



**DATA-LINC GROUP**

# USER GUIDE

INDUSTRIAL DATA COMMUNICATIONS

## LincView OPC

### Enhanced Diagnostics Utility



**OMRON**



**Schneider Electric**  
*Building a New Electric World*



It is essential that all instructions contained in the User Guide are followed precisely to ensure proper operation of equipment.



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## Introduction

LincView OPC is a software application that allows Data-Linc Group SRM family radio users to monitor radio performance and troubleshoot their multi-point network. LincView OPC allows you to easily detect problems with one or more radios on your network and to remotely make modifications to any radio on the network. Eliminating the time it takes to travel to the radio and to make changes to the radio's configuration. Users can select from several different options to determine when a warning or an alarm will be created to alert the user there is a problem with one or more radios.

## Requirements

To use LincView OPC, you need a computer able to access the Data-Linc Group radio network. The computer may be an additional computer; or it may be the computer already connected to the Data-Linc Group radio network's Master radio (as long as it has an extra RS-232 port available, and it can run LincView OPC simultaneously).

The diagnostic computer's operating system must be Windows ('98 or NT 4.0 or later).

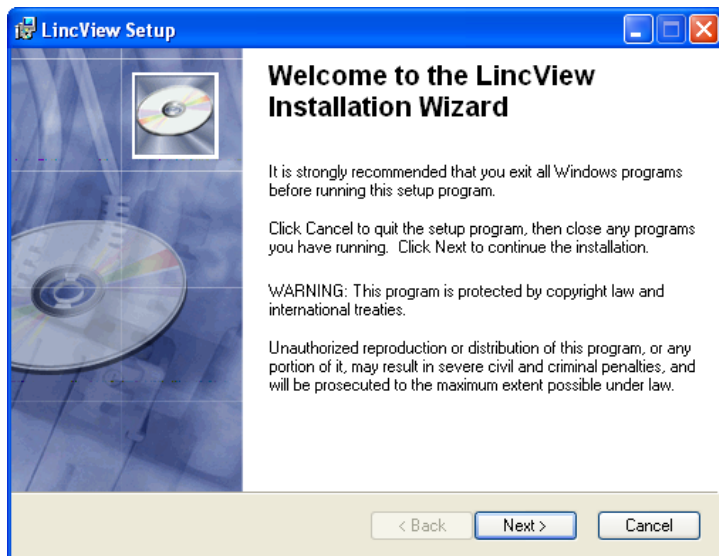
Your computer may use the following options to access the Data-Linc network.

- A serial port connection in the back of your computer
- An Ethernet network using UDP/IP
- A Terminal Server and a network (LAN, Internet,...) using TCP/IP

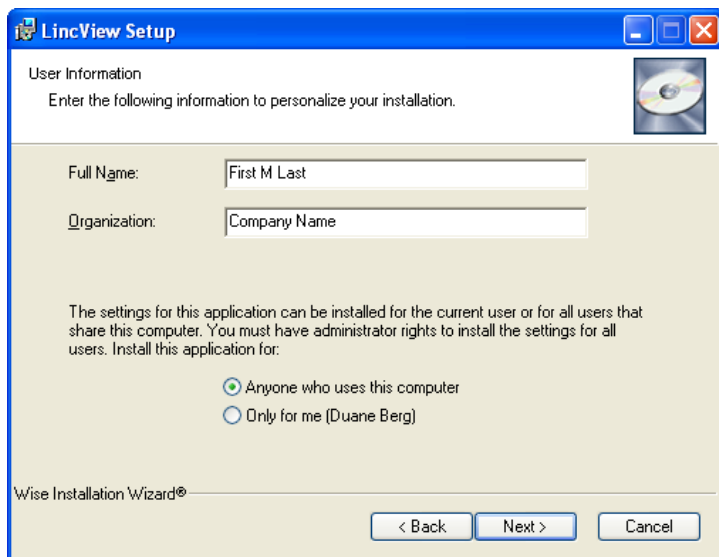
## Installing LincView OPC

LincView OPC comes with an installation wizard. To install LincView OPC, follow these steps:

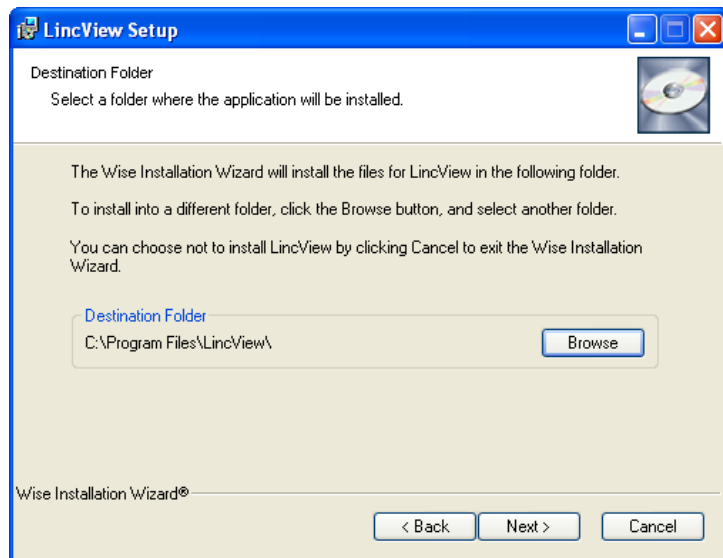
- 1) Locate the file "LincView.exe." and double click on it to run the setup wizard. The actual screens you see may vary depending on your version of the Microsoft Windows operating system. The following screens appear for Windows XP Professional:



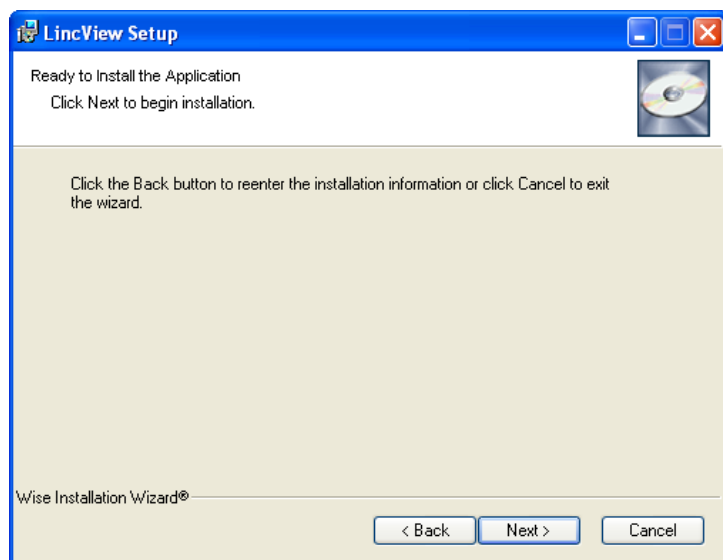
- 2) Click on the **Next** button.



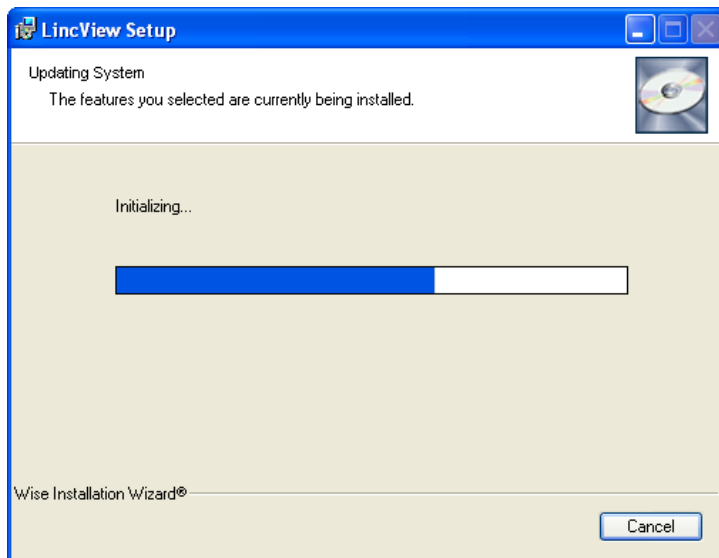
- 3) Enter your Full Name and Organization. Choose who on this computer will use LincView OPC then click on the **Next** button.



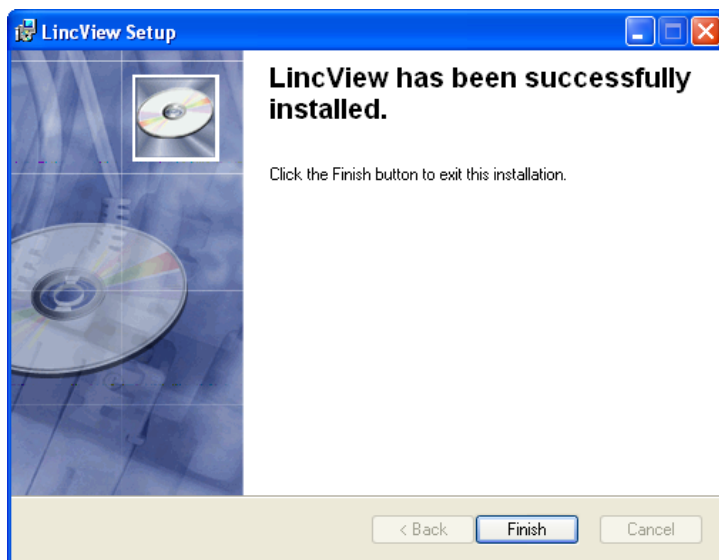
- 4) Select a Destination folder to install LincView OPC by clicking on the **Browse** button or use the default folder. Click on the **Next** button.



- 5) Click on the **Next** button to begin installation.



- 6) LincView OPC begins updating your computer by initializing and installing the software.



- 7) Click on the **Finish** button.



## Connecting Radios to Your Computer

To establish a connection between LincView OPC and your network, you must connect the radios to your computer. Since each Data-Linc radio network varies in complexity, the connection type you select will vary. If you need assistance determining the best connection type for your network, call Data-Linc's Technical Support for assistance.

Depending on the method you want to use to connect to LincView OPC, you will need to follow the steps in the appropriate section below.

### Serial Port Connection

The Serial Port connection type can be used with either a Serial or Ethernet Master radio.

To establish a connection from your network to your computer, follow the steps below.

1. Plug in both ends of the electrical connection Data-Linc has supplied to you. The electrical connection has a rectangular end that goes into the radio and an electrical connection to plug into an outlet.
2. Plug in both ends of the diagnostic cable Data-Linc has supplied to you. The diagnostic cable plugs into your radios diagnostics port and into the Serial Port on your computer.

The Computer can use any of its Serial Ports (COM1 to COM8) to connect to the Data-Linc network. The default in LincView OPC is COM1.

### TCP/IP Connection

The Serial Port connection type can be used with either a Serial or Ethernet Master radio. This connection type requires an additional device called a Terminal Server. This device is an Internet server with one or more RS232 serial ports on one end and an Ethernet port at the other end. Data-Linc will need to provide you with a Diagnostics Cable to send diagnostics from the Master to the Terminal Server.

To establish a connection from your terminal server to your computer, follow the steps below.

1. Connect the Master Radio to the Internet through the Terminal Server.
2. Connect the computer to the Internet.

### UDP Connection

The UDP connection type can only be used with an Ethernet Master radio. This connection type is typically used in the field.

To establish a connection from your network to your computer, follow the steps below.

1. Assign an IP address to the Master Radio.
2. Assign the same IP address to LincView OPC.
3. Set the diagnostics to '129' in the setup menu.
4. Connect the Master Radio to the Ethernet network
5. Connect your computer to the Ethernet network

### Modem Connection

The Serial Port Diagnostics can be connected through a dial-up modem. This connection type is used to access the master diagnostics port from a remote location.

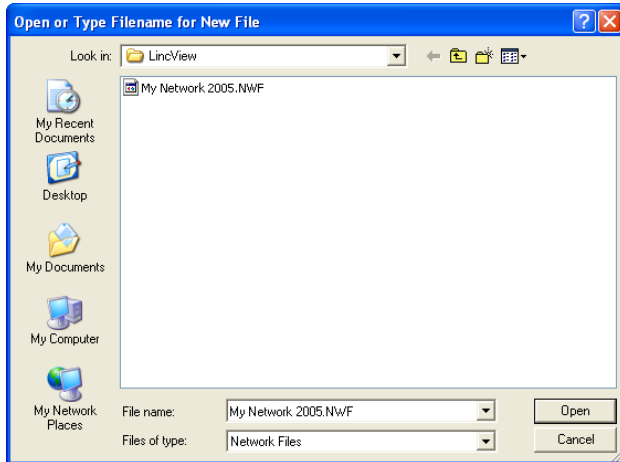
To establish a connection from your network to your computer, follow the steps below.

1. Setup two dial up modems, one as a Master and one as a Remote (auto-answer)
2. Connect the Master Dial-Up Modem to the PC running LincView OPC
3. Connect the Remote Dial-Up Modem to the Diagnostics Port on the Master Radio Modem
4. Set the Phone Number to Dial in LincView OPC to access the Remote Dial-Up Modem and Click **Dial**

## Getting Started

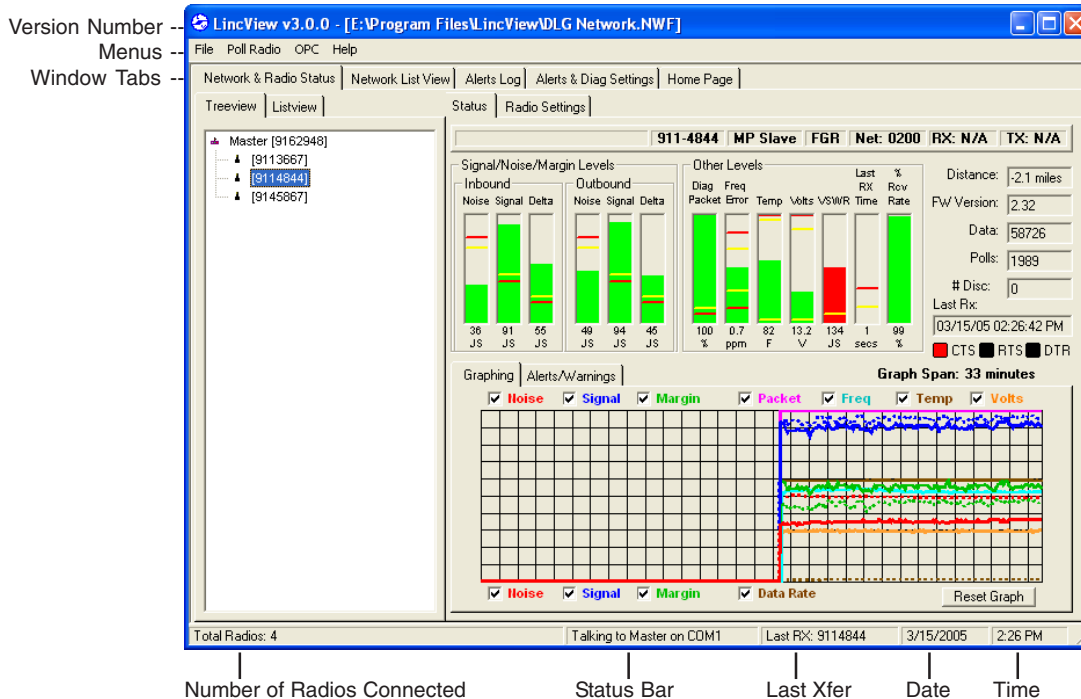
Once you have installed the LincView OPC software and you have attached your transceivers to your computer, you are ready to launch LincView OPC. Follow the steps below to start LincView OPC.

1. Select LincView OPC from the Program Manager in the Start menu or click on the LincView OPC icon on your desktop. After launching the LincView OPC application, the following dialog box appears.



2. Select a network file (.NWF) from the dialog box or create a new network file by typing in a name in the File name text box. Click on the Open button.

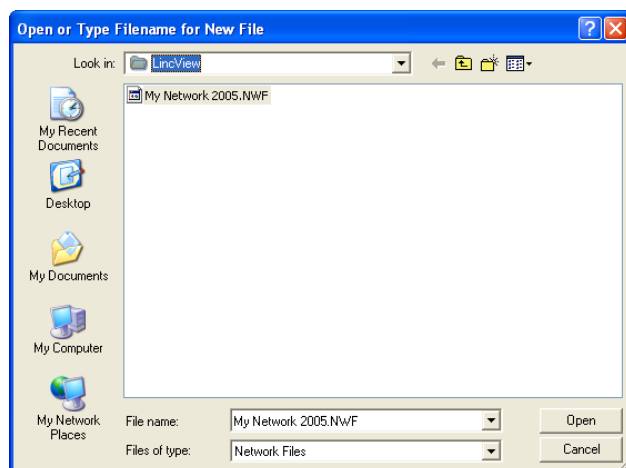
The following LincView OPC Network Page Appears.



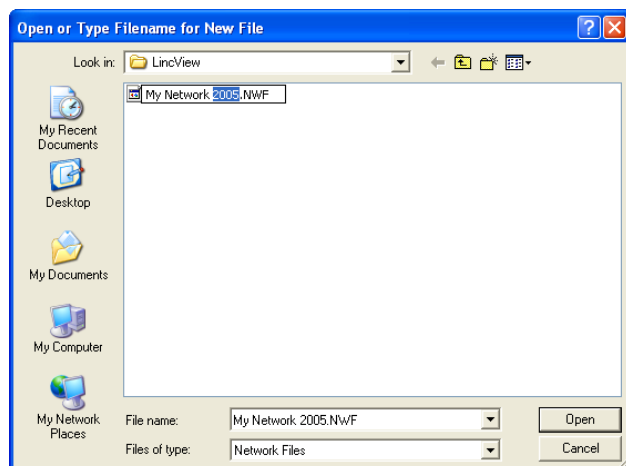
## Modifying a Network File Name

To rename a Data-Linc network file name, follow the steps below.

1. Select Open or New from the File menu.



2. Select a network file name by clicking on the file name in the dialog box.



3. Highlight the portion of the name you want to modify and type in the new name.
4. Deselect the file and the file name is modified.

## Deleting a Network File

To delete a network file, follow the steps below.

1. Select Open or New from the File menu.
2. Highlight the network file name and press the Delete key on your keyboard. The network file name is deleted.

## LincView OPC Menu Options

There are four menu options available in the LincView OPC application:

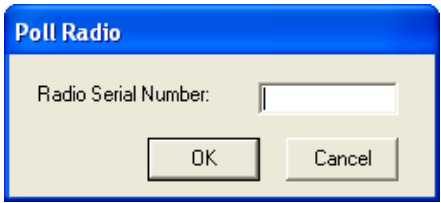
- File
- Edit
- Poll Radio
- Help

Within each of the four menu options there are several items to select. The following describes the application menu items.

### File Menu Option

Menu Item Name	Description
New	Allows you to create a new network file.
Open	Allows you to open another network file.
Close	Closes the network file currently open in LincView OPC
Import From Text File...	Imports radios from a txt file
Import From Text File...	Imports radios from a CSV file
Export to Text File...	Allows you to create a text file of the All Radio spreadsheet. This is typically done when the user needs to send this information to Technical Support when they need assistance.
Exit	Closes the LincView OPC application

### Poll Radio Menu Option

Menu Item Name	Description
Serial Number dialog box	<p>This option allows you to add a specific radio to your network list. When you select this option the Serial Number dialog box appears.</p>  <p>Type in the Radio's serial number and click on the OK button. The radio will now appear in your radio network list.</p> <p>Note: Do not include hyphens or other symbols in the serial number. The serial number should contain only seven-digits.</p>

### OPC Menu Option

Menu Item Name	Description
Options	Displays available options for OPC server operation. Must re-open file for changes to take place.

### Help Menu Option

Menu Item Name	Description
Contents	Comming Soon
Search for Help On...	Comming Soon
About	Brings you to the Home Page tab in the LincView OPC application

## Home Page Tab

The Home tab is the window that displays when you launch LincView OPC. The Home tab displays the version of LincView OPC you are running and it has several links at the bottom of the tab. These links bring you to other tabs within LincView OPC that are commonly used.



The following describes each of the five links.

Quick Link	Description
Check on the status of a radio	This link brings you to the Radio Status tab. This tab displays information about the selected radio in graphical form.
View a tree of the radios in the network	This link brings you to the Radio Status tab. This tab displays your network in a tree view. This view allows you to determine the radio communication structure of your network.
View a list of all of the radios	This link brings you to the All Radio tab. This tab displays a spreadsheet containing a variety of information about each radio in your network.
View a list of warnings and/or alarms	This link brings you to the Alerts tab. This tab displays a spreadsheet containing a list of warnings and alerts for your network.
www.data-linc.com	This links launches your Internet browser and opens the Data-Linc Group home page.

## Alerts & Diag Settings Tab

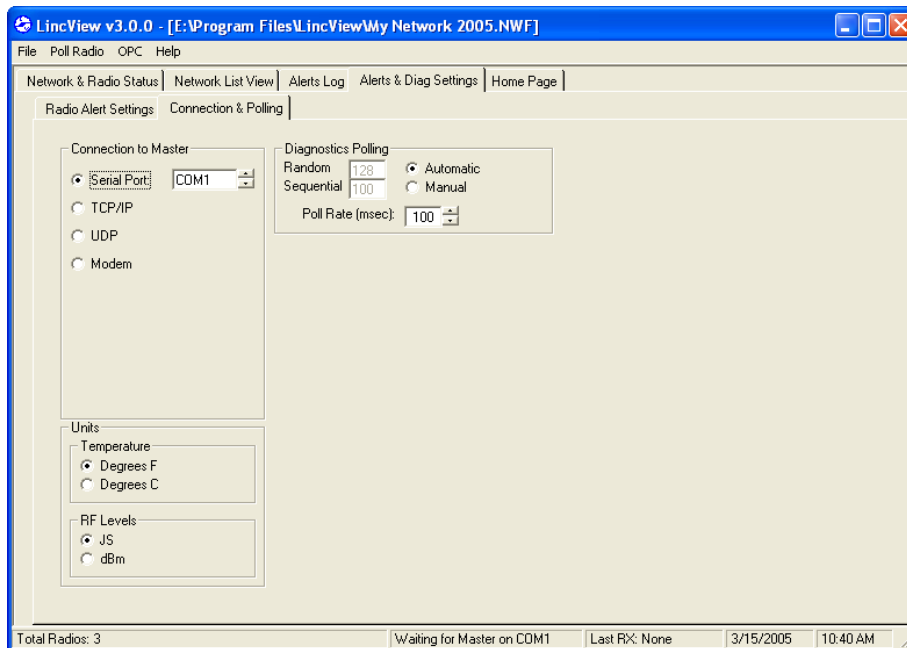
The Alerts and Diagnostics Settings tab allows you to setup the connection to your radios. This tab also allows you to determine when you want to be warned or alerted about specific changes to the radios in your network.

After installing LincView OPC and connecting the radios to your computer, you will need to setup your connection to the Master radio and select your warning and alarm settings.

## Programming Your Master Radio Connection

To program your Master radio connection so LincView OPC can connect to your radios, follow the steps below.

1. Click on the Alerts & Diagnostics Settings tab. The Alerts & Diag Settings tab appears. Click on the Connection & Polling tab within the Alerts & Diag Settings tab.



2. Select the Connection to Master type. There are four connection types to choose from. For additional information about these connection types, see the section Connecting Radios to Your Computer earlier in this document.

On the Following Page is quick reference on how setup each type of possible connections

Connection Type	Description
Serial Port	The serial port the radio is connected to on your computer. Use the drop-down menu to select Com1 through Com8. This is the most commonly used connection type with CommControl.
TCP/IP	The Terminal Server connection. If you select this type you will also have to enter the IP Address and Port number. The IP address and Port number will be the same as the Terminal Server's IP Address and Port number.
UDP	The User Data Protocol connection. If you select this type you will also have to enter your IP Address, Port number and password-if you selected a password in the radio menu. The IP Address is the same as the IP radio address and the Port number is always 4131.
Modem	Used for remote telephone access over a serial dial up modem, enter the phone number to access the serial master diagnostics port remotely.

Connection to Master

☒ Serial Port: COM1

☐ TCP/IP

☐ UDP

☐ Modem

Connection to Master

☐ Serial Port:

☒ TCP/IP

☐ UDP

☐ Modem

IP Address: 192.168.1.1

Port Number: 4131

Connection to Master

☐ Serial Port:

☐ TCP/IP

☒ UDP

☐ Modem

IP Address: 192.168.1.1

Port Number: 4131

Password:

Connection to Master

☐ Serial Port: COM1

☐ TCP/IP

☐ UDP

☒ Modem

Dial

Phone #: 425-882-2206

**Note:** Notice that the status bar tells you if the connection has been made or if the system is waiting for the connection to open.



3. Select the Temperature Units.

Unit Type	Description
Degrees F	Select this option for the system to use Fahrenheit for temperature measurements.
Degrees C	Select this option for the system to use Celsius for temperature measurements.

4. Select the RF Level Units.

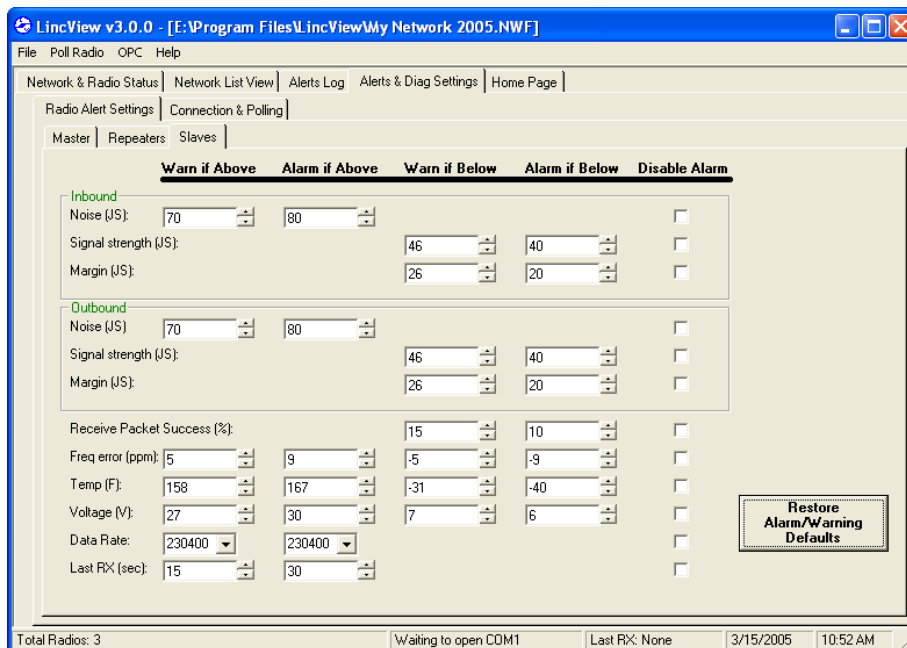
RF Levels Type	Description
JS	Custom RF levels. This option is the default and is most commonly used with LincView.
dBm	The global standard for RF levels.

## Setting Your Alerts

LincView OPC allows you to select specific settings for the system to use to give you either a warning or an alarm. LincView OPC comes with default settings that you may use for your alarm settings or you can modify the settings to meet your needs.

To set your alerts, follow the steps below.

1. From the Alerts & Diag Settings tab, click on the Radio Alerts Setting tab. The following window appears:



2. There is an Alert setting window for the Master, Repeater and Slave radios. You may decide to modify one or more of the settings or to use the default settings. You can select the settings to give you either a warning or an alarm if the radio is above or below the number indicated.
3. Change the settings by clicking on the arrows to the right of the boxes to make the number displayed in the box go either up or down.
4. If necessary, click on the Repeaters tab and modify the settings.
5. If necessary, click on the Slaves tab and modify the settings.

## Alerts Log Tab

The Alerts Log tab displays a spreadsheet style of information about your radios. Within the Alerts Log tab you have four tabs to select from. Each of the four tabs displays a spreadsheet style table of specific information about your radios. The following describes each of the tabs within the Alerts Log tab.

Alerts Log Tab	Description
Alarm Log	Displays a list of all of the radios that there is an alarm on. This means that the radio is above or below the settings you selected on the Alerts and Diag Settings tab
Warning Log	Displays a list of all of the radios that there is a warning on. This means that the radio is above or below the settings you selected on the Alerts and Diag Settings Tab
Informational	Displays information about all of the radios on your network.
All Events	Displays all the information that appears in the previous three spreadsheets.

Each of the spreadsheets displays the following radio information.

- \* Date/Time of the alert
- \* Type of alert
- \* Radio's call number
- \* Description of the alert

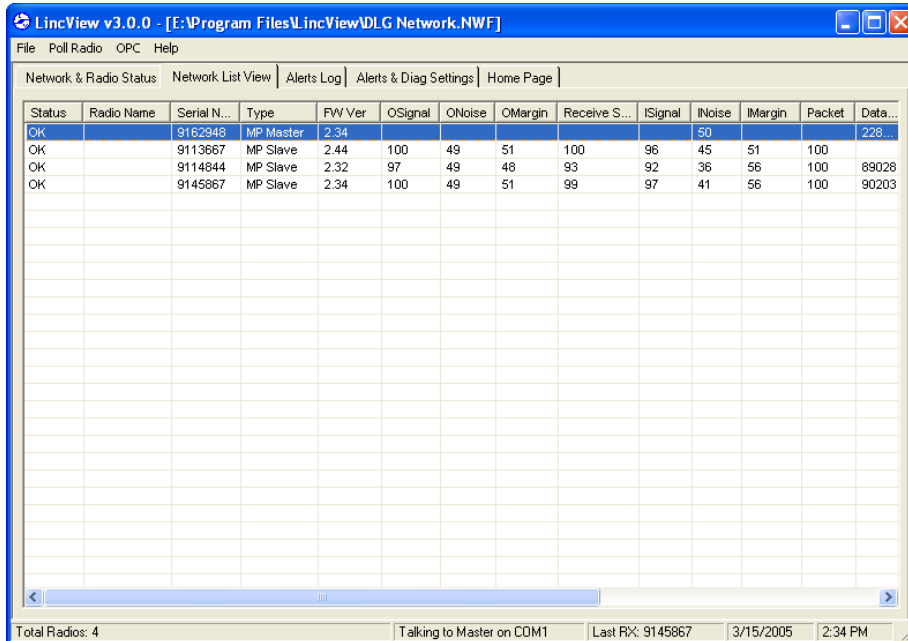
The following is an example of a Warnings Only spreadsheet:

Date/Time	Type	Serial Nu...	Description
12/09/04 01:01:24 PM	Warning	9167083	Out Margin at: 25 was below the warning level
12/09/04 01:05:28 PM	Warning	9167083	Freq Error at: -6.2 was below the warning level
12/09/04 01:50:18 PM	Warning	9119043	Last RX Time at: 16 has exceeded the warning level
12/09/04 01:50:18 PM	Warning	9167083	Last RX Time at: 16 has exceeded the warning level
12/09/04 01:50:29 PM	Warning	9119043	Packet at: 14 was below the warning level
12/09/04 01:50:30 PM	Warning	9167083	Packet at: 14 was below the warning level
12/09/04 03:46:06 PM	Warning	9167083	Out Noise at: 71 has exceeded the warning level
12/10/04 12:52:44 AM	Warning	9119043	Freq Error at: 5.2 has exceeded the warning level

At the bottom of each spreadsheet there are two buttons. Use the **Clear Selected Item** button to delete the highlighted row. Use the **Clear All** button to delete all of the displayed rows on the spreadsheet.

## Network List View Tab

The Network List View Tab displays a spreadsheet that lists all of the radios on your network and statistics about each radio.



The screenshot shows the LincView v3.0.0 application window with the 'Network List View' tab selected. The spreadsheet displays the following data:

Status	Radio Name	Serial N...	Type	FW Ver	OSignal	ONoise	OMargin	Receive S...	ISignal	INoise	IMargin	Packet	Data...
OK		9162948	MP Master	2.34						50			228...
OK		9113667	MP Slave	2.44	100	49	51	100	96	45	51	100	
OK		9114844	MP Slave	2.32	97	49	48	93	92	36	56	100	89028
OK		9145867	MP Slave	2.34	100	49	51	99	97	41	56	100	90203

At the bottom of the window, a status bar shows: Total Radios: 4, Talking to Master on COM1, Last RX: 9145867, 3/15/2005, 2:34 PM.

The Network List View spreadsheet contains a great deal of detailed information. This spreadsheet is very useful when you are having problems with any of your radios.

You can create a text file of this spreadsheet by selecting Export To Text File from the File menu. When working with Data-Linc's Technical Support, you may be asked to create a text file of your Network List View tab spreadsheet. The information found on this spreadsheet allows Data-Linc Group's Technical Support to better assist you.

The following describes the items displayed on the All Radios tab worksheet.

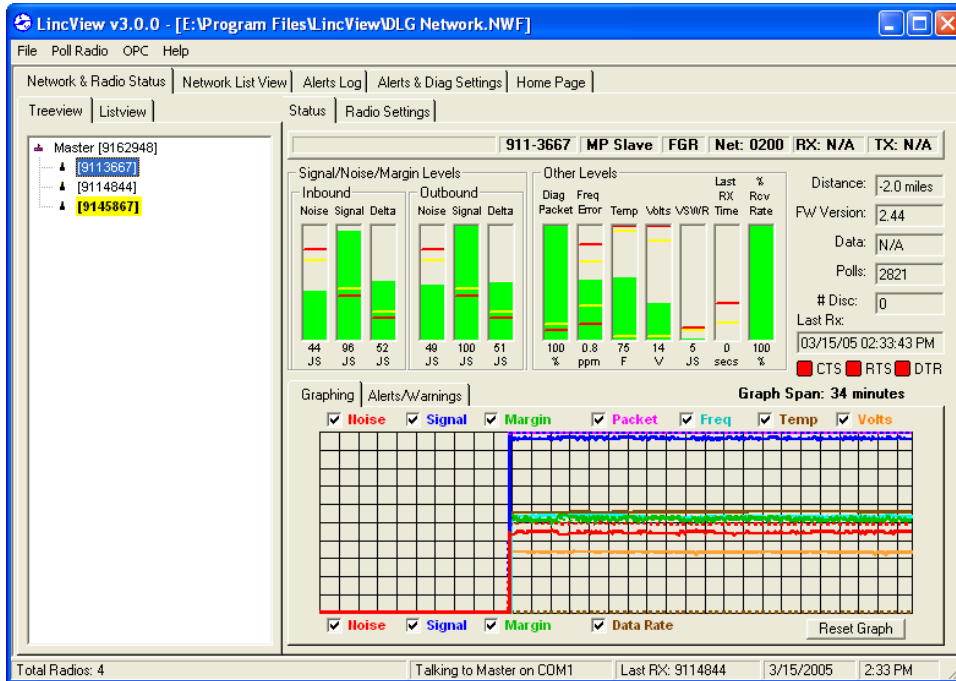
Status	Current status of the radio (e.g., alarm, warning)
Radio Name	The name of the radio, if one has been assigned.
Serial Number	The call number for the radio. This is a seven-digit unique number.
Type	The function of the radio within the network (e.g., Master, Slave or Repeater).
INoise	The inbound noise is the average level of noise the radio receives when the transmitting radio(s) are not transmitting. This value should be a relatively small number. However, as long as the IMargin is within 30 points the INoise is considered good.
ISignal	The strength of the inbound signal that this radio receives. For Repeaters, this refers just to its radio link toward the Master.
IMargin	This is the spread of points between the INoise and ISignal. A spread of 30 points or less is considered ideal.

ONoise	The outbound noise is the average level of noise the radio receives when the transmitting radio(s) are not transmitting. This value should be a relatively small number. However, as long as the OMargin is within 30 points the ONoise is considered good.
OSignal	The strength of the outbound signal that this radio receives. For Repeaters, this refers just to its radio link towards the Master.
OMargin	This is the spread of points between the ONoise and OSignal. A spread of 30 points or less is considered ideal.
Packet	This is the percentage of data packets that this radio successfully received on the first try. If this radio is a Repeater, this refers to the link to the Master. This value should be at least 75%.
Freq	This is the error of the radio's radio frequency with respect to the Master. This value should be within $\pm 10$ ppm.
Temp	This is the operating temperature of this radio. The units displayed are either Celsius or Fahrenheit. To select the type of unit, see the section <i>Configuration Tab</i> earlier in this document. All Data-Linc Group SRM Series Radios are 100% tested for operation over a temperature range of $-40^{\circ}\text{C}$ to $+75^{\circ}\text{C}$ ( $-40^{\circ}\text{F}$ to $+167^{\circ}\text{F}$ ).
Volts	This is the supply voltage of the radio modem.
Data Rate	This is the number of bytes that the radio has transferred from the end device back to the Master. Since plain Repeaters only repeat data from another radio, their count is '0'. However, if this radio is a Repeater/Slave, this count is the number of bytes that the radio has transferred from the end device back to the Master while operating as a Slave.
Last RX	This is the time (measured using the System Clock) when this radio last replied to diagnostics polling.
Polls	Poll is the diagnostics response rate. This is the percentage of the time that the radio reported back diagnostics data when polled. If the radio is used to transmit a lot of data as part of its normal operation, it will have less time to respond to the Master polling it for diagnostics data; in that case, the diagnostics response rate will decrease. If this value is 0, it may be because this radio is disconnected from the network.
Distance	The distance between this radio and the radio to which it is directly linked. If this radio is linked directly to the Master, this is the distance to the Master or it is the distance to the first Repeater that it uses.
FW Ver	The Internal Firmware version of your radio.
Data	This is the number of bytes that the radio has transferred from the end device back to the Master. Since plain Repeaters only repeat data from another radio, their count is '0'. However, if this radio is a Repeater/Slave, this count is the number of bytes that the radio has transferred from the end device back to the Master while operating as a Slave.

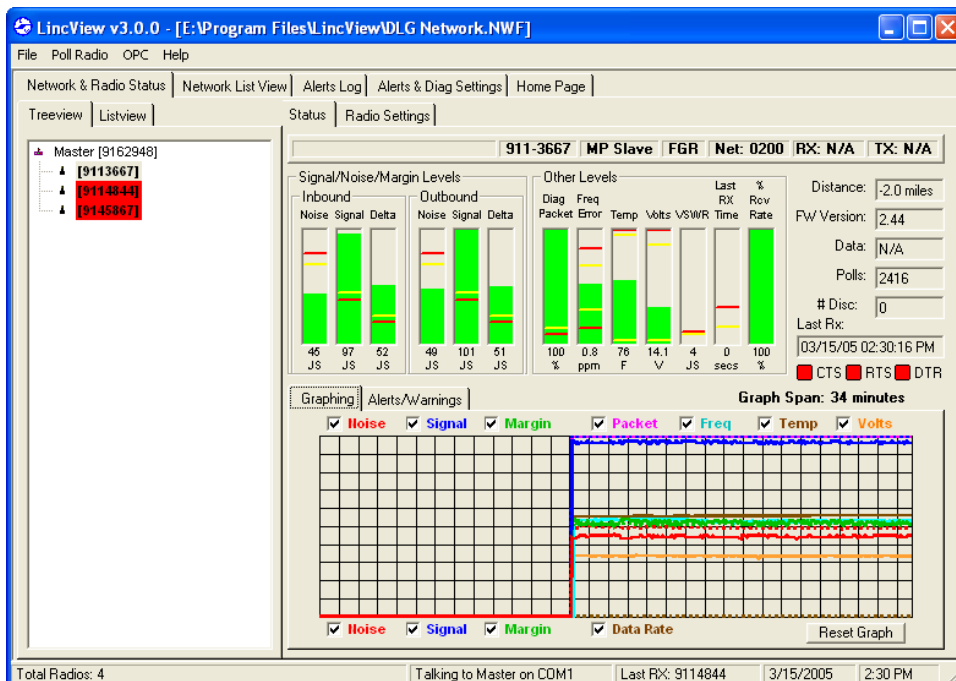
## Radio Status Tab

The Radio Status Tab allows you to select a radio to see the status graphically. This window also displays radios with a warning or an alarm. Radios with a warning are highlighted in yellow and radios with an alarm are highlighted with red.

The following illustrates a warning in the Radio Status tab.



The following illustrates an alarm in the Radio Status tab.



## Viewing Radio Networks in the Radio Status Tab

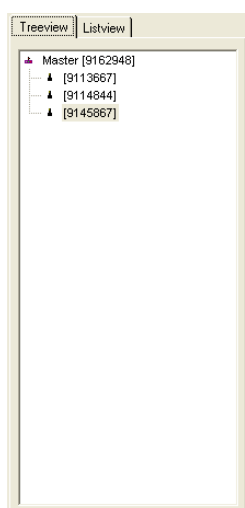
The left side of the Radio Status tab displays all of the radios in your network. The following two options are available for you to view your radio network.

- Tree view
- List view

## Tree View

A tree view allows you to see your radio network in a hierarchy level. The radios indented and under one radio communicate to the radio above it. To see your radios as a tree, select the Treeview button.

The following is an illustration of a tree view tab.



## List View

A list view allows you to see all of your radios in a list format. To see your radios in a list, select the Listview button.

The following is an illustration of a list view tab.



## Viewing Radio Status Information

The right side of the Radio Status tab contains the following four tabs.

- Status
- Configuration
- Graphing
- Alerts/Warning

The following describes each of the four radio status tabs.

### Status Tab

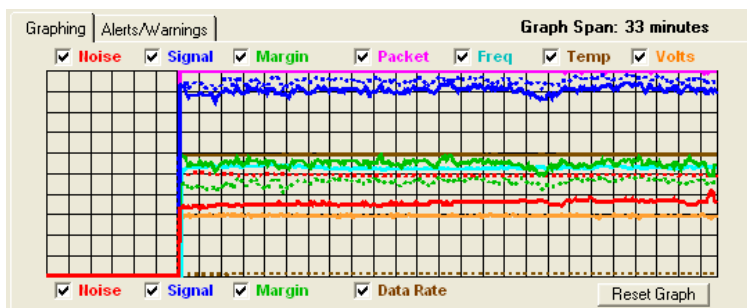
The Status tab provides a graphical interpretation of the radio you have selected in either the Treeview or Listview tab. The yellow and red lines within the level bars indicate the warning and alarm settings you have selected. The yellow lines indicate your warning settings and the red lines indicate your alarm settings. Therefore, if the radio is working properly the level should appear within the yellow and red lines.

In the middle of the Status Tab there are two additional tabs: the Graphing tab and the Alerts/Warning tab. The following describes both of these tabs.

### Graphing Tab

The Graphing tab displays a graph illustrating all of the check box items you have selected around the chart.

The following is an illustration of the Graphing tab.



The Noise, Signal and Margin check boxes appear twice. If you select the check boxes above the graph, the system will illustrate the inbound Noise, Signal and/or Margin as a solid line. If you select the check boxes below the graph, the system will display the outbound Noise, Signal and/or Margin as a dashed line.

In addition, you may select check boxes for the following items.

- Packet
- Frequency
- Temperature
- Volts
- Data Rate

The text for each of the check boxes is in a specific color. The text color indicates the line color that item is displayed as in the chart. You can also place your cursor over the text of the graphing item for a few seconds and a description of the line for that item appears.

You can clear the graph and start over at any time by clicking on the Reset Graph button.

## Alerts/Warning Tab

The Alerts/Warning tab displays a spreadsheet listing all of the current radio alerts and warnings.

The following is an example of the Alerts/Warning Tab.

<b>Graphing</b>	<b>Alerts/Warnings</b>		
Date/Time	Type	Serial N...	Description
03/15/05 02:38:58 PM	Warning	9114844	Voltage at: 13.1 has exceeded the warning level
03/15/05 02:39:32 PM	Alarm	9114844	Temperature at: 82.3 has exceeded the alarm level

Clear Selected Item      Clear This Radio's Alarms      Clear ALL This Radio Events

You can clear a row from the spreadsheet by highlighting the row and clicking on the Clear Selected Item button. Or you can clear the entire spreadsheet by clicking on the **Clear All** button.

## Configuration Tab

The Configuration tab displays the settings for the radio you have selected in either the Treeview or Listview tab. If there is a problem with a radio you can modify the settings from this window.

Status		Radio Settings	
<b>RF Transmission Settings</b>			
Freq Key:	5		
Hop Table			
Version:	0-Standard		
Size:	112		
Offset:	0		
<b>Packet Size:</b>			
Maximum:	9		
Minimum:	0		
Xmit Rate:	1-Normal		
Data Rate:	2-Maximum		
Xmit Power:	10		
Retry Timeout:	255		
Low Power:	0		
<input type="checkbox"/> Repeater Freq <input type="checkbox"/> Multi Master Sync <input type="checkbox"/> Slave/Repeater <input type="checkbox"/> High Noise <input checked="" type="checkbox"/> MCU Speed			
		<b>Serial Port Settings</b>	
		Interface: 0-RS232	
		Baud Rate: 5-19.2Kbps	
		Data/Parity/Stop: 0-8 bits/N/1	
		Flow Control: 0-None XON	
		DTR Cnct: 0-Disabled	
		<input type="checkbox"/> RTS to CTS <input type="checkbox"/> MODBus	
		Off Delay: 0	
		On Delay: 0	
		<b>Multipoint Parameters</b>	
		Network ID	
		Network ID: 200	
		Sub Net ID	
		Receive: F-N/A	
		Transmit: F-N/A	
		Mstr Packet Rpts: 1	
		Slave Rpts: 9	
		Retry Odds: 9	
		<b>Operation Mode</b>	
		Function: 2-MP Master	
		<b>Ethernet Settings:</b>	
		Duplex Mode <input checked="" type="radio"/> Full <input type="radio"/> Half	
		<input type="checkbox"/> Ethernet Mode Enabled <input type="checkbox"/> Slave IP Stack Slave UDP Mode 0	
		IP Addr:	
		<b>Other</b>	
		Name:	
		Radio ID: 65535	
		1 PPS/Delay <input type="checkbox"/> Enabled	
		Delay:	
		<div>Edit</div>	

To make a configuration change to a radio, follow the steps below.

1. Click on the **Edit** button.
2. Make the change to the appropriate text box by either typing over the information in the box or using the arrows to the right of the text box to select an option or move the current number up and down.
3. When you have made all of the necessary changes, click on the **Save** button.

**Note:** If you decide you do not want to make any changes after selecting the Edit button. Click on the **Cancel** button.



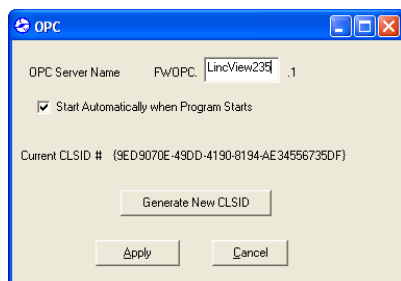
## OPC Server Operation

LincView OPC utilizes a standard for sharing operations operation information called OPC (OLE for Process Control). This OPC server may be accessed by multiple OPC clients that request and receive information about radio status.

## Changing OPC Server Configuration

To change OPC server settings the options dialog box must be engaged by selecting the 'Options' item from the OPC drop down menu

The Following window will appear:



### OPC Configuration Window

The OPC server name can be changed by changing the default name from LincView OPC to something that better suits the circumstances. Keep in mind that the OPC server will register on the network using FWOPC.xxx.1 where xxx is the name provided in the user settable text box.

If the user does not wish to allow for the OPC server to run or wishes to disable the server this may be done so by de-selecting the check box that states "Start Automatically when Program Starts."

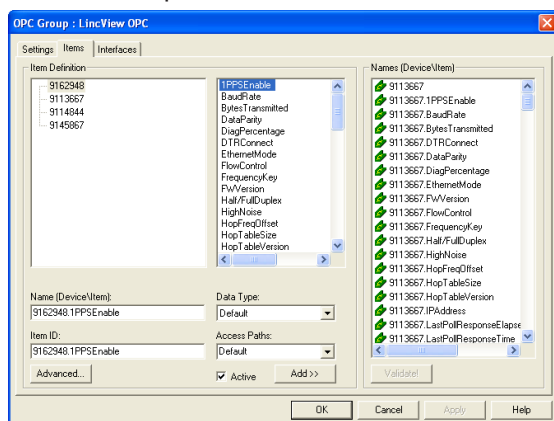
If a user wishes to have several versions of the OPC server running it may be necessary to generate a new CLSID number. This is done by clicking the 'Generate New CLSID' button on the dialog.

Applying the settings will save all changed items to the database, however the changes will not take effect until the network file is closed and re-opened again.

## OPC Data Availability Format

Each radio in the network is presented by the OPC server and contains 54 diagnostic tags.

Below is an example of how a default OPC server might register on an OPC client.



The following OPC data access tags are available:

Available OPC Data Access Tags			
xxxxxx	xxxxxx.HopTableSize	xxxxxx.PPM	xxxxxx.SignalMarginJU
xxxxxx.#OfDisconnects	xxxxxx.HopTableVersion	xxxxxx.PercentRcvRate	xxxxxx.SignalOutJU
xxxxxx.1PPSEnable	xxxxxx.IPAddress	xxxxxx.RFDataRate	xxxxxx.Slave/Repeater
xxxxxx.BaudRate	xxxxxx.LowPowerMode	xxxxxx.RS232/485	xxxxxx.SlaveIPStack
xxxxxx.DTRConnect	xxxxxx.MCUSpeed	xxxxxx.RTStoCTS	xxxxxx.SlaveUDPMODE
xxxxxx.DataParity	xxxxxx.MOBBusRTU	xxxxxx.RadioMode	xxxxxx.TemperatureC
xxxxxx.DiagPercentage	xxxxxx.Master-Slave Distance	xxxxxx.RadioName	xxxxxx.TemperatureF
xxxxxx.EthernetMode	xxxxxx.MasterPacketRepeat	xxxxxx.Reflected Power	xxxxxx.TurnOffDelay
xxxxxx.FWVersion	xxxxxx.MaxPacketSize	xxxxxx.RepeaterFrequency	xxxxxx.TurnOnDelay
xxxxxx.FlowControl	xxxxxx.MaxSlaveRetry	xxxxxx.RetryOdds	xxxxxx.TxSubNetID
xxxxxx.FrequencyKey	xxxxxx.MinPacketSize	xxxxxx.RetryTimeOut	xxxxxx.Voltage
xxxxxx.Half/FullDuplex	xxxxxx.MultiMasterSync	xxxxxx.RfXmitPower	xxxxxx.XmitRate
xxxxxx.HighNoise	xxxxxx.NetworkID	xxxxxx.RxSubNetID	
xxxxxx.HopFreqOffset	xxxxxx.NoiseJU	xxxxxx.SignalInJU	

**Note:** xxxxxxxx represents the unique radio call number of each available radio.

These 54 Tag's can be polled by OPC clients and used to update third party software that is capable of producing alarms and other user defined functions. The server will report a Data Type, Value, and Quality as demonstrated in the figure below. If a value is known the server will report a 'Good' quality however if the value is unknown to the server a value of '0' will be reported along with a quality of 'Uncertain'. Keep in mind that not all values are supported by a master radio. A slave, or repeater radio on the other hand will report values for all 54 Tag's.

An example of that is shown below:

Name (Device\Item)	Item ID	Value	Timestamp	Quality
9113667	9113667	9113667	09:35:09:000	Value good
9113667.#OfDisconnects	9113667.#OfDisconnects	0	09:36:19:000	Value good
9113667.1PPSEnable	9113667.1PPSEnable	255	09:36:19:000	Value good
9113667.BaudRate	9113667.BaudRate	19200	09:36:19:000	Value good
9113667.DTRConnect	9113667.DTRConnect	0	09:36:19:000	Value good
9113667.DataParity	9113667.DataParity	8 bits/N/1	09:36:19:000	Value good
9113667.DiagPercentage	9113667.DiagPercentage	???	09:36:19:000	Value uncertain
9113667.EthernetMode	9113667.EthernetMode	0	09:36:19:000	Value good
9113667.FWVersion	9113667.FWVersion	2	09:36:19:000	Value good
9113667.FlowControl	9113667.FlowControl	None	09:36:19:000	Value good
9113667.FrequencyKey	9113667.FrequencyKey	5	09:36:19:000	Value good
9113667.Half/FullDuplex	9113667.Half/FullDuplex	HALF Duplex	09:36:19:000	Value good
9113667.HighNoise	9113667.HighNoise	0	09:36:19:000	Value good
9113667.HopFreqOffset	9113667.HopFreqOffset	0	09:36:19:000	Value good
9113667.HopTableSize	9113667.HopTableSize	112	09:36:19:000	Value good
9113667.HopTableVersion	9113667.HopTableVersion	0	09:36:19:000	Value good
9113667.IPAddress	9113667.IPAddress	192.168.3.34	09:36:19:000	Value good
9113667.LowPowerMode	9113667.LowPowerMode	0	09:36:19:000	Value good
9113667.MCUSpeed	9113667.MCUSpeed	1	09:36:19:000	Value good
9113667.MOBusRTU	9113667.MOBusRTU	255	09:36:19:000	Value good
9113667.Master-Slave Distance	9113667.Master-Slave Distance	???	09:36:19:000	Value uncertain
9113667.MasterPacketRepeat	9113667.MasterPacketRepeat	1	09:36:19:000	Value good
9113667.MaxPacketSize	9113667.MaxPacketSize	9	09:36:19:000	Value good
9113667.MaxSlaveRetry	9113667.MaxSlaveRetry	9	09:36:19:000	Value good
9113667.MinPacketSize	9113667.MinPacketSize	0	09:36:19:000	Value good
9113667.MultiMasterSync	9113667.MultiMasterSync	Disabled	09:36:19:000	Value good
9113667.NetworkID	9113667.NetworkID	200	09:36:19:000	Value good
9113667.NoiseJU	9113667.NoiseJU	45	09:36:19:000	Value good
9113667.PPM	9113667.PPM	1	09:36:19:000	Value good

## Exiting LincView OPC

To close LincView OPC you can either,

Select Exit from the File menu.

Or

Click on the icon in the right hand corner of the window.

The LincView OPC window closes.

## Technical Support

Data-Linc Group maintains a fully trained staff of service personnel who are capable of providing complete product assistance. They can provide you with technical, application and troubleshooting, spare parts and warranty assistance. Our technical staff is based in Bellevue, Washington USA and may be reached at (425) 882-2206 or e-mail [support@data-linc.com](mailto:support@data-linc.com)

## Product Warranty

Data-Linc Group warrants equipment of its own manufacture to be free from defects in material and workmanship for one year from date of shipment to original user. Data-Linc Group will replace or repair, at our option, any part found to be defective. Buyer must return any part claimed defective to Data-Linc Group, transportation prepaid.

## Return Material Authorization

If a part needs to be sent to the factory for repair, contact Data-Linc Group's corporate office and request a Return Material Authorization (RMA) number. The RMA number identifies the part and the owner and must be included with the part when shipped to the factory.

## Contact Information

### Corporate Office

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