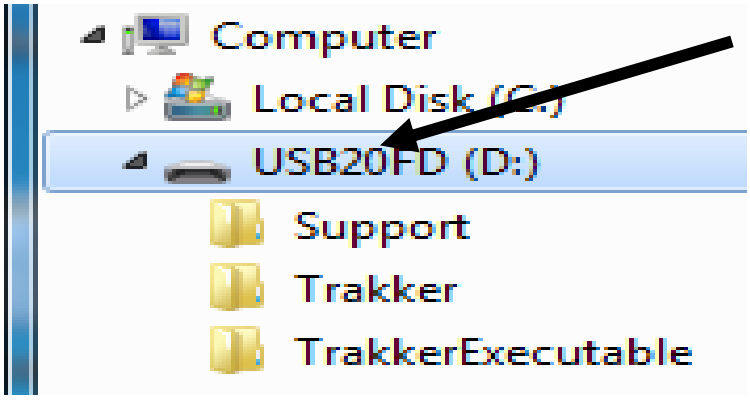
Operating instructions
for the
TRAKKER 3.0.22
Data Acquisition and Control system.

"Smart board", "HOUND", & "OWL"

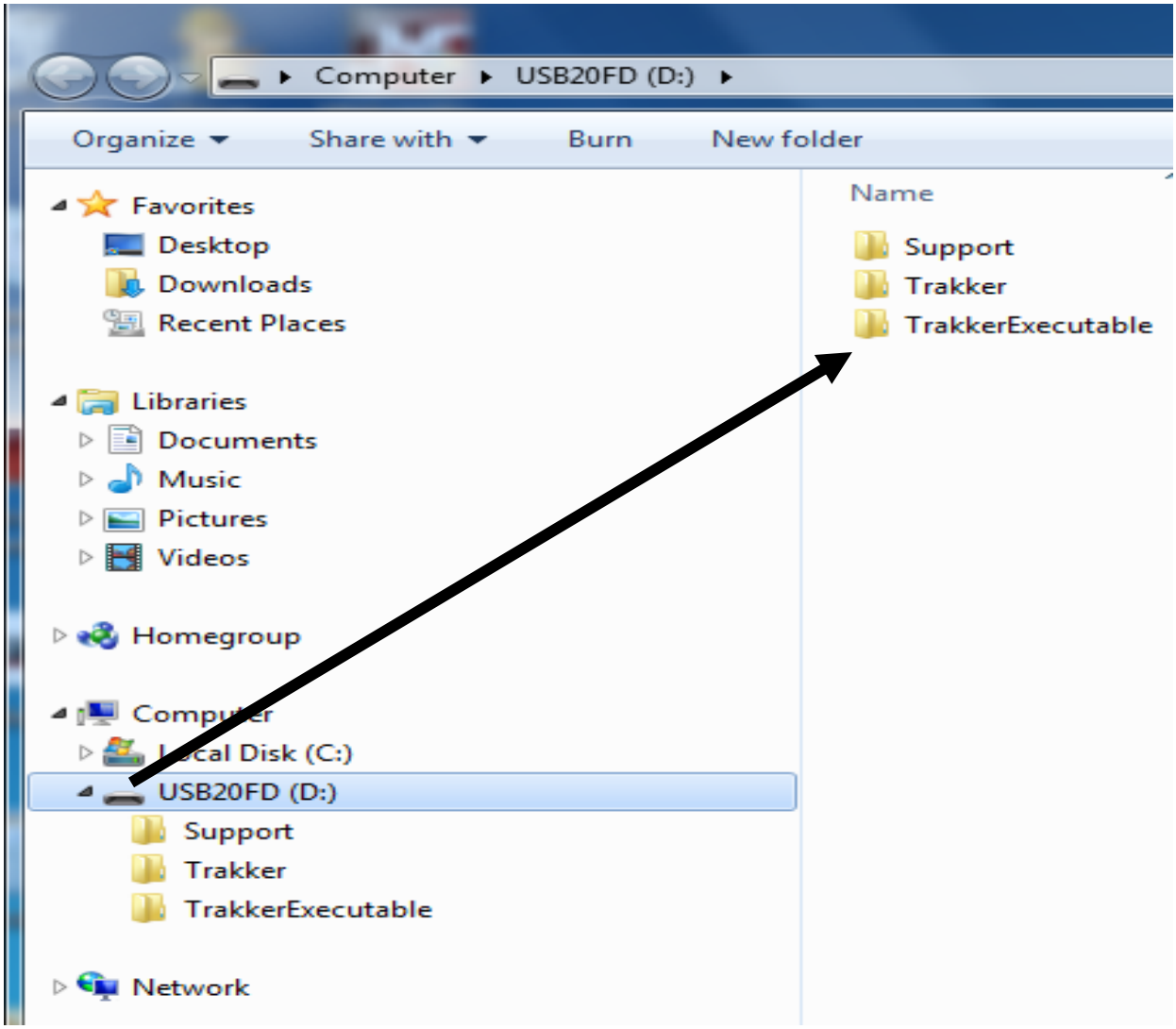
The TRAKKER system is comprised of three major parts:

1) Computer operating platform (software that allows a computer to control the smart boards Hound and OWL)
2) Smart-boards - Hound (16 analogue signals in, 16 digital signals in, 20 ea 485 vibration sensors in
   OWL (16 analogue signals in, 16 digital signals in, 20 ea 485 vibration sensors in, 16digital outputs and 16 analogue outputs)
3) Sensors:
   - Temperature
   - Humidity
   - Vibration/temperature
   - Light lumens
   - Flow - water/oil/hydraulic fluid, etc.
   - Pressure/vacuum
   - Current consumption (Voltage x Amps - expressed in KW)
   - Ammonia 0 to 30 ppm or 50ppm to 500 ppm
   - Noise
   - pH
   - Conductivity
   - Oxygen
   - NOX
   - Weight
   - Others

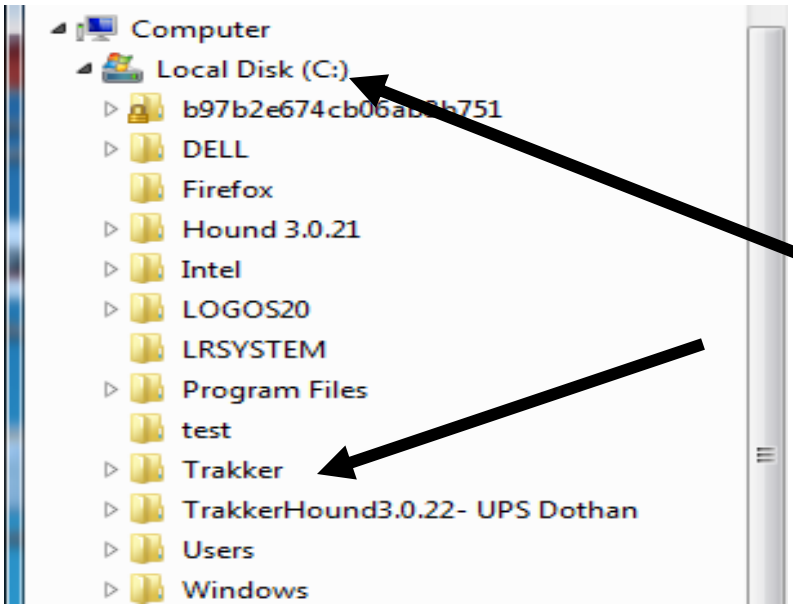
Getting started:



The TRAKKER operating system will be delivered on a thumb drive or downloaded from drop box or a compatible delivery system



When the software is received the file will be as shown above. There will be three files that can be downloaded or transferred from the thumb-drive.

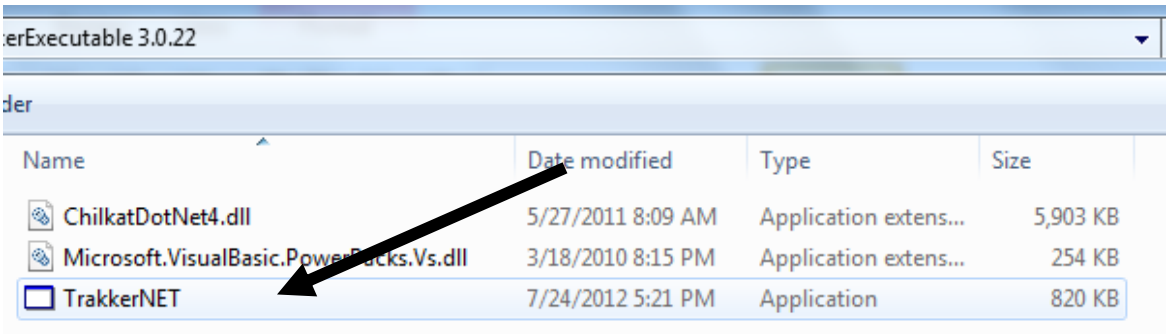


The **Computer must have Office 2010 Plus Access in order to utilize the TRAKKER application**

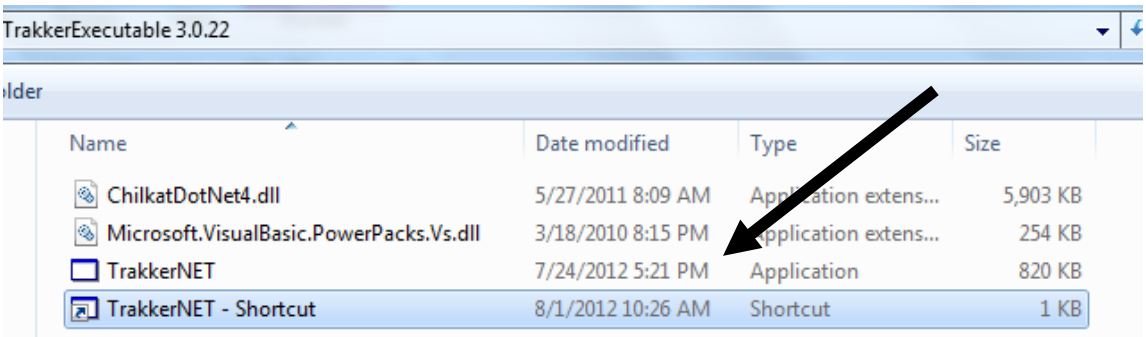
Copy the TRAKKER file and the TRAKKER Executable file to the Root C Drive (Local Disk (C:)

Do not put the two files in the program file

Open the TRAKKER Executable File and right click on the application file and choose Create Shortcut

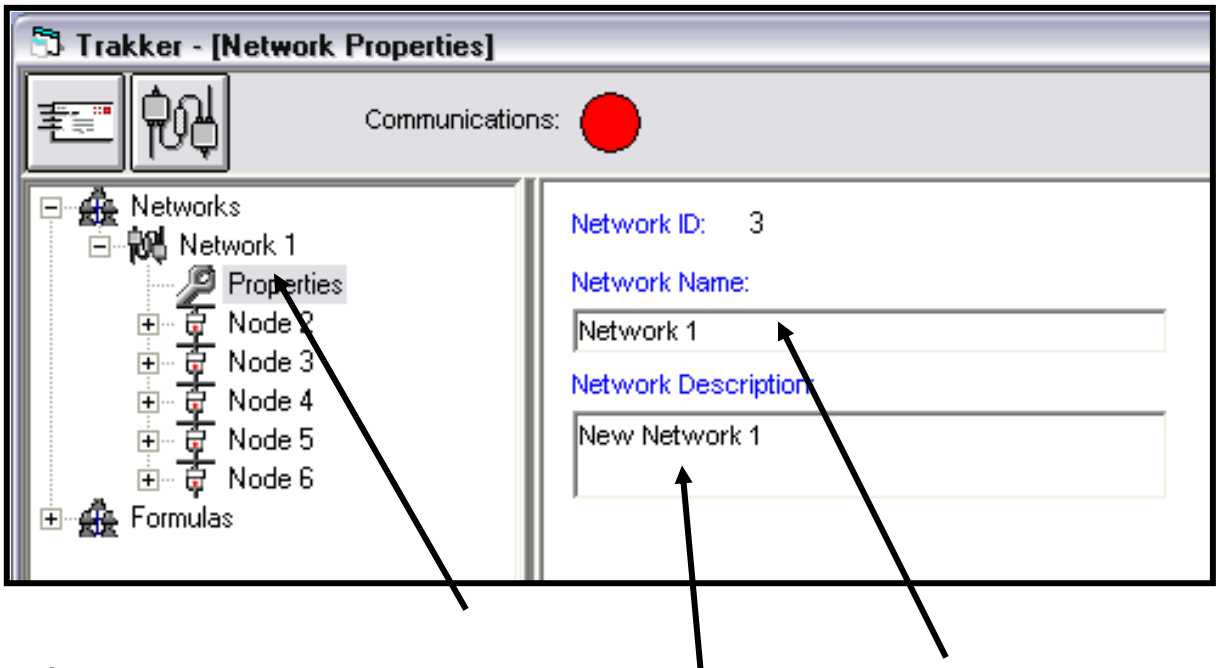


When the TrakkerNet – Shortcut appears, left click on the Shortcut file and move to the desktop



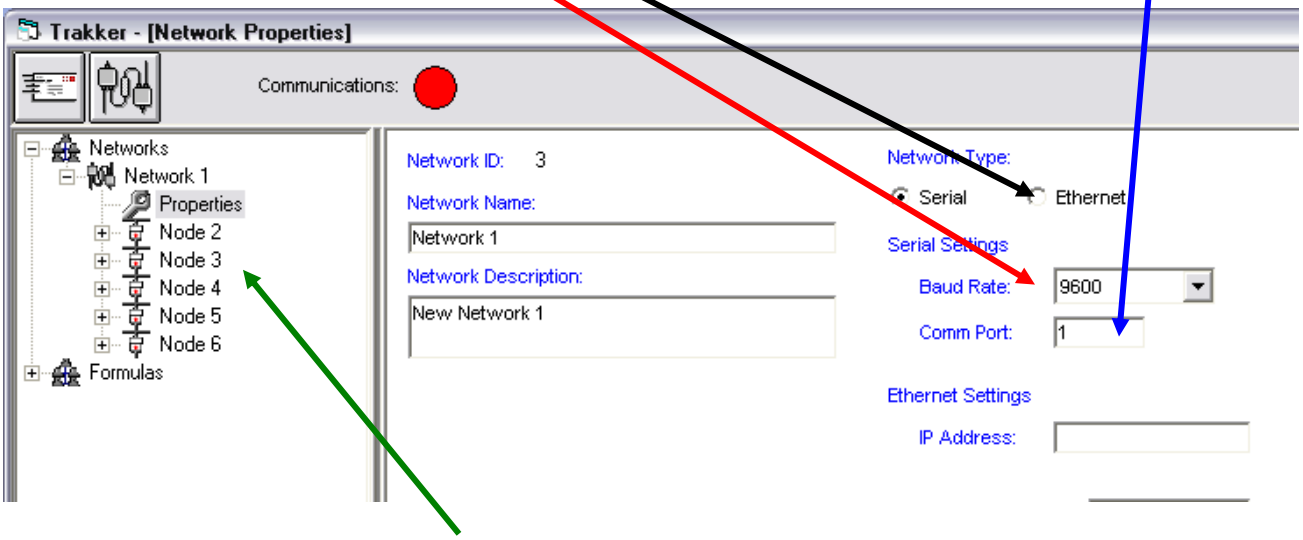
Double click the Desktop TRAKKER Icon and the following screen appears

The pull down should be viewed in two major sections, **the first** of which is **Formulas** and that is all located, along with **Networks**, in the top left of the drop down.



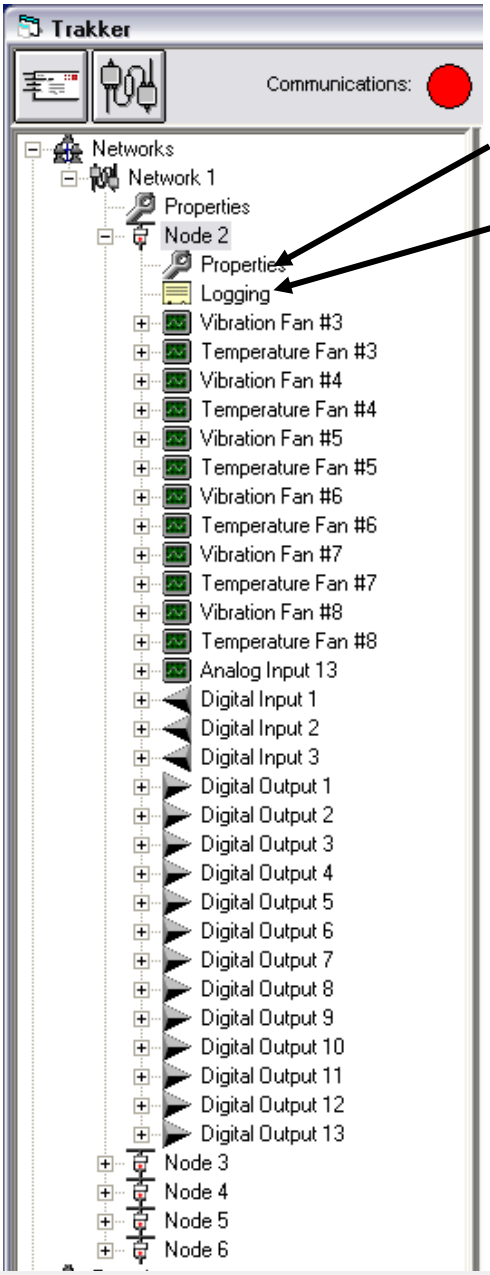
The first item under Networks is Network. The operator may choose to run several Networks simultaneously. Each Network should be given a distinctive Network "Name". If there are multiple Networks, then each network needs to be described so that the engineering staff and the Maintenance Personnel can be on the "Same Page".

When each paarticular Network is being named, the operator needs to determine the network type, i.e. serial or ethernet, and it the network is to communicate through a serial port then the Baud Rate needs to be set (9600 is the default Baud Rate at this time). Last, the Com Port needs to be identified. If there are multiple Networks, then each Network will be on a separate Comport



Under each Network there will be Nodes (IT term for the cards or smart boards).

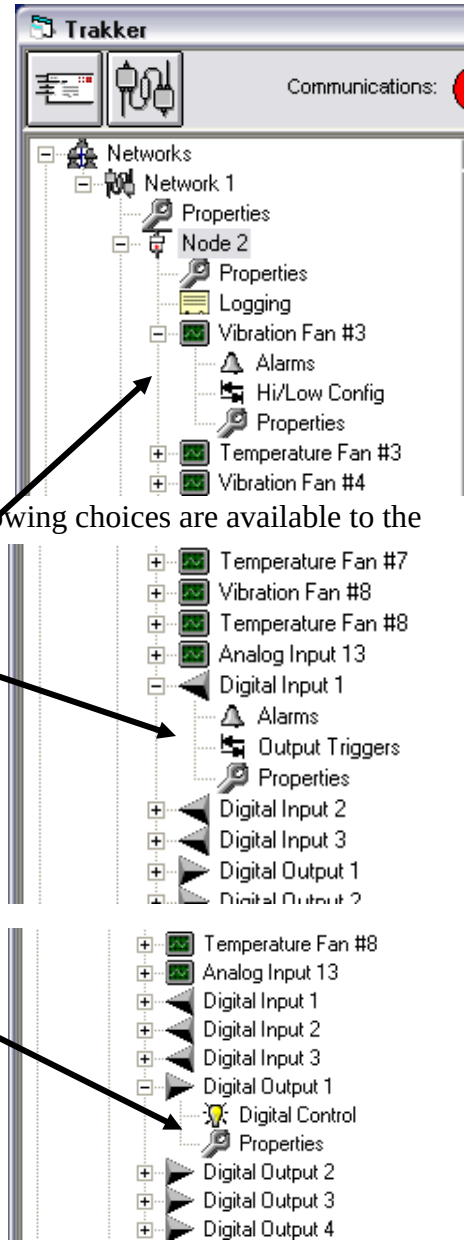
Each of the Nodes will have a **minimum** of 13 analog inputs, 3 Digital Inputs, and 13 Digital Outputs. Click on each Node and the following menu will appear



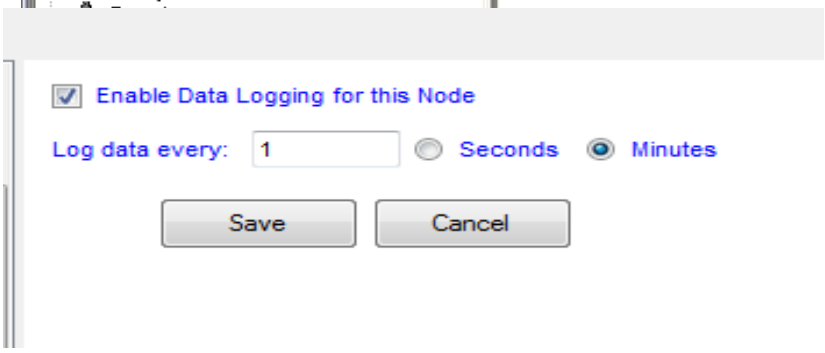
Click on the Node Properties and the Logging option to set those controls – see picture below

Click on each of the Analog points or a Digital Input point and the following choices are available to the operator

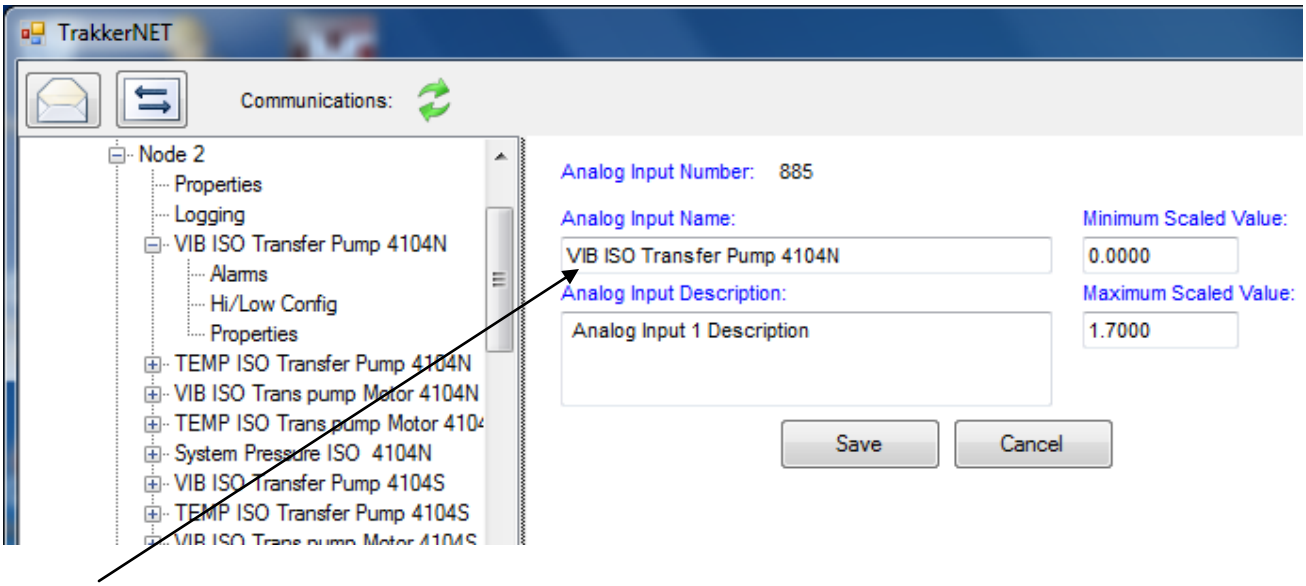
Alarm
Hi/Low Config
Properties



If you click on a Digital Output point then there are only two choices available



Click on the "Logging" button And the following choices are available: Daily, Weekly, Monthly, or Yearly. Monthly is recommended

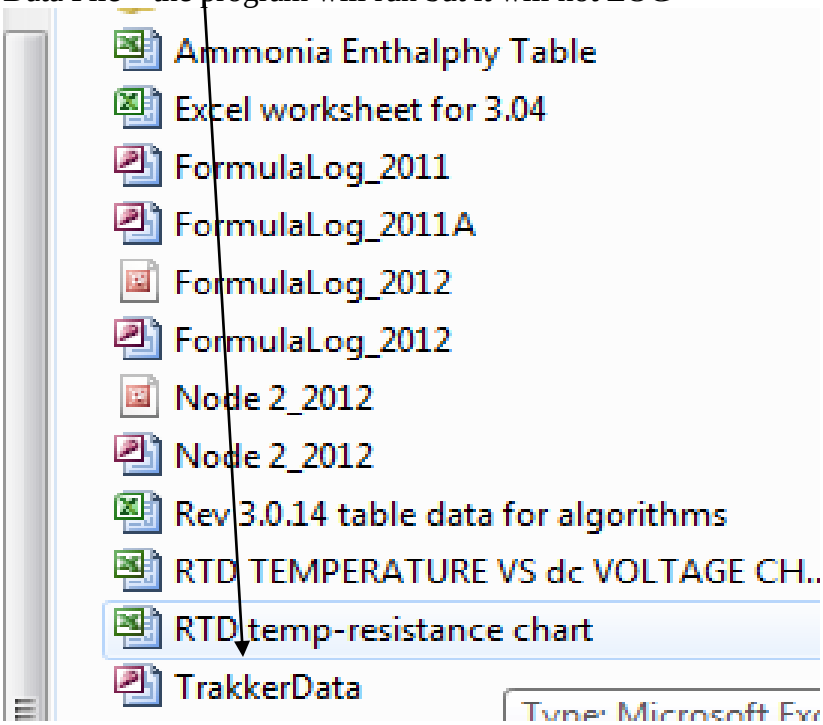


Tag names are very important and have to be handled in the following manner:

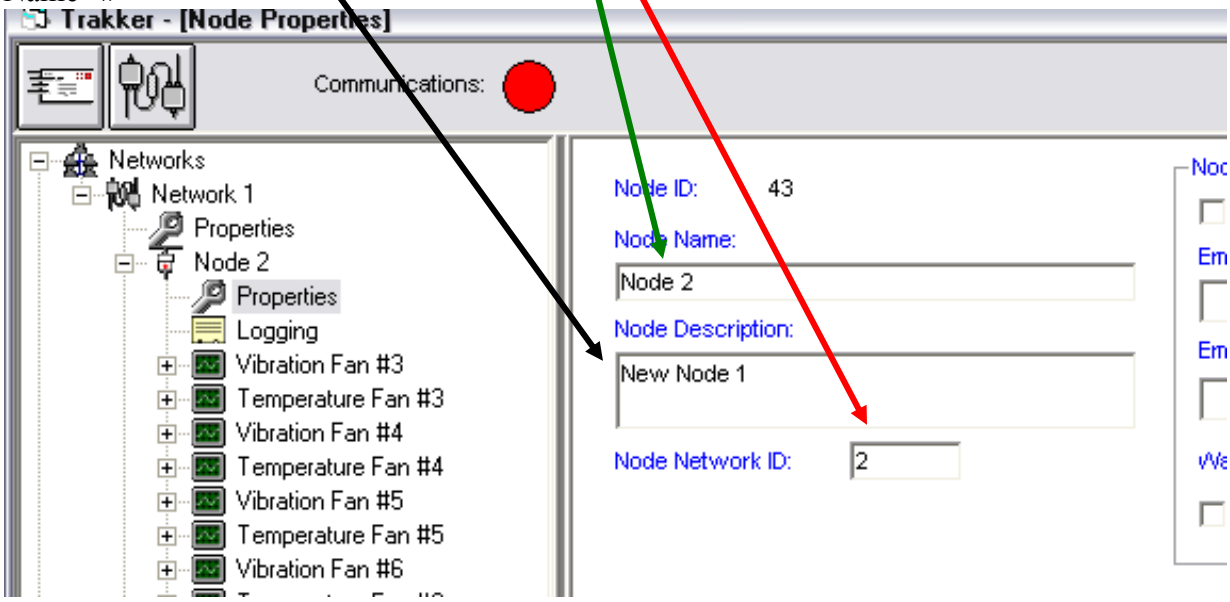
When the TRAKKER program is being set up the information that is entered in the Tag Name box is transferred to the Access Mdb file that is created in the TRAKKER file which is in the "Root" of the "C" drive. Once the name has been determined the program logs the analog data, the digital input and/or digital output data in the cloumn which is termed by the data entered in the ag Name box.

If, for any reason, the **Tag NAME is changed** the node data file in the TRAKKER file must be discarded and the TRAKKER program - when the communications are begun again – will create a new Data file with the changes in the Tag Names duly noted.

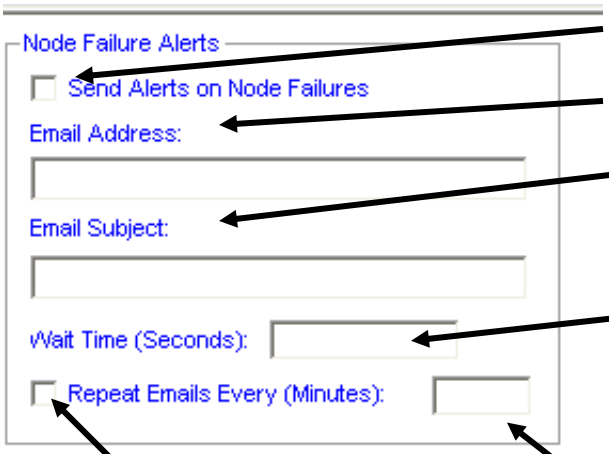
If you do not follow this procedure and attempt to run the program without creating a new Data File – the program will run but it will not LOG



The "Properties" drop down menu is very important. First, the computer program is going to set the "Node Description" and whatever that description is – it should not be changed. Second, the "Node Name" is set by the operator – the "Node Name" is determined by the IC on each "Smart Board", i.e. 2, 3, 4, 5, etc.. the "Node Network ID" number must be the same as the "Node Name" #



The balance of the pull down is dedicated to communications. In the event that the TRAKKER operating system determines that a "Node" is not responding to requests for information or control the system will send an "Alert" that there has been a communication failure. In order for that Alert to be activated, the following data must be completed.



First, check the "Send Alerts on Node failures" box

Second, complete the information request in the Email Address blank

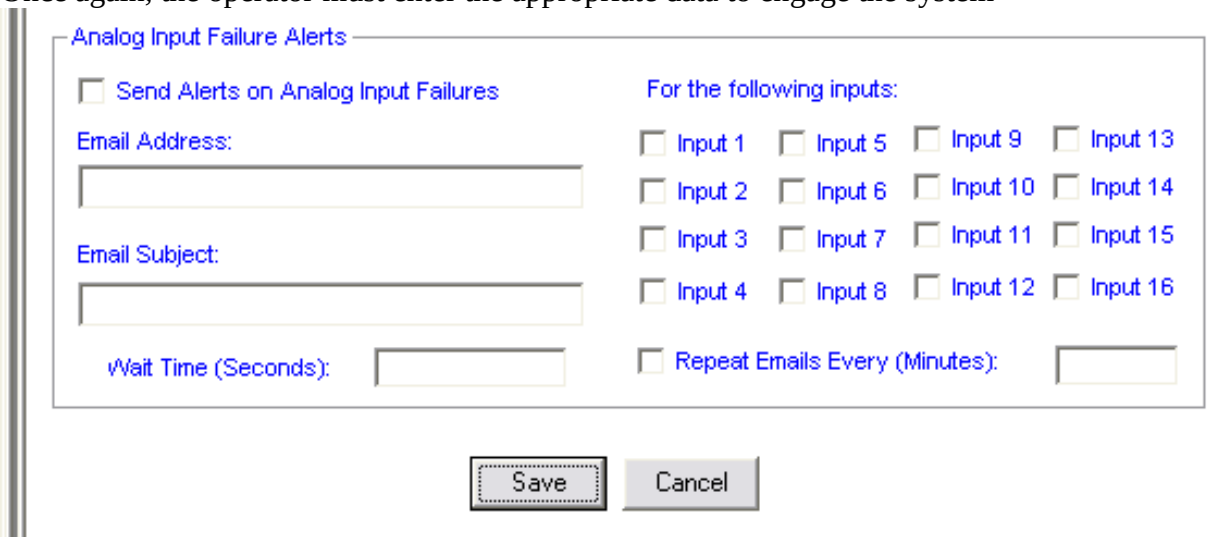
Third, give the notification a subject that will give the party to be notified, a clear understanding of where the communication failure is.

Fourth, there should be a Time delay defined in the "Wait Time" blank. All environments that generate analog data also generate inductive currents that will from time to time cause the data transmission from a Node or a Node Point to time out or suffer some distortion. The TRAKKER system is polling the Nodes every 200ms to 250ms, so a delay of 60 seconds would dictate that the communication failure would have to continue through four or five polls (1000/200 or 1000/250).

Fifth, the "Repeat Emails" box must be checked and a time determined for each repeat. The nature of a node and how critical the analog data is should determine the Repeat time.

The TRAKKER system also has a feature that provides notification in the event that an Analog Input point is no longer communicating with the Node (Smart Board). The system gives the operator the opportunity to determine that all of the analog communication points will provoke a failure notice or some selected number of analog points.

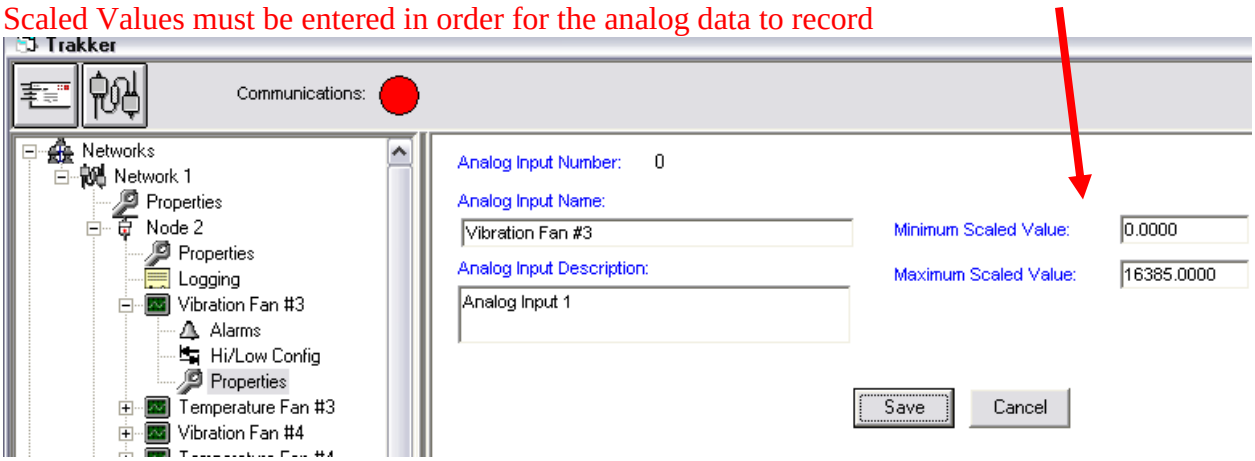
Once again, the operator must enter the appropriate data to engage the system



Last, the operator must always click the "Save" button in order to engage any change that is made.

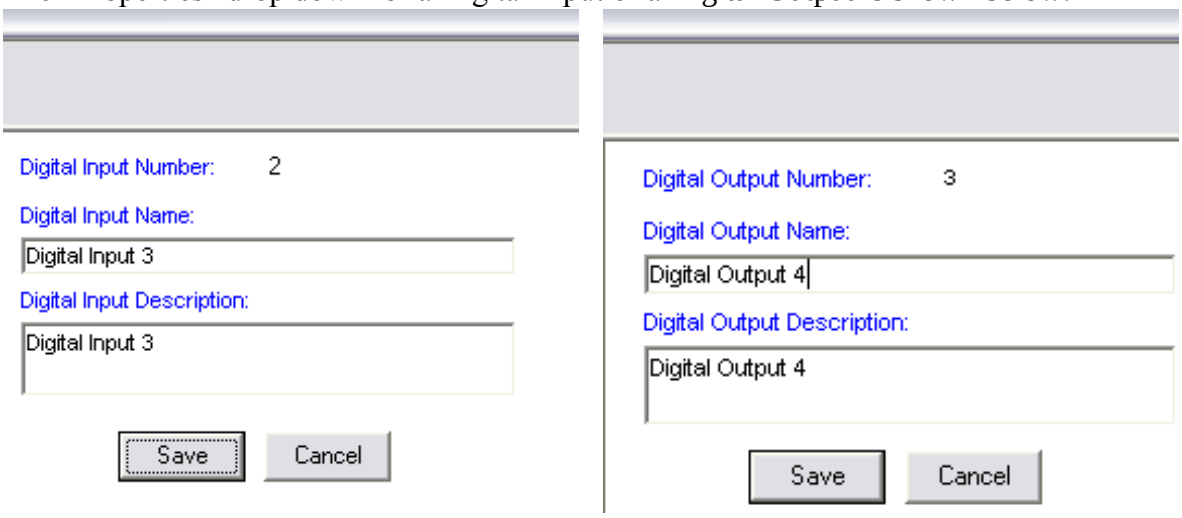
NOTE: the changes to the system need to be made while the program is not communicating with the Smart Boards.

The "Properties" drop down for an Analog point is shown below. The Minimum and Maximum Scaled Values must be entered in order for the analog data to record

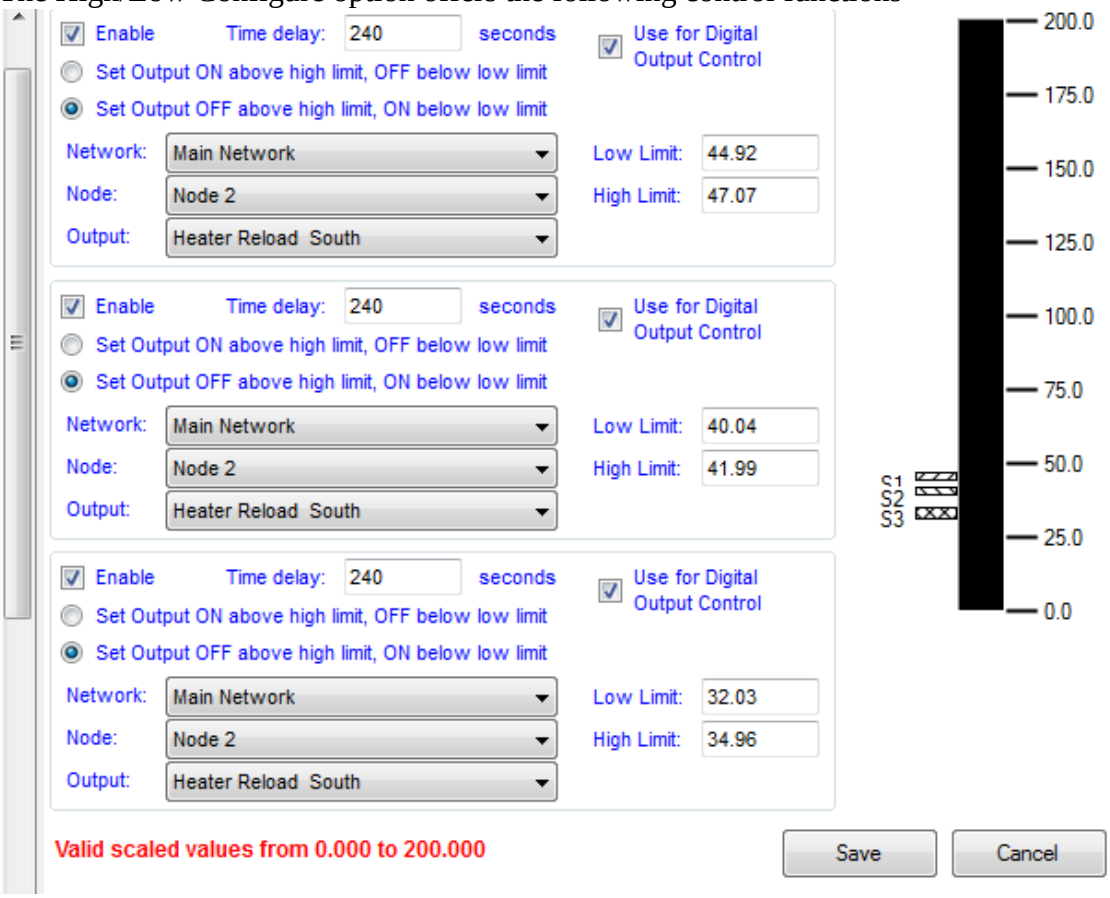


Last, the operator must always click the "Save" button in order to engage any change that is made.

The “Properties” drop down for a Digital Input or a Digital Output is shown below:



The High/Low Configure option offers the following control functions



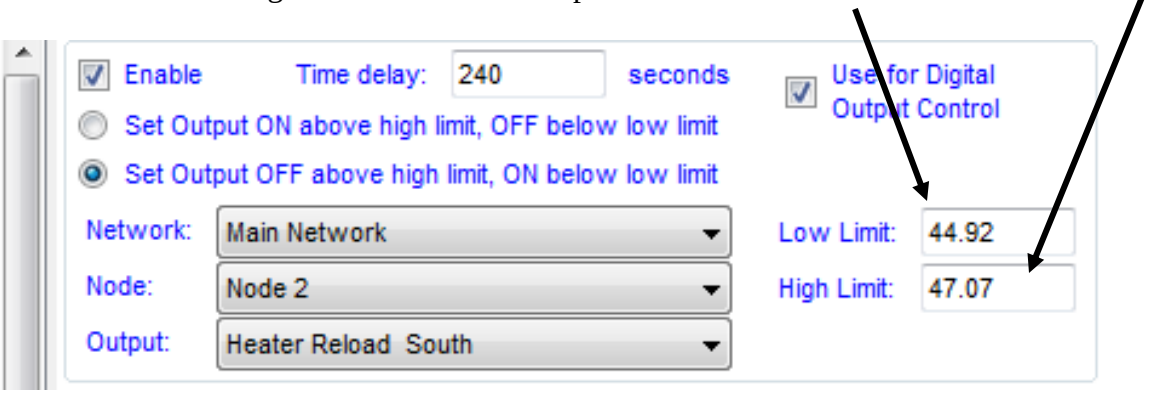
If the “Use for Digital Output Control” option is chosen, then the set points which are set for any of the analog inputs can be used to control the Node and Point chosen in the Analog Config menu

The operator needs to give each Digital Input or digital Output a descriptive Tagname so that each point can be easily identified. When there is only one smart board and just a few sensors, it is fairly easy to remember what each point is doing and where the various sensors are located. However, when the number jumps up to five or six boards and 70 or 80 sensors, it is very

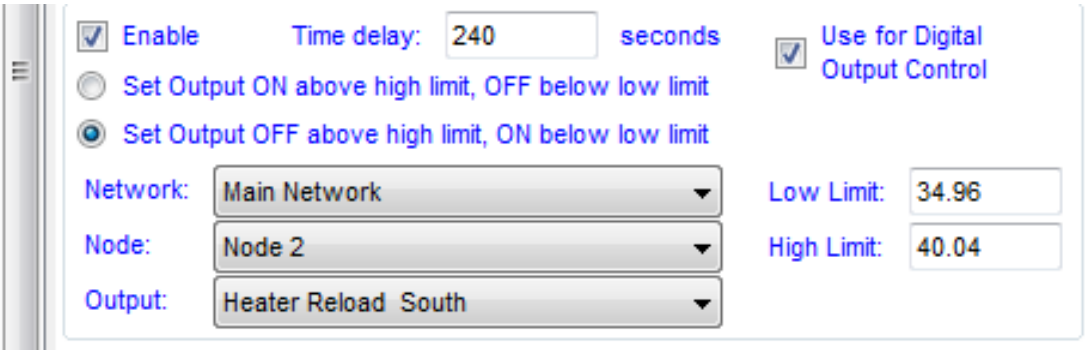
important that each Node and point is accurately labeled with a tag-name that is easily recognized by both engineering and maintenance personnel.

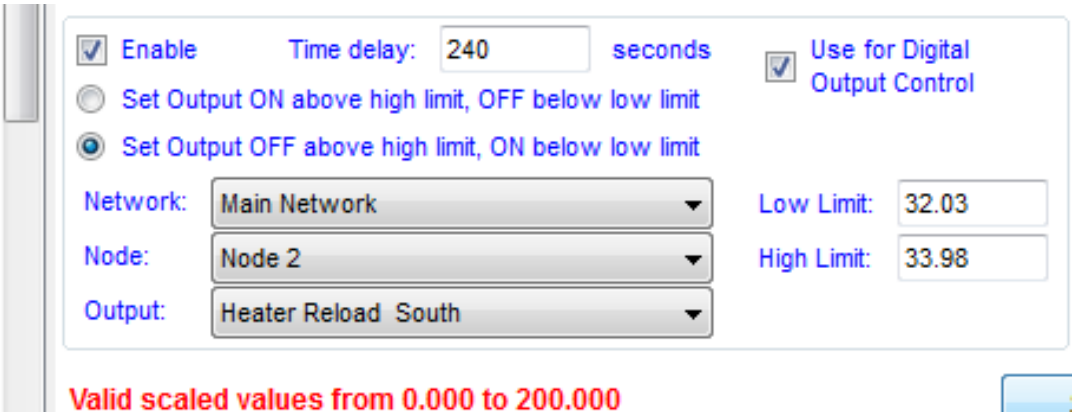
A typical Hi/Low Config drop down for vibration alarms is shown above:

Shown below is a configuration that sets an output to turn **on** below 44.92 and **off** above 47.07



Set point 2 is set to turn on below 34.96 and off above 40.04



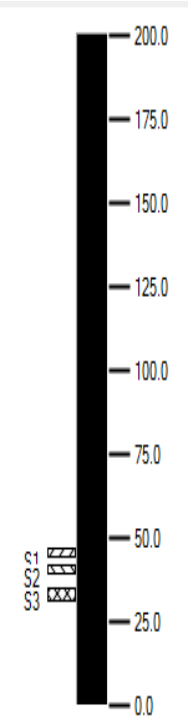


The operator must always click the "Save" button in order to engage any change.

The Hi/Low Configuration allows the operator to set controls for devices (turn things on or off) when the High or Low set points are breached. The operator can select any of the Networks and any Node within that Network and any Digital Output on the chosen Node. The system is

connected across all of the platforms and Node #2 can control Outputs on Node #100 or Node #200 off

The graph below shows each Hi/Low Config pull down and shows each of the set points.



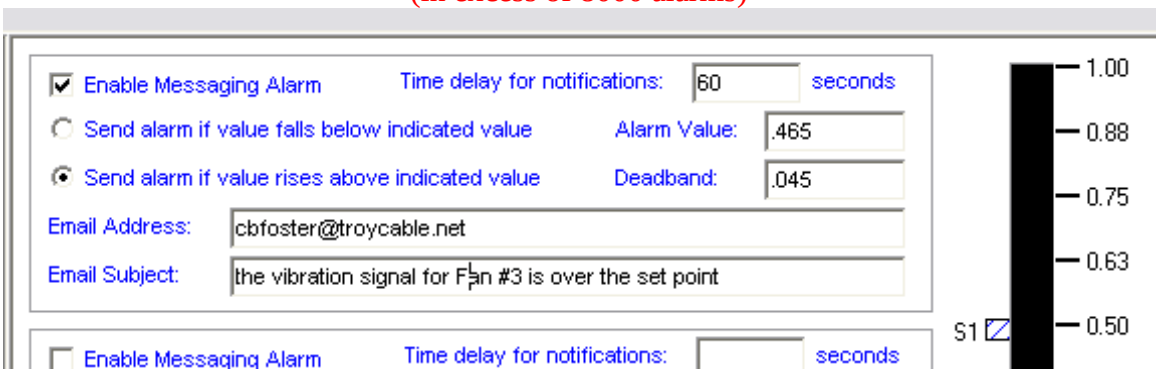
S1 = Set Point #1
S2 = Set Point #2
S3 = Set Point #3

We show three choices for each Analog point, but there can be an indefinite number of choices for specific applications

The alarms pull down is shown below. It is vary similar in appearance to the Hi/Low Config pull down

To engage the Alarm feature for any of the Analog points, begin:
First, by clicking the enable box and then set the desired "Time delay".
Second, select either "Send alarm…" if below or "Send alarm value…" if above
Third, set the "Alarm Value"
Fourth, set the Deadband (historicist number)
Fifth, enter the email address for notification (cell phone # for test messages)
Sixth, describe the "Subject" of the message – be precise in identifying the alarm event.

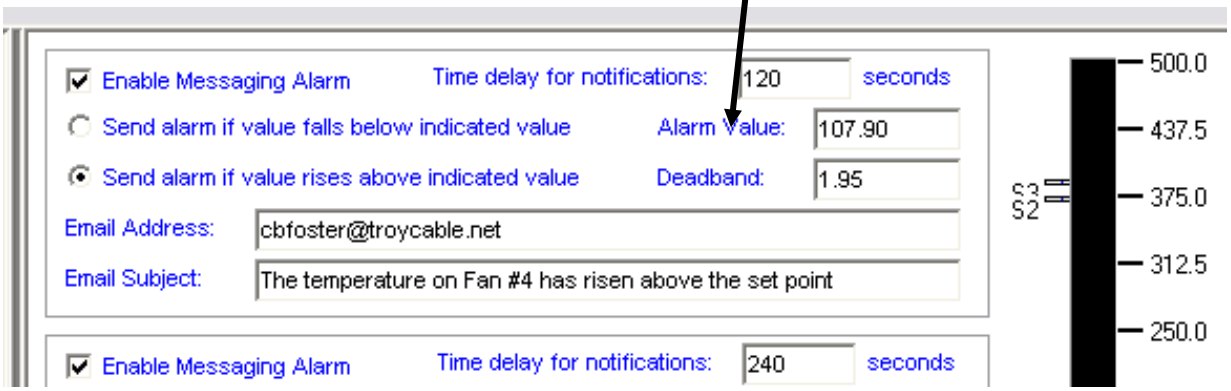
Note: one of two events are fairly easy to remember, but when the grid grows to 80 sensors (the Hound system will accommodate 4000 individual sensors of digital inputs), then with the Hi/Low events are factored in there can easily be 160 alarm events or more (in excess of 8000 alarms)



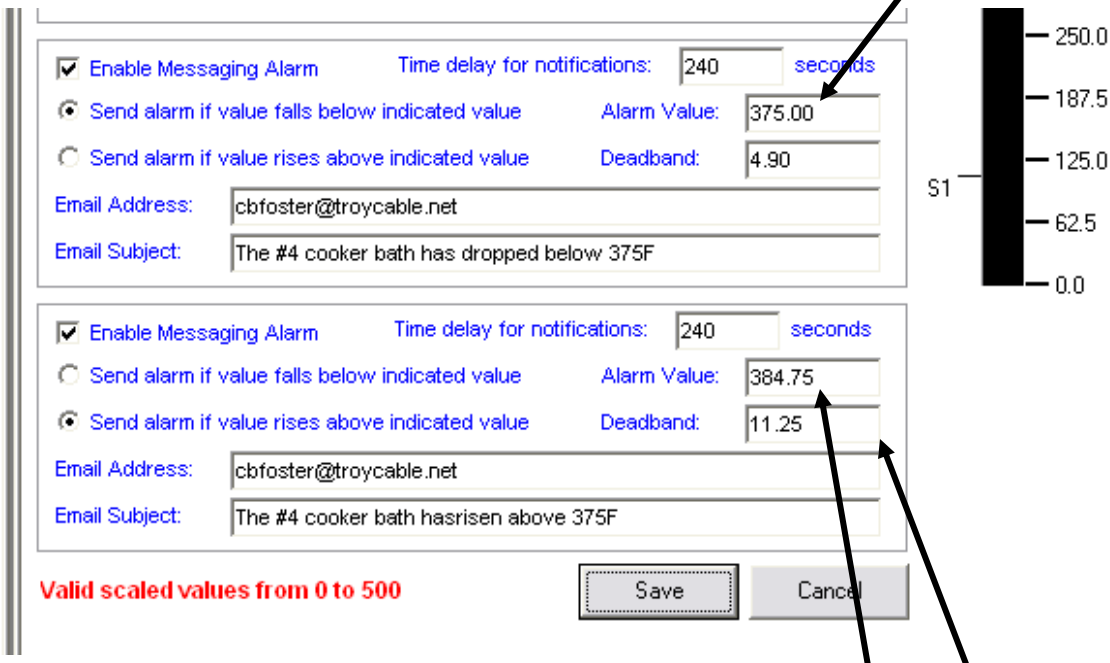
Shown above is an Alarm message that has a time delay of 60 seconds and an alarm set point of .465 with a Deadband of .045

The purpose of the "Deadband" feature is to take the bounce out of device controls. In the first event below it is a warning that a motor is beginning to heat up.

Shown below is an enable alarm with a delay of 120 sec and an alarm value of 108^{0}F and a Deadband of 2.



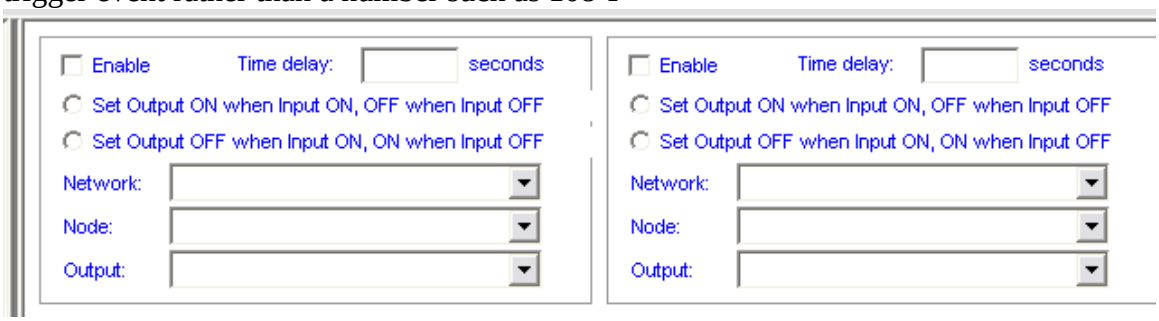
In the second example the oil temperature in Cooker # 4 has dropped below 375^{0}F, with a Deadband of 5^{0}F. The alarm feature can be tied to a device and the device in this situation would be a burner that needs to be turned on when the oil drops below the desired level.



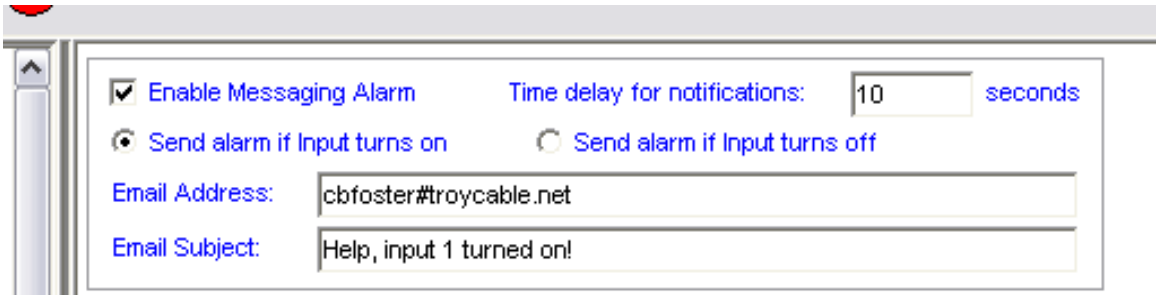
In the third example the cooking oil in the #4 cooker is beginning to rise above the desired product level and the device controller would turn one of the burners off. In either event, it is not desirable for the burner to cycle on and off and on and off continuously, therefore the Deadband (in the "if the event falls below…") determines that the burner will be turned on until the temperature rises to 379.9^{0}F (375^{0}F + 4.9^{0}F) and in the second example ("if the values rises above…") the burner will be turned off until the value reaches 373^{0}F (384.57^{0}F – 11.25^{0}F)

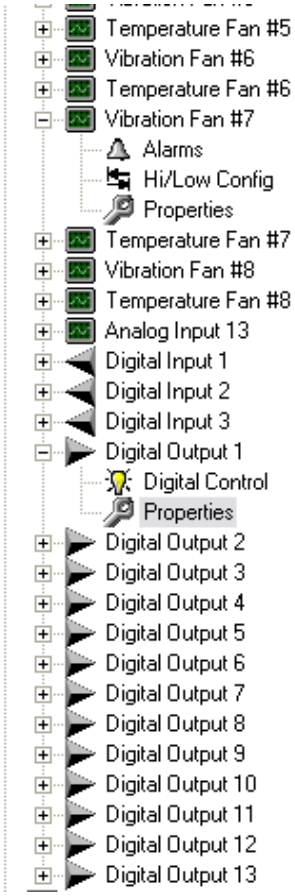
The operator must always click the "Save" button in order to engage any change.

The hooks (Output Triggers) for a digital Input alarm are very similar to the analog Hi/Low Config pull down with the exception that there is something that turns on or off and that is the trigger event rather than a number such as 108^0F

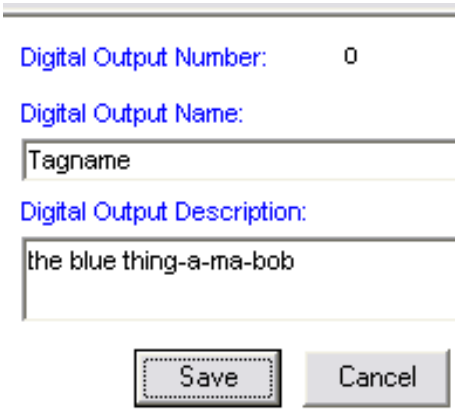


In the same vane, the Digital Input "Alarm" is very similar to the analog alarm.





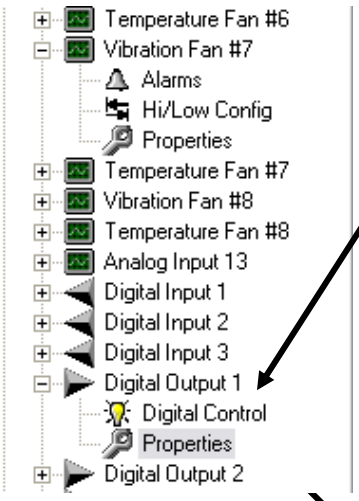
Moving on to the digital Outputs; The properties section of that function is an opportunity to set or define the "Tagname" of the output point and to describe the device if there is more than one device that is being controlled in a particular area



The description can be most helpful in circumstances where an engineer set the program up and a maintenance person is solving a problem

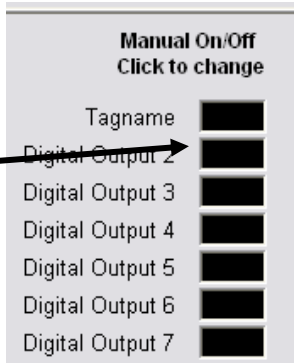
"same page"

The operator must always click the "Save" button in order to engage any change.



The Digital Control function is a bit more complicated and the instructions may cause an operator to believe that he is being asked to build the clock rather than find out what the time is

It is most easily understood if one puts on the "Who is in control hat".

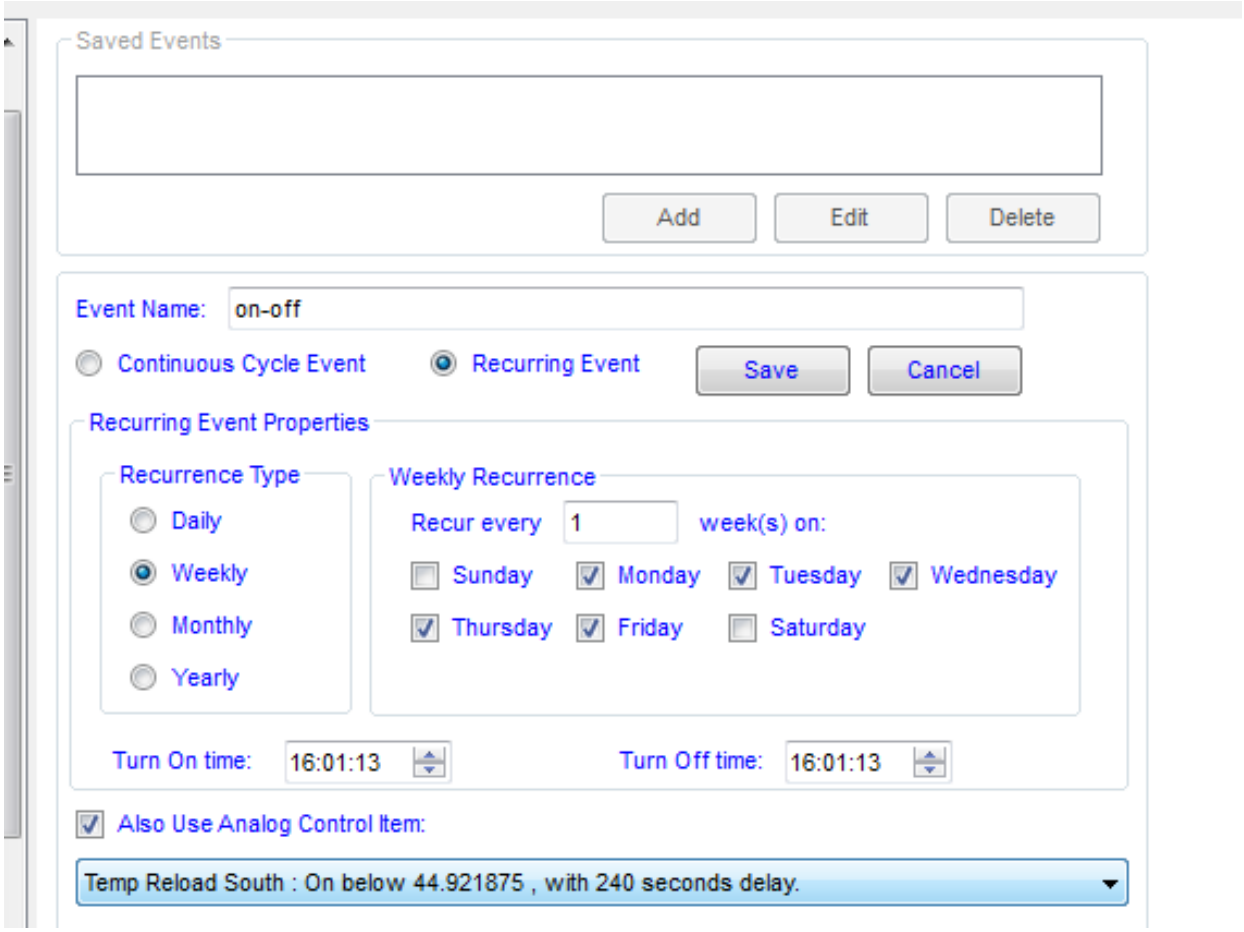


The option are:

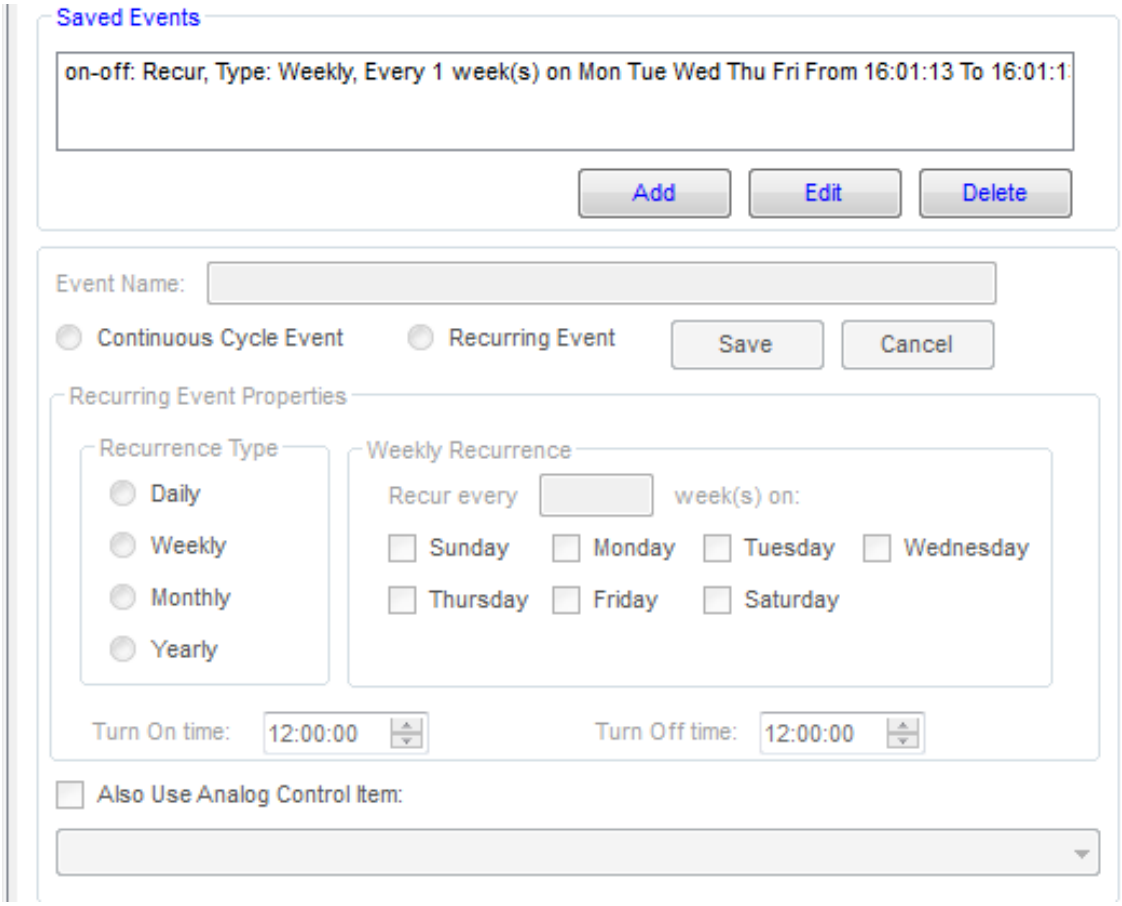
1) Manual = simple click an out point on or off
2) Analog control
3) Digital Input control
4) Continuous Cycle Event
5) Recurring Event

When one clicks on the Digital Control button on the tree at the left we see the following if we choose a "Recurring Event" that is a weekly event that has an Analog set point that is built into the Digital control of a particular output.

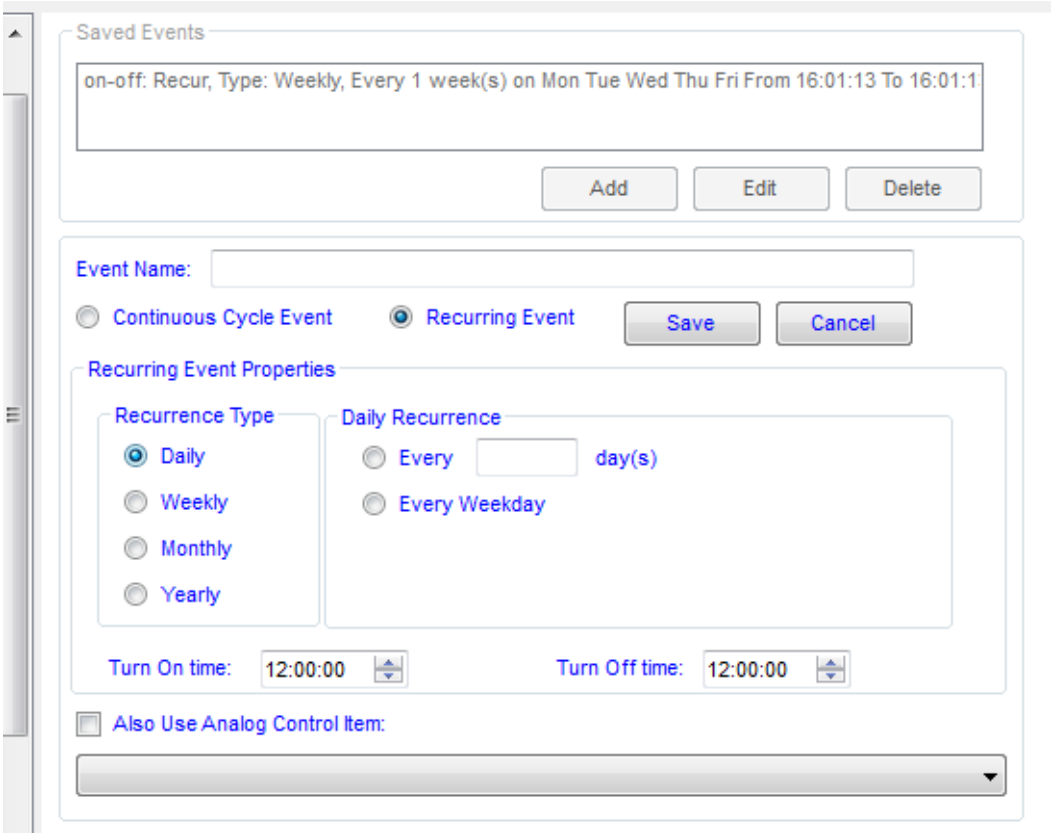
In the event the operator desires a "Recurring Event" then the procedure will be as follows:

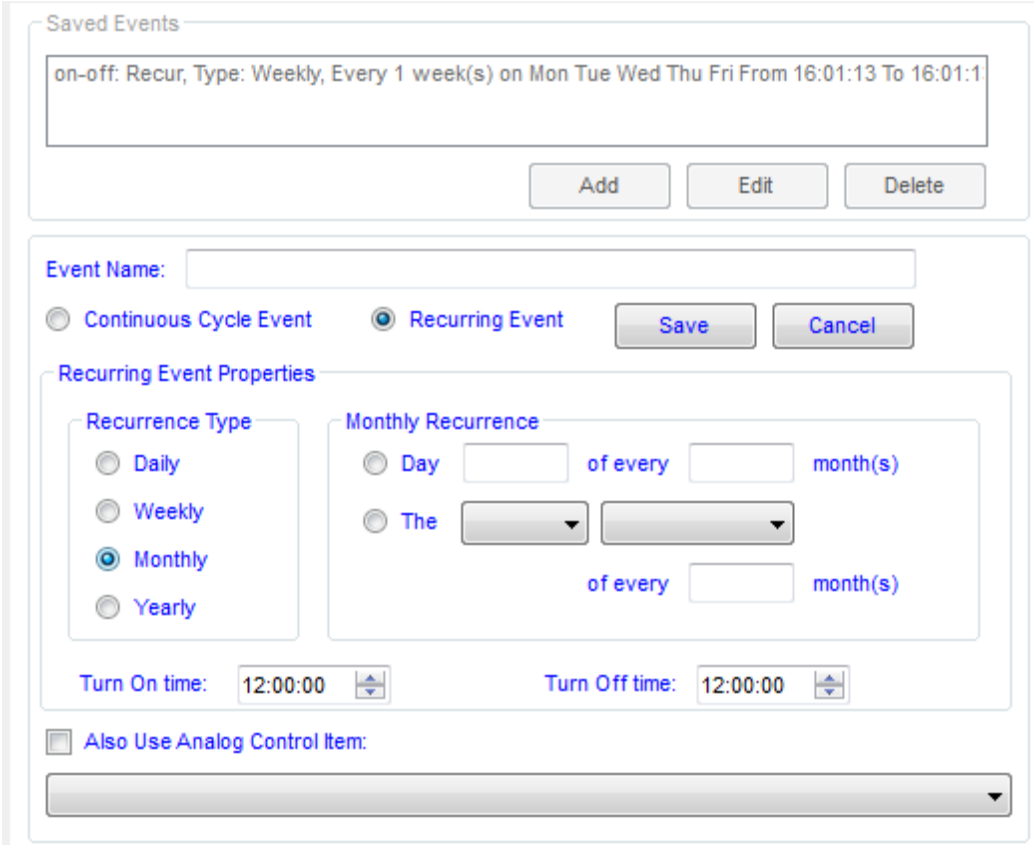


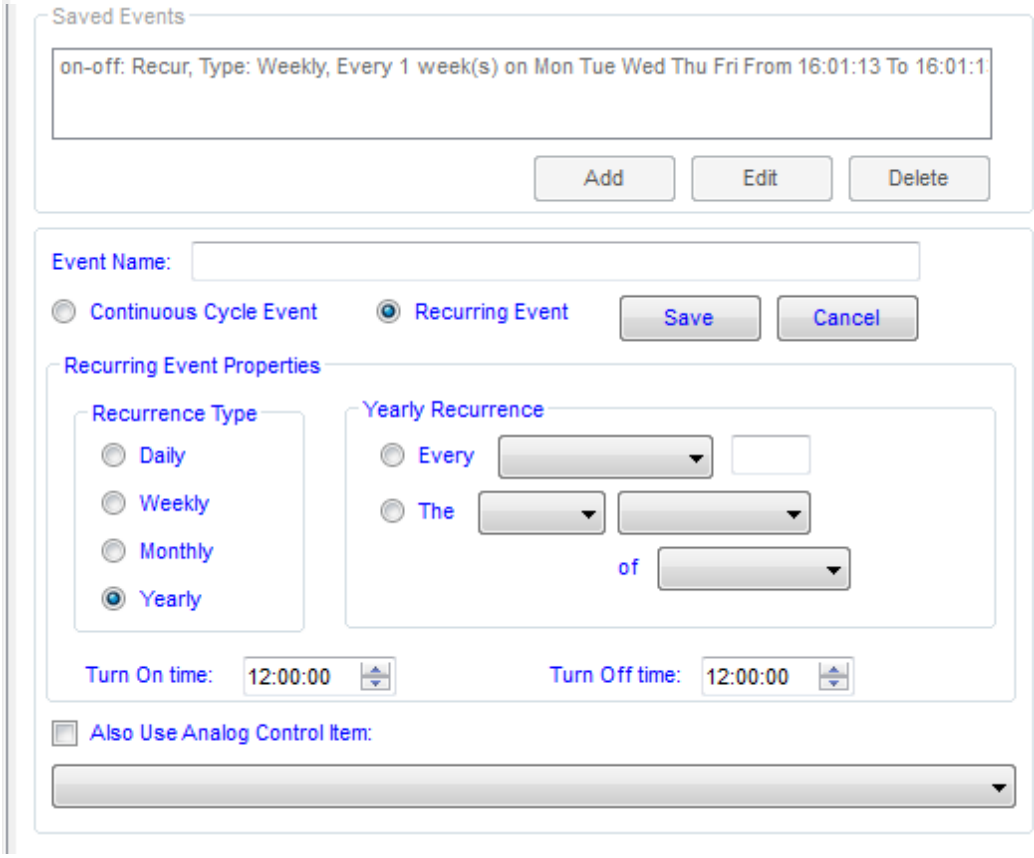
When the save button is clicked the data moves to the top of the pull-down as seen below



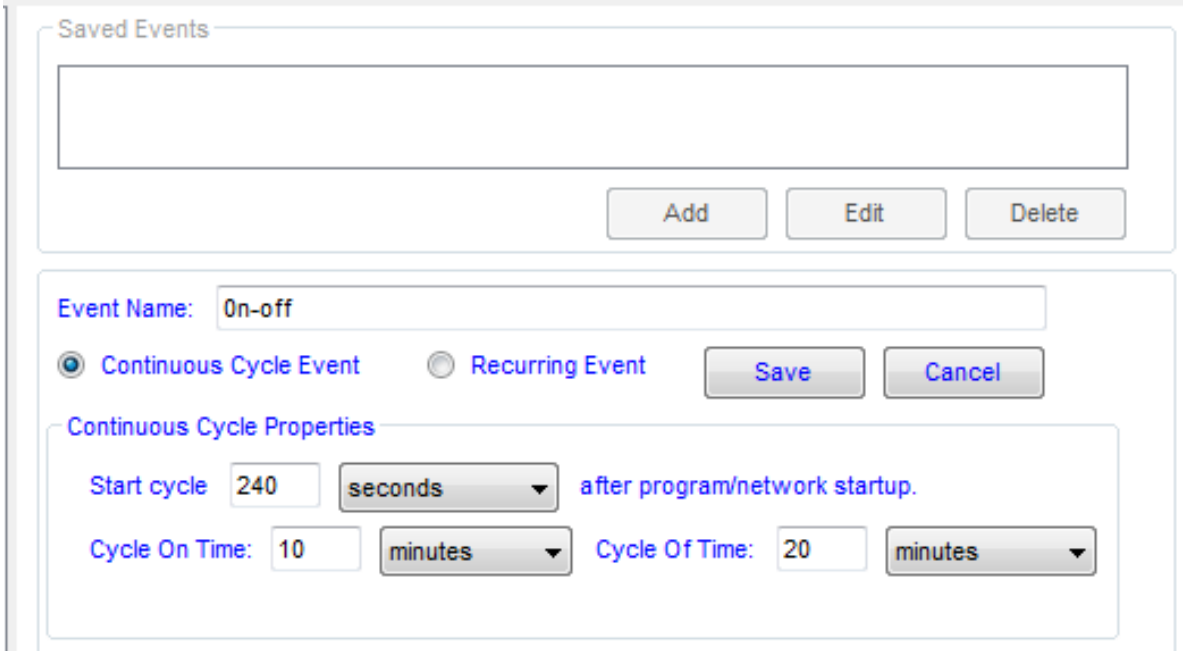
If we choose a "Recurring Event that is Daily, Monthly or Yearly the screen shots are as follows:




Saved Events
on-off: Recur, Type: Weekly, Every 1 week(s) on Mon Tue Wed Thu Fri From 16:01:13 To 16:01:1
Add
Edit
Delete
Event Name:
Continuous Cycle Event
Recurring Event
Save
Cancel
Recurring Event Properties
Recurrence Type
Daily
Weekly
Monthly
Yearly
Monthly Recurrence
Day
of every
month(s)
The
of every
month(s)
Turn On time:
12:00:00
Turn Off time:
12:00:00
Also Use Analog Control Item:


Saved Events
on-off: Recur, Type: Weekly, Every 1 week(s) on Mon Tue Wed Thu Fri From 16:01:13 To 16:01:1
Add
Edit
Delete
Event Name:
Continuous Cycle Event
Recurring Event
Save
Cancel
Recurring Event Properties
Recurrence Type
Daily
Weekly
Monthly
Yearly
Yearly Recurrence
Every
The
of
Turn On time:
12:00:00
Turn Off time:
12:00:00
Also Use Analog Control Item:

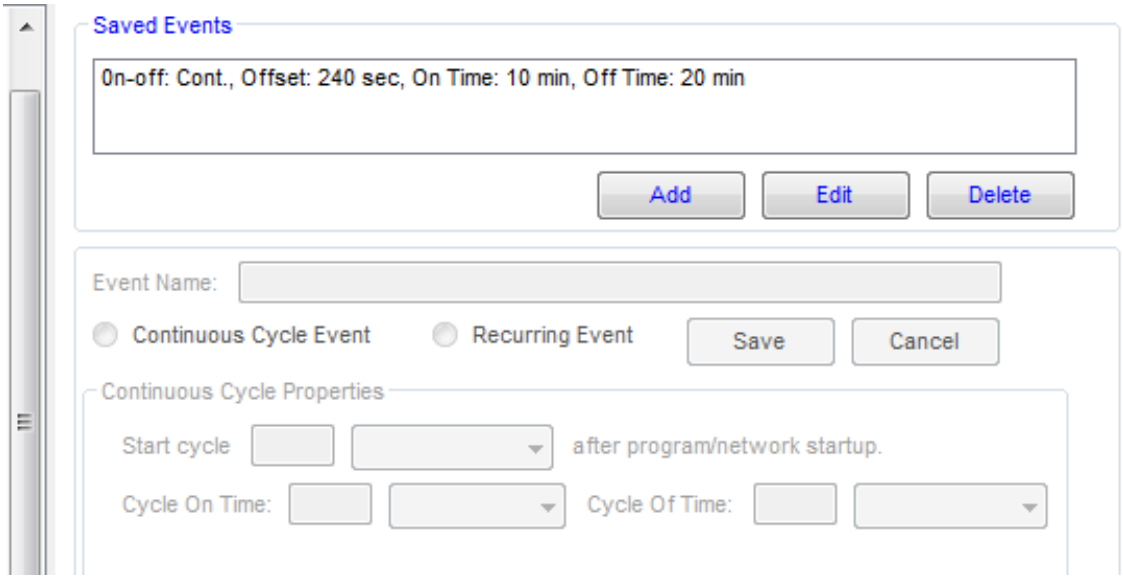
The next option is to “Click” either Continuous Cycle Event or Recurring Event.



We are then directed to describe the Event by designating it’s name. then the next step is to decide that it will be (in the example below) a “Continuous Cycle Event and then the operator will be directed to enter the following:

1) Start Cycle time
2) Cycle On time
3) Cycle Off time.

When the **save** Button is clicked the Continuous Cycle Event will be recorded in the programs registry and it will appear as shown below to any individual that clicks on the “Digital Control button for that particular Digital Output

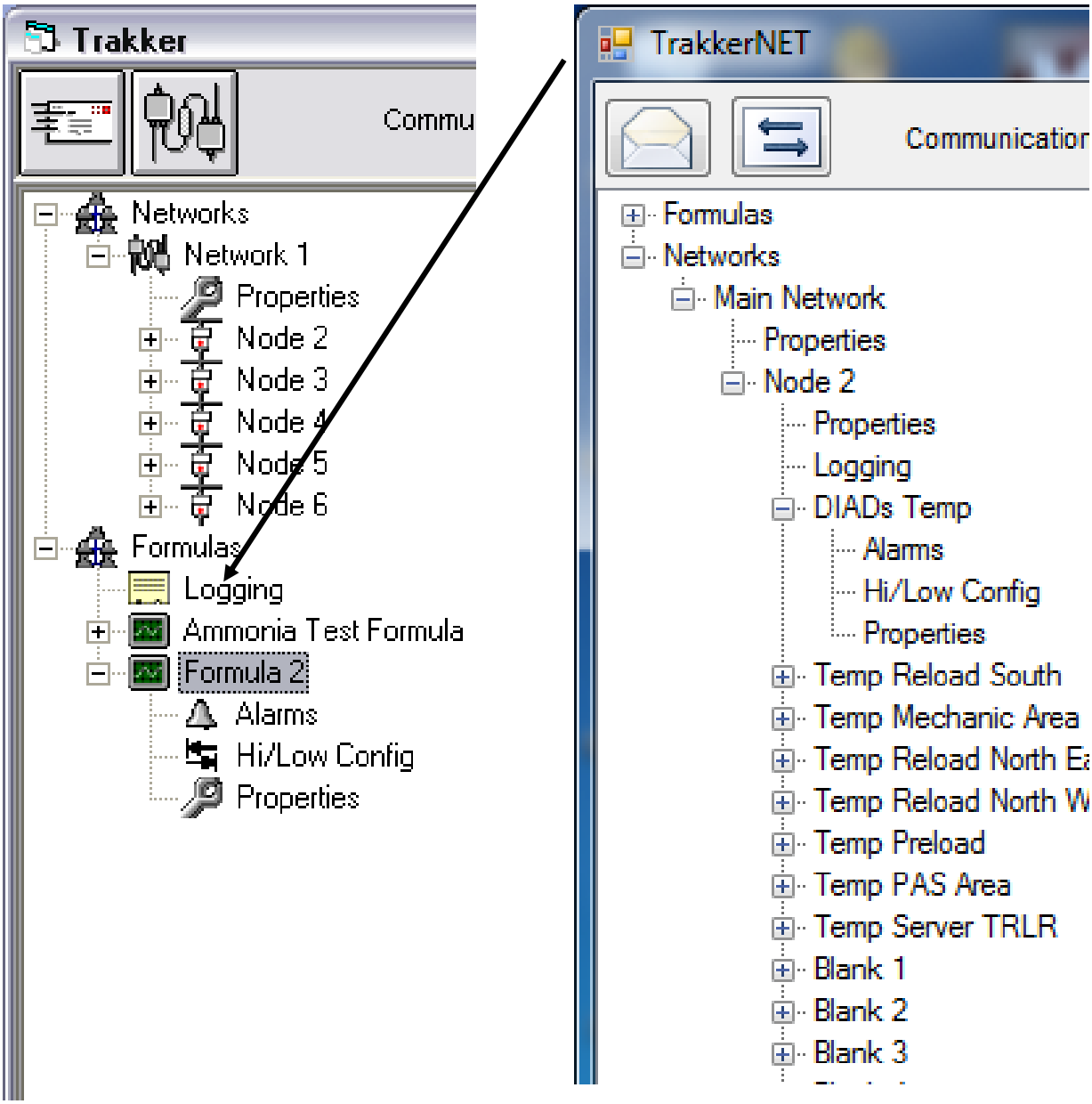


The last item in the set up or control of events with this TRAKKER system is to utilize the data that is acquired to predict certain events.

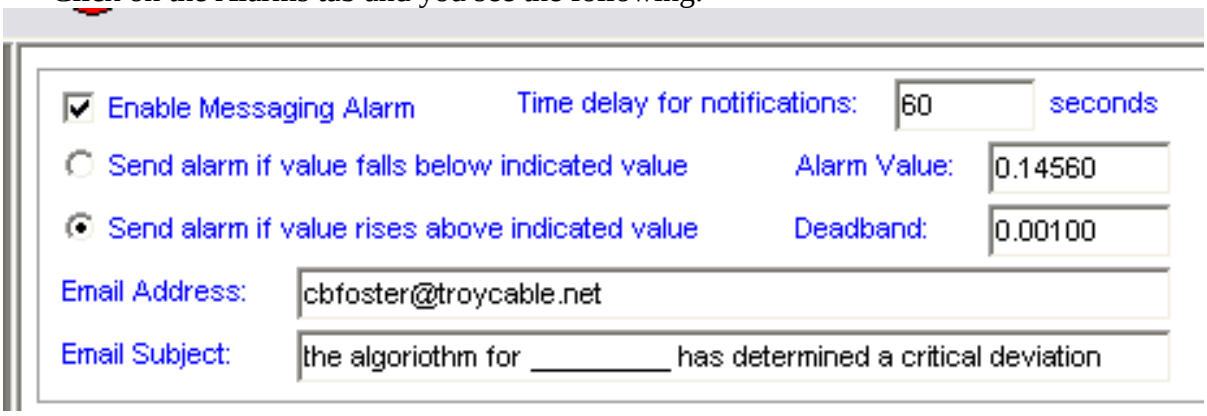
When you click on the formula in the drop down the following appears: Logging and the various formulas that have been created. There is no practical limit to the number of algorithms that can be operating while the program is running. When the program is running the values will be displayed to the right of the drop down screen.
To add a new algorithm – right click the "Formula" button and it offers the operator the opportunity to add a new formula.

Left click the Formula tab and you then will have three more choices:

1) Alarms,
2) Hi/Low Config, and
3) Properties



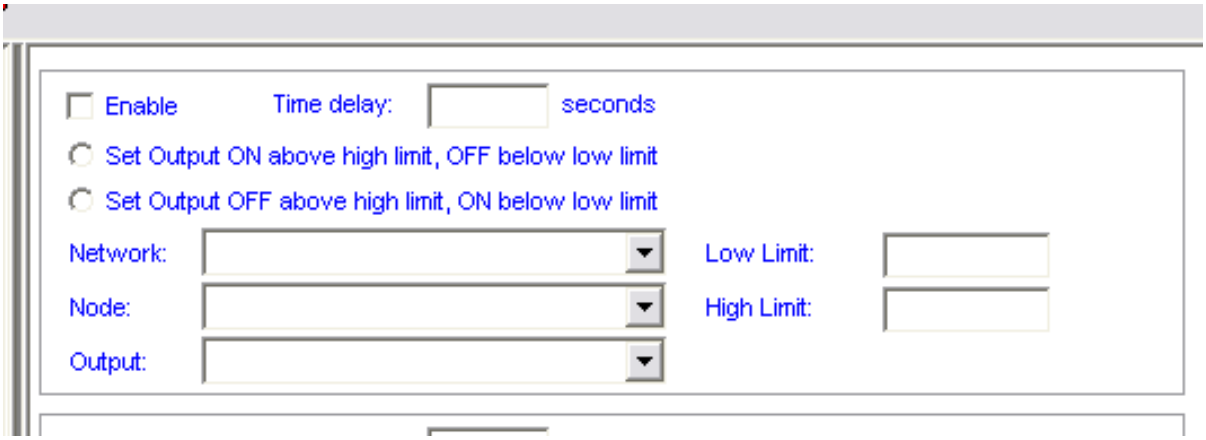
Click on the Alarms tab and you see the following:



Examine this pull down closely, because it will appear a number of times throughout the program. It virtually the same as the Alarm function and set up for the Analog Inputs and the digital Inputs.

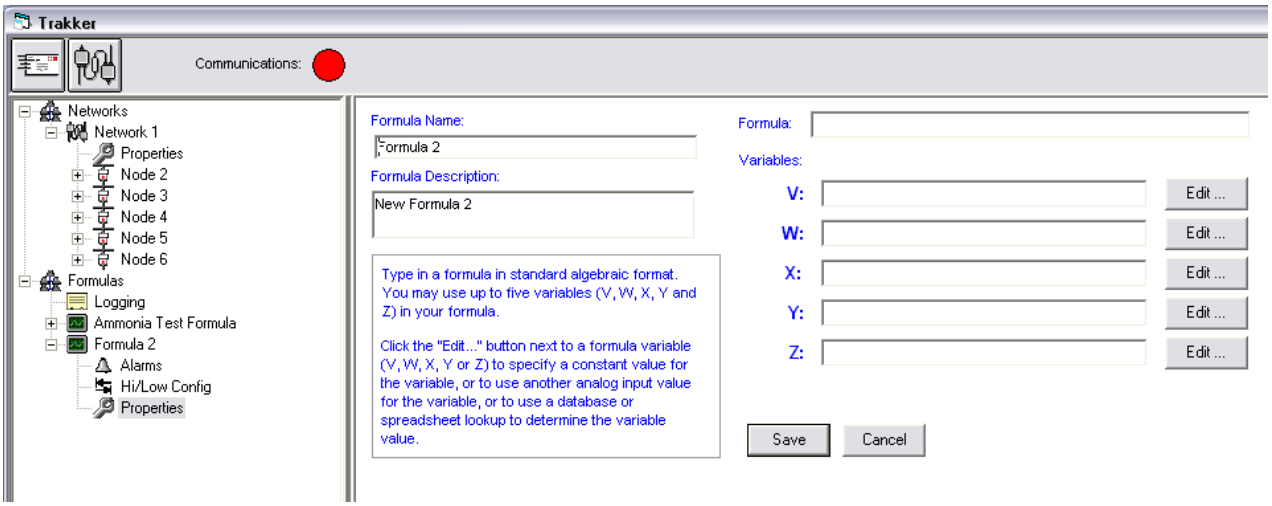
This Alarm function is a vital part of the definition of the operating parameters

Continuing on to the Hi/Low Config function for the Formulas one will notice that the functions and the set up is the same as the Hi/Low Config function for the Analog Inputs

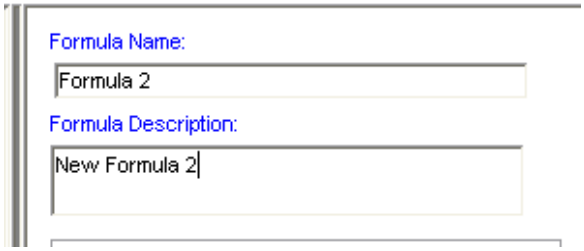


See the Analog set up instructions on page ___.

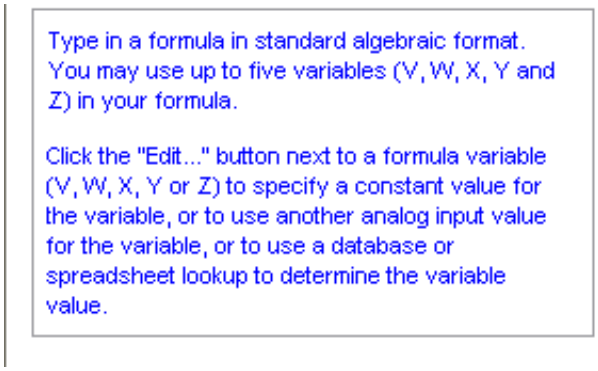
The next item we come to is the Properties function. This is the section where we begin to devise algorithms that will allow for the real time analysis of the data that is collected and logged. Click on the Properties button and we see the following:



Don't panic. This will eventually be your favorite part of the system. The TRAKKER system is going to employee the formulas and algorithms that you devise and while you are at lunch, on break, at home with your wife and children, or on vacation, it is going to acquire data (24 hours a day, 7 days a week, 12 months out of the year) and examine that data and report to all who are interested those things that you deem important.



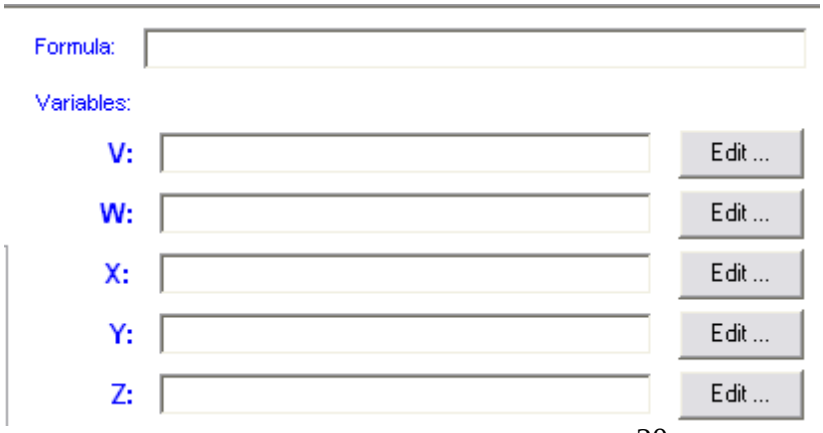
As we begin, the first order of business is to accurately name the function and identify the function



The instructions are fairly simple for folks who understand what a "standard algebraic format" looks like.

For every one else, this may as well be written in Swahili.

However, let's take a stab at this business because it may be a lot easier than most folks think



. My oldest (who has a math degree) always joked about the fact that algebra and calculus would be easy if they would quit changing what X =. He would quip yesterday X was 2, this morning X is 18.5, who can guess what it will be tomorrow.

The easiest way to start is to have a fairly easy formula and work up to

something that might give us a migraine.

Let's begin with: V + W + X = something
If V = 2,
W = 4, and
X = 10, then we would have <u>2 + 4 + 10 = 16</u>

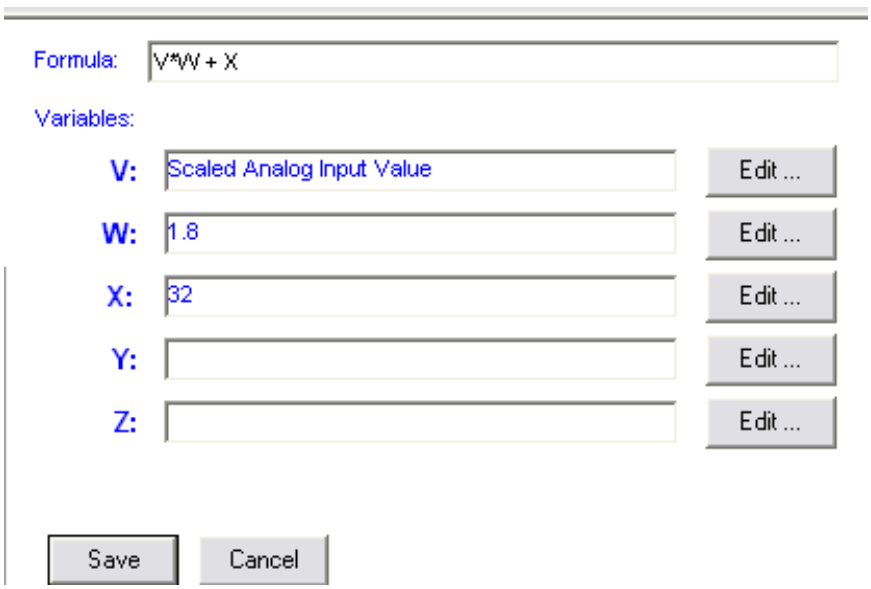
We could move on to: V + W – X = something else
If V= 2,
W = 4, and
X = 3, then we would have <u>2 + 4 – 3 = 3</u>

How about the following: V*W + X = something entirely different

If V = 40,
W = 1.8, and
X = 32 then we would have 40 * 1.8 + 32 = 104

The formula V*W + X is the conversion equation for converting Centigrade to Fahrenheit. We generally saw the formula in high school as C * 9/5 + 32 = something, but what we have is the same.

Now what we need the TRAKKER program to do is to convert C to F on a continuing basis.



Lets implement the formula V*W + X = something.

We have begun by entering the formula V * W + X = something.

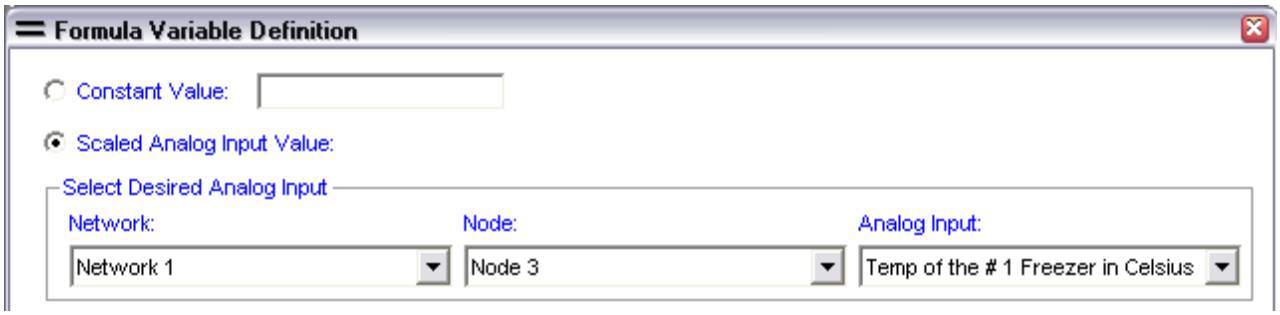
However, the computer program knows about the = something part sop we don't have to enter that as part of our setup.

We have assigned static values to W and X and we are dependent on the computer to give us V.

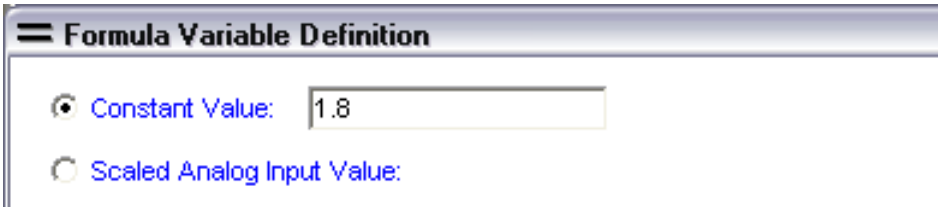
Let's take a look

We select Network 1, Node 3, and Analog Input 1 and the pull down displays Network 1, Node 3, and Temp of the # 1 Freezer in Celsius.

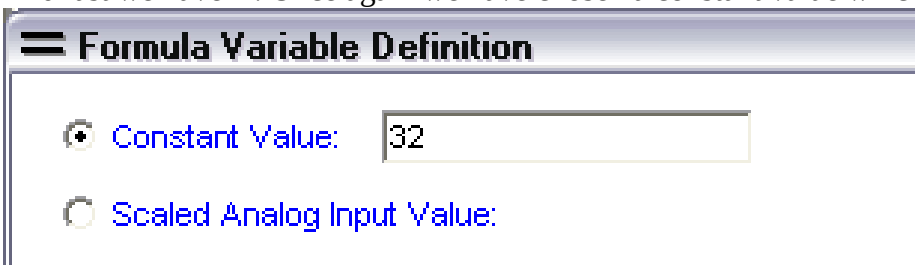
The TRAKKER program automatically defaults to the "Tag Name" of the analog point



Now, on to W. We told the program that we were selecting a static number 1.8 and it knows that is the case because we check the Constant Value box.



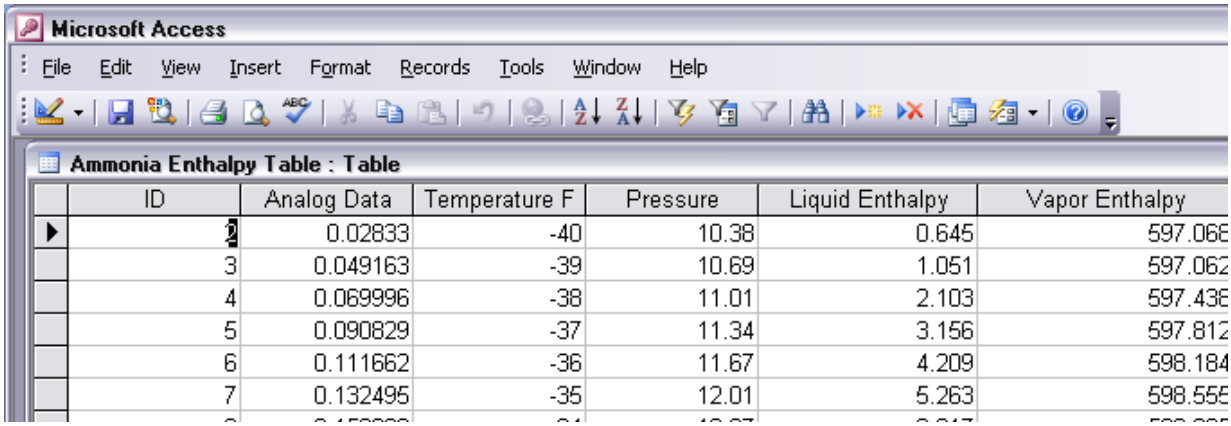
And last we have X. Once again we have chosen a constant value which is 32



With this formula set in the TRAKKER program, the program is going to poll the sensor every 200ms and receive a value in Celsius and the computer is going to compute the Fahrenheit value and log both the Celsius and the Fahrenheit values.

The process becomes somewhat more complicated when one begins to use the formula setup to capture analog data and then use that data to extract corresponding data from a data file. Example: TRAKKER has an Access table titled "Ammonia Enthalpy Table".

This table is utilized by the TRAKKER program to determine the number of "Tons" of Ammonia refrigeration a system is producing at any give moment. Since there is no device that actually measures the operating tonnage, the answer is derived from acquiring several data points, simultaneously, and calculating the resultant tonnage.



ID	Analog Data	Temperature F	Pressure	Liquid Enthalpy	Vapor Enthalpy
2	0.02833	-40	10.38	0.645	597.068
3	0.049163	-39	10.69	1.051	597.062
4	0.069996	-38	11.01	2.103	597.438
5	0.090829	-37	11.34	3.156	597.812
6	0.111662	-36	11.67	4.209	598.184
7	0.132495	-35	12.01	5.263	598.555

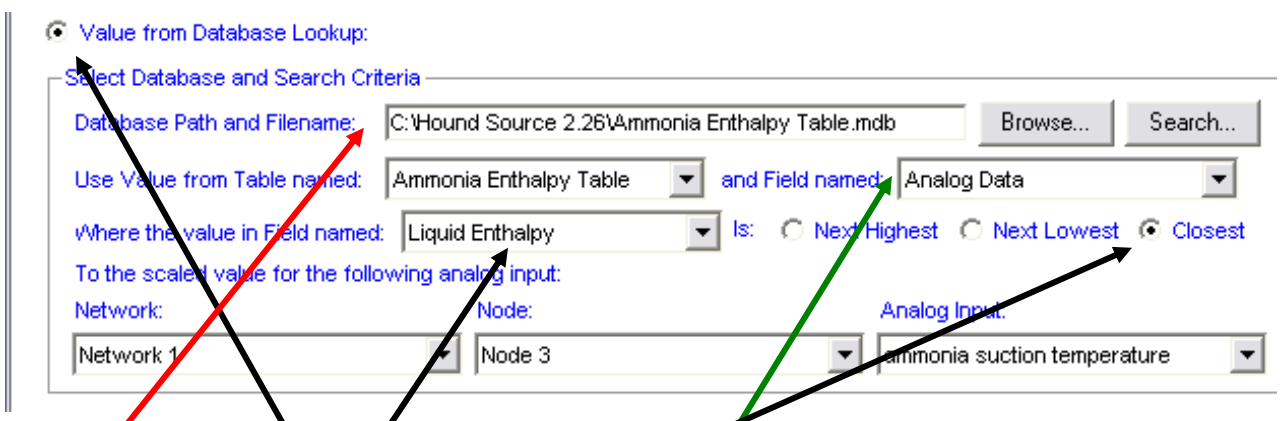
So we collect either the suction temperature or suction pressure (when the ammonia is in a liquid state) and select the corresponding "liquid enthalpy" number. In the example above we have chosen either -37^{0}F or 11.34psi both of which correspond to the Liquid Enthalpy number 3.156.

Ammonia Enthalpy Table					
ID	Analog Data	Temperature F	Pressure	Liquid Enthalpy	Vapor Enthalpy
234	4.861586	192	723	239.5	620.114
235	4.882419	193	731.385	239.5	620.114
236	4.903252	194	739.77	240.615	619.268
237	4.924085	195	748.3	240.615	619.268
238	4.944918	196	756.83	241.73	618.384
239	4.965751	197	765.51	241.73	618.384
240	4.986584	198	774.19	242.845	617.462
241	4.993292	199	783.02	263.026	611.981
242	5	200	791.85	283.207	606.5

Next we collect the discharge temperature or the discharge pressure and since the ammonia will be in a vapor state select the Vapor enthalpy number which is 620.114

According to the formula [(W-V)*X =] we subtract 3.156 from 620.114 and then multiply that result times the flow of ammonia in pounds (Lbs) which gives us total BTUs and we then divide that number by 15,000 the number of BTUs in a Ton or refrigeration.

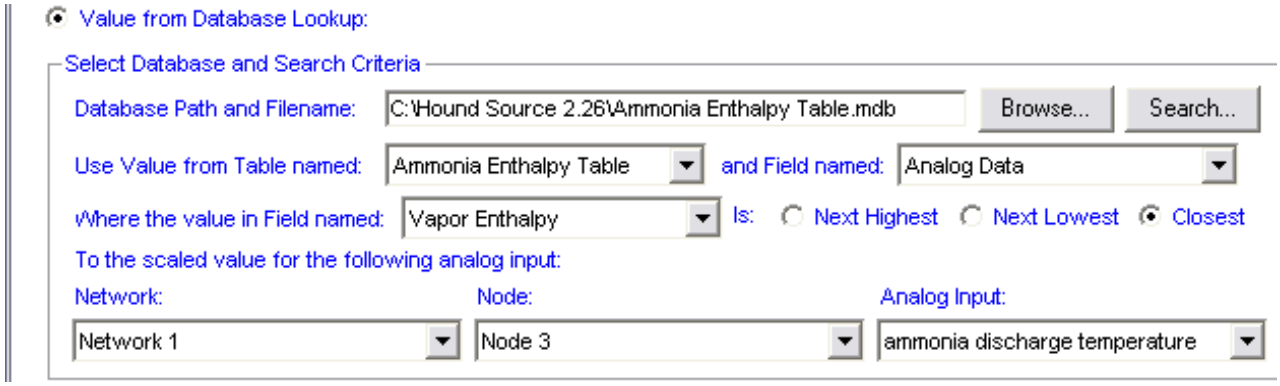
So here is how we setup the TRAKKER algorithm:



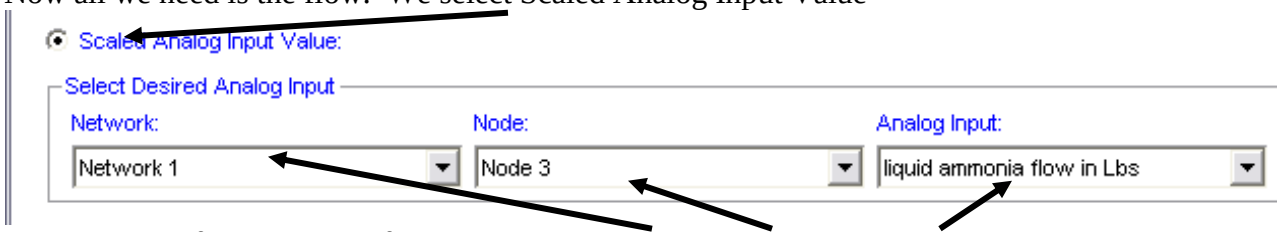
To set up V we click "Value from Database Lookup". We direct the program to the appropriate Data Base. And tell the program to use the Analog Data (temp or pressure number) to select the "Liquid Enthalpy Value" that is "closest".

Last we identify the source of the Analog Data by Network, Node, and Point

The procedure is the same for the discharge value of "W" except we use the Vapor Enthalpy instead of the "Suction" Entalphy

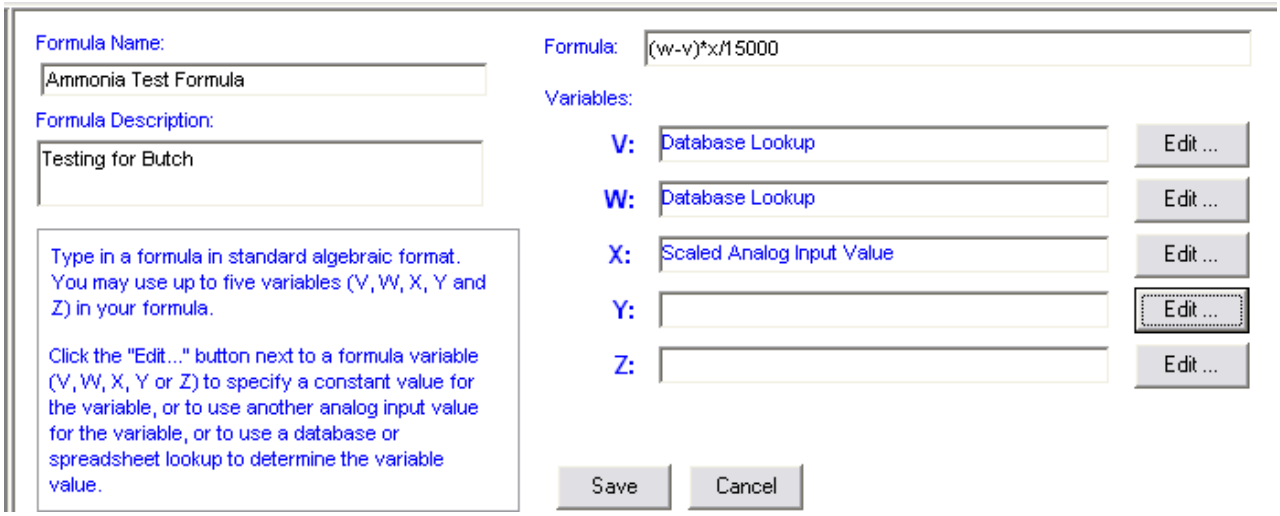


Now all we need is the flow. We select Scaled Analog Input Value

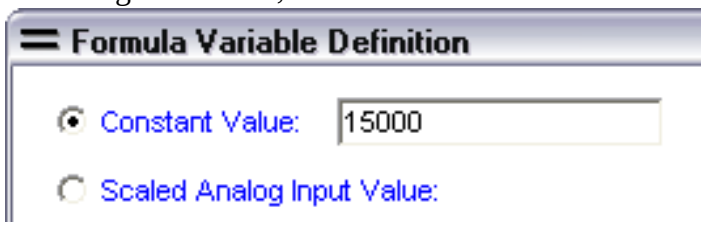


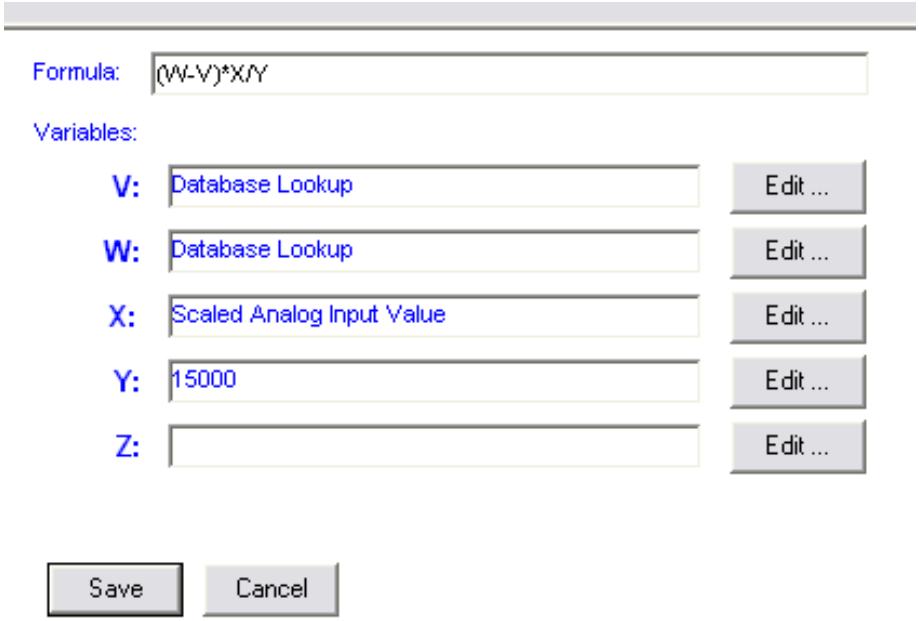
We then identify the source of the Analog Data by Network, Node, and Point

The last consideration is the number of BTUs per ton of refrigeration which is completed as shown below:



We could make the formula more complicated by changing it to read (W-V) * X/Y and we could then assign Y to = 15,000.





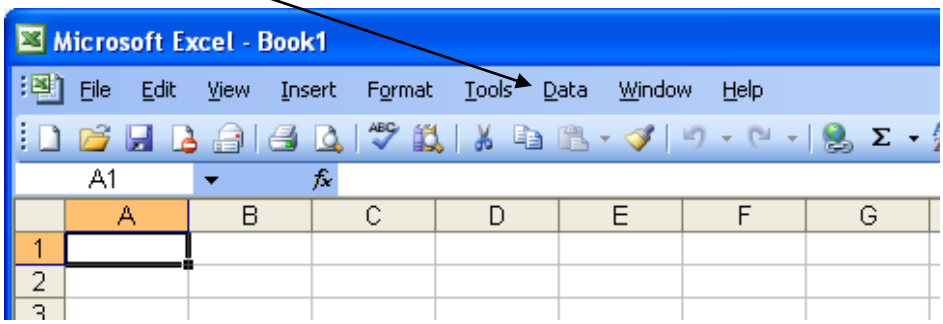
The formula would then look like the one to the left:

The operator must always click the "Save" button in order to engage any change.

How to set up an Excel import file to transfer data from the Access Mdb files that the TRAKKER system creates and populates to an Excel file. These instructions are applicable for Windows XP and Office 2003

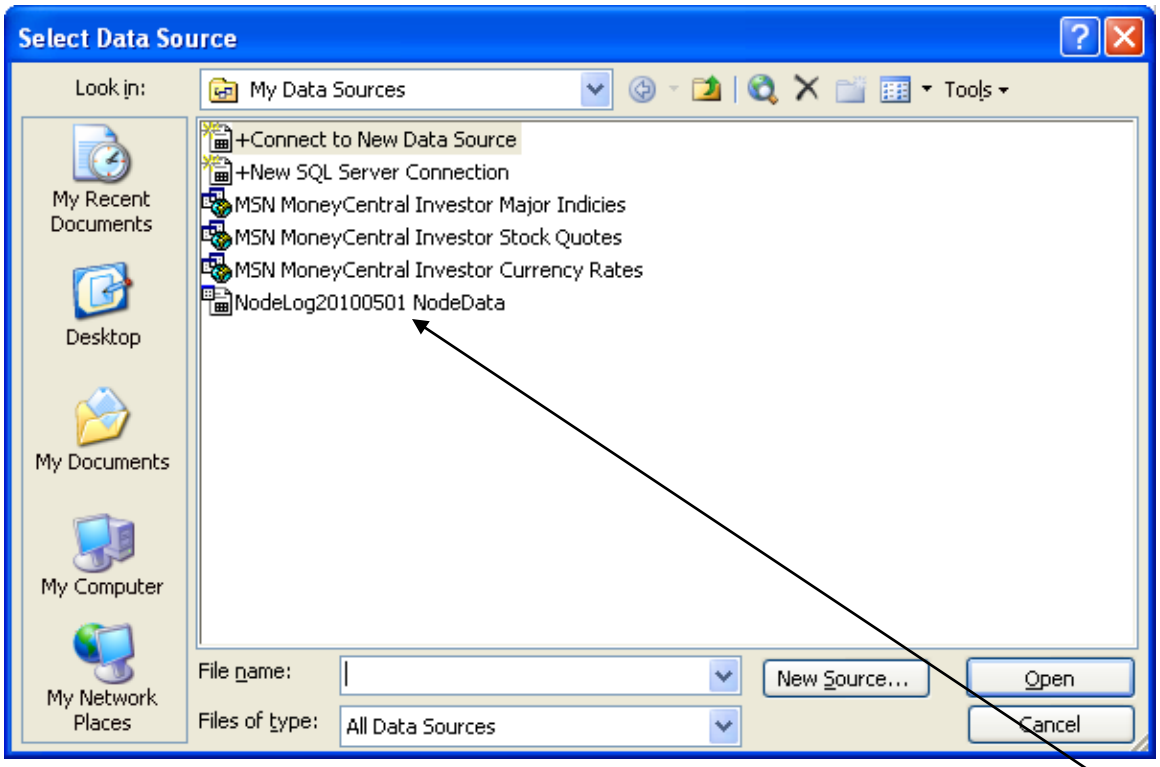
Open Excel

Click the "Data" tab



Under the "Data" pull down click "Import External Data" tab

Under the Import External Data" pull down click "Import Data" and the following file opens

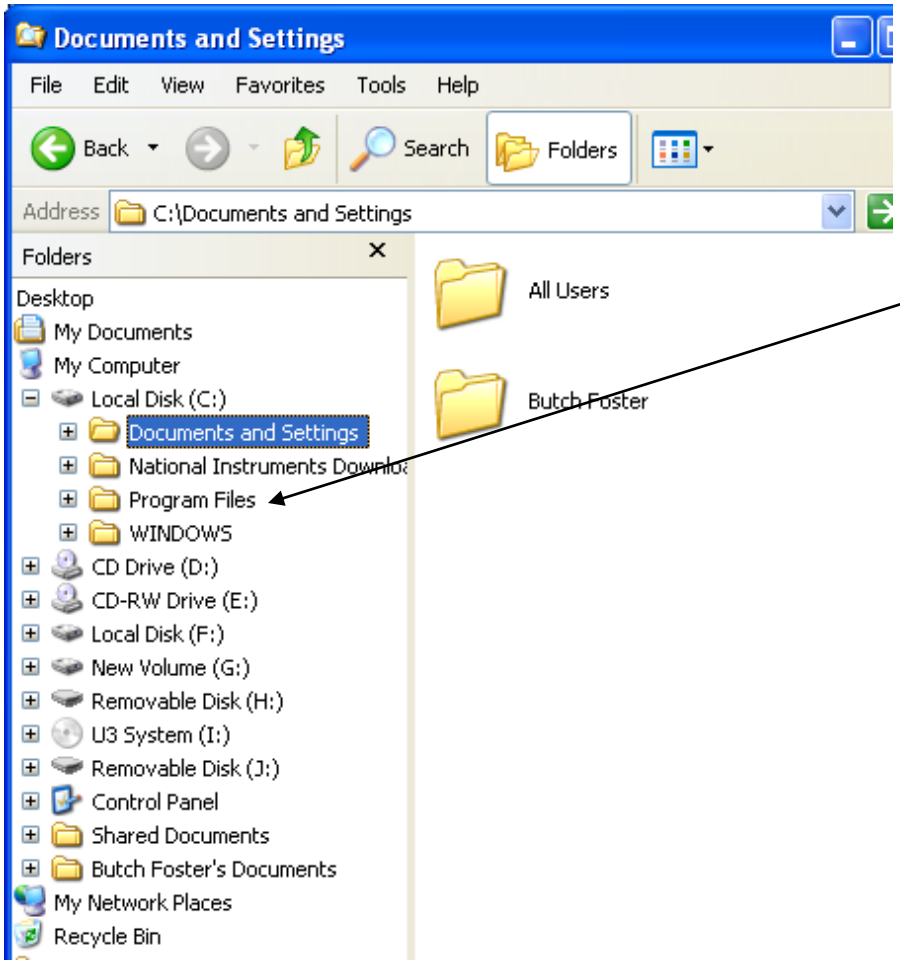


If the desired file (by month, or type i.e. Formula, Data, etc.) then click one of the "Node Log" files above. The example above only has one choice, in reality during complex operations there might be a dozen choices – read carefully before choosing.

If the data file has not been used before – i.ei setting up the file for August at the end of July. Then right click the START button

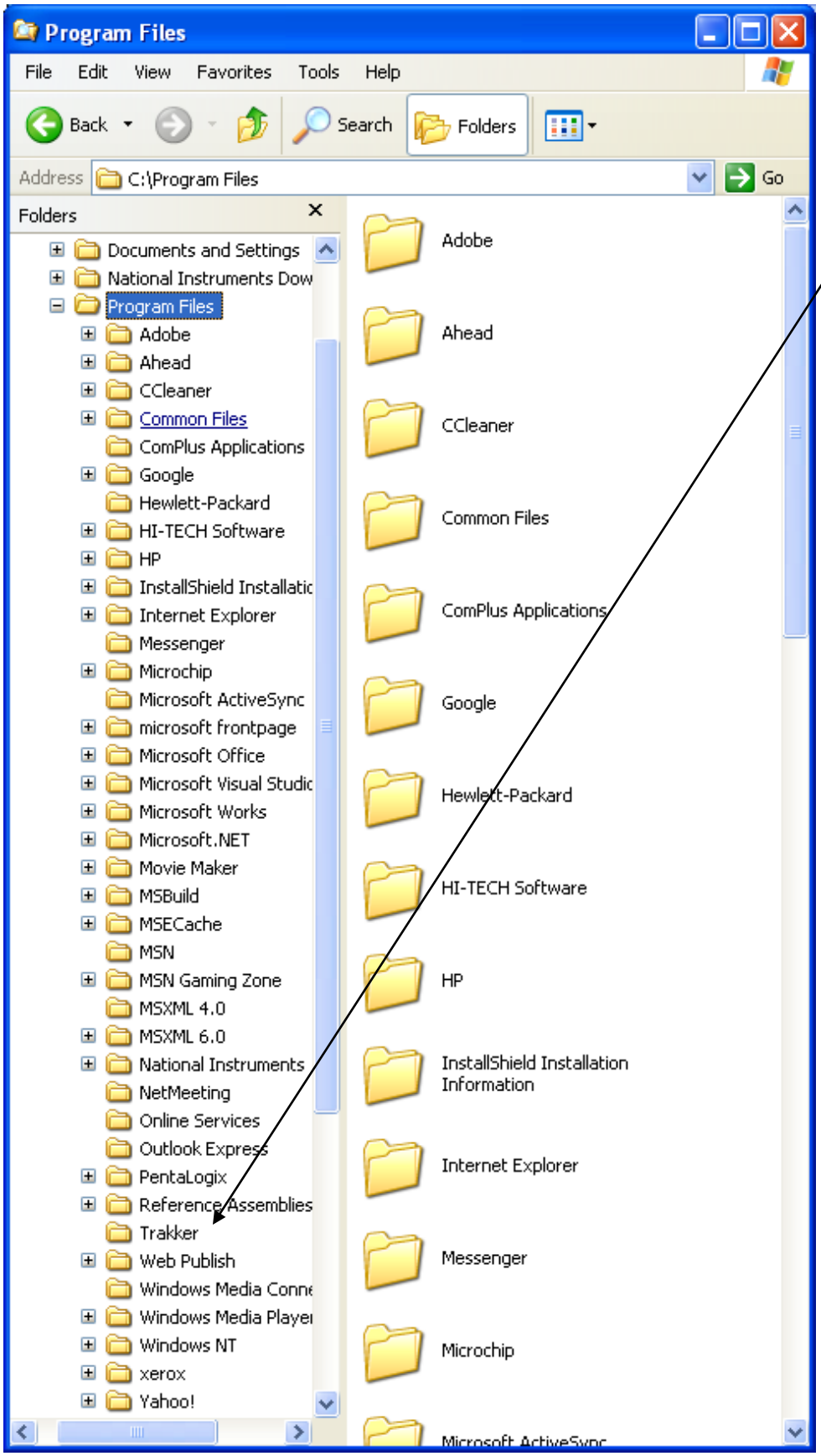
The following choices will appear on the screen – click "Explore"

Open
Explore
Search
Properties
Open all Users
Explore All Users



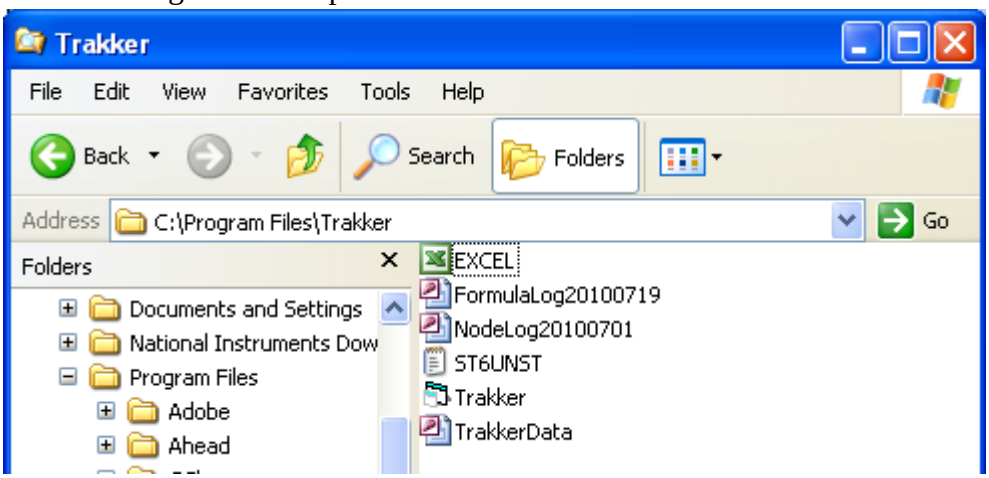
Depending on the number of hard drives and thumb drives the following pull down will appear

click on the "Programs file"



the following pull down will appear and you should click the "TRAKKER" file

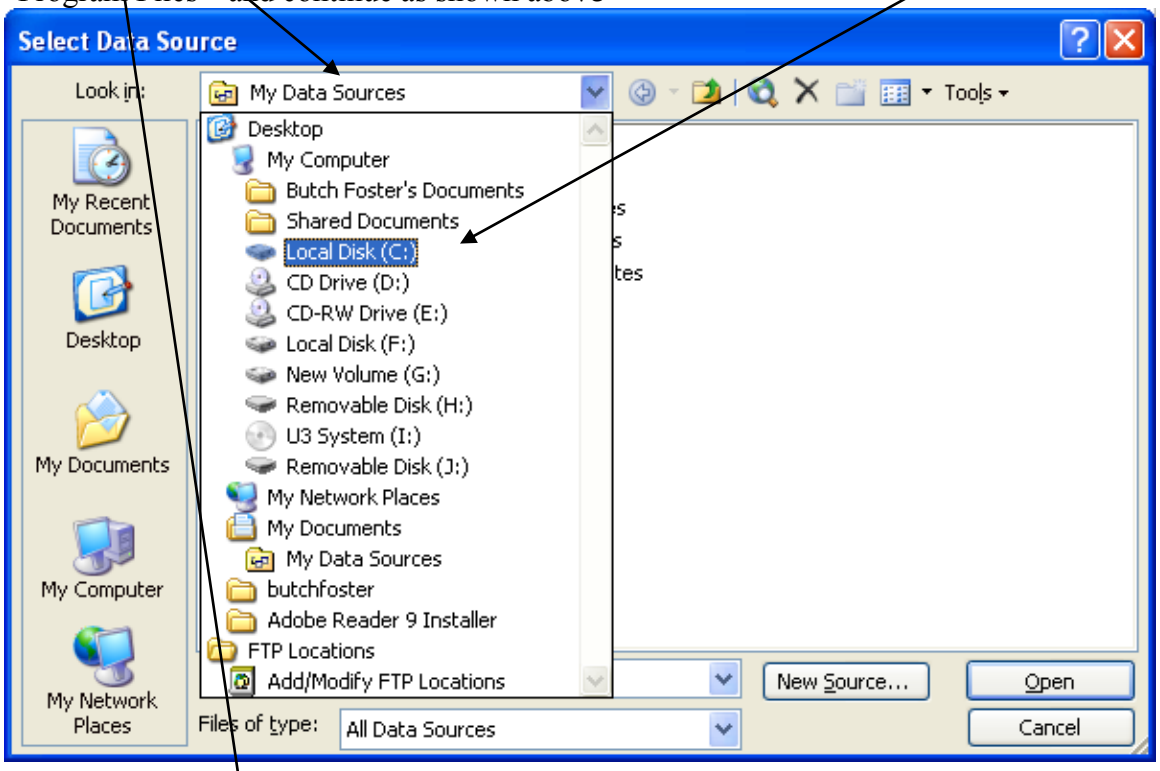
The following files will open

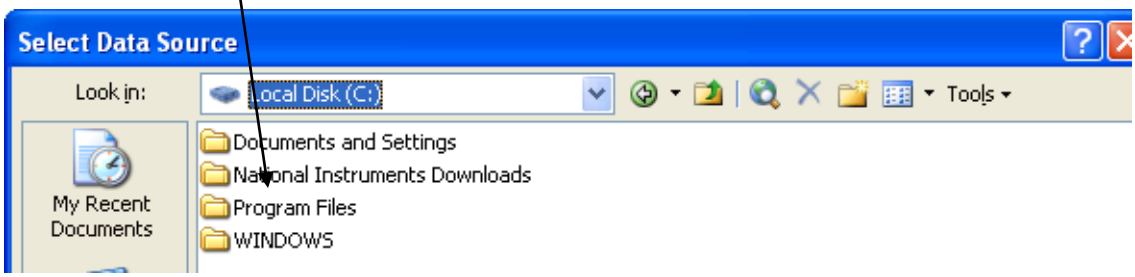


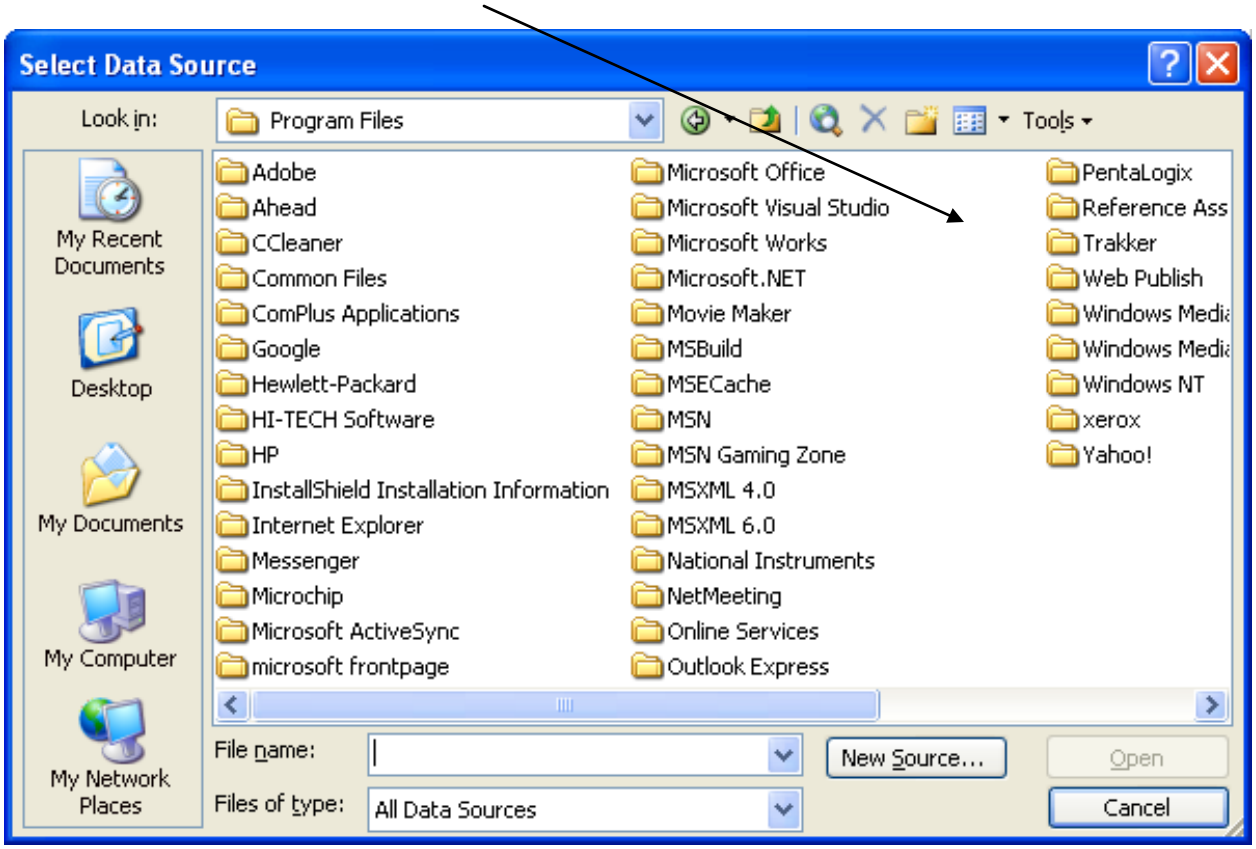
Click on the "FormulaLog" or on the "NodeLog" file and continue with the "Import" set-up

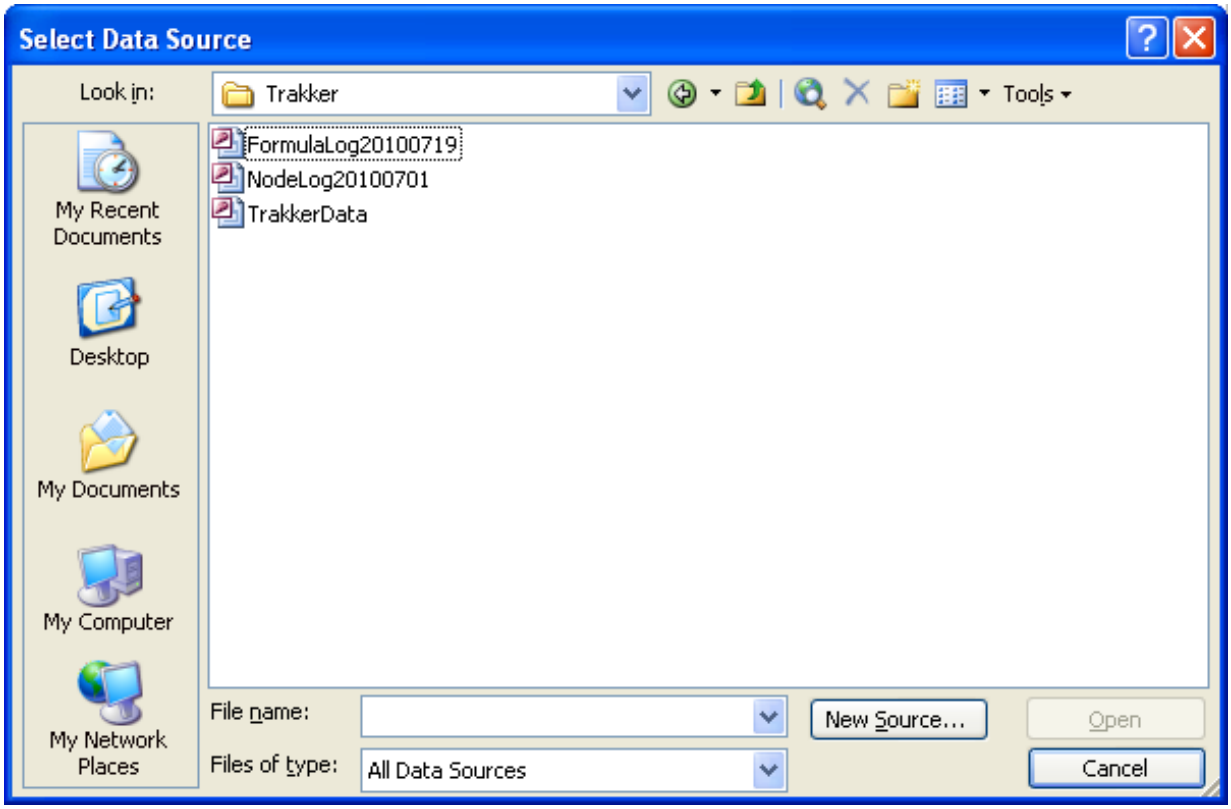
Under complex or extended operations there may be several logs of each type – perhaps one for April, May, June, July, etc

In the alternative one can manipulate previous pull down by clicking the arrow to the right of the "My Data Sources" and get the following pull down and then click "Local Drive C" and then go to "Program Files " and continue as shown above

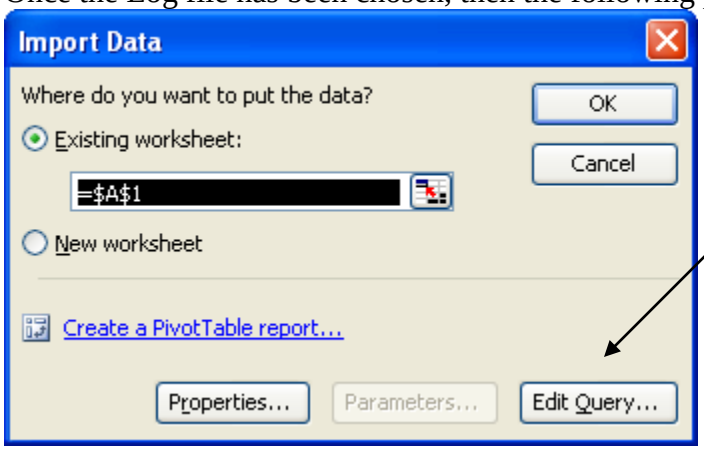




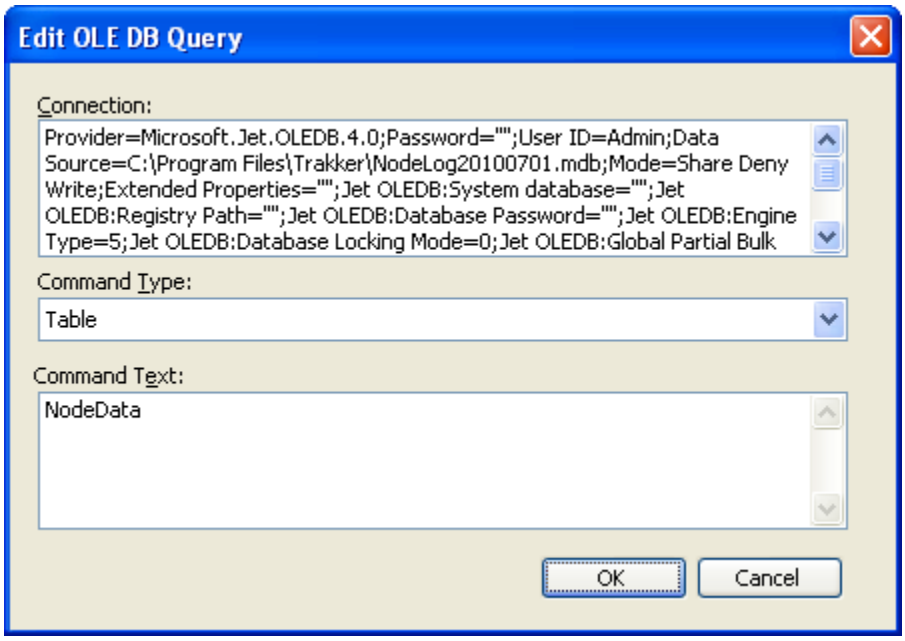

Select Data Source
Look in:
Program Files
Tools
My Recent Documents
Desktop
My Documents
My Computer
My Network Places
Adobe
Ahead
CCleaner
Common Files
ComPlus Applications
Google
Hewlett-Packard
HI-TECH Software
HP
InstallShield Installation Information
Internet Explorer
Messenger
Microchip
Microsoft ActiveSync
microsoft frontpage
Microsoft Office
Microsoft Visual Studio
Microsoft Works
Microsoft.NET
Movie Maker
MSBuild
MSECache
MSN
MSN Gaming Zone
MSXML 4.0
MSXML 6.0
National Instruments
NetMeeting
Online Services
Outlook Express
PentaLogix
Reference Ass
Trakker
Web Publish
Windows Media
Windows Media
Windows NT
xerox
Yahoo!
File name:
New Source...
Open
Files of type:
All Data Sources
Cancel


Select Data Source
Look in:
Trakker
Tools
My Recent Documents
Desktop
My Documents
My Computer
My Network Places
FormulaLog20100719
NodeLog20100701
TrakkerData
File name:
New Source...
Open
Files of type:
All Data Sources
Cancel

Once the Log file has been chosen, then the following pull down will appear



Click on Edit Query and proceed



Use the following procedures

Version 2.27
Under **Edit OLE DB Query** connection you should see:
Provider=Microsoft.Jet.OLEDB.4.0;User ID=Admin;Data Source=C:\Program Files\Trakker\TrakkerLoggingData.mdb;Mode=Share Deny None;Extended Properties="";Jet OLEDB:System database="";Jet OLEDB:Registry Path="";Jet OLEDB:Engine Type=5;Jet OLEDB:Database Locking Mode=1;Jet OLEDB:Global Partial Bulk Ops=2;Jet OLEDB:Global Bulk Transactions=1;Jet OLEDB:New

make sure the command states **"Source =C:\Program Files\Trakker\TrakkerLoggingData, mdb"**.

SELECT ItemNumber, TimeStamp, AnalogInput1 as **"Tagname1",** AnalogInput2 as **"Tagname2",** AnalogInput3 as **"Tagname3",** AnalogInput4 as **"Tagname4",** AnalogInput5 as **"Tagname5",** AnalogInput6 as **"Tagname6",** AnalogInput7 as

“Tagname7”, AnalogInput8 as **“Tagname8”,** AnalogInput9 as **“Tagname9”,** AnalogInput10 as **“Tagname10”,** AnalogInput11 as **“Tagname11”,** AnalogInput12 as **“Tagname12”,** AnalogInput13 as **“Tagname13”,** DigitalInput1 as **“Tagname21”,** DigitalInput2 as **“Tagname22”,** DigitalInput3 as **“Tagname23”,** DigitalOutput1 as **“Tagname31”,** DigitalOutput2 as **“Tagname32”,** DigitalOutput3 as **“Tagname33”,** DigitalOutput4 as **“Tagname34”,** DigitalOutput5 as **“Tagname35”,** DigitalOutput6 as **“Tagname36”,** DigitalOutput7 as **“Tagname37”,** DigitalOutput8 as **“Tagname38”,** DigitalOutput9 as **“Tagname39”,** DigitalOutput10 as **“Tagname40”,** DigitalOutput11 as **“Tagname41”,** DigitalOutput12 as **“Tagname42”,** DigitalOutput13 as **“Tagname43”**
FROM NodeData WHERE NodeNum = 02 ORDER BY ItemNumber DESC

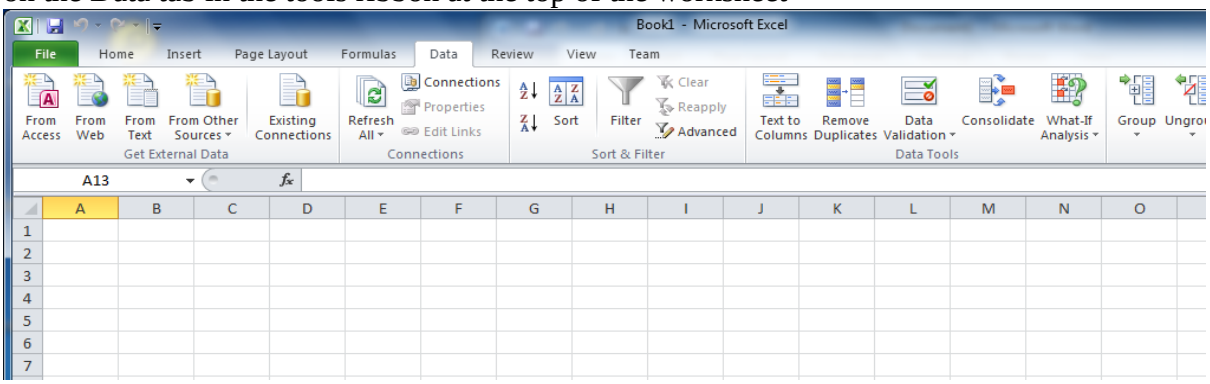
An example is as follows:

UPS Montgomery

SELECT ItemNumber, TimeStamp,
AnalogInput1 as “**VibPF2”,**
AnalogInput2 as “**TempPF2”,**
AnalogInput3 as “**VibPF2Gear”,**
AnalogInput4 as “**TempPF2Gear”,**
AnalogInput5 as “**Vib6APD3”,**
AnalogInput6 as “**Temp6APD3”,**
AnalogInput7 as “**VibPD3Gear6A”,**
AnalogInput8 as “**TempPD3Gear6A”,**
AnalogInput9 as “**Vib4PD5”,**
AnalogInput10 as “**TempVib4PD5”,**
AnalogInput11 as “**VibPD5Gear4”,**
AnalogInput12 as “**TempPD5Gear4”**
FROM NodeData WHERE NodeNum = 02 ORDER BY ItemNumber Asc

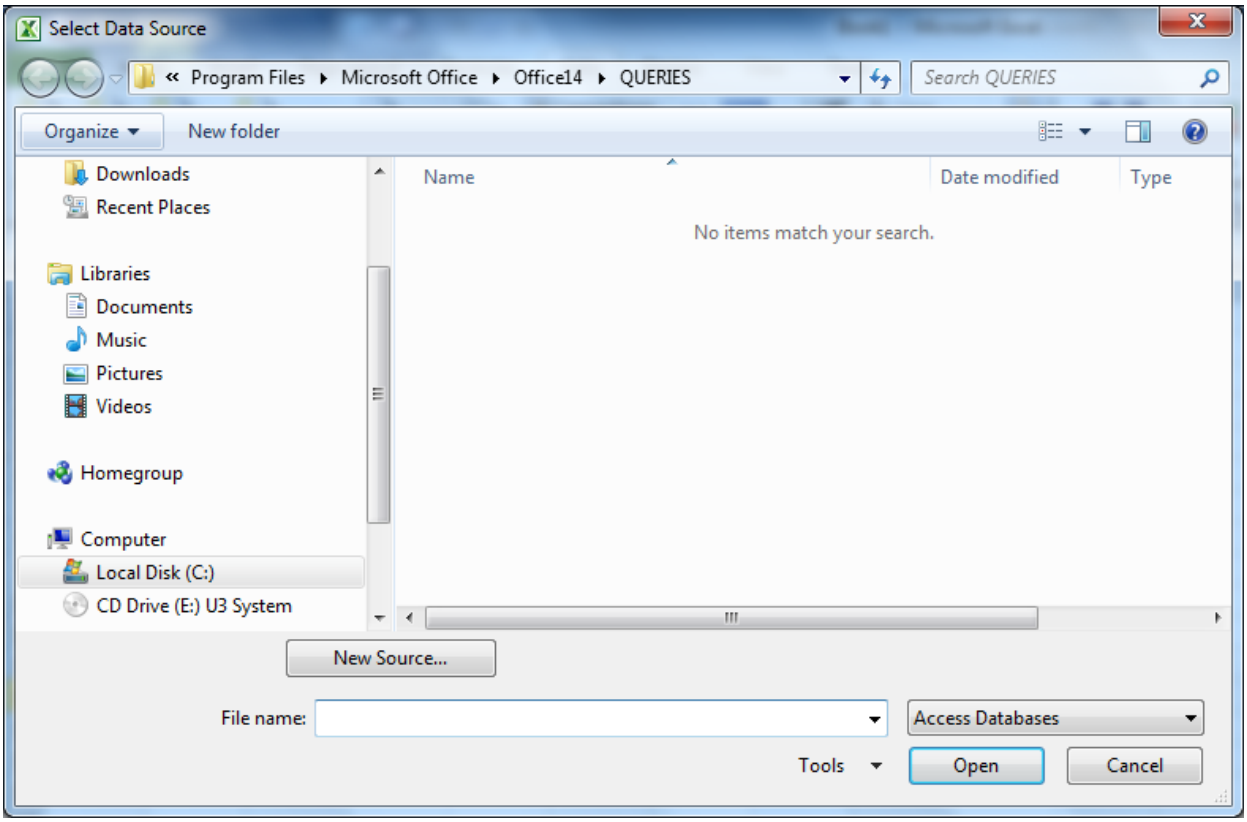
SELECT ItemNumber, TimeStamp,
AnalogInput1 as “**ServerHumidity”,**
AnalogInput2 as “**ServerTemp”,**
AnalogInput3 as “**PD3DriveHumidity”,**
AnalogInput4 as “**PD3DriveTemp”,**
AnalogInput5 as “**PF2DriveHumidity”,**
AnalogInput6 as “**PF2DriveTemp**
FROM NodeData WHERE NodeNum = 03 ORDER BY ItemNumber Asc

In Office 2010 there are two major ways to import data into an Excel worksheet from an Access MDB file In both cases the beginning point is to open an Excel worksheet and click on the Data tab in the tools ribbon at the top of the worksheet



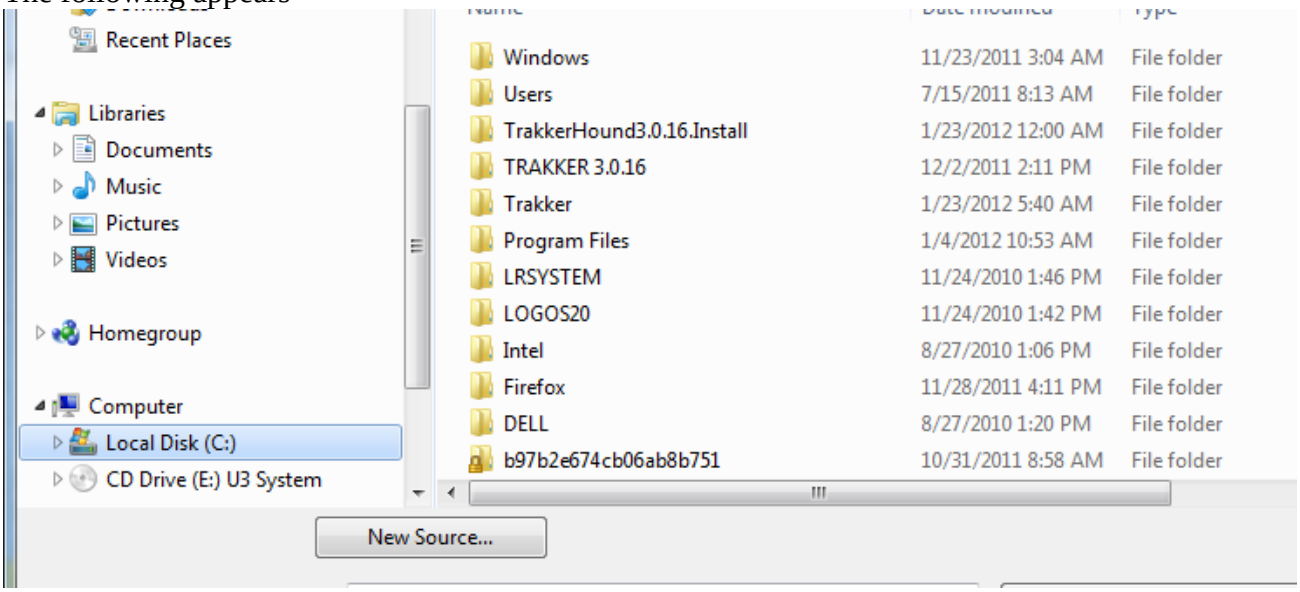
First Import Path:

Click on the Access Tab on the far left of the ribbon

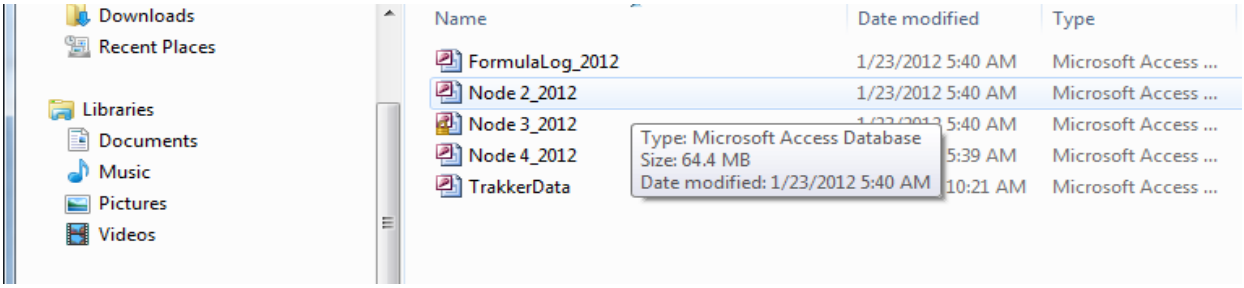


When this menu appears click on the Local Disk icon at the bottom left of the Select Data Source pull-down

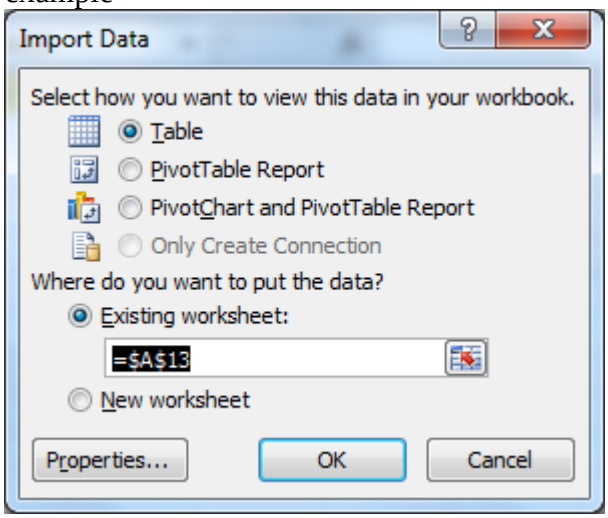
The following appears



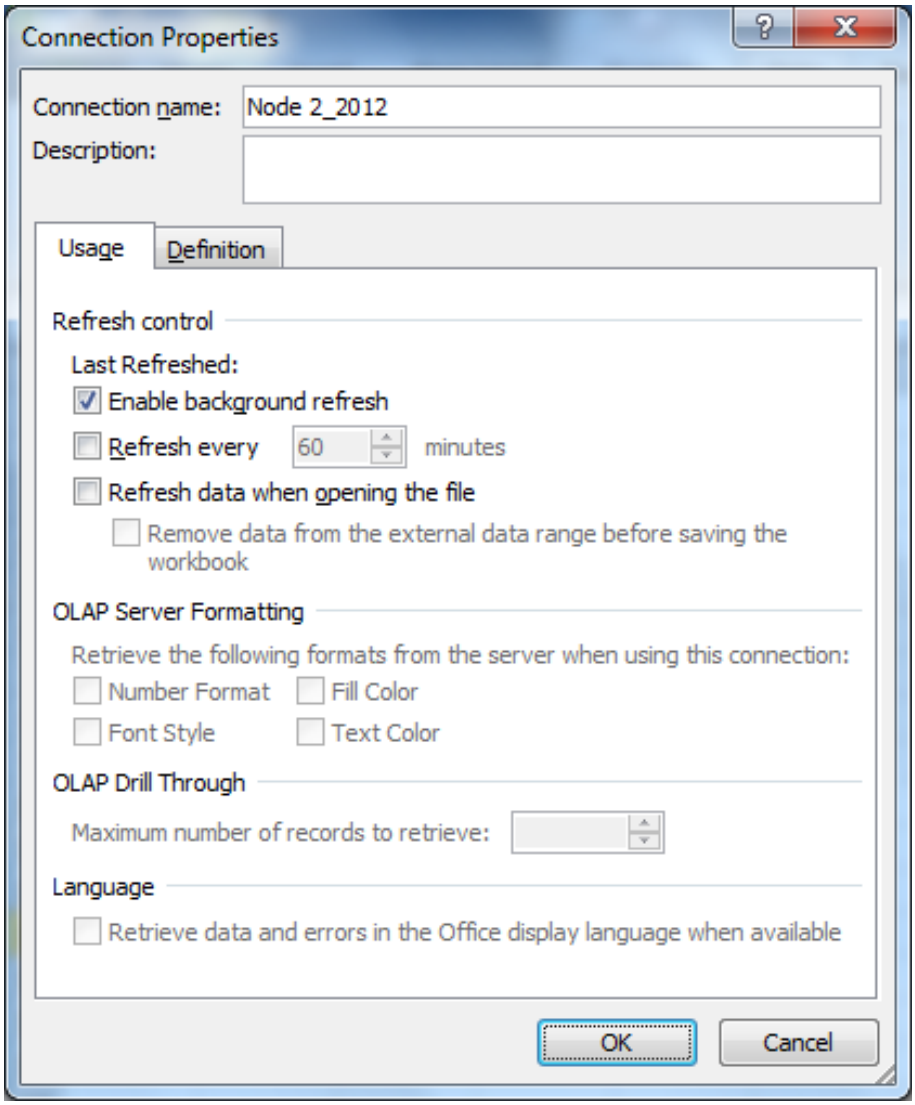
Click on the TRAKKER folder (5th choice in this example)



Then click on the first MDB file to be imported – Node 2_2012 has been highlighted in this example

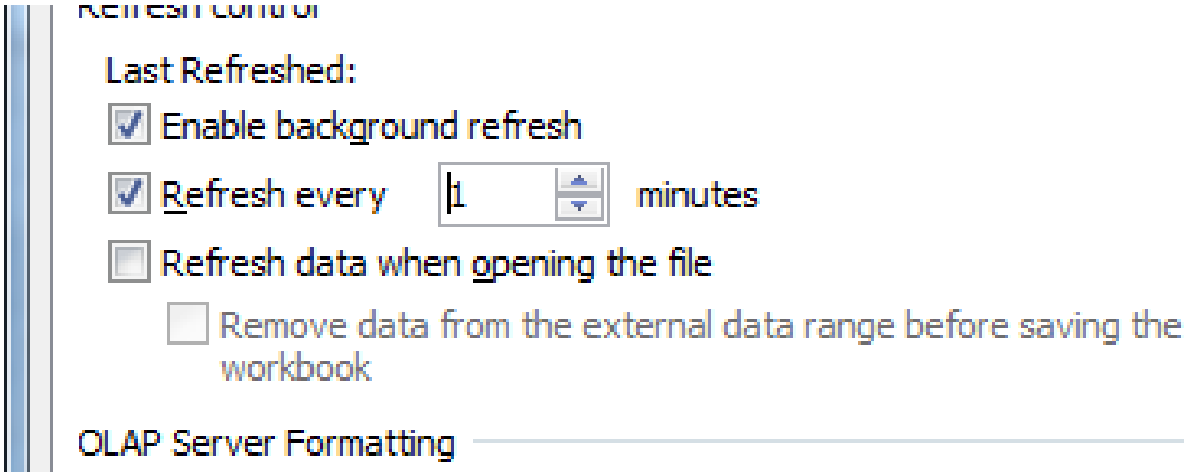


Make sure that the Table view is clicked and then click the properties choice at the bottom left of the pull-down



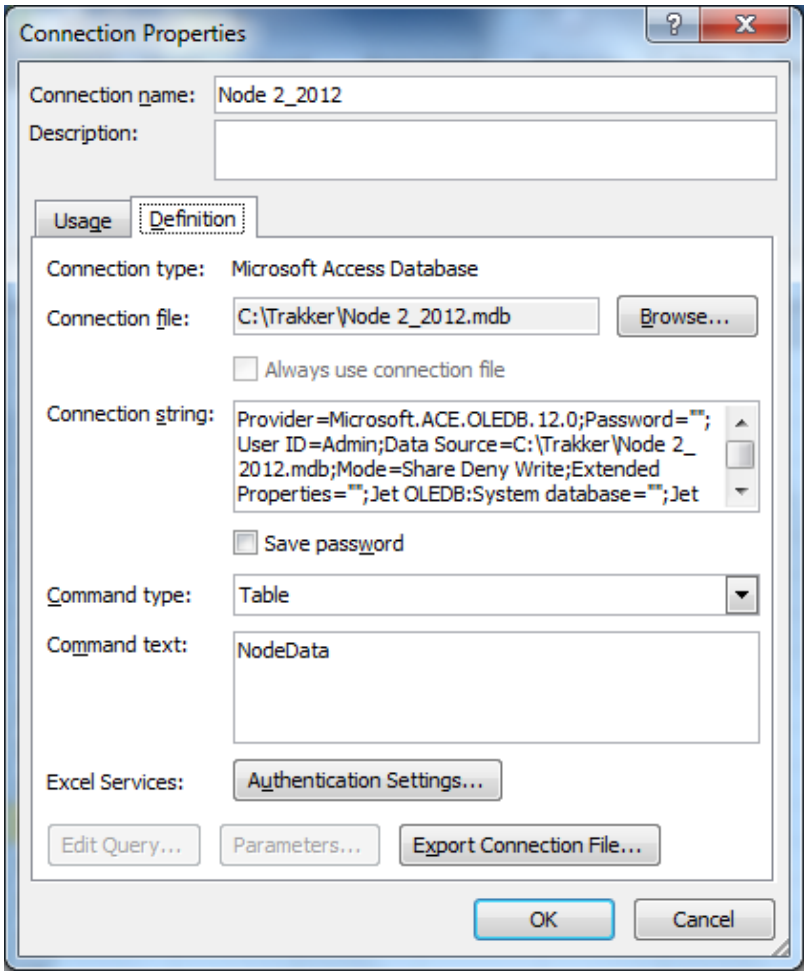
The pull-down appears and offer several control choices. We are interested in the refresh opportunities that are presented.

Click on the "Refresh every _____ button and set the refresh rate as desired.



In this example the refresh time is set for 1 minute

Next click on the “Definition Tab at the top left of the pull-down and the pull-down to the left will appear.



The Connection string shown below in its entirety must be changed.

The connection string that Excel 2010 defaults to has the Mode set as follows

Mode=Share Deny Write

The Mode instructions must be changed to read:

Mode=Share Deny None

The complete Connection string is shown below with the default language and with the required change

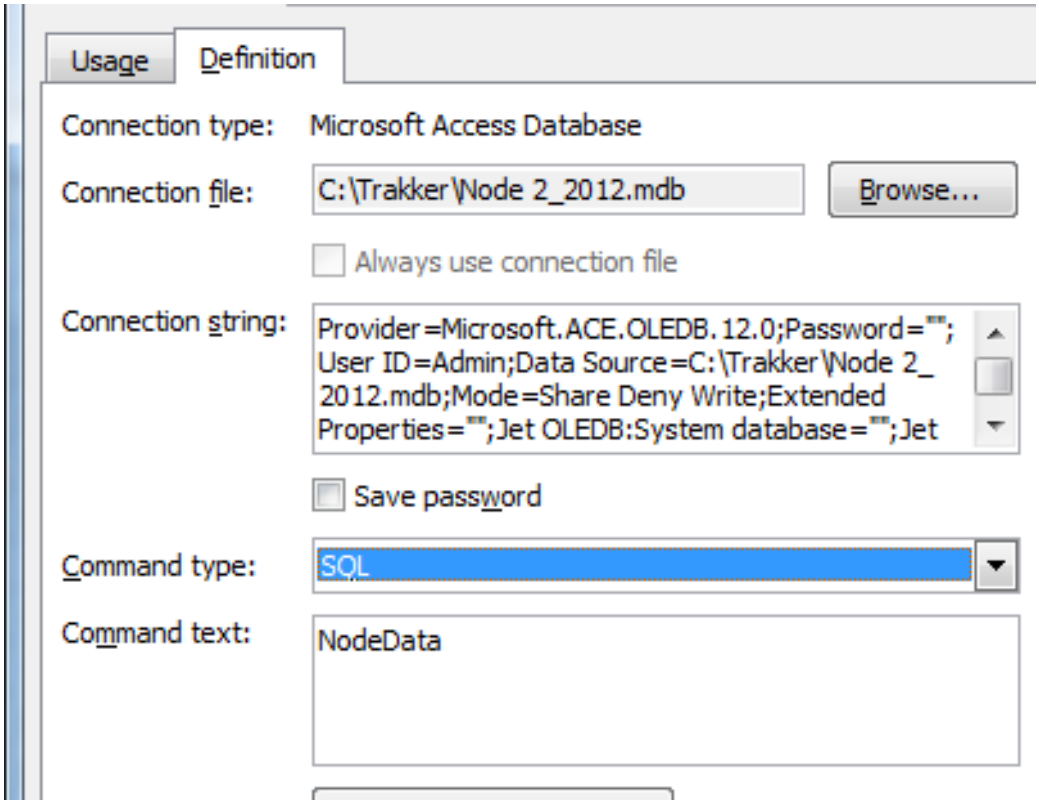
Provider=Microsoft.ACE.OLEDB.12.0;Password="";User ID=Admin;Data Source=C:\Trakker\Node 2_2012.mdb;**Mode=Share Deny Write**;Extended Properties="";Jet OLEDB:System database="";Jet OLEDB:Registry Path="";Jet OLEDB:Database Password="";Jet OLEDB:Engine Type=5;Jet OLEDB:Database Locking Mode=0;Jet OLEDB:Global Partial Bulk Ops=2;Jet OLEDB:Global Bulk Transactions=1;Jet OLEDB:New Database Password="";Jet OLEDB:Create System Database=False;Jet OLEDB:Encrypt Database=False;Jet OLEDB:Don't Copy Locale on Compact=False;Jet OLEDB:Compact Without Replica Repair=False;Jet OLEDB:SFP=False;Jet OLEDB:Support Complex Data=False;Jet OLEDB:Bypass UserInfo Validation=False

---

Provider=Microsoft.ACE.OLEDB.12.0;Password="";User ID=Admin;Data Source=C:\Trakker\Node 2_2012.mdb;**Mode=Share Deny None**;Extended Properties="";Jet OLEDB:System database="";Jet OLEDB:Registry Path="";Jet OLEDB:Database Password="";Jet OLEDB:Engine Type=5;Jet OLEDB:Database Locking Mode=0;Jet OLEDB:Global Partial Bulk Ops=2;Jet OLEDB:Global Bulk Transactions=1;Jet OLEDB:New Database Password="";Jet OLEDB:Create System Database=False;Jet OLEDB:Encrypt Database=False;Jet OLEDB:Don't Copy Locale on Compact=False;Jet OLEDB:Compact Without Replica Repair=False;Jet OLEDB:SFP=False;Jet OLEDB:Support Complex Data=False;Jet OLEDB:Bypass UserInfo Validation=False

This change is necessary to permit the TRAKKER program to continuously log new data to the MDB file while the Excel program continues to update.

The next step is to change the "Command type:" to SQL as shown below:



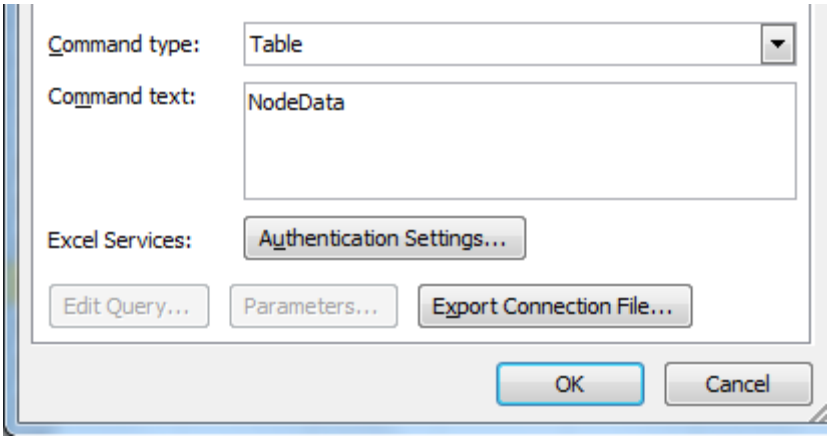
Now we get to the hard part, we must style the "Command text:" which is referred to as the "SELECT" statement. The SELECT statement must follow the form set out below:

```
SELECT NodeData.ItemNumber,
NodeData.LogTime,
NodeData.`Analog Input 1`,
 NodeData.`Analog Input 2`,
NodeData.`Analog Input 3`,
 NodeData.`Analog Input 4`,
NodeData.`Analog Input 5`,
NodeData.`Analog Input 6`,
NodeData.`Analog Input 7`,
NodeData.`Analog Input 8`,
NodeData.`Analog Input 9`,
NodeData.`Analog Input 10`,
NodeData.`Analog Input 11`,
NodeData.`Analog Input 12`,
 NodeData.`Analog Input 13`
FROM `C:\Trakker\Node 2_2012.mdb`.NodeData NodeData
```

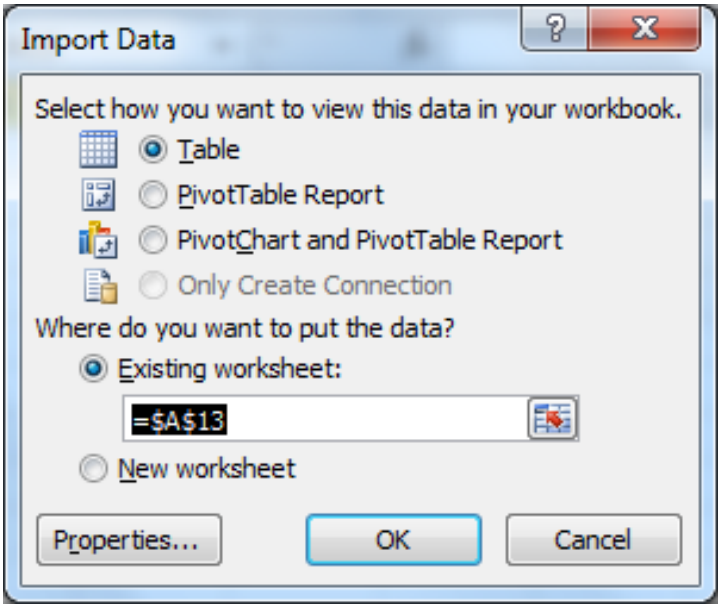
Or:

SELECT NodeData.ItemNumber,
NodeData.LogTime
NodeData.`Vib ISO Trans Pump 4104N`,
NodeData.`Temp ISO Trans Pump 4104N`,
NodeData.`Vib ISO Trans Motor 4104N`,
NodeData.`Temp ISO Trans Motor 4104N`,
NodeData.`Vib ISO Trans 4104S`,
NodeData.`Temp ISO Trans 4104S`,
NodeData.`Vib ISO Trans Motor 4104S`,
NodeData.`Temp ISO Trans Motor 4104S`
FROM `C:\Trakker\**Node 2_2012.mdb**`.NodeData NodeData

1) The Node designation has to be identical in both the "Connection string" and the "SELECT" statement. The Connection string path is set for the import function when you go to the "C" drive and choose the MDB file. Therefore the SELECT statement should be styled with identical syntax.



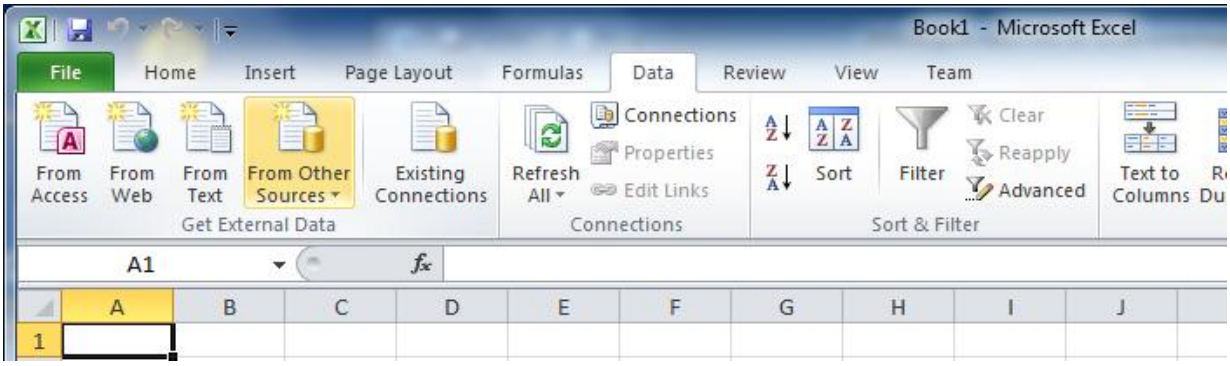
When the Select statement has been composed, click OK at the bottom of the pull-down and you will return to



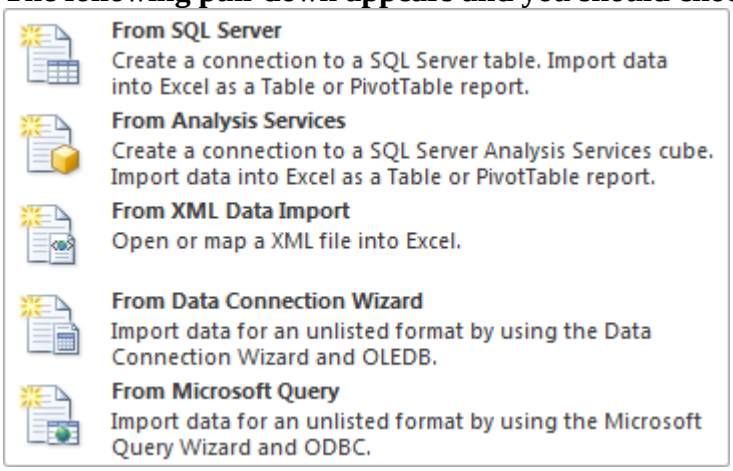
You will return to the original "Import Data" Screen and when that appears click OK again for the data import function to complete

Second Import Path:

Click **"From Other Sources"**

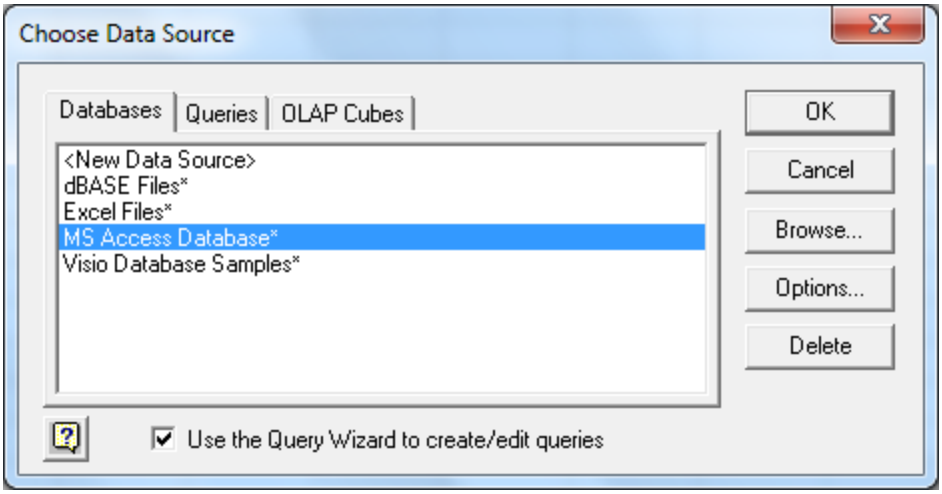


The following pull-down appears and you should choose "From Microsoft Query"



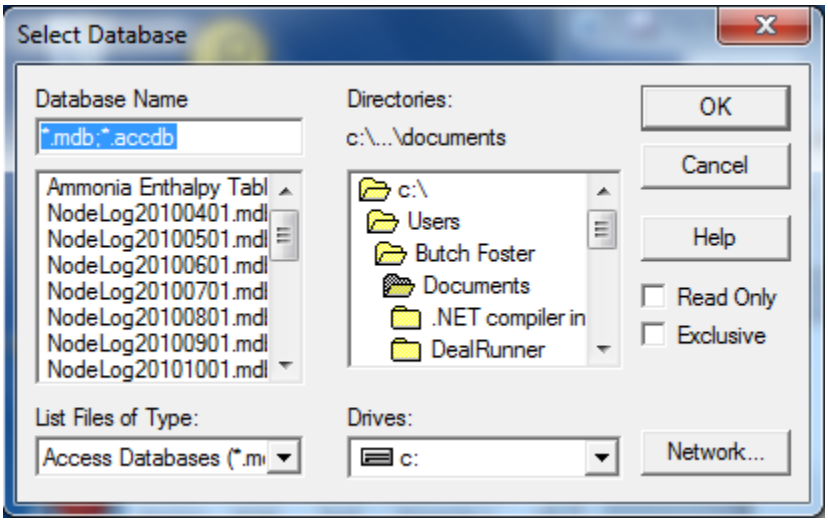
from the "Choose Data Source" choose

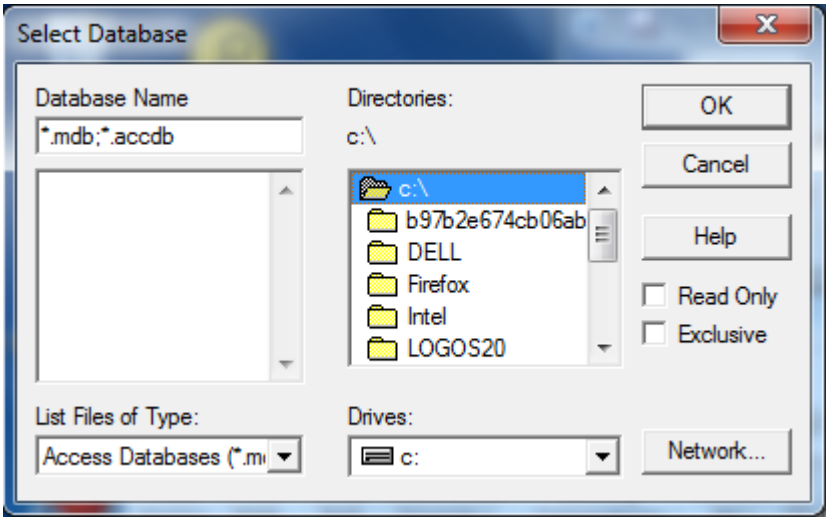
MS Access Database



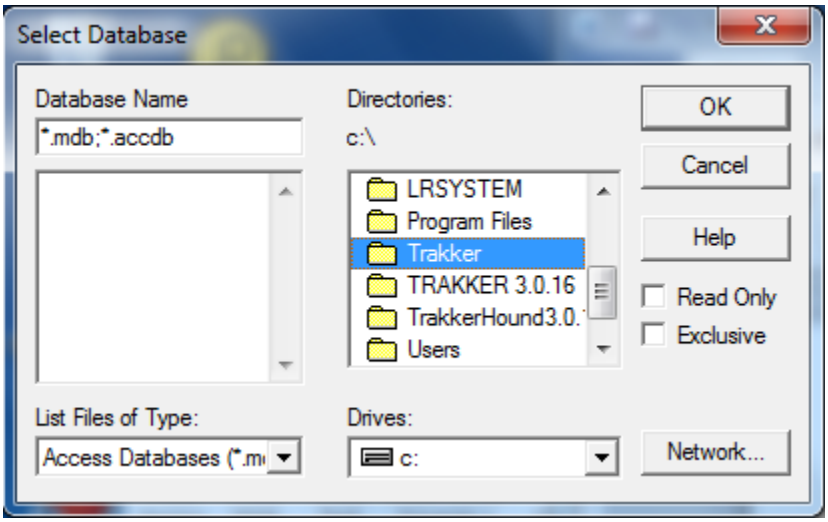
Double click that choice and the following screen appears

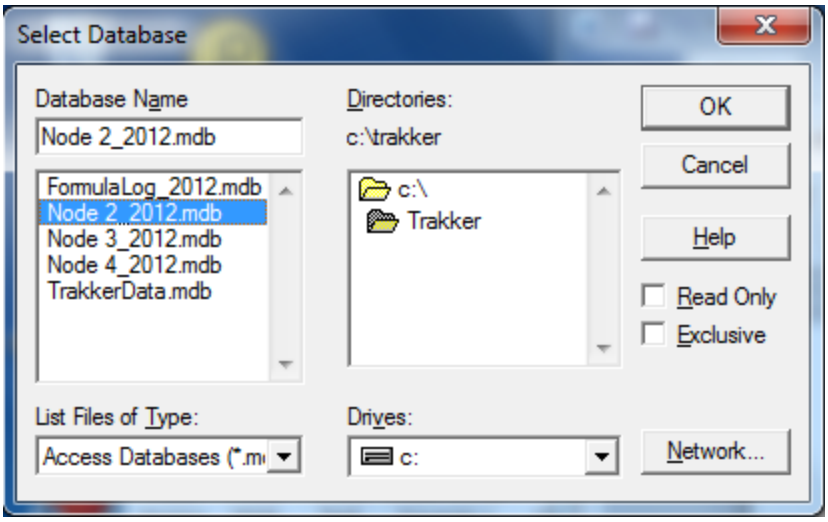
Once again click **Local Disk (C)** and a new screen appears that includes the TRAKKER file folder



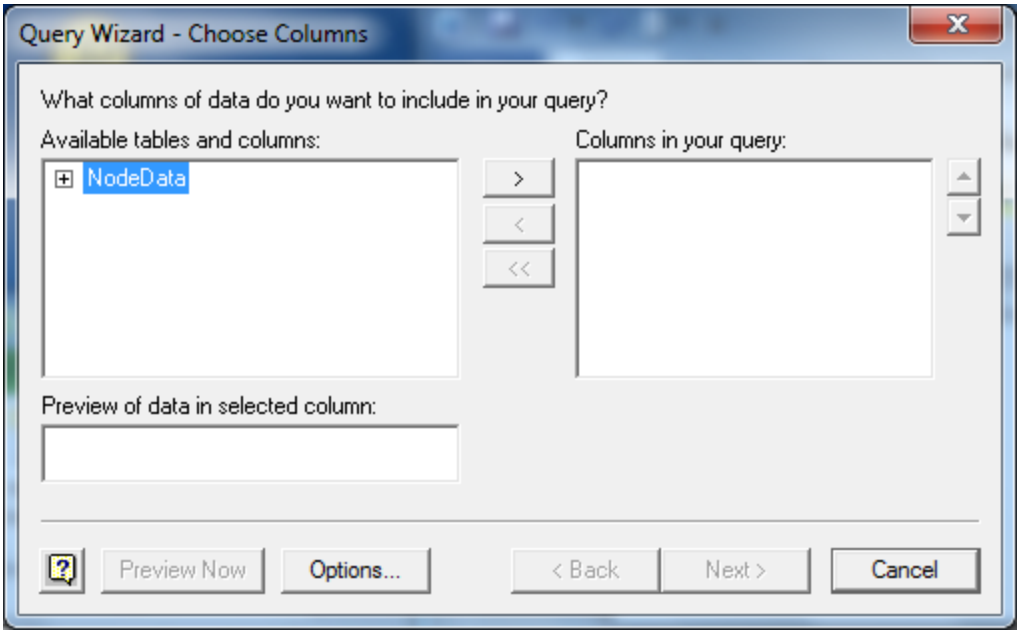


Scroll down until the TRAKKER folder is visible and double click that folder

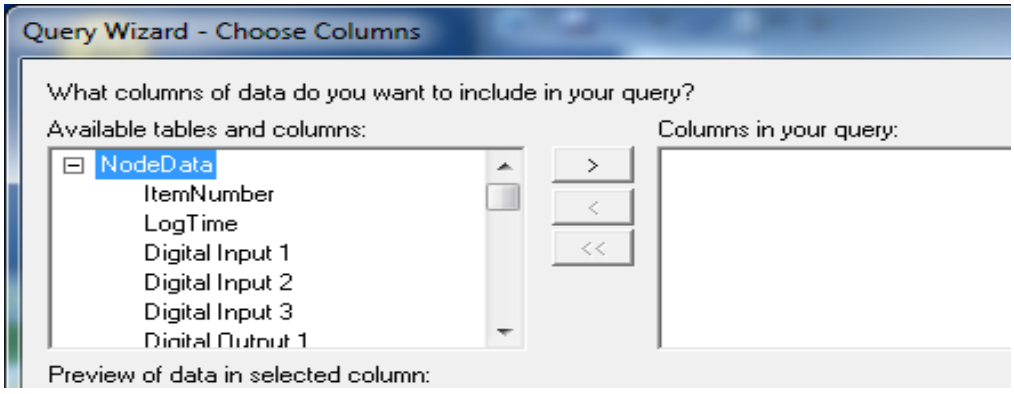




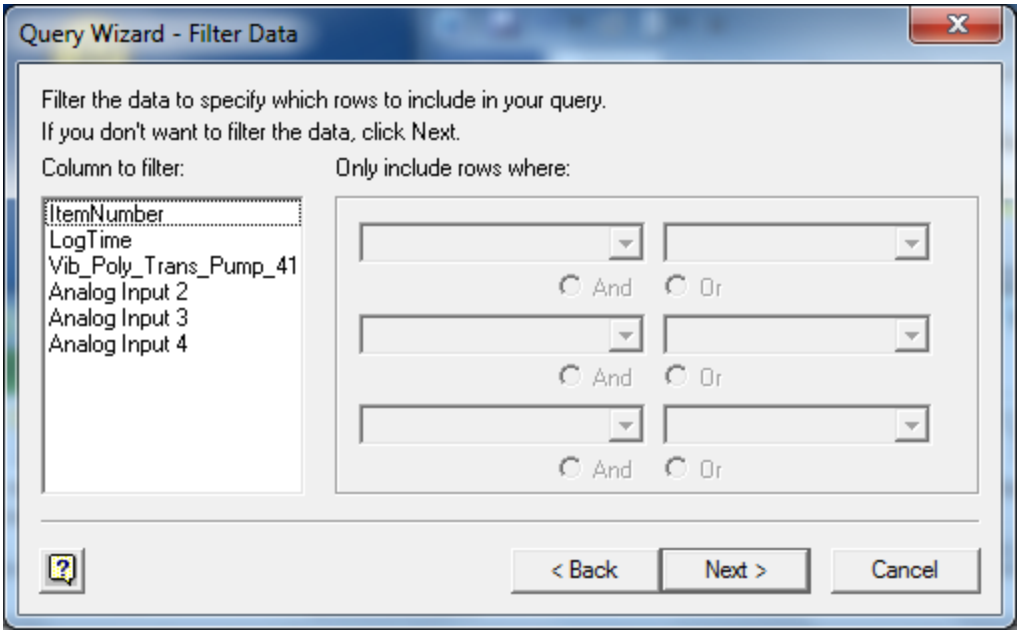
A new screen appears – click the plus symbol to the left of "NodeData and the following choices are available



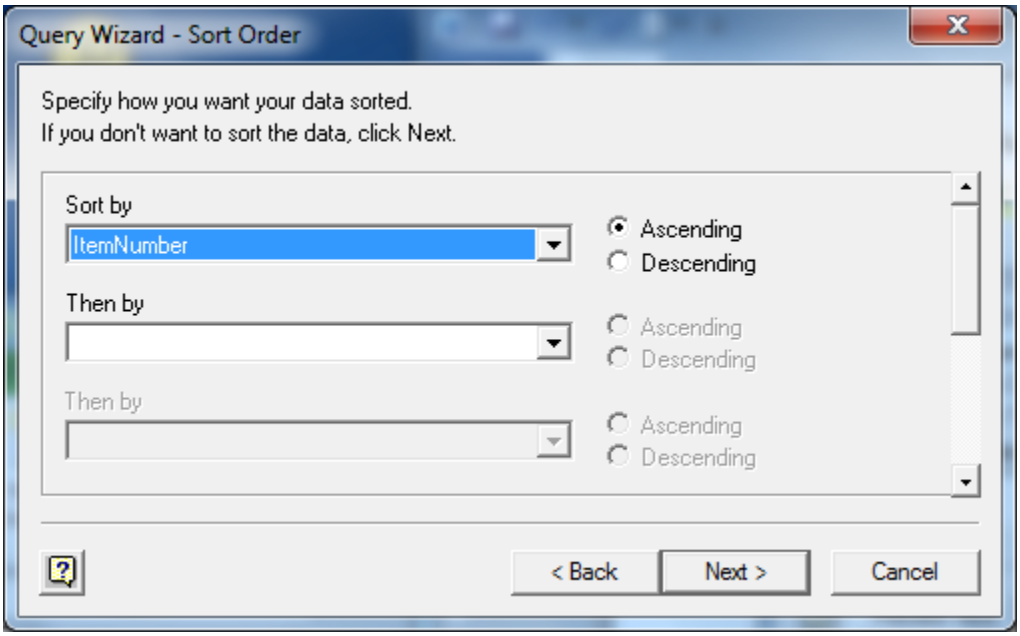
click the items you wish to import and click the > in the middle of the pull-down to add each item to the import list
be sure to scroll down to get to the analog Input choices



when you have all of the desired import columns in your query – click Next>

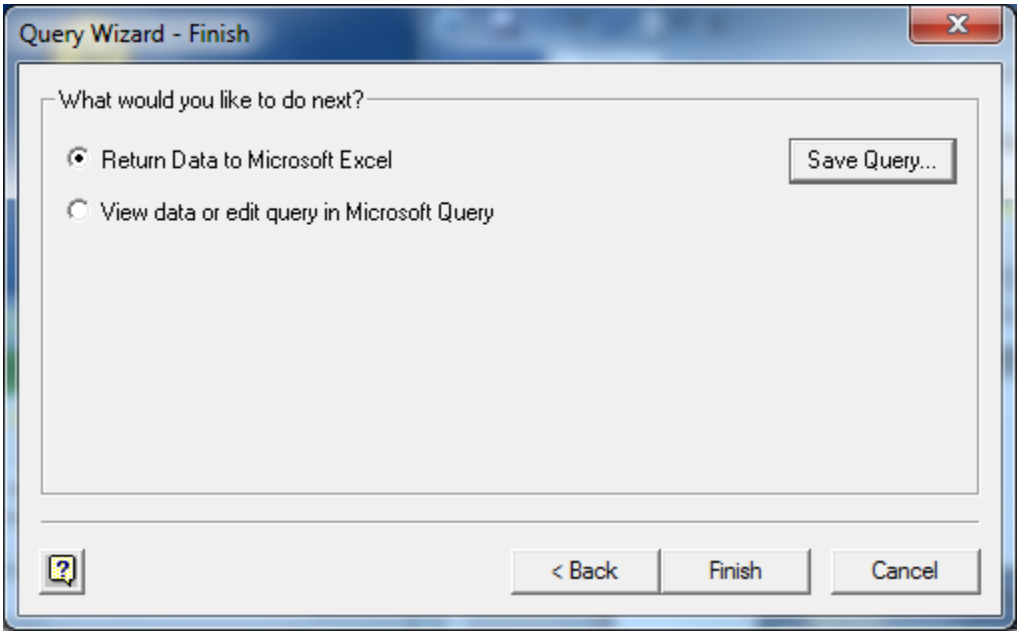


when this screen appears simply click Next> (unless you are a real Excel pro)



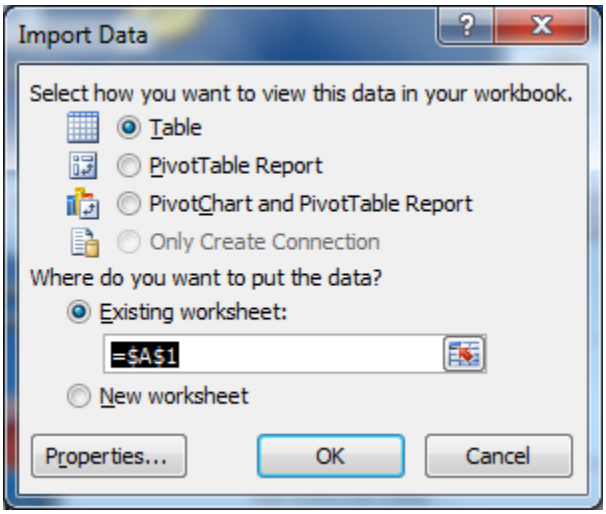
when this screen appears, scroll down to

ItemNumber and click either Ascending or Descending and then click Next>



click Save Query and name the Excel import data to "My Docs"

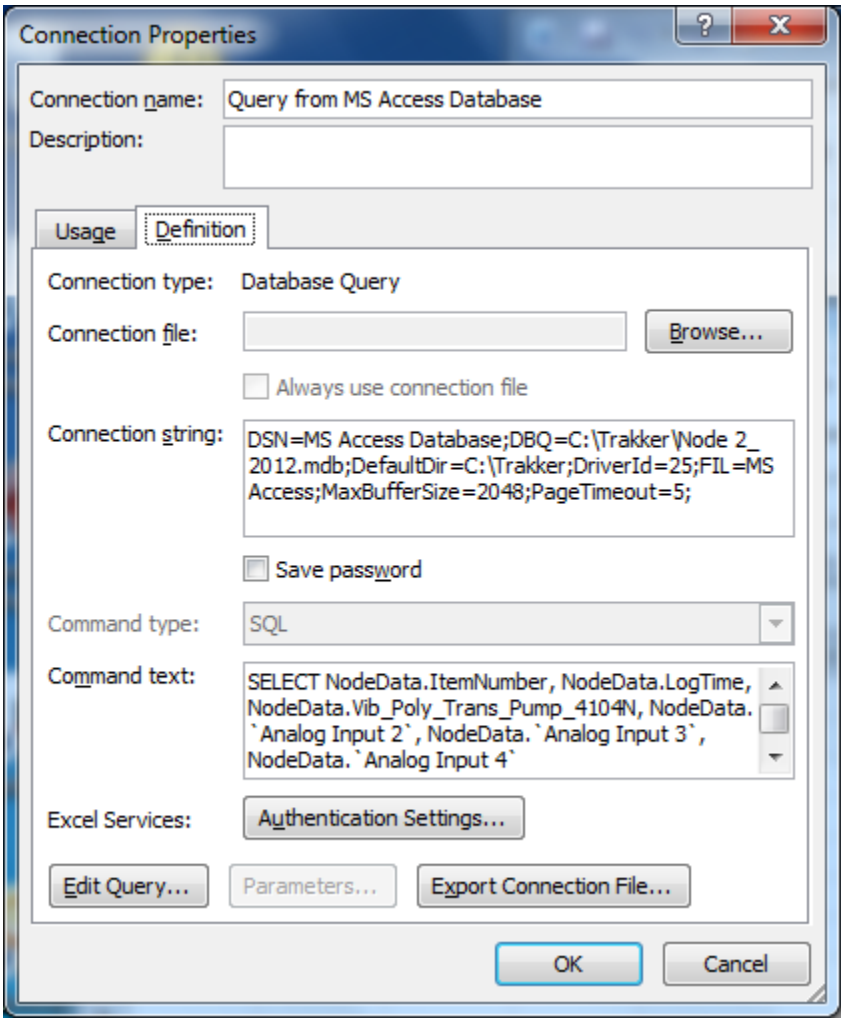
Then click Finish



Go to properties and then click the Definition tab

The definition page has the “SELECT” statement completed for you and the Connection string is much shorter but the following statement must be inserted in the statement:

DSN=MS Access; Database;DBQ=C:\Trakker\Node 3_2012.mdb;**Mode=Share Deny None;**DefaultDir=C:\Trakker;DriverId=25;FIL=MS Access;MaxBufferSize=2048;PageTimeout=5



Click OK and click OK on the next screen and the import will begin

Make sure you start with your curser in column 1, line 1