46081
TBOS TEST SET SOFTWARE

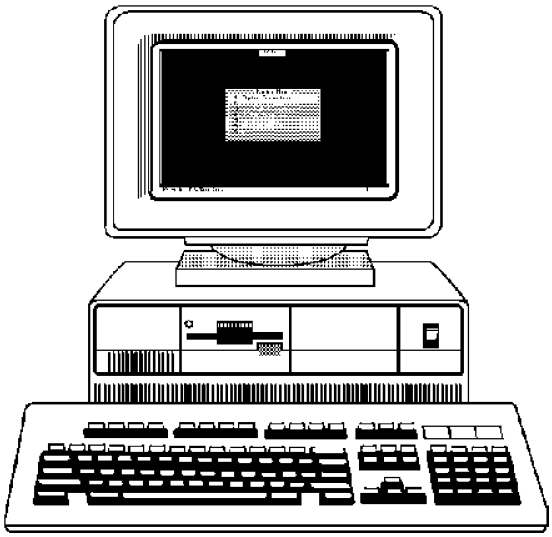


Table of Contents

Ordering Information 2
Installation 2
Getting Started 4
Interrogator Mode 6
Responder Mode 17
Monitor Mode 26
Terminal Emulator 34
Troubleshooting 35
Warranty 38

About this Practice:

This practice has been reissued to:

- Meet ISO 9001 requirements.

Reissued Practices: Updated and new content can be identified by a banner in the right margin.

UPDATED

Previous issue: February 1996

CAUTION

- Install or remove modules from the shelf only when the power is off. If you install a module in the shelf with the power on, the internal circuitry may suffer damage and the product warranty will be void.
- Remove and install circuit boards only in a static-safe environment (use antistatic wrist straps, smocks, footwear, etc.).
- Keep circuit boards in their antistatic bags when they are not in use.
- Do not ship or store circuit boards near strong electrostatic, electromagnetic, magnetic, or radioactive fields.
- For more complete information on electrostatic discharge safety precautions, refer to Bellcore™ Technical Reference # TR-NWT-000870.

ORDERING INFORMATION

NOTE: This section lists the different options available for this product. To order any of the available options, contact Dantel Inside Sales through our toll-free number, **1-800-432-6835.**

OPTION NUMBER	FEATURES
A22-46081-02	TBOS Test Set Software

INSTALLATION

This chapter explains how to install the 46081 TBOS Test Set software on your computer.

This software operates under Microsoft® Windows. It will work with either Windows 3.1 or Windows 95.

There are two sections to this chapter: one for installing the TBOS Test Set software with a mouse, and one for installing the software without a mouse. Go to the appropriate section.

INSTALLATION WITH A MOUSE

To install the TBOS Test Set software:

NOTE: *Windows must be installed on your computer. This manual assumes that you are familiar with how to use Windows.*

1. Open Windows.
2. Open the Program Manager, if it is not already open.

NOTE: *Make sure all other Windows programs are closed. The installation program may require system resources used by other programs and may upgrade some files. Any upgrades should not affect the operation of any of your Windows programs.*

3. The TBOS Test Set software is on two disks. Insert disk 1 into one of the diskette drives of your computer.
4. Open the *File* menu.
5. Click the *Run* command.
6. In the Command Line type the letter of the drive where you installed the disk (either drive A or B). Then type a colon, a backslash (\) and *setup.exe*. For example, type **B:\setup.exe**
7. Click OK.
8. Follow the instructions on the screen for installing the software. The software will be installed in the default directory of C:\Dantel\TBOS, unless you specify a different directory.

CAUTION:
Make sure you install the program in a new directory. Do not install the program in an existing directory.

CONTINUED . . .

NOTE: *Disk 2 may install in a couple of seconds, and you may think there is a problem. Actually there may not be a problem. It could mean the files on disk 2 are already installed by other programs, such as Dantel's E2A Test Set software.*

9. When the installation is complete, store the disks in a safe place.

INSTALLATION WITHOUT A MOUSE

To install the TBOS Test Set software:

NOTE: *Windows must be installed on your computer. This manual assumes that you are familiar with how to use Windows.*

1. Open Windows.
2. Open the Program Manager, if it is not already open. To open the Program Manager, hold down the Alt key and press the Tab key repeatedly until the Program Manager program appears in the window. Then release the Alt key.

NOTE: *Make sure all other Windows programs are closed. The installation program may require system resources used by other programs and may upgrade some files. Any upgrades should not affect the operation of any of your Windows programs.*

3. The TBOS Test Set software is on two disks. Insert disk 1 into one of the diskette drives of your computer.
4. Open the *File* menu (Alt+F).
5. Select the *Run* command (press R).
6. In the Command Line type the letter of the drive where you installed the disk (either drive A or B). Then type a colon, a backslash (\) and *setup.exe*. For example, type **B:\setup.exe**
7. Press Enter.
8. Follow the instructions on the screen for installing the software. The software will be installed in the default directory of C:\Dantel\TBOS, unless you specify a different directory.

CAUTION:
Make sure you install the program in a new directory. Do not install the program in an existing directory.

NOTE: *Disk 2 may install in a couple of seconds, and you may think there is a problem. Actually there may not be a problem. It could mean the files on disk 2 are already installed by other programs, such as Dantel's E2A Test Set software.*

9. When the installation is complete, store the disks in a safe place.

GETTING STARTED

The TBOS Test Set software is a program that tests alarm and control equipment that uses TBOS protocol.

EQUIPMENT CONNECTION

To test the equipment the computer must be connected to Dantel's 00459 Test Set.

To connect the computer to the Test Set:

Follow the instructions in the Installation and Operation Practice for the 00458 and 00459 Test Sets.

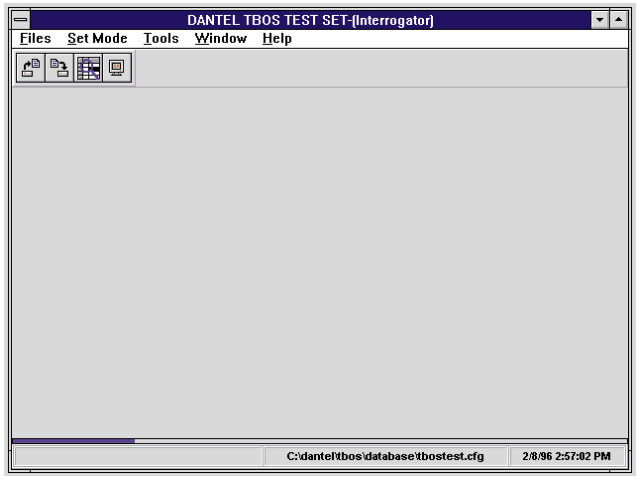
SOFTWARE START-UP

You can open the TBOS Test Set software program with or without a mouse. Go to the appropriate section.

OPENING THE SOFTWARE WITH A MOUSE

To open the TBOS Test Set software program:

1. Open Windows.
2. Open the Program Manager, if it is not already open.
3. Open the Dantel Software group window, if it is not already open.
4. Double-click the *TBOS Test Set* icon to start the program. The Dantel TBOS Test Set screen appears.



5. In the menu bar, click *Set Mode.*

CONTINUED . . .

6. In the Set Mode menu, click either the Interrogator, Responder, or Monitor mode, depending on how you want to use your test set. Here are explanations of the three modes:

   Interrogator Mode - In this mode the test set emulates an TBOS system interrogator and Interrogates (polls) the rest of the system for testing or troubleshooting.

   Responder Mode - In this mode the test set acts as a remote device (Responder) to test or troubleshoot polls from the TBOS system interrogator.

   Monitor Mode - In this mode both the transmit and receive paths can be monitored between the TBOS center and remote office. Communications are not interrupted.

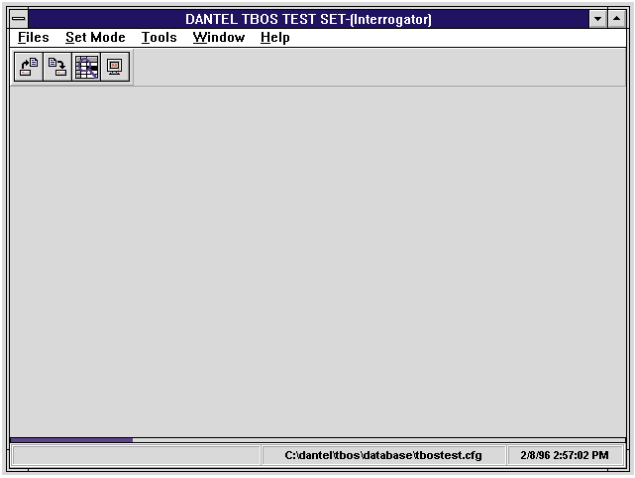
   For typical applications showing the three modes of operation, refer to the 00458/00459 Test Sets practice.

7. Go to the chapter for the mode you selected.

OPENING THE SOFTWARE WITHOUT A MOUSE

To open the TBOS Test Set software program:

1. Open Windows.
2. Open the Program Manager, if it is not already open. To open the Program Manager, hold down the Alt key and press the Tab key repeatedly until the Program Manager program appears in the window. Then release the Alt key.
3. Open the Dantel Software group window, if it is not already open. To open the group window, hold down the Ctrl key and press the Tab key repeatedly until the window is highlighted. Then press Enter.
4. Use the arrow keys to highlight the *TBOS Test Set* icon.
5. Press Enter to start the program. The Dantel TBOS Test Set screen appears.



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GETTING STARTED

6. If you are not using a mouse and the keys are not active when you try to select a Menu Bar item, press Alt+Tab keys and repeat until the TBOS box appears in the screen. The Title Bar assumes the color for the active window and the program focuses on the current screen.

7. In the menu bar, open the *Set Mode* menu (Alt+S).

8. In the Set Mode menu, select either the Interrogator (press I), Responder (press R), or Monitor mode (press M), depending on how you want to use your test set. Here are explanations of the three modes:

   Interrogator Mode - In this mode the test set emulates an interrogator and interrogates (polls) the rest of the system for testing or troubleshooting.

   Responder Mode - In this mode the test set acts as a remote device (Responder) to test or troubleshoot polls from a TBOS interrogator

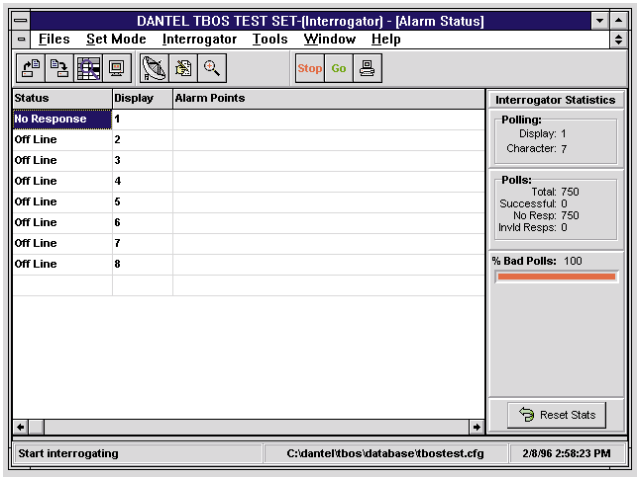
   Monitor Mode - In this mode both the transmit and receive paths can be monitored between a TBOS interrogator and responder. Communications are not interrupted.

   For typical applications showing the three modes of operation, refer to the 00458/00459 Test Sets practice.

9. Go to the chapter for the mode you selected.

INTERROGATOR MODE

When you select Interrogator Mode from the Dantel TBOS Test Set screen, the Interrogator - Alarm Status window appears.



INTERROGATOR MODE

The test set automatically begins interrogating (polling) the E-system equipment for alarms. The screen shows the alarm displays that the test set is polling. The bottom line of the screen shows the configuration (.CFG) file that the software is using to poll for alarms.

In this window you can:

- Watch the responses from the alarm displays that the test set polls (refer to ***Polling Alarms*** in this chapter).
- Configure a list of alarm displays to interrogate (refer to ***Configuring a Polling File*** in this chapter).
- Operate controls in the E-system (refer to ***Operating Controls*** in this chapter).
- Analyze the data being transmitted and received (refer to the ***Troubleshooting*** chapter).
- Use a terminal emulator (refer to the ***Terminal*** chapter).

MENU BAR

Here are descriptions of the items on the menu bar.

Files

Open - Opens a different configuration file. Each configuration file contains the communications, protocol, and alarm polling parameters for interrogating a system. The file that is open is the one the test set is using.

Save - Saves the changes that you make to a configuration file.

Save As - Creates a new configuration file.

Exit - Exits the test set software program.

Set Mode

Interrogator - Changes the operation of the test set to the Interrogator Mode.

Responder - Changes the operation of the test set to the Responder Mode.

Monitor - Changes the operation of the test set to the Monitor Mode.

Not Configured - When the program first initiates there is no configuration in the system for Interrogation, Responder or Monitor Mode. This is an information message only.

Configuration Summary - Gives a quick summary of the Communications setup, the Polling setup and other information. This is an information screen only and no parameters can be changed on it.

Interrogator

Configure - Changes an existing configuration file or creates a new configuration file. A configuration file includes the communications and protocol parameters, and the list of alarm displays that the test set will use to poll a system.

Start/Stop - Starts or stops the alarm polling.

Control Status - Allows you to operate control points, and displays the status of control points that you have operated.

History - Displays a history of all alarms.

Hide Statistics - Hides the interrogator statistics that are displayed on the right side of the screen. If the statistics are hidden, selecting this option displays the statistics.

Reset Statistics - Resets the interrogator statistics counters to zero. The interrogator statistics appear on the right side of the screen and show what is happening during the polling.

Close - Closes the Interrogator window.

Tools

Protocol Analyzer - Activates the protocol analyzer that displays the data being transmitted and received during alarm polling. The data is displayed in hexadecimal or English format.

Editor - Opens Microsoft Windows Write or WordPad.

Terminal - Opens the Windows terminal emulator.

Window

When you have more than one window open, you can use the commands below to display all of them. All the open windows are listed below the *Tile Cascade* command.

Tile Horizontal - Displays all open windows horizontally across the screen.

Tile Vertical - Displays all open windows vertically on the screen.

Tile Cascade - Displays all open windows on top of each other.

Help

Provides information to help you use this software.

TOOL BAR

The tool bar is located below the menu bar and contains a row of icons that you can use to select many of the options in the Interrogator Mode.

***NOTE**: You need a mouse to use the tool bar. If you are not using a mouse, you can activate all the commands from the menu bar.*

Here are the functions of the Tool Bar buttons:

Load Database - Opens a different configuration file. Each configuration file contains the communications, protocol, and alarm polling parameters for interrogating a system. The file that is open is the one the test set is using.

Save Database - Saves the changes that you make to a configuration file.

Configuration Summary - Displays the current configuration parameters. You can not change the parameters. To change to the parameters, click the *Communications Setup*, *Polling Parameters*, or *Polled Device List* icons.

Terminal Emulator - Opens the terminal emulator in your Windows program.

Communications Setup - Allows you to change the communications parameters of an existing configuration file or to choose the parameters for a new file.

Polling Parameters - Allows you to change the protocol parameters of an existing configuration file or to choose the parameters for a new file.

Protocol Analyzer - Activates the protocol analyzer that displays the data being transmitted and received during alarm polling. The data is displayed in hexadecimal format.

Stop - Stops alarm polling.

Go - Starts alarm polling.

Controls - Opens the control panel window where you can select control points you want to operate. This button becomes active after you select the Control Status option in the Interrogator menu.

CONFIGURING A POLLING FILE

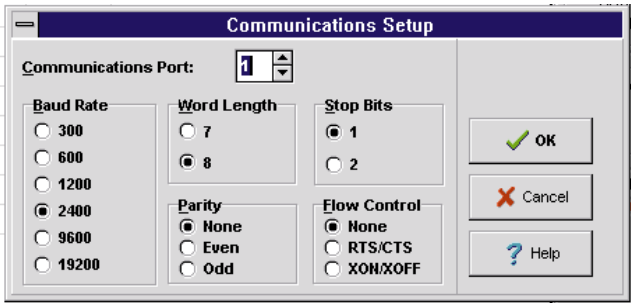
The bottom line of the screen shows the configuration (.CFG) file that the software will use to poll alarms.

TO CHANGE OR CREATE A CONFIGURATION FILE:

NOTE: *A mouse is optional. If you use a mouse, click the button you want to select. If you do not use a mouse, the steps are given in parentheses.*

COMMUNICATIONS SETUP

1. In the menu bar, select *Interrogate* (Alt+I).
2. Select the *Configure* (press G) command.
3. Select the *Communications* (press C) command. The Communications Setup window appears.



NOTE: *If you are not using a mouse and you need to exit (cancel) the window, or if you need help, press the Tab key repeatedly until you highlight the button. Then press Enter.*

4. Set the following communications parameters (the defaults are shown in brackets). When you use Dantel's 00459 Test Set, use the default settings except for the port setting. The port setting can be either 1 or 2, depending on which communications port you want to use on your computer to communicate with the test set.
   - ♦ Communications Port (Alt+C) [1]
   - ♦ Baud (Alt+B) [2400]
   - ♦ Word Length (Alt+W) [8]
   - ♦ Stop Bits (Alt+S) [1]
   - ♦ Parity (Alt+P) [Odd]
   - ♦ Flow Control (Alt+F) [None]

CONTINUED . . .

If you do not have a mouse, use the Tab key to move between fields or buttons and use the arrow keys to move between the selections within a field.

Flow control refers to the type of communications handshaking that will be used between your computer and the test set.

None means that no handshaking controls will be used.

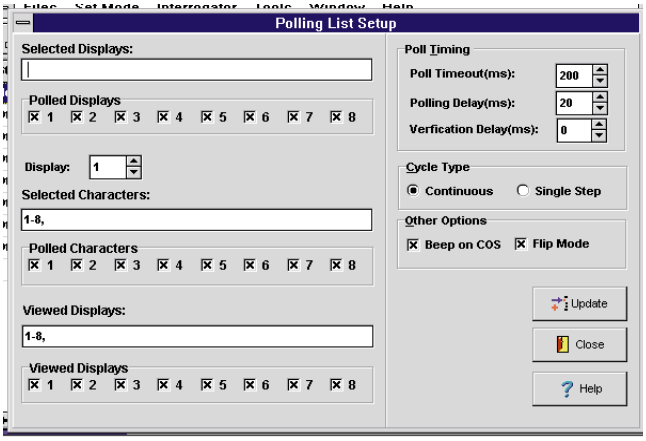
RTS/CTS refers to Request-to-Send and Clear-to-Send controls. These signals are transmitted over dedicated wires between two pieces of communications equipment.

XON/XOFF turns data transmission on and off through a control bit in the data stream.

5. Select *OK* (Enter).

POLLING LIST SETUP

1. In the menu bar, select *Interrogate* (Alt+I).
2. Select the *Configure* (press G) command.
3. Select the *Polling* (press P) command. The Polling List Setup window appears.



NOTE: *If you are not using a mouse and you need to exit (cancel) the window, or if you need help, press the Tab key repeatedly until you highlight the button. Then press Enter.*

Selected Displays

1. Either type the display you want to poll in the *Selected Displays* field or select the displays in the *Polled Displays* field.

   (Use the Tab key to access the fields. In the *Polled Displays* field, use the arrow keys to move to the display numbers, then use the spacebar to select or deselect.)

CONTINUED . . .

Valid entries are 1-8. If you type the displays, use only commas or hyphens between numbers; do not use spaces. Press Enter after typing the displays.

2. Select *Update* (Tab to button, then press Enter).

Selected Characters

1. In the *Display* field, select a display (Tab to field, then use arrow keys).
2. Either type the characters you want polled for the selected display in the *Selected Characters* field or select the characters in the *Polled Characters* field. (Tab to field, then use arrow keys).

   Valid entries are 1-8. If you type the displays, use only commas or hyphens between numbers; do not use spaces. Press Enter after typing the displays.
3. Repeat steps 1 and 2 until you have selected characters for all the displays that you want to poll.
4. Select *Update* (Tab to button, then press Enter).

Viewed Displays

1. Either type the displays you want to view in the *Viewed Displays* field or select the displays in the *Viewed Displays* field (Tab to field, then use arrow keys).

   Valid entries are 1-8. If you type the displays, use only commas or hyphens between numbers; do not use spaces. Press Enter after typing the displays.
2. Select *Update* (Tab to button, then press Enter).

Other Options

1. In the Poll Timing area:

   - Set the poll timeout (Alt+T, then use arrow keys). This is the time in milliseconds that the software will wait for a response after sending out a poll. Acceptable values are 0-9999. The default is 1000 milliseconds.
   - Set the polling delay (Tab, then use arrow keys). This is the time in milliseconds between continuous polls. Acceptable values are 0-9999. The default is 10 milliseconds.
   - Set the verification delay (Tab, then use arrow keys). This is the time in milliseconds between confirmation of errors or alarms. Acceptable values are 0-9999. The default is 0 milliseconds.
2. In the Cycle Type area, select the polling cycle that you want to use (Alt+C, then use arrow keys). Here are descriptions of the cycle types:

   - **Continuous -** The test set continuously polls the alarm displays.

CONTINUED . . .

- **Single Step -** The test set polls the alarm displays one time, then stops.

3. In the Other Options area:
   - **Beep on COS -** Choose whether you want the computer to beep every time there is a change in the status (COS) of an alarm point (Alt+O, then press spacebar).
   - **Flip Mode -** Reverses most significant bit and least significant bit order. Default setting is Flip Mode.
4. Select *Update* (Tab to the button, then press Enter).

SAVING THE FILE

1. Close the Polling List Setup window (Tab to the *Close* button, then press Enter).
2. You have now changed the configuration file, but the changes will remain in effect only as long as you are in the Interrogator Mode.

To save the changes to the existing configuration file:

1. In the menu bar, select *Files* (Alt+F).
2. Select the command *Save* (press S).

To create a new configuration file:

1. In the menu bar, select *Files* (Alt+F).
2. Select the command *Save As* (press A).
3. Type the name for the new file.
4. Select *OK* (Enter).

POLLING ALARMS

The bottom line of the screen shows the configuration (.CFG) file that the software uses to poll alarms.

NOTE: *A mouse is optional. If you use a mouse, select the button you want to select. If you do not use a mouse, follow the instructions in parentheses.*

To select a different configuration file:

1. In the menu bar, select *Files* (Alt+F).
2. Select the *Open* command (press O).
3. Select the file.

To start the alarm polling:

1. If you have not done so, connect your computer to Dantel's 00459 Test Set. Follow the instructions in the Installation and Operation Practice for the 00458 and 00459 Test Sets.
2. In the menu bar, select *Interrogator*, then the *Start/Stop* command, and then *Start* (Alt+I+S+T).

   Hold down the Alt key, press each letter, then release the Alt key.

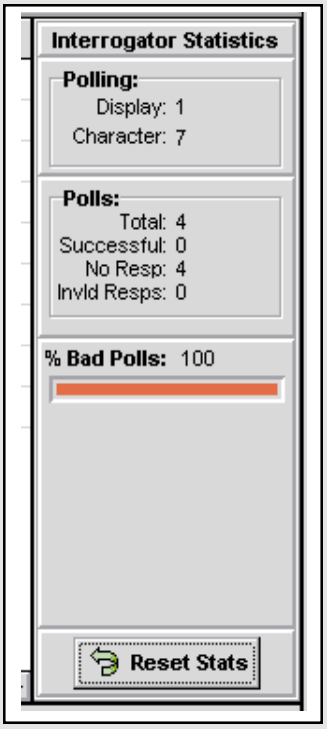
   If you are using continuous polling, the software polls for alarms until you tell it to stop.

   If you are using step polling, the software polls for alarms once, then stops. To poll the alarms again:

   1. Select *Interrogator*, then the *Start/Stop* command, and then *Start* (Alt+I+S+T).
   2. Hold down the Alt key, press each letter, then release the Alt key.

INTERROGATOR STATISTICS

When polling starts, the Interrogator Statistics portion of the alarm screen shows the status of the polling process. To reset the statistics to zero, select *Reset Stats* (Alt+I, then release the Alt key and press R).



Here are descriptions of the Interrogator Statistics:

Now Polling

Display - This is the display the test set is polling.

Character - This is the character within the display that the test set is polling.

Polls

Total - This is the total number of polls that the test set has sent out.

Successful - This is the number polls that have been properly answered.

No Responses - This is the number of polls for which no responses have been received.

Invalid Responses - This is the number of responses that have come back with invalid data.

% Bad Polls

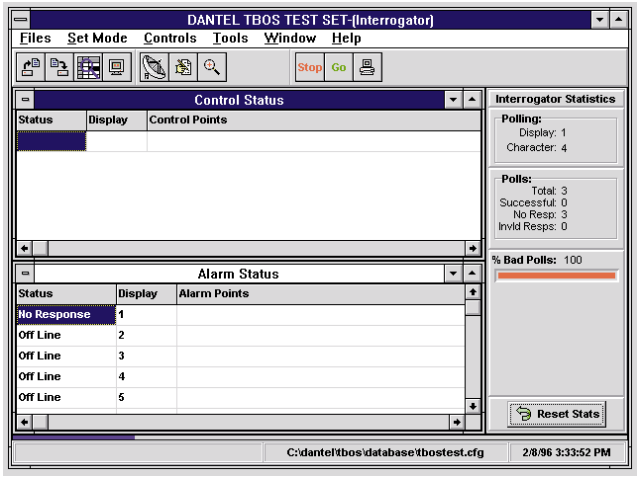
This is the number of no-response polls and invalid polls as a percentage of the total number of polls.

OPERATING CONTROLS

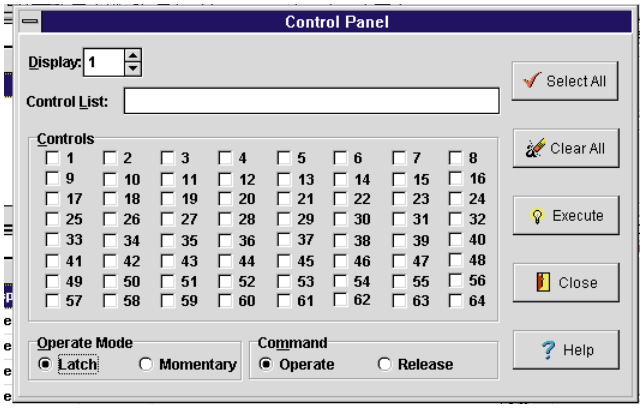
The test set can activate momentary switches or relay latch functions. Switches are momentary in nature and relays can be set to latch or release.

To activate relays:

1. Select Control Status from the Interrogator menu (Alt+I, then press N). The Control Status panel pops up and shows a blank screen with nothing active.



2. Click the Control Panel button or select Control Panel from the Controls menu (Alt+C, then press P). The Control Panel pops up.



CONTROL PANEL

1. Highlight the Display box. (Press Tab until the box is highlighted.) Type in the display or use the up and down arrow keys.
2. Select Operate Mode (Alt+O). Select Latch or Momentary with the arrow keys.
3. Enter desired control numbers, separated by spaces or commas, in the command box (Alt+L).

You can also select control numbers from Controls (Alt+C). Move between addresses with the arrow keys and select or deselect addresses with the space bar.

You can enter more than one control into the Control List at one time. The interrogator sends control commands one after another.

To select all controls click the Select All button. To delete all controls in the Control List, click the Clear All button.

Latch Operation

1. Select Command Mode (Alt+M). Select Operate or Release with the arrow keys. Operate shows the status of chosen latches in the Control Status window. Release does not show latch status.
2. Click the Execute button. (Press Tab until the button is highlighted and press Enter.)
3. Click the Close button.

Momentary Operation

1. Highlight the Display box. (Press Tab until the box is highlighted.) Type in the display number from 1 to 8, or use the up and down arrows.
2. Click the Execute button. (Press Tab until the button is highlighted and press Enter.)
3. Click the Close button.

The Control Status window shows Status, Display and Control points.

Select Close from the Control Panel menu (Alt+C, then press C).

HISTORY LOG

HISTORY - You can save archived information to a log file for further analysis.

1. Select History from the Interrogator menu (Alt+I, then press H). The History window pops up.
2. Select Logging from the History menu, then select Open (Alt+H, then press S, then press O).

CONTINUED . . .

INTERROGATOR MODE

3. The “Save as” window pops up. Enter the path and the eight-letter file name of the log file.
4. Click the OK button.
5. Select Start/Stop from the History menu, then select Start (Alt+H, then press S, then press S).

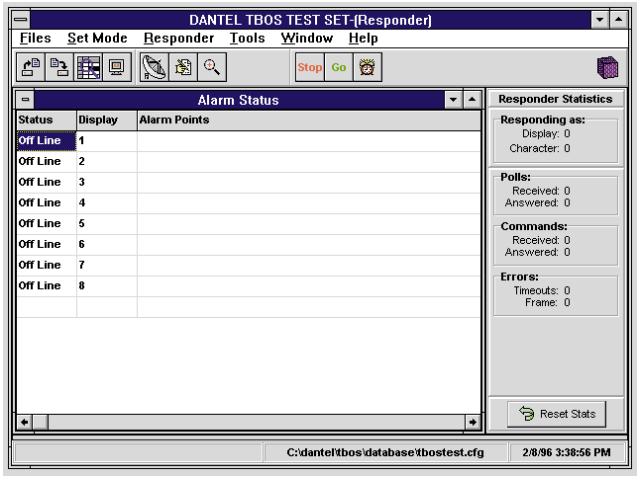
   To stop logging, select Start/Stop from the History menu, then select Stop (Alt+H, then press S, then press T). A confirm logging window pops up. Click the Yes button.

   You can also select Close from the History menu to stop logging. (Alt+H, then press C).

NOTE: *No further information is saved to the log file. You can view the information using Windows Write; select Editor from the Tools menu (Alt+T, then press E). If you want to use your favorite word processor, consult the README file.*

RESPONDER MODE

When you select Responder Mode from the Dantel TBOS Test Set screen, the Responder - Alarm Status window pops up.



RESPONDER MODE

The screen shows alarms displays and alarm points set within the displays. When the E-system equipment polls the test set, the test set shows alarms that are set. The bottom line of the screen shows the configuration (.CFG) file that the software uses to respond to polls.

In this window you can:

- See which alarm points are set in the displays (refer to ***Responding to Polls*** in this chapter).
- Set the alarms the software responds to when it is polled (refer to ***Configuring a Responder File*** in this chapter).
- Analyze the data transmitted and received (refer to the ***Troubleshooting*** chapter).
- Use a terminal emulator (refer to the ***Terminal*** chapter).

MENU BAR

Here are descriptions of each item on the menu bar.

Files

Open - Opens a different configuration file. Each configuration file contains the communications, protocol, and polling parameters that the test set uses when responding to polls.

Save - Saves the changes that you make to a configuration file.

Save As - Creates a new configuration file.

Exit - Exits the test set software program.

Set Mode

Interrogator - Changes test set operation to Interrogator Mode.

Responder - Changes test set operation to Responder Mode.

Monitor - Changes test set operation to Monitor Mode.

Not Configured - When the program first initiates, there is no configuration in the system for Interrogator, Responder, or Monitor Mode. This is just an information message.

Configuration Summary - Displays the current configuration parameters. You can not change the parameters. To change to the parameters, click the *Communications Setup*, *Polling Parameters*, or *Polled Device List* icons.

Responder

Configure - Changes an existing configuration file or creates a new configuration file. A configuration file includes the communications and protocol parameters and the list of alarms.

Filter - Selects the alarm displays the test responds to. The test set ignores polls from any other alarm displays. This is useful when you want to see certain responses.

Start/Stop - Starts or stops responding to polls.

Control Status - Displays the status of control points the interrogator has operated.

History - Displays a history of all alarm responses.

Alarm Panel - Allows you to set the alarm points the test set responds to.

Hide Statistics - Hides the responder statistics displayed on the right side of the screen. If the statistics are hidden, selecting this option displays the statistics.

Reset Statistics - Resets the responder statistics counters to zero. The responder statistics appear on the right side of the screen and show what is happening while polling.

Close - Closes the Responder window.

Tools

Protocol Analyzer - Activates a protocol analyzer that displays the data transmitted and received during an alarm poll. The data is displayed in hexadecimal or English format.

Terminal - Opens the Windows terminal emulator.

Window

When you have more than one window open, you can use the commands below to display all of them. All the open windows are listed below the *Tile Cascade* command.

Tile Horizontal - Displays all open windows horizontally across the screen.

Tile Vertical - Displays all open windows vertically on the screen.

Tile Cascade - Displays all open windows on top of each other.

Help

Provides you with helpful information about this software.

TOOL BAR

The tool bar is located below the menu bar and contains a row of icons to select many of the options in Interrogator Mode.

NOTE: *You need a mouse to use the tool bar. If you are not using a mouse, you can activate all tool bar commands from the menu bar.*

Here are the functions of the icons:

Load Database - Opens a different configuration file. Each configuration file contains the communications, protocol, and alarms for responding to a poll. The open file is the one the test set is using.

Save Database - Saves the changes you make to a configuration file.

Configuration Summary - Displays the current configuration parameters. To change the parameters, click the *Communications Setup, Polling Parameters,* or *Polled Device List* icons.

Terminal Emulator - Opens the terminal emulator in your Windows program.

Communications Setup - Changes the communications parameters of an existing configuration file or chooses the parameters for a new file.

Polling Parameters - Changes the protocol parameters of an existing configuration file or chooses the parameters for a new file.

Protocol Analyzer - Activates the protocol analyzer that displays the data transmitted and received during an alarm poll. The data is displayed in hexadecimal or English format.

Stop - Stops responding to polls.

Go - Starts responding to polls.

Alarms - Opens the alarm panel window where you can set alarms.

CONFIGURING A RESPONDER FILE

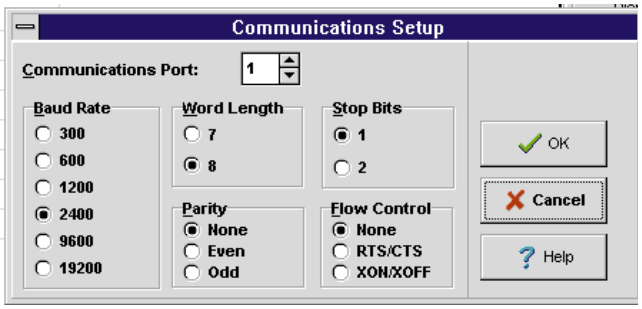
The bottom line of the screen shows the configuration (.CFG) file that the software will use to respond to alarm polls.

COMMUNICATIONS SETUP

NOTE: *A mouse is optional. If you use a mouse, click on the button you want to select. If you do not use a mouse, follow the instructions in parentheses.*

Configure the test set to respond to the alarm displays that the E-System equipment interrogates.

1. Select *Responder* from the menu bar (Alt+R).
2. Select *Configure* (press G).
3. Select *Communications* (press C). The Communications Setup window pops up.



NOTE: *If you are not using a mouse and you need to exit (cancel) the window, or if you need help, press the Tab key repeatedly until you highlight the button. Then press Enter.*

4. Select the following communications parameters (the defaults are shown in brackets). When you use Dantel's 00459 Test Set, use the default settings except for the port setting. The port setting can be 1 or 2, depending on which communications port you use on your computer.

   Communications Port (Alt+C) [1]

   - Baud (Alt+B) [2400]
   - Word Length (Alt+W) [8]
   - Stop Bits (Alt+S) [1]
   - Parity (Alt+P) [Odd]
   - Flow Control (Alt+F) [None]

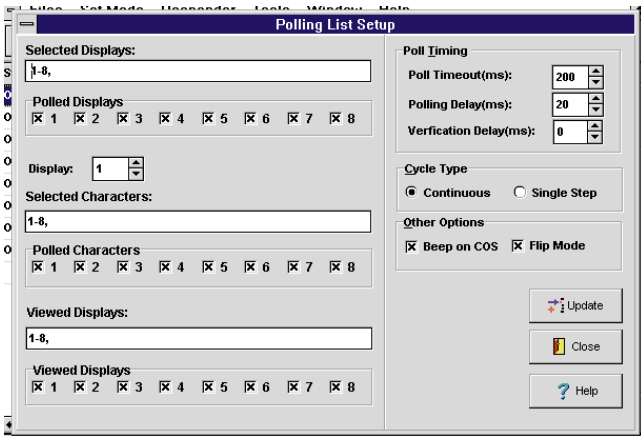
CONTINUED . . .

If you do not have a mouse, move between selections within a field with the arrow keys.

Flow control refers to the type of communications handshaking that is used between your computer and the test set.

- **None** means that no handshaking controls are used.
- **RTS/CTS** refers to Request-to-Send and Clear-to-Send controls. These signals are transmitted over dedicated wires between two pieces of communications equipment.
- **XON/XOFF** turns data transmission on and off through a control bit in the data stream.

5. Click the *OK* button (Enter).



POLLING LIST SETUP

1. In the menu bar, select *Responder* (Alt+R).
2. Select the *Configure* (press G) command.
3. Select the *Polling* (press P) command. The Polling List Setup window appears.

NOTE: *If you are not using a mouse and you need to exit (cancel) the window, or if you need help, press the Tab key repeatedly until you highlight the button. Then press Enter.*

Selected Displays

1. Either type the display you want to poll in the *Selected Displays* field or select the displays in the *Polled Displays* field.

   (Use the Tab key to access the fields. In the *Polled Displays* field, use the arrow keys to move to the display numbers, then use the spacebar to select or deselect.)

CONTINUED . . .

Valid entries are 1-8. If you type the displays, use only commas or hyphens between numbers; do not use spaces.

2. Select *Update* (Tab to button, then press Enter).

Selected Characters

1. In the *Display* field, select a display (Tab to field, then use arrow keys).
2. Either type the characters you want polled for the selected display in the *Selected Characters* field or select the characters in the *Polled Characters* field. (Tab to field, then use arrow keys).

   Valid entries are 1-8. If you type the displays, use only commas or hyphens between numbers; do not use spaces.
3. Repeat steps 1 and 2 until you have selected characters for all the displays that you want to poll.
4. Select *Update* (Tab to button, then press Enter).

Viewed Displays

1. Either type the displays you want to view in the *Viewed Displays* field or select the displays in the *Viewed Displays* field (Tab to field, then use arrow keys).

   Valid entries are 1-8. If you type the displays, use only commas or hyphens between numbers; do not use spaces.
2. Select *Update* (Tab to button, then press Enter).

Other Options

1. In the Poll Timing area:

   - Set the poll timeout (Alt+T, then use arrow keys). This is the time in milliseconds that the software will wait for a response after sending out a poll. Acceptable values are 0-9999. The default is 1000 milliseconds.
   - Set the polling delay (Tab, then use arrow keys). This is the time in milliseconds between continuous polls. Acceptable values are 0-9999. The default is 10 milliseconds.
   - Set the verification delay (Tab, then use arrow keys). This is the time in milliseconds between confirmation of errors or alarms. Acceptable values are 0-9999. The default is 0 milliseconds.
2. In the Cycle Type area, select the polling cycle that you want to use (Alt+C, then use arrow keys). Here are descriptions of the cycle types:

   Continuous - The test set continuously polls the alarm displays.

   Single Step - The test set polls the alarm displays one time, then stops.

CONTINUED . . .

3. In the Other Options area:
   - **Beep on COS -** Choose whether you want the computer to beep every time there is a change in the status (COS) of an alarm point (Alt+O, then press spacebar).
   - **Flip Mode -** Reverses most significant bit and least significant bit order. Default setting is Flip Mode.
4. Select *Update* (Tab to the button, then press Enter).

SAVING THE FILE

1. Close the Polling List Setup window (Tab to the *Close* button, then press Enter).
2. You have now changed the configuration file, but the changes will remain in effect only as long as you are in the Responder Mode.

To save the changes to the existing configuration file:

- In the menu bar, select *Files* (Alt+F).
- Select the command *Save* (press S).

To create a new configuration file:

- In the menu bar, select *Files* (Alt+F).
- Select the command *Save As* (press A).
- Type the name for the new file.
- Select *OK* (Enter).

RESPONDING TO POLLS

The bottom line of the screen shows the configuration (.CFG) file that the software will use to respond to polls.

NOTE: *A mouse is optional. If you use a mouse, click on the button you want to select. If you do not use a mouse, follow the instructions in parentheses.*

To select a different configuration file:

1. In the menu bar, select *Files* (Alt+F).
2. Select the *Open* command (press O).
3. Select the file.

To start responding to polls:

1. If you have not done so, connect your computer to Dantel's 00459 Test Set. Follow the instructions in the 00458/00459 Test Set practice.

CONTINUED . . .

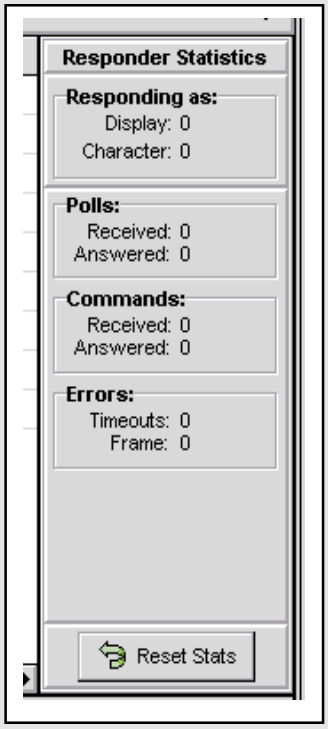
2. In the menu bar, select *Responder*, then the *Start/Stop* command, and then *Start* (Hold down the Alt key. Press R, then press S, then press T. Release the Alt key.)

   If you are using continuous polling, the software responds to alarms until you tell it to stop.

RESPONDER STATISTICS

When responding starts, the Responder Statistics portion of the alarm screen shows the status of the polling process. To reset the statistics to zero, select *Reset Stats* (Alt+R, then release the Alt key and press E).

Here are descriptions of the Responder Statistics:



Now Responding

Display - The display within the E-system address that is responding.

Character - The character within the display that the software is polling.

Polls

Received - The total number of polls that the software has received.

Answered - The number of polls that have been answered.

Commands

Received - The total number of valid commands that the software has received.

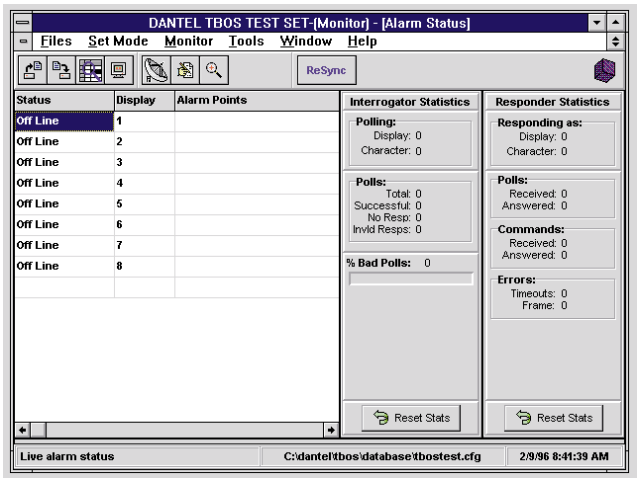
Answered - The number of valid commands that have been answered.

Errors

Timeout - The number of times there have been no responses to polls.

Frame - TBOS Framing error detected.

When you select Monitor Mode from the Dantel TBOS Test Set screen, the Monitor - Alarm Status window appears.



The screen shows the alarm displays that the test set monitors when polling starts. The bottom line of the screen shows the configuration (.CFG) file that the software uses to monitor alarms.

In this window you can do the following:

- Observe the alarm displays that the test set monitors (refer to ***Monitoring Alarms*** in this chapter).
- Configure a list of alarm displays to monitor (refer to ***Configuring a Monitoring File*** in this chapter).
- Analyze the data being transmitted and received (refer to the ***Troubleshooting*** chapter).
- Use a terminal emulator (refer to the ***Terminal*** chapter).

MENU BAR

Here are descriptions of the items on the menu bar:

Files

Open - Opens a different existing configuration file. Each configuration file contains the communications, protocol, and polling parameters that the test set uses to monitor a system.

Save - Saves the changes you make to a configuration file.

Save As - Creates a new configuration file.

Exit - Exits the test set software program.

Set Mode

Interrogator - Changes the operation of the test set to the Interrogator Mode.

Responder - Changes the operation of the test set to the Responder Mode.

Monitor - Changes the operation of the test set to the Monitor Mode.

Not Configured - When the program first initiates, there is no configuration in the system for Interrogator, Responder, or Monitor Mode. This is just an information message.

Configuration Summary - Displays the current configuration parameters. You can not change the parameters. To change to the parameters, click the *Communications Setup, Polling Parameters,* or *Polled Device List* icons.

Monitor

Configure - Changes an existing configuration file or creates a new configuration file. A configuration file includes the communications and protocol parameters, and the list of alarm points the test set uses to monitor a system.

Filter - Allows you to select which alarms you want to monitor when you do not want to see all the alarms in the polling list.

Start/Stop - Starts or stops the alarm monitoring.

Control Status - Displays the status of control points.

History - Displays a history of all alarms.

Hide Statistics - Hides the interrogator and responder statistics displayed on the right side of the screen. If the statistics are hidden, select this option to display the statistics.

Reset Statistics - Resets the statistics counters to zero. Statistics appear on the screen to show what is happening during alarm polling.

Close - Closes the Monitor menu.

Tools

Protocol Analyzer - Activates a protocol analyzer that displays the data being transmitted and received during alarm polling. The data is displayed in hexadecimal or English format.

Editor - Opens Microsoft Windows Write or WordPad.

Terminal - Opens the Windows terminal emulator.

Window

When you have more than one window open, you can use the commands below to display all of them. All the open windows are listed below the *Tile Cascade* command.

Tile Horizontal - Displays all open windows horizontally across the screen.

Tile Vertical - Displays all open windows vertically on the screen.

Tile Cascade - Displays all open windows on top of each other.

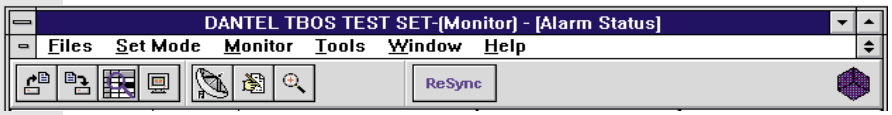
Help

Provides information to help you use this software.

TOOL BAR

The tool bar is located below the menu bar and contains a row of icons that use can use to select many of the options in the interrogator mode.

NOTE: *You need a mouse to use the tool bar. If you are not using a mouse, you can activate all tool bar commands from the menu bar.*



Here are the functions of the icons:

Load Database - Opens a different configuration file. Each configuration file contains the communications, protocol, and alarm polling parameters for interrogating a system. The open file is the one the test set is using.

Save Database - Saves the changes you make to a configuration file.

Configuration Summary - Displays the current configuration parameters. You can not change the parameters. To change to the parameters, click the *Communications Setup, Polling Parameters,* or *Polled Device List* icons.

Terminal Emulator - Opens the terminal emulator in your Windows program.

Communications Setup - Allows you to change the communications parameters of an existing configuration file or to choose the parameters for a new file.

Polling Parameters - Allows you to change the protocol parameters of an existing configuration file or to choose the parameters for a new file.

Protocol Analyzer - Activates the protocol analyzer that displays the data being transmitted and received during alarm polling. The data is displayed in hexadecimal or English format.

ReSync - Manually resets polling synchronization and allows for shifting of framing window. TBOS does not support framing between commands.

CONFIGURING A MONITORING FILE

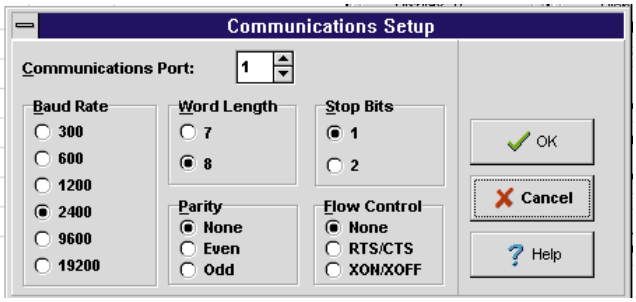
The bottom line of the screen shows the configuration (.CFG) file that the software will use to monitor alarms.

TO CHANGE OR CREATE A CONFIGURATION FILE:

NOTE: *A mouse is optional. If you use a mouse, click on the button you want to select. If you do not use a mouse, follow the instructions in parentheses.*

COMMUNICATIONS SETUP

1. In the menu bar, select *Monitor* (Alt+M).
2. Select the *Configure* (press G) command.
3. Select the *Communications* (press C) command. The Communications Setup window appears.



NOTE: If you are not using a mouse and you need to exit (cancel) the window, or if you need help, press the Tab key repeatedly until you highlight the button. Then press Enter.

4. Set the following communications parameters (the defaults are shown in brackets). When you use Dantel's 00459 Test Set, use the default settings except for the port setting.

CONTINUED . . .

The port setting can be either 1 or 2, depending on which communications port you want to use on your computer to communicate with the test set.

- Communications Port (Alt+C) [1]
- Baud (Alt+B) [2400]
- Word Length (Alt+W) [8]
- Stop Bits (Alt+S) [1]
- Parity (Alt+P) [Odd]
- Flow Control (Alt+F) [None]

If you do not have a mouse, use the arrow keys to move between selections within a field.

Flow control refers to the type of communications handshaking that will be used between your computer and the test set.

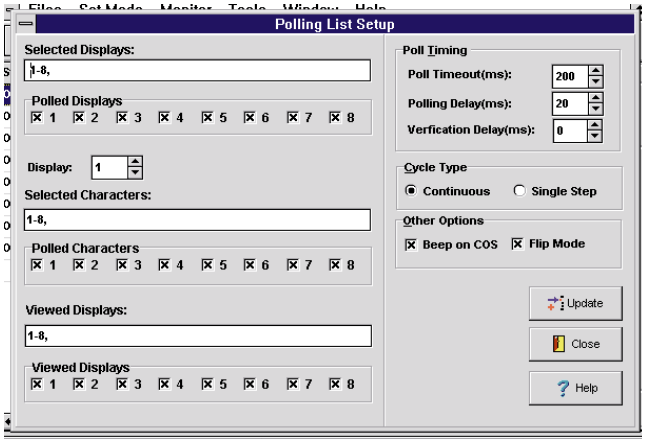
None means that no handshaking controls will be used.

- **RTS/CTS** refers to Request-to-Send and Clear-to-Send controls. These signals are transmitted over dedicated wires between two pieces of communications equipment.
- **XON/XOFF** turns data transmission on and off through a control bit in the data stream.

5. Select *OK* (Enter).

POLLING LIST SETUP

1. In the menu bar, select *Interrogate* (Alt+M).
2. Select the *Configure* (press G) command.
3. Select the *Polling* (press P) command. The Polling List Setup window appears.



NOTE: *If you are not using a mouse and you need to exit (cancel) the window, or if you need help, press the Tab key repeatedly until you highlight the button. Then press Enter.*

Selected Displays

1. Either type the display you want to poll in the *Selected Displays* field or select the displays in the *Polled Displays* field.

   (Use the Tab key to access the fields. In the *Polled Displays* field, use the arrow keys to move to the display numbers, then use the spacebar to select or deselect.)

   Valid entries are 1-8. If you type the displays, use only commas or hyphens between numbers; do not use spaces.

2. Select *Update* (Tab to button, then press Enter).

Selected Characters

1. In the *Display* field, select a display (Tab to field, then use arrow keys).
2. Either type the characters you want polled for the selected display in the *Selected Characters* field or select the characters in the *Polled Characters* field. (Tab to field, then use arrow keys).

   Valid entries are 1-8. If you type the displays, use only commas or hyphens between numbers; do not use spaces.

3. Repeat steps 1 and 2 until you have selected characters for all the displays that you want to poll.
4. Select *Update* (Tab to button, then press Enter).

Viewed Displays

1. Either type the displays you want to view in the *Viewed Displays* field or select the displays in the *Viewed Displays* field (Tab to field, then use arrow keys).

   Valid entries are 1-8. If you type the displays, use only commas or hyphens between numbers; do not use spaces.

2. Select *Update* (Tab to button, then press Enter).

Other Options

1. In the Poll Timing area:

   - Set the poll timeout (Alt+T, then use arrow keys). This is the time in milliseconds that the software will wait for a response after sending out a poll. Acceptable values are 0-9999. The default is1000 milliseconds.
   - Set the polling delay (Tab, then use arrow keys). This is the time in milliseconds between continuous polls. Acceptable values are 0-9999. The default is 1000 milliseconds.
   - Set the verification delay (Tab, then use arrow keys). This is the time in milliseconds between confirmation of errors or alarms. Acceptable values are 0-9999. The default is 0 milliseconds.

CONTINUED . . .

2. In the Cycle Type area, select the polling cycle that you want to use (Alt+C, then use arrow keys). Here are descriptions of the cycle types:

   Continuous - The test set continuously polls the alarm displays.

   Single Step - The test set polls the alarm displays one time, then stops.

3. In the Other Options area:

   - **Beep on COS -** Choose whether you want the computer to beep every time there is a change in the status (COS) of an alarm point (Alt+O, then press spacebar).
   - **Flip Mode -** Reverses most significant bit and least significant bit order. Default setting is Flip Mode.

4. Select *Update* (Tab to the button, then press Enter).

SAVING THE FILE

1. Close the Polling List Setup window (Tab to the *Close* button, then press Enter).
2. You have now changed the configuration file, but the changes will remain in effect only as long as you are in the Monitor Mode.

To save the changes to the existing configuration file:

- In the menu bar, select *Files* (Alt+F).
- Select the command *Save* (press S).

To create a new configuration file:

- In the menu bar, select *Files* (Alt+F).
- Select the command *Save As* (press A).
- Type the name for the new file.
- Select *OK* (Enter).

MONITORING ALARMS

The bottom line of the screen shows the configuration (.CFG) file that the software will use to monitor alarms.

NOTE: *A mouse is optional. If you use a mouse, click on the button you want to select. If you do not use a mouse, follow the instructions in parentheses.*

To select a different configuration file:

1. In the menu bar, select *Files* (Alt+F).
2. Select the *Open* command (press O).
3. Select the file.

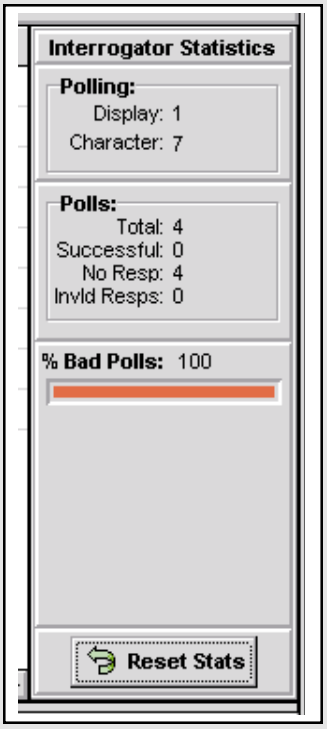
To start the alarm monitoring:

If you have not done so, connect your computer to Dantel's 00459 Test Set. Follow the instructions in the 00458/00459 Test Set practice.

MONITOR STATISTICS

POLLING

When polling starts, the Interrogator Statistics portion of the alarm screen shows the status of the polling process. To reset the statistics to zero, select *Reset Stats* (Alt+M, then release the Alt key and press R).



Here are descriptions of the Interrogator Statistics:

Polling

Display - The display within the E-system address being polled.

Character - The character within the display that the software is polling.

Polls

Total - The total number of polls the interrogator has sent.

Successful - The number polls that have been properly answered.

No Responses - The number of polls for which no responses have been received.

Invalid Responses - The number of responses that have come back with invalid data.

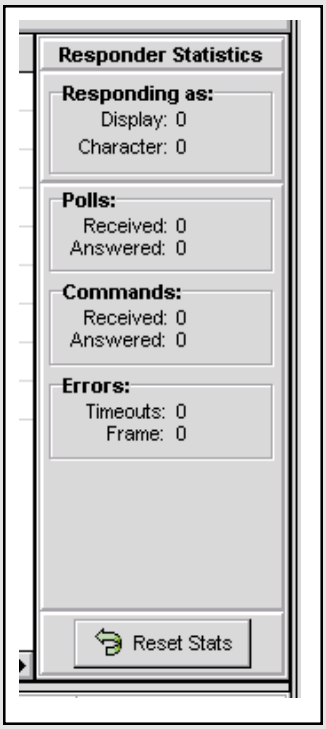
Errors

New Frames - This error occurs when a new request to poll alarms is issued before all the data from the last polling request is received.

% Bad Polls

The number of no-response polls and invalid polls as a percentage of the total number of polls.

MONITOR MODE



RESPONDING

When responding starts, the Responder Statistics portion of the alarm screen shows the status of the polling process. To reset the statistics to zero, select *Reset Stats* (Alt+R, then release the Alt key and press E).

Here are descriptions of the Responder Statistics:

Responding as

Display - The display within the E-system address that is responding.

Character - The character within the display that the software is polling.

Polls

Received - The total number of polls that the software has received.

Answered - The number of polls that have been answered.

Commands

Received - The total number of valid commands that the software has received.

Answered - The number of valid commands that have been answered.

Errors

Timeout - The number of times there have been no responses to polls.

Frame - TBOS Framing error detected.

TERMINAL EMULATOR

Although it is not required to operate the 00459 Test Set, the test set software offers a terminal emulator. This allows you to use the software in situations where you do not need the test set, but do require a dumb terminal.

You can access the terminal emulator from the Interrogator, Responder, or Monitor windows.

To open the terminal emulator:

1. In the menu bar, select Tools (Alt+T).
2. Press T.
3. The terminal emulator is actually part of your Windows program. To use it, refer to your documentation for Windows.

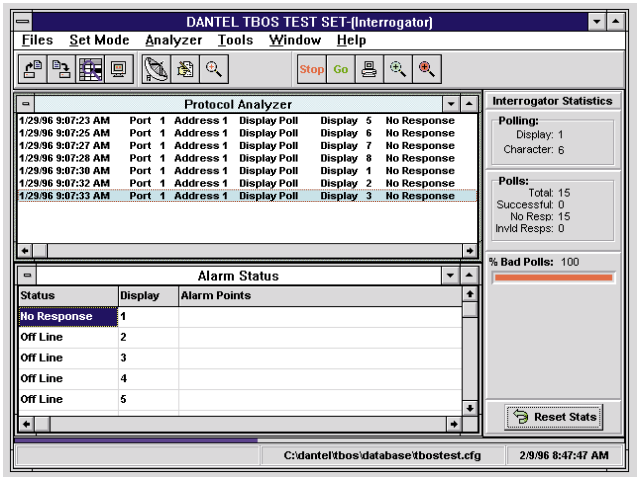
If you need to look at the data being sent between the test set and the E-system equipment, use the protocol analyzer.

You can access the analyzer from the Interrogator, Responder, or Monitor windows.

To open the protocol analyzer:

1. In the menu bar, select Tools (Alt+T).
2. Press P.

The data is displayed in hexadecimal or English format. To change between English and hexadecimal select Analyzer, then Mode, then English or Raw. (Alt+A, then press M, then press E or R).



Starting the Analyzer

1. Select the Analyzer on the Tool bar.
2. Select Start/Stop on the Expanded Tool bar.
3. Select Start on the next Expanded level of the Tool bar. (Alt+A, then press S, then press S.)

There are two Buttons on the menu bar you can use to start and stop the Analyzer. If you are using a mouse, click on the Start button.

Stopping the Analyzer

1. Select the Analyzer on the Tool bar.
2. Select Start/Stop on the Expanded Tool bar.
3. Select Stop on the next Expanded level of the Tool bar (Alt+A, then press S, then press T.)

Closing the Analyzer Mode

Select Analyzer on the Tool bar, then select Close. (Alt+A, then press C.)

If you select a choice on the Set Mode on the Tool bar, it will also close the Analyzer**.**

Logging Analyzer information

When the analyzer is up and running you can save the analyzer information to a log file for further analysis.

Logging - Enter the Analyzer Mode on the tool bar, select Logging and then select Open. (Alt+A, then press L, then press O.)

The Save as window appears and you select the path and the file name where you want the log file to be saved. The extension for the file is .AFG After you enter the path and name, select the OK button. The log file is now open and any data coming into the analyzer is written to the log file.

If you go into the Analyzer Mode and stop the Analyzer, the log file will still be open but no information will be written to it. (Alt+A, then press S, then press T.)

If you start the Analyzer, it starts the log file. (Alt+A, then press S, then press S.)

Closing the Logging file - Enter the Analyzer Mode on the tool bar then enter the Logging selection. Select Close. (Alt+A, then press L, then press C.)

A Confirm window asks: Close logging file? Select the Yes button.

The protocol analyzer Logging is turned off.

NOTE: *You can save information in a log file and be retrieve it on a word processor, such as Write, under the Tool function on the Tool Bar.*

NOTES

WARRANTY

LIMITED WARRANTY

The Seller warrants that the standard hardware products sold will be free from defects in material and workmanship and perform to the Seller's applicable published specifications for a period of 18 months for hardware, and 3 months for software, from the date of the original invoice. The liability of the Seller hereunder shall be limited to replacing or repairing, at its option, any defective products which are returned F.O.B. to the Seller's plant, (or, at the Seller's option, refunding the purchase price of such products). In no case are products to be returned without first obtaining permission and a customer return authorization number from the Seller. In no event shall the Seller be liable for any consequential or incidental damages.

Equipment or parts which have been subject to abuse, misuse, accident, alteration, neglect, unauthorized repair or installation are not covered by warranty. The Seller shall make the final determination as to the existence and cause of any alleged defect. No warranty is made with respect to custom equipment or products produced to the Buyer's specifications except as specifically stated in writing by the Seller in the contract for such custom equipment.

This warranty is the only warranty made by the Seller with respect to the goods delivered hereunder, and may be modified or amended only by a written instrument signed by a duly authorized officer of the Seller and accepted by the Buyer.

Warranty and remedies on products not manufactured by the Seller are in accordance with warranty of the respective manufacturer. THE SELLER MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED; AND ALL IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEEDS THE AFORESAID OBLIGATIONS IS HEREBY DISCLAIMED BY THE SELLER.

IN CASE OF DIFFICULTY

If you experience difficulty with this equipment, check the following, as appropriate:

1. **Switch settings**
2. **Signal levels**
3. **Software configuration**
4. **Connections between Dantel's equipment and your equipment.**

If there is still a problem, substitute equipment that is known to be good. For additional assistance, call Dantel's Technical Field Service Department weekdays, 6 A.M. to 5 P.M. pacific time:

1-800-4DANTEL (1-800-432-6835).

If a thorough checkout shows a piece of equipment has malfunctioned, you may return it to the factory. For repairs and emergency replacements, obtain a Return Material Authorization (RMA) number from the Customer Service Representative at **1-800-4DANTEL** (1-800-432-6835).

To ensure expedient processing of your order, provide a purchase order number and shipping and billing information when requesting an RMA number. Also, when the units are returned to Dantel, include a description of the failure symptoms for each unit returned. Send defective equipment to:

Dantel, Inc. • 2991 North Argyle Avenue • Fresno, California 93727-1388

Dantel

P.O. Box 55013 • Fresno, CA 93747-5013 Phone (209) 292-1111 Fax (209) 292-9355 http://www.dantel.com