

# ANT-1776ZB bi-directional serial setup

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# Please note: Currently there is a known bug and it may be necessary to toggle the "State" between Off and On (see Figure 2) and then click Save to enable the serial port function after each power cycle.

The guide shows the setup require for the ANT-1776ZB serial port connection with a PC based TCP over IP connection and the physical RS-232 port.

IF would be prudent to test with the PC's before using other equipment to ensure the setup is correct and data can be transmitted and received via the ANT-1776ZB.

For further help and advice please contact Antrica on: Email: <u>support@antrica.com</u>

## **Document info**

Phone: +44 1628 626098, during UK office hours, and ask for technical support

Version	date	author	Comments
0.1	7-Sep-23	David M	Initial draft with f/w v1.0.9.0



## 1. Setup

The program Tera Term is being used to access the RS-232 port on the PC. Tera Term is also being used to access the TCP over IP connection.

Tera Term can be downloaded for free from <a href="https://ttssh2.osdn.jp/index.html.en">https://ttssh2.osdn.jp/index.html.en</a> . In this example Tera Term version 4.91 is being used.

#### 1.1. Connections to ANT-1776ZB

In this enable other functionality is also used, but may be not documented.

*Figure 1 : ANT-1776 ZB cable connections – ref IMG\_4850.JPG* 





#### 1.2. ANT-1776 ZB webpage

Access the webpage (default IP address is 192.168.0.30) using any modern browser, i.e., Chrome, Microsoft Edge, Firefox.

Click the "SETTINGS" from the top menu, then "Data" from the side menu, this will access the "UART to Ethernet" settings, see Figure 2.

Change the setting as shown in Figure 2 and Table 1 and then click "Save".

Figure 2 : webpage "serial port" setup

HOME SETTING	INFO ABOUT		(R) Connected
🔅 System	UART To Ethernet		
	UART number:	ttymxc0	~
Display	State:	On	~
	Source Multicast IP:	0.0.0	
	Source Port:	8642	
	Delay(ms):	10	
	Baud Rate:	115200	<b>~</b>
	Flow Control:	None	*
	Parity:	None	×
	Size:	8 bit	~
	Destination IP:	192.168.0.123	
	Destination Port:	2468	
	Protocol:	ТСР	~
	Save		

Table 1 : Settings required for example setup

Parameter	Settings	Comments
State	On	
Source port	8642	Port that ANT-1776 will accept data - example
Baud rate	115200	Baud rate used in this example
Destination IP	192.168.0.123	IP address of PC running the TCP over IP program
Destination Port	2468	Port data is transmitted away from ANT-1776 - example
Protocol	ТСР	As example is using a TCP over IP program



#### **1.3.** Physical serial port connected to ANT-1776

These are the settings for the physical RS-232 port on the PC. As can be seen in Figure 3, the Buard Rate matches that show in Figure 2.

Figure 3 : PC RS-232 port settings

1	COM3 - Terr	Term VT					
Fil	e Edit Setu	p Control	Window	Help			
127	sent fron "ser	ial port"	sent from	"serial port"			
127	sent fron "ser	ial port"	sent from	"serial port"			
127	sent fron "ser	ial port"	sent from	"serial port"			
127	sent fron "ser	ial port"	sent from	"serial port"			
127	sent fron "ser	ial port"	sent from	"serial port"			
127	sent fron "ser	ial port"	sent from	"serial port"			
127	sent fron "ser	ial port"	sent fro	Tera Term: Serial nort setu	2		
127	sent from "ser	ial port"	sent fro	iera ierrit. Senai port setur	, ,		
2023	/09/06 13:20:28	GHT	1.18.2		N.		1
128	sent fron "ser	ial port"	sent fro	Port:	COM3	~	01
128	sent fron "ser	ial port"	sent fro				U
128	sent fron "ser	ial port"	sent fro	Baud rate <sup>1</sup>	11520		2
128	sent fron "ser	ial port"	sent fro	Dada rate.		10. O	
128	sent fron "ser	ial port"	sent fro	D.1.	0.1.11		Can
128	sent fron "ser	lal port	sent fro	Data:	8 DIT	~	Can
128	sent from ser	lal port	sent tro				
128	sent from ser	lal port	sent tro	Parity:	none	~	
120	sent from ser	ial port	sent fro	,			
120	sent from "cor	ial port"	sent fro	Ston'	1 hit		He
190	sent from "oor	ial port"	sent fro	Stop.	1 DR	· · ·	
120	sent from "sor	ial port"	sent fro		-	100	1
128	sont from "sor	ial port"	sent fro	Flow control:	none	~	
128	sent from "ser	ial port"	sent fro		-		
120	Sent from Ser	Idi port	Sent 110				
2023	/09/06 13:20:27	GHT		Transmit delay	/		
195	sent from "TCP	over IP"	sent fro				
195	sent from "TCP	over IP"	sent fro	0 msec	char	0	msec/line
195	sent from "TCP	over IP"	sent fro	- 1000		<u> </u>	
195	sent from "TCP	over IP"	sent fro				
195	sent from "TCP	over IP"	sent fro				
100	and from UTOD	TD.	and from	9 TOD			

#### **1.4. TCP over IP connection**

This is to enable the TCP over IP data to the ANT-1776ZB. In Tera Term -> File -> New connection, and the Pop-up windows, as shown in Figure 4 will be seen. For this example, the values shown in Figure 4 and Table 2 are used.

e Edit Setup Contro sent from "TCP over IP"	N Window Help sent from "TCP over IP"	
sent from "TCP over IP"	sent from "TCP over IP" sent from "TCP over IP"	
sent from "TCP over IP"	sent from "TCP over IP"	
sent from "TCP over IP"	sent from "TCP over IP"	
sent from "TCP over IP"	sent from "TCP over IP" sent from "TCP over IP"	
sent from "TCP over IP"	sent from "TCP over IP"	
sent from "TCP over IP" sent from "TCP over IP"	sent from "TCP over IP" sent from "TCP over IP"	
sent from "TCP over IP"	sent from "TCP over IP"	
sent from "TCP over IP"	sent from "TCP over IP"	
era Term: New connection	l N	
	43	
● TCP/IP	Host: 192.168.0.30	~
	☑ History	
	Service: O Telnet	TCP port#1 8642
	○ SSH	SSH version: SSH2 v
	Other	
		Protocol: UNSPEC ~
O Serial	Port:	Ý

Figure 4 : TCP over IP setting



#### Table 2 : TCP over IP settings

Parameter	Value	Comment
Host	192.168.0.30	IP address of the ANT-1776ZB
Service	Other	
TCP port#	8642	this is to match the value "Destination Port" shown in Figure 2

## 2. Demonstration using example settings

To demonstrate the connection is established and bi-directional 2 simple scripts are used. One run from the TCP over IP Tera Term with the text <count> sent from "TCP over IP" sent from "TCP over IP" and another script run from the RS-232 port Tera Term with the text <count> sent from "serial com port" sent from "serial com port".

As shown in Figure 5 the TCP over IP (on the left) is shown next to the RS-232 (on the right) and the data can be seen on both terminals. The **sent from "serial com port"** is transmitted from the "right side" and the **sent from "TCP over IP"** is transmitted from the left side.

Figure 5 : Tera Term TCP over IP and RS-232

📃 🛄 192.168.0.30 - Tera Term VT				COM3 - Tera Term VT			
File	e Edit	Setup Control	Window	Help	File Edit Setup Contro	Window Help	
126 193 193 126	sent from sent from sent from sent from	"serial port" "TCP over IP" "TCP over IP" "Serial port"	sent from sent from sent from sent from	"serial port" "TCP over IP" "TCP over IP" "serial port"	126 sent from "serial port" 193 sent from "TCP over IP" 193 sent from "TCP over IP" 126 sent from "serial port"	sent from "serial port" sent from "TCP over IP" sent from "TCP over IP" sent from "serial port"	
126	sent from	"serial port"	sent from	"serial port"	126 sent from "serial port"	sent from "serial port"	
126 126 126 126 126 126 126	sent from sent from sent from sent from sent from sent from sent from	"serial port" "serial port" "serial port" "serial port" "serial port" "serial port" "serial port"	sent from sent from sent from sent from sent from sent from sent from	"serial port" "serial port" "serial port" "serial port" "serial port" "serial port" "serial port"	126 sent from "serial port" 126 sent from "serial port"	sent from "serial port" sent from "serial port"	
2023 194 194 194 194 194 194 194	/09/06 13: sent from sent from sent from sent from sent from sent from	20:20 GMT "TCP over IP" "TCP over IP" "TCP over IP" "TCP over IP" "TCP over IP" "TCP over IP" "TCP over IP"	sent from sent from sent from sent from sent from sent from	"TCP over IP" "TCP over IP" "TCP over IP" "TCP over IP" "TCP over IP" "TCP over IP" "TCP over IP"	2023/09/06 13:20:20 GHT 194 sent from "TCP over IP" 194 sent from "TCP over IP"	sent from "TCP over IP" sent from "TCP over IP"	
2023 127 194 194 127 194 127 194 127 127 194 194 194 194	/U9/U6 13: sent from sent from	20:21 GHT "serial port" "TCP over IP" "TCP over IP" "serial port" "Serial port" "TCP over IP" "Serial port" "Serial port" "TCP over IP" "TCP over IP"	sent from sent from	"serial port" "TCP over IP" "Serial port" "serial port" "TCP over IP" "TCP over IP" "Serial port" "serial port" "Serial port" "CP over IP" "TCP over IP"	2023/09/00 13:20:21 601 127 sent from "EPria port" 194 sent from "EP over IP" 194 sent from "EP over IP" 127 sent from "serial port" 127 sent from "IP over IP" 127 sent from "erial port" 127 sent from "EP over IP" 194 sent from "EP over IP" 194 sent from "Erial port" 127 sent from "Serial port" 127 sent from "Serial port" 127 sent from "Serial port" 127 sent from "EP over IP"	sent from "Serial port" sent from "TCP over IP" sent from "Serial port" sent from "serial port" sent from "TCP over IP" sent from "Serial port" sent from "Serial port" sent from "TCP over IP" sent from "Serial port" sent from "Serial port" sent from "Serial port" sent from "Serial port"	

To enable Tera Term to display this text correctly and to display on the local terminal, the terminal settings for each Tera Term were configured as shown in Figure 6.



a Term: Terminal setup		
Terminal size	New-line Receive:	ОК
Term size = win size	Transmit: LF	Cancel
Terminal ID: VT100 ~	☐ Local echo	Help
Annu under stu		