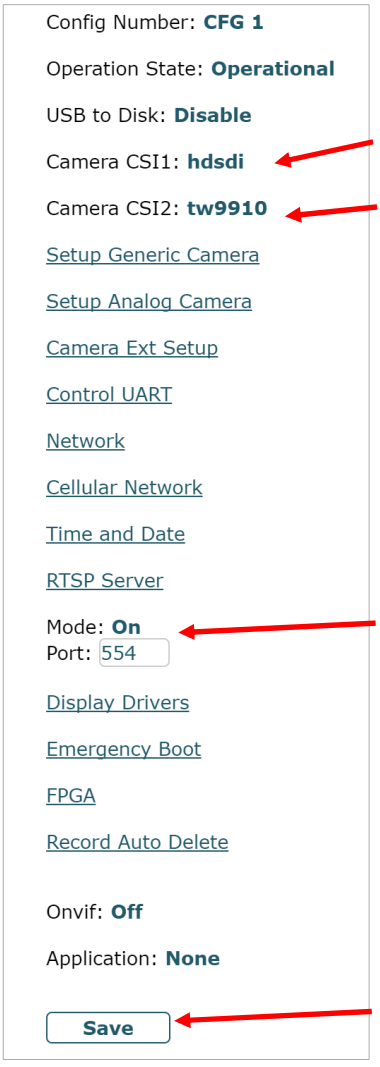
1.1. ANT-1772 as Encoder

1.1.1. Camera selection

Ensure suitable feed to connected to the ANT-1772



On the web GUI



For CSI1 selected hdsdi

If CVBS source is used, CSI2 select tw9910 or tvp5158

Select "On" for RTSP, not actually required for this set as we are using "TS" protocol

Save when finished

Select  and this shows the camera details,

note the Camera "Name" in this case SD2 and HD1

Camera

Name	Status	Resolution	Interlaced	FPS
SD1	Not Exist	Unknown	Unknown	0
SD2	Lock	PAL	Interlaced	25
SD3	Not Exist	Unknown	Unknown	0
SD4	Not Exist	Unknown	Unknown	0
HD1	Lock	1920x1080	Noninterlaced	30
HD2	Not Exist	Unknown	Unknown	0
SD5	Not Exist	Unknown	Unknown	0
SD6	Not Exist	Unknown	Unknown	0
SD7	Not Exist	Unknown	Unknown	0
SD8	Not Exist	Unknown	Unknown	0

Composite camera – SD2

HD-SDI camera – HD1

1.1.2. Streaming control

Home -> Streaming -> Mux 1 settings

Mux: **Mux1**

Auto Operation:
Stream Record Display

Video: **HD1**

Audio: **None**

Data: **None**

Display: **None**

Interface: **Network**

Protocol: **TS**

IP Address:
192 . 168 . 0 . 30

Network Port: 1235
UART Port: ttymxc0

Save

Select for "auto start" of streaming at power up

"Camera" source

Transmission protocol set to **TS** – efficiently unicast

IP address of **receiving** device

Port, to be the same on the receiving device

Apply changes

1.1.3. Manually start streaming

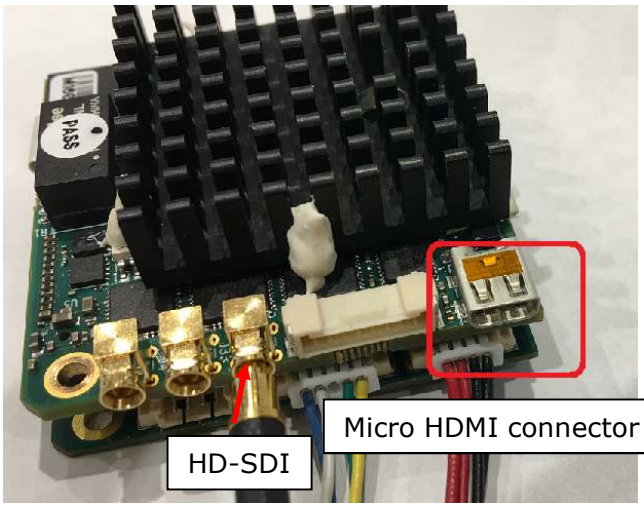
Back one level -> Click the green “play” button

In the above case Mux1 is used to stream to the decoder and mux2 is used to stream to VLC. The VLC URL is udp://192.168.0.31@:1236

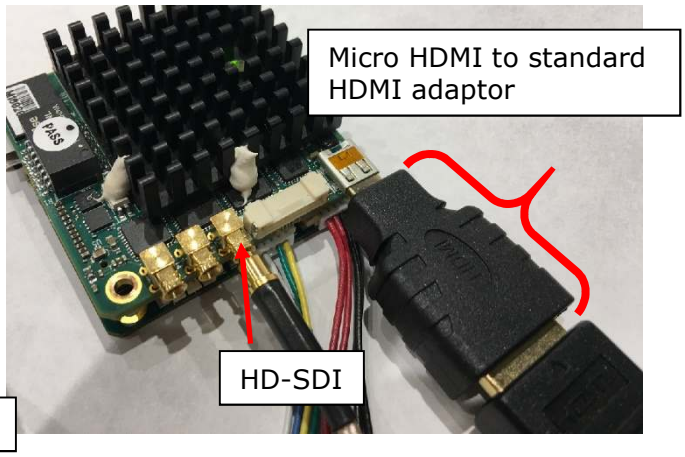
Once clicked the play button changes to the “red square” / stop button

1.2. ANT-1772 as Decoder

The HD-SDI & HDMI connector, which is a micro HDMI, are located as shown



A Micro HDMI to standard HDMI adaptor can be used to get the image to a suitable monitor



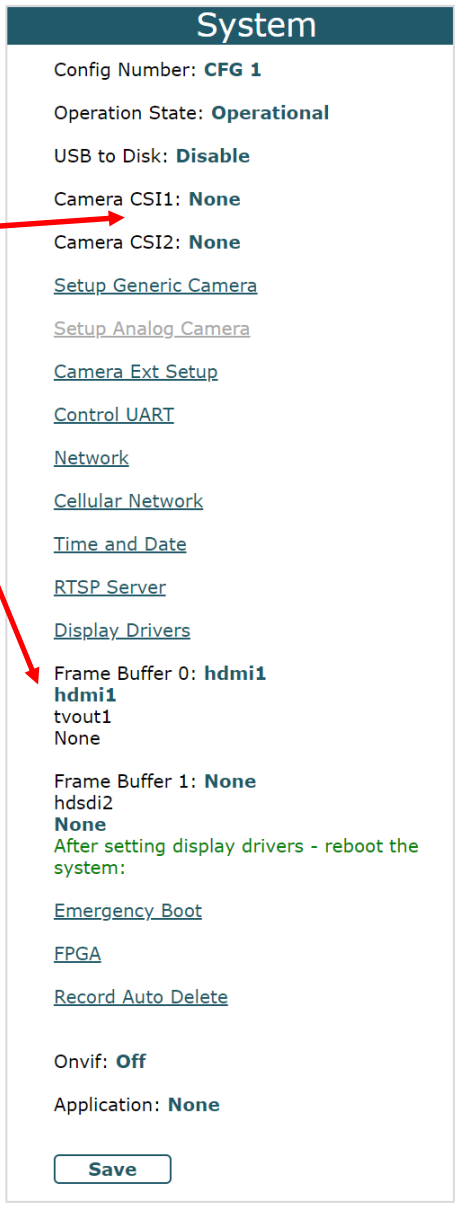
1.2.1. Frame buffer – HDMI setup

Home - > Settings -> system - > Display Drivers

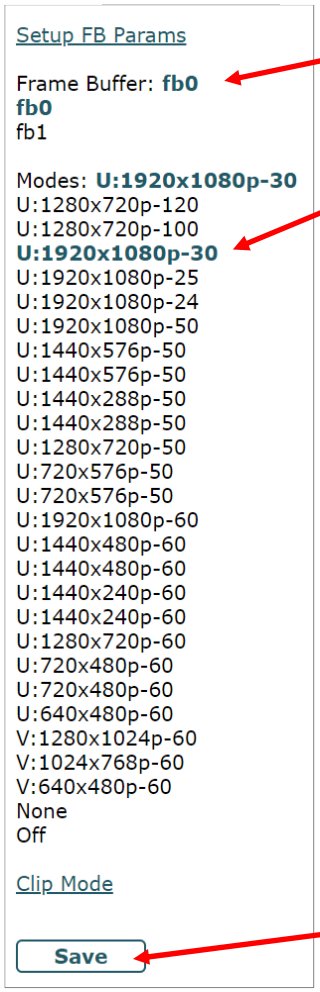
NOTE: Camera CSI1 and CSI2 are to be set to None

Expand the Display Drivers and select "Frame Buffer 0" to be "hdmi1", scroll down and click save.

A power cycle or reboot is required. A reboot can be done from the GUI: Home -> Control -> Reboot



Home -> Setting -> Display -> Setup FB Params



from "Frame Buffer" select **fb0**

from "modes", from the drop down option select something suitable for the monitor device to be connected

Apply changes

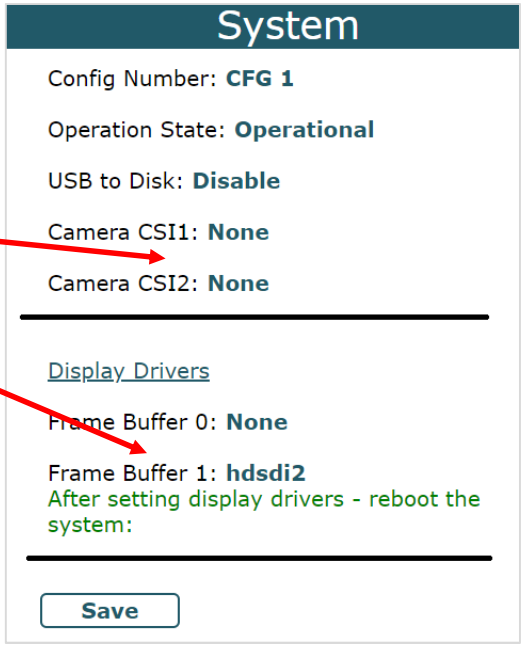
1.2.1. Frame buffer – HD-SDI setup

Home - > Settings -> system - > Display Drivers

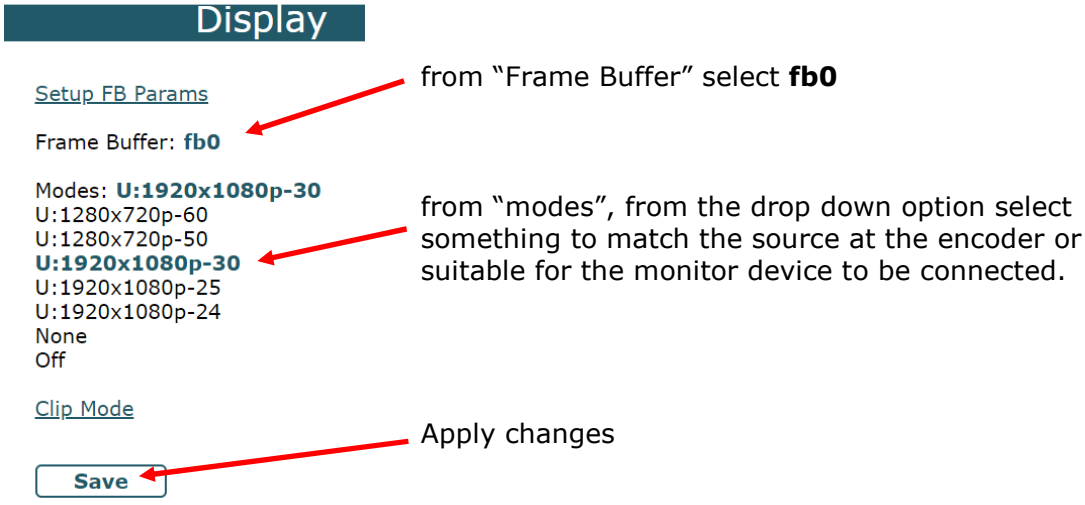
NOTE: Camera CSI1 and CSI2 are to be set to None

Expand the Display Drivers and select "Frame Buffer 1" to be "hdsdi2", scroll down and click save.

A power cycle or reboot is required. A reboot can be done from the GUI: Home -> Control -> Reboot



Home -> Setting -> Display -> Setup FB Params

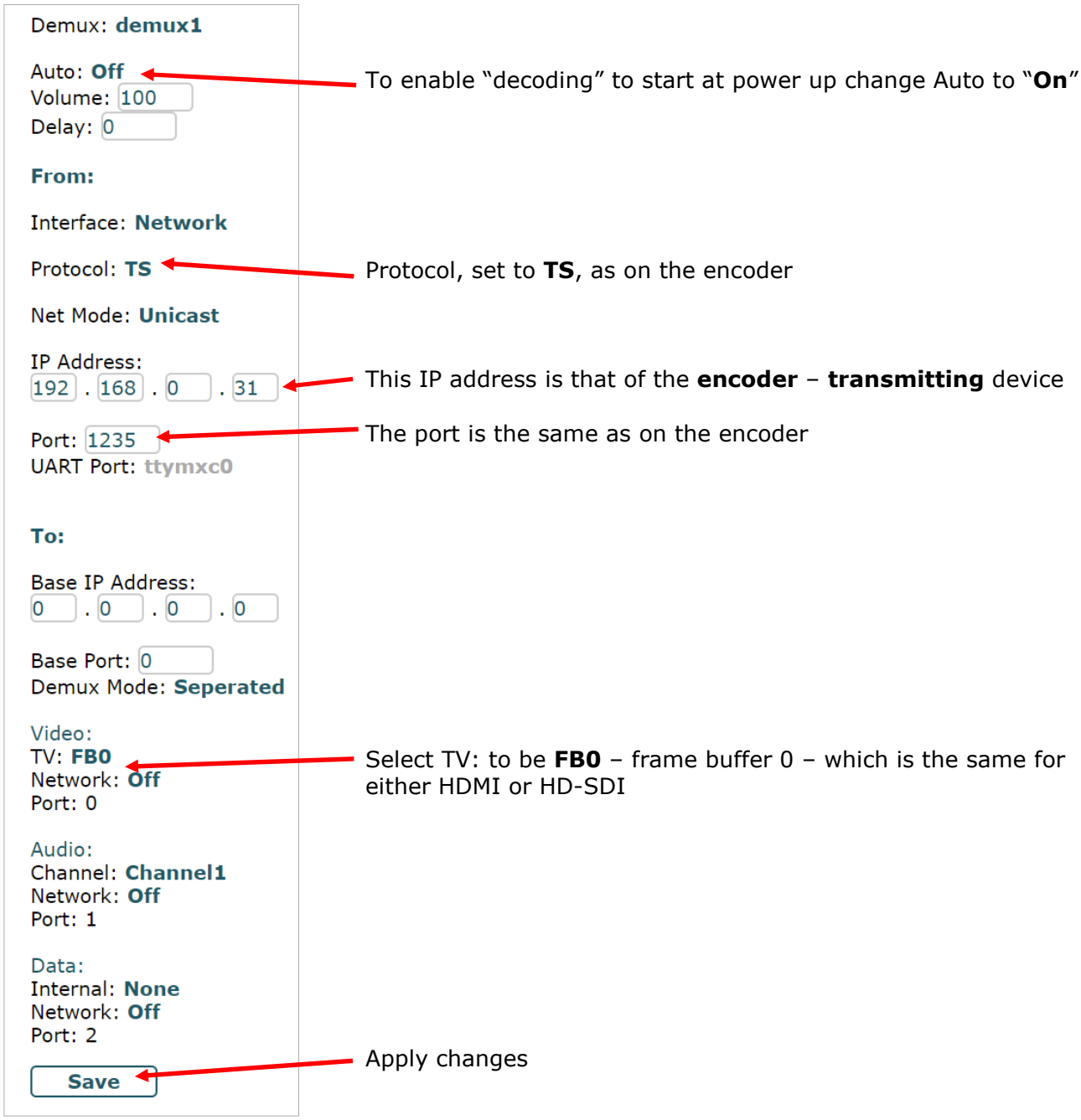


1.2.2. "receiver" setup

For both HDMI and HD-SDI output this setup is the same

Home - > Network Stream -> demux1 settings

Near the bottom is the video: In the TV: selected FB0, then scroll down and click save.

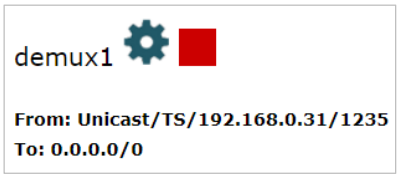


1.2.1. Manually start receiving

Back one level -> Click the green “play” button

This cause the HDMI output to show the signal stream being feed into the Encoder

Once clicked the play button changes to the “red square” / stop button



ANT-1772 to encode 2 sources over IP and an ANT-1772 to decode both streams

Confirmed with Firmware 2.3.8.6

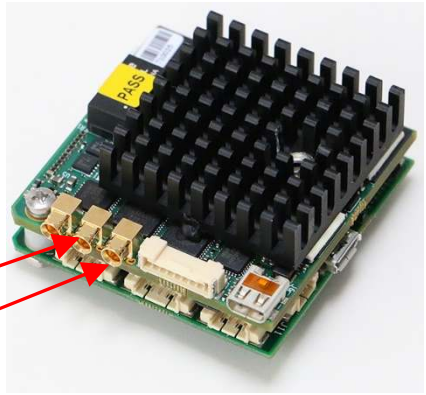
2. HD-SDI (1080p25) to HDMI (1080p60) & CVBS to CVBS

In this example the IP address encoder is 192.168.0.32 and the decoder is 192.168.0.33

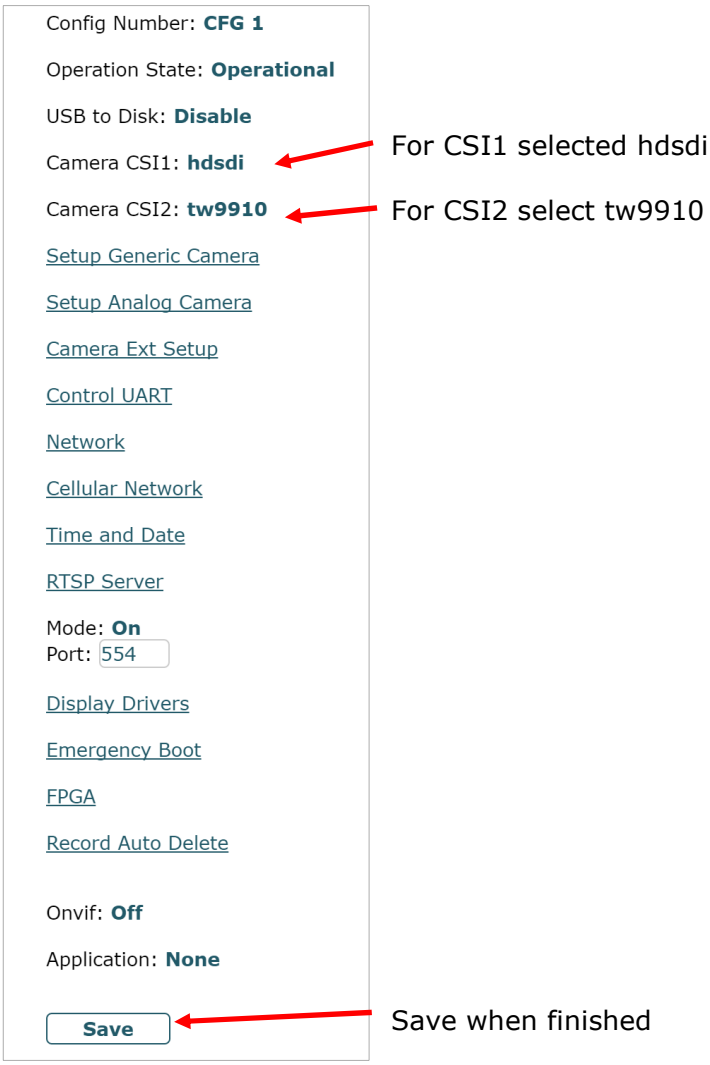
2.1. ANT-1772 as Encoder

2.1.1. Camera selection

Ensure suitable feed to connected to the ANT-1772



On the web GUI



Select  and this shows the camera details,

note the Camera "Name" in this case CSI-1 CH-0 and CSI-2 CH-0

Camera

Name	Status	resolution	Interlaced	FPS
CSI-1 CH-0	Lock	1920x1080	Noninterlaced	25
CSI-2 CH-0	Lock	PAL	Interlaced	25

HD-SDI camera – HD1

Composite camera – SD2

2.1.2. Streaming control

Home -> Streaming -> Mux 1 settings

Mux: **Mux1**

Auto Operation:

☑ Stream ☐ Record ☐ Display

Select for "auto start" of streaming at power up

Video: **CSI-1 CH-0**

"Camera" source.

In this example Mux1 is **CSI-1 CH-0**
And Mux 2 is **CSI-2 CH-0**

Audio: **None**

Data: **None**

Display: **None**

Interface: **Network**

Protocol: **TS**

Transmission protocol set to **TS** – efficiently unicast

IP Address:
192 . 168 . 0 . 33

IP address of **receiving** device

Network Port: 1235
UART Port: ttymxc0

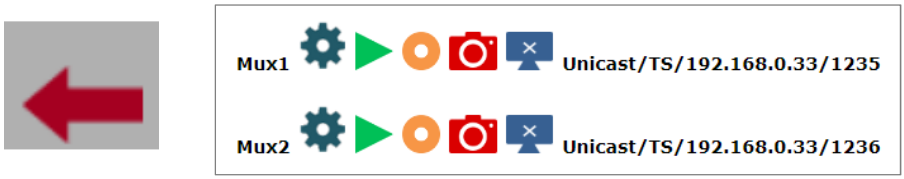
Port, to be the same on the receiving device
In this example Mux1 is 1235
And Mux 2 is 1236

Save

Apply changes

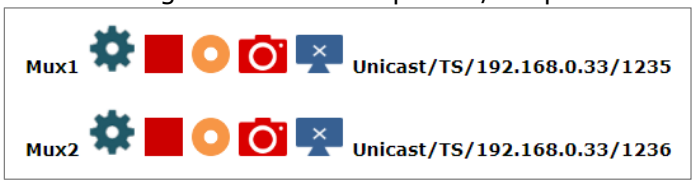
2.1.1. Manually start streaming

Back one level -> Click the green "play" button



In the above case Mux1 and Mux2 are used to stream to the decoder.

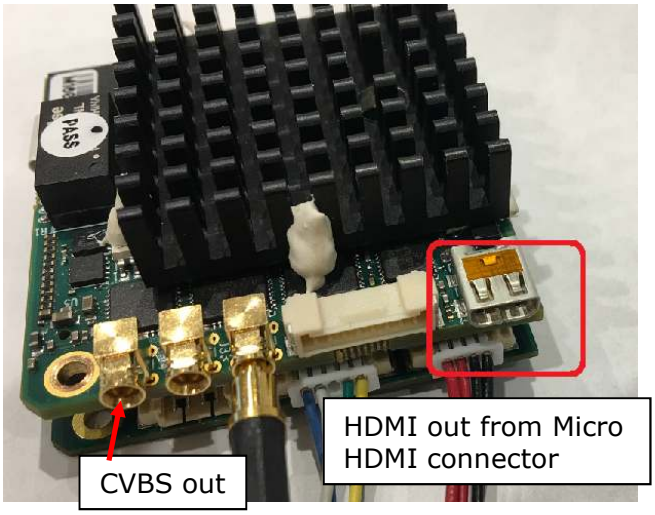
Once clicked the play button changes to the "red square" / stop button



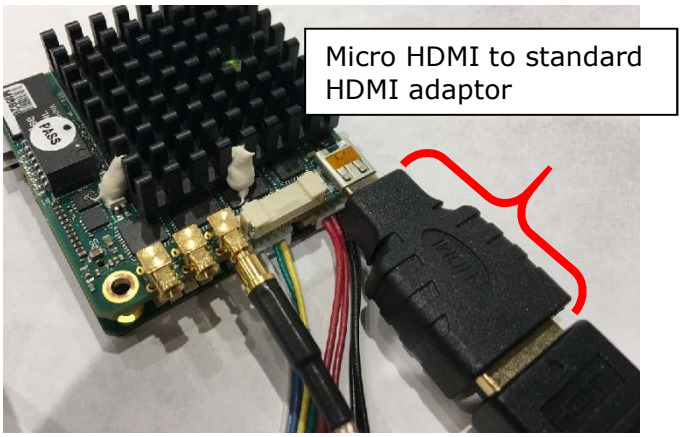
Because the "auto operation" Stream has been set at power up the Encoder will start stream automatically. This manually start is require for the first time after setup.

2.1. ANT-1772 as Decoder

The CVBS & HDMI connector, which is a micro HDMI, are located as shown

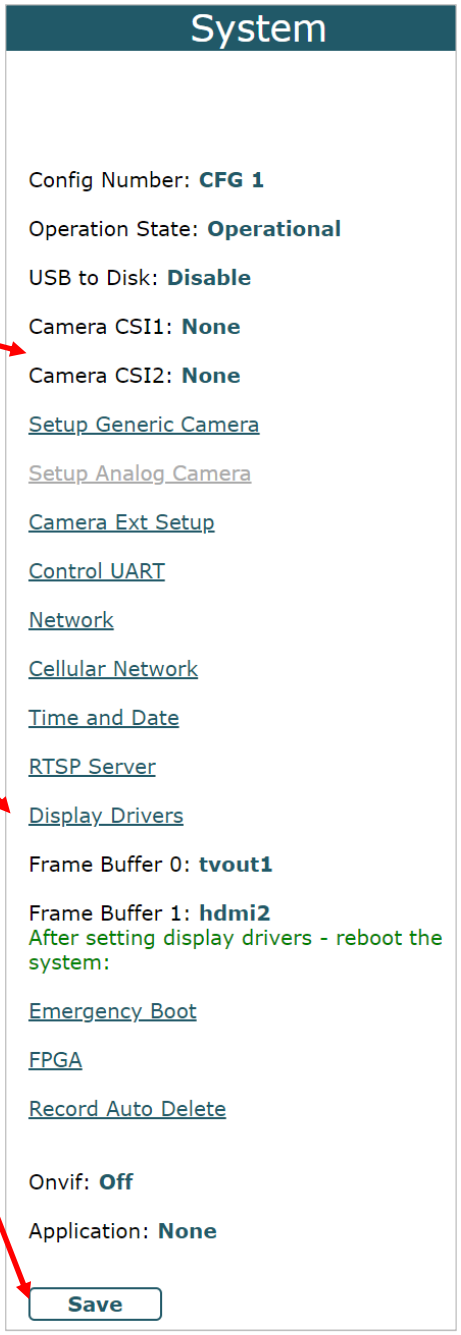


A Micro HDMI to standard HDMI adaptor can be used to get the image to a suitable monitor



2.1.1. Frame buffer setup

Home - > Settings -> system - > Display Drivers



NOTE: Camera CSI1 and CSI2 are to be set to None

Expand the Display Drivers and select "Frame Buffer 0" to be **tvout1** and "Frame Buffer 1" to be **hdmi2**,

then scroll down and click save.

A power cycle or reboot is required. A reboot can be done from the GUI: Home -> Control -> Reboot

Home -> Setting -> Display -> Setup FB Params

From the drop-down menus:
For **fb0** select from modes **D:720x576i-50**
For **fb1** select from modes **U:1920x1080p-60** other resolution can be selected, however ensure your monitor is capable of showing them

then click save

2.1.1. "receiver" setup

For both HDMI and HD-SDI output this setup is the same

Home - > Network Stream -> demux1 settings

Demux: **demux1**

Auto: **On**
Volume: 100
Delay: 0

From:

Interface: **Network**

Protocol: **TS**

Net Mode: **Unicast**

IP Address:
192 . 168 . 0 . 32

Port: 1235
UART Port: ttymxc0

To:

Base IP Address:
0 . 0 . 0 . 0

Base Port: 0
Demux Mode: **Seperated**

Video:
TV: **FB1**
Network: **Off**
Port: 0

Audio:
Channel: **Channel1**
Network: **Off**
Port: 1

Data:
Internal: **None**
Network: **Off**
Port: 2

Save

demux1 is for the HDMI stream and **demux2** is the CVBS stream

To enable "decoding" to start at power up change Auto to "**On**"

Protocol, set to **TS**, as on the encoder

This IP address is that of the **encoder** – **transmitting** device

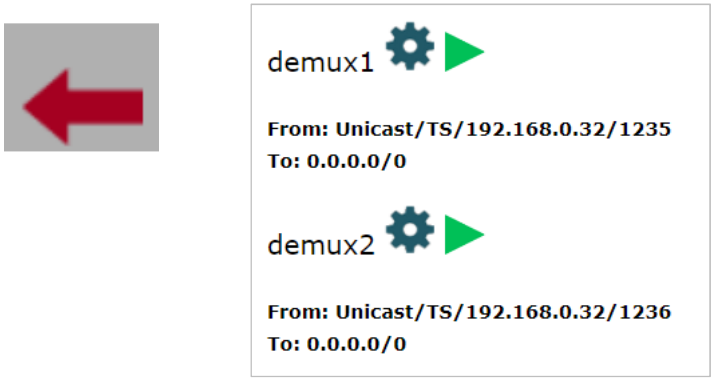
The port is the same as on the encoder
demux1 it's 1235
demux2 it's 1236

From TV:
From **demux1** select **FB1**
From **demux2** select **FB0**

Apply changes

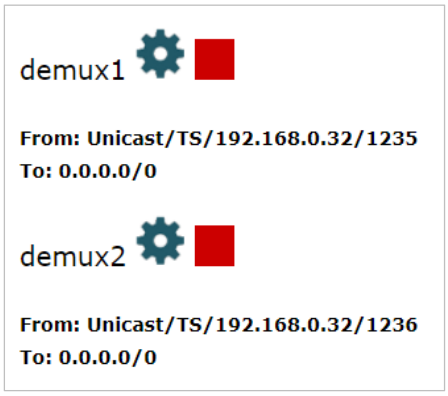
2.1.1. Manually start receiving

Back one level -> Click the green "play" button



This cause the outputs to show the signal stream being feed into the Encoder

Once clicked the play button changes to the "red square" / stop button



Because the "auto" On has been set at power up the Encoder will start stream automatically. This manually start is require for the first time after setup.

Document information

Version	date	Author	Comments
1.0	27-Feb-18	David M	first draft
1.1	28-Feb-18	David M	RTSP not required
1.2	24-Apr-18	David M	Reordered some steps
1.3	24-Apr-18	David M	Added HD-SDI decode output setup
1.4	27-Nov-18	David M	added tested in 2.3.6.4 comment
1.5	27-Nov-18	David M	Tested with 2.3.8.5
2.0	29-Nov-18	David M	Addition of dual decode 2.3.8.5
2.1	17-Dec-18	David M	Highlight on decoder HD stream will be displayed as SD
2.2	8-Feb-19	David M	Dual decode HD->HD & SD->SD 2.3.8.6