



Squirrel Data Logger

GPRS Modem for
SQ2010 \ SQ2020 \ SQ2040

Getting Started Guide

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Equipment Checklist



GPRS Modem Pack contents

- A) GPRS Modem
- B) RS232 Lead
- C) Null modem adaptor
- D) Power lead splitter
- E) Aerial

Equipment Setup

- 1 Insert a suitable data enabled SIM card into modem.

Use a pin to push the small hole next the SIM card slot to release SIM card holder. Put the SIM card with circuit side up on the holder and push all the way in.

Do not connect power to the modem at this stage.



2 Connect antenna to modem

Only use the antenna supplied with the product.

The antenna must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operated in conjunction with any other antenna or transmitter.

Antenna connector



3 Connect the RS232 cable and null modem adapter between modem and Squirrel data logger

Important ! Fit the null modem adapter to the modem first and then ensure all screw connections between cable, null modem adapter and modem are tightened securely

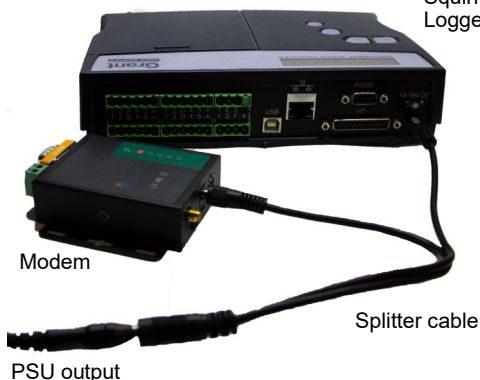
RS232 connector



4 Connect power splitter cable between modem, logger and the external power input.

Note: Requires logger with Firmware version 5.3 or above

Squirrel
Logger



The Squirrel must be powered via its external power input for GPRS modem to operate

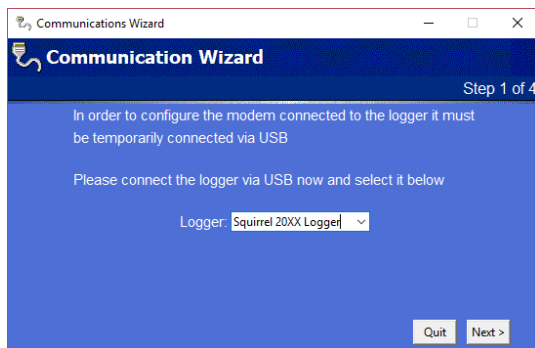
Do not touch or move the antenna while the unit is transmitting or receiving.

Configure the Modem connection

Please download the Wireless Modem Setup Wizard to a PC from <https://www.grantinstruments.com/support/daq/231>

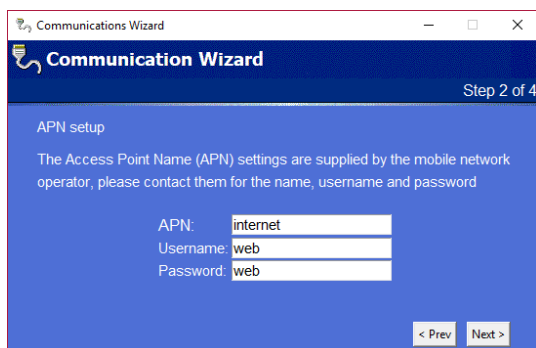
1. Connect the Modem to the logger using a null modem cable and adapter and then connect the logger to the PC via a USB cable.

Start the Wireless Modem Setup Wizard (WiirelessModemSetup.msi), The window shown here will appear. Select the logger from the dropdown list and click Next.

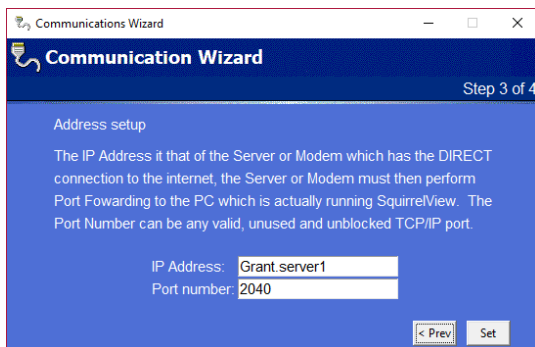


2. Contact the provider of the SIM used in the Modem to find the APN (Access Point Name) settings that are required.

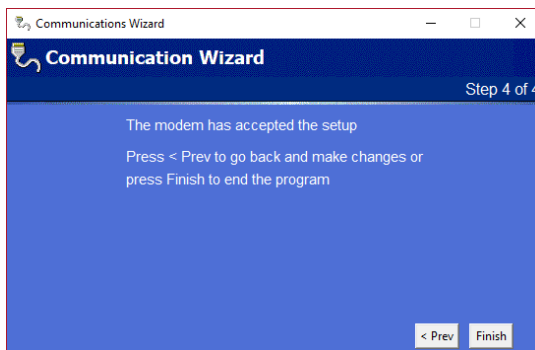
The ones shown are for a Vodafone contract SIM, for the O2 pay as you go cards you need wap.o2.co.uk, o2web and password. Click Next.



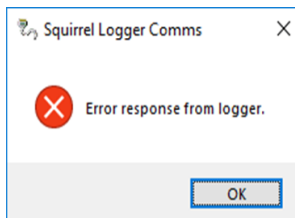
3. The IP Address is the address of the server or broadband modem that has the DIRECT connection to the Internet, i.e. it is not the IP Address of your PC, please refer to your IT department or broadband service provider for this information. It can be a standard IPV4 address in the format XXX.XXX.XXX.XXX or a URL. The Port Number can be any valid, unused and unblocked TCP/IP port that you choose, in this case port 2040 has been selected.



4. Press Set and the wizard will show the modem has accepted the setup and you can click finish to end the program.



5. If the Error message appears at any stage then check that the modem is powered, connected correctly, etc. then click on OK to return to the main program to try again.



NOTE – it can take 15-20 minutes before the connection gets established after setting up the logger.

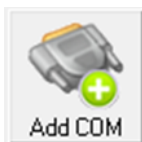
The server or modem must then be set up for port forwarding to your PC. Please refer to your IT department or the manual for your broadband modem on how to do this.

Creation of Virtual Com Ports

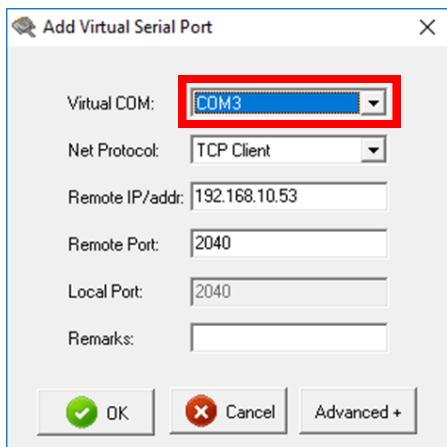
Using USR-VCOM Virtual Serial Port Server (PC Admin rights required)

USR-VCOM Virtual Serial Port Server can be downloaded from <https://www.usriot.com/support/downloads/usr-vcom-virtual-serial-software.html>.

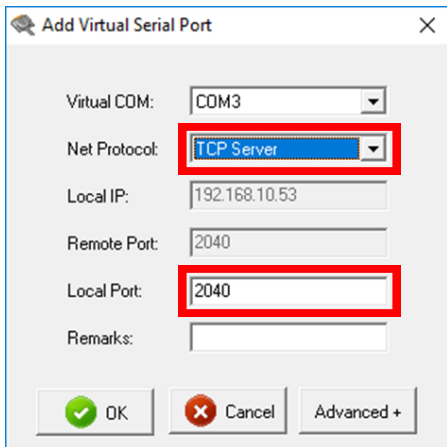
1. Run USR-VCOM and click on the add com port button



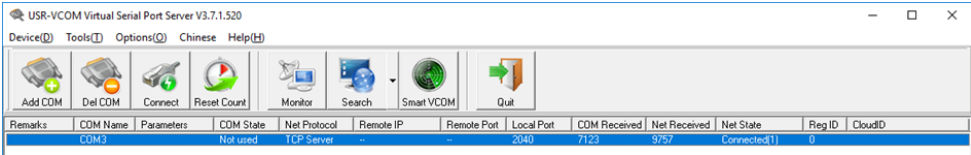
2. A dialogue box will appear, select a port number for the virtual port which does not conflict with any existing real com ports, port 3 has been chosen in the example below. Click OK.



3. Select the Net Protocol as TCP Server and set the Local Port to that set up on the modem using the Communications Wizard described previously, 2040 has been chosen below but it can be any valid unregistered port. Click OK.



4. The main window should show that the port has been created as shown below. The Net State will probably show as Listening, it may not show as Connected until 15-20 minutes after the modem has been set up using the Wireless Modem Setup Wizard described above.



Remarks	COM Name	Parameters	COM State	Net Protocol	Remote IP	Remote Port	Local Port	COM Received	Net Received	Net State	Reg ID	CloudID
	COM3		Not used	TCP Server	--	--	2040	7123	9737	Connected(1)	0	

5. To check that it has been created properly it is possible to open Windows Device Manager and the port should appear similar to the right.



6. To use the virtual serial port start up SquirrelView and click on the Communication Wizard button, in the first page of the Wizard select the Communication Type as Serial RS232 and in the second page select the number of the port created above, in this case port 3 as shown.

Once the Virtual Com Port Serv-er shows the port as Connected then SquirrelView can be used to talk to the logger.



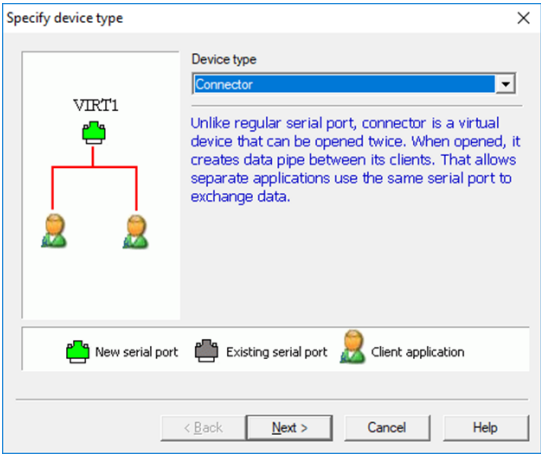
Using Eterlogic Virtual Serial Port Emulator (No PC Admin rights required)

Eterlogic Virtual Serial Port Emulator can be downloaded to the PC from <http://www.eterlogic.com/Products.VSPE.html>

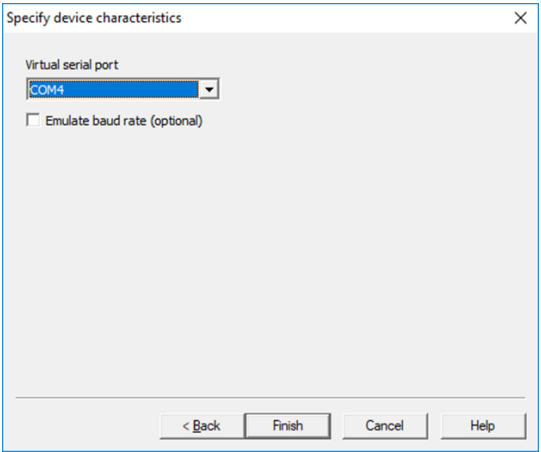
- 1. Run VSPE and click on the Create new device button



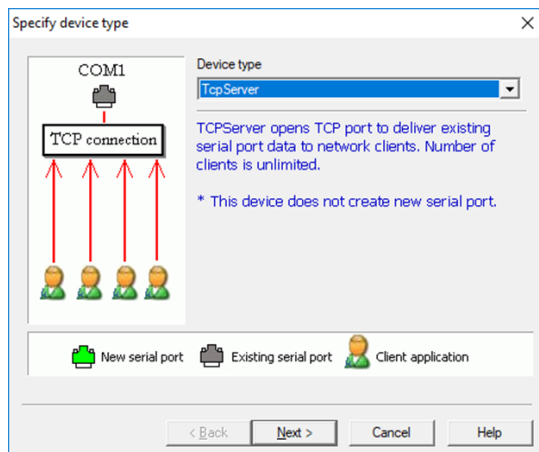
- 2. A dialogue box will appear as shown below, make sure that the Device type is set to Connector. Click Next.



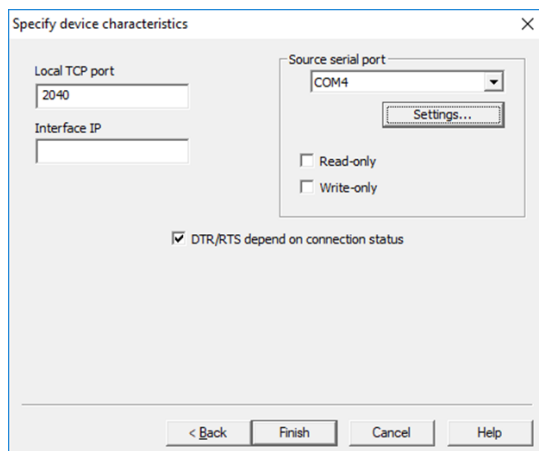
- 3. Select a port number for the virtual port which does not conflict with any existing real com ports, port 4 has been chosen in this example. Click Finish.



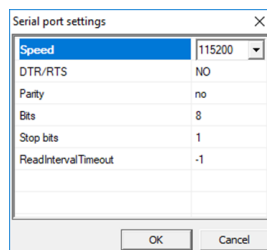
4. Click on the Create new device button again and this time select TcpServer.
Click Next.



5. Select the Net Protocol as TCP Server and set the Local TCP Port to that set up on the modem using the Communications Wizard described previously, 2040 has been chosen below but it can be any valid unregistered port. Set the Source serial port to that chosen in the Connector setup shown previously, COM4 in this case.

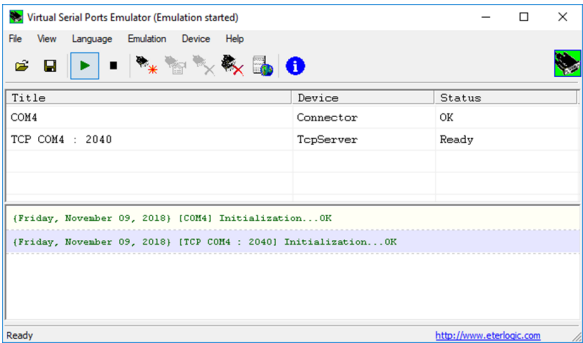


6. Click on the Settings button and set the baud rate to 115200, DTR/RTS to No, Parity to No, Bits to 8, Stop bits to 1 and Read Interval Timeout to -1. Click OK and Finish for Specificity device characteristics.



7. Main operating window should be shown as the right.

When the TcpServer Device Status changes from Ready to OK then the connection is made, this may not happen until 15-20 minutes after the modem has been set up using the modem Setup Wizard described above.



8. To use the virtual serial port, start up SquirrelView and click on the Communication Wizard button, in the first page of the Wizard select the Communication Type as Serial RS232 and in the second page select the number of the port created above, in this case port 4 as shown below.

Once the Virtual Serial Port Emulator shows the TcpServer Device Status as OK then SquirrelView can be used to talk to the logger.



Eterlogic Virtual Serial Port Emulator can be downloaded from <http://www.eterlogic.com/Products.VSPE.html>



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