



# Quick Note 37

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## **Configuring a Digi Transport serial port for TCP Socket using the Serial Port Wizard**

January 2016

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# 1 INTRODUCTION

## 1.1 Assumptions

This guide has been written for use by technically competent personnel with a good understanding of the communications technologies used in the product and of the requirements for their specific application. It also assumes a basic ability to access and navigate a Digi Transport router.

This guide also assumes that a licence file has been received further to purchasing upgrade options from Digi. Please contact a Digi Sales Representative for further details on how to buy options for Digi Transport routers.

This application note applies only to:

**Model:** DIGI Transport WR41/44/21

**Firmware versions:** 5.169 and later

**Please note:** This application note has been specifically rewritten for firmware release 5.169 and later and will not work on earlier versions of firmware. Please contact [tech.support@digicom.com](mailto:tech.support@digicom.com) if you require assistance in upgrading the firmware of the Transport router.

## 2 VERSION

Version Number	Status
1.0	Published

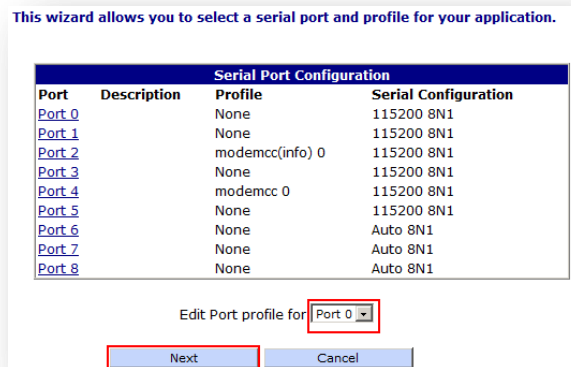
## 3 CONFIGURATION

### 3.1 Start Serial Port Wizard

#### Wizards



Select Serial interface wizard and click **Next**.



Select the port that will be used, **Port 0** and click **Next**.

**Serial Port Profile Port 0**

Please select the profile below that best matches your application.

- The **RealPort Profile** allows you to map a COM or TTY port to the serial port.
- The **CLI profile** allows the serial port to provide a command line interface .
- The **GPS Profile** allows the device to make use of an NMEA-0183 compliant GPS data stream for location.
- The **PPP Profile** allows the serial port to initiate outgoing point-to-point protocol (PPP) connections.
- The **TCP/UDP Sockets Profile** allows serial devices to communicate over a TCP network.
- The **MULTITX Profile** allows serial devices to send/receive using either TCP or UDP to multiple destinations on a TCP/IP network.
- The **MODBUS gateway profile** allows the serial port to operate act as a Modbus master or a Modbus slave and relay Modbus transactions over a TCP network.
- The **PAD profile** connects the serial port onto a PAD (X.25 packet assembler/disassembler).
- The **TPAD profile** connects the serial port onto a TPAD (Transaction PAD).

Chose **TCP/UDP Sockets Profile** and click **Next**

**Serial Port 0**  
**TCP/UDP Serial Port Profile**

Please select your preferred transport method

TCP

UDP

Select **TCP** for the desired transport method and click **Next**.

**Serial Port 0**  
**TCP/UDP Serial Port Profile**

Please select if you wish the port to listen on a port or not

Listen

Connect

Select **Listen** (The server will initiate connection to the Transport) and click **Next**.

Serial Port 0  
TCP/UDP Serial Port Profile

Please enter the port to listen on:

Enter the Listen Port 2101

Back Next Cancel

Enter **2101** as the port to listen to and click **Next**.

Serial Port 0  
TCP/UDP Serial Port Profile

The wizard is ready to apply your settings to enable TCP/UDP profile on this serial port.

Please click the "Confirm" button to configure TCP/UDP profile onto this serial port or to leave the router unchanged, click "Cancel".

Back Confirm Cancel

Click **Confirm** to finalize the serial port configuration wizard.

### 3.1.1 Configure serial settings

Configuration – Network > Interfaces > Serial > Serial Port 0

**Serial Port 0**

Enable this serial interface

Description:

Baud Rate: **9600**

Data Bits / Parity: **8 Data bits, No parity**

Flow control: **None**

Enable echo on this interface

CLI result codes:

**Advanced**

Adjust serial settings to the device connected on the Transport, in this example, **9600 8N1** , **No Flow Control**.

### 3.1.2 Verify listening socket

Management – Connections > IP Connections > General Purpose Sockets

Management - Connections > IP Connections

General Purpose Sockets

ID	Owner	Protocol	Mode	State	Local Port	Remote IP Addr	Remote Port	Inactivity Timeout (secs)
0	ASY 0	TCP	Normal	Listening	2101			300
1	ASY 1	TCP	Normal	Listening	4001			300
2	ASY 2	TCP	Normal	Listening	4002			300
3	ASY 3	TCP	Normal	Listening	4003			300
4	ASY 4	TCP	Normal	Listening	4004			300
5	ASY 5	TCP	Normal	Listening	4005			300
6	ASY 6	TCP	Normal	Listening	4006			300
7	ASY 7	TCP	Normal	Listening	4007			300
8	ASY 8	TCP	Normal	Listening	4008			300
9	ASY 9	TCP	Normal	Listening	4009			300
10	X25 74	TCP	XOT	Listening	1998			300
11	X25 75	TCP	XOT	Listening	1998			300
12	X25 76	TCP	XOT	Listening	1998			300
13	X25 77	TCP	XOT	Listening	1998			300
14	X25 78	TCP	XOT	Listening	1998			300
15	X25 79	TCP	XOT	Listening	1998			300
16	X25 80	TCP	XOT	Listening	1998			300
17	X25 81	TCP	XOT	Listening	1998			300
18	X25 82	TCP	XOT	Listening	1998			300
19	X25 83	TCP	XOT	Listening	1998			300
20	X25 84	TCP	XOT	Listening	1998			300
21	X25 85	TCP	XOT	Listening	1998			300
22	X25 86	TCP	XOT	Listening	1998			300
23	X25 87	TCP	XOT	Listening	1998			300
24	X25 88	TCP	XOT	Listening	1998			300
25	X25 89	TCP	XOT	Listening	1998			300
26	SSH 1	TCP	Normal	Listening	22			300
27	SSH 3	TCP	Normal	Listening	22			300
28	SSH 5	TCP	Normal	Listening	22			300
29	SSH 7	TCP	Normal	Listening	22			300
30	SSH 9	TCP	Normal	Listening	22			300
31	REALPORT 0	TCP	Normal	Listening	771			300
32	REALPORT 1	TCP	Normal	Listening	771			300
74	CMD	TCP	Normal	Listening	23			300

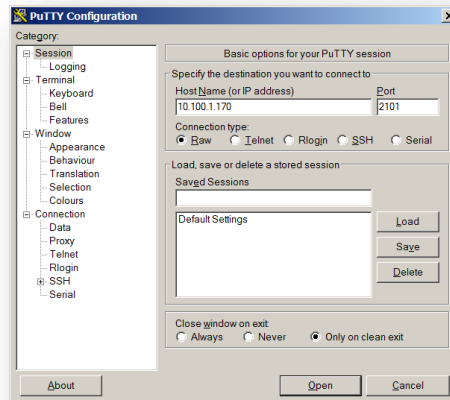
Total Number of Sockets : 75  
Number of Free Sockets : 41

Refresh

This figure shows that the Transport is listening on TCP port 2101 for connections to ASY 0 (Serial Port 0)

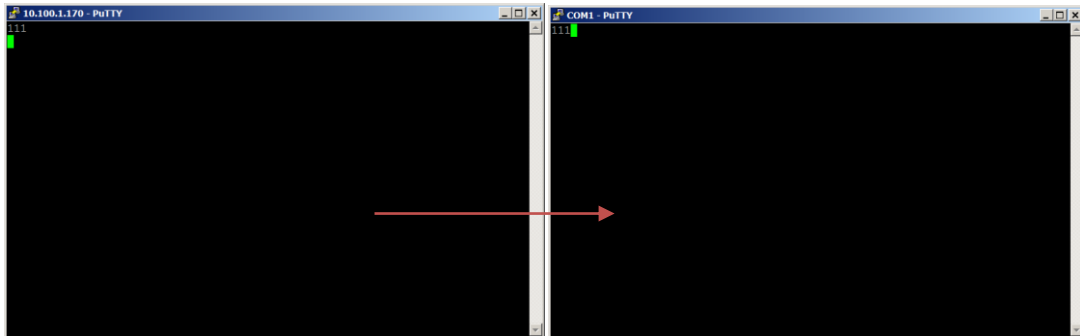


## 3.2 Testing



Connect the Transport to the Local COM port of a computer or another serial device.

Open a terminal application like PuTTY to the IP address of the Transport and TCP Port 2101



Data is sent from TCP socket and received on COM1

**Management – Connections > IP Connections > General Purpose Sockets**

ID	Owner	Protocol	Mode	State	Local Port	Remote IP Addr	Remote Port	Inactivity Timeout (secs)
0	ASY 0	TCP	Normal	ESTAB	2101	10.100.1.169	53466	300
1	ASY 1	TCP	Normal	Listening	4001			300
2	ASY 2	TCP	Normal	Listening	4002			300
3	ASY 3	TCP	Normal	Listening	4003			300
4	ASY 4	TCP	Normal	Listening	4004			300
5	ASY 5	TCP	Normal	Listening	4005			300
6	ASY 6	TCP	Normal	Listening	4006			300
7	ASY 7	TCP	Normal	Listening	4007			300
8	ASY 8	TCP	Normal	Listening	4008			300
9	ASY 9	TCP	Normal	Listening	4009			300
10	X25 74	TCP	XOT	Listening	1998			300
11	X25 75	TCP	XOT	Listening	1998			300
12	X25 76	TCP	XOT	Listening	1998			300
13	X25 77	TCP	XOT	Listening	1998			300
14	X25 78	TCP	XOT	Listening	1998			300
15	X25 79	TCP	XOT	Listening	1998			300
16	X25 80	TCP	XOT	Listening	1998			300
17	X25 81	TCP	XOT	Listening	1998			300
18	X25 82	TCP	XOT	Listening	1998			300
19	X25 83	TCP	XOT	Listening	1998			300
20	X25 84	TCP	XOT	Listening	1998			300
21	X25 85	TCP	XOT	Listening	1998			300
22	X25 86	TCP	XOT	Listening	1998			300
23	X25 87	TCP	XOT	Listening	1998			300
24	X25 88	TCP	XOT	Listening	1998			300
25	X25 89	TCP	XOT	Listening	1998			300
26	SSH 1	TCP	Normal	Listening	22			300
27	SSH 3	TCP	Normal	Listening	22			300
28	SSH 5	TCP	Normal	Listening	22			300
29	SSH 7	TCP	Normal	Listening	22			300
30	SSH 9	TCP	Normal	Listening	22			300
31	REALPORT 0	TCP	Normal	Listening	771			300
32	REALPORT 1	TCP	Normal	Listening	771			300
74	CMD	TCP	Normal	Listening	23			300

Total Number of Sockets : 75  
Number of Free Sockets : 41

Connection to the serial port is shown as ESTAB (established)

## 4 CONFIGURATION

```
eth 0 IPAddr "10.100.1.170"
eth 0 DNSserver "10.49.8.62"
eth 0 gateway "10.100.1.1"
addp 0 enable ON
rport 0 enabled ON
lapb 0 ans OFF
lapb 0 tinact 120
lapb 1 tinact 120
lapb 3 dtemode 0
lapb 4 dtemode 0
lapb 5 dtemode 0
lapb 6 dtemode 0
ip 0 cidr ON
def_route 0 ll_ent "PPP"
def_route 0 ll_add 1
dhcp 0 IPmin "192.168.1.100"
dhcp 0 respdelms 500
dhcp 0 mask "255.255.255.0"
dhcp 0 gateway "192.168.1.1"
dhcp 0 DNS "192.168.1.1"
ppp 0 timeout 300
ppp 1 name "W-WAN"
ppp 1 phonenumber "*98*1#"
ppp 1 username "guest"
ppp 1 IPAddr "0.0.0.0"
ppp 1 timeout 0
ppp 1 use_modem 1
ppp 1 aodion 1
ppp 1 autoassert 1
ppp 1 ipanon ON
ppp 1 r_chap OFF
ppp 3 defpak 16
ppp 4 defpak 16
modemcc 0 asy_add 4
modemcc 0 info_asy_add 2
modemcc 0 init_str "+CGQREQ=1"
modemcc 0 init_str1 "+CGQMIN=1"
modemcc 0 apn "Your.APN.goes.here"
modemcc 0 link_retries 10
modemcc 0 stat_retries 30
modemcc 0 sms_access 1
modemcc 0 sms_concat 0
modemcc 0 init_str_2 "+CGQREQ=1"
modemcc 0 init_str1_2 "+CGQMIN=1"
modemcc 0 apn_2 "Your.APN.goes.here"
modemcc 0 link_retries_2 10
modemcc 0 stat_retries_2 30
ana 0 anon ON
ana 0 lion ON
ana 0 lapdon 0
ana 0 asyon 1
ana 0 logsize 45
cmd 0 autocmd "tcpperm ASY 0 0.0.0.0 2101 -12101 "
cmd 0 unitid "ss%>"
cmd 0 cmdnua "99"
cmd 0 hostname "digi.router"
cmd 0 asyled_mode 2
cmd 0 tremto 1200
user 0 access 0
user 1 name "username"
user 1 access 0
user 2 access 0
user 3 access 0
user 4 access 0
user 5 access 0
user 6 access 0
user 7 access 0
user 8 access 0
user 9 access 0
local 0 transaccess 2
sslsvr 0 certfile "cert01.pem"
sslsvr 0 keyfile "privrsa.pem"
```

```
ssh 0 hostkey1 "privSSH.pem"  
ssh 0 nb_listen 5  
ssh 0 v1 OFF  
cloud 0 ssl ON
```

Power Up Profile: 0