Using the Synergy E2083 or SYN-ETH

The Synergy E2083 or SYN-ETH can be used in a number of different operating modes to suit a variety of applications.

To assist with the set-up of the unit it is shipped with two utilities contained on the CD. These can also be downloaded as a ZIP file from the Ikon AVS website at www.ikonavs.com.

Using the Set-up Utility

1. Copy the Set-up directory onto the computer to be used.
2. Connect the computer and the Synergy E2038 to the same network.
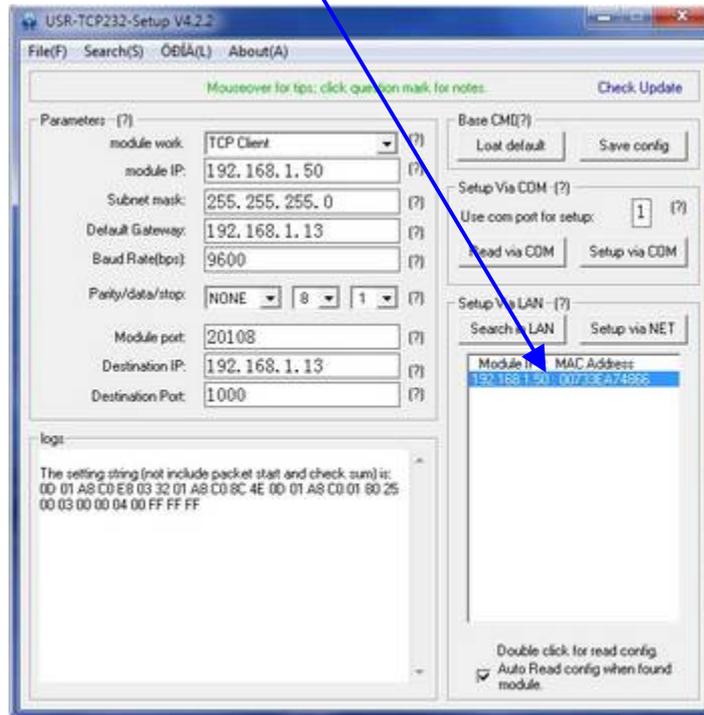3. Power the Synergy E2083.
4. Run the TCPIP-232 set-up utility.

You will be presented with a screen similar to the one below:-

Click on the "Search in LAN" Button
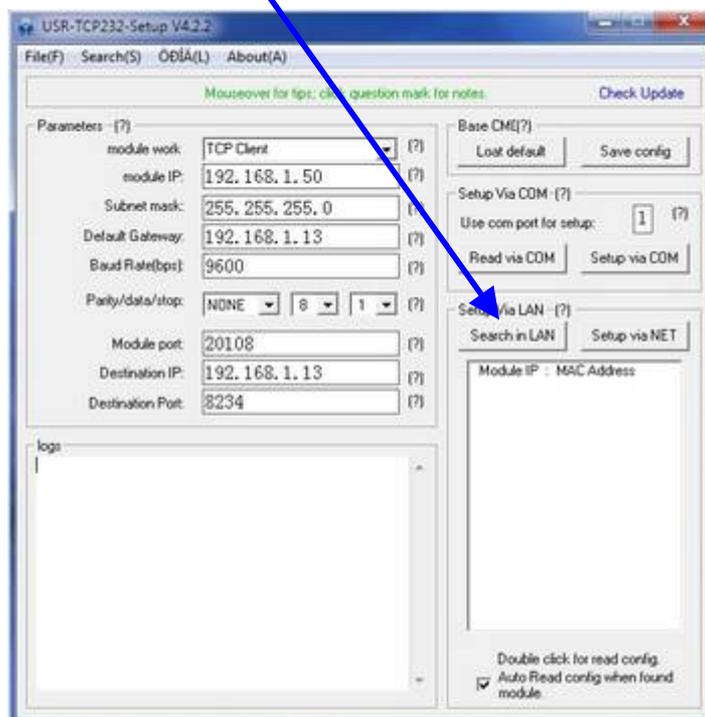
This will find the Synergy E2083 or SYN-ETH via the network and return its current settings.

Double click on the Module IP address
to retrieve the current settings.

NOTE: Whilst the Modules IP and the computers IP can be different for the configuration process, the first three octets as well as the Subnet mask must be the same on the Module and the devices it is operating with. E.g. The PC's IP address is 192.168.1.66 but the modules IP address is 192.168.0.30.

For two modules operating together as a Server and Client, if the Server has an IP address of 192.168.1.35 and a subnet of 255.255.255.0 then the client would need to be 192.168.1.### and a subnet of 255.255.255.0 where ### is any number OTHER than 35.
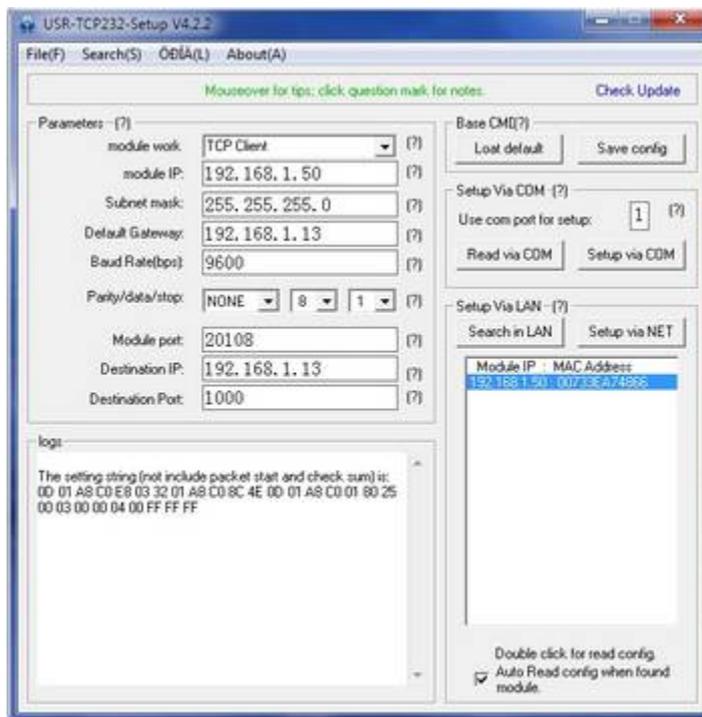
Client Mode

In this mode of operation a 'Client' will communicate with a 'Server' and it is configured to only communicate with a specific server. The 'Server' could be a PC running virtual comms software (see later), a system controller or an iKON Synergy panel with the Ethernet board added.

Before configuring the Synergy E2083 you need to know the following.

1. The IP address of the server,
2. The Subnet Mask of the server,
3. The port used on the server.
4. An IP address that you can use.

Configuration is carried out with the Set-up utility as above.

Setting	Typical Value	Description
Work Mode	Set to TCP Client	
Module IP	192.168.1.34	The IP address to be used for the module
Subnet mask	255.255.255.0	The subnet Mask for the network
Default gateway	0.0.0.0	Normally the address of the Ethernet hub if used. Can be set the same as the server or 0.0.0.0
Baud Rate	19200	The baud rate to be used by the module to control the connected device. This can be different to the servers rate.
Parity / date / stop	None / 8 / 1	Settings for the RS232 side of the port
Module Port	20108	The module needs a port for communications. This can be the same as other clients or the server. See the later section on selecting ports.
Destination IP	192.168.1.64	The IP address of the server
Destination Port	1000	The port on the server assigned to communicate with this client

Once the parameters have been added click the 'Set-up via NET' button to send to the Synergy E2083 module. Once sent the 'Search' button will 'grey out' whilst the update is in progress when enabled click on this to search and when found double click on the address below to read back the parameters to verify the settings have been updated.

The Synergy E2083 module is now ready for use as a client.

Operation

Any RS232 command sent to the server will be transported over Ethernet to the Client. At the Client the transmitted data will appear on the RS232 port at the Client module's baud rate and parameters.

Any RS232 date send to the Client will, be returned to the Server and made available on its RS232 output.

At the Server the RS232 data MUST be at the baud rate and other parameters as per the Servers settings. At the Client its RS232 data MUST be at its baud rate and settings. These can be different between the Client and Server allowing the network to carry out baud rate conversion.

Server Mode

In this mode of operation a 'Server' will communicate with one or more 'Clients' that need to be configured to only communicate with this server.

Before configuring the Synergy E2083 you need to know the following.

1. The IP address you wish to use for the server.
2. The subnet mask for the server.
3. The port to be used for the server.
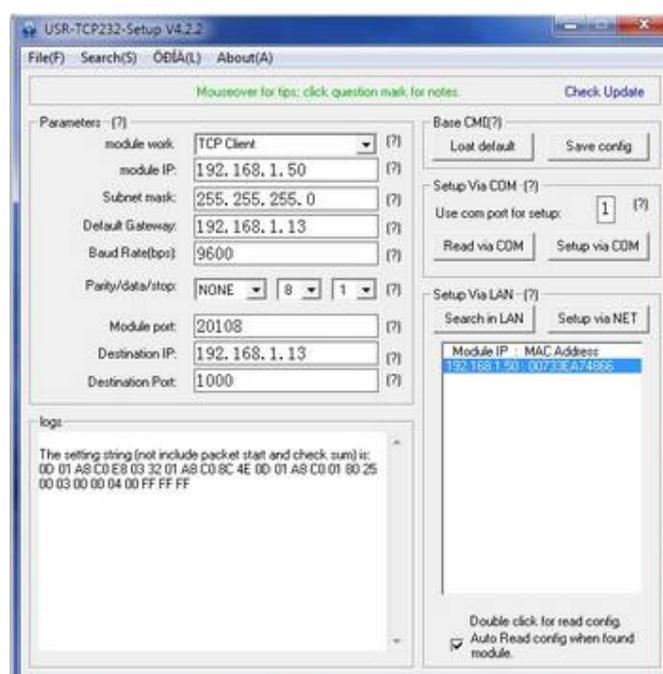
Setting	Typical Value	Description
Work Mode	Set to TCP Server	
Module IP	192.168.1.30	The IP address to be used for the module
Subnet mask	255.255.255.0	The subnet Mask for the network
Default gateway	0.0.0.0	Normally the address of the Ethernet hub if used. Can be set the same as the server or 0.0.0.0
Baud Rate	19200	Communicate via RS232.
Parity / date / stop	None / 8 / 1	Settings for the RS232 side of the port
Module Port	20100	This is the port the clients will communicated with
Destination IP	-	Greyed out and not required
Destination Port	-	Greyed out and not required

Once the parameters have been added click the 'Set-up via NET' button to send to the Synergy E2083 module. Once sent the 'Search' button will 'grey out' whilst the update is in progress when enabled click on this to search and when found double click on the address below to read back the parameters to verify the settings have been updated.

The Synergy E2083 module is now ready for use as a server.

TCP Server Client Example
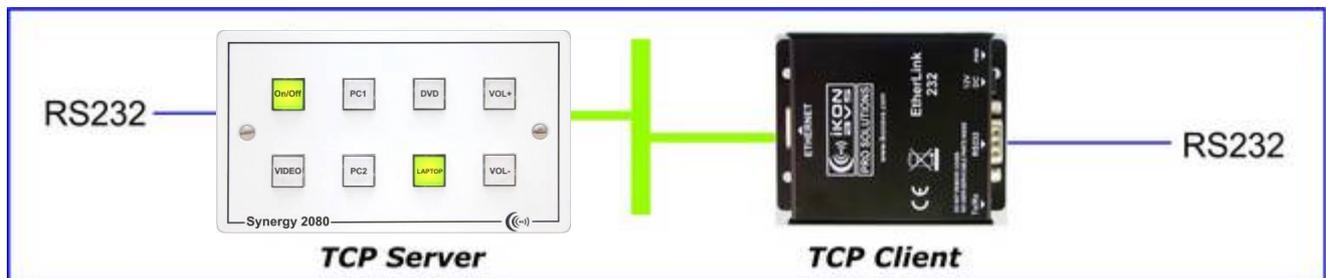
| Setting	Server	Client
Work Mode	Set to TCP Server	Set to TCP Client
Module IP	192.168.1.30	192.168.1.34
Subnet mask	255.255.255.0	255.255.255.0
Default gateway	0.0.0.0	0.0.0.0
Baud Rate	19200	9600
Parity / date / stop	None / 8 / 1	None / 8 / 1
Module Port	20100	20108
Destination IP	-	192.168.1.30
Destination Port	-	20100

Virtual Communication Port

The utility supplied on the CD or downloaded allows you to create virtual comms ports on a PC. From this virtual com port you can direct communications towards Synergy E2083 modules.

      1.   Go to the VCOM directors.
      2.   Run the USR-VCOM set-up utility and follow the instructions.

When installed run USR-VCOM to open the start page

Click on the Add COM Button
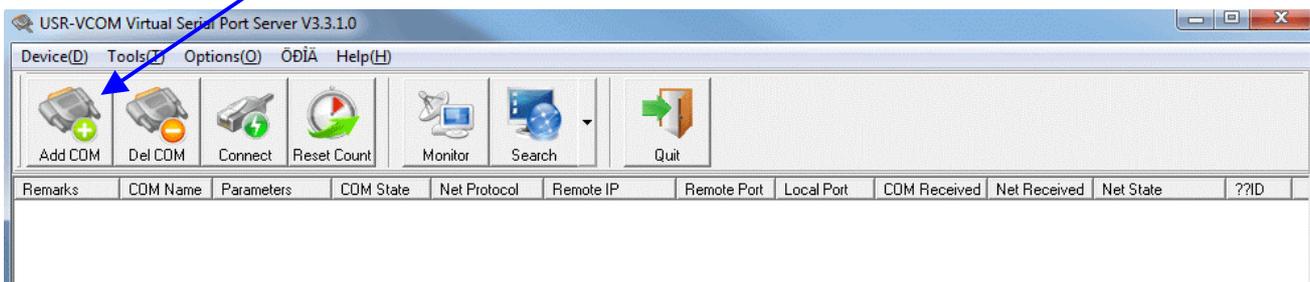
A pop-up box allows you to set the operating parameters of the PC's virtual comms port.

Setting the PC as a Server

← Select the com port number to be assigned

← Select TCP Server.

The local IP and port number are automatically assigned from the PC's settings. *

← This is the module port number of the client module to be used. If using multiple clients, set all of them to this setting.

* These will be the Destination IP and Port on the modules set-up when in client mode.

Once complete select OK and the port will be added to the list:-
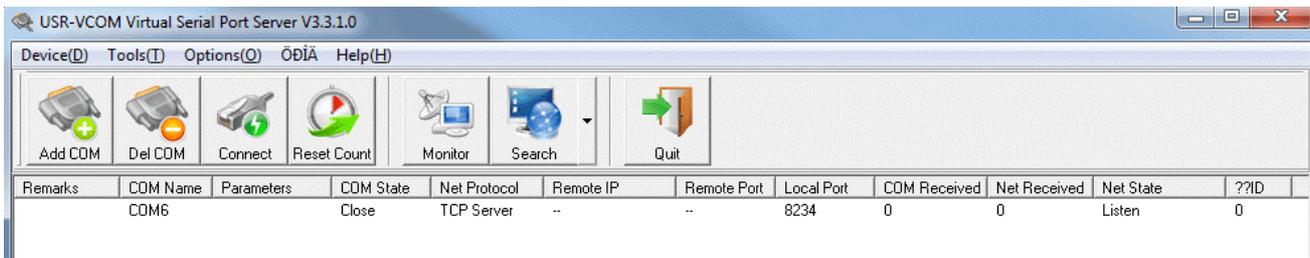
The above shows an inactive port, if the module is connected and operating the COM state will be open.

Multiple virtual com ports can be added and operate simultaneously.

To remove a com port highlight the port and then clink 'Del COM)

Typical settings

Setting	Server (PC)	Client (Synergy E2083)
Work Mode	Set to TCP Server	Set to TCP Client
Module IP	192.168.2.3	192.168.1.34
Subnet mask	255.255.255.0	255.255.255.0
Default gateway	0.0.0.0	0.0.0.0
Baud Rate	-	9600
Parity / date / stop	-	None / 8 / 1
Module Port	20100	8234
Destination IP	-	192.168.2.3
Destination Port	-	20100

Setting the PC as a Client

← Select the com port number to be assigned

← Select TCP Client.

← Set the IP address of the Server.

← Set the port of the Server.

← This is the module port number of the client module to be used. If using multiple clients, set all of them to this setting.

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Typical settings

Setting	Server (Synergy E2083)	Client (PC)
Work Mode	Set to TCP Server	Set to TCP Client
Module IP	192.168.1.34	192.168.2.33
Subnet mask	255.255.255.0	255.255.255.0
Default gateway	0.0.0.0	0.0.0.0
Baud Rate	9600	-
Parity / date / stop	None / 8 / 1	-
Module Port	20100	8233
Destination IP	-	192.168.1.34
Destination Port	-	20100

Using a Virtual Com Port

The actual use will be determined by the software to be used. Almost any software that uses a com port for communications can be handled by assigning the software to use the virtual com port. It may be necessary to set the RS232 parameters to suit the software.

One typical application issuing the Ikon Avs CommMonitor program as below.