

# ANT-1774 – Quick start guide

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When using the ANT-1774 please ensure all anti-static precautions are taken.

Do not connect the Ethernet connection from the ANT-1774 to a POE port on an Ethernet switch as this may damage the ANT-1774.

Please note the power supply is **5V centre positive**, there is **no** operating range like 4 ~ 9 volts.

The ANT-1774 does not have a web interface and so requires a Windows operating system to run as application to connect to and configure the ANT-1774. It has only been tested with windows 10 (home and professional) on a 64-bit machine.

Some antivirus software see's the Application and the ANT-1774 as a virus and does not allow them to function as expected, so exceptions may need to be added to the installed antivirus software.

For further help and advice please contact Antrica on:  
Email: [support@antrica.com](mailto:support@antrica.com)  
Phone: +44 1628 626098 ext 3

## Document info

Version	date	author	Comments
1.0	30-Oct-20	David M	draft release: ANT-1774 code 1.3.21 and PC Application 1.0.4.31

# 1. Versions

Table 1 : code versions

Product	version	comments
ANT-1774 firmware	1.3.2	upgrade by Micro SD card only
PC application	1.0.4.31	To configure the ANT-1774
Neptune player	3.1.4	Low latency software decoder
VLC	3.0.11	Free to download software decoder / media player

The ANT-1774 code is located

<https://www.dropbox.com/s/ph6qqbbfb6563s8/Burn%20Files%20ver%201.3.21.zip?dl=0>

The "PC application" is located

<https://www.dropbox.com/s/1cidn96jh09465i/PC%20Application%20ver%201.0.4.31.zip?dl=0>

Neptune Player is located

[https://www.dropbox.com/s/k3mrn9upyfgly2j/neptune\\_install\\_3.1.8.zip?dl=0](https://www.dropbox.com/s/k3mrn9upyfgly2j/neptune_install_3.1.8.zip?dl=0) and will install as

# 2. Setup

This guides setup is for a HDMI and analogue input option cards (example) .

In Figure 1 and Figure 2 shows the setup and connections for the ANT-1774. Please note the power supply is 5V centre positive.

**Do not connect the Ethernet connection from the ANT-1774 to a POE port on an Ethernet switch as this will damage the board.**

Figure 1 : SD card side of ANT-1774

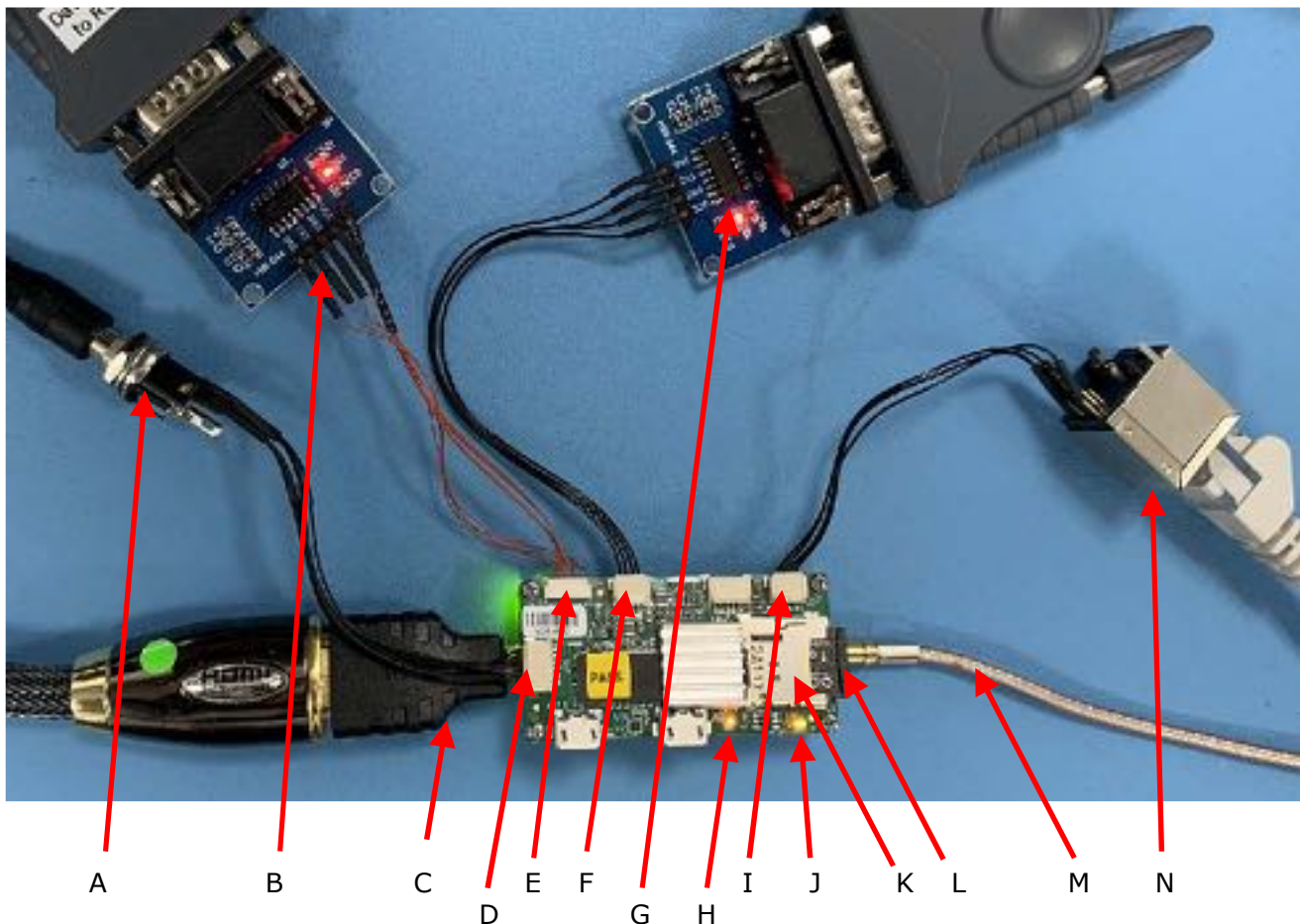
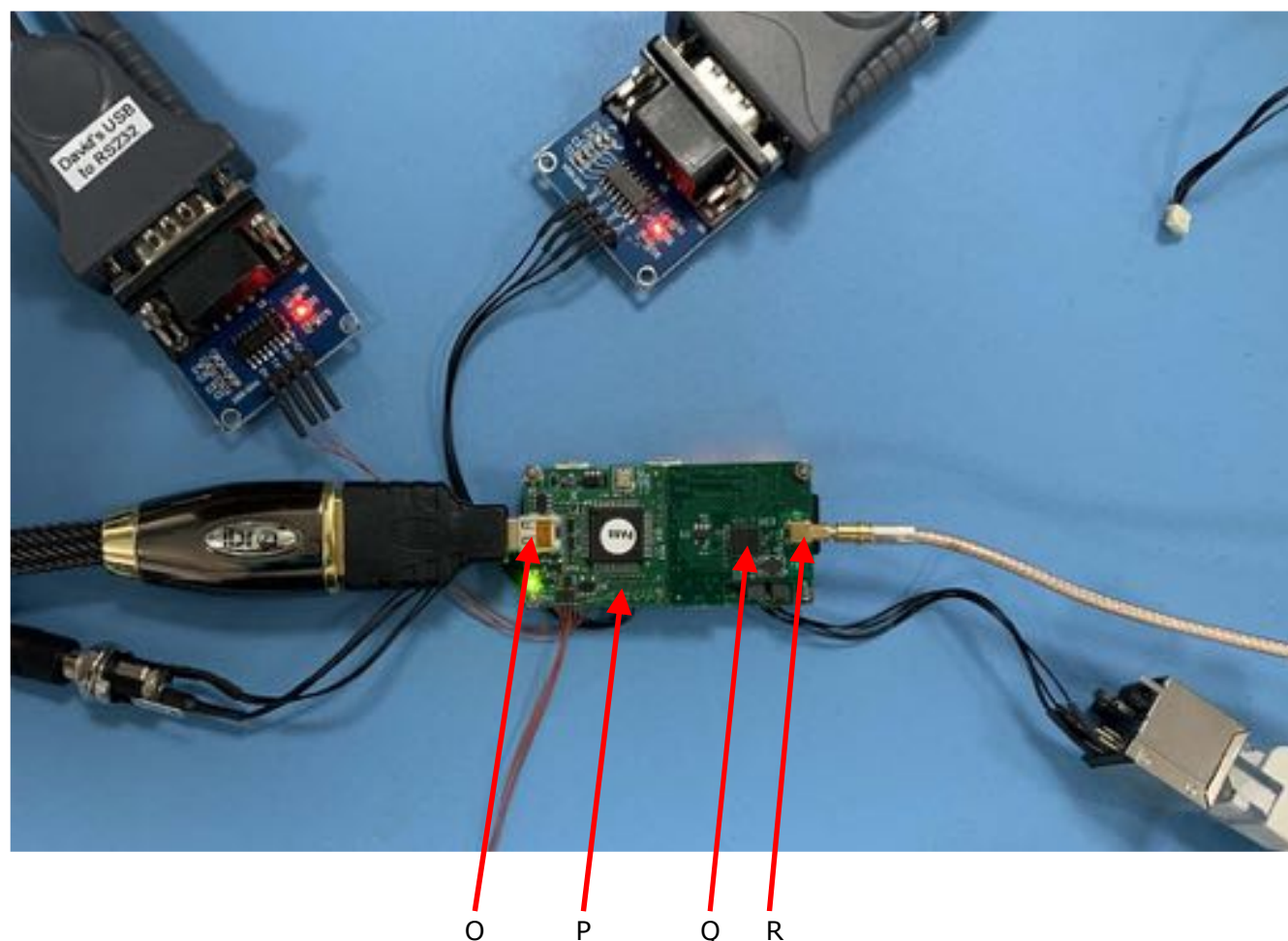


Figure 2 : Option card side of ANT-1774



The parts indicated in Figure 1 and Figure 2 are briefly Described in Table 2.

Table 2 : Part descriptions

Ident	Description
A	5V power supply, centre positive. This is 5V <b>only</b>
B	Debug board – not supplied
C	HDMI to Micro HDMI adaptor – not supplied, enables a standard HDMI cable to be used
D	Board Power connector
E	Board Debug connector
F	Serial / setup connector
G	Serial / setup board
H	Orange LED - ANT-1774 is booted
I	Board Ethernet connector
J	Orange and Green LED's – Ethernet network activity indicators
K	Micro SD card holder – for firmware upgrades
L	Micro SD card
M	Co-ax cable for analogue camera input – available if analogue option board is used
N	Ethernet connector – connected to standard Ethernet cable
O	Micro HDMI connector on HDMI option board
P	HDMI option board – Channel "12" location
Q	Analogue option board – Channel "11" location
R	Analogue input connector on analogue option board

**WARNING: ANT-1774 USB ports are powered and if connected to a PC or other powered USB port this will irreparably damage the ANT-1774**  
**Future Firmware will support memory connection to these USB ports**

### 3. Firmware upgrade

The example below is using the "Burn Files ver 1.3.21\_Nano\_UDP" files which will enable the PC application to connect via Ethernet to configure the ANT-1774.

If the "Burn Files ver 1.3.21\_Nano\_RS232" are used then the ANT-1774 will be expecting a connection via the RS-232 module, see G in Table 2. This may be acceptable on the bench but maybe not so convenient when the ANT-1774 is located in a finished product.

1. A FAT32 formatted micro SD card is required.
2. Copy the "Burn Files ver 1.3.21.zip" file onto a Micro SD card, see section "1 Versions" for location.
3. Extract to ROOT of SD card
4. You should have 2 folders in the root directory of the SD card, these are "Burn Files ver 1.3.21\_Nano\_RS232" and "Burn Files ver 1.3.21\_Nano\_UDP". If not move the folders around until you do.
5. Delete "Burn Files ver 1.3.21.zip" file
6. **Copy**, not move, the contents of "Burn Files ver 1.3.21\_Nano\_UDP" into the root directory. The original files maybe required later.
7. Place the micro SD card in the Micro SD card holder, ID K. from Table 2
8. Power cycle the ANT-1774, or power on if already off, and wait 4 ~ 5 minutes until LED H (from Table 2) is on. This indicates the firmware was had been updated and the ANT-1774 is booted and ready to use.
9. If you look at the files in the root directory on the micro SD card 2 of them have been renamed, as shown in Table 3. This will prevent the micro SD card from upgrading the ANT-1774 again at the next power cycle. To upgrade again either manually rename the files or delete the files (not the folders) in the root directory and then copy the files from the "Burn Files ver 1.3.21\_Nano\_UDP" folder.

*Table 3 : renamed files after upgrade*

Original filename	after upgrade
config	config_change
u-boot.bin	u-boot_change.bin

### 4. Accessing the ANT-1774

1. Download the "PC Application ver 1.0.4.31.zip", see section "1 Versions" for location.
2. Extract to a convenient location on PC
3. Within the folder are 4 files:  
brdf.ini  
conf.ini  
Mercury.exe  
udpf.ini
4. Run the Mercury.exe and override any Windows security issues.
5. The Application will start and look like that shown in Figure 3.
6. From the top menu select "Interface" -> "UDP" and a popup window will appear, as shown in Figure 4. The IP address of the PC need top set into "My IP" field, then click "Save". The other parameter details are listed in Table 4.
7. To establish contact with the ANT-1774 check the UDP box, and click "Connect", as shown in Figure 3.
8. As shown in Figure 5 the words "Connected" and "Ready" are shown.
9. Click "Read Config." as shown in Figure 6, and current configuration will be shown.

Table 4 : Ethernet connection setup

Parameter	Function	Comments
My IP	IP address of PC running Application	Must be on a 192.168.0.xxx subnet and not on 192.168.0.245
Mercury IP	IP address of ANT-1774	The default IP address of the ANT-1774 is 192.168.0.245
Source port	Port for packets from PC	This is configurable
Destination port	Port for packets from ANT-1774	It should not be changed, as it may not be possible to connect the ANT-1774 if it is changed

Figure 3 : PC application

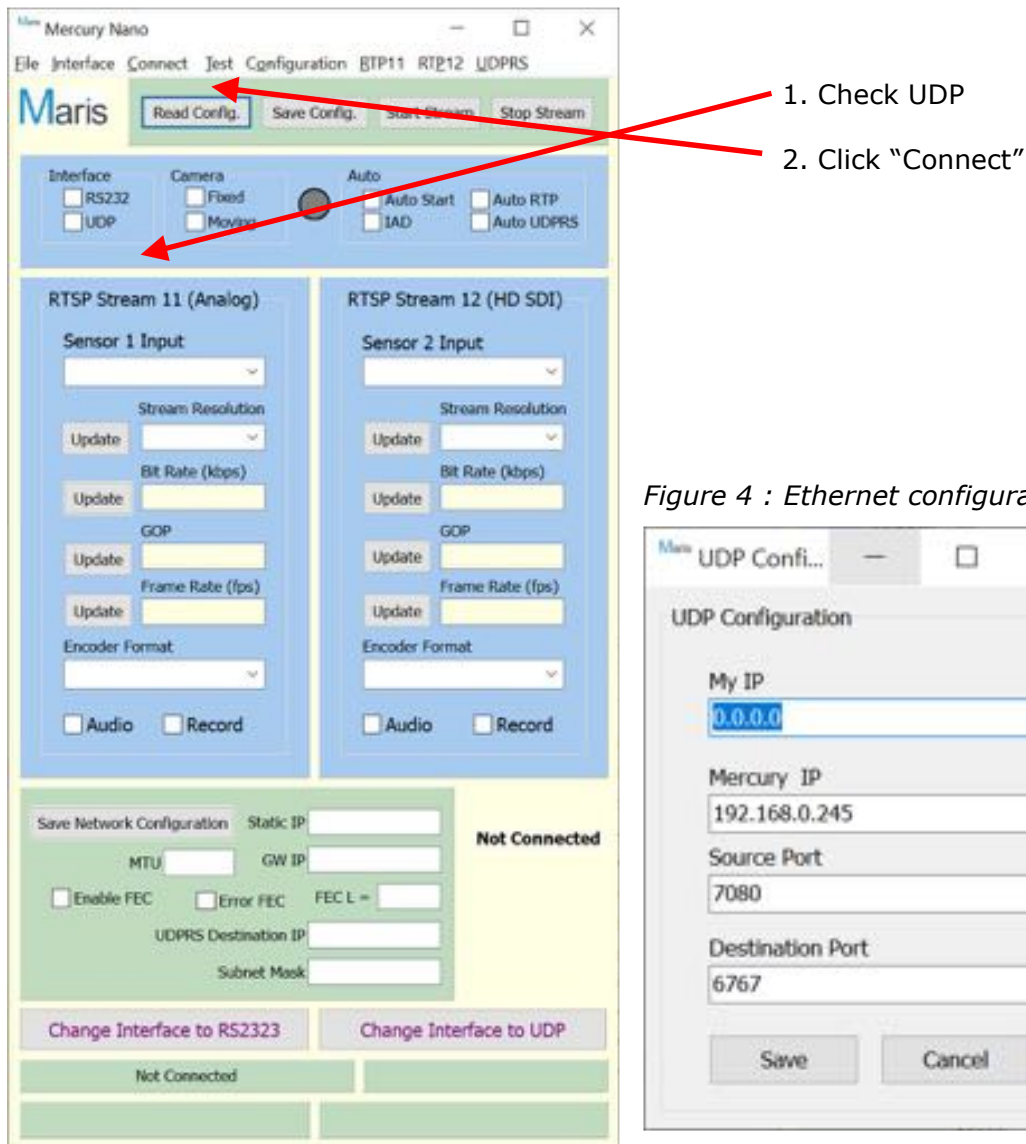


Figure 4 : Ethernet configuration window



Figure 5 : Connection established

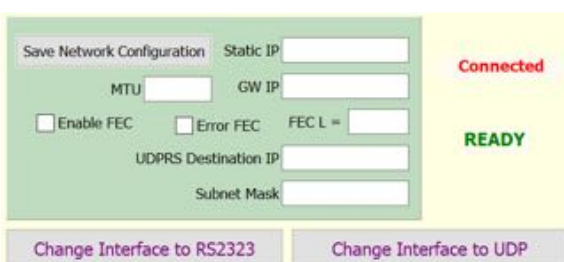
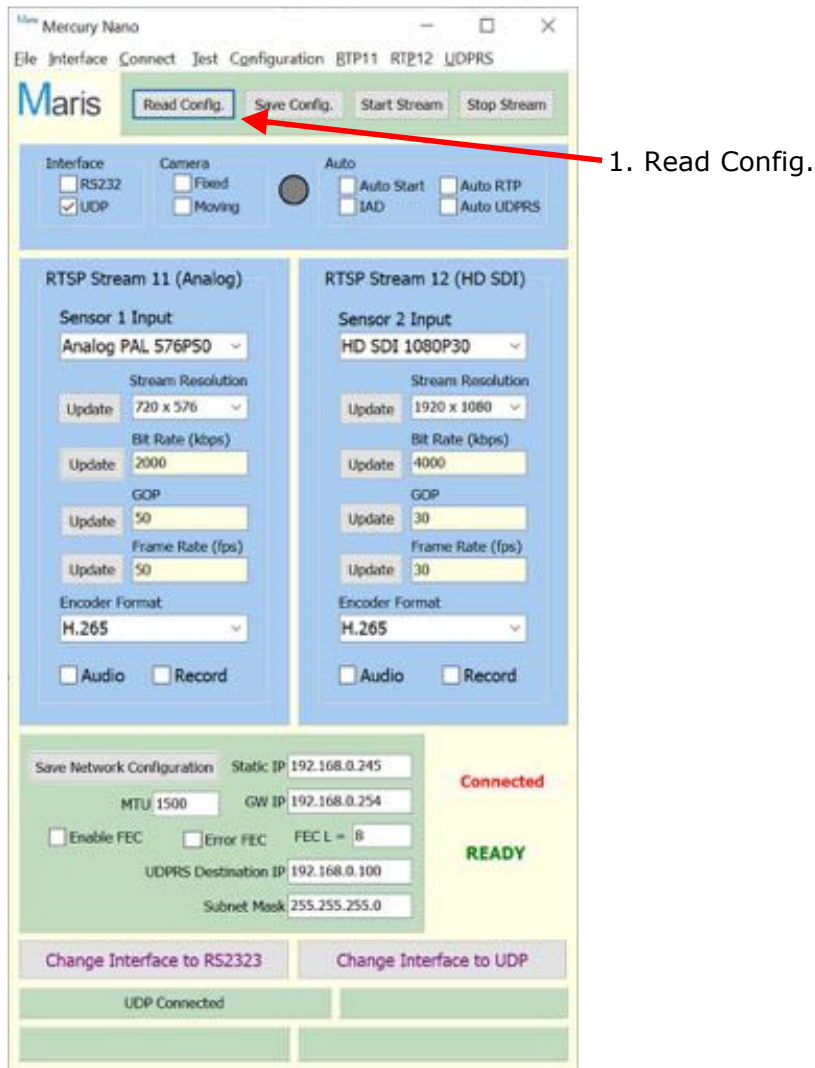


Figure 6 : current configuration shown



## 5. To find versions

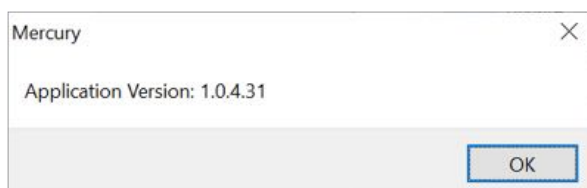
To get the ANT-1774 version, from the PC application top menu "File" -> "Get Firmware Version", see Figure 7 for example of popup window.

Figure 7 : ANT-1774 code version



To get the Application version, from the PC application top menu "File" -> "About", see Figure 8 for example of popup window.

Figure 8 : PC application version



## 6. Setting up ANT-1774

1. To set up the correct option boards, from the top menu "Configuration" -> "Board" and a pop-up windows appears, as shown in Figure 9.
2. Select the options to match the correctly fitted board, then click "Save". In this example "Chl 11" is analogue and "Chl 12" is HDMI.

Figure 9 : Board setup option



3. The Application now looks like that shown in Figure 10.
4. Now configure the channels:

Set the input formats from the "Sensor 1 Input" or "Sensor 2 Input" drop down menus. NOTE the analogue input is automatically de-interlaced and converted in to progressive format. The HD-SDI and HDMI inputs do not support interlaced. Only the listed formats from the drop-down options are supported.

Between all actions ensure the "Ready" (see the lower part of Figure 10) is present, if not wait until it is present.

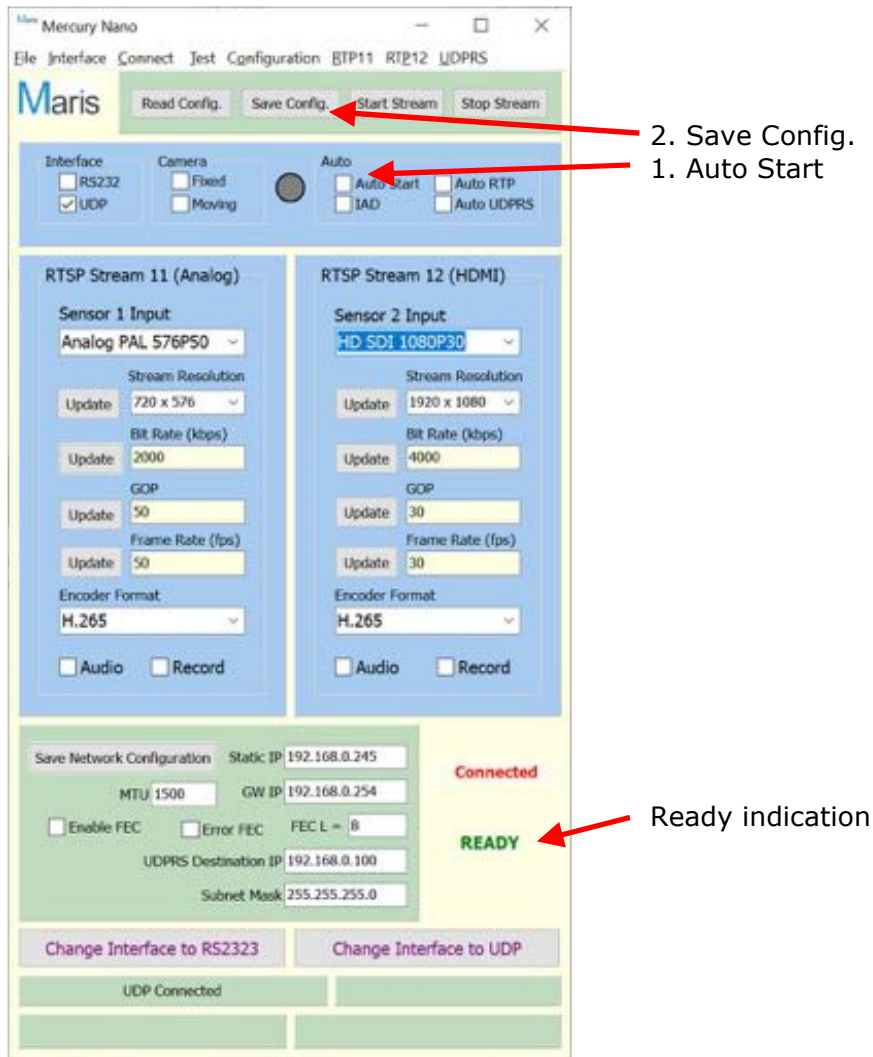
Set the video parameters:  
 Stream Resolution  
 Bitrate  
 GOP  
 Frame Rate  
 Encoding Format

The "Update" boxes are for live update of a video stream.

Selected "Auto Start" to auto start the RTSP streamer at power up.

Once the settings are correct, click "Save Config."

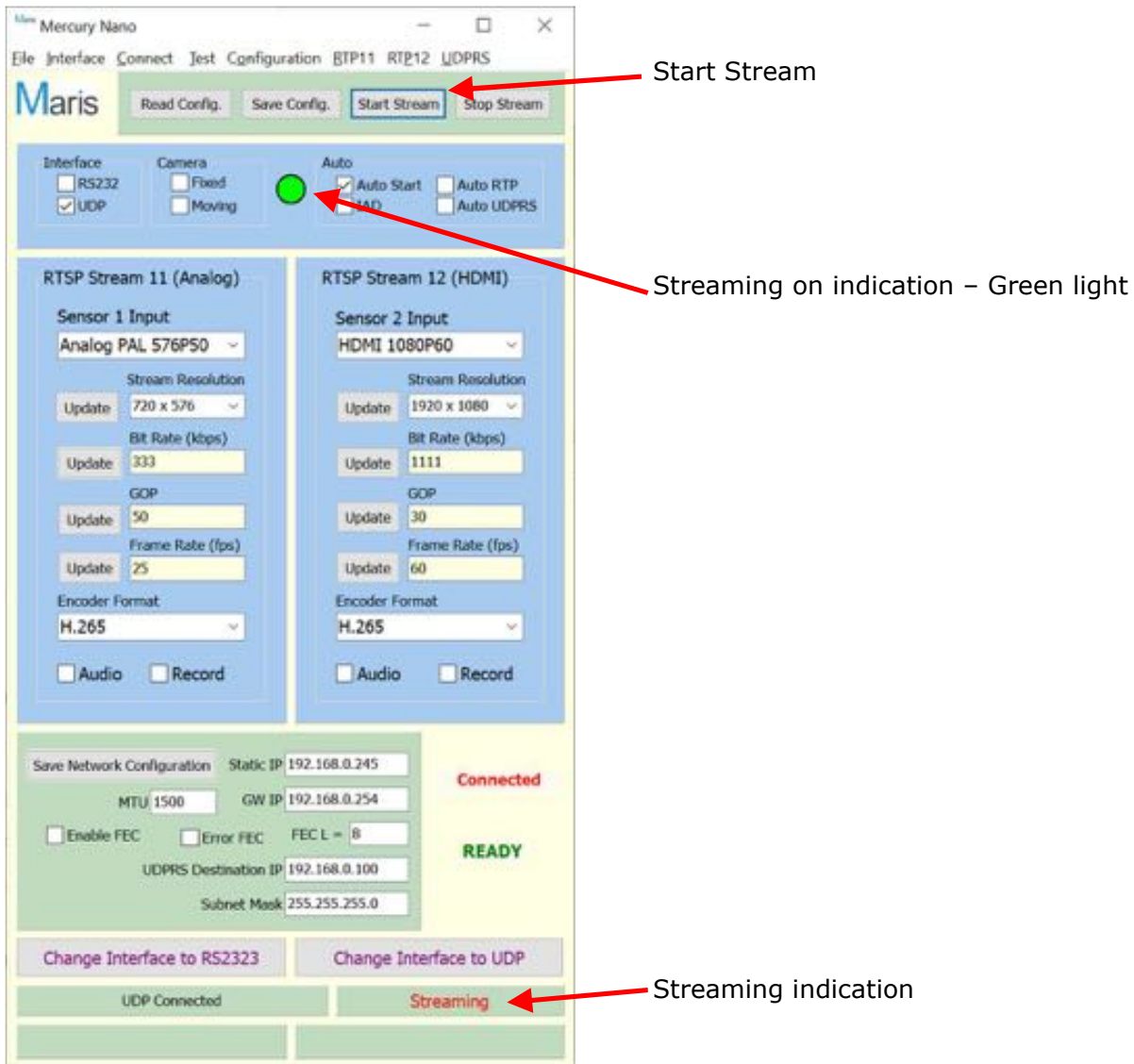
Figure 10 : Options board set



## 7. To view RTSP video

To view the view via RTSP the "start Stream" needs to be clicked and the Streaming indicator will show green. The words "Streaming" also appears at the bottom of the PC Application, see Figure 11 for example.

Figure 11 : RTSP streaming



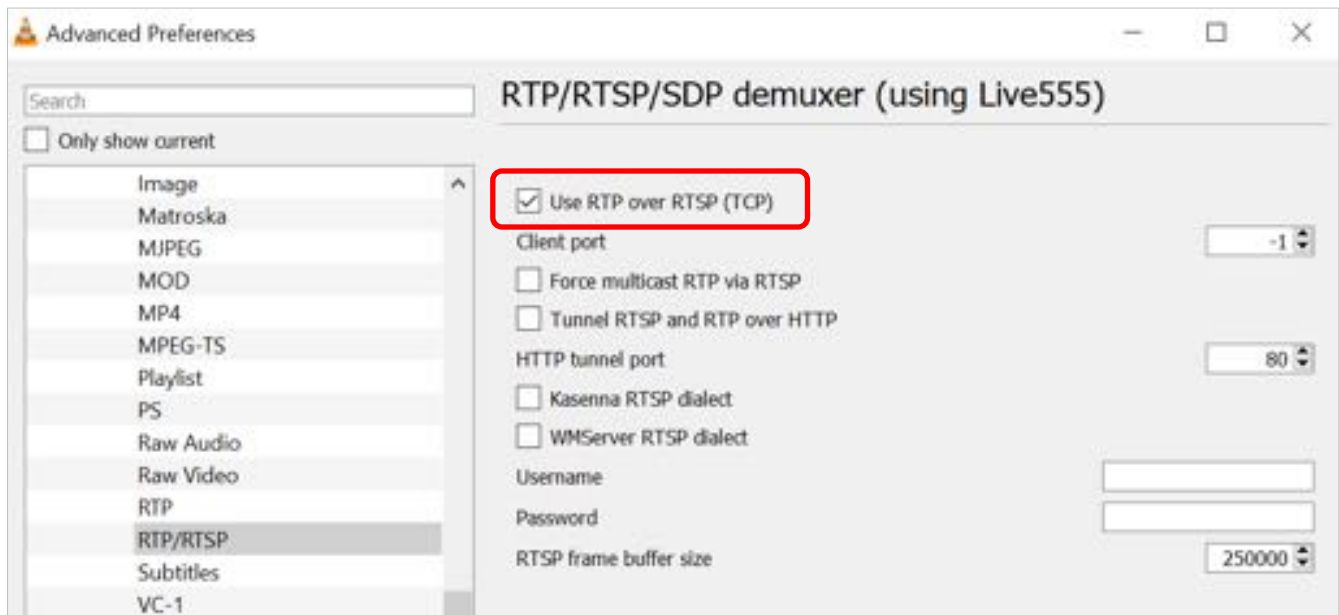
## 7.1. Using VLC

To View the video in VLC, RTSP / TCP needs enabling.

Referring to Figure 12

1. From VLC top menu -> Tools -> Preferences
2. Bottom left "show settings" -> All
3. Input / Codecs -> Demuxers -> RTP/RTSP
4. Check "Use RTP over RTSP (TCP)"
5. Click "Save"

Figure 12 : VLC RTSP / TCP setting



To view video:

1. VLC top menu -> Media -> Open network Stream
2. In the "Please entre a network URL:" box add:

For channel 11 add - rtsp://192.168.0.245:554/11

For channel 12 add - rtsp://192.168.0.245:554/12

## 7.2. Neptune Player

Neptune Player is our low latency software decoder giving around 100ms of latency.

Neptune Player currently has a memory leak and if multiple instances are opened, the PC memory may "run out" and cause the PC to become unresponsive or crash. If the PC is a low specification machine it may become unresponsive or crash with only 1 instance of Neptune Player active. This is being resolved (contact [support@antrica.com](mailto:support@antrica.com) for latest version).

Neptune player can downloaded and installed from [https://www.dropbox.com/s/k3mrn9upyfgly2j/neptune\\_install\\_3.1.8.zip?dl=0](https://www.dropbox.com/s/k3mrn9upyfgly2j/neptune_install_3.1.8.zip?dl=0) and will install "Neptune Player 3.1.4" and "Neptune Guard 2.4.7".

Extract the file "neptune\_install\_3.1.8.exe" and run and it will install "Neptune Guard" and "Neptune Player". "Neptune Guard" is not applicable for the ANT-1774, but is required for our other ANT-177x UAV products.

Neptune Guard will require an activation code, see the guide located - [https://www.dropbox.com/s/4aw3q489hjmoov/ANT-177x\\_NeptunePlayerActivation.pdf?dl=0](https://www.dropbox.com/s/4aw3q489hjmoov/ANT-177x_NeptunePlayerActivation.pdf?dl=0)

To view video:

1. Neptune Guard top menu -> Network Stream
2. Setup as follows in Table 5, also see Figure 13
3. Click play

Table 5 : Neptune Player setup

Parameter	Value	Comments
Stream mode	RTSP	
URL(IP)	192.168.0.245	IP address of ANT-1774 - is the ANT-1774's default value
SDP	12	This is for channel 12, use "11" for channel 11
rtsp port	554	Must always be this value
UDP / TCP	TCP	Must always be this value

Figure 13 : Neptune Player Network Setup

Network streaming

Stream mode:

☐ Transport

☐ RTP

☐ Split

☒ RTSP

☐ Encryption

Network:

URL(IP) 192.168.0.245

SDP 12

rtsp Port 554

☐ UDP

☒ TCP

delay (frame count): 0

☐ Record

☐ Trick Mode

C:/Users/work pc/Videos Directory

Play Cancel