



PT-210M Processor/Transmitter Operations Manual

<u>1.0 INTRODUCTION</u>	1
1.1 SYSTEM ENHANCEMENTS	1
<u>2.0 PT-210 HARDWARE OVERVIEW</u>	3
2.1 SENSORS	3
2.1.1 SEISMIC	3
2.1.2 MAGNETIC	3
2.1.3 PASSIVE INFRARED	4
2.1.4 CONTACT SENSOR	4
2.2 CAMERA TRIGGER	5
2.3 COMMUNICATIONS	5
2.4 ANTENNA	5
2.5 POWER SOURCE	5
2.5.1 PRIMARY SOURCE	5
2.5.2 SECONDARY SOURCE	6
<u>3.0 PT-210 PC CONFIGURATION SOFTWARE</u>	6
3.1 SOFTWARE INSTALLATION	6
3.2 USING THE SOFTWARE	7
3.3 MENU BAR	7
3.3.1 FILE SELECTION	8
3.3.2 OPTIONS SELECTION	9
3.3.3 TOOLS SELECTION	10
3.3.4 HELP SELECTION	11
3.4 SPEED BAR	12
3.4.1 READ	12
3.4.2 PROGRAM	12
3.4.3 LOAD	12
3.4.4 SAVE	12
3.4.5 TEST	12
3.4.6 WHAT'S THIS?	13
3.5 PROGRAMMING PARAMETERS	13
3.5.1 QUALIFY MODE	14
3.5.2 SEISMIC SENSOR SETUP	14
3.5.3 AUXILIARY SENSOR SETUP	16
3.5.4 LEFT/RIGHT SENSORS	17
3.5.5 DETECTION SCHEDULE	20
3.5.6 TRANSMISSIONS	21
3.5.7 STATUS CHECK IN	23
3.6 STATUS BAR	24

<u>4.0 PT-210 PDA SOFTWARE</u>	24
4.1 USING THE SOFTWARE	24
4.2 USING THE SOFTWARE	25
4.3 INPUT SELECTOR	25
4.4 MENU BAR	25
4.4.1 FILE SELECTION	26
4.4.2 VIEW	27
4.4.3 UNIT	27
4.4.4 HELP	28
4.5 PROGRAMMING PARAMETERS	29
4.5.1 PRODUCT MODEL	29
4.5.2 UNITS	30
4.5.3 SENSOR DETECTION	30
4.5.4 DIRECTIONAL MODE	35
4.5.5 TRANSMITTER	36
4.5.6 SCHEDULE	39
4.5.7 INHIBIT	40
<u>5.0 TECHNICAL SPECIFICATIONS</u>	42

FACTORY CONTACT INFORMATION:	43
-------------------------------------	-----------

1.0 Introduction

This manual describes the operation and usage of the PT-210M Processor/Transmitter. The PT-210M is a specifically designed transmitter for use with the **Multi-Use Radio Service (MURS)** system. It uses five allocated frequencies, under FCC regulation, that do not require a specific frequency license to use.

The PT-210M incorporates sensor-processing circuitry with a narrow band FM transmitter to relay sensor data back to a receiving site. The sensor processing circuitry and transmitter is contained in a compact, aluminum waterproof case which may be deployed either above ground or buried for covert monitoring. A single PT-210M unit can receive, process and transmit information generated by seismic, infrared and magnetic sensor detectors either individually or in various combinations of deployment. The contact switch and optional serial sensor input allow for the use of additional sensor technology.

The unit is easily configured for use with either a PC desktop computer or a ruggedized PDA device containing Microsoft Windows® operating systems. The user has the option to change frequencies, sensitivity levels, active and inactive operating times, and a variety of other operating parameters. An internal animal filter can also be adjusted to assist in the differentiation of humans, animals, and vehicles.

Contained herein is a hardware overview of the PT-210M and its associated sensor potentials and a summary of the programming and configuration software available for use with the PT-210M.

Notice for use: In compliance with FCC RF Hazard Exposure Requirements, this device should only be used at a distance of 20cm or more from any person. Any changes or modifications not expressly approved by Eagle/Telonics J/V or Telonics, Inc. could void the users authority to operate the equipment.

1.1 System Enhancements

- **EIDS Code Format** - The proprietary EIDS code format is an enriched digital message format providing users with specific information regarding intrusions and events. The EIDS format greatly reduces sensor training and configuration time by assigning a dedicated channel number to all possible events and detector classifications. Using the EIDS RM-2000 receiver, specific information regarding events or intrusions, such as pedestrian, PIR/Mag, or low battery, is displayed for the user.

The EIDS format also includes an event counter, which can be used to determine whether or not all transmitted events have been received. The event counter, which ranges from 0 to 63, is incremented each time a new event is detected. After reaching 63, the next event detection causes the counter to reset to 0. In cases where the PT-210 is programmed with a digital transmit count greater than 1, the event counter remains

unchanged during retransmissions of the event. The RM-2000 receiver displays the event counter value along with other associated event information (Unit ID, event description, and so on).

- **Dual Transmission Modes** - The PT-210M can send a digital and voice message for each intrusion or event. This feature allows frontline personnel to receive voice alerts directly over VHF communication receivers, while transmitting a digital message for data logging, mapping, or network integration. Separate operating frequencies for the digital and voice transmissions may also be programmed.
- **Qualify mode for any two detectors** - Previous versions of processor/transmitters required either a seismic detector or contact switch activation, in-conjunction with any other sensor for a qualified detection to occur. The PT-210M now offers the increased flexibility of selecting any two or more detectors for qualify mode. When two or more detectors are selected in qualify mode and any two are triggered within the qualify time period, the Qualify message is displayed on the receiver. When a seismic detector with vehicle or pedestrian detections is triggered in Qualify mode, additional qualify information is reported by displaying Qual/Vehicle or Qual/Pedestrian at the receiver.

Note: Seismic is considered a single detector even if both vehicle and pedestrian are enabled.

- **Multiple Status Reports** -The PT-210M may be configured to transmit up to two distinct status messages per 24-hour period.
- **Enhanced Security – Tamper Sensing Included On Sensor Cabling** - The PT-210M tamper system now reports if a detector cable is cut or removed. This applies only when current model seismic, passive infrared, and magnetic detectors are used.

Note: A special terminator cap (part # CN007578-001) must be attached to terminate the final deployed seismic cable when the SP-500P-2 is used.

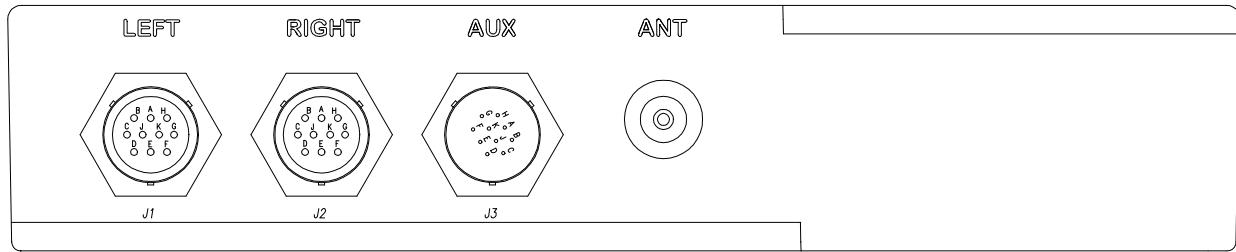


Figure 1 PT-210M Processor/Transmitter

2.0 PT-210 Hardware Overview

The PT-210M is a multi-purpose processing unit, designed to accept up to four sensor inputs; one seismic, two inputs for either magnetic or passive infrared, and a switch closure input. These inputs may be used either singularly, in any combination, or all at the same time. The following paragraphs describe the different types of sensors that may be used with the PT-210M.

2.1 Sensors

2.1.1 Seismic

The seismic sensor may be installed into either the Left or Right input of the PT-210M. A special "Y" adapter cable may be used to connect seismic when two additional sensors (Magnetic or PIR) are connected to the left and right inputs. The seismic input may also be used with multiple seismic sensors connected together to form a string.



2.1.2 Magnetic

The magnetic sensor(s) may be connected to the Left and/or Right inputs of the PT-210M. If two sensors are used, the PT-210M may be configured to either report single detections or directional detections. If both left and right inputs are to be used for infrared and/or magnetic, a special "Y" adapter cable may be used to also connect seismic to one of the inputs.



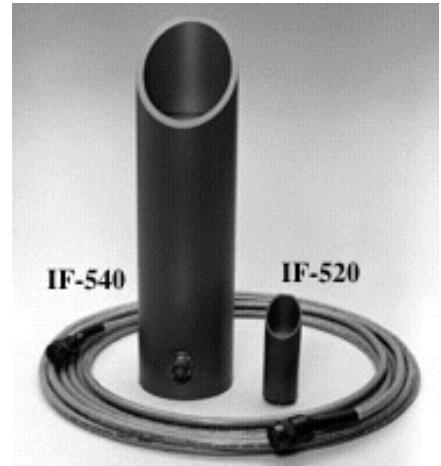
Note: A single magnetic sensor may not be used to detect directional travel.

2.1.3 Passive Infrared

The two inputs marked Left and Right may also be used for passive infrared (PIR) sensors. Each PIR sensor contains two sensing elements, which enable the user to deploy them in the following configurations:

In the single Left\Right mode, each sensor is programmed to report a specific event when that sensor is triggered. The user then knows which individual sensor was triggered.

Alternatively, the PT-210M may be programmed in the Directional mode. In this mode, the PT-210M determines the target's direction of travel and reports the direction as a specific event. Direction may be determined by using two PIR sensors, or a single PIR sensor. Long range (IF-540) and short range (IF-520) models are available.



2.1.3.1 Two PIR Sensor Deployment

Two PIR sensors may be connected, one to the L (left) and one to the R (right) input connectors, in which case only one element in each PIR sensor is utilized.

2.1.3.2 Single Sensor Deployment

A single PIR sensor may also be used for direction sensing. The cable can connect to the Right or Left input connector, and users must select the "One Sensor" option with the software or programmer.

2.1.4 Contact Sensor

Any sensor that provides a switch open or switch closure may be used to trigger an alarm transmission by the PT-210M. Sensors such as a pressure mat, trip wire, or active infrared may be utilized. Connect pin "J" of the AUX connector to the switch of the external device and pin "G" of the AUX connector to ground.

2.2 Camera Trigger

The PT-210M has the ability to provide the user with an external camera trigger. The trigger is activated each time a detection occurs. The camera trigger circuit provides the user with an interface between the PT-210M and an externally connected device (i.e. relay, still camera or video camera.) When the camera trigger is activated, a switch-to-ground is closed for the user-selected time period – 0 to 1.5 seconds in 50 millisecond increments.

The camera trigger exits the PT-210M through the "A" pin of the auxiliary "AUX" connector and pin "G" is ground.

2.3 Communications

Communications operations are conducted through the AUX connector using a separate **Smart Cable** (part# WI001615-003) connected to either a desktop PC computer or a PDA-4000 Handheld PRogrammer

2.4 Antenna

The supplied stainless steel 1/4 wave right-angle whip antenna attaches to the TNC connector on the PT-210M.

2.5 Power Source

2.5.1 Primary Source

The PT-210M's flexibility allows for use of a variety of DC battery power sources to supply the unit. If a custom power source is used, it must adequately supply a +9 to +15 volt DC source with capacity rated for the operational life desired.

The standard power source is an 8 cell, 9 volt alkaline battery pack, (EN22 or equivalent) contained within an integral battery compartment. A battery pack comprised of three D-cell lithium batteries may be substituted for use in extreme cold deployments.

There is no ON/OFF switch on the PT-210M. The unit is operational upon connection of the power source and sensors.

2.5.2 Secondary Source

An additional power source supplying +12 volts DC +/-12% may be connected externally to the "AUX" connector. Connect pin "C" on the "AUX" connector to the + voltage and pin "G" to ground.

3.0 PT-210 PC Configuration Software

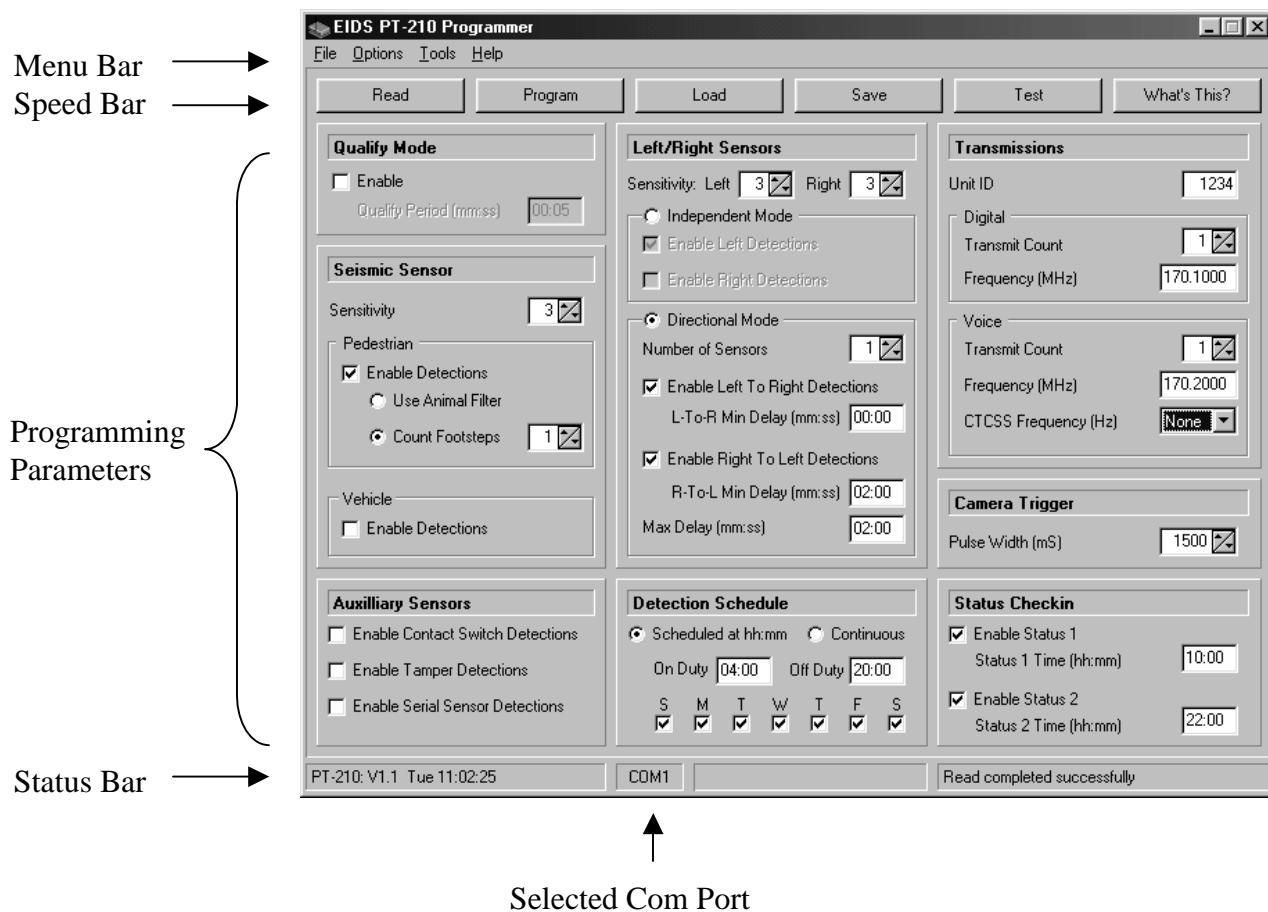
3.1 Software Installation

1. **Insert** the EIDS Product Programming **CD** into the CD-ROM drive.
2. The CD should begin automatically, which will begin the setup/installation process. If the CD does not begin automatically, select **START/RUN** and enter D:/setup (where D: represents the drive letter assigned to the CD-ROM drive) and click **OK**.



3. Follow the instructions on the screen. Click **Next** to continue through the Setup process.
4. The PT-210 program may be launched upon completion of installation.

3.2 Using the Software



The software is navigated via four distinct sections:

- Menu Bar
- Speed Bar
- Programming Parameters
- Status Bar

3.3 Menu Bar

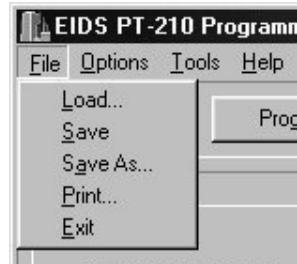


The “File” selection located on the Menu Bar provides access to familiar functions such as Load, Save, Print, and Exit. Under “Options”, the communication port and reminder preferences may be selected. The “Tools” menu provides access to inhibit times and other seldom used features. “Help” provides access to a variety of program specific topics contained within the program.

3.3.1 File Selection

3.3.1.1 Load

Select **Load** from the **File** list to retrieve previously saved parameters (adjustments). This function displays saved setup files available for retrieval. Clicking **load** opens a browser window to locate and retrieve the saved configuration file (xxxxx.ini).

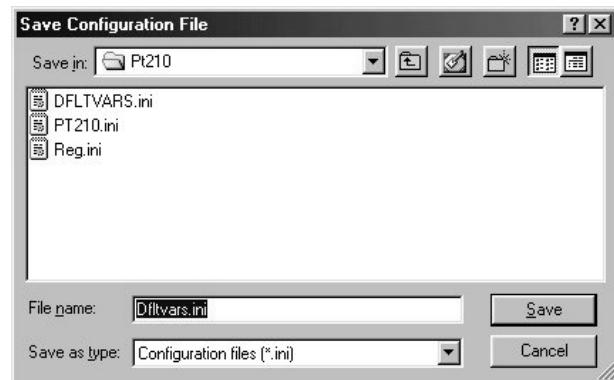


3.3.1.2 Save

Use this menu command when you want to save the current parameters to a PT-210M configuration file. The first time you use this menu command, the **Save Configuration File** dialog will be invoked so you can specify the proper folder and file. Thereafter, when using this menu command, the current configuration will simply be saved to the specified configuration file.

3.3.1.3 Save As

To save a configuration file in a different folder, select **Save As** from the **File** list, then locate and open the desired folder. In the **File name** box, type a descriptive name for the file and then click **Save**. To overwrite the program's default parameters, Save as file name "DFLTVARS.ini".



3.3.1.4 Print

Use this menu command to print the current parameters to a local or network printer. When you use this menu command, the **Print** dialog will be invoked so you can specify the desired printer and number of copies.

3.3.1.5 Exit

Select **Exit** to close the program. A prompt may appear requesting to save the current configuration file before closing. The save prompt may be disabled under the Option list / Reminders.

3.3.2 Options Selection

3.3.2.1 Reminders

Use this menu command to open the Reminders Setup dialog. New users may find the reminders helpful in pointing out subtle program features or situations that should be avoided. Experienced users may wish to turn off one or more of the reminders. The Reminders Setup dialog provides a convenient location where all reminders are listed and can be individually enabled or disabled.

A **check mark** indicates the **Reminder is active**. Reminders appear as a Pop-Up dialog box during selected operations. Checking “Don’t remind me again” in a dialog box disables future reminders.

3.3.2.2 Show Splash

This menu item toggles the enable status of the program splash dialog. If checked, the splash dialog will display during program initialization.

3.3.2.3 Com Port Setup

Use this menu command to open the COM Port Setup Dialog. This program requires an asynchronous serial communications (COM) port in order to interface with the PT-210M. Since many computers are equipped with multiple COM ports, the COM Port Setup dialog is provided to allow you to select the COM port you wish to use.

Note: If your computer is not equipped with a COM port, but is USB equipped (common with many laptop computers), you will need to purchase a USB to Serial RS-232 adapter.

3.3.3 Tools Selection

3.3.3.1 Factory Set Parameters

Factory Set Parameters are **informational only**. Factory authorization is required for adjustment. This information is valuable to PT-210M users when Voice Transmissions are enabled. The ID numbers assigned to the various sensors and internally generated alarms are displayed. When a voice transmission is received, the Message ID Number correlates to the following table:

Event IDs		Event IDs		Animal Filter	
Pedestrian	1 <input type="button" value=""/>	Qualify/Pedestrian	8 <input type="button" value=""/>	Classification Threshold	1894 <input type="button" value=""/>
Vehicle	2 <input type="button" value=""/>	Qualify/Vehicle	9 <input type="button" value=""/>	Acquisition Timeout (sec)	3.052 <input type="button" value=""/>
Independent Left	3 <input type="button" value=""/>	Qualify	10 <input type="button" value=""/>	Minimum Footstep Count	3 <input type="button" value=""/>
Independent Right	4 <input type="button" value=""/>	Tamper	11 <input type="button" value=""/>	Maximum Footstep Count	6 <input type="button" value=""/>
Directional Left-To-Right	5 <input type="button" value=""/>	Status	12 <input type="button" value=""/>	Transmission	
Directional Right-To-Left	6 <input type="button" value=""/>	Status/Low Battery	13 <input type="button" value=""/>	Preamble Length	16 <input type="button" value=""/>
Contact	7 <input type="button" value=""/>	Serial Sensor Fault	14 <input type="button" value=""/>	<input type="button" value="OK"/>	<input type="button" value="Cancel"/>
<input type="button" value="Help"/>					

3.3.3.2 Sensor Inhibit Parameters

The **Inhibit Parameters** specify a shutdown period where the **sensor circuits are desensitized** immediately prior to a message transmission, and remain desensitized for the selected amount of time after the end of transmission.

The Inhibit period allows the RF transmission energy to dissipate, **preventing false detections** caused by potential feedback through the sensitive detection processing circuit.

Pedestrian	mm:ss <input type="text" value="00:05"/>	Contact	mm:ss <input type="text" value="00:05"/>
Vehicle	00:05	Qualify	00:05
Independent Left	00:05	Tamper	00:10
Independent Right	00:05	Serial	00:05
Directional	00:05	Transmit	00:07
<input type="button" value="OK"/>		<input type="button" value="Cancel"/>	<input type="button" value="Help"/>

The minimum 5-second value is adequate for Sensor Inhibit settings. A minimum 7 seconds value is recommended for the Transmit Inhibit. In some instances, a longer inhibit time may be desired to reduce transmissions in areas which experience high levels of activity.

3.3.3.3 System Information

Displays System Information with no user adjustable parameters. Used for factory diagnostics only.

3.3.4 Help Selection

3.3.4.1 Contents

Displays the contents of help files with links to the specific subject matter.

3.3.4.2 Enter Day Pass

A factory technician may issue a **Day Pass** to unlock diagnostic software utilities for remote troubleshooting. The Day pass enables the **Factory Support Mode**, valid for the remainder of the **current day**. Enter the supplied Day Pass number using this menu option. Exiting the software will not cancel Factory Support Mode.

3.3.4.3 About

Use this menu command to open the program **About** dialog. This dialog provides program version information as well as e-mail and web contact information.

3.3.4.4 What's This?

“**What's This**” provides access to help topics associated with on-screen parameters. Clicking “What's This” from the Help list initiates a **(?) question mark next to the pointer**. When the pointer is positioned over the text of an on-screen parameter and left clicked, a dialog box appears with **related help text**. “What's This” is also called by positioning the cursor over the desired text and right clicking or selecting the “What's This” button on the Speed Bar.



3.4 Speed Bar

The Speed Bar provides quick access to commonly executed functions.



3.4.1 Read

The **Read** function establishes communication with the PT-210M and uploads the current programmed parameters stored in the PT-210M and displays them on-screen. To perform a **Read**, connect the separate computer interface **Smart Cable** (part# WI001615-003) and a **power source** to the PT-210M connector. Click **Read** to import and display the current PT-210M programmed settings. The Status Bar indicates the communication progress.

Note: It is necessary to perform a ‘READ’ prior to modifying the on-screen parameters to identify the configuration of the PT-210M hardware.

3.4.2 Program

Click **Program** to download the on-screen configuration parameters to the PT-210M. The Status Bar indicates the communication progress and any errors that may have occurred.

3.4.3 Load

A previously saved configuration file may be retrieved using the **Load** function. Select Load and navigate using the browser window to locate the desired configuration file.

3.4.4 Save

To save a configuration file in a different folder, select **Save As** from the **File** list, then locate and open the desired folder. In the **File name** box, type a descriptive name for the file then click **Save**. To overwrite the programs default parameters, Save as file name “DFLTVARS.ini”.

3.4.5 Test

The **Transmit Test Mode** initiates a test transmission upon command when a computer is connected to the PT-210M. The transmission sent is the Unit ID number with the message “Status”.

3.4.6 What's this?

“What’s This” provides access to help topics associated with on-screen parameters. Clicking the “What’s This” button on the Speed Bar initiates a (?) **question mark** next to the cursor . When the cursor is hovered over the text of an on-screen parameter and left clicked, a dialog box appears with **related help text**. “What’s This” is also called by positioning the cursor over the desired text and right clicking or selecting “What’s This” from the Help list in the Menu Bar.



3.5 Programming Parameters

Programming Parameters are the variables that define the operation of the PT-210M. These parameters are read and programmed into the PT-210M’s microprocessor. The PT-210M software groups the variables into the following topics:

Qualify Mode
Seismic
Auxiliary Sensors

Left/Right Sensors
Detection Schedule

Transmissions
Camera Trigger
Status Check in

Qualify Mode <input type="checkbox"/> Enable Quality Period (mm:ss) <input type="text" value="00:05"/>	Left/Right Sensors Sensitivity: Left <input type="text" value="3"/> Right <input type="text" value="3"/> <input type="radio"/> Independent Mode <input checked="" type="checkbox"/> Enable Left Detections <input type="checkbox"/> Enable Right Detections <input type="radio"/> Directional Mode Number of Sensors <input type="text" value="1"/> <input checked="" type="checkbox"/> Enable Left To Right Detections L-To-R Min Delay (mm:ss) <input type="text" value="00:00"/> <input checked="" type="checkbox"/> Enable Right To Left Detections R-To-L Min Delay (mm:ss) <input type="text" value="00:00"/> Max Delay (mm:ss) <input type="text" value="02:00"/>	Transmissions Unit ID <input type="text" value="1234"/> Digital Transmit Count <input type="text" value="1"/> Frequency (MHz) <input type="text" value="170.1000"/> Voice Transmit Count <input type="text" value="1"/> Frequency (MHz) <input type="text" value="170.2000"/> CTCSS Frequency (Hz) <input type="text" value="None"/>														
Seismic Sensor Sensitivity <input type="text" value="3"/> Pedestrian <input type="checkbox"/> Enable Detections <input type="radio"/> Use Animal Filter <input checked="" type="radio"/> Count Footsteps <input type="text" value="1"/> Vehicle <input type="checkbox"/> Enable Detections	Auxiliary Sensors <input type="checkbox"/> Enable Contact Switch Detections <input type="checkbox"/> Enable Tamper Detections <input type="checkbox"/> Enable Serial Sensor Detections	Detection Schedule <input type="radio"/> Scheduled at hh:mm <input type="radio"/> Continuous On Duty <input type="text" value="04:00"/> Off Duty <input type="text" value="20:00"/> <table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></table>	S	M	T	W	T	F	S	<input checked="" type="checkbox"/>						
S	M	T	W	T	F	S										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
		Status Checkin <input checked="" type="checkbox"/> Enable Status 1 Status 1 Time (hh:mm) <input type="text" value="10:00"/> <input checked="" type="checkbox"/> Enable Status 2 Status 2 Time (hh:mm) <input type="text" value="22:00"/>														

3.5.1 Qualify Mode

In Qualify Mode, **two physically different sensors** must be triggered **within the Qualify Period** before a qualify event will be transmitted. Eligible sensors are Seismic (Pedestrian and Vehicle), Left, Right, Contact, and Serial. Check the enable box to activate Qualify Mode.

Note: If a Seismic/Pedestrian detection is involved, the event transmitted will be **QUAL/PEDESTRIAN**. If a Seismic/Vehicle detection is involved, the event transmitted will be **QUAL/VEHICLE**. With all other combinations, the event transmitted will be simply **QUAL**.

3.5.1.1 Qualify Period

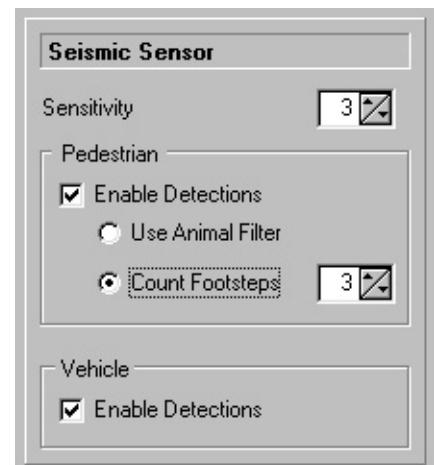
When Qualify Mode is enabled, select the **Qualify Time Period** within which **two physically different sensors must trigger** to generate a detection message. The Qualify Period starts when the system is in Qualify Mode and activity is detected on an enabled sensor. Before the Qualify Period expires, a detection must occur on another (physically different) sensor in order for the qualify event to be transmitted. The valid range for this parameter is **00:01** to **59:59** (minutes and seconds).

3.5.2 Seismic Sensor Setup

3.5.2.1 Seismic Sensitivity

The **Seismic Sensitivity** control is used to adjust the sensitivity of the **SEISMIC** (Pedestrian/Vehicle) sensor. The sensitivity is adjustable from 1 (least sensitive) to 5 (most sensitive). This setting is only available when Pedestrian or Vehicle Detections are enabled.

Note: A setting of 3 is satisfactory for most installations. Also note that high settings can trigger false detections. Therefore, set the sensitivity only as high as necessary to obtain the required coverage.



If this control is unchecked, Seismic/Pedestrian detections will be ignored. If checked, detections will be processed based on the PT-210M operating mode:

Qualify Mode off: The PEDESTRIAN event code will be transmitted.

Qualify Mode on: The QUAL/PEDESTRIAN event code will be transmitted.

3.5.2.2 Use Animal Filter

If this control is checked, Seismic/Pedestrian activity will be processed through an Animal Filter program. The program distinguishes human activity from animal activity based on time between footsteps. If the Animal Filter determines that an animal has caused the activity, the detection will be ignored.

Note: When the animal filter is turned on, a group of pedestrians may produce a signature similar to that of four legged animals, causing the activity to be ignored. In areas where group pedestrian traffic is anticipated, the animal filter should be turned off.

3.5.2.3 Count Footsteps

If this control is checked, the Animal Filter will be disabled and Seismic/Pedestrian activity will be processed using a simple counter. When using this method, a 5-second timer is started when the first footprint is detected. If a sufficient number of steps are detected before the timer expires, a PEDESTRIAN event is transmitted. If the number of steps is insufficient and the timer expires, the mechanism resets. The number of footsteps required for an event is set with the adjacent control.

3.5.2.4 Enable Vehicle Detections

If this control is unchecked, Seismic/Vehicle detections will be ignored. If checked, detections will be processed based on the PT-210M operating mode:

Qualify Mode off: The VEHICLE event code will be transmitted.

Qualify Mode on: The QUAL/VEHICLE event code will be transmitted.

3.5.3 Auxiliary Sensor Setup

3.5.3.1 Enable Contact Switch Detections

If this control is unchecked, Contact Switch detections will be ignored. If checked, detections will be processed based on the PT-210M operating mode:

Qualify Mode off: The CONTACT event code will be transmitted.

Qualify Mode on: A qualified detection will transmit the QUAL event code. If a SEISMIC detection is involved, QUAL/VEHICLE or QUAL/PEDESTRIAN event codes will be transmitted

3.5.3.2 Enable Tamper Detections

If this control is unchecked, cable tamper and motion tamper detections will be ignored. If checked, TAMPER events will be processed. If Voice transmissions are enabled (transmit count > 0), the TAMPER event code will be transmitted using synthesized voice 3 times, overriding a transmit count of 1 or 2. If Digital transmissions are enabled (transmit count > 0), the TAMPER event code will be transmitted using the EIDS digital format 3 times, overriding a transmit count of 1 or 2.

3.5.3.3 Enable Serial Sensor Detections (Optional)

If this control is unchecked, Serial Sensor detections will be ignored. If checked, an event code in the range 33 to 63 will be transmitted. The event code is application specific and requires custom programming of the serial sensor module prior to deployment. If checked and custom programming has been performed, detections will be processed based on the PT-210M operating mode:

Qualify Mode off: The SERIAL event code will be transmitted.

Qualify Mode on: A qualified detection will transmit the QUAL event code. If a SEISMIC detection is involved, QUAL/VEHICLE or QUAL/PEDESTRIAN event codes will be transmitted

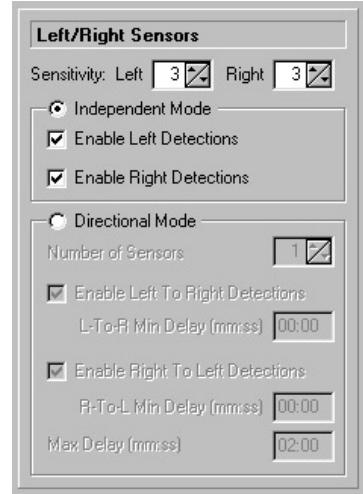
Note: The serial sensor module monitors the incoming battery supply voltage. If the battery voltage is interrupted, the serial sensor module will initiate a series of 3 BATT FAULT transmissions. The transmission of this event cannot be disabled.

3.5.4 Left/Right Sensors

3.5.4.1 Left Sensor Sensitivity

The Left Sensitivity control is used to adjust the sensitivity of the LEFT sensor. The sensitivity is adjustable from 1 (least sensitive) to 5 (most sensitive).

Note: A setting of 4 is satisfactory for most installations. High settings can trigger false detections. Set the sensitivity only as high as necessary to obtain the required coverage.



3.5.4.2 Right Sensor Sensitivity

The Right Sensitivity control is used to adjust the sensitivity of the RIGHT sensor. The sensitivity is adjustable from 1 (least sensitive) to 5 (most sensitive).

Note: A setting of 4 is satisfactory for most installations. High settings can trigger false detections. Set the sensitivity only as high as necessary to obtain the required coverage.

3.5.4.3 Independent

When the **Independent** button is checked, the LEFT and RIGHT sensors are available for use independent of each other. To use Left or Right Sensors in Qualify Mode, independent mode must be selected.

3.5.4.4 Enable Left Detections

If unchecked, Left sensor (Passive Infrared or Magnetic) detections will be ignored. When checked, detections will be processed based on the PT-210M operating mode.

Qualify Mode off: The LEFT event code will be transmitted.

Qualify Mode on: A qualified detection will transmit the QUAL event code.

If a SEISMIC detection is involved, QUAL/VEHICLE or QUAL/PEDESTRIAN event codes will be transmitted.

3.5.4.5 Enable Right Detections

If this control is unchecked, Right sensor (Passive Infrared or Magnetic) detections will be ignored. When checked, detections will be processed based on the PT-210M operating mode:

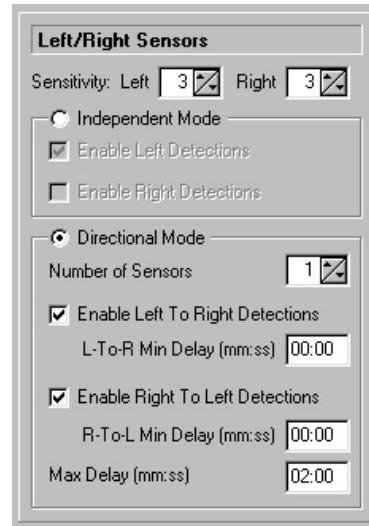
Qualify Mode off: The RIGHT event code will be transmitted.

Qualify Mode on: A qualified detection will transmit the QUAL event code. If a SEISMIC detection is involved, QUAL/VEHICLE or QUAL/PEDESTRIAN event codes will be transmitted.

3.5.4.6 Directional Mode

When the Directional Mode button is checked, the LEFT and RIGHT sensors are configured to work together, allowing activity from left-to-right or right-to-left to be detected.

Note: This mode of service is not available when Qualify mode is enabled.



3.5.4.7 Number of Sensors

When using Passive Infrared sensors in **Directional Mode**, you have the option of **using either 1 or 2 physical sensors**. Directional mode using a single IF-520 or IF-540 is possible because the passive infrared sensor contains two sensing elements each producing a field of view. However, with one sensor, the angle of the dead zone separating the two fields of view is rather narrow (approximately 3 degrees). To increase deployment flexibility, the use of two sensors is recommended. When using a single sensor in directional mode, **select 1**. When using two sensors in directional mode, **select 2**.

Note: The selection of one or two sensors applies to Passive Infrared sensors only. Magnetic sensors must be used in pairs.

3.5.4.8 Enable Left-To-Right Detections

If this control is unchecked, left-to-right detections will be ignored. When checked, left-to-right detections will be processed within the limits imposed by Left-To-Right Minimum Delay and Directional Maximum Delay.

3.5.4.9 Left-To-Right Minimum Delay

This is the minimum time period permissible between left and right detections. Detections that occur at a time interval less than the specified minimum time will be ignored. The valid range for this period is 00:00 to 04:59 (minutes and seconds). This delay must be less than the Directional Maximum Delay. A Minimum Delay is useful to detect slow moving objects within a monitored area.

3.5.4.10 Enable Right-To-Left Detections

If this control is unchecked, right-to-left detections will be ignored. When checked, right-to-left detections will be processed within the limits imposed by Right-To-Left Minimum Delay and Directional Maximum Delay.

3.5.4.11 Right-To-Left Minimum Delay

This is the minimum time period permissible between right and left detections. Detections that occur at a time interval less than the specified minimum time will be ignored. The valid range for this period is 00:00 to 04:59 (minutes and seconds). This delay must be less than the Directional Maximum Delay. A Minimum Delay is useful to detect slow moving objects within a monitored area.

3.5.4.12 Directional Maximum Delay

This is the maximum time period permissible between detections from the left and right sensors. Detections that occur at a time interval greater than the specified maximum time will be ignored. The valid range for this period is 00:00 to 5:00 (minutes and seconds). This delay must be greater than the Left-To-Right Minimum Delay and/or the Right-To-Left Minimum Delay. A Maximum Delay is useful to detect fast moving objects within a monitored area.

3.5.5 Detection Schedule

3.5.5.1 Scheduled Detection Mode

If this control is checked, the PT-210M will be “On Duty” (processing sensor detections) only from the “On Duty” time to the “Off Duty” time on the days specified.

3.5.5.2 Continuous Detection Mode

If this control is checked, the PT-210M will be “On Duty” (processing sensor detections) at all times.

3.5.5.3 On Duty Time

The On Duty time is used only with the Scheduled Detection Mode. This is the time of day the PT-210M will begin processing sensor detections and is programmable from 00:01 to 23:59 (hours and minutes).

Detection Schedule						
<input checked="" type="radio"/> Scheduled at hh:mm	<input type="radio"/> Continuous					
On Duty	03:00		Off Duty	11:00		
S	M	T	W	T	F	S
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Note: The On Duty Time cannot be the same as the Off Duty Time, Status 1 Time, or Status 2 time.

3.5.5.4 Off Duty Time

The Off Duty time is used only with the Scheduled Detection Mode. This is the time of day the PT-210M will stop processing sensor detections and is programmable from 00:01 to 23:59 (hours and minutes).

Note: The Off Duty Time cannot be the same as the On Duty Time, Status 1 Time, or Status 2 Time.

3.5.5.5 Detection Days Of The Week

When in Scheduled Detection Mode, the PT-210M can be programmed to process sensor activity on any desired day(s) of the week. To enable the PT-210M to go “On Duty” and process sensor detections, check the desired day(s) of the week. On days that are unchecked, the PT-210M will remain “Off Duty” when the On Duty time arrives.

3.5.6 Transmissions

The PT-210M can transmit events using a digital format, voice format, or both as determined by the respective transmit count.

Transmissions	
Unit ID	<input type="text" value="1234"/>
Digital	
Transmit Count	<input checked="" type="checkbox"/> 1
Frequency (MHz)	<input type="text" value="170.1000"/>
Voice	
Transmit Count	<input checked="" type="checkbox"/> 1
Frequency (MHz)	<input type="text" value="170.1000"/>
CTCSS Frequency (Hz)	<input type="text" value="69.3"/>

3.5.6.1 Unit ID

The Unit ID establishes the PT-210M’s identity. All PT-210M transmissions contain the Unit ID as well as other information to describe the nature of the event. The Unit ID valid range is 0 to 8175.

3.5.6.2 Digital Transmit Count

The Digital Transmit Count establishes the number of times a message will be transmitted using the EIDS digital format. The count is programmable from 0 to 3. If the Digital Transmit Count is set to 0, the PT-210M will not transmit a digital message.

Note: If the Digital Transmit Count is greater than 0, and a Tamper detection occurs, the Tamper event will be transmitted 3 times.

3.5.6.3 Digital Transmit Frequency

The Digital Transmit Frequency is used for transmitting messages in the EIDS digital message format. The PT-210M frequency range is set at the factory and is displayed following a read of the unit.

Available PT-210M frequencies are selected by clicking on the drop-down list control and left clicking the desired frequency. The PT-210M unit cannot transmit on any other frequency other than the specific ones shown.

Note: If both digital and voice transmissions are desired, the user may elect to transmit on the same or different frequencies.

3.5.6.4 Voice Transmit Count

The Voice Transmit Count establishes the number of times a message will be transmitted using the synthesized voice format. The count is programmable from 0 to 3. If the Voice Transmit Count is set to 0, the PT-210M will not transmit a voice message.

Note: If the Voice Transmit Count is greater than 0, and a Tamper detection occurs, the Tamper event will be transmitted 3 times.

3.5.6.5 Voice Transmit Frequency

The Voice Transmit Frequency is used for transmitting messages in the synthesized voice format. The PT-210M frequency range is set at the factory and is displayed following a read of the unit. Available PT-210M frequencies are selectable by clicking on the drop-down list control and left clicking the desired frequency. The PT-210M unit cannot transmit on any other frequency other than the specific ones shown.

Note: If both digital and voice transmissions are desired, the user may elect to transmit on the same or different frequencies.

3.5.6.6 CTCSS Frequency

When voice transmissions are enabled, the PT-210M supports the addition of a CTCSS (Continuous Tone Coded Squelch System) tone. To enable CTCSS, select the desired tone frequency from the drop-down list control. To disable CTCSS, select “None”.

3.5.6.7 Camera Trigger Pulse Width

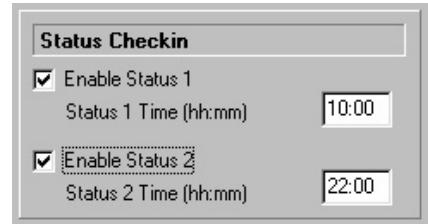
Prior to transmitting a sensor event, the PT-210M can activate a camera trigger output. The camera trigger output produces a momentary connection to ground, often used to trigger an externally connected device (i.e. relay, still camera, or video camera.) The camera trigger pulse width is adjustable from 0 to 1.5 seconds in 50 millisecond increments.

Note: The camera trigger is NOT activated when transmitting a Status 1 or Status 2 event.

3.5.7 Status Check in

3.5.7.1 Enable Status 1

The PT-210M provides the ability to send up to 2 status transmissions per day. Status transmissions are sent to indicate to the recipient that the PT-210M is operational and that the transmission is properly generated and received. If the Enable Status 1 checkbox is checked, Status 1 transmissions will occur each day at the time specified by Status 1 Time.



3.5.7.2 Status 1 Time

This is the time of day at which a Status 1 transmission will occur and is programmable from 00:01 to 23:59 (hours and minutes).

Note: The Status 1 Time cannot be the same as the On Duty Time, Off Duty Time, or Status 2 Time.

3.5.7.3 Enable Status 2

The PT-210M provides the ability to send up to 2 status transmissions per day. Status transmissions are sent to indicate to the recipient that the PT-210M is operational and that the transmission is properly generated and received. If the Enable Status 2 checkbox is checked, Status 2 transmissions will occur each day at the time specified by Status 2 Time.

3.5.7.4 Status 2 Time

This is the time of day at which a Status 2 transmission will occur and is programmable from 00:01 to 23:59 (hours and minutes).

Note: The Status 2 Time cannot be the same as the On Duty Time, Off Duty Time, or Status 1 Time.

3.6 Status Bar

The Status Bar displayed at the bottom of the screen provides confirmation and software status information. The lower left corner is blank until a read is performed. Following a read, the PT-210M firmware version, day of week, and time of day are displayed.



The selected **COM port** and an **operations progress bar** are displayed in the center.

In the **lower right corner** the following messages may be displayed:

1. Timed out while waiting for PT-210M response	7. Read error: Operation aborted
2. Configuration file load unsuccessful	8. Read completed successfully
3. Configuration file load successful	9. Programming error: Operation aborted
4. Configuration file load canceled	10. Programming complete
5. Configuration file save successful	11. Verification error: Operation aborted.
6. Configuration file save canceled	12. Verification completed successfully

4.0 PT-210 PDA Software

4.1 Using the software

The PT-210M PDA software comes pre-loaded into the PDA-4000 Handheld Programmer and therefore no installation is required. Turn the unit on by pressing the power button, located in the lower right-hand corner of the TDS Recon Pocket PC keypad, briefly. Afterwards, a Windows Pocket PC® desktop screen appears. Tap the **START** button in the upper right-hand corner of the screen and select **EIDS** from the drop down list menu. Once the EIDS Product Programmer begins, select PT-210 from the Product Model menu and tap **OK** to launch the configuration software.

4.2 Using the Software

Once the PT-210 program is launched, a configuration screen will appear on the display. The configuration screen provides quick access to configuration components and also allows the operator to review configuration settings prior to programming operations.

The configuration screen contains three distinct sections:

- Input Selector
- Menu Bar
- Programming Parameters

4.3 Input Selector

In the lower right-hand corner of the configuration screen is an up-arrow icon. Tapping the up-arrow icon produces a pop-up menu list displaying available character input methods. This menu allows the operator to change and alter the input method for the PT-210 configuration screen. Once the input method has been selected, the icon next to the up-arrow icon will change to reflect the selection. Tapping this icon will invoke the selected input method.

The recommended input method for the PT-210M configuration screen is keyboard. This method produces a virtual keyboard that resembles a typical PC keyboard and is used for entering alpha-numeric data into various fields within the configuration screen.

For specific information on the other types of input methods, please refer to the TDS Recon manual.

4.4 Menu Bar

The Menu Bar is located along the bottom of the configuration screen and consists of the selections **File**, **View**, **Unit**, and **Help**.

The “**File**” selection provides access to familiar functions such as New, Open, Save, Save As and Exit. Under “**View**”, the configuration settings may be displayed or suppressed. The “**Unit**” menu provides access to various device communication commands and test features. “**Help**” provides access to a variety of program specific topics contained within the program as well as program version information.

4.4.1 File Selection

4.4.1.1 New

Selecting **New** from the **File** list will return the operator to the EIDS Product Programmer product model screen. This allows a new product model to be selected and configured.

4.4.1.2 Open

The **Open** command allows the operator to access and open a saved Telonics Parameter File and import it into the program for use. File details such as name, location, and last modified are displayed.

4.4.1.3 Save

Use this menu command when you want to save the current parameters to a Telonics Parameter File. The first time you use this menu command, the **Save As** dialog will be invoked so you can specify the proper folder and file. Thereafter, when using this menu command, the current configuration will simply be saved to the specified configuration file.

4.4.1.4 Save As

To save a configuration file in a folder different from the default location, select **Save As** from the **File** list, then locate and open the desired folder. In the **Name** box, type a descriptive name for the file and then tap **OK**.

4.4.1.5 Exit

Select **Exit** to close the program. A prompt may appear requesting to save the current configuration file before closing.

4.4.2 View

4.4.2.1 Show Values

This menu item allows the operator to view all of the configuration data at once. The settings of each configuration item are displayed on the screen for reviewing and referencing during the course of the configuration process.

4.4.2.2 Hide Values

This menu item hides the configuration data and only displays the individual configuration headings. This allows for speedy access to specific items during the configuration process.

Note: A **check mark** will indicate the item selected.

4.4.3 Unit

4.4.3.1 Check Connection to Unit

Use this menu command to verify the communication link between the PDA-4000 Handheld Programmer and the PT-210M Processor/Transmitter.

4.4.3.2 Program Parameters

This menu command initiates the programming process. When there have been changes made to the configuration screen, use this command to download the system time and the new configuration settings from the PDA-4000 into the PT-210M.

Note: No configuration changes take effect until the Program Parameters operation has been completed

4.4.3.3 Read Parameters

Use this menu command to establish communications with the PT-210M and upload programmed configuration data into the PDA-4000. To perform a **Read**, connect the separate computer interface **Smart Cable** (part# WI001615-003) and a **power source** to the PT-210M connector. Click **Read** to import and display the current PT-210M programmed settings. After “reading” the unit, the configuration data is displayed on the configuration screen for review and modification if necessary.

Note: It is necessary to perform a ‘READ’ prior to modifying the on-screen parameters to identify the configuration of the PT-210M hardware.

4.4.3.4 Send Time to Unit

Use this menu command to download the system time only from the PDA-4000 into the PT-210M. When initiated, the current time in the PT-210M will be replaced by the PDA-4000 time. Several configuration options for the PT-210M are dependant upon time, so it is important to maintain the correct time.

4.4.3.5 Retrieve Time from Unit

This menu command obtains the current system time from the PT-210M.

4.4.3.6 Perform Test Transmission

Use this menu command to initiate a test transmission from the PT-210M. This action is often performed to verify system performance and to verify transmission and reception ability prior to and during deployment.

4.4.4 Help

4.4.4.1 Help

Use this menu command to access the integrated EIDS Help system. The system is separated into categories designed to give the operator an overview of the various configuration options. Help related to a specific topic is available later in the program during the configuration operation.

4.4.4.2 About

This menu command displays a dialog containing program version and copyright information. Contained also, is a listing of the installed authorization codes. If there are no authorization codes installed, then the PT-210M configuration software is operating in evaluation mode. This mode will persist for 30 days or until a valid authorization code is installed.

To install an authorization code, tap the **Add...** button. This will produce a dialog box prompting the operator to enter a code. Tap the keyboard input device icon and enter the code by tapping the applicable characters. Tap **OK** when finished.

To delete an authorization code, select the code for deletion with the stylus and then tap **Delete**. Tap **OK** when finished.

4.5 Programming Parameters

Programming Parameters are the variables that define the operation of the PT-210M. These parameters are read and programmed into the PT-210M's microprocessor. The PT-210 PDA software groups the variables into the following topics:

- Product Model
- Units
- Sensor Detection
- Directional Mode
- Transmitter
- Schedule
- Inhibit

4.5.1 Product Model

The **Product Model** section reverts the operator back to the product model screen. Tap the **Product Model** message text or double-tap the **Product Model** contents field to access the adjustment screen.

Select the desired product for evaluation and tap **OK** to enter the configuration screen for the selected product. Tap **Cancel** to abort the process.

Tapping the **Help** button initiates the Product Model Selection help system. From the menu bar the operator also has access to the EIDS Help contents and to the TDS Recon help contents. A **Find** feature allows the operator to search for a particular item.

Note: The menu bar selections at the bottom of the configuration screen are not available in this operation.

4.5.2 Units

The units section provides the operator with information about the different devices which have been communicated with by the PDA-4000 programmer within a particular product model during a particular configuration session. The serial number of the device, the installed operating system (Firmware) and any factory parameters are listed in the order in which they were accessed. Various editing features allow enhanced operability. Tap the **Units** message text or double-tap the **Units** contents field to access the adjustment screen.

When finished, tap **OK** to return to the configuration screen. Tap **Cancel** to abort the process.

Tapping the **Help** button initiates the Units Section help system. From the menu bar the operator also has access to the EIDS Help contents and to the TDS Recon help contents. A **Find** feature allows the operator to search for a particular item.

Note: The menu bar selections at the bottom of the configuration screen are not available in this operation.

4.5.3 Sensor Detection

The **Sensor Detection** section contains configuration items for all of the sensor activities. This is where the individual sensors are enabled or disabled, various sensitivity settings are adjusted and sensor modes of operation are established. Tap the **Sensor Detection** message text or double-tap the **Sensor Detection** contents field to access the adjustment screen.

4.5.3.1 Sensor Mode

The sensor mode field allows the user to select **Not Qualified**, **Qualified**, or **Directional** detection modes.

- **Not Qualified** is the mode of operation where all of the sensors act independently of each other and any single sensor can produce an alarm.

- **Qualified** is the mode of operation where **two physically different sensors** must act **within the Qualify Period** to produce an alarm. Eligible sensors are Seismic (Pedestrian and Vehicle), Left, Right, Contact, and Serial.

Note: If a Seismic/Pedestrian detection is involved, the event transmitted will be **QUAL/PEDESTRIAN**. If a Seismic/Vehicle detection is involved, the event transmitted will be **QUAL/VEHICLE**. With all other combinations, the event transmitted will be simply **QUAL**.

- **Directional** is the mode of operation where two sensors act as a pair allowing activity from left-to-right or right-to-left to be detected. Alternatively, one single PIR sensor may be used in directional mode.

Note: This mode of service is not available when Qualify mode is enabled.

4.5.3.2 Qualify Period

In order to access this field, the **Qualified** selection must be made in the **Sensor Mode** field above. The **Qualify Period** is the timeframe within which two **physically different sensors must trigger** to generate a detection message. The Qualify Period starts when activity is detected on an enabled sensor. Before the Qualify Period expires, a detection must occur on another (physically different) sensor in order for the event to be transmitted. The valid range for this parameter is **00:01** to **59:59** (minutes and seconds). Enter the desired range using the up and down arrows located next to the field box.

4.5.3.3 Sensors

This section is where specific sensors or specific functions are selected.

- **Seismic-Veh:** If this control is unchecked, Seismic/Vehicle detections will be ignored. If checked, detections will be processed based on the PT-210M operating mode:

Qualify Mode off: The VEHICLE event code will be transmitted.

Qualify Mode on: The QUAL/VEHICLE event code will be transmitted.

- **Seismic-Ped:** If this control is unchecked, Seismic/Pedestrian detections will be ignored. If checked, detections will be processed based on the PT-210M operating mode:

Qualify Mode off: The PEDESTRIAN event code will be transmitted.

Qualify Mode on: The QUAL/PEDESTRIAN event code will be transmitted.

Checking this selection also enables a drop down list menu containing the **Animal Filter** and **Footstep Counter**. Tap the down arrow to view the list and use the stylus to make the desired selection.

- **Use Animal Filter:** Seismic/Pedestrian activity will be processed through an Animal Filter program. The program distinguishes human activity from animal activity based on time between footsteps. If the Animal Filter determines that an animal has caused the activity, the detection will be ignored.

Note: When the animal filter is turned on, a group of pedestrians may produce a signature similar to that of four legged animals, causing the activity to be ignored. In areas where group pedestrian traffic is anticipated, the animal filter should be turned off.

- **Count “#” step(s):** Seismic/Pedestrian activity will be processed using a simple counter. When using this method, a 5-second timer is started when the first footprint is detected. If a sufficient number of steps are detected before the timer expires, a PEDESTRIAN event is transmitted. If the number of steps is insufficient and the timer expires, the mechanism resets. The number of footsteps required for a detection is dependant upon the number of steps selected in this field.

Note: Counting steps disables the Animal Filter

- **Left:** If unchecked, Left sensor (Passive Infrared or Magnetic) detections will be ignored. When checked, detections will be processed based on the PT-210M operating mode.

Qualify Mode off: The LEFT event code will be transmitted.

Qualify Mode on: A qualified detection will transmit the QUAL event code. If a SEISMIC detection is involved, QUAL/VEHICLE or QUAL/PEDESTRIAN event codes will be transmitted.

- **Right:** If this control is unchecked, Right sensor (Passive Infrared or Magnetic) detections will be ignored. When checked, detections will be processed based on the PT-210M operating mode:

Qualify Mode off: The RIGHT event code will be transmitted.

Qualify Mode on: A qualified detection will transmit the QUAL event code. If a SEISMIC detection is involved, QUAL/VEHICLE or QUAL/PEDESTRIAN event codes will be transmitted.

- **L-to-R:** If this control is unchecked, left-to-right detections will be ignored. When checked, left-to-right detections will be processed within the limits imposed by Left-To-Right Minimum Delay and Directional Maximum Delay featured in the **Directional Mode** configuration screen in section 4.5.3.4.

Note: Though this field is accessible, the **Directional** mode must be selected in the **Sensor mode** field in section 4.5.3.1.

- **R-toL:** If this control is unchecked, right-to-left detections will be ignored. When checked, right-to-left detections will be processed within the limits imposed by Right-To-Left Minimum Delay and Directional Maximum Delay featured in the **Directional Mode** configuration screen in section 4.5.3.4.

Note: Though this field is accessible, the **Directional** mode must be selected in the **Sensor mode** field in section 4.5.3.1.

- **Serial:** **Serial sensor detections are only available on models that have the serial sensor hardware installed.**

If this control is unchecked, serial sensor detections will be ignored. If checked, an event code in the range 33 to 63 will be transmitted. The event code is application specific and requires custom programming of the serial sensor module prior to deployment. If checked and custom programming has been performed, detections will be processed based on the PT-210M operating mode:

Qualify Mode off: The SERIAL event code will be transmitted.

Qualify Mode on: A qualified detection will transmit the QUAL event code. If a SEISMIC detection is involved, QUAL/VEHICLE or QUAL/PEDESTRIAN event codes will be transmitted

Note: The serial sensor module monitors the incoming battery supply voltage. If the battery voltage is interrupted, the serial sensor module will initiate a series of 3 BATT FAULT transmissions. The transmission of this event cannot be disabled.

- **Contact:** If this control is unchecked, Contact Switch detections will be ignored. If checked, detections will be processed based on the PT-210M operating mode:

Qualify Mode off: The CONTACT event code will be transmitted.

Qualify Mode on: A qualified detection will transmit the QUAL event code. If a SEISMIC detection is involved, QUAL/VEHICLE or QUAL/PEDESTRIAN event codes will be transmitted

- **Tamper:** If this control is unchecked, cable tamper and motion tamper detections will be ignored. If checked, TAMPER events will be processed. If Voice transmissions are enabled, the TAMPER event code will be transmitted using synthesized voice 3 times, overriding a transmit count of 1 or 2. If Digital transmissions are enabled, the TAMPER event code will be transmitted using the EIDS digital format 3 times, overriding a transmit count of 1 or 2.

4.5.3.4 Seismic Sensitivity

The **Seismic Sensitivity** control is used to adjust the sensitivity of the SEISMIC (Pedestrian/Vehicle) sensor. The sensitivity is adjustable from 1 (least sensitive) to 5 (most sensitive). This setting is only available when **Seismic-Veh** or **Seismic-Ped** detections are enabled.

Note: A setting of 3 is satisfactory for most installations. Also note that high settings can trigger false detections. Therefore, set the sensitivity only as high as necessary to obtain the required coverage.

4.5.3.5 Left Sensitivity

The Left Sensitivity control is used to adjust the sensitivity of the LEFT sensor. The sensitivity is adjustable from 1 (least sensitive) to 5 (most sensitive).

Note: A setting of 4 is satisfactory for most installations. High settings can trigger false detections. Set the sensitivity only as high as necessary to obtain the required coverage.

4.5.3.6 Right Sensitivity

The Right Sensitivity control is used to adjust the sensitivity of the RIGHT sensor. The sensitivity is adjustable from 1 (least sensitive) to 5 (most sensitive).

Note: A setting of 4 is satisfactory for most installations. High settings can trigger false detections. Set the sensitivity only as high as necessary to obtain the required coverage.

When finished, tap **OK** to return to the configuration screen. Tap **Cancel** to abort the process.

Tapping the **Help** button initiates the PT-210 Sensor Detection Section help system. From the menu bar the operator also has access to the EIDS Help contents and to the TDS Recon help contents. A **Find** feature allows the operator to search for a particular item.

Note: The menu bar selections at the bottom of the configuration screen are not available in this operation.

4.5.4 Directional Mode

The **Directional Mode** section contains configuration items relating to directional detection mode. Though this field is accessible, the **Directional** mode must be selected in the **Sensor mode** field in section 4.5.3.1. Tap the **Directional Mode** message text or double-tap the **Directional Mode** contents field to access the adjustment screen.

4.5.4.1 Number of Sensors

When using Passive Infrared sensors in **Directional Mode**, you have the option of **using either 1 or 2 physical sensors**. Directional mode using a single IF-520 or IF-540 is possible because the passive infrared sensor contains two sensing elements each producing a field of view. However, with one sensor, the angle of the dead zone separating the two fields of view is rather narrow (approximately 3 degrees). To increase deployment flexibility, the use of two sensors is recommended. When using a single sensor in directional mode, **select 1**. When using two sensors in directional mode, **select 2**.

Note: The selection of one or two sensors applies to Passive Infrared sensors only. Magnetic sensors must be used in pairs.

4.5.4.2 Delays

- **L-to-R minimum:** This is the minimum time period permissible between left and right detections. Detections that occur at a time interval less than the specified minimum time will be ignored. The valid range for this period is 00:00 to 04:59 (minutes and seconds). This delay must be less than the Directional Maximum Delay (See below). A Minimum Delay is useful to detect slow moving objects within a monitored area.
- **R-to-L minimum:** This is the minimum time period permissible between right and left detections. Detections that occur at a time interval less than the specified minimum time will be ignored. The valid range for this period is 00:00 to 04:59 (minutes and seconds). This delay must be less than the Directional Maximum Delay (See below). A Minimum Delay is useful to detect slow moving objects within a monitored area.
- **Maximum:** This is the maximum time period permissible between detections from the left and right sensors. Detections that occur at a time interval greater than the specified maximum time will be ignored. The valid range for this period is 00:00 to 5:00 (minutes and seconds). This delay must be greater than the Left-To-Right Minimum Delay and the Right-To-Left Minimum Delay. A Maximum Delay is useful to detect fast moving objects within a monitored area.

When finished, tap **OK** to return to the configuration screen. Tap **Cancel** to abort the process.

Tapping the **Help** button initiates the PT-210 Directional Mode Section help system. From the menu bar the operator also has access to the EIDS Help contents and to the TDS Recon help contents. A **Find** feature allows the operator to search for a particular item.

Note: The menu bar selections at the bottom of the configuration screen are not available in this operation.

4.5.5 Transmitter

The **Transmitter** section contains configuration items relating to transmit frequency, number of transmissions per event, and miscellaneous other items. Tap the **Transmitter** message text or double-tap the **Transmitter** contents field to access the adjustment screen.

4.5.5.1 Unit ID

The **Unit ID** establishes the PT-210M's identity. All PT-210M transmissions contain the Unit ID as well as other information to describe the nature of the event. The Unit ID valid range is 0 to 8175.

4.5.5.2 Digital Frequency (MHz)

The Digital Frequency is used for transmitting messages in the EIDS digital message format. The PT-210M frequency range is set at the factory and is displayed following a read of the unit. Available PT-210M frequencies are selected by tapping on the drop-down list control and selecting the desired frequency. The PT-210M unit cannot transmit on any other frequency other than the specific ones shown.

Note: If both digital and voice transmissions are desired, the user may elect to transmit on the same or different frequencies.

4.5.5.3 Voice Frequency (MHz)

The Voice Frequency is used for transmitting messages in the synthesized voice format. The PT-210M frequency range is set at the factory and is displayed following a read of the unit. Available PT-210M frequencies are selectable by tapping on the drop-down list control and selecting the desired frequency. The PT-210M unit cannot transmit on any other frequency other than the specific ones shown.

Note: If both digital and voice transmissions are desired, the user may elect to transmit on the same or different frequencies.

4.5.5.4 Transmit digital

The Transmit digital field establishes the number of times a message will be transmitted using the EIDS digital format. The count is selectable from disable to 3 times. If the Digital Transmit Count is disabled, the PT-210M will not transmit a digital message.

Note: If the Digital Transmit Count is other than disabled, and a Tamper detection occurs, the Tamper event will be transmitted 3 times.

4.5.5.5 Transmit voice

The Transmit voice field establishes the number of times a message will be transmitted using the synthesized voice format. The count is selectable from disable to 3 times. If the Voice Transmit Count is disabled, the PT-210M will not transmit a voice message.

Note: If the Voice Transmit Count is other than disabled, and a Tamper detection occurs, the Tamper event will be transmitted 3 times.

4.5.5.6 CTCSS Frequency

When voice transmissions are enabled, the PT-210M supports the addition of a CTCSS (Continuous Tone Coded Squelch System) tone. To enable CTCSS, select the desired tone frequency from the drop-down list control. To disable CTCSS, select “None”.

4.5.5.7 Camera trigger pulse

Prior to transmitting a sensor event, the PT-210M can activate a camera trigger output. The camera trigger output produces a momentary connection to ground, often used to trigger an externally connected device (i.e. relay, still camera, or video camera.) The camera trigger pulse width is adjustable from 0 to 1.5 seconds in 50 millisecond increments.

Note: The camera trigger is NOT activated when transmitting a Status 1 or Status 2 event.

When finished, tap **OK** to return to the configuration screen. Tap **Cancel** to abort the process.

Tapping the **Help** button initiates the Transmitter Section help system. From the menu bar the operator also has access to the EIDS Help contents and to the TDS Recon help contents. A **Find** feature allows the operator to search for a particular item.

Note: The menu bar selections at the bottom of the configuration screen are not available in this operation.

4.5.6 Schedule

The schedule section contains configuration items relating to the schedule of operation of the PT-210M. Tap the **Schedule** message text or double-tap the **Schedule** contents field to access the adjustment screen.

4.5.6.1 Send status at the following times

The PT-210M provides the ability to send up to 2 status transmissions per day. Status transmissions are sent to indicate to the recipient that the PT-210M is operational and that the transmission is properly generated and received.

- Checking the box next to the number 1 in this field activates Status 1 transmission. If enabled, a status 1 transmission will occur each day at the time specified by the time field next to the check box. Enter the desired time using the up and down arrows located in the field box.
- Checking the box next to the number 2 in this field activates Status 2 transmission. If enabled, a status 2 transmission will occur each day at the time specified by the time field next to the check box. Enter the desired time using the up and down arrows located in the field box.

Note: Status 1 and status 2 are independent of each other. Status 2 does not require status 1 to be enabled for operation. Status 1 Time cannot be the same as the On Time, Off Time, or Status 2 Time. Status 2 time cannot be the same as the On Time, Off Time, or Status 1 Time.

4.5.6.2 Detect continuously

If this control is checked, the PT-210M will be “On” (processing sensor detections) at all times.

4.5.6.3 Detect only during specified times

If this control is checked, the PT-210M will be “On” (processing sensor detections) only from the “On” time to the “Off” time on the days specified. When this control is selected, the **On** and **Off** time field boxes become editable as well as the check boxes next to the individual days of the week.

- The On time is used only in this section. This is the time of day the PT-210M will begin processing sensor detections and is programmable from 00:01 to 23:59 (hours and minutes). Enter the desired **On** time using the up and down arrows located next to the field box.

Note: The On Time cannot be the same as the Off Time, Status 1 Time, or Status 2 time.

- The Off time is used only in this section. This is the time of day the PT-210M will stop processing sensor detections and is programmable from 00:01 to 23:59 (hours and minutes). Enter the desired Off time using the up and down arrows located next to the field box.

Note: The Off Time cannot be the same as the On Time, Status 1 Time, or Status 2 Time.

- In this mode of operation the PT-210M can be programmed to process sensor activity on any desired day(s) of the week. To enable the PT-210M to go “On” and process sensor detections, check the desired day(s) of the week. On days that are unchecked, the PT-210M will remain “Off” when the “On” time arrives.

When finished, tap **OK** to return to the configuration screen. Tap **Cancel** to abort the process.

Tapping the **Help** button initiates the Schedule Section help system. From the menu bar the operator also has access to the EIDS Help contents and to the TDS Recon help contents. A **Find** feature allows the operator to search for a particular item.

Note: The menu bar selections at the bottom of the configuration screen are not available in this operation.

4.5.7 Inhibit

The **Inhibit** parameters specify a shutdown period where the **sensor circuits** are **desensitized** immediately prior to a message transmission, and remain desensitized for the selected amount of time after the end of transmission. Tap the **Inhibit** message text or double-tap the **Inhibit** contents field to access the adjustment screen.

The Inhibit period allows the RF transmission energy to dissipate, **preventing false detections** caused by potential feedback through the sensitive detection processing circuit.

The minimum 5-second value is adequate for Sensor Inhibit settings. A minimum 7 seconds value is recommended for the Transmit Inhibit. In some instances, a longer inhibit time may be desired to reduce transmissions in areas which experience high levels of activity.

When finished, tap **OK** to return to the configuration screen. Tap **Cancel** to abort the process.

Tapping the **Help** button initiates the Inhibit Section help system. From the menu bar the operator also has access to the EIDS Help contents and to the TDS Recon help contents. A **Find** feature allows the operator to search for a particular item.

Note: The menu bar selections at the bottom of the configuration screen are not available in this operation.

5.0 Technical Specifications

ELECTRICAL

Frequency:	151.820, 151.880, 151.940, 154.570, and 154.600MHz.
Channel Spacing:	10kHz
Modulation Type:	Narrow band FM +/- 2.5kHz peak deviation typical
RF Power Output:	2 Watts maximum into 50 Ohms
Operating voltage:	7 - 15VDC
Quiescent current:	< 750µA
Peak current	
During transmission:	0.70A +/- .25A
Power Supply:	8 ea EN22 or equivalent (std. 9V) Other power options available
Coding:	Digital (EIDS format) or voice (synthesized male)
CTCSS:	Sub-audible tones, all 37 standard tones user selectable

MECHANICAL

Size:	10.75" x 5.10" x 1.80" (273 x 155 x 46mm)
Weight:	4.2 lbs (1.9kg) with (8)ea EN22 batteries
Case:	Aluminum with integral battery compartment
Electronics:	Sealed in case with all connections via sealed connectors
Color:	Olive drab green
Operating temp.:	-20°C to +60°C
Waterproof:	To 3ft. (1m)
External connections:	(1) TNC (2) 10-pin female (left, right) (1) 10-pin male, keyed (aux.)

Factory Contact Information:

Eagle Telonics JV (480) 892-4444 phone
932 E. Impala Ave (480) 892-9139 fax
Mesa, Az. 85204 et@telonics.com email