

RADLINK V5.00

OPERATION

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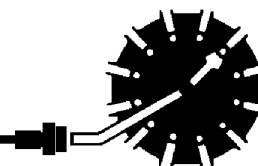


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INTRODUCTION

The purpose of the RADLink Software is to provide a means of communication between RAD3200 Base and a PC. It is designed to give a user the tools necessary to be able to properly set up and interface to a RAD3200. It is not intended to be data acquisition software. It is designed to be operated in Windows XP Professional. It provides the following:

1. Easy setup of a RAD3200 System.
RADLink is menu driven. That is, it permits a user to simply select the function(s) to be modified from a pull down menu. Setup of a RAD3200 usually requires only a few mouse clicks.
2. Command and configuration information may be sent to RAD3200 Modules from a disk file.
This permits a very fast setup of a RAD3200 Module. This is especially helpful when a module is to be modified during a test.
3. Display pressure and temperature values as numbers and in bar graph format.
This permits easy setup of a module or group of modules. All data are displayed.
4. Display "scrolled" data from RAD3200 Modules.
When this window is opened, all communications from the RAD3200 Modules are displayed.
5. Write data from RAD3200 Modules to a disk file.
Permits storage of data in a format specified during setup.

RADLink Software

The RADLink Software has been written to allow a user to easily interface to a RAD3200. It is written in Microsoft dot NET. It has been optimized for 32 bit operation. It will operate in Microsoft Windows 2000 Professional, or Windows XP Professional. Scanivalve Corp cannot guarantee proper operation in any other version of Windows.

Host System Requirements

Software Scanivalve Corp has tested and attempted to optimize the operation of this software in many environments. However, this software may not operate correctly in all environments. The following is the minimum requirements for proper operation:

Processor	Pentium 3 or 4 Processor, or equivalent, operating at 850 MHz or faster
RAM	512 Mbytes minimum, 1 Gbytes recommended
Operating System	Microsoft Windows 2000 Professional, or Windows XP Professional with Microsoft Framework V2.0 installed.

A user should read, and be completely familiar with, this manual and the RAD3200 Software Requirements Specification (SRS). It is expected that a user will have an understanding of this document and the RAD3200 operating software prior to operating this software.

INSTALLATION

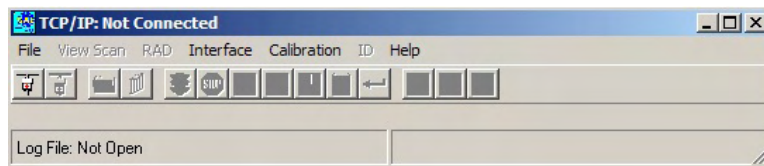
RADLink Software Installation

RADLink Software is installed on the RAD system computer as part of the RAD.exe installation. The RAD system computer is defined as the computer where the RAD executable program is installed.

RADLink Operation

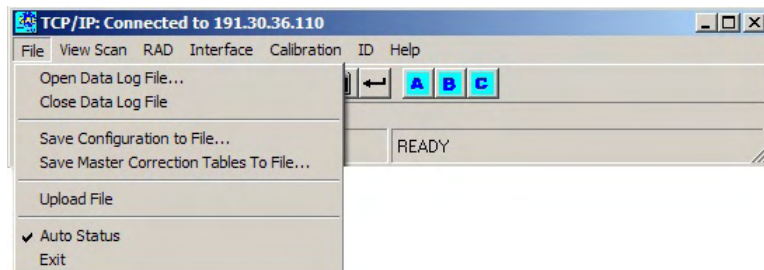
1. Connect the RAD system as shown in the RAD Hardware manual.
2. Switch the RAD On/Off switch to ON
3. Energize the Power Supply
4. Energize the RADUSB Extender, if used.
5. Click on the RAD icon in the system tray.
6. A window labeled: RAD Service will open.
When the RAD unit is detected and the software ready, the window message will change
from: No RAD unit is detected
to: A RAD unit is attached.
7. Click OK to close this window.
8. Start the RADLink program.
9. Follow the instructions in the RADLink Operation to enter the correct IP Address. The IP address will be the loopback address of the RAD computer: 127.0.0.1

RADLink Operation - Main Menu



The RADLink Window has six menu options:

File
View Scan
RAD
Interface
Calibration
ID
Help.



File This option contains file activity options for a RAD3200 Module.

Open Data Log File...

This option will open a window which will prompt the user to name a destination file for RAD3200 data. When a file is named, the file will be displayed. Data will be logged to the file named when this option is selected.

Close Data Log File

This option will close the data log file named in the option above.

Save Configuration to File...

This option will allow a user to name a configuration file that will save the current RAD3200 configuration

Save Master Correction Tables to File...

This option will permit the user to save all Master Planes to a file.

Upload File

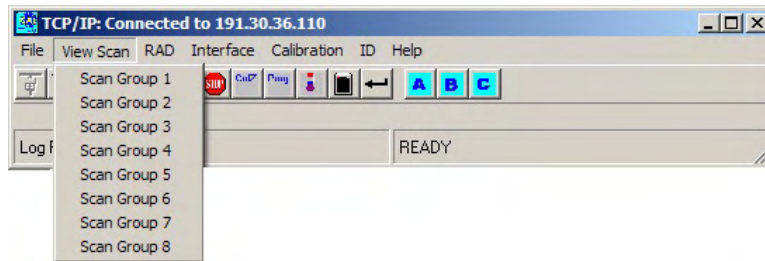
This option will permit the user to upload a configuration or correction file to the RAD3200.

Auto Status

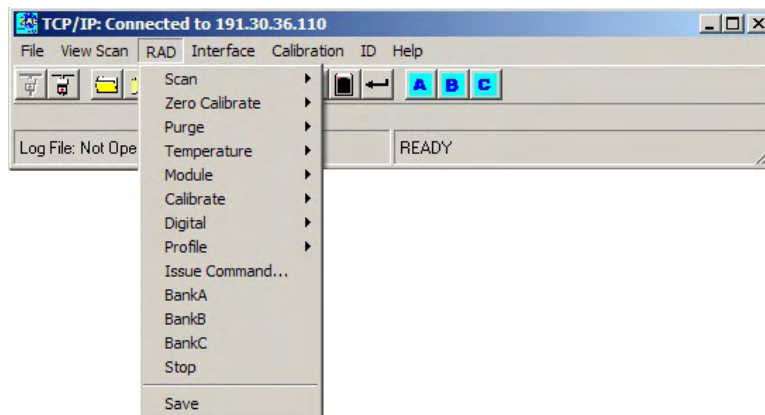
When enabled, RadLink will poll the RAD for a Status report at a set interval. The RAD Status will be updated in the status window.

Exit

Close all program activities.



View Scan This will activate a bar graph display of the scan data. The user may select one or all of the Scan Groups. This window must be opened before the scan is initiated in order to be able to view the Pressures and Bar Graph.



RAD This option permits the user to enter, verify, or modify module settings.

Scan

Set up Scan Function, Scan Groups and Initiate the Scan function.

Zero Calibrate

Perform a zero calibration and view the zero offset file.

Purge

Set up the purge function and initiate a purge

Temperature

Enter or verify the Temperature Gain and Offset values. View the current module temperatures.

Module

Enter, View or Verify the current module settings.

Calibrate

Enter the Calibration settings, Edit, Delete or Fill the Correction Tables.

Digital

Set up the Digital Inputs and Outputs

Profile

Enter, or view, the serial numbers of the modules connected to the RAD

Issue Command

Enter a command to the RAD

BankA

Set the Digital Outputs to scan the Bank A inputs in a Duplex ZOC22, 23 or 33 module.
The Digital Output settings for this feature are set in the BankA digital variable.

Bank B

Set the Digital Outputs to scan the Bank B inputs in a Duplex ZOC22, 23 or 33 module.
The Digital Output settings for this feature are set in the BankB digital variable.

BankC

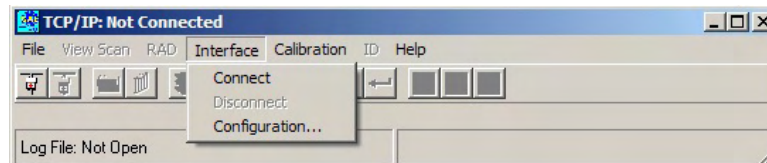
Set the Digital Outputs to the configuration set in the BankUSR Digital Configuration Variable.

Stop

Stop Scanning

Save

Save all settings. This command must be issued to save a modified variable.



Interface

This option contains connection configuration options.

Connect

Connects the RAD3200 to the network.

Disconnect

Disconnects the RAD3200 from the network.

Configuration...

Enter, view, or verify the Interface configuration.

Calibration

This function is not implemented.. It will be implemented in a later version. At that time a user will be able to calibrate, or verify the calibration of, modules connected to a RAD using s SPC3000, SPC2500, or CALMOD2000.

ID

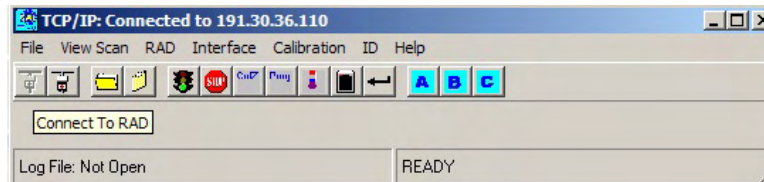
This function is used to verify the system setup information stored in the A/Ds or modules.

Help

This function is not implemented. It will be added to future versions.

RADLink Operation - Button Bar

The RADLink program also has a button bar to permit fast implementation of several of the most used commands.



The first button will connect the host computer to the RAD3200



The second button will disconnect the host computer from the RAD3200.



The third button will open a data log file.



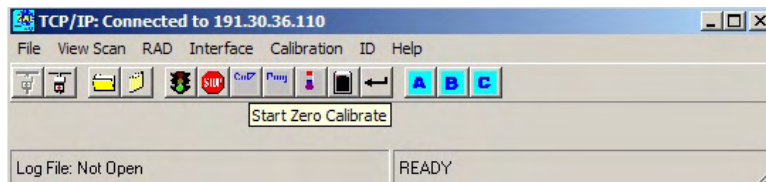
The fourth button will close the data log file.



The fifth button will start the scan function.



The sixth button will stop or terminate the Scan, Purge or CalZ functions.



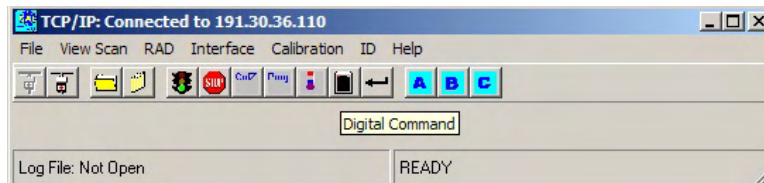
The seventh button will initiate a CalZ function.



The eighth button will initiate a Purge function.



The ninth button will display the module temperatures.



The tenth button will permit digital commands to be issued.



The eleventh button permits any command to be issued to the RAD3200.



The twelfth button sets the digital outputs to the configuration set in the BankA.Variable.



The thirteenth button sets the digital outputs to the configuration set in the BankB Variable



The fourteenth button sets the digital outputs to the configuration set in the BankUSR Variable

RADLink Operation - Setup

Start

Select: Start

Select: Programs

Select: RADLink

A window will open similar to the one below.



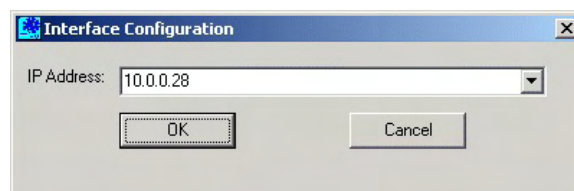
When the window is opened, Confirm that the configuration is correct.

Select: Interface

Select: Configuration

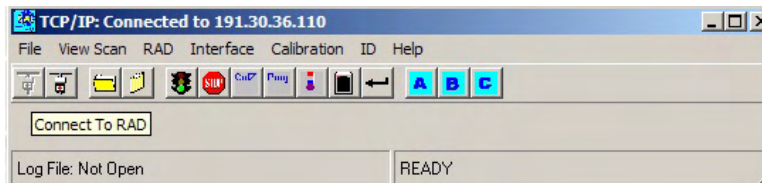


The Interface Configuration Window will open. For Ethernet operation, click on the TCP/IP button and enter the loopback IP Address: 127.0.0.1 of RAD3200 system computer. When the IP address has been entered, press Enter to highlight the address and click on OK.

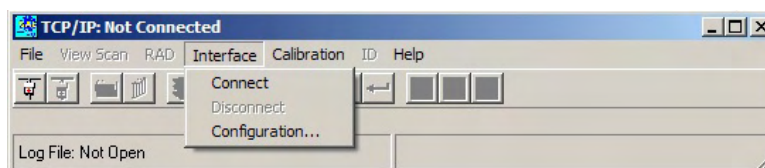


Network Connection

A connection to the network may be made by one of two ways:

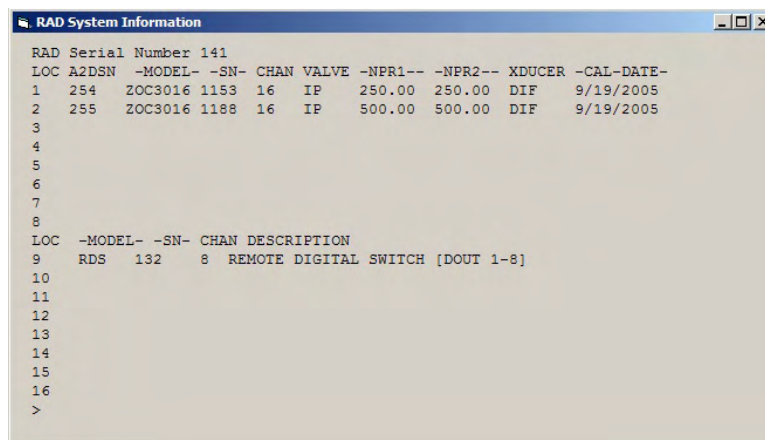


1. Move the mouse pointer to the left most button on the task bar and click once.



2. Or use the pull down menus
Select: Interface
Select: Connect

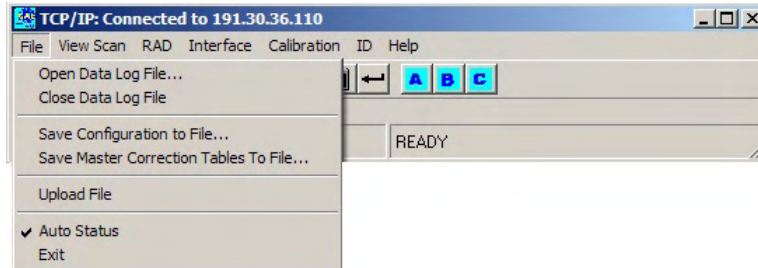
The System Information Screen will pop up. This screen contains the information read from the TEDS chips in the modules. The user should verify that this information is correct. If no changes are to be made, close the window..



The main window will remain on the screen. It will show the message:
Connected to <IP Address>
If Auto Status is enabled, The RAD3200 Status window will display:
"READY"



Auto Status

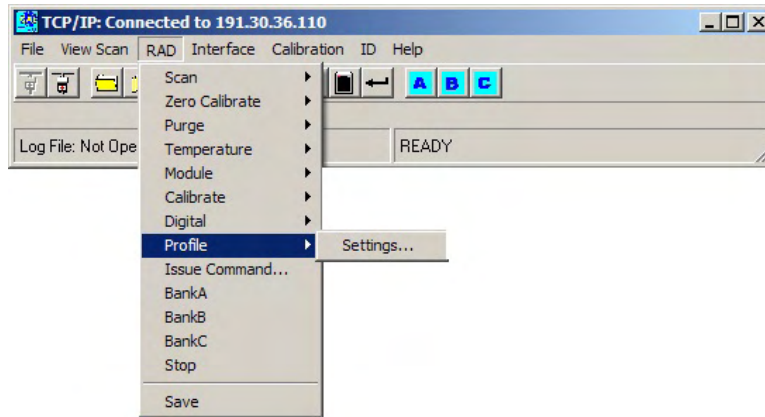


RadLink will poll a RAD at a set interval and report the Status of the RAD in the Status Window. This feature is enabled when the software is opened. It may be disabled by highlighting the Auto Status line and left clicking the mouse. It is recommended that this feature be used as it is set in the software unless the status report interferes with a troubleshooting effort.

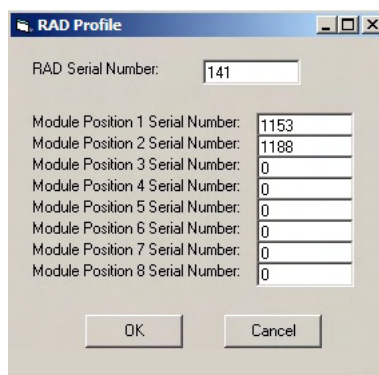
Profile Settings

The first setup parameters that must be entered or verified are the Module Profile Settings. These settings are used by the RAD3200 to find and load the correct calibration coefficients if the modules connected do not have a TEDS chip installed.

Select: RAD
Select: Profile
Select: Settings



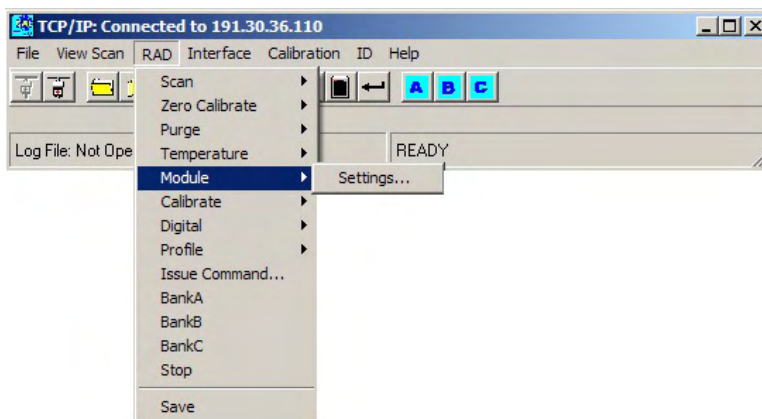
Enter the serial number of the RAD3200 and the modules connected to each position. If a Module Profile File cannot be found by the RAD3200, an error will be logged.



Module Settings

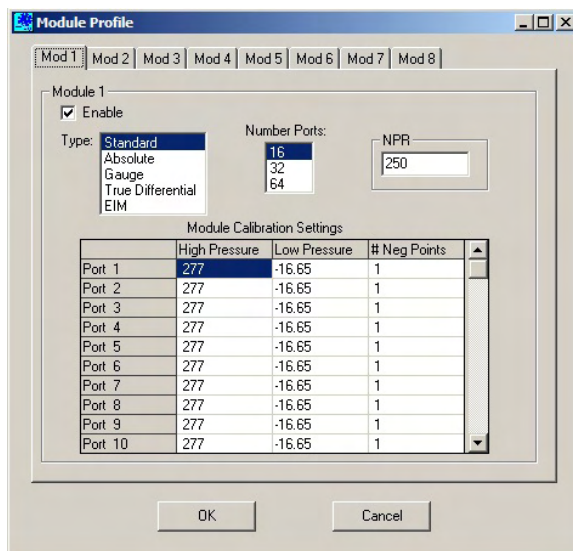
When the RAD3200 is connected and the Profile entries are complete and correct, The RAD3200 configuration must be verified.

Select: RAD
Select: Module
Select: Settings



This will open a window where module setup information may be entered. The setup information must be correct for each module.

WARNING: The Module Settings are determined and set when the module is calibrated at the Scanivalve Factory. These settings **MUST NOT** be modified. If these settings are modified, the calibration coefficients **WILL** be corrupted. **ALL** data collected after the module settings are modified **WILL NOT** be valid. If current calibration coefficients are not available, the module will have to be returned to the Scanivalve Factory for re-calibration.



- Type:** Click on the type of module connected.
- Number Ports:** Click on the number of ports in the module.
- Enable:** Click this box if the module is to be scanned.
- Module Settings:** Enter the high and low pressure values for each channel by clicking on the applicable box and entering the pressure in the Enter Pressure Window. Click OK to enter the data. It is recommended that the value entered be 10 to 20% greater than the actual full scale value.
Enter the number of negative points used in the calibration. This is a critical parameter as the coefficient table could have large errors if the number does not match the MPF file data.
- NPR:** This is the nominal full scale pressure of the module. It is very important that this number be correct as it is used in the validation tests in the Calibration section. A 5 psi module may be calibrated to 5.5 psi, but the full scale value is still 5 psi.

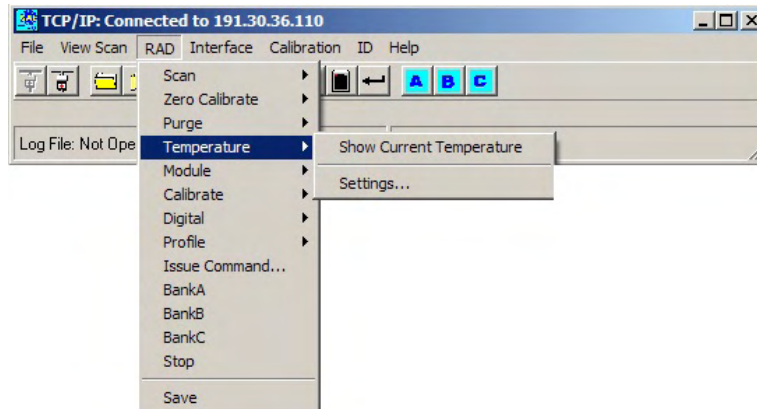
Port	High Pressure	Low Pressure	# Neg Points
Port 1	15	-15	4
Port 2	15	-15	4
Port 3	15	-15	4
Port 4	15	-15	4
Port 5	15	-15	4
Port 6	15	-15	4
Port 7	15	-15	4
Port 8	15	-15	4
Port 9	15	-15	4
Port 10	15	-15	4

If more than one port or if the entire module will have the same values, the data entry process can be simplified by pointing the mouse pointer to the first port, clicking and holding the left button down, and dragging the pointer to the last port with the same value. At that time release the button and enter the value in the window. The value will be entered in all of the highlighted boxes.

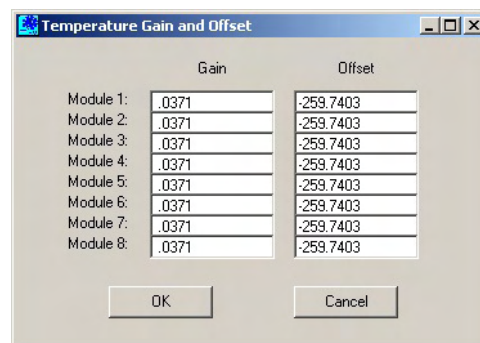
Temperature Settings

When all of the Module setup information has been entered and verified, the temperature settings must be checked.

- Select: RAD
- Select: Temperature
- Select: Settings



A window will open displaying the Gain and Offset settings for each module. The Gain and Offset settings are determined by the type of RTD installed in the ZOC Module. The values are stored in the mpf file for each module. The values shown here are for information only. A user should not have to modify these data. Most ZOC33 modules use a Platinum RTD(500Ω at 0°C). ZOC22 and ZOC23 modules use a Nickel-Iron RTD(604Ω at 0°C) The values entered in the example below are the values for a 500Ω Platinum RTD. Values for the other types pf RTD's used in ZOC modules may be found in the RAD3200 Software Specification. When all of the values have been verified, Click OK.



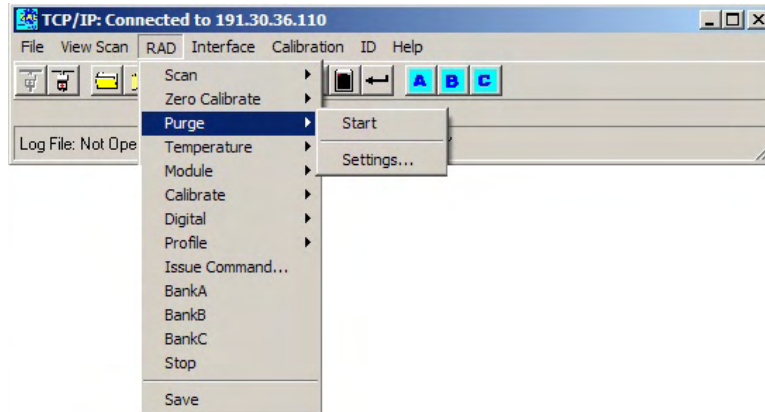
Purge Setup

Next, set up the Purge function. This step may be skipped if Purge will not be used.

Select: RAD

Select: Purge

Select: Settings



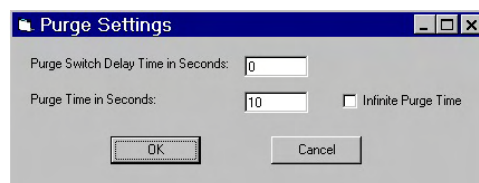
The Purge Settings Window will open.

Set the Purge Delay Time, in seconds. Valid values are 0 to 5 seconds.

Set the Purge Time, in seconds. Valid values are 10 to 3600 seconds.

If an infinite Purge Time is desired, Click on the Infinite Purge Time Box.

Click OK when all of the data are entered.



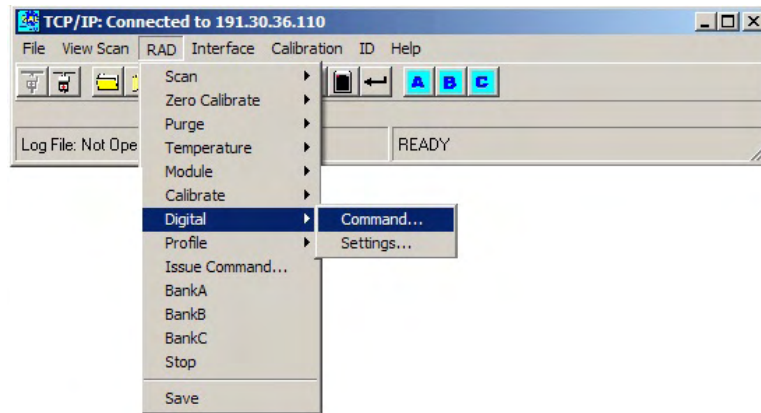
Digital Inputs and Outputs

Set the Digital Inputs and Outputs.

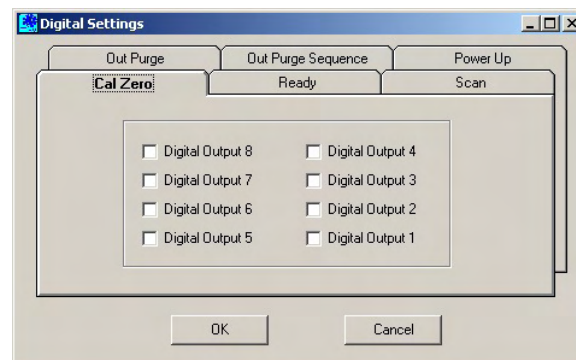
Select: RAD

Select: Digital

Select: Settings

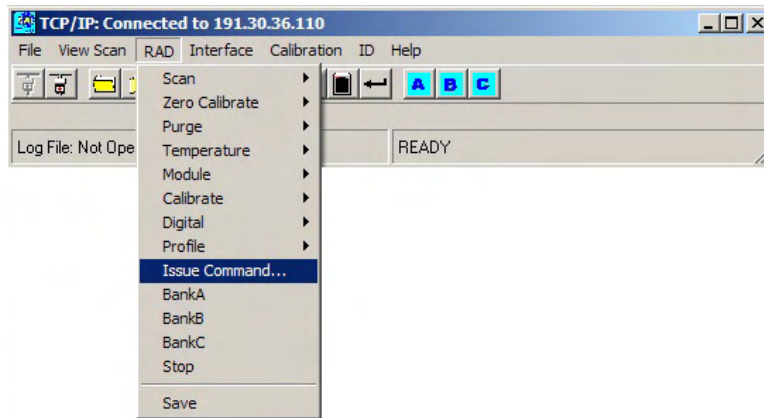


The Digital Settings Window will open. Digital Inputs are activated by clicking the check box for the applicable input. The function will be activated or deactivated when the input is sensed. When the settings are completed, Click OK.



RadLink can control the settings of the Digital Outputs so a ZOC22, 23, or 33 duplex module can be switched between input banks. The configuration variables for these functions must be set up using the Issue Command Window.

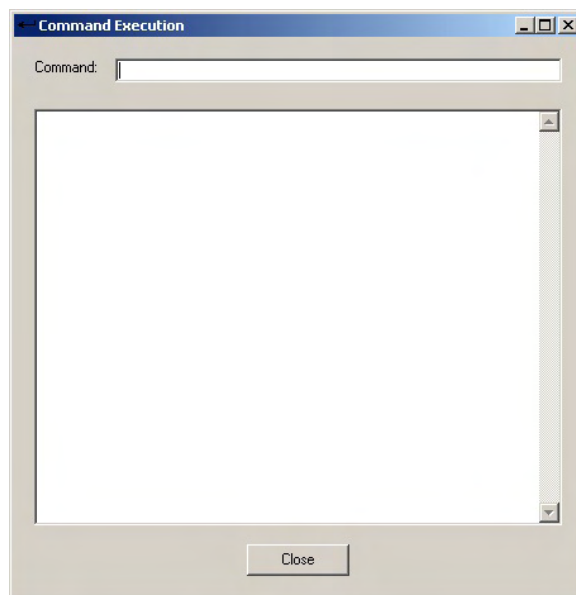
To check the setting of the BankA,, BankB, and BankC variables, Open the Issue Command Window by selecting Issue Command from the RAD Menu,



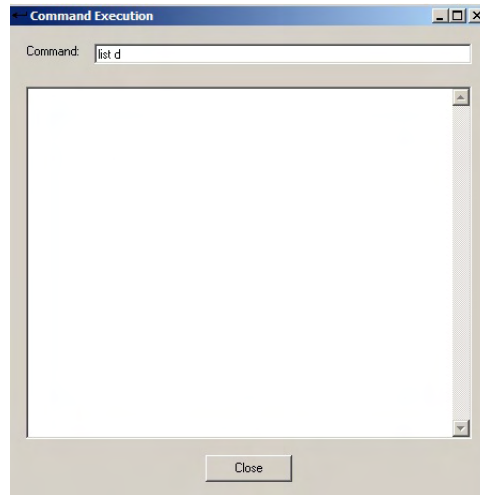
or by clicking on the Issue Command button.



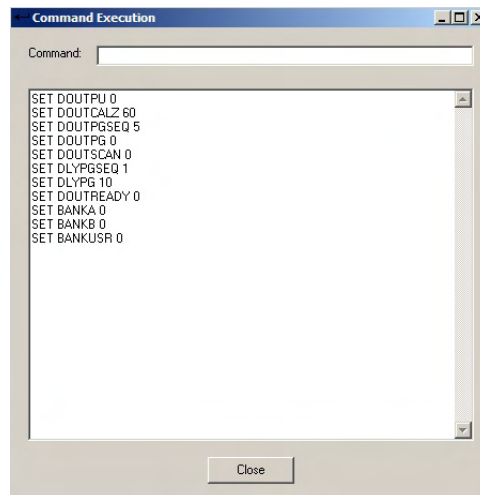
The Issue Command Window will open



Enter a List D command to view the settings of the Bank variables:

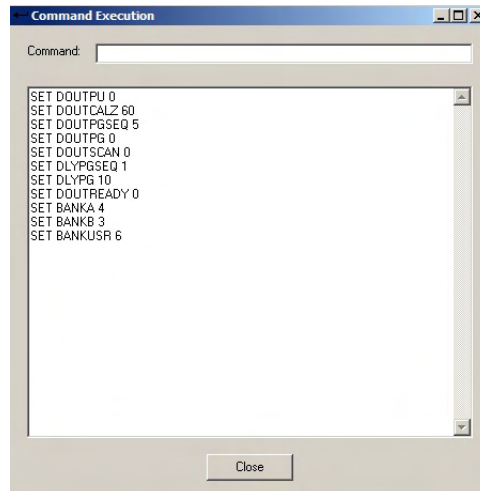


A list of the Digital variables will be returned



Set the values for Bank A, BankB and BankUSR. BankUSR is the variable name for BankC. For more information on the Set Command, please refer to the Software Specification for the RAD3200. The correct settings of the variables will depend on the system configuration. BankA is used to set the control valves to measure the Bank A inputs. Bank B will be used to set the valves to measure the Bank B inputs. Bank C is generally used to set the control valves to the Cal Mode. If a RAD3200 is purchased as a system, these values will be set at the factory.

A List D command after the variables are set may look as follows:



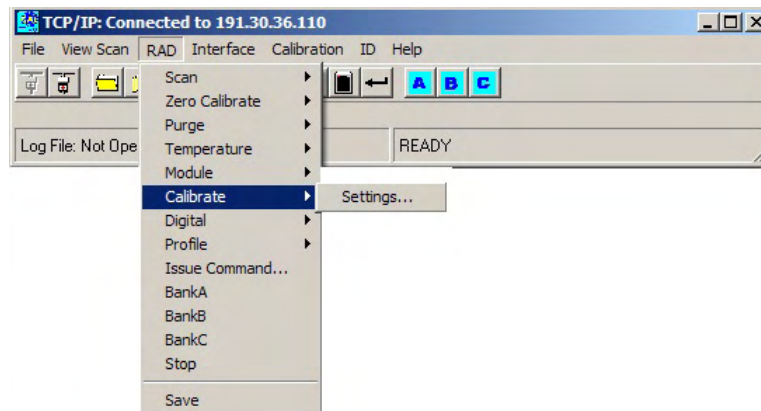
Calibration Variables

Set up the Calibration Variables.

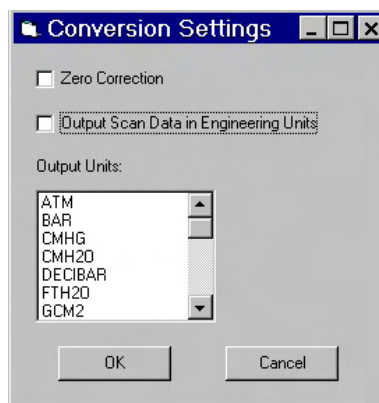
Select: RAD

Select: Calibrate

Select: Settings



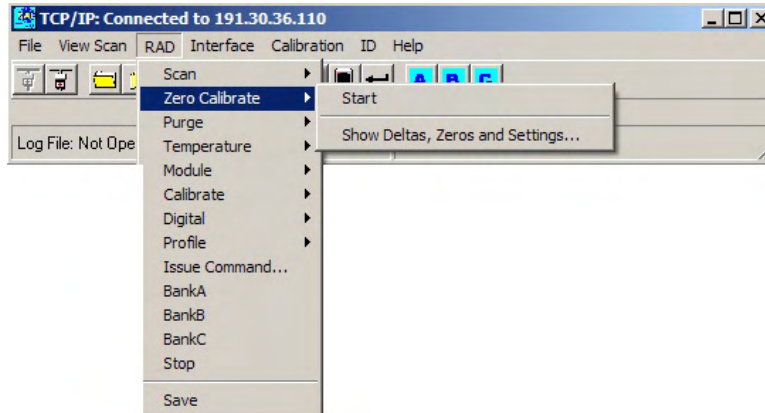
The Conversion Settings Window will open. Click on the output units desired. Click on the Output Scan Data in Engineering Units Box if Data output is to be in Engineering Units. Click on the Zero Correction Box if the zero offset data is to be used. to output data in units other than one of the pre defined units, Click User Defined Units and enter the value in the box.



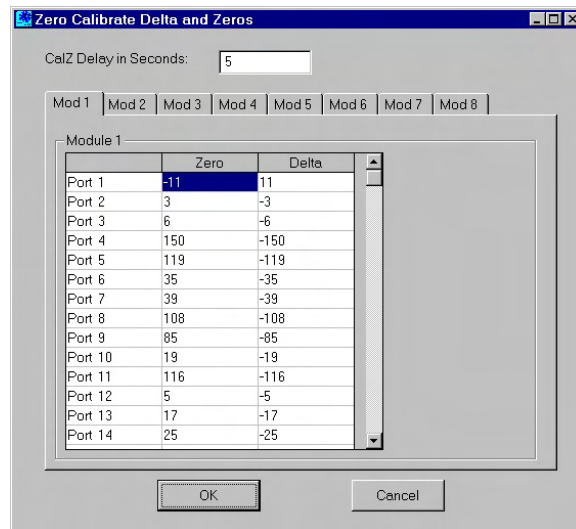
Zero Calibration

Set up the Zero Calibrate Function

Select: RAD
Select: Zero Calibrate
Select: Show Deltas and Zero



A window will open that will display the Zeros and the Deltas. The Zeros represent the offset in A/D counts measured during the most recent CALZ. Deltas represent the difference between the measured Zero and the data in the temperature plane when the CALZ was executed. The Delta value is an indication of the drift of the sensors. A very large Delta may indicate the need for a full calibration.



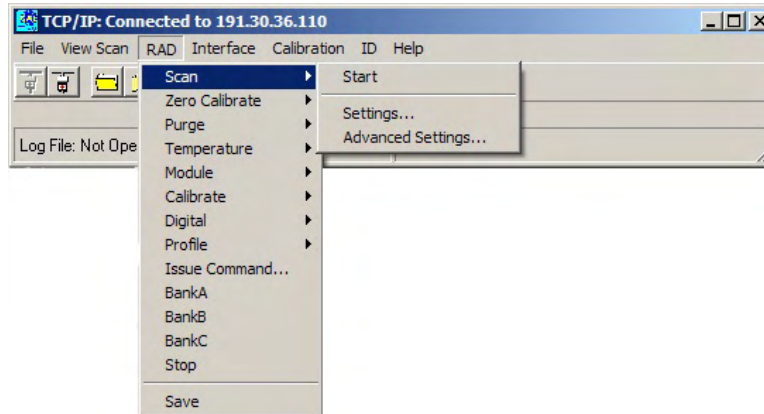
Scan Groups

Finally, set up the Scan Groups

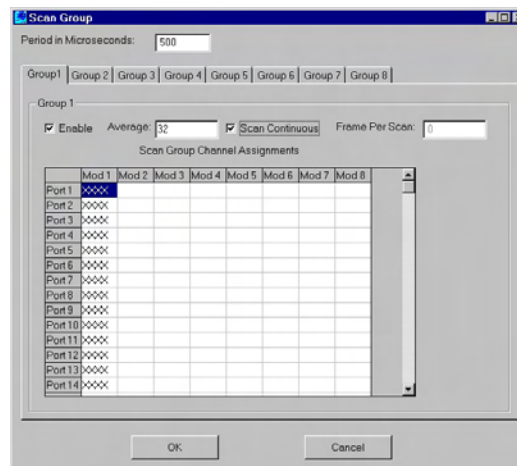
Select: RAD

Select: Scan

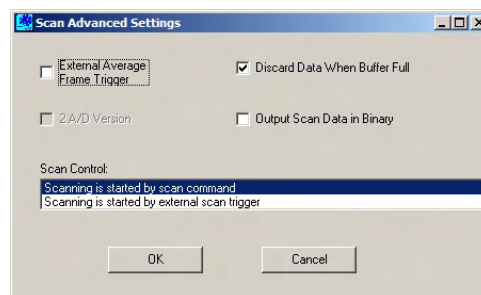
Select: Settings



The Scan Group window will open. The Period, Scan Average, and Frames per scan must be set according to the RAD3200 Software Requirements Specification. Scan Groups are enabled by clicking the enable box. Channels are assigned to scan groups by clicking the appropriate box.



If the Advanced box is clicked, another window will be opened.

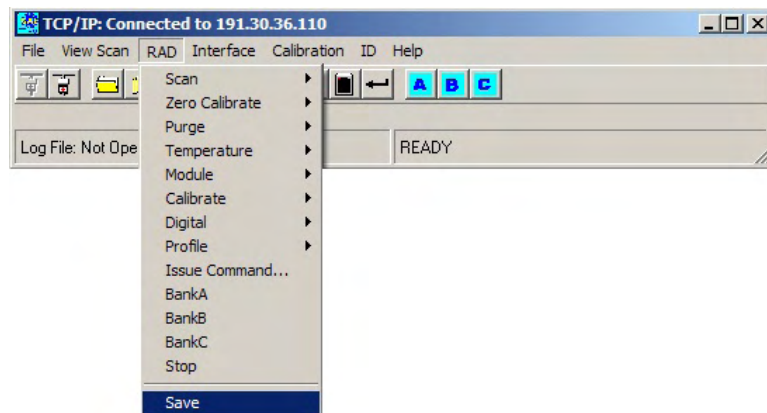


Save

SAVE the Settings:

Select: RAD

Select: Save



RADLink Operation - Program Operation

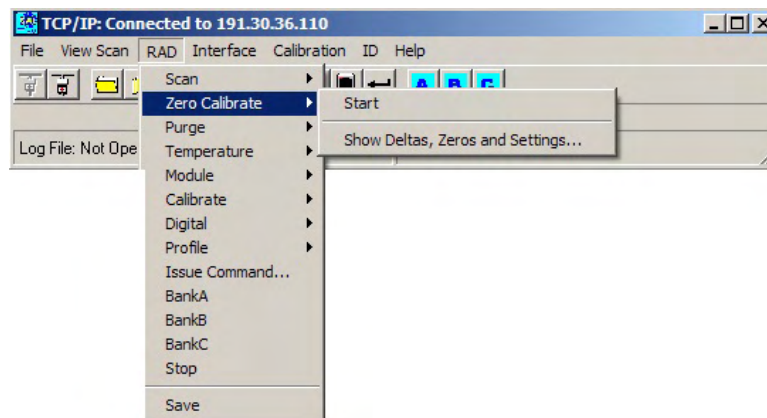
Zero Correction

A user is advised to update the Zero Correction file on a regular basis. Zeros should be updated whenever there has been a significant temperature change to the module environment. To update the Zero Correction File:

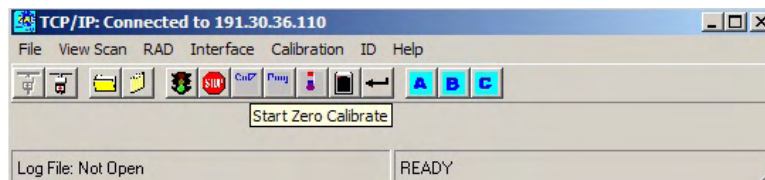
Select: RAD

Select: Zero Calibrate

Select: Start



Or, Click on the CALZ Button on the Button Bar.



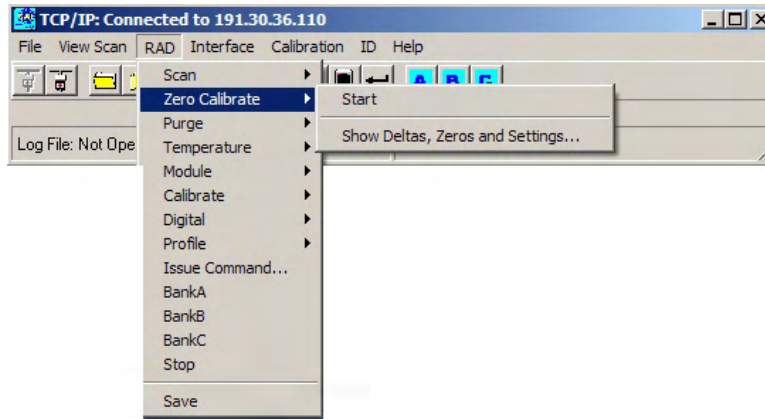
The RAD3200 will update the Zero Correction File.

To View the Zero Correction Values:

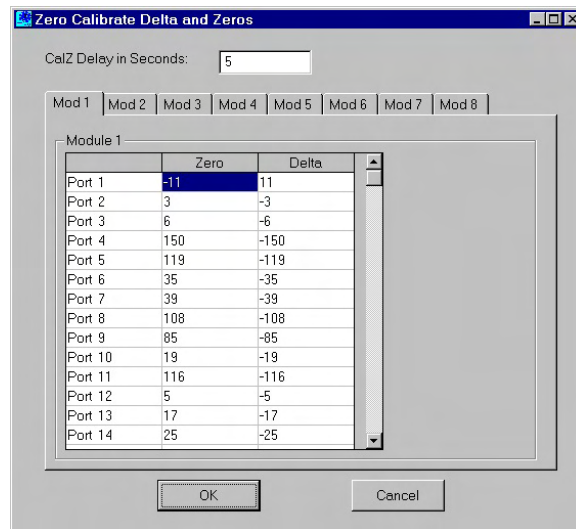
Select: RAD3200

Select: Zero Correction

Select: Show Deltas, Zeros and Settings...



This will open the Zero Calibrate Delta and Zeros Window.



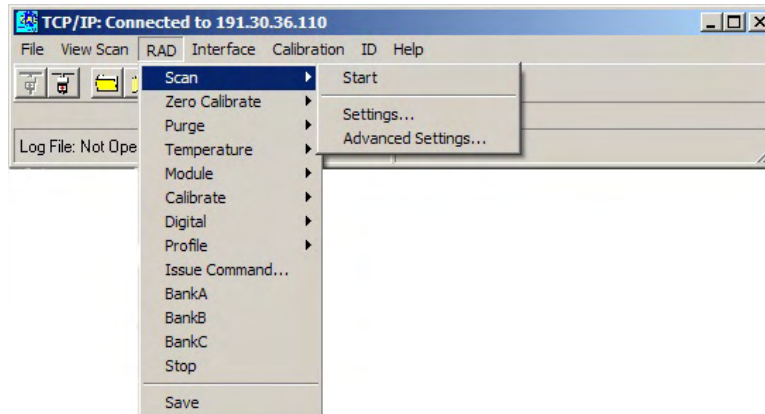
Scan

To initiate a Scan when a bar graph display will not be used:

Select: RAD

Select: Scan

Select: Start



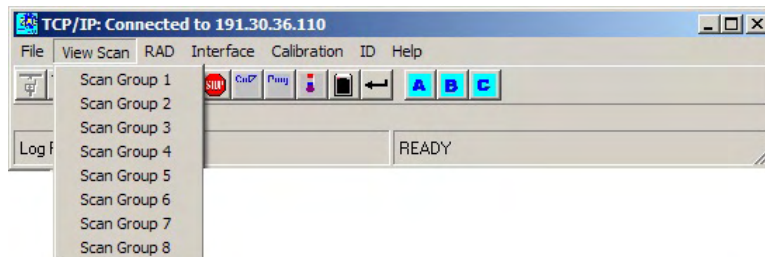
Or, Click the Scan Button on the Button Bar



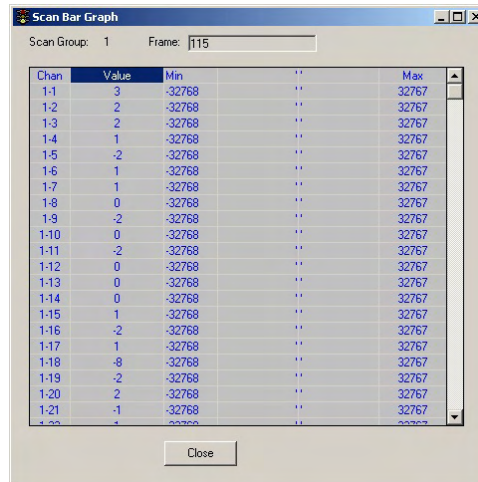
To initiate a Scan with a bar graph display:

Select: ViewScan

A drop down menu listing all eight scan groups will be displayed. Click on the scan group to be displayed. Multiple scan groups may be displayed, but a scan group window will have to be opened for each one.. A scan can then be initiated by clicking the Scan Button on the Button Bar.



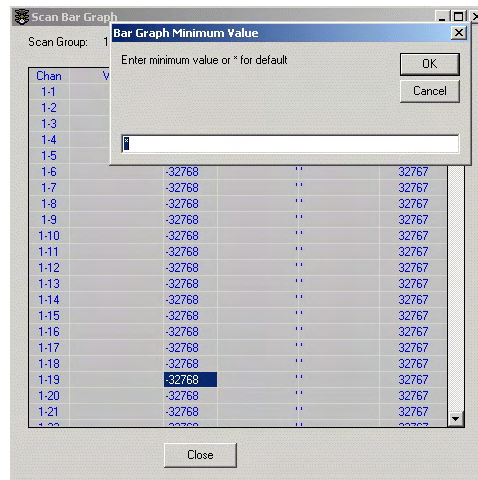
The Scan Bar Graph window will open. Initially it will display the scan group with minimum and maximum values determined by the full scale values entered in the Module Profile Files. A user may rescale the bar graph. Individual channels, multiple channels or the entire group may be re-scaled.



Scan Bar Graph window showing a table of channel data. The table has columns: Chan, Value, Min, and Max. The data is as follows:

Chan	Value	Min	Max
1-1	3	-32768	32767
1-2	2	-32768	32767
1-3	2	-32768	32767
1-4	1	-32768	32767
1-5	-2	-32768	32767
1-6	1	-32768	32767
1-7	1	-32768	32767
1-8	0	-32768	32767
1-9	-2	-32768	32767
1-10	0	-32768	32767
1-11	-2	-32768	32767
1-12	0	-32768	32767
1-13	0	-32768	32767
1-14	0	-32768	32767
1-15	1	-32768	32767
1-16	-2	-32768	32767
1-17	1	-32768	32767
1-18	-8	-32768	32767
1-19	-2	-32768	32767
1-20	2	-32768	32767
1-21	-1	-32768	32767

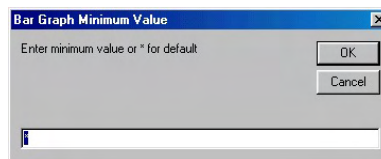
To change an individual channel, click on the Min or Max value to be changed. A Bar Graph Minimum or Maximum window will open. Enter the new value or * for the default value.



Scan Bar Graph window with a Bar Graph Minimum Value dialog box open. The dialog box contains the text "Enter minimum value or * for default" and buttons for "OK" and "Cancel". The table in the background is the same as the previous one, but the "Min" column for channel 1-18 is highlighted.

Multiple channels or all channels may be modified by:

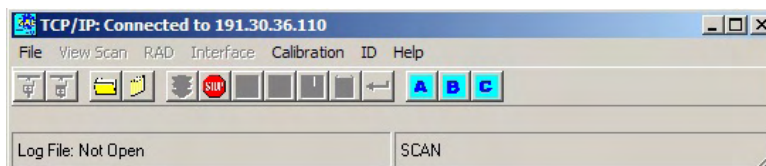
1. Position the mouse pointer at the first channel to be modified.
2. Hold the left mouse button down
3. Drag the pointer to the last channel to be modified.
4. At the last channel, release the left mouse button. The channels that will be changed will be highlighted.
5. Enter the new value or * for the default value in the window.



Bar Graph Minimum Value dialog box. It contains the text "Enter minimum value or * for default" and buttons for "OK" and "Cancel".

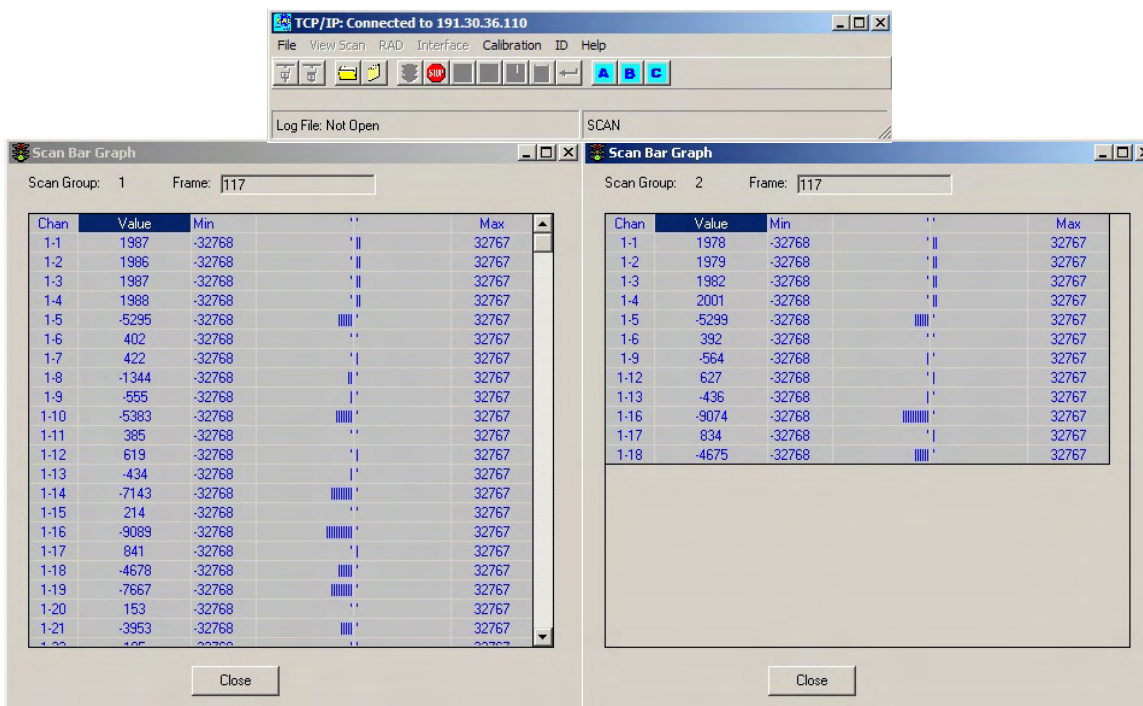
When the values are set, the scan may be initiated by clicking

the Scan Button. The status window will display: SCAN. All Buttons except the Stop, Open Log File and Close Log File Buttons will be grayed out.



To View multiple Scan Groups, Click on ViewScan for each Scan Group desired. The windows will tile over one another, so the windows will have to be dragged to areas of the screen where they can be easily viewed.

For example, if two Scan Groups are to be displayed, the screen may look similar to the example below:

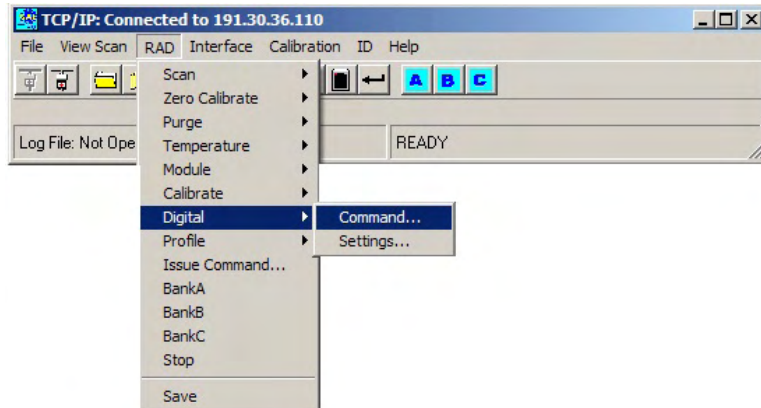


The Scan Data will be displayed in the Scan Groups defined during Setup.

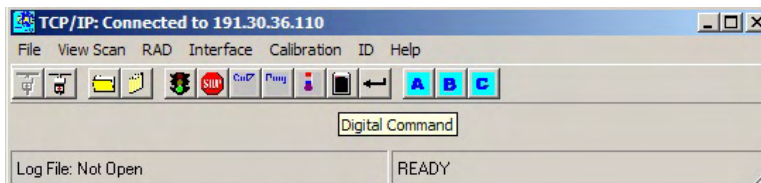
Digital Commands

The Digital Outputs may be commanded on and off during normal operation of the RAD3200. The commands will only be accepted if the RAD3200 is in the Ready Mode. If the RAD3200 is in the Scan, CalZ, or Purge Mode the command will not be accepted. To issue a Digital Output Command:

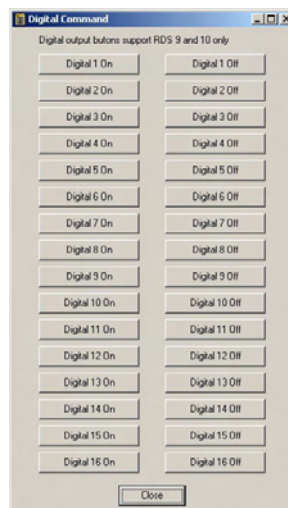
- Select: RAD
- Select: Digital
- Select: Command



Or, Click the Digital Command Button on the Button Bar.



A Digital Command Window will open:

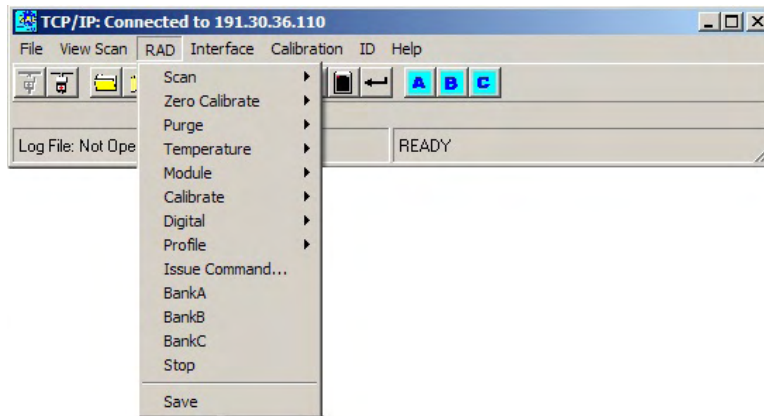


The Digital Outputs may be commanded On or Off by simply Clicking on the Button.

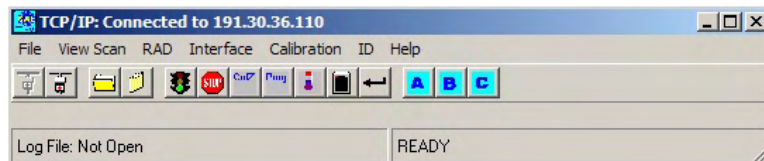
Input Bank Switching

RadLink can be used to switch ZOC22, 23 and 33 modules to different valve settings by selecting a variable from a menu or by clicking on a button. The variables, BankA, BankB, and BankC must be properly set for this feature to work.

To switch valve modes using the RAD menu, select the RAD menu and click on BankA, BankB or BankC:



Or, click on the A, B or C button in the main window.



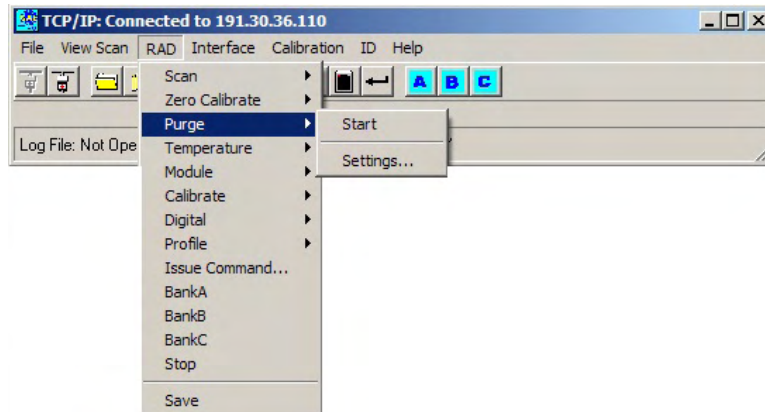
Purge

A Purge may be initiated at any time during program operation. If the RAD3200 is in the Scan Mode, the Scan will be suspended until the Purge Sequence is completed. If the RAD3200 is in the CalZ Mode, the Purge Sequence will commence when the CalZ is complete. For more information, please refer to the RAD3200 Software Requirements Specification. To initiate a Purge Sequence:

Select: RAD

Select: Purge

Select: Start



Or, Click the Purge Button on the Button Bar

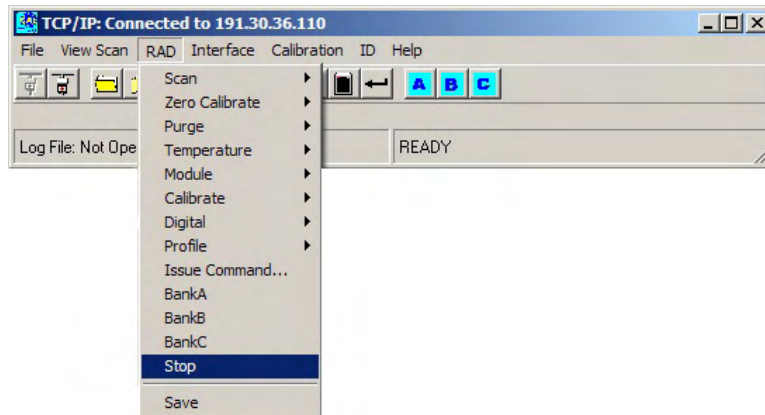


Stop

The Stop Command is used to Stop or Abort the Scan, CalZ, or Purge Operations. To issue a Stop Command:

Select: RAD

Select: Stop



Or, Click the Stop Button on the Button Bar

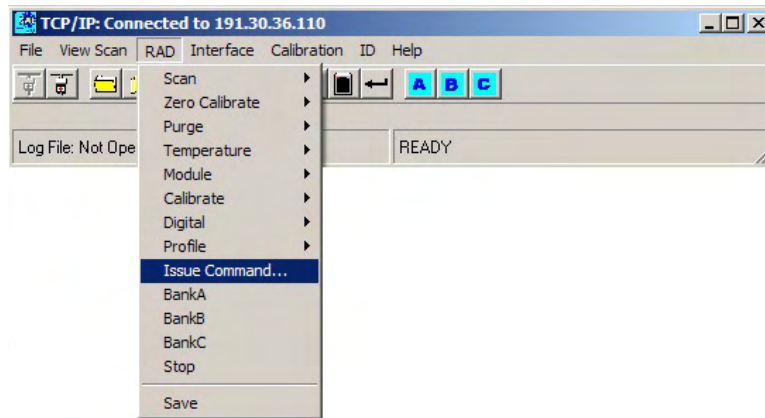


Issue Command

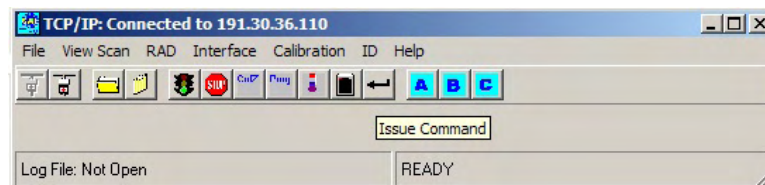
All of the Commands listed in the RAD3200 Software Requirements Specification may be executed by the Issue Command Function. To use this function:

Select: RAD

Select: Issue Command

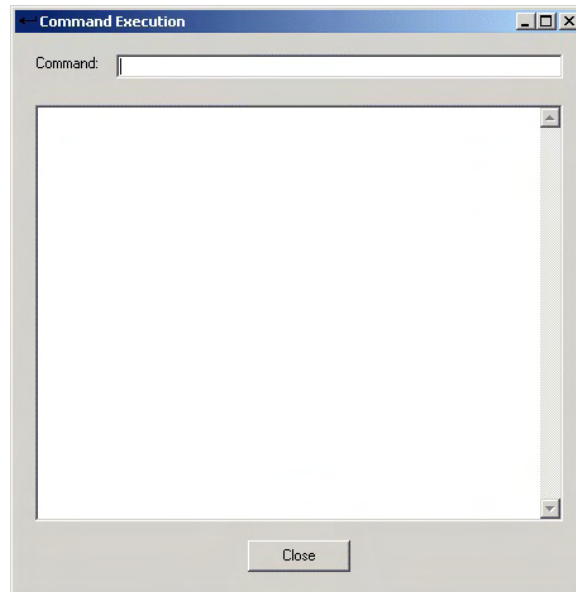


Or, Click the Issue Command Button on the Button Bar.



A Command Window will open. The command should be typed in the box marked Command:. The response from the RAD3200 will be displayed in the larger box below. A complete description of the commands and the responses may be found in the RAD3200 Software Requirements Specification.

NOTE: A user may find that certain variables are not accessible from the “drop down” menus. These variables could have a detrimental effect on the operation of the Calibration software if they are not set correctly. All variables are accessible from the Command Window. Therefore a user must take care to insure that the variable being modified will not cause operational problems.



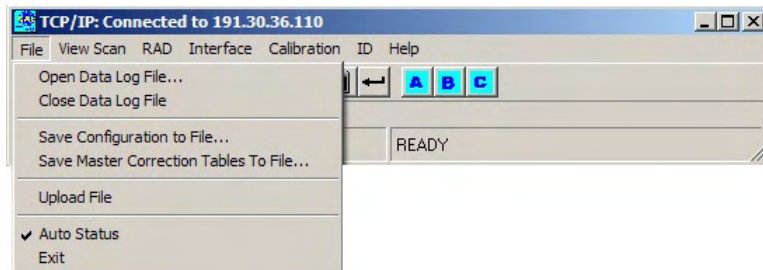
RADLink Operation - File Operation

Open Data Log File

Scan Data may be logged to a file.

Select: File

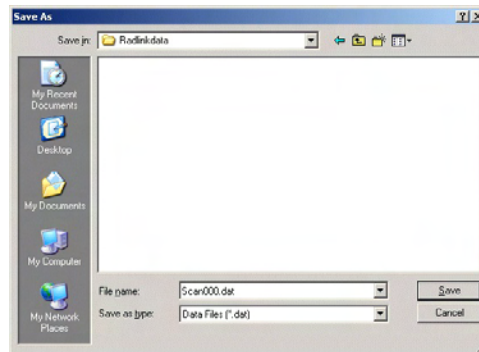
Select: Open Data Log File...



Or, Click on the Open Data Log File Button on the Button Bar



When Open Data Log File is selected, a window is opened that will permit the user to select a directory and file name. The file extension: .dat, must be used. Click save to open the file.



The Log file name and path will be shown in the Log File Window on the main window.



Close Data Log File

To Close a Data Log File:

Select: File

Select: Close Data Log File



Or, Click the Close Data Log File Button on the Button Bar.



Save Configuration

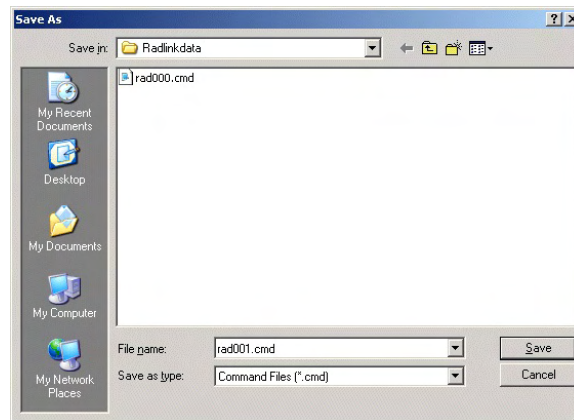
It is possible to save setup configurations to a file so they may be recalled for another test..

Select: File

Select: Save Configuration to File...



This will open a window that will list the saved configuration files. Any name may be used, but the extension: .cmd must be used. Click Save to store the configuration.



Save Master Correction Tables

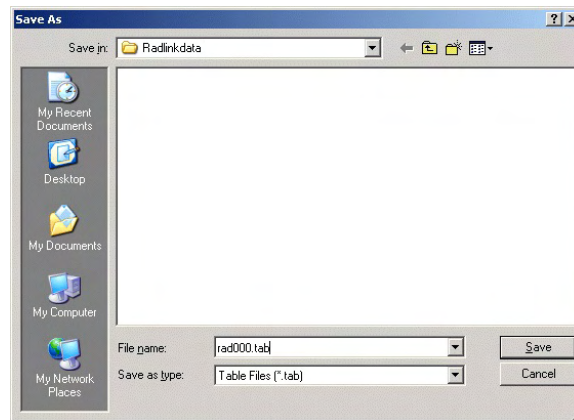
The Master Correction Tables may be saved in a file. It is important to execute this command after a calibration.

Select: File

Select: Save Master Correction Tables To File...



This will open a window that will permit a directory and file name to be selected. The extension: .tab must be used. Click save to complete the operation.



UpLoad File

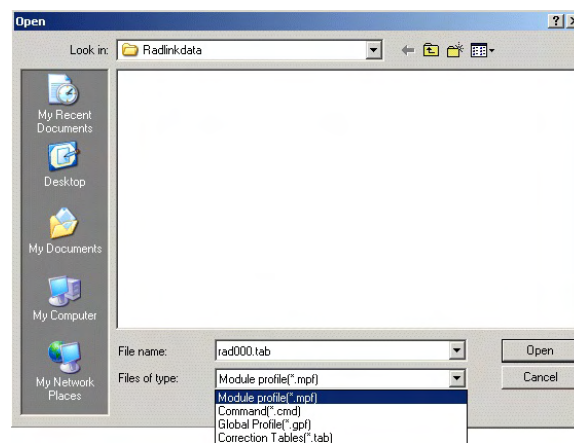
A file stored on disk may be uploaded to the RAD3200.

Select: File

Select: Upload File

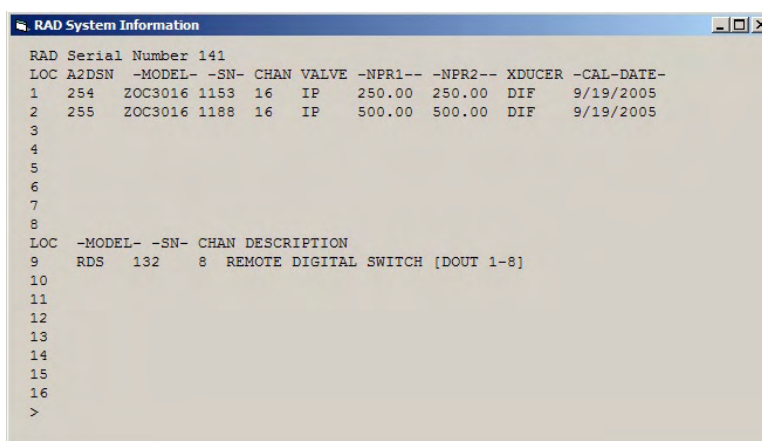


A window will open so a file type may be specified and the location can be selected for the UPLOAD. The File extension must be .mpf, .cmd, .gpf, or .tab. The information in these files are loaded into memory.



RADLink Operation -TEDS Chip and System Information

The RAD3200 Base, RAD3200 A/D's and all modules connected to a RAD system will have a TEDS chip installed. When the RAD.exe program is started, the TEDS information is reported to the RAD computer. When RADLink is started, this information is read and displayed on the System Information screen. A RAD3200 may have up to 8 A/D modules and 8 RDS (Remote Digital Switch) modules connected. A/D modules must be identified as positions 1 through 8. All RDS modules must be identified as positions 9 through 16. The order of connection does not matter, as long as the modules are identified correctly. This screen shows the system information from a typical RAD3200 system. This system has two(2) A/D modules, one with no module connected and one with a ZOC33 module connected. The system also has one RDS module connected. This screen may not be modified.



RADLink may be used to poll the RAD3200 to send detailed information on the RADBASE and connected devices. To display the RAD TEDS information, click on ID on the main menu.



The ID window will open. The window always opens to the RADBASE information. The RADBASE always has an A/D installed internally. This A/D is used to read the RTD information from ZOC modules connected to RAD3200 A/D modules. The RADBASE A/D information is not reported in the System Information screen. All locations with devices containing TEDS chips will be highlighted. Locations without TEDS chips will be grayed out.

Each window contains information on the TEDS PROM and the TEDS EPROM. The TEDS PROM contains information coded into the PROM when the unit is manufactured. This information may not be changed by a user. The TEDS EPROM contains calibration information. This information may be modified by a user. Changes to the EPROM information will have an effect on the operation of the device and the RAD3200 System.

The information in the PROM window will describe and define;

1. The Device Family Code
2. The Device Serial Number
3. The Manufacture Date
4. The Device Model Code
5. The Revision letter of the Device.

The information in the EPROM window will describe and define:

1. The Correction Coefficients of the device.
2. The Device Serial Number.
3. The Reference Voltage used in the Calibration.
4. The Calibration Date.

The EPROM window also contains a Calibrate Tab and a Program Eprom tab. These tabs will be discussed later in this section.

Example 1

The window below shows a AD3200 module connected in location 1. Because the Pressure Module Device Tab is grayed out, this AD does not have a module connected to it, or the module connected does not have a TEDS chip installed.

The screenshot shows the 'Rad Link - Version 0.90b TCP/IP: Connected to 10.0.0.28' window. At the top, there are tabs for 'RAD Base' and 'Location 1' through 'Location 16'. The 'Location 1' tab is selected. Below the tabs, there are two main sections: 'A/D Device' and 'Pressure Module Device'. The 'A/D Device' section is active, and the 'Pressure Module Device' section is grayed out. The 'A/D Device' section contains two sub-sections: 'PROM' and 'EPROM'. The 'PROM' section has fields for 'Device Family Code' (set to 'Pressure Temp A/D'), 'Serial Number' (set to '103'), 'Manufacture Date' (set to '6/4/2002'), 'Device Model Code' (set to '16 Bit 100 KHz'), and 'Revision' (set to 'A'). There is a 'Program Prom' button. The 'EPROM' section has a warning: 'Warning: Entering incorrect values will adversely affect the RAD's performance'. It contains fields for 'A/D Correction Coefficients' (A: 0.000000, B: 1.002761, C: -4.526779), 'Excitation Current' (set to 0.001499), 'A/D Calibration Date' (set to 6/5/2002), and 'Gain Code' (set to 2.852). There are 'Calibrate' and 'Program Eprom' buttons.

The information contained in the PROM section is the same as the RADBase

The information in the PROM window will describe and define;

1. The Device Family Code
2. The Device Serial Number
3. The Manufacture Date
4. The Device Model Code
5. The Revision letter of the Device.

The EPROM section is slight different from the RADBASE. The AD3200 modules use a constant current excitation instead of a reference voltage. And a gain code has been added in place of the serial number indication

The information in the EPROM window will describe and define:

1. The Correction Coefficients of the device.
2. The Gain of the amplifier on the A/D module.
3. The Excitation Current used in the Calibration.
4. The Calibration Date.

Example 2

The window below shows a AD3200 module connected in location 2. In this example, a ZOC module is connected to the AD3200 and the Pressure Module Device Tab is highlighted.

Rad Link - Version 0.90h TCP/IP: Connected to 10.0.0.28

RAD Base

Location 9 Location 10 Location 11 Location 12 Location 13 Location 14 Location 15 Location 16

Location 1 Location 2 Location 3 Location 4 Location 5 Location 6 Location 7 Location 8

A/D Device Pressure Module Device

PROM

Device Family Code: Pressure Temp A/D

Serial Number: 107

Manufacture Date: 6/4/2002

Device Model Code: 16 Bit 100 KHz

Revision: A

Program Prom

EPROM Warning: Entering incorrect values will adversely affect the RAD's performance

A/D Correction Coefficients

A: 0.000000

B: 1.003262

C: -1.229228

Excitation Current: 0.001500

Gain Code: 2.852

A/D Calibration Date: 6/4/2002

Calibrate

Program Eprom

The information on this page is very similar to the information contained on the A/D page in Example 1.

The information in the PROM window will describe and define;

1. The Device Family Code
2. The Device Serial Number
3. The Manufacture Date
4. The Device Model Code
5. The Revision letter of the Device.

The information in the EPROM window will describe and define:

1. The Correction Coefficients of the device.
2. The Device Serial Number.
3. The Reference Voltage used in the Calibration.
4. The Calibration Date.

To view the TEDS information for the device connected to the A/D, Click on the Pressure Module Device Tab.

Rad Link - Version 0.90h TCP/IP: Connected to 10.0.0.28

RAD Base

Location 9 Location 10 Location 11 Location 12 Location 13 Location 14 Location 15 Location 16

Location 1 **Location 2** Location 3 Location 4 Location 5 Location 6 Location 7 Location 8

A/D Device **Pressure Module Device**

PROM

Device Family Code: Pressure Module

Serial Number: 500

Manufacture Date: 6/5/2002

Device Model Code: ZOC 33

Revision: A

Program Prom

EPROM Warning: Entering incorrect values will adversely affect the RAD's performance

RTD Type: Platinum 385

Nominal Pressure Range: Hi: 15.000000, Lo: 15.000000

RTD Correction: A: 0.000000, B: 0.000000

RTD Calibration Date: 6/5/2002

RTD Value: 500 Ohm

Press Sensor Calibration Date: 6/5/2002

Pressure Valve Arrangement: X2

Transducer Type: Differential

Program Eprom

The information in the PROM window is similar to the other PROM windows.

The information in the PROM window will describe and define;

1. The Device Family Code
2. The Device Serial Number
3. The Manufacture Date
4. The Device Model Code
5. The Revision letter of the Device.

The EPROM window is significantly different from the other devices.

The information in the EPROM window will describe and define:

1. The RTD Type
2. The RTD resistance at 0°C.
3. The RTD Correction Coefficients.
4. The RTD Calibration Date
5. The Nominal Pressure Range of the Module.
6. The ZOC Valve configuration.
7. The Module Type - Absolute, Differential, or Gauge
8. The Module Calibration Date.

All of the information in the EPROM window can be modified by a user. Changes made to this information will have an effect on the operation of the module.

Example 3

This RAD 3200 system has a Remote Digital Switch Module(RDS3200) connected. The RDS3200 has only a PROM which is programmed at the time of manufacture. The RDS3200 does not contain user programmable data.

The screenshot shows the 'Rad Link - Version 0.90b TCP/IP: Connected to 10.0.0.28' window. At the top, there are tabs for 'Location 1' through 'Location 8', and a 'RAD Base' tab. Below these, a row of tabs for 'Location 9' through 'Location 16' is visible. The 'Location 9' tab is selected. Inside the 'Location 9' tab, there is a 'PROM' section with the following fields:

Device Family Code	Serial Number	Manufacture Date
RAD Temp A/D	4095	12/31/2127

Device Model Code	Revision
16 Bit 100 KHz, 5V Ref.	A

Below the 'Revision' field is a 'Program Prom' button.

The information in the PROM window will describe and define;

1. The Device Family Code
2. The Device Serial Number
3. The Manufacture Date
4. The Device Model Code
5. The Revision letter of the Device.

RADLink Operation - Program Shutdown

To exit the program:

Select: **RAD3200**

Select: **Stop**

Close all file operations

Select: **Interface**

Select: **Disconnect**

Select: **File**

Select: **Exit**

NOTE: It is very important to exit this program correctly. It must be exited by Selecting File, Exit so that the program can perform a normal shutdown sequence.

If you have any problems with any of the procedures in this manual or the operation of the RADLink Software, please contact:

Scanivalve Corp, Product Support Department

Tel: (800) 935- 5151 or (509) 891-9970

Fax: (509) 891- 9481

E-Mail: scanco@scanivalve.com

FAQ's, updated manuals and software may be found in the Product Support section of the Scanivalve Corp Web Site:

www.scanivalve.com