



***TRIDATA/TRIMOD***

***DATALOG RETRIEVAL  
SOFTWARE  
FOR WINDOWS***

**OPERATION  
MANUAL**



**TRILITHIC**

The Best Thing on Cable



# TRILITHIC

TRILITHIC, Inc., one of the fastest growing privately held companies in the U.S. (Inc. 500, #10), is a leading supplier of test equipment to the CATV industry. Through the years, we have introduced a range of products to make CATV maintenance simpler, faster and more precise. Our contributions include the first PRACTICAL CATV sweep system (1976), the first CATV return adjustment system (1981), the SEARCHER PLUS for leakage measurement (1989) and the SUPER PLUS for overbuilt leakage and ingress measurement (1994).

Among our most popular products is the TRICORDER series of CATV analyzers (led by the new TRICORDER III, the most versatile member of the popular TRICORDER family).

TRILITHIC is especially well known for its leakage products. More than 15,000 SEARCHER PLUSES are in daily use as well as the SUPER PLUS and SUPER CT measurement devices (which take leakage measurement into the new era of overbuilds and digital services).

In addition to developing instrumentation for the CATV industry, TRILITHIC produces RF and microwave components and equipment for aerospace and wireless communications, as well as computer controlled assemblies for automated test systems, headend automation and communications signal routing.

TRILITHIC products are designed and manufactured at our facility in Indianapolis, Indiana. These products are distributed by sales agents in over 40 countries.

Should you have any questions or need our service, please contact us at the address or telephone numbers below:

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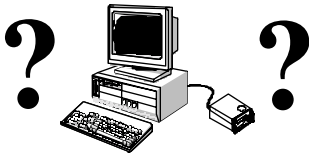
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# **GENERAL INFORMATION**



## **INTRODUCTION**

**Tridata/Trimod** for Windows is Trilithic's exciting software which will enable you to use your **Tricorder** more effectively.

Tridata enables you to send your data log records from your Tricorder (if it is equipped with the data logging option) to a PC.

Trimod enables you to send your data log records from your headend-equipped Tricorder (Tricorder HE) to a PC over a telephone modem link. You can also perform remote measurements of signal levels as well as remote programming of your Tricorder's data logging function.

When you send your data log records to a PC, both Tridata and Trimod can export the records into a format which is acceptable to most Windows-compatible spreadsheets.

## **Terms**

The following terms are used throughout this manual:

**RECORD** – 1 of 24 complete sets of signal levels taken and recorded during one of your Meter's data log sessions.

**LOCAL** – The physical site of the PC which is running the software.

**REMOTE** – The physical site of your Tricorder.

## Tricorder Compatibility

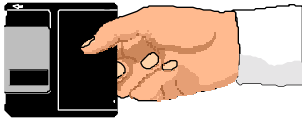
Tridata is compatible with all Tricorders including Tricorder I's, II's, III's etc. Trimod is to be used with the Tricorder HE model.

## System Requirements

In order to run Tridata and Trimod, you need an IBM®-compatible computer with the following options:

- 486-33 or greater is necessary for optimal performance; a 386 is the minimum accepted to run the software.
- 4 Meg of RAM or greater
- 2 Communications Ports or more:
  - 1 COM Port for the Mouse
  - 1 COM Port for the Tricorder
- 2 Meg of Hard Drive space for installation
- VGA Color Monitor with a resolution of 640 x 480 and 256 Colors (the screen may look odd if other resolutions are used). The Windows System color map determines the color of the message boxes which appear.
- A PC compatible mouse
- Windows 3.1 or higher operating system
- Floppy Drive

Tridata and Trimod are designed to work with the same hardware setup you use for Windows 3.1, Windows 3.11 or Windows 95. If your Windows setup works smoothly, you should have no difficulty running the software.



# INSTALLATION PROCEDURES



## INSTALL SOFTWARE

Now that you've checked the system requirements, you can install Tridata, Trimod or both applications.

### *HOT TIP*

*This Chapter and the two following chapters concern installation, setup and a brief orientation tour. If you have used Tridata and/or Trimod for DOS before and would like to start using this software immediately, turn to TRIDATA OPERATION page 29 or TRIMOD OPERATION page 37.*

You can install the software via one of two methods:

- Program Manager Method
- File Manager Method

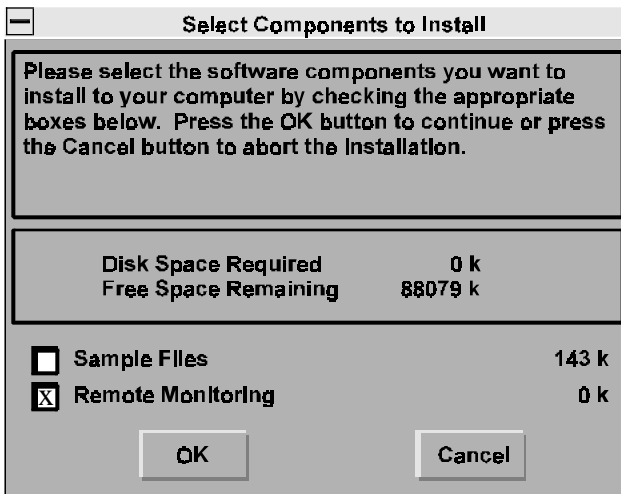
## Program Manager Method

To install the software via the Program Manager Method, use the following procedure:

1. Turn ON your PC and enter Windows.
2. Insert the Tridata/Trimod disk into drive **A** or **B** (depending on your drive configuration and the size of your installation disk).
3. In your Program Manager Window, select **F**ile.
4. Once you are in the FILE Menu, select **R**un.
5. When you are in the RUN Menu, type the following on the command line:

**A:\SETUP (or B:\SETUP)**

- Click on the **OK** button or press the **ENTER** key.
- Select the components you wish to install.



You have the choice to install Tridata ONLY, Tridata plus sample files, BOTH Tridata and Trimod (the software default is to install BOTH programs).

If you wish to install Tridata ONLY, without any sample files, *click* the REMOTE MONITORING BOX to deselect the installation of Trimod and make sure that the SAMPLE FILES box is blank. Then, *click* on the **OK** button.

If you wish to install Tridata with the sample files, *click* the SAMPLE FILES box. An “X” will appear in the box.

### **Sample Files**

*Click* on the **OK** button.

To install Trimod, make sure that the REMOTE MONITORING box has an “X” in it. Then, *click* on the **OK** button.

At any time, you may abort the installation by *clicking* the **CANCEL** button.

- The software’s setup utility will install the software and your desired components automatically into your PC.



9. Once the software is installed, you should have the following files:

- 5 (five) sample data log **.LOG** files
- 1 (one) **.TSD** POP file
- 1 (one) **.HLP** file
- 1 (one) **.EXE** file

## File Manager Method

To install the software via the File Manager Method, use the following procedure:

1. Turn ON your PC and enter Windows.
2. Insert the disk into drive **A** or **B** (depending on your drive configuration and the size of your installation disk).
3. Click on the **FILE MANAGER** icon.
4. Once you are in the File Manager, click on the drive icon where you have inserted the disk (**A** or **B**). This will bring up the directory for the disk.
5. Click on the file **SETUP.EXE**.
6. Follow the instructions on the screen.

You have the choice to install Tridata ONLY, Tridata plus sample files, BOTH Tridata and Trimod.

If you wish to install Tridata ONLY, without any sample files, make sure that the SAMPLE FILES box and REMOTE MONITORING BOX are empty (as shown above). Then, *click* on the **OK** button.

If you wish to install Tridata with the sample files, *click* the SAMPLE FILES box. An "X" will appear in the box. *Click* on the **OK** button.

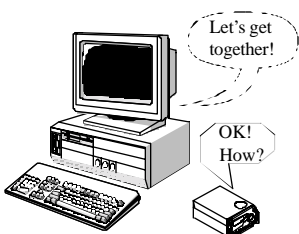
To install Trimod as well, *click* on the REMOTE MONITORING box. Then, *click* on the **OK** button.

At any time, you may abort the installation by *clicking* the **CANCEL** button.

7. The software's setup utility will install the software and your desired components automatically into your PC.
8. Once the software is installed, you should have the following files:
  - 5 (five) sample data log **.LOG** files
  - 1 (one) **.TSD** POP file
  - 1 (one) **.HLP** file
  - 1 (one) **.EXE** file

## **TROUBLESHOOT THE INSTALLATION**

If you have difficulties installing Tridata, you will need to call Trilithic at (1-800-344-2412).



# CONNECTING PC AND TRICORDER



## INTRODUCTION

Now that you have installed Tridata and/or Trimod, you can connect a Tricorder to your PC.

**REMINDER:** Tridata is designed to work with all Tricorders. Trimod is designed to work with Tricorder HE.

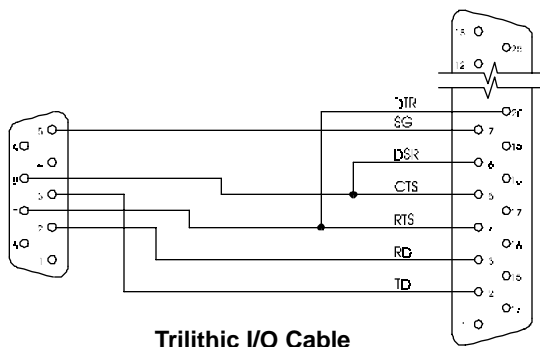
### HOT TIP

*When uploading the Tricorder into the PC, the Tricorder needs to be plugged into the wall charger rather than run from its battery.*

1. Use Trilithic's I/O cable (P/N 2070698000) to connect your Tricorder to the PC.

**Tricorder  
9-Pin D-Type  
(Male)**

**Printer/PC  
25-Pin D-Type  
(Female)**



**REMINDER:** You can only use a Tricorder which is equipped with the data log and RS-232C options. If your Tricorder does not have these options, it will not be able to communicate with the PC.

## MAKE CONNECTIONS

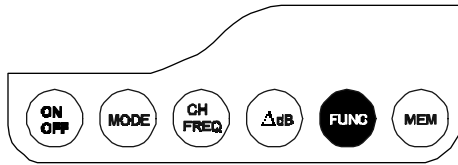
Connect the cable to one of the PC's serial ports and the other end to your Tricorder.

## SELECT SETTINGS

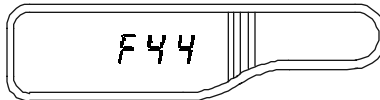
Once the Tricorder is connected, you need to set the address, set the Tricorder to REMOTE Mode, and set the parameters.

### Set Address

To set the Tricorder's address, PRESS/RELEASE the **FUNC** button on the front panel.



ROTATE the Spin Knob on the front panel until “F44” appears in the LEFT display.



PRESS/RELEASE the Spin Knob to enter **F44**. The Meter displays “Adr” and the current address (0 – 255).



ROTATE the Spin Knob to change the address to “01”.



PRESS/RELEASE **FUNC** to set the address in the nonvolatile memory and return to SLM Mode.

**CAUTION:** Tridata for DOS allowed your Tricorder to be set to any address. Tridata for Windows requires that you set the address to "01".

## Set Tricorder to REMOTE Mode

Set the Tricorder to the REMOTE Mode. PRESS/RELEASE **FUNC** and ROTATE the Spin Knob until "F93" appears in the LEFT display. PRESS/RELEASE the Spin Knob to enter **F93**. This prepares the Tricorder to receive data from the PC.

Once the Tricorder has been set, you will need to set the parameters via Tridata or Trimod, depending upon which program you wish to use.

## Set Parameters via Tridata

### **HOT TIP**

***If you are using TRIMOD, go to SET PARAMETERS VIA TRIMOD on page 14.***

Once the Address is set to "01" and the Tricorder is in the REMOTE Mode, you need to set the Baud Rate and select a COM PORT. The easiest way to make the settings is via Tridata.

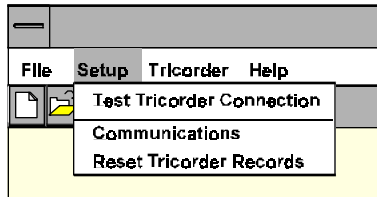
To access Tridata's COMMUNICATIONS Menu, you must first start the Tridata program. Start WINDOWS in your PC and go to the TRILITHIC PROGRAM GROUP. Double *click* on the TRIDATA icon.

This will start Tridata and take you to the MAIN screen of the program. You will need to *click* on the CLOSE button beside UNTITLED to step Tridata back to the program's base window.

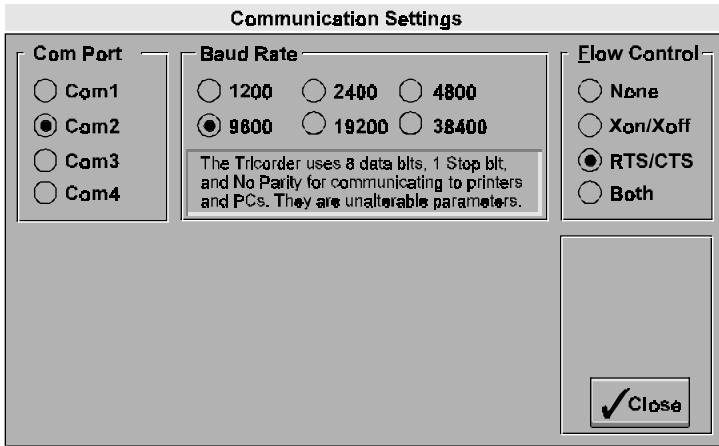


***click here to close UNTITLED window.***

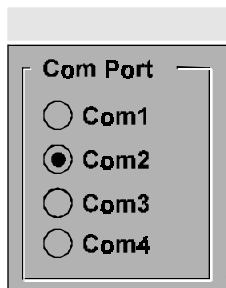
When you are in Tridata, *click* on the SETUP Menu to access the settings.



To set the parameters, *click* on COMMUNICATIONS.

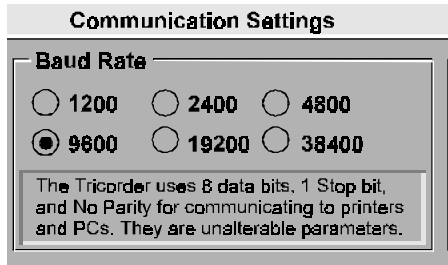


*Click* on the desired COM PORT. A black dot will appear in the circle.



**REMINDER:** You may NOT use the same COM PORT for your mouse and your Tricorder. If your mouse is set to COM PORT 1, you should connect the Meter to COM PORT 2, 3 or 4 and select that COM PORT in the COMMUNICATION SETTINGS Menu.

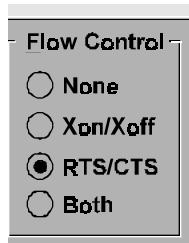
Next, you need to set the Baud Rate. *Click* on the desired setting and a black dot appears in the circle.



**NOTE:** The Tricorder and Tridata must be set to the same Baud Rate in order for them to communicate with each other.

Finally, you can set the desired Flow Control by *clicking* on the appropriate setting.

**NOTE:** The Tricorder uses RTS/CTS handshaking only.



Once your parameters are set, *click* on CLOSE to exit the COMMUNICATIONS screen.



**NOTE:** You must now click on TRICORDER/CONNECT to re-establish your connection using your new parameters.

#### **HOT TIP**

***At this time, if you will not be using TRIMOD, proceed to TEST THE CONNECTION on page 18.***

## Set Parameters via Trimod

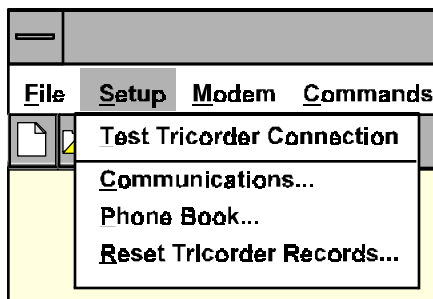
Once the Address is set to "01" and the Tricorder is in the REMOTE Mode, you need to set the Baud Rate and select a COM PORT. The easiest way to make the settings is via Trimod.

To access Trimod's COMMUNICATIONS Menu, you must first start the Trimod program. Start WINDOWS in your PC and go to the TRILITHIC PROGRAM GROUP. Double *click* on the TRIMOD icon. This will start Trimod and take you to the MAIN screen of the program. You will need to *click* on the CLOSE button beside UNTITLED to step Trimod back to the program's base window.

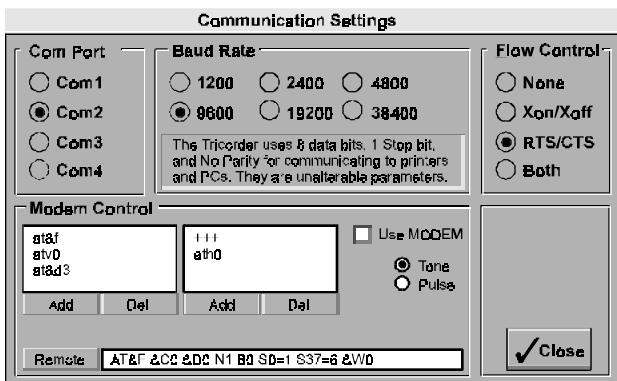


*click* here to close UNTITLED window.

When you are in Trimod, *click* on the SETUP Menu to access the settings.

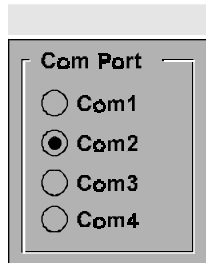


To set the parameters, *click* on COMMUNICATIONS.



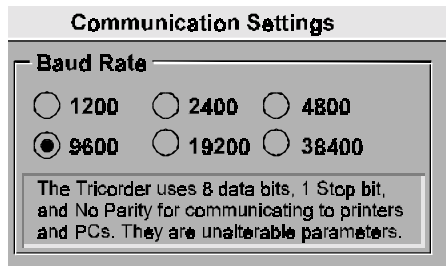


Click on the desired COM PORT. A black dot will appear in the circle.



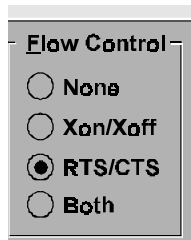
**REMINDER:** You may NOT use the same COM PORT for your mouse and your Tricorder. If your mouse is set to COM PORT 1, you should connect the Meter to COM PORT 2, 3 or 4 and select that COM PORT in the COMMUNICATION SETTINGS Menu.

Next, you need to set the Baud Rate. Click on the desired setting and a black dot appears in the circle.

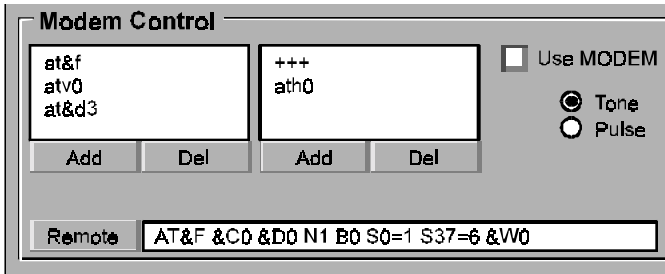


**NOTE:** The Tricorder and Trimod must be set to the same Baud Rate in order for them to communicate with each other.

Next, you can set the desired Flow Control by clicking on the appropriate setting (Tricorder only uses RTS/CTS).



You also need to configure the REMOTE Modem if using the Tricorder at a remote site. *Click* on either TONE or PULSE, depending on which type of phone line you are using. Then, *click* the **REMOTE** button at the bottom of the MODEM CONTROL panel.



For most users, that is all there is to it.

**CAUTION:** If you are very familiar with using PC modems, you can configure the settings by adding and deleting in the information boxes. If you are not an experienced modem user, do NOT access these boxes.

If you wish to use Trimod with your Tricorder HE without the modem, make sure that the USE MODEM box is blank. Otherwise, *click* on the box so that an “X” appears.

Finally, you need to configure your modem. The REMOTE Modem is the one that will be placed with the Tricorder HE at a remote location.

Use the following procedure to configure your REMOTE Modem and Tricorder.

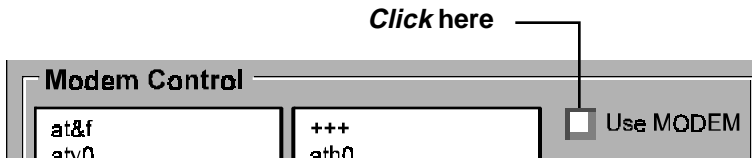
1. Make sure that your Tricorder is the HE model.
2. Set the Address to “01”.
3. Set the BAUD Rate to “9600”.
4. Place the Tricorder in **FUNC 90** Mode.
5. Turn the Unit OFF.

6. Connect the REMOTE Modem to the PC via a serial cable and an available COM Port. Turn ON the Modem.
7. Enter Trimod's COMMUNICATIONS Menu.
8. Make sure that the COM Port is selected and the BAUD Rate is "9600".
9. *Click* the **REMOTE** button.
10. If Trimod indicates **OK**, you are configured properly.

### **HOT TIP**

***One way to test the configuration is to place the setup on an inter-office phone line and try to establish communications.***

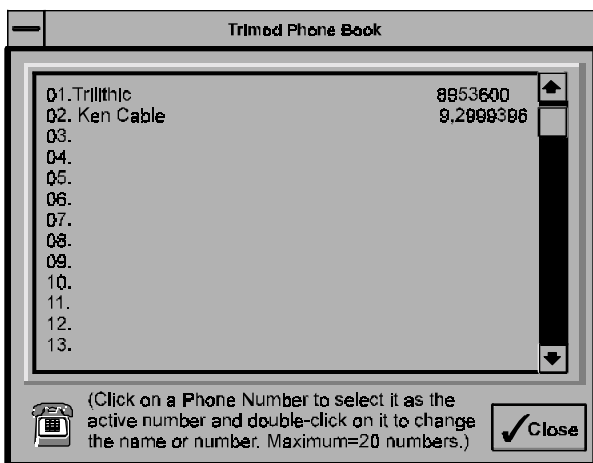
11. Take the REMOTE Modem, Tricorder, Trimod cable and install them at the remote site.
12. Once installed, *click* the **USE MODEM** box in the MODEM CONTROL panel.



Go to MODEM on the MAIN MENU bar and *click* on the **DIAL/CONNECT** command to dial up the number at the same BAUD Rate.

Once your parameters are set, *click* on CLOSE to exit the COMMUNICATIONS screen.

At this time, you may set up the names and phone numbers you will wish to access via the Trimod. *Click* on PHONE BOOK in the SETUP menu.



To add names and numbers, *double-click* on the desired line. You will be prompted to add the name. Type in the desired information and then *click* on the **OK** button. You will then be asked to add the phone number. Type in the number without hyphens or spaces (i.e. Line 1 as shown above). If you need to dial a digit or digits to access an outside line from your office, type it in followed by a comma. Then, type in the number (i.e. Line 2 as shown above). You can add up to twenty entries in your phone book.

Once you have added the desired names and phone numbers, *click* on the **CLOSE** button.

**NOTE:** You must now *click* on MODEM/DIAL/CONNECT to re-establish your connection with your new parameters.

## TEST THE CONNECTION

Now that you have set up the PC and the Tricorder, you need to make sure that the two are communicating. To test the connection, run the Test Tricorder Connection function.

In the SETUP Menu, select TEST TRICORDER CONNECTION.

**REMINDER:** You need to close the untitled window to step back to the program's base window.

This function forces the PC to command the Tricorder to transmit its model number and other configuration data.

**REMINDER:** If you are using Trimod, you must first make sure that your modem is connected and communicating via the procedures in *SET PARAMETERS VIA TRIMOD* pages 14 through 18. Otherwise, when you *click* on the TEST TRICORDER CONNECTION command, Trimod will tell you that your PC and Tricorder are not connected.

Once the data is received and read, the software displays a message indicating whether the connection was made or not.

If the Test is a success, you may now use Tridata or Trimod to retrieve data logs from your Tricorder.

## Troubleshooting the Connection

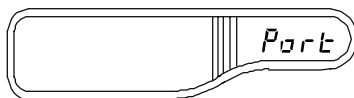
If the Test fails, you need to troubleshoot your connection.

### CHECK HARDWARE

The first thing you should check is the hardware.

1. Make sure that you are using a Tricorder which has the data log option or the Tricorder HE if you are using Trimod.
2. Make sure that the Unit is ON.
3. Verify that the Tricorder is set up for RS-232 communication as delivered from the factory.

Do this by selecting function **F93** on your Tricorder. If it is set up for RS-232 communication, the word "port" will appear in the smaller display window.



4. Make sure that you are using a Tricorder RS-232C cable.

**REMINDER:** Generic cables will NOT work with the Tricorder and Tridata or Trimod.

If the hardware checks out, you need to examine the connection parameters.

## CHECK SETTINGS ON TRICORDER

Check the following on your Tricorder:

1. Make sure that the Address has been set to "01".
2. Make sure that the Unit is in the REMOTE Mode (Tricorder function **F93**).

## CHECK BAUD RATE

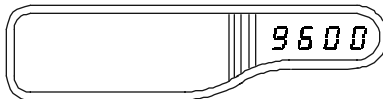
Once you have checked everything else, you should check the Baud Rate. This time, you should set the Baud Rate through the Tricorder's functions rather than through Tridata or Trimod.

**NOTE:** If you are using Tridata, use "9600" for the Baud Rate. If you are using Trimod, you need to match the Baud Rate of your modem.

**REMINDER:** To set the Tricorder's Baud Rate, you must first unlock the Tricorder's functions via **F59**.

Once the Unit's Functions are unlocked, PRESS/RELEASE the **FUNC** button and ROTATE the Spin Knob until F43 appears in the LEFT display. PRESS/RELEASE the Spin Knob to enter **F43**. The Meter has three Baud Rates available: 9600 (factory default), 2400 or 1200. ROTATE the Spin Knob to *toggle* between the three.

ROTATE the Spin Knob until "9600" appears in the RIGHT display.



PRESS/RELEASE **FUNC** to set the Baud Rate in the Tricorder's nonvolatile memory and return to SLM Mode.

**REMINDER:** Your Tricorder, Tridata/Trimod and the REMOTE Modem must all be set to the SAME BAUD Rate.

Run TEST TRICORDER CONNECTION again to see if the connection is now made. If not, proceed to *CHECK COM PORT*.

## CHECK COM PORT

If the settings you made on the Tricorder appear in order, you should now check the COM PORT. Occasionally, you may need to set up the COM PORT through Windows' CONTROL PANEL rather than through Tridata.

**REMINDER:** The mouse and Tricorder COM PORTS must be different. If you attempt to connect the Tricorder to the mouse's COM PORT, Tridata will disable that selection and will NOT open the communications port. Make sure that you have an extra COM PORT available and select that one. For example, if your mouse is set to COM PORT 1, you need to select COM PORT 2 for the Tricorder.

Use the following procedure to set a COM PORT for your Tricorder.

1. Open Windows' MAIN Window.
2. *Double-Click* on CONTROL PANEL.
3. *Double-Click* on PORTS.
4. Select the desired COM PORT.
5. Set up the COM PORT according to the list below.

Baud Rate	= 9600
Data Bits	= 8
Parity	= None
Stop Bits	= 1
Flow Control	= Hardware

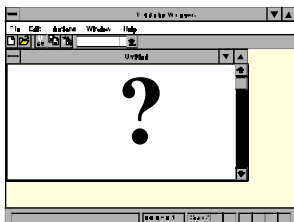
Run TEST TRICORDER CONNECTION again to see if the connection is now made.

If everything seems to be in order but the connection still fails, contact Trilithic at 1-800-344-2412.





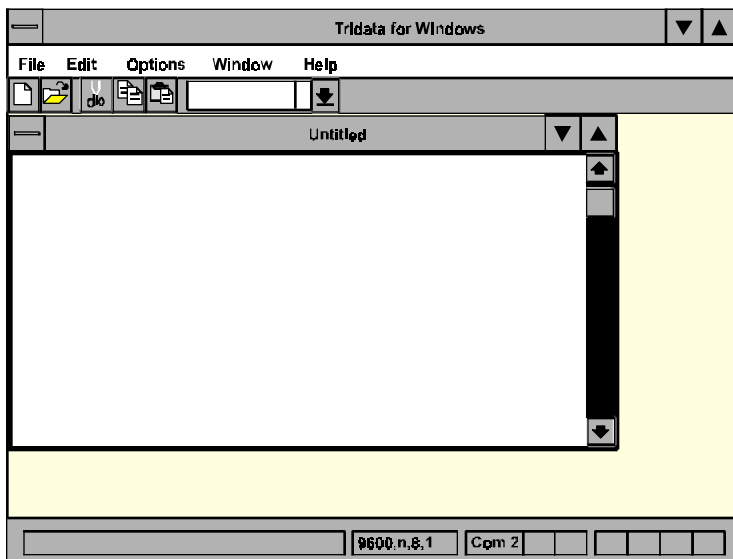
# HOW TRIDATA AND TRIMOD WORK



## INTRODUCTION

Okay. You've installed the software, connected the Tricorder to your PC and have tested the connection. Everything is up and running and you're ready to go.

After you *click* on the icon for Tridata or Trimod, the MAIN screen appears.



Before we get into the actual operation of Tridata and Trimod, you might want to take a minute or two to familiarize yourself with the way the software works.

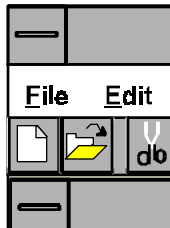
**NOTE:** If you are familiar with the DOS version of this software and know that the settings for your COM Port and BAUD Rate (9600) are correct, you may go directly to the file uploading procedure. Select FILE on the MAIN MENU Bar and then *click* **UPLOAD ONE**.

## How to Navigate

The easiest way to get around is to use your mouse to *click* on desired functions just as you do in other Windows Applications.

If you prefer, you may also use the keyboard to highlight the Menus' features. To access these features, PRESS the **ALT** key plus the letter for the desired function.

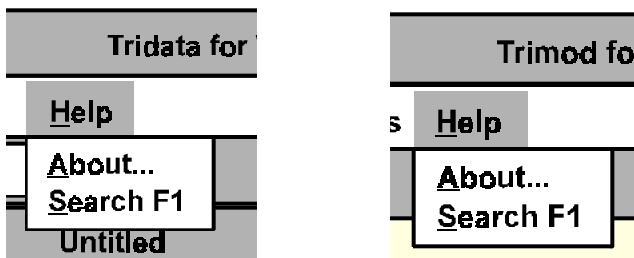
For example, to enter the FILE Menu, PRESS **ALT** and **F** at the same time.



Once you are in a Menu, you can use the arrow keys (←, ↑, →, ↓) to move within the Menu. You can use the **TAB** key to scroll through choices in the various functions. Once a desired function is highlighted, PRESS the **ENTER** key to select that function.

## On-Line Help

Tridata and Trimod are equipped with an on-line help function to assist you in using the application. The basic help feature can be accessed by selecting the HELP command on the top MENU line.



To search for a specific topic, select SEARCH F1.

In addition to using the HELP Menu, context sensitive help is available for most Tridata and Trimod functions when the software is running. Context sensitive help is designed to give you instant help information rather than having to search for a given topic.

For example, when you are in a particular menu and you need information regarding that application, simply press **F1** and the ON-LINE HELP Screen for that menu appears.

Once you are inside the Help Menu System (Standard Windows Help), you can bring up other HELP Screens by searching for key words, referring to the HELP Menu's Table of Contents, or by bringing up previously viewed HELP Topics.

## A Quick Tour

If you look at your MAIN MENU screen, you will note that the software contains several elements.

### MAIN MENU BAR

At the top of the screen is the MAIN MENU bar.

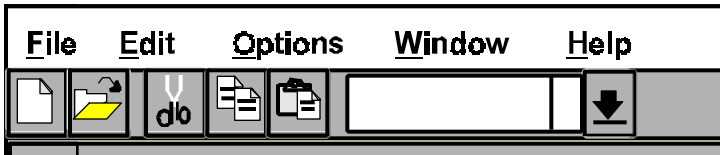


The MAIN MENU bar contains the following menus:

- FILE
- EDIT
- OPTIONS
- WINDOW
- HELP

## TOOL BAR

Below the MAIN MENU bar, you will find the TOOL bar.



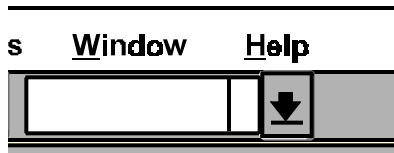
The TOOL bar enables you to:

- Start a NEW file
- OPEN an existing file
- CUT data from a file
- COPY data from a file
- PASTE data into a file

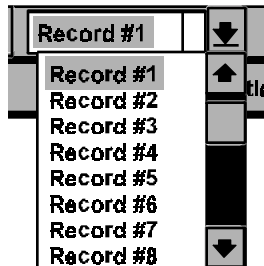


## RECORD STATUS WINDOW

The RECORD STATUS window appears next to the TOOL bar.

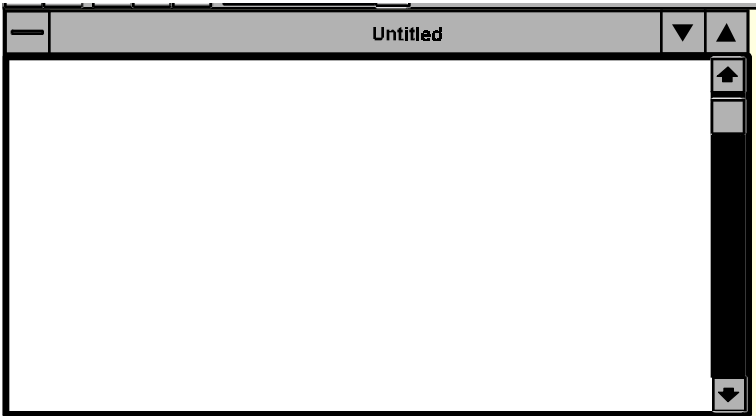


If you click on the underlined *down* arrow to the right of the RECORD STATUS window, you will bring up a list of up to 24 records. *Click* on the desired record (i.e. Record #1) and it will appear in the window.

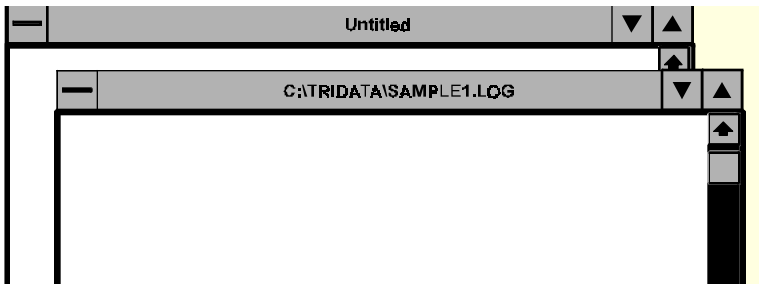


## FILE WINDOW

The FILE window appears below the TOOL bar and RECORD STATUS window.

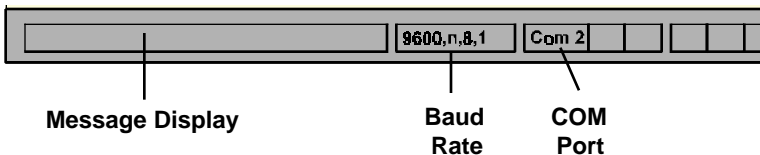


When you first open Tridata or Trimod, the document will be untitled. When you OPEN an existing file, a second FILE window overlays the first with its name in the title block.



## STATUS BAR

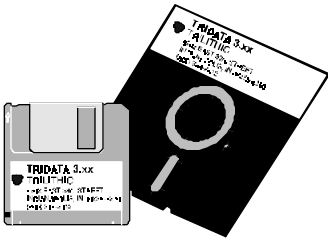
Tridata and Trimod inform you of what is going on every step of the way in the STATUS BAR at the bottom of the MAIN screen. The STATUS BAR also maintains your communication port settings and any error codes which are generated during operation.



Once you have set up your system for use with either Tridata or Trimod, you may continue to the OPERATION chapters.

For Tridata, refer to Chapter 5 on page 29.

For Trimod, refer to Chapter 6 on page 37.



# TRIDATA OPERATION

## INTRODUCTION

Tridata enables you to send your data log records from your Tricorder (if it is equipped with the data logging option) to a PC. Once the data log records are in the PC, you can then export them into most Windows-compatible spreadsheets.

## FILE MENU

To access the primary commands for Tridata, *click* on the FILE Menu.



From this menu, you can use Tridata to perform the following functions:

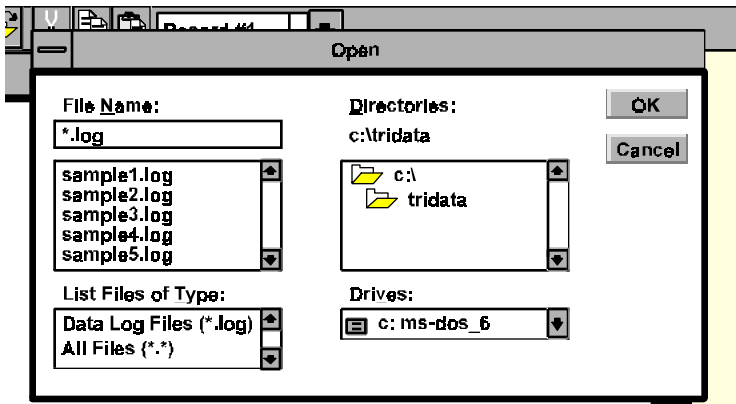
- Begin a **NEW** document
- **OPEN** an existing document
- **CLOSE** the document which you are working on
- **SAVE** the document
- Use the **SAVE AS** command to give the document a title
- **EXPORT** the document for use in a spreadsheet
- **PRINT** the current document
- **UPLOAD** data log records from your Tricorder
- **EXIT** Tridata

## New Command

When you first start Tridata, the program opens with a new untitled document. At any time, you may begin a new file by *clicking* on the NEW command in the FILE Menu.

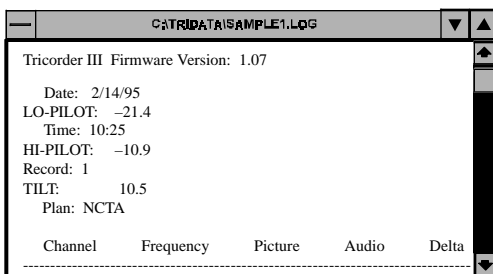
## Open Command

To access an existing Tridata file, *click* on the OPEN command in the FILE Menu. This will bring up the OPEN window.



**NOTE:** If you have never used Tridata to upload data log records from your Tricorder, you will only have the five sample files which shipped with Tridata available to you.

To open a document, select the drive, directory, type of file and document's name from the four windows as shown above. Once the desired document's title appears in the FILE NAME window, *click* once on the OK button or *double-click* on the FILE NAME window. This will open the selected file.



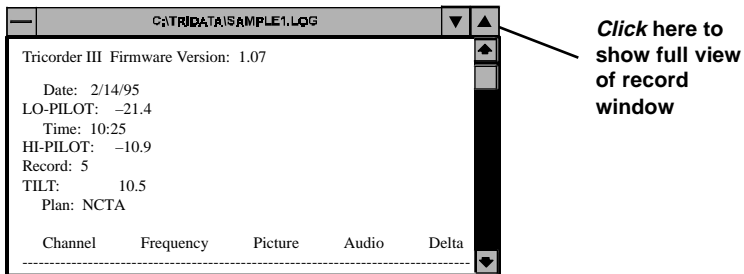
*Click here to show full view of record window*



## Upload Commands

Tridata enables you to upload data log records from the Tricorder to the PC. You have the option to upload single records or all of the records and save them as disk files.

To upload a single record, *click* on **UPLOAD ONE RECORD**. Tridata will go to the Tricorder and scan it for data log records. Once it has finished scanning the Tricorder, Tridata will inform you of the number of data log records it has found (i.e. 1 – 9). You are then prompted to select one of the records (i.e. 5). Type in the desired number and Tridata will display that record.



To upload all of the data log records from the Tricorder, *click* on **UPLOAD ALL RECORDS**. Once the data log records are uploaded into the PC's memory, go to the **RECORD STATUS WINDOW** and *click* on whichever data log you wish to view.

## Save Commands

Use the **SAVE** and **SAVE AS** commands to save your opened and uploaded data log records to memory.

When you select the **SAVE AS** command, you will be prompted to name the data log record you are currently working on.

**NOTE:** The extension for data log records is **.log** i.e. sample1.log. If you omit the extension, Tridata will attach **.log** automatically.

Use the **SAVE** command as you are working on documents so that required changes are saved to memory.

## Print Command

As you are working with Tridata, you can print current data log records. To do so, *click* on the PRINT command.

## Export Command

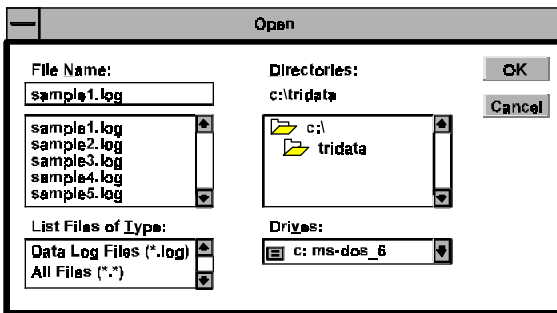
Tridata enables you to export data log records to spreadsheets via the PoP format or through the Character Delimit format.

To export the data log record to a spreadsheet, *click* on the EXPORT command. Tridata will ask if you wish to export the file in the PoP format or the Character Delimit format.

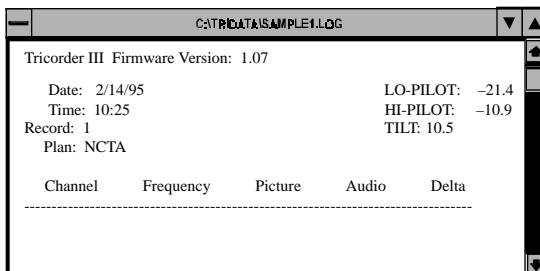
## CHARACTER DELIMIT

If you are using a spreadsheet such as Lotus or Excel, name the file and select an extension. For example, you might use an extension of **.lot** for Lotus and **.xls** for Excel.

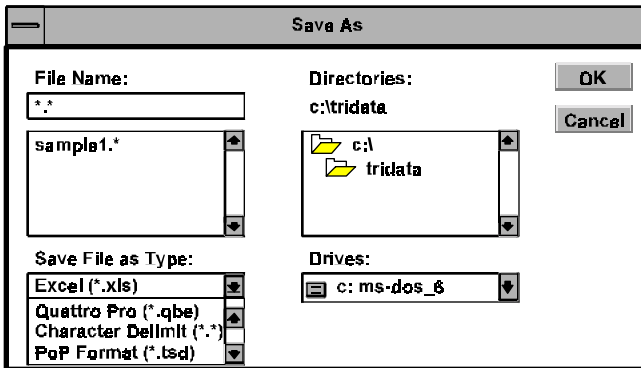
For example, let's export sample1.log which came with Tridata. First, *click* OPEN and select sample1.log. *Click* **OK**.



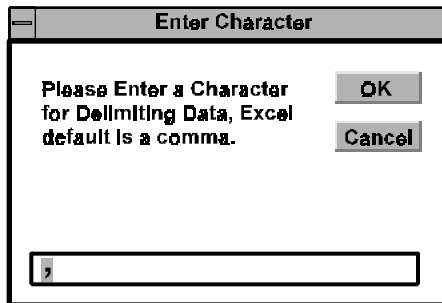
Tridata will bring up the first sample data log record.



Next, *click* on the EXPORT command under the FILE Menu.



To export the data log record to Excel, Quattro Pro or other spreadsheet, give the file a title and an extension (i.e sample1.xls for Excel). *Click* the **OK** button.



Most spreadsheet applications require that all data entries be separated by the same ASCII character (i.e. commas, semi-colons, space, etc.). This enables the spreadsheet to differentiate between the entries. In the above screen, you can select the delimiter.

**NOTE:** Excel and Quattro Pro both work by using a comma. Once you are in your spreadsheet program, refer to its manual for the procedure to import delimited text.

Once you have selected the delimiter, *click* on **OK** to save the delimited file or cancel to return to the main screen without saving.

## POP SELECTION

PoP or Proof of Performance is a software package, widely used in the Cable Industry, which permits detailed reporting of FCC proof tests. Tridata for Windows is designed to work with the PoP Windows version of the software.

In your EXPORT window, you can select the PoP Format which has an extension of **.tsd**. Before you can export any data logs via this method, however, you will need to set up the PoP codes.

Click on POP SETUP in the OPTIONS Menu.

CK Record #	Code #	CK Record #	Code -#
<input type="checkbox"/> Record #1		<input type="checkbox"/> Record #13	
<input type="checkbox"/> Record #2		<input type="checkbox"/> Record #14	
<input type="checkbox"/> Record #3		<input type="checkbox"/> Record #15	
<input type="checkbox"/> Record #4		<input type="checkbox"/> Record #16	
<input type="checkbox"/> Record #5		<input type="checkbox"/> Record #17	
<input type="checkbox"/> Record #6		<input type="checkbox"/> Record #18	
<input type="checkbox"/> Record #7		<input type="checkbox"/> Record #19	
<input type="checkbox"/> Record #8		<input type="checkbox"/> Record #20	
<input type="checkbox"/> Record #9		<input type="checkbox"/> Record #21	
<input type="checkbox"/> Record #10		<input type="checkbox"/> Record #22	
<input type="checkbox"/> Record #11		<input type="checkbox"/> Record #23	
<input type="checkbox"/> Record #12		<input type="checkbox"/> Record #24	

(Click on the buttons next to the records that you would like in your output, change the 'code' ID's, and select -1 to -4 for a 24 hour test.

Close

To set up your PoP format, you will need to refer to your PoP instructions for your company's PoP codes.

**NOTE:** The PoP codes are typically 4 digits and are set up in your PoP for Windows software. They are used to represent pertinent locations in your city.

For example, a test point at the corner of Main and Oak could be labelled TP14. A Tricorder placed at this location for Record 1 is given the code of TP14.

Once you have determined the codes, *click* on the button to the left of the record number which you wish to include. Then, enter your company's ID codes in the CODE box. Tridata is also designed to handle 24 hour tests for up to 4 records when used in conjunction with the PoP feature. If you wish to use the 24 hour test feature, enter a -1, -2, -3 or -4 in the "#" box.

**NOTE:** The "-" is required by POP. Refer to your POP manual for ID's and tagging logs for the 24 hour test.

**PoP Setup**

	CK	Record #	Code	#		CK	Record #	Code	#
>		Record #1	TP14	-1			Record #13		
		Record #2					Record #14		
>		Record #3	TP14	-2			Record #15		
		Record #4					Record #16		
		Record #5					Record #17		
		Record #6					Record #18	TP14	-4
		Record #7					Record #19		
		Record #8					Record #20		
		Record #9					Record #21		
>		Record #10	TP14	-3			Record #22		
		Record #11					Record #23		
		Record #12					Record #24		

(Click on the buttons next to the records that you would like in your output, change the 'code' ID's, and select -1 to -4 for a 24 hour test.)

Close

You can select any four records for the 24 hour test which meet the FCC rules for data log time spacing.

## Compute Delta Command

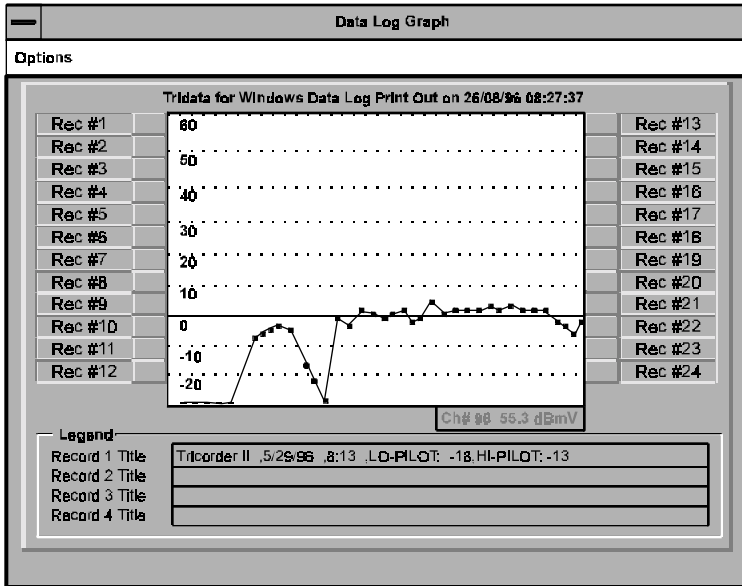
Tridata comes with a feature which enables you to compute the Audio/Video delta when using a Tricorder I.

**NOTE:** Tricorder II and Tricorder III models have this feature built in.

Simply *click* on the COMPUTE DELTA command under the OPTIONS Menu and follow the screen prompts. Tridata will add video/audio delta to the data log record. Resave the file to save the video/audio delta for future use.

# Graph Command

Tridata enables you to view the data log record you are working on currently in a graph format. To access the Graph Window, *click* on the GRAPH COMMAND located in the OPTIONS Menu.

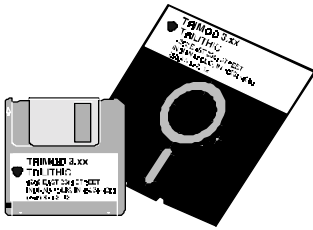


Once you are in the GRAPH Window, you have several options available to you. You may view the data log record as a BAR graph of video/audio carriers or as a LINE graph of video, audio or video/audio delta levels (as shown above). You may view the data log record's Video Data, Audio Data or Delta Data. You may also print out the graph information.

**NOTE:** You may change the name of the graph from the default of "Tridata for Windows Data Log Printout" to anything you wish. Highlight the default title line with the cursor and then type the desired name.

## **HOT TIP**

***If you click on a specific point on the graph, its exact value will be displayed in the upper right corner of the graph.***



# TRIMOD OPERATION

## INTRODUCTION

Trimod enables you to send your data log records from your Tricorder (must be a Tricorder HE which contains the data logging option) to a PC or over a telephone modem link. Once the data log records are in the PC, you can view them, graph them, save them or you can export them into most Windows-compatible spreadsheets.

You may also perform remote measurements of signal levels as well as remote programming of your Tricorder's data logging functions.

**CAUTION:** Before deploying into the field, we recommend testing Trimod thoroughly in your office, using your PC connected to a phone line and the remote headend system connected to another phone line.

## FILE MENU

To access the primary commands for Trimod, *click* on the FILE Menu.



From this menu, you can use Trimod to perform the following functions:

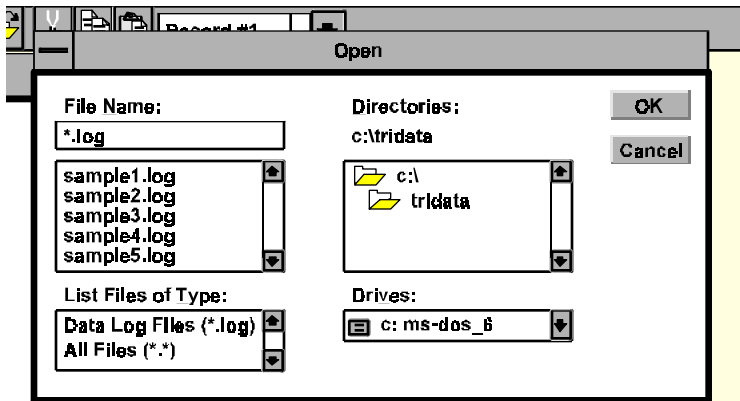
- Begin a NEW document
- OPEN an existing document
- CLOSE the document which you are working on
- SAVE the document
- Use the SAVE AS command to give the document a title
- EXPORT the document for use in a spreadsheet
- PRINT the current document
- UPLOAD data log records from your Tricorder
- EXIT Tridata

## New Command

When you first start Trimod, the program opens with a new untitled document. At any time, you may begin a new file by *clicking* on the NEW command in the FILE Menu.

## Open Command

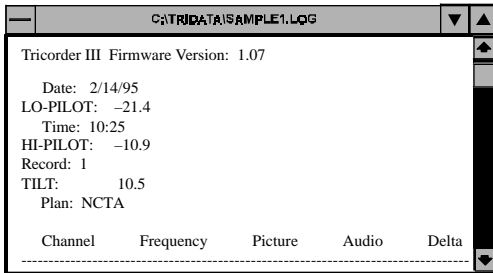
To access an existing Trimod file, *click* on the OPEN command in the FILE Menu. This will bring up the OPEN window. Trimod uses Tridata's directory.



**NOTE:** If you have never used Trimod to upload data log records from your Tricorder, you will only have the five sample files which shipped with Trimod available to you.



To open a document, select the drive, directory, type of file and document's name from the four windows as shown above. Once the desired document's title appears in the FILE NAME window, *click* once on the OK button or *double-click* on the FILE NAME window. This will open the selected file.

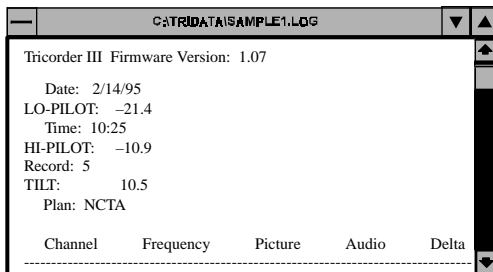


**Click here to show full view of record window**

## Upload Commands

Trimod enables you to upload data log records from the Tricorder to the PC. You have the option to upload single records or all of the records and save them as disk files.

To upload a single record, *click* on **UPLOAD ONE RECORD**. Trimod will go to the Tricorder and scan it for data log records. Once it has finished scanning the Tricorder, Trimod will inform you of the number of data log records it has found (i.e. 1 – 9). You are then prompted to select one of the records (i.e. 5). Type in the desired number and Trimod will display that record.



**Click here to show full view of record window**

To upload all of the data log records from the Tricorder, *click* on **UPLOAD ALL RECORDS**. Once the data log records are uploaded into the PC's memory, go to the **RECORD STATUS WINDOW** and *click* on whichever data log you wish to view.

## Save Commands

Use the SAVE and SAVE AS commands to save your opened and uploaded data log records to memory.

When you select the SAVE AS command, you will be prompted to name the data log record you are currently working on.

**NOTE:** The extension for data log records is **.log** i.e. sample1.log.

Use the SAVE command as you are working on documents so that required changes are saved to memory.

## Print Command

As you are working with Trimod, you can print current data log records. To do so, *click* on the PRINT command.

## Export Command

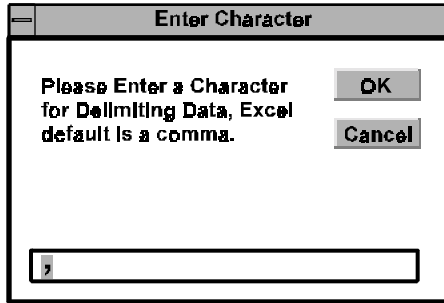
Trimod enables you to export data log records to spreadsheets via the PoP format or through the Character Delimit format.

To export the data log record to a spreadsheet, *click* on the EXPORT command. Trimod will ask if you wish to export the file in the PoP format or the Character Delimit format.

## CHARACTER DELIMIT

If you are using a spreadsheet such as Lotus or Excel, name the file and select an extension. For example, you might use an extension of **.lot** for Lotus and **.xls** for Excel.





Most spreadsheet applications require that all data entries be separated by the same ASCII character (i.e. commas, semi-colons, space, etc.). This enables the spreadsheet to differentiate between the entries. In the above screen, you can select the delimiter.

**NOTE:** Excel and Quattro Pro both work by using a comma. Once you are in your spreadsheet program, refer to its manual for the procedure to import delimited text.

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## POP SELECTION

PoP or Proof of Performance is a software package, widely used in the Cable Industry, which permits detailed reporting of FCC proof tests. Trimod for Windows is designed to work with the PoP Windows version of the software.

In your EXPORT window, you can select the PoP Format which has an extension of **.tsd**. Before you can export any data logs via this method, however, you will need to set up the PoP codes.

*Click* on POP SETUP in the OPTIONS Menu.

**PoP Setup**

	CK Record #	Code -#		CK Record #	Code -#
<input type="checkbox"/>	Record #1			<input type="checkbox"/>	Record #13
<input type="checkbox"/>	Record #2			<input type="checkbox"/>	Record #14
<input type="checkbox"/>	Record #3			<input type="checkbox"/>	Record #15
<input type="checkbox"/>	Record #4			<input type="checkbox"/>	Record #16
<input type="checkbox"/>	Record #5			<input type="checkbox"/>	Record #17
<input type="checkbox"/>	Record #6			<input type="checkbox"/>	Record #18
<input type="checkbox"/>	Record #7			<input type="checkbox"/>	Record #19
<input type="checkbox"/>	Record #8			<input type="checkbox"/>	Record #20
<input type="checkbox"/>	Record #9			<input type="checkbox"/>	Record #21
<input type="checkbox"/>	Record #10			<input type="checkbox"/>	Record #22
<input type="checkbox"/>	Record #11			<input type="checkbox"/>	Record #23
<input type="checkbox"/>	Record #12			<input type="checkbox"/>	Record #24

(Click on the buttons next to the records that you would like in your output, change the 'code' ID's, and select -1 to -4 for a 24 hour test.

**Close**

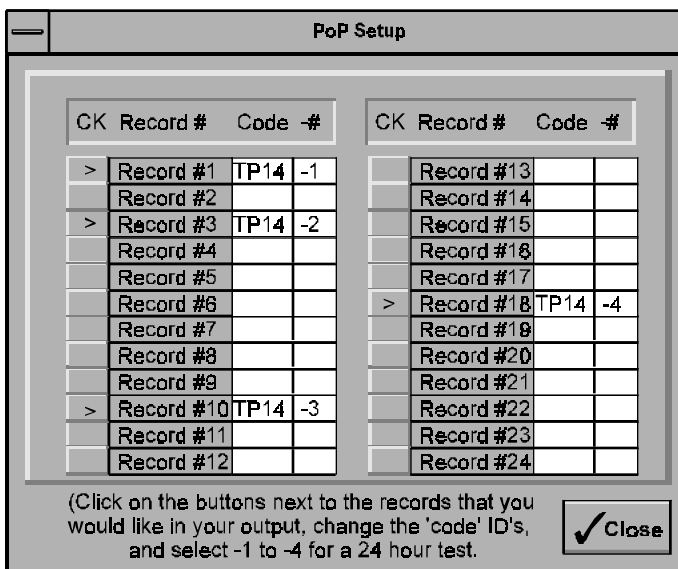
To set up your PoP format, you will need to refer to your PoP instructions for your company's PoP codes.

**NOTE:** The PoP codes are typically 4 digits and are set up in your PoP for Windows software. They are used to represent pertinent locations in your city.

For example, a test point at the corner of Main and Oak could be labelled TP14. A Tricorder placed at this location for Record 1 is given the code of TP14.

Once you have determined the codes, *click* on the button to the left of the record number which you wish to include. Then, enter your company's ID codes in the CODE box. Tridata is also designed to handle 24 hour tests for up to 4 records when used in conjunction with the PoP feature. If you wish to use the 24 hour test feature, enter a -1, -2, -3 or -4 in the “#” box.

**NOTE:** The “-” is required by POP. Refer to your POP manual for ID's and tagging logs for the 24 hour test.



You can select any four records for the 24 hour test which meet the FCC rules for data log time spacing.

## Compute Delta Command

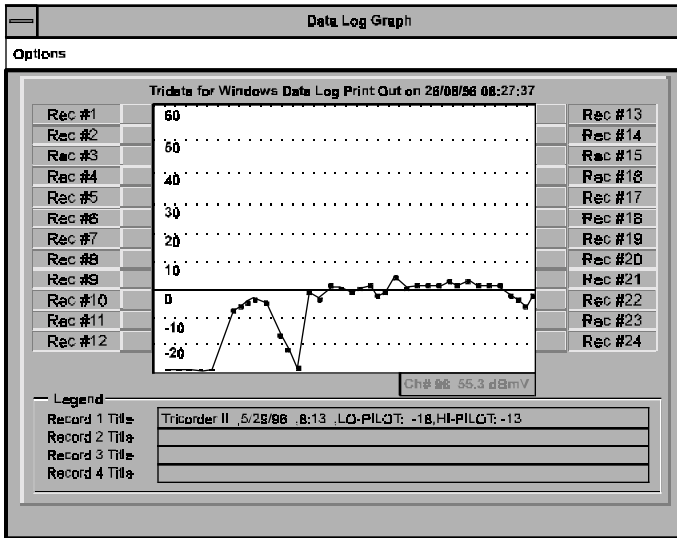
Trimod comes with a feature which enables you to compute the Audio/Video delta when using a Tricorder I.

**NOTE:** Tricorder II and Tricorder III models have this feature built in.

Simply *click* on the COMPUTE DELTA command under the OPTIONS Menu and follow the screen prompts. Tridata will add video/audio delta to the data log record. Resave the file to save the video/audio delta for future use.

## Graph Command

Trimod enables you to view the data log record you are working on currently in a graph format. To access the Graph Window, *click* on the GRAPH COMMAND located in the OPTIONS Menu.



Once you are in the GRAPH Window, you have several options available to you. You may view the data log record as a BAR graph of video/audio carriers or as a LINE graph of video, audio or video/audio delta levels (as shown above). You may view the data log record's Video Data, Audio Data or Delta Data. You may also print out the graph information.

**NOTE:** You may change the name of the graph from the default of "Tridata for Windows Data Log Printout" to anything you wish. Highlight the default title line with the cursor and then type the desired name.

### HOT TIP

*If you click on a specific point on the graph, its exact value will be displayed in the upper right corner of the graph.*

## Remote Logging Operations

You can use Trimod for remote logging and data uploading operations.

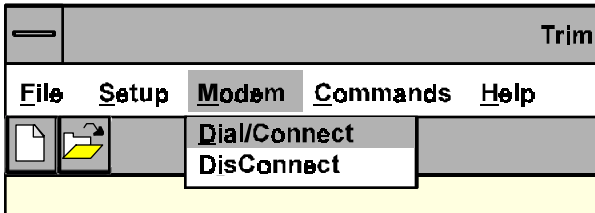
**REMINDER:** For REMOTE operations, you need to use a Tricorder HE. You must use a modem to establish a connection between the PC and the REMOTE Tricorder prior to using any of the remote logging features.

## MODEM OPERATIONS

After you have connected everything (refer to *Set Parameters Via Trimod* on page 14), you need to use the modem to “dial up” the Tricorder so that they can exchange information.

**REMINDER:** You need to close the UNTITLED screen and step back to the BASE MAIN Menu.

From the BASE MAIN Menu, *click* on MODEM.



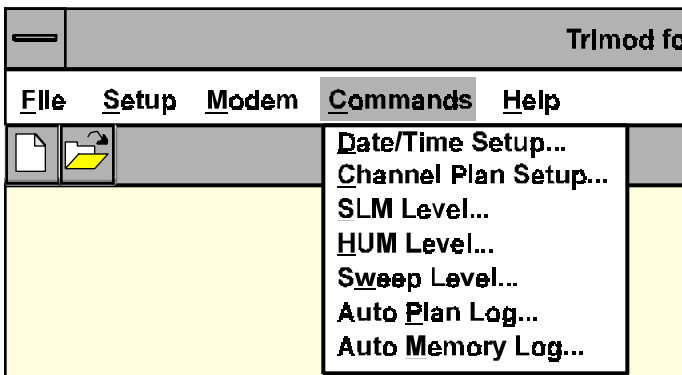
Now, *click* on the DIAL/CONNECT command and the PC and your Tricorder will be able to communicate via the modem.

When you are ready to terminate communications, *click* on the DISCONNECT command.

**NOTE:** The USE MODEM check box must be selected on the SETUP/COMMUNICATIONS Menu. See page 17.

## COMMANDS

To access the remote logging and data uploading operations, *click* on the COMMANDS heading on the BASE MAIN Menu after you DIAL/CONNECTED the modem.






## Date/Time Setup

This command enables you to check the data and time of the Tricorder. If you select READ TRICORDER, the PC will poll the Tricorder for its date and time. It will then display that information on the menu.

Tricorder Date/Time

Date/Time

 Date: Mar 21, 95

Time: 07:59

Read Tricorder      Update Tricorder

(Click on the Read button to check your Tricorder and click on Update to set it to the PC's time and date.)

Close

**NOTE:** The clock in Trimod is based on a 24-hour time rather than 12-hour. For example, 2:15 in the afternoon appears as 14:15.

## Channel Plan Setup

You can use the CHANNEL PLAN SETUP command to check the Tricorder's channel plan setting or select a different channel plan.

Channel Plan

Channel Plan

None	PALb	JPN
NCTA	PALd	UHF
Hrc	PALJH	AIR
Irc	P300	L1
U1	P470	L2
U2	EI	

Read Tricorder      Write Tricorder

(Select the Channel Plan and then Write it to the Tricorder or Read the current Channel Plan.)

Close

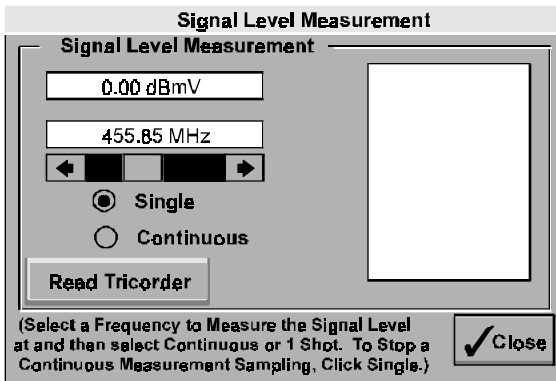
To verify the current channel plan, *click* on the **READ TRICORDER** button. The Tricorder's current plan will be highlighted in the channel plan list.

To change to a different channel plan, *click* on the desired plan in the list and then *click* on the **WRITE TRICORDER** button to reset the Tricorder to the new channel plan. To verify that the change has been made, you may *click* on the **READ TRICORDER** button and make sure that the new channel plan is highlighted.

**NOTE:** If an invalid channel plan is selected (i.e. an unlearned L1 or L2 plan), the Tricorder will remain on its previous channel plan setting.

## SLM Level

Use the SLM LEVEL command to tune the Tricorder to a specific frequency and return the signal level to the PC.

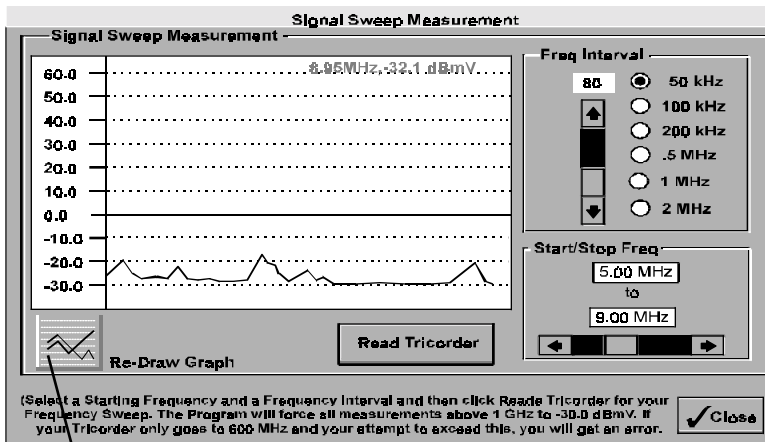


To read the current level, *click* on the **READ TRICORDER** button. The Tricorder's current signal level will appear in the level window.

To assign a frequency to the Tricorder, *click* on the arrow bars until the desired signal level appears in the frequency bar. You may also *click* on the windows above the arrow bars to enter the frequencies by the keyboard. Tridata will round to the nearest frequency which the Tricorder can tune.

**NOTE:** The signal level is displayed in the same units (dBmV or dB $\mu$ V) as used by the Tricorder.





**Click here while your Tricorder is sweeping to see the intermediate results of the sweep.**

First, select the frequencies for the START/STOP FREQUENCY bar. You may *click* on the START/STOP FREQUENCY windows to enter the frequencies from the keyboard.

Then, *click* on the frequency interval and the number of samples you wish the Tricorder to sample. *Click* on the **READ TRICORDER** button.

**NOTE:** Trimod will force all measurements above 1 GHz down to -30 dBmV. If your Tricorder only goes to 600 MHz and you attempt to exceed this, you will get an error message.

After your Tricorder returns the sweep data, Trimod will draw the graphic representation of the scan in the large window to the left.

## Auto Plan Log

The AUTO PLAN LOG command tells the Tricorder to record the data log records of the selected channel plan. You have the option to enable or disable the continuous data logging function.

To disable the continuous data logging feature, make sure that the CONTINUOUS box in the lower right of the window is blank. If disabled, only ONE record will be reported.

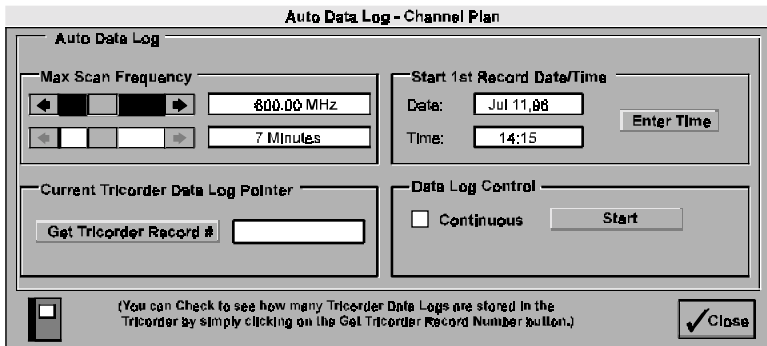
If you decide to enable the CONTINUOUS box and the continuous data logging feature, the first record will be taken at the time you specify in the START 1ST RECORD DATE/TIME window.

**NOTE:** The default time for the first record is the PC's current time rounded up to the next time with a zero units digit. For example, if the PC's current time is 9:47, the default start time for the first record is 9:50.

Once the first record is taken, the subsequent records are taken at the specified scan interval spacing. Data logging continues until the Tricorder receives any new commands from the PC or until the power to the Tricorder is cycled for any reason.

**NOTE:** The Tricorder cannot recognize commands from the PC while it is actually taking a data log record. If you need to communicate with the Tricorder, time your additional transmissions to coincide with the idle time (between the end of the data logging for one record and the start of the next).

To access this feature, *click* on the AUTO PLAN LOG command.



If you wish to enable the continuous data logging function, *click* on the CONTINUOUS box. If you want only one record, leave this box blank.

If you have enabled the CONTINUOUS box, you will then need to indicate the date and time for the first of the data log records in the START 1ST RECORD DATE/TIME window.

Select the maximum scan frequency.

**NOTE:** You are allowed one minute of Time Interval per 100 MHz Scan Frequency. For example:

A maximum Scan Frequency of 350 MHz allows a minimum Time Interval of 4 minutes.

A maximum Scan Frequency of 700 MHz allows a minimum Time Interval of 7 minutes.

You may use the **GETTRICORDER RECORD #** button to check the current value of the data log record pointer.

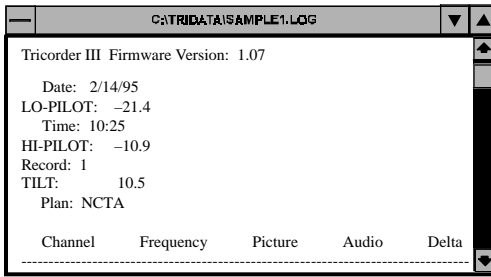
**NOTE:** Each time the AUTO PLAN LOG command is issued to the Tricorder, the data logging begins with the current record number (1 – 24). The records are stored in sequence with wrap around so that record number 1 occurs after record number 24 has been stored. Therefore, the Tricorder retains the last 24 data logs.

When your AUTO PLAN LOG window has been set up, *click* the **START** button.

**NOTE:** If you have *clicked* the CONTINUOUS box, Trimod will command the Tricorder to start data logging using the maximum frequency and time interval which you selected. Trimod will not attempt to communicate with the Tricorder again. The next command that you send successfully to the Tricorder will stop the continuous data logging.

If you have NOT selected the CONTINUOUS box, Trimod will start an immediate Tricorder data log, retrieve the log and display it for you.

It will be several minutes for a single data log session to take place. The STATUS BAR at the bottom of the window will keep you appraised of the operation. Once the information is retrieved, Trimod will revert to the data log record window and you will be able to proceed.



**Click here to show full view of record window**

## Auto Memory Log

The AUTO MEMORY LOG command tells the Tricorder to start recording data log records of the frequencies stored in the user memories. You have the option to enable or disable the continuous data logging function.

To disable the continuous data logging feature, make sure that the CONTINUOUS box in the lower right of the window is blank. If disabled, only ONE record will be reported.

If you decide to enable the CONTINUOUS box and the continuous data logging feature, the first record will be taken at the time you specify in the START 1ST RECORD DATE/TIME window.

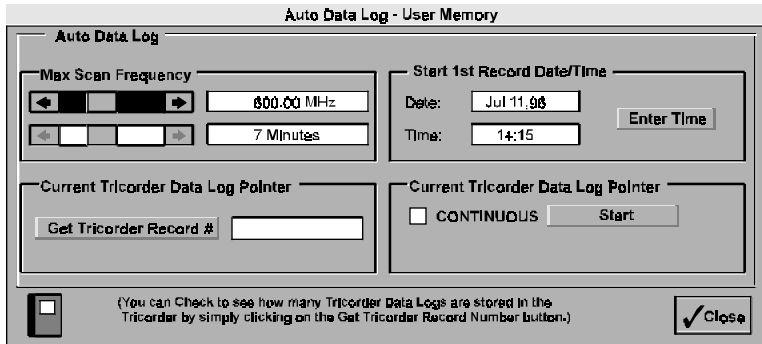
**NOTE:** The default time for the first record is the PC's current time rounded up to the next time with a zero units digit. For example, if the PC's current time is 9:47, the default start time for the first record is 9:50.

Once the first record is taken, the subsequent records are taken at the specified scan interval spacing. Data logging continues until the Tricorder receives any new commands from the PC or until the power to the Tricorder is cycled for any reason.

**NOTE:** If you have *clicked* the CONTINUOUS box, Trimod will command the Tricorder to start data logging using the maximum frequency and time interval which you selected. Trimod will not attempt to communicate with the Tricorder again. The next command that you send successfully to the Tricorder will stop the continuous data logging.

If you have NOT selected the CONTINUOUS box, Trimod will start an immediate Tricorder data log, retrieve the log and display it for you.

To access this feature, *click* on the AUTO MEMORY LOG command.



If you wish to enable the continuous data logging function, *click* on the CONTINUOUS box. If you want only one record, leave this box blank.

If you have enabled the CONTINUOUS box, you will then need to indicate the date and time for the first of the data log records in the START 1ST RECORD DATE/TIME window.

Select the maximum scan frequency.

You may use the **GETTRICORDER RECORD #** button to check the current value of the data log record pointer.

**NOTE:** Each time the AUTO MEMORY LOG command is issued to the Tricorder, the data logging begins with the current record number (1 – 24). The records are stored in sequence with wrap around so that record number 1 occurs after record number 24 has been stored. Therefore, the Tricorder retains the last 24 data logs.

When your AUTO MEMORY LOG window has been set up, *click* the **START** button.

It will be several minutes for a single data log session to take place. The STATUS BAR at the bottom of the window will keep you apprised of the operation. Once the information is retrieved, Trimod will revert to the data log record window and you will be able to proceed.







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