



TRICORDER

HE MANAGER INFORMATION GUIDE

Introduction

Trilithic is proud to introduce our new **HE MANAGER** software. When used in conjunction with the **TRICORDER HE REMOTE SIGNAL LEVEL MEASUREMENT METER**, this software provides a powerful, cost-effective system for monitoring forward and reverse carriers and reverse path ingress at remote hubs and headends. The Tricorder HE can be installed in any hub or headend and can be connected to the controlling PC directly or via a modem. When HE Manager is installed, the PC can remotely operate up to twenty Tricorder HEs. It controls the units via a user-generated scan strategy which uploads amplitude scans that the Tricorder HE has logged.

The HE Manager Scan Strategies can archive the levels of all carriers at regular intervals which can be set from a few minutes to several hours. HE Manager's scan strategy can upload these records at a programmable time of day and then log them into an archive for a permanent record of the Hub's long-term performance. The software also enables you to obtain immediate control of the remote Tricorder HE for troubleshooting activities. All of the Tricorder HE's functions are available, including: measurement of a single carrier; scanning either the L1 or L2 Channel Plan; and performing a quick scan of up to ten user memories.

HE Manager contains several core features:

- Predefines a data acquisition activity for multiple Tricorders
- Executes scan strategies
- Performs predefined analysis of data against user defined limits
- Takes predefined actions based on results of comparison of data to limits by attaching an alarm function to the user-defined scan strategies
- Archives data for future reference
- Supports a LIVE Mode for online data collection
- Configures multiple Tricorders

Software Installation

Use the following information to install HE Manager on the PC which will be used to control the Tricorder unit(s).

SYSTEM REQUIREMENTS

In order to run HE Manager, you need an IBM®-compatible computer with the following options:

- 486-66 MHz minimal/Pentium 75 or greater is necessary for optimal performance
- 16 Meg of RAM or greater for Win '95 or '98
- 2 Communications Ports or more (maximum 8):
 - 1 Com Port for the Mouse
 - 1 Com Port for the RS-232 cable which links directly or via a modem to the Tricorder HE unit(s)
- 10 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. Large fonts may cause the text to look stretched.
- A PC compatible mouse
- Windows '95 or '98 operating system (HE Manager will NOT run under Windows 3.1)
- Floppy Drive
- External 14.4kB modem
- TriSetup Software

HE Manager is designed to work with the same setup you use for Windows 95 or Windows 98. If your Windows setup works smoothly, you should have no difficulty running the software.

INSTALL SOFTWARE

Now that you've checked the system requirements, you can install HE Manager. The software can be installed in PCs with Windows 95 or Windows 98. Use the following procedure:

1. Turn ON your PC.
2. Insert disk #1 into drive **A** or **B** (depending on your drive configuration and the size of your installation disk).
3. *Click* on the **START** icon and then *click* on **SETTINGS/CONTROL PANEL**.
4. Once you are in the **CONTROL PANEL**, *click* on the **ADD/REMOVE PROGRAMS** icon.
5. *Click* on the **INSTALL** button and follow the instructions on the screen.
6. The software's setup utility will install HE Manager into your PC automatically.

TROUBLESHOOT THE INSTALLATION

If you have difficulties installing HE Manager, call Trilithic at (800) 344-2412 or visit our web site at: www.trilithic.com.

HE Manager Walkthrough

Once you have installed HE Manager on your PC, you may start using it to collect data from your Tricorder HE unit(s). Before you do, however, there are several things with which you should be familiar.

MENU SELECTION

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

If you prefer, you may also use the keyboard to highlight the menus. PRESS the **ALT** tab key plus the letter for the desired menu. 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 commands. Once a desired command is highlighted, such as SCAN in the MODE menu, PRESS **ENTER** to select it.

A QUICK TOUR

When you first open HE Manager, the MAIN screen appears. This consists of the MAIN MENU bar at the top of the screen and the window area below where the various operations open.

Main Menu Bar

The MAIN MENU bar contains the menus used to operate HE Manager and to open its various operations.



The bar includes the FILE, MODE, TRICORDER, SETUP and HELP menus.

The FILE menu contains the CLEAR ERROR function. This function enables you to clear a Tricorder icon that has tripped an alarm notification. In effect, you're telling HE Manager that you acknowledge the alarm, please proceed.

The MODE menu has the SCAN, LIVE and IDLE functions.

The TRICORDER menu contains the various functions to set up the Tricorder HE to work with HE Manager such as ADDING or REMOVING a Tricorder, IDENTIFICATION parameters, CONNECTIONS, CONFIGURATIONS, LIMITS and the PAGER SETUP.

The SETUP menu consists of the functions for using HE Manager with your Tricorder HE, including: ALARM, SCAN STRATEGIES, PAGER ALARM, DEFAULT and LIMITS VALUES.

Main Screen

HE Manager operates from the Main Screen which contains an icon for each Tricorder you have added and set up. The Tricorder icons appear in five colors:

- Gray – represents idle or standby mode. If the Tricorder is not accessed by a given strategy, it remains gray

Blue – indicates that a Scan Strategy is running and the Tricorder is being accessed
Green – indicates that the scanned Tricorder's data is within limits

Red – indicates that the scanned Tricorder's data has exceeded limits

Yellow – indicates that the scanned Tricorder's data has exceeded limits on a scan but was within limits on the last scan

If you *double-click* on the Tricorder icon, you will access the Tricorder's INFORMATION menu. This menu contains current status information, current video, audio, and delta graphs as well as other key information. You can also access the Tricorder information screen by *clicking* on the desired Tricorder Icon. Select TRICORDER from the Main Menu bar and then *click* OPEN.

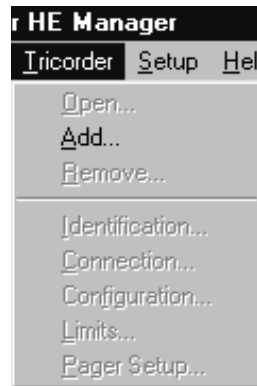
SET UP THE TRICORDER ICONS

Before you can use HE Manager, you need to configure the Tricorder HE unit(s) so that the software can communicate with them. HE Manager cannot "read" the existing configuration information from a Tricorder. Instead, it looks for a configuration file which has been saved via Trilithic's **TRISSETUP** software. TriSetup enables you to design configuration files or upload configuration information from a Tricorder. Once you designate a Tricorder Icon in HE Manager, you can assign an existing configuration file to it.

CAUTION: If you change a configuration file which has been assigned to an HE Manager Tricorder Icon, be sure that you update that information for the icon as well. When HE Manager runs a Scan Strategy, it looks for the Tricorder with the assigned configuration data. If that data has been changed, HE Manager will get confused and not function correctly.

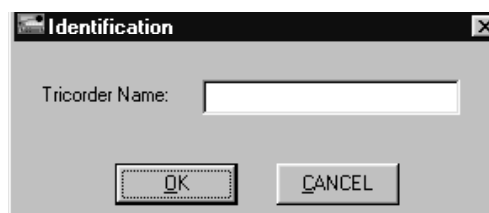
Add Tricorder Icon

Once you have the Tricorder HE configured, *click* on the HE Manager icon to open the software. Next, *click* on TRICORDER in the Main Menu and then on ADD.



NOTE: The other options will be grayed out and unaccessible until you have added at least one Tricorder HE.

When you select ADD, the IDENTIFICATION box appears. Use this to assign a unique name to the unit you are adding. Type in the designation, such as TRICORDER 1, in the box and then *click* OK.



The icon for the added Tricorder will appear in the Main Window.



Once you have added at least one icon, *click* on TRICORDER in the Main Menu. All the functions are now accessible.



To add more units, just keep *clicking* on ADD and assigning names. You may arrange the icons anyway you prefer. Just *point and drag* the individual icons into position.



If you make a mistake in assigning the identification to your unit(s), all you need to do is *click* on the desired icon (the active Tricorder icon will have a raised edge, i.e. icon #4 above). Then, select REMOVE from the TRICORDER menu.

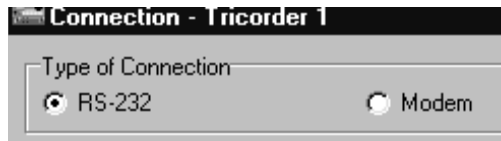
REMINDER: If you rename or delete an icon that is used in a Scan Strategy, it will cause the Scan Strategy to fail.

Connect Tricorders

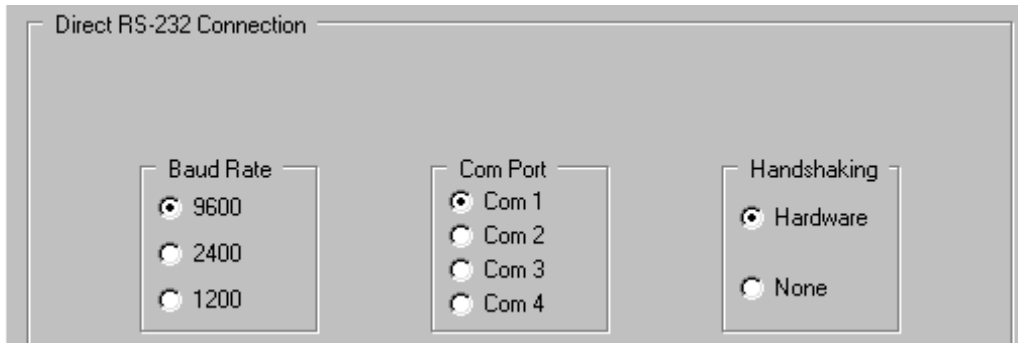
Once the Tricorder icons have been added and identified, you should establish their connection parameters. *Click* on the icon for the Tricorder you wish to connect (i.e. Tricorder 1). Then, go to the TRICORDER menu and select CONNECTION.



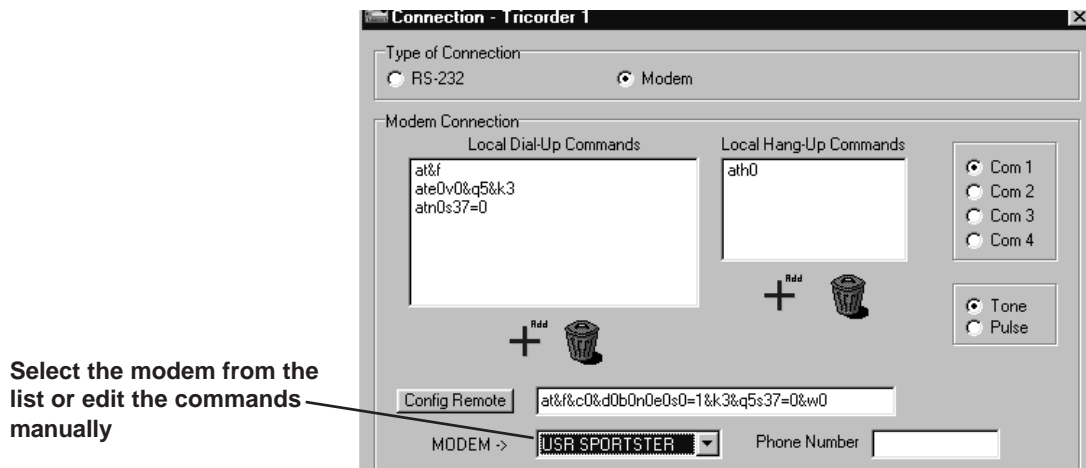
HE Manager brings up the CONNECTION window for the TRICORDER 1 icon. In this window, select the type of connection. You can use either a direct connection via an RS-232 cable or a modem.



If you select “Direct RS-232”, you will see the following window. Select the Baud Rate, Com Port and handshaking method for the connection (usually 9600, COM 1 and HARDWARE) by *clicking* next to the desired setting. A bullet appears in the white circle.



If you select “Modem”, you will see the following window. Select the Local Dial-Up commands, Local Hang-Up commands, Com Port, Modem type, and Tone or Pulse.



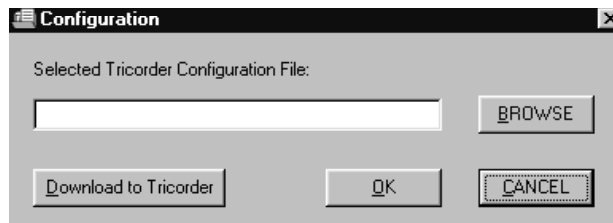
Once you have set up either the DIRECT or MODEM connection method, connect your Tricorder and *click* on the **TEST CONNECTION** button to make sure it’s set correctly. Then press **OK** to exit the CONNECTION window.



Repeat the connection procedure for each Tricorder icon.

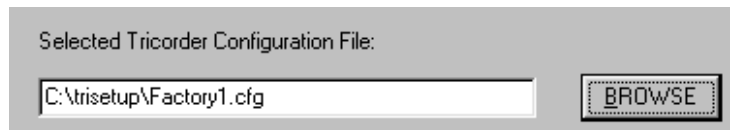
Configure Tricorder

Once your connection parameters have been established, you can configure the Tricorders. HE Manager obtains its information about each Tricorder from the configuration files in TriSetup. To get the file, first select one of the Tricorder icons. Go to the TRICORDER menu and select CONFIGURATION.



Use the **BROWSE** button to select the desired configuration from the ones in your TRISSETUP configuration folder.

REMINDER: You cannot read or upload the configuration data from your Tricorder with HE Manager. If the Tricorder is already configured, you need to use TRISSETUP to read the configuration and then save the information to a configuration file in your TRISSETUP directory. See the *TRISSETUP OPERATION MANUAL* for more information.

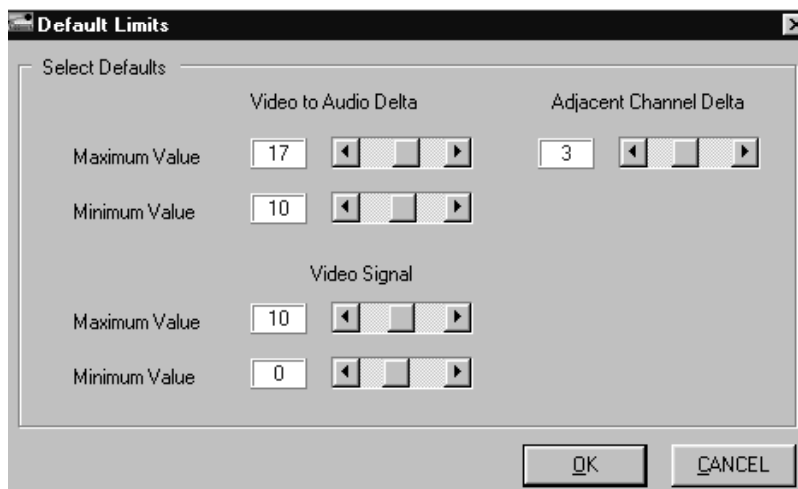


Once you have chosen the file, *click* the **DOWNLOAD TO TRICORDER** button to configure the selected Tricorder. When you are done, *click* **OK** to exit the CONFIGURATION menu. Repeat this procedure for the other Tricorder icons.

NOTE: If the Tricorder is already configured, you may also use TriSetup to read the configuration and save that information to a configuration file. See the *TRISSETUP OPERATION MANUAL* for more information on this procedure.

Default Limits Values Setup

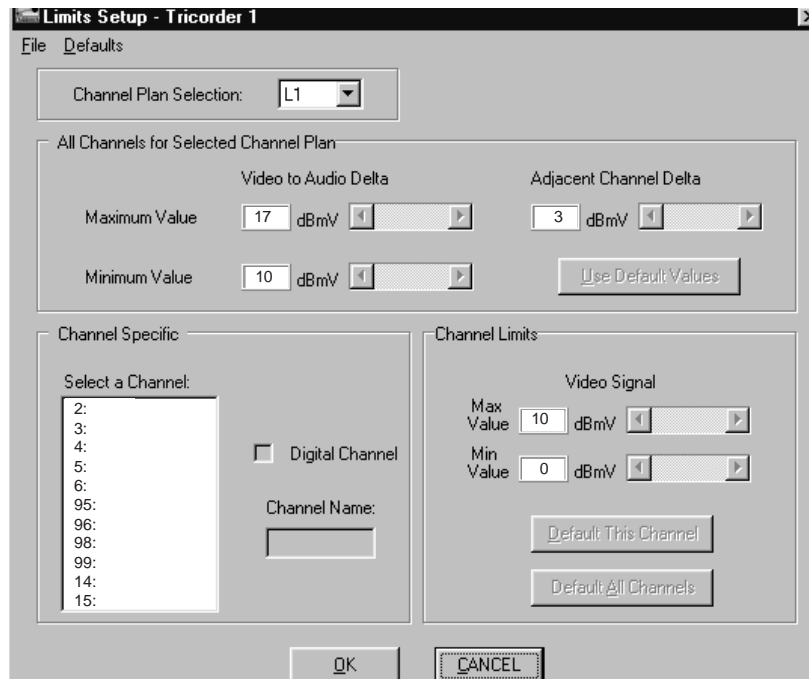
Select one of the Tricorder icons. Go to the SETUP menu and select DEFAULT LIMITS VALUES.



Set the desired "video to audio delta", "video signal" and "adjacent channel delta" default parameters for the Tricorders. *Click* the **OK** button when you are finished. These values may be used to set the limits for each Tricorder.

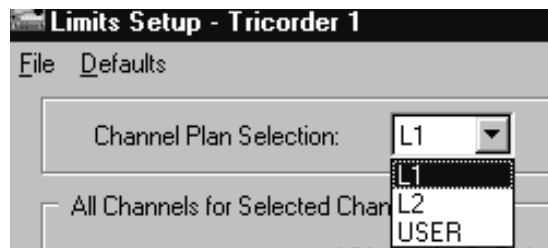
Set Limits

When your Tricorder icons have been configured, you need to set their limits. Go to the TRICORDER menu and select LIMITS.



NOTE: The parameters for minimum and maximum video and audio delta pertain to standard channels only. This is due to the fact that digital channels are typically set at least 10dB below the standard channels and, if included in the adjacent channel parameters, would fail every time. When you are setting the channel limits, keep in mind that you can check only the levels of your system's digital channels.

First, you need to select the Channel Plan you'll be using; L1, L2 or User.

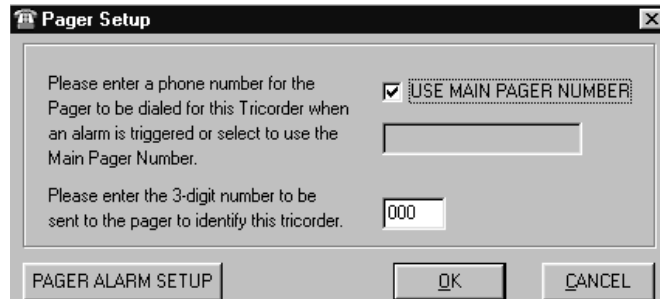


Then set the various parameters for each of the channels listed in your Channel Plan including: the maximum and minimum values for video to audio delta, adjacent channel data, channel name, and the maximum and minimum values for the video signal.

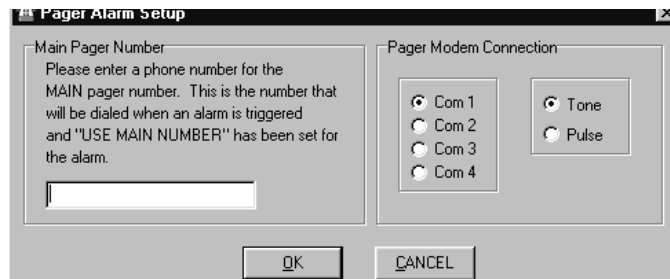
Once the parameters have been set, *click* **OK**.

Pager Setup

If you are using a pager for notification if an alarm is triggered, you need to enter a number for the pager. HE Manager enables you to assign either a global or single pager number for all Tricorders or a separate pager number for each unit. To enter the number, go to the TRICORDER menu and select PAGER SETUP.



Enter the pager phone number, or select the main pager number, and then the three digit number by which the pager identifies the specific Tricorder. Then, *click* on **PAGER ALARM SETUP**.



Enter the main pager number in the box. This is the number which will be dialed if an alarm is triggered. Then select the PAGER MODEM connection COM Port and type (tone or pulse). While setting up the pager number, you will need to include a series of *commas* within the number. These commas translate as pauses which ensures proper connection between the pager company and HE Manager.

For instance, if you have to dial “9” to get an outside line, you would set up the pager number with “9,”. In this case, the comma serves as a pause to allow time for the system to switch from the internal line to the outside line. Commas at the end of the number serve as pauses to allow sufficient connection time. HE Manager has no voice recognition and you don’t want the program to blurt out its messages before the pager company is ready to receive them.

By adding the commas, you ensure that HE Manager waits with its alarm messages long enough for the pager company to transition from answering and acknowledging the connection to being ready to receive HE Manager’s transmissions. Each comma represents two seconds. Three commas after the pager phone number are recommended initially. If your pager number responds more quickly, you may be able to reduce the number of commas.

Once you have the number entered, *click* **OK**.

When a ten digit alarm message is received by the pager, it is presented in the following format:

xxx yyy-yzzz

xxx – the user entered Tricorder ID
yyy – the alarm frequency (in MHz)
zzz – the alarm level (in tenths of dB without the decimal point)

If the error is communications related, the pager message will be:

xxx000-0000 – xxx is the user entered Tricorder ID

NOTE: You can also access this window via the SETUP menu.

SET UP HE MANAGER

Now that you have configured the Tricorder HE unit(s), you need to set the alarm parameters and create your Scan Strategies.

Alarm Setup

To set up your alarm parameters, go to the SETUP menu and select ALARM.



HE Manager provides you with several options for notification when an alarm is triggered. A GREEN border appears around the description of each selected option.



WAV File

The WAV File event notifies you audibly by activating a sound file (located in the HE Manager directory), which is called ALARM.WAV whenever the user-defined limits are exceeded. If you wish, you may change the tone of the alarm to any type of sound. Just make sure that you name that file ALARM.WAV and save it to the HE Manager directory.

NOTE: If your system has a sound card, HE Manager will play the WAV file. If your system does not have a sound card, HE Manager will use a *beep* for this event.



Tricorder/Channel Alarm Message

The Tricorder/Channel Alarm Message event places alarm messages (BLACK text) at the bottom of the MAIN Screen which contain the affected Channel and the nature of the alarm triggering event.



Pager Call

The Pager Call event notifies you via a pager when an alarm event is triggered.



Record to Disk

The Record to Disk event sends the data obtained by HE Manager into a log file for future review when the Tricorder exceeds its limits. When you *click* on this icon, a pop up window asks you for the name of the new file you are creating. Type in the new file name using eight characters or less with NO extensions.



Batch File

The Batch File even executes a batch file which is called ALARM.BAT. This feature allows you to perform a number of functions such as calling custom programs, printing alerts and zipping files as they are created.

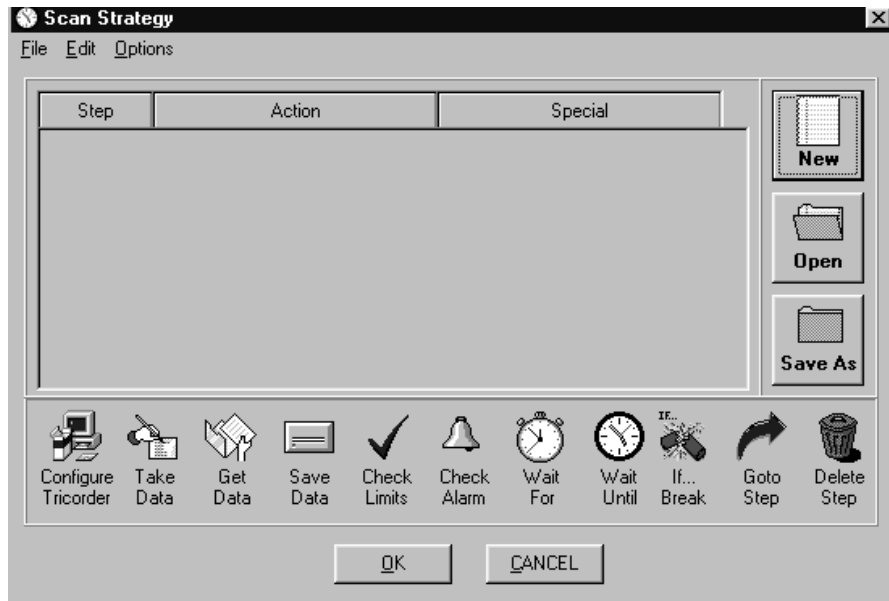
When the event executes a Batch File, it passes several parameters to the DOS Batch File in the following order:

Name of the Batch File	
Type of Error	“0” means it was a Data alarm, “1” means it was a communications alarm
Date of Error	mm/dd/yyyy
Time of Error	hh:mm:ss – in a 24 hour format where hh = hours, mm = minutes, ss = seconds
Name of the Tricorder	User-entered Tricorder name (in Tricorder Setup Identification)
Tricorder Pager ID	User-entered 3-digit ID for Tricorder (in Tricorder Setup Pager Setup)
Alarm Frequency	Frequency of the erroring channel in MHz
Alarm Level	Level of the Alarm formatted as xx.x

Scan Strategies

HE Manager enables you to construct a list of instructions by assembling a script from a list of available commands. These Scan Strategies define the sequence and method for collecting data from the Tricorder HE unit(s).

To create the Scan Strategies you will be using, go to the SETUP menu and select SCAN STRATEGIES.



When you open SCAN STRATEGY, you may either press the **NEW** button to build a new strategy or press **OPEN** to bring up an existing strategy. To build a new scan strategy, simply *drag & drop* the desired icon into the building template area of this window.

HE Manager’s Scan Strategies steps include:



Configure Tricorder - Connects and configures the specified Tricorder.

When you use this step, a pop up window appears so that you can specify which Tricorder is to be configured. When activated, the step connects HE Manager to the Tricorder, downloads its Trisetup configuration file and then hangs up.

NOTE: This selection is only required for locations where Tricorders may be manually changed by technicians.

Take Data - Instructs the selected Tricorder to collect one set of fresh data.



When you use this step, a pop up window asks which Tricorder is to be selected from the current ID list and whether the data will be L1, L2 or User Memory. This step waits for the timer to time out and then connects with the Tricorder. It sets the record pointer to #1, starts the datalogging process, and starts a timer tracking when data will be available. If the next command is GET DATA for that Tricorder, it will stay connected. If the next command is one of the others, it will disconnect. It then proceeds to the next step.

Get Data - Instructs the selected Tricorder to upload an existing data record to the PC.



When you use this command, a pop up window asks you to select a Tricorder from the current ID list. It waits for the specified Tricorder to finish its datalog, uploads the data in a FIFO format*, and buffers the data along with the channel plan L1, L2, User and Tricorder ID. If the next step is not a GET DATA or TAKE DATA from the same Tricorder, it will disconnect. It then proceeds to the next step.

*FIFO - stands for "First In, First Out" which is used for easy access to recent data. The HE Manager's GET DATA buffer is finite. This means it will only hold a set number of data records. For example, if you are using all of the channels in a learned channel plan, the buffer will hold a minimum of 360 logs for each Tricorder. If you are accessing user-memories or your channel plan does not utilize all channels, the number of logs the buffer can hold is increased. As new data is stored, the older data is pushed out of the buffer. It will be lost unless you tell HE Manager to store the data in a file. See the SAVE DATA command below.

Save Data - Saves Data to a designated file.



When used, a pop up window provides a list from which you select a file name. This command saves the contents of the GET DATA buffer to a specified file for later review or archiving purposes.

Check Limits - Checks data against designated limits.



This step enables HE Manager to check the uploaded information received from the specific Tricorder against the limits you have set up. If the data log exceeds those limits, an alarm event may be triggered.

Check Alarm - Enables alarms.



Use this command to enable alarms if you wish to be notified when the Tricorder finds data which exceeds user-specified limits.

Wait For - Specifies the time HE Manager is to wait between steps.



Pop up window asks for the number of hour and minutes up to twenty four hours (HH:MM). For example, you might want HE Manager to wait ten minutes between a TAKE DATA and GET DATA set of commands. In the pop up window you would designate 00:10.

Wait Until - Specifies a time you want HE Manager to execute a specific task.



Pop up window asks for the time twenty four hour format (HH:MM). For example, you might want HE Manager to do nothing until 6:10 PM. In the pop up window, you would designate 18:10. Follow the WAIT UNTIL command with an action you wish HE Manager to take.

If Break - Enables you to set a break in the routine to allow for a change in strategy flow.



A pop up window asks you to set a time in twenty four hour format (HH:MM). If time => break time, HE Manager skips the next GO TO command. Each "IF BREAK" statement is executed once per day.

Go to - Enables you to cycle back to a specific step and repeat all or parts of the scan strategy.



A pop up window asks you to designate a step. This command is useful if you want to collect data over a period of several days such as monitoring limits through peak times of the day.



Delete Step - Enables you to delete a step in the scan strategy.
If you wish to modify a strategy and want to delete a step, simply highlight the step and then *click* on the DELETE STEP icon.

The SCAN STRATEGY window also contains three command buttons: **NEW**, **OPEN**, and **SAVE AS**.



New - Clears strategy template so that you may start a new scan strategy. HE Manager will ask you for confirmation before it erases the existing strategy.



Open - Enables you to open an existing scan strategy which can be used or edited.



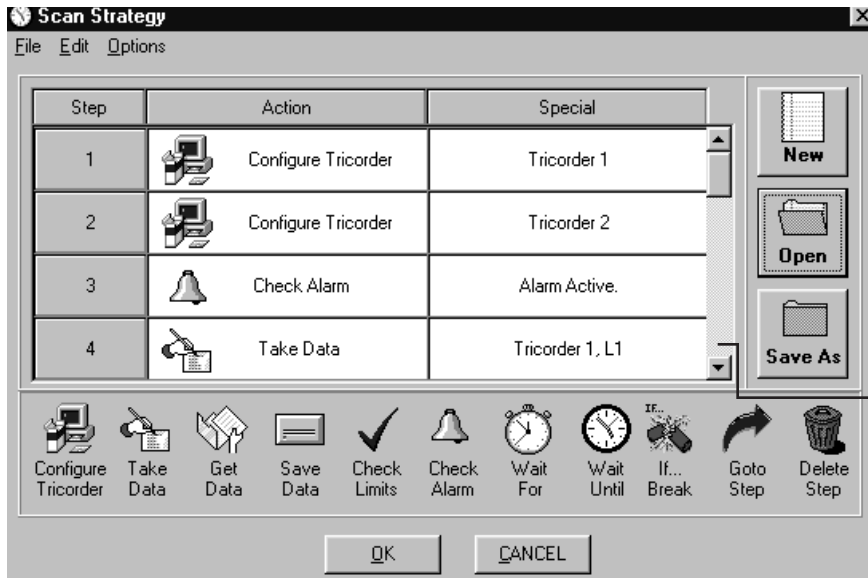
Save As - Enables you to save scan strategies for later use.

Sample Scan Strategies

Below are two sample scan strategies which you can use as guides for creating your own.

Sample Scan Strategy #1. In this example Tricorder 1's ID is Zionsville and Tricorder 2's ID is Noblesville. See the graphic illustration for this strategy on page 14.

	Icon	Location	Action
1	Config	Zionsville	Connect, configure, disconnect
2	Config	Noblesville	Connect, configure, disconnect
3	Check Alarm		Alarms are armed
4	Take Data	Zionsville, L1	Since not already connected...connects, resets Tricorder's record counter to 1, starts datalog, stays on line since next step is also for Zionsville
5	Get Data	Zionsville	Waits for Zionsville Tricorder to finish a datalog. Then gets Record #1, disconnects
6	Check Limits		Checks data in Record #1 from Zionsville against limits. Generates alarm if limits are exceeded
7	Take Data	Noblesville, User	Since not already connected...connects, resets record counter to 1, starts datalog, stays on line since next step is for Noblesville
8	Get Data	Noblesville	Waits for Noblesville to finish a datalog. Then gets Record #1, disconnects
9	Check Limits		Checks data in Record #1 from Noblesville against limits. Generates alarm if limits are exceeded
10	IF Break	16:00	If t=> 16:00 and flag is not set, skips past the next GO TO step. If not 16:00, does the next step
11	Wait For	00:10	Waits for ten minutes
12	Go To	4	Cycles back to step 4
13	Take Data	Zionsville, L1	Connects, resets record counter, starts log, stays connected
14	Get Data	Zionsville	Waits for Zionsville to finish a datalog, gets Record #1, disconnects
15	Save Data	Zionsville	Saves the data to a file called "Zionsville"
16	Wait Until	18:00	Does nothing until 6 PM
17	Go To	4	Cycles back to step 4



NOTE: The Scan Strategy template can only show four steps at a time. In order to view the other steps, *click* here on the scroll bar.

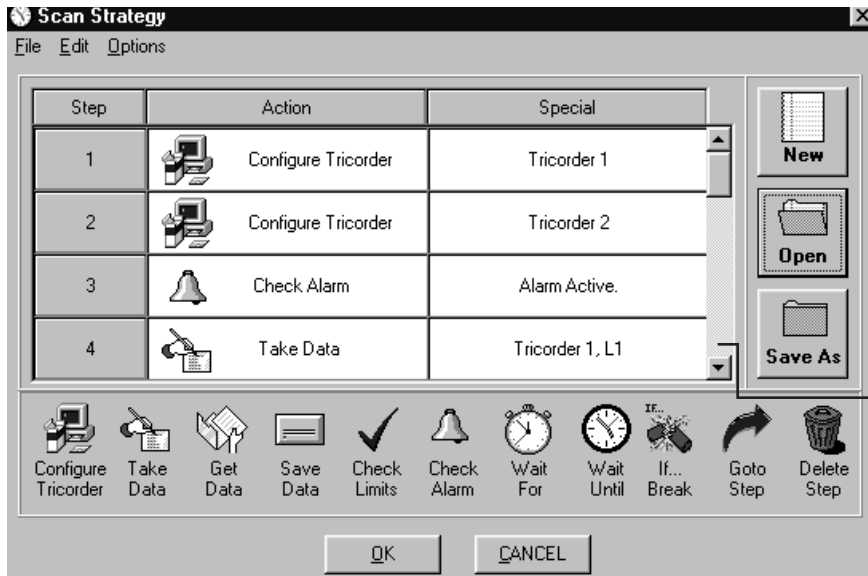
Step	Action	Special
5	Get Data	Tricorder 1
6	Check Limits	Check last data.
7	Take Data	Tricorder 2, USER MEM
8	Get Data	Tricorder 2

Step	Action	Special
9	Check Limits	Check last data.
10	If...Break	16:00
11	Wait For	00:10
12	Goto Step	4

Step	Action	Special
13	Take Data	Tricorder 1, L1
14	Get Data	Tricorder 1
15	Save Data	...r\Log Files\zionsville.log
16	Wait Until	18:00
17	Goto Step	4

Sample Scan Strategy #2 is an example of a “spinning plate” process. Since it can take time for the Tricorder to go through its datalogging procedure, you can save time by setting the Tricorders up so that you get a continual flow of information. In this example Tricorder 1’s ID is Zionsville and Tricorder 2’s ID is Noblesville. See the graphic illustration for this strategy on page 16. One main difference in this strategy is that it’s set up to be more time-saving since, while you’re examining previous records, the Tricorders have been told to gather another set of data logs.

Icon	Location	Action
1 Config	Zionsville	Connect, configure, disconnect
2 Config	Noblesville	Connect, configure, disconnect
3 Check Alarm		Alarms are armed
4 Take Data	Zionsville, L1	Since not already connected...connects, resets Tricorder’s record counter to 1, starts datalog, disconnects
5 Take Data	Noblesville, User	Since not already connected...connects, resets record counter, starts datalog, disconnects
6 Get Data	Zionsville	Connects. Waits for Zionsville to finish data log. Then gets Record #1
7 Take Data	Zionsville, L1	Resets record counter, starts datalog, disconnects
8 Check Limits		Checks data in Record #1 from Zionsville against limits. Generates alarm if limits are exceeded
9 Get Data	Noblesville	Waits for Noblesville to finish datalog. Then gets Record #1, stays on line with Noblesville
10 Take Data	Noblesville, User	Resets record counter to 1, starts datalog, disconnects
11 Check Limits		Checks data in Record #1 from Noblesville against limits. Generates alarm if limits are exceeded
12 IF Break	16:00	If t=> 16:00 and flag is not set, skips past the next GO TO step. If flag has been set, does the next step
13 Go To	6	Cycles back to step 6
14 Get Data	Zionsville	Connects, waits for Zionsville to finish datalog, the gets Record #1
15 Take Data	Zionsville	Reset record counter, starts datalog, disconnects
16 Save Data	Zionsville	Saves the data to a file called “Zionsville”
17 Wait Until	18:00	Does nothing until 6 PM
18 Go To	6	Cycles back to step 6



NOTE: The Scan Strategy template can only show four steps at a time. In order to view the other steps, *click* here on the scroll bar.

Step	Action	Special
5	Take Data	Tricorder 2, USER MEM
6	Get Data	Tricorder 1
7	Take Data	Tricorder 1, L1
8	Check Limits	Check last data.

Step	Action	Special
9	Get Data	Tricorder 2
10	Take Data	Tricorder 2, USER MEM
11	Check Limits	Check last data.
12	If...Break	16:00

Step	Action	Special
13	Goto Step	6
14	Get Data	Tricorder 1
15	Take Data	Tricorder 1, L1
16	Save Data	...\\Log Files\zionsville.log

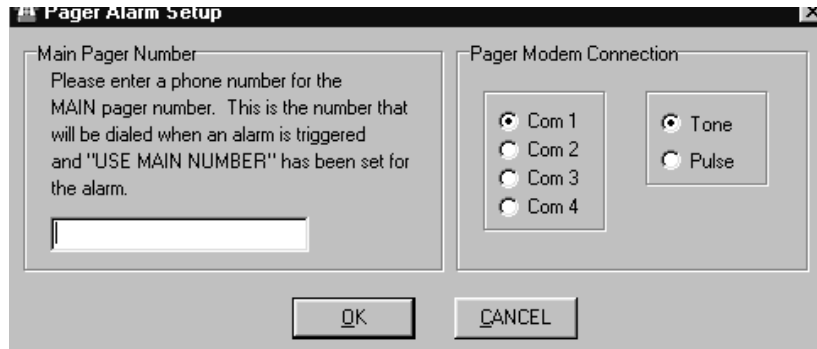
17	Wait Until	18:00
18	Goto Step	6

Pager Alarm Setup

If you are using a pager to notify you regarding alarm events, you will need to set up the parameters so that HE Manager and your pager can communicate.

NOTE: You may already have done this earlier in the PAGER SETUP section of the Tricorder Menu (see page 9).

If you have not already set up the pager alarm parameters or you wish to change them, *click* on the desired Tricorder icon. Then, open the SETUP menu and select PAGER ALARM.



Enter the desired parameters (see page 9) and then *click* the **OK** button.

HE MANAGER OPERATION

Once you have created your scan strategies and set the Tricorder unit(s) parameters, you can start gathering data. Select the MODE menu.



You have three operational options within this menu.

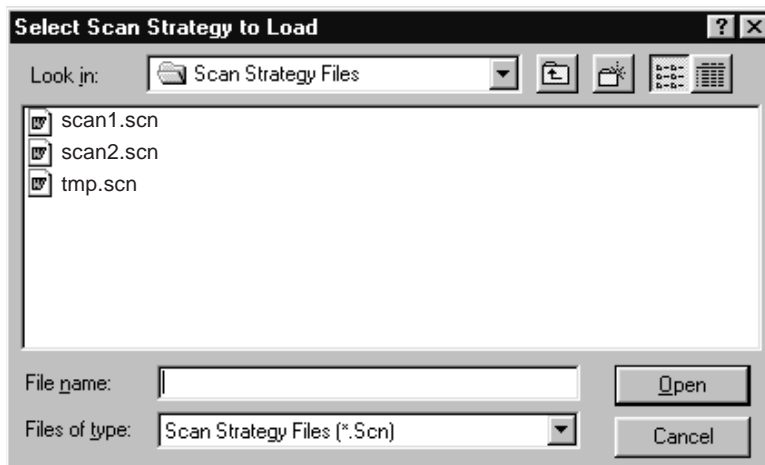
- SCAN - which is used to load and run the scan strategies you have created for the Tricorder.
- LIVE - which enables you to gather data for immediate viewing.
- IDLE - which is the inactive mode you can implement while you are building scan strategies, entering/editing limits, performing playback of a file, etc.

Scan Mode

SCAN mode has two elements; LOAD and RUN.

Before you can collect data automatically, you need to tell HE Manager which scan strategy you wish to use.

While in IDLE Mode, go to the MODE menu, highlight SCAN and then select LOAD.



From the list, select the desired scan strategy and then *click OPEN*.

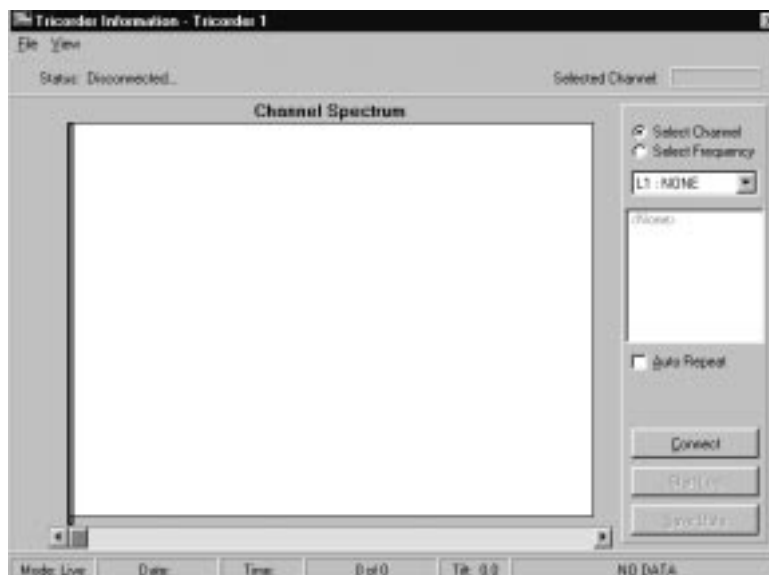
To start the data collection, go to the MODE menu, highlight SCAN and then select RUN. The Scan Strategy will start running.

NOTE: The Scan Strategy continues to run until you return to the MODE Menu and select IDLE.

Live Mode

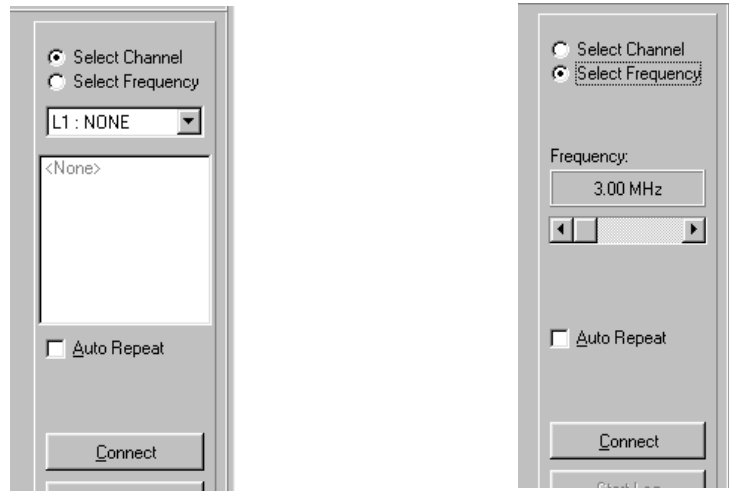
HE Manager also enables you to take data for immediate viewing. This may be a datalog of your L1 or L2 channel plans or the user memory, the level of a specific channel's video and audio carrier, or a specific channel's frequency.

To collect live data from IDLE Mode, go to the MODE menu and select LIVE. Then *double-click* on the icon of the Tricorder you wish to use to gather the data.



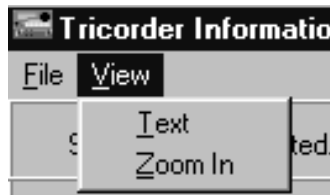
NOTE: In the above sample, the STATUS line indicates that the Tricorder is disconnected. When the Tricorder is turned on and the connections are correct, the STATUS line indicates that the Tricorder is connected.

To select the kind of data you wish to collect, go to the SELECT CHANNEL and SELECT FREQUENCY boxes. *Click* on either one.



Once you have selected the channel or frequency, *click* the **CONNECT** button.

When the status message indicates that the Tricorder is connected, *click* on the **START LOG** button. HE Manager will start collecting the data so that you can view it immediately. The LIVE datalog is presented in a graphics format. If logging on L1 or L2 Plan or channel, the video channels will be in BLUE and audio channels in GREEN. If you wish to see it in a table, go to VIEW and select TEXT. You may also get a closer look at the graphic representation by selecting ZOOM IN.



A comparative graph of individual memory channels or frequencies may be obtained by consecutive logging of these individual channels or frequencies in LIVE Mode. When this is performed, each log is displayed on the same graph.

Once you have viewed it, you may decide you wish to keep the information for later review or to compare it to other records.

NOTE: The most recent log records are stored in the FIFO record files. These may be viewed by going to FILE, selecting FIFO and then selecting SHOW RECORD CONTROL. The FIFO records can then be viewed by *clicking* on the arrows in the FIFO Record Control Panel.

To save the LIVE datalogs for later review, go to FILE and then select SAVE RECORD TO, SAVE FILE AS or EXPORT FILE and then follow HE Manager's prompts.

Playback

An HE Manager log file may be played back at any time.

While in IDLE Mode, *double-click* on a Tricorder icon. The FIFO data will be displayed. Go to FILE, select PLAYBACK and then OPEN FILE. Select the log file you wish to view and then OPEN.

The logged data is presented in a graphics format. If the displayed log is an L1 or L2 plan or Channel, the video channels will be in BLUE and the audio channels in GREEN. As in LIVE Mode, you can go to VIEW and select ZOOM IN for a closer look at the graphic presentation. You may also select TEXT to see the presentation in a table format. You can step to each record in the log file by *clicking* on the arrows in the PLAYBACK CONTROL.

NOTE: The FIFO record files can also be viewed from the Tricorder Information screen in IDLE Mode. Go to FILE, select FIFO and then select SHOW RECORD CONTROL.

When viewing a graph of FIFO data or a log file, the display for any data which exceeds the set limits for that Tricorder will alternate between the measured value and the required value to be within the limits designated in RED.



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