SAARecorder: Using Network Data Concentrators

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INTRODUCTION

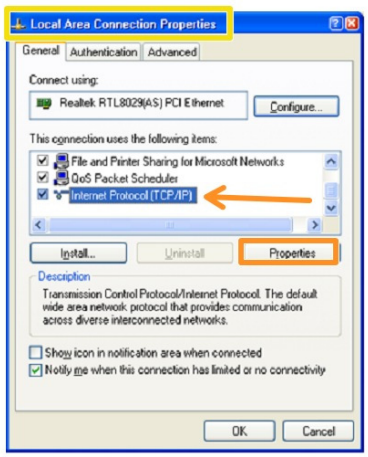
All new SAA systems are able to interface to a PC using either SAAFPU, SAAUSB, SAA232, or SAA232-5. This section is included for older SAA systems that used data concentrators for collecting data from one or more SAAs and streaming that data over a network connection to a host PC.

This Guide references the following documentation:

'Using Network Data Concentrators'

'SAARecorder'

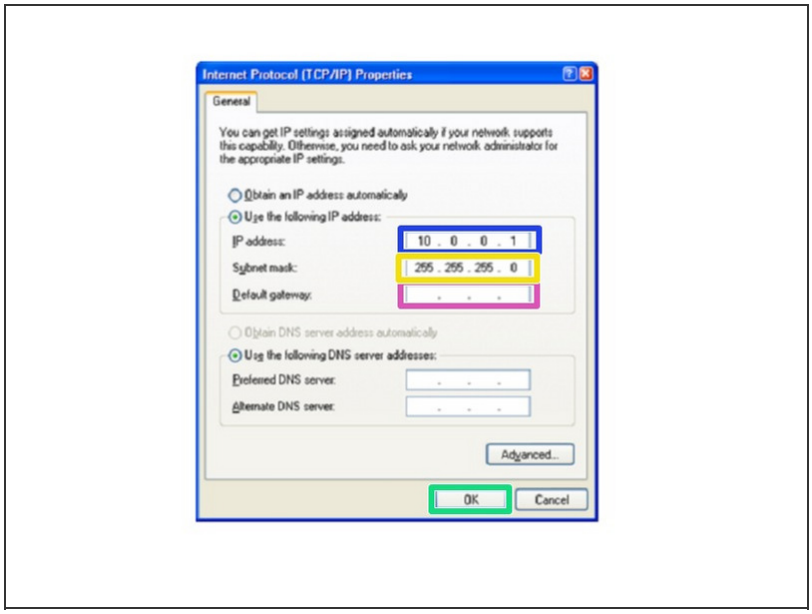
Step 1 — Configuring Network Addresses



Refer to the 'Configuring Network Addresses' Section of 'Using Network Data Concentrators' first

- IP addresses can be modified for the PC by going to:
  - **'Control Panel'** and clicking on the 'Network Connections' icon
  - Select the appropriate network connection from the choices provided (this will vary depending on PC system configuration) and right-click on it to bring up a pop-up menu
  - From the pop-up menu, select the 'Properties' item
  - Select 'Internet Protocol (TCP/IP)' and then click the 'Properties' button

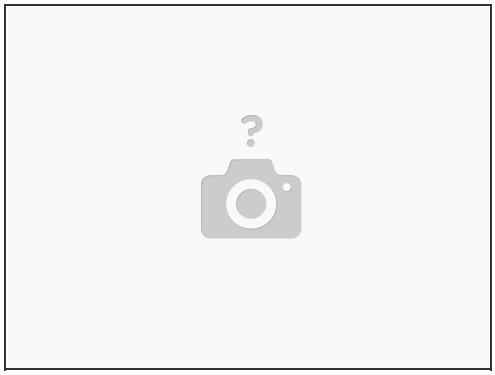
Step 2 — Configuring Network Addresses Cont...



- Enter in an address of the form 10.0.0.x where x>=1 and x<240, in the 'IP address' field
- Use 255.255.255.0 in the 'Subnet mask' field
- The other fields for gateway and DNS servers can be left blank
- Click the 'OK' button in the 'Internet Protocol (TCP/IP) Properties' window
- Click the 'OK' button in the 'Local Area Connection Properties' window

It may be necessary to modify the TCP/IP properties for the PC's network connection to the SAA data concentrators, so that the PC has a static IP address of the form 10.0.0.x where x>=1 and x<240

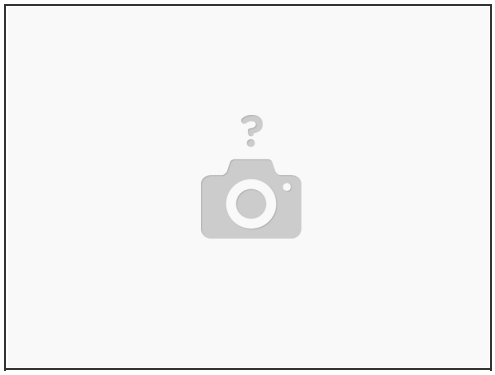
Step 3 — Recommended Hardware Connection Procedure



- Connect the data cable from each SAA to the 10-pin port of a data concentrator
  - It does not matter which SAA is connected to which data concentrator - the SAA and data concentrators are automatically detected by SAARecorder application
- Connect the Ethernet cables from each data concentrator to the multi-port network hub / switch
- Connect an Ethernet cable from the PC to the same multi-port network hub / switch
- Apply power to the hub / switch using the wall-mount adapter provided

ⓘ If just a single SAA is being used with a data concentrator, follow the same instructions, except the hub is not necessary

Step 4 — Recommended Hardware Connection Procedure Cont...

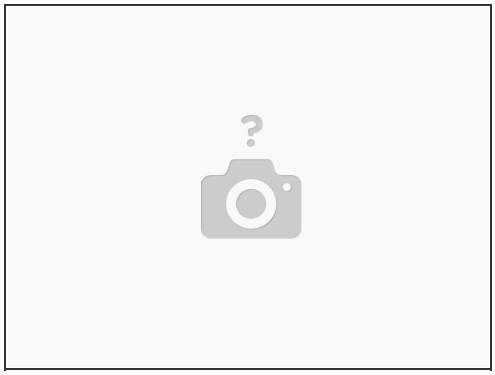


- An Ethernet crossover cable can extend directly from the data concentrator to the PC
  - **Measurand** also sells single SAAs with four to eight segments and attached RS-232 to RS-485 converters that terminate in a DB9 serial connector and can be connected directly to PC serial ports
  - These SAAs do not require a data concentrator

If a serial-to-USB adapter is to be used, please contact **Measurand** for recommended devices

Some serial-to-USB adapters will not operate at high speed, or will not work with all hardware.

Step 5 — Recommended Hardware Connection Procedure Cont...

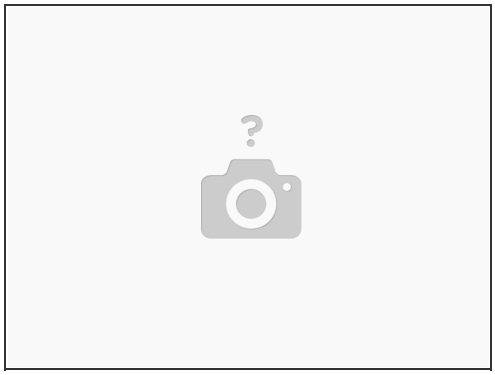


The following steps are for SAAs connected to data concentrators only

- Apply power to each of the data concentrators by plugging in their corresponding wall-mount adapters
- Wait approximately 30 seconds for each of the data concentrators to boot up and establish network connections
- Perform network testing (optional)
- Start SAARecorder application to collect data

When powering down a data concentrator, it is necessary to wait a minimum of 20 seconds before re-applying power

Step 6 — Recommended Hardware Shutdown Procedure



- Close SAARecorder application (if it is running)
- Unplug the wall-mount adapters for each of the data concentrators (if used)
  - OR unplug the power cable from the SAA's power injection input (if used)
- Unplug Ethernet cables from the multi-port network hub / switch (if used)
- Unplug each SAA data cable from the 10-pin data concentrator ports (if used)
  - OR unplug each SAA's DB9 connector from its corresponding PC serial port

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