



SERIAL DATA COMMUNICATION TO AND FROM ANT-177X

Serial data used to control say a PTZ camera as opposed to embedded meta dat in the MPEG-TS stream

1. The Serial comms for ANT-1771/2/3 is the same. You have a UART interface used for serial comms (NOT the RS232 interface)
2. Serial Comms are initiated either by the PC or by the 177X board .
3. PC initiates serial comms to ANT-177X (communication 1 way) : In this case all you need to set in DATA/UART is the Source Port number
4. PC initiates serial comms to ANT-177X (communication 2 way) : In this case all you need to set in DATA/UART is the Source Port number and destination Port, if different to the incoming data port. You still need to define both ports if the same.
5. ANT-177x initiates comms to the PC (1 way comms). This time you need to set the destination IP address and Port.
6. ANT-177x initiates comms to the PC (2 way comms). This time you need to set the destination IP address and Port plus the Source Port.

Data

[Data Source](#)

[GPIO](#)

[UART](#)

UART Number: **ttymxc0**

Source Multicast IP:
 . . .

Source Port:

Destination IP:
 . . .

Destination Port:

Delay(ms):

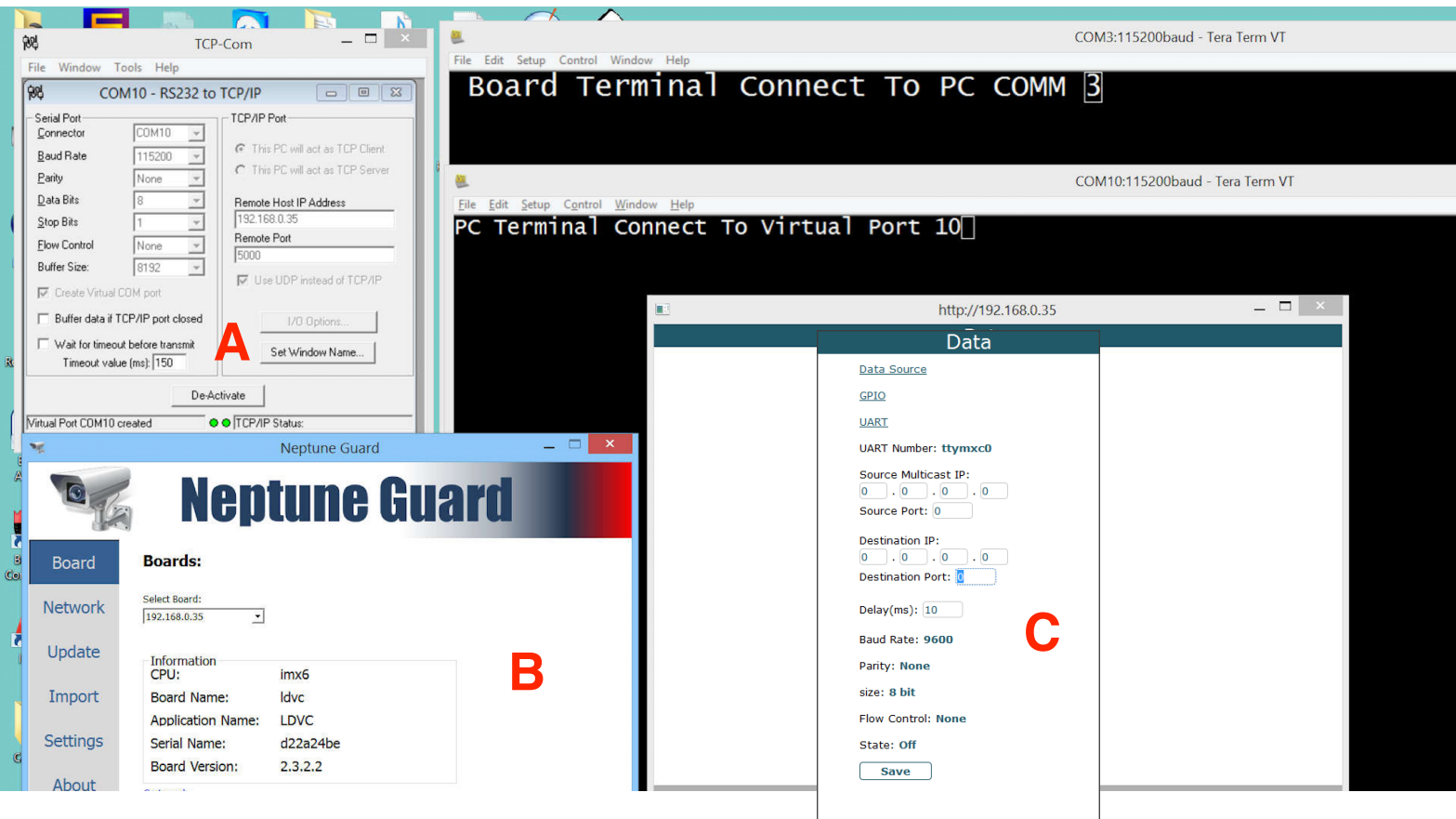
Baud Rate: **9600**

Parity: **None**

size: **8 bit**

Flow Control: **None**

State: **Off**



7. The principle of serial data communication between a PC on the ground and the ANT-177X in the air is as follows:
8. Serial data is supplied to the PC (via USB or other) and converted to TCP/IP data . This data is assigned a PORT and DESTINATION IP address . The Destination IP address in this case is the ANT-177X
9. A program like TCP-COM may be used for this purpose (**See A**) Here you set the destination IP address of the ANT-177X and specify a serial Port (**See A**)
10. The IP address of the ANT-177X may be discovered using Neptune Guard software (**see B**)
11. The Serial data port on the ANT-177X is defined as GPIO UART (J16 on ANT-1772) and not the RS232 connection (J11 on ANT-1772)
12. In the ANT-177X web setup page navigate to DATA and define the baud rate parity and Port of the GPIO (**See C**)
13. Serial data which is initiated by the PC is sent over Port 5000 via ethernet in this example to the ANT-177X with an IP address of 192.168.0.35 (also set up with Port 5000)
14. This serial data is now available at the physical serial GPIO UART connector on the ANT-177X (ANT-1772 this is J16)

PLEASE NOTE! DATA SOURCE (Under Data/Data Source in web setup) is used for embedding meta data in the MPEG TS stream and not for 2 way serial communications . Meta Data can be received via the ethernet connection or via the serial UART connection but is treated differently to Two Way serial data. Meta data is setup in DATA SOURCES 1 and 2 and then when a video stream MUX is set up you can decide if you want to embed Data 1 or Data 2 in the MPEG TS stream . De Muxing of embedded meta data in the MPEG TS stream is left to the user. We offer no software to do this .

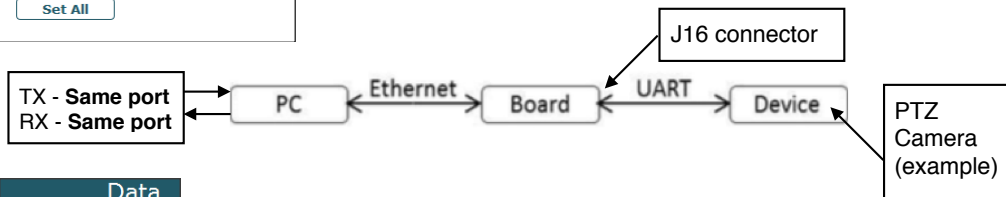
UART configuration

System

Config Number: CFG 1
 Operation State: Operational
 Camera CSI1: None
 Camera CSI2: None
[Setup Generic Camera](#)
[Setup Analog Camera](#)
[Setup External Sync](#)
[UART](#)
[Network](#)
[Time and Date](#)
[RTSP Server](#)
[Display Drivers](#)
 Frame Buffer 0: tvout1
 Frame Buffer 1: None
 After setting display drivers - reboot the system:
 Reboot
 Set All

Not for serial 2 way data configuration

Settings to configure serial 2 way data, can be found Under Settings > Data > UART.



Data

[Data Source](#)
[GPIO](#)
[UART](#)
 Set All

Used for meta data
 General purpose IO
 Serial 2-way data configuration

Data

[Data Source](#)
[GPIO](#)
[UART](#)
 UART: ttymxc0
 IP Address:
 192 . 168 . 0 . 24
 Port: 1239
 Delay(ms): 10
 Baud Rate: 9600
 Parity: None
 size: 8 bit
 Flow Control: None
 State: On
 Set All

1. Use 0.0.0.0 - If the pc is initiating the serial 2 way data.
 2. The IP Address of the PC, If the device is initiating the serial 2 way data, so the board knows where to send the data.

The same port is used all around.

The Baud Rate needs to be matched either end