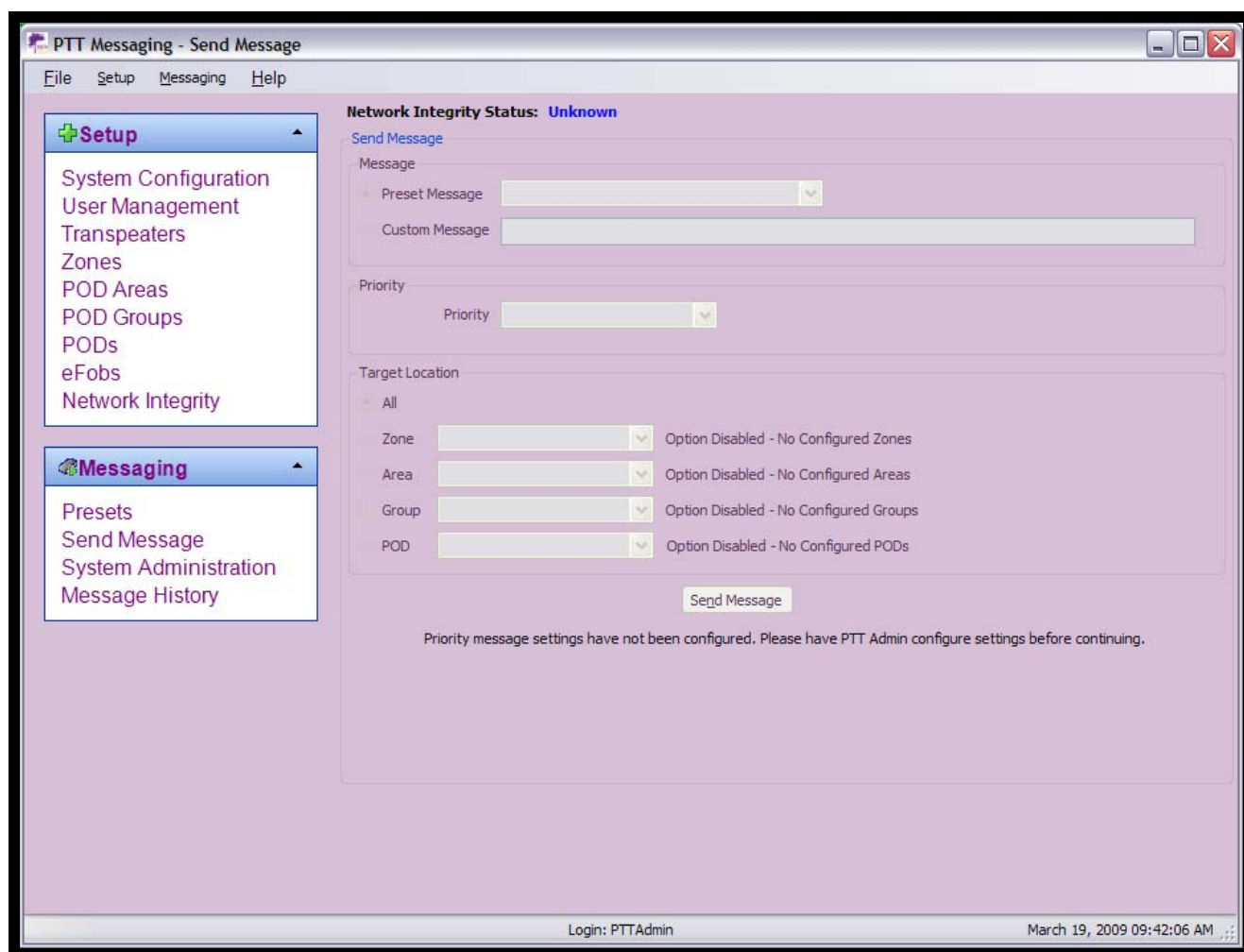


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PTT Messaging



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PTT Messaging System

About

PTT Messaging offers:

- A point to multipoint system architecture
- Internal rechargeable battery in the hardware provides uninterrupted communication during a power outage.
- Multiple alert types each with configurable audible, visual and physical settings
- The ability to target messages to a particular location

What's Available

PTT Messaging system is a highly reliable, scalable, and flexible system designed to disseminate critical information in an emergency situation.

The system provides multiple alert types to indicate the level of the emergency. Each alert type can be configured to have a unique audible alert.

Message PODs can be connected to large LED scrolling message signs in order to convey the alert message over a larger distance.

The system can be divided into multiple levels allowing information to be targeted to a small subset of the system.

The software implements a detailed security model allowing for a high level of feature control.

Preset messages can be configured in order to reduce the amount of time spent sending an alert message which could be critical in an emergency situation.

The system checks the network integrity on a regular basis and alerts users if there is a problem

End User License Agreement

End-User License Agreement for the Purple Tree Technologies (PTT) Messaging System

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By using this software, you are agreeing to the terms of this license.

Technical Support

Purple Tree Technologies, a privately held company based in Columbia, Missouri, is the developer of the only emergency alert response system technology capable of broadcasting geo-specific emergency alerts to a dedicated receiving device (e-Fob) the size of a keychain and through self-deployed or cellular phone networks. You can obtain technical support using any of the following methods:

Purple Tree Technologies Website

<http://www.purpletreetechnologies.com/index.php>

Internet e-mail

info@purpletreetechnologies.com

By Phone

+011.1.800.708.8554

Databases

The PTT Messaging application requires the file PTTMessaging.accdb for the storage and retrieval of system information. The database is Microsoft Access 2007, and is used for storing information such as user accounts, preset messages, hardware configurations and the overall system configuration. The database is located in a folder called *Data* in the PTT Messaging install directory. In order to view the contents of the database, Access 2007 must be installed.

About this Document

Log In – explains how to successfully log in to the PTT Messaging application.

Main Screen – presents the main application screen including navigation.

System Configuration – contains information on how to configure the PTT Messaging system.

User Management – discusses the tasks involved with user management including descriptions of the system's security levels.

Transpeater Management – describes tasks involved with transpeater management

Zone Management – has information on zone management

POD Area Management – provides instructions on managing areas

POD Group Management – explains task involved with group management

POD Management – contains information on managing POD devices

eFOB Management – describes how to configure eFOB devices

Network Integrity – this section provides user with details on network integrity

Preset Management – has information on preset message management

Send Message – shows users how to send basic alert messages

System Administration - presents the screen used by PTT administrators

Message History – shows the message history screen

Troubleshooting – this section provides users with troubleshooting information

Appendix A: Agency Certifications – presents certification information

Appendix B: Database Structure – explains the database structure presenting all tables and fields

Appendix C: System Configuration – presents system configuration information from a hardware view

Appendix D: Hardware – contains hardware information pertinent to the end user.

Conventions

This guide uses the following symbols and conventions to emphasize certain information.

Italics –References a control or field on the screen being discussed.

1. – Numbered list where the order of the list is important.

● – Bulleted list where the items are of equal importance and their order is unimportant.

* – Means that the field is required.

** – Means that a special condition applies to that field. An explanation can be found at the bottom of the page that it appears on.

Log In

Log In Screen

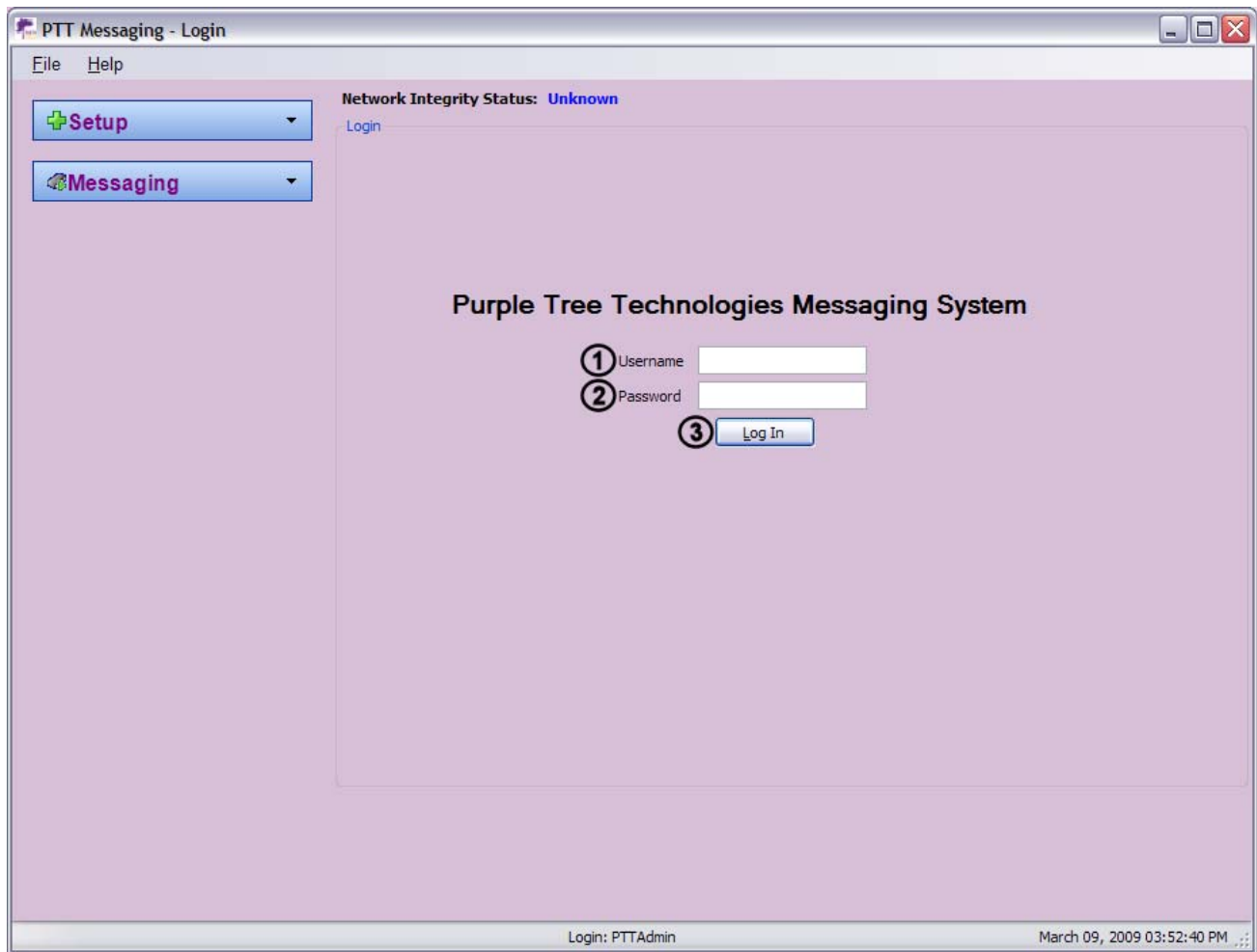


Figure 1: Log In Screen

1. Username – Enter a valid username
2. Password – Enter a password that corresponds to the name entered in the username field
3. Log In button - Button pressed to log in to the system. If the login is successful, the Login screen will close and the Main screen will be displayed.

First Time Log In

When PTT Messaging is installed, there is only 1 user account available that has access to everything in the system. The log in credentials are only available to a PTT administrator so this administrator is responsible for setting up other user accounts for general users. Please contact a Purple Tree Technologies representative if there are any issues.

Logging into the System

In order to log into the system:

1. User must first have an active user account
2. Enter the username and password associated with that account in the appropriate fields
3. Press the Log In button.

When a log in is successful, the Main screen will be displayed. If the log in is unsuccessful, then a message box will be displayed informing the user of invalid log in credentials.

Main Screen

Main Screenshot

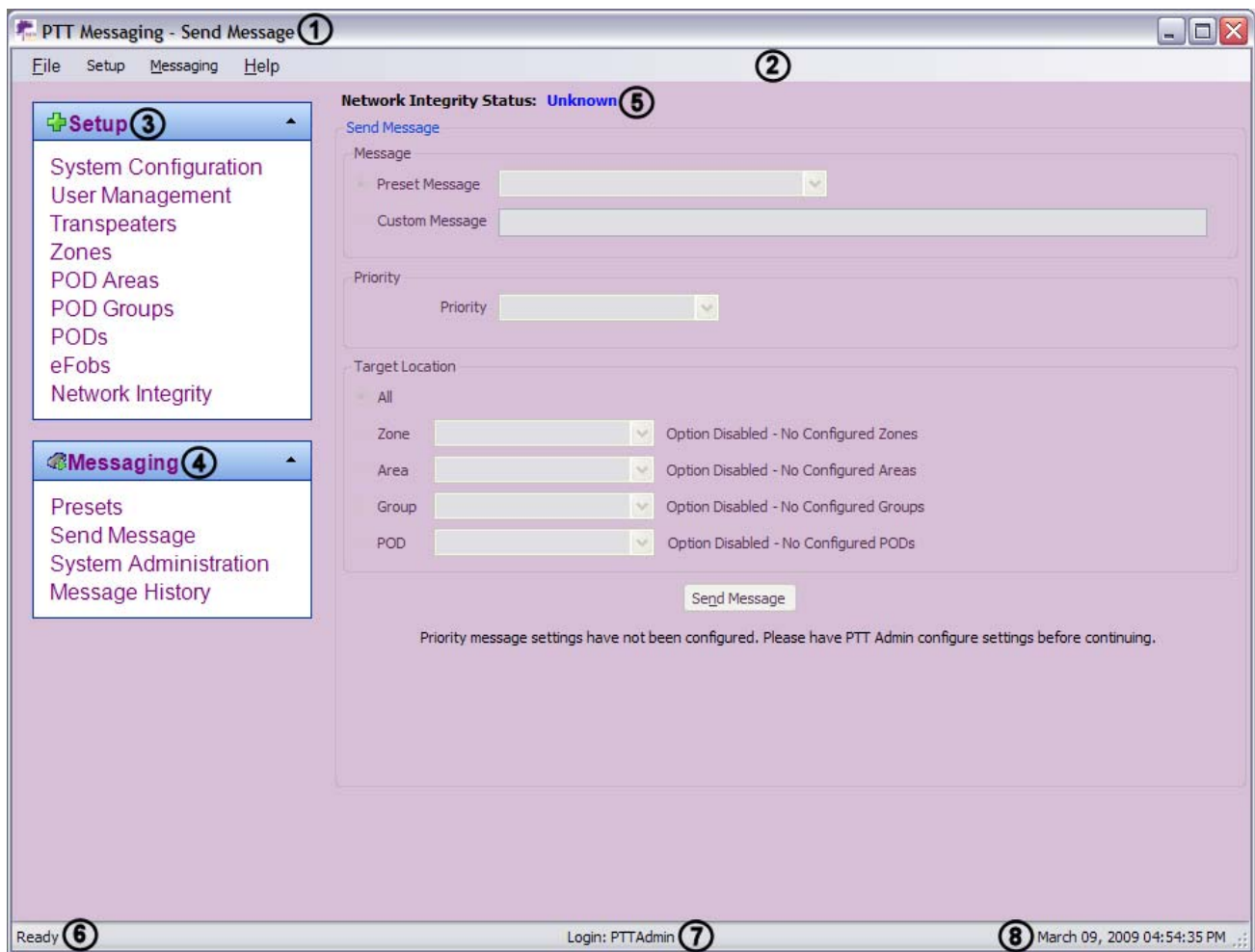


Figure 2: Main Screen

1. Title Bar – Displays the name of the application and the current screen being displayed
2. Main Menu – List of available application options
3. Setup Topic menu – Displays available setup options. The options available are dependent on the user privileges.

4. Messaging Topic Menu – Displays available messaging options. The options available are dependent on the user privileges.
5. Network Integrity Status – Displays the status of the network based on data from the last network integrity test. See Network Integrity Check for more details.
6. Status Messaging – This area displays the status of application activities
7. Log In Information – This area displays the user currently logged into the application
8. Date/Time – This area displays the current date and time

Navigation

Setup

The setup menus contain links to the systems' setup screens. These menus and the links within the menus are only available to users with the PTT Admin or the Site Admin privileges. See the security section for more information on the systems security scheme.

System Configuration

Link to the system configuration screen where users can set up the systems communication

User Management

Link to the user management screen where users can add, edit and delete users from the system

Transpeaters

Link to the transpeater management screen where users add, edit and delete transpeaters from the system

Zones

Link to the zone management screen where users add, edit and delete zones from the system

POD Areas

Link to the area management screen where users add, edit and delete areas from the system

POD Groups

Link to the group management screen where users add, edit and delete groups from the system

PODs

Link to the POD management screen where users add, edit and delete PODs from the system

eFOBs

Link to the eFOB management screen where users can clear and configure eFOB addresses

Network Integrity

Link to the network integrity screen where users can run a manual integrity test, view the status of past tests and export test data

Messaging

The messaging menus contain links to the systems' message related screens like preset management, send messages and message history.

Presets

Link to the preset management screen where users add, edit and delete presets from the system

Send Message

Link to the send message screen where users can send preset or custom messages to all units, a zone, an area, a group or a particular unit

System Administration

Link to the system administration screen accessible only to PTT Admins that allow for further system configuration

Message History

Link to the message history screen that displays the last 250 messages sent from the system.

System Configuration

System Configuration Screen

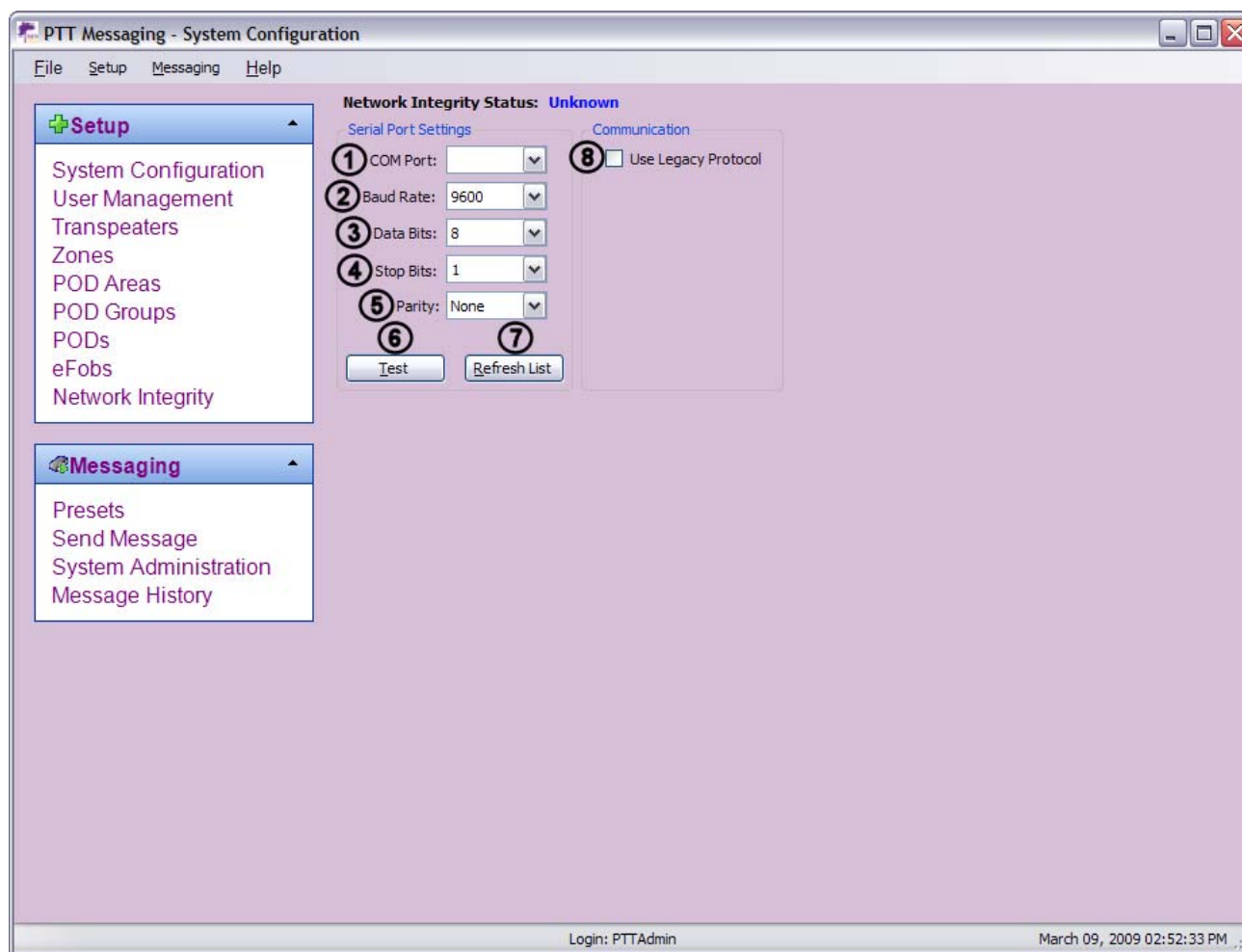


Figure 3: System Configuration Screen

1. COM Port Setting – Drop down list that displays the available COM ports
2. Baud Rate Setting – Drop down list that displays the COM ports available baud rates
3. Data Bits Setting – Drop down list that displays the COM ports available data bits
4. Stop Bits Setting – Drop down list that displays the COM ports available stop bits
5. Parity Setting – Drop down list that displays the COM ports available parity

6. Test COM Port Button – Button used to verify COM port settings
7. Refresh COM Port List Button – Button used to refresh the list of available COM ports
8. Use Legacy Protocol Check box – Checkbox used to specify whether to use the legacy messaging protocol

Serial Port Settings

The serial port settings configure that protocol and speed at which the application communicates with the transponder connected to the computer. The ideal settings are as follows:

- 9600 baud
- 8 data bits
- No parity
- 1 stop bit
- No flow control

User Management

User Management Screen

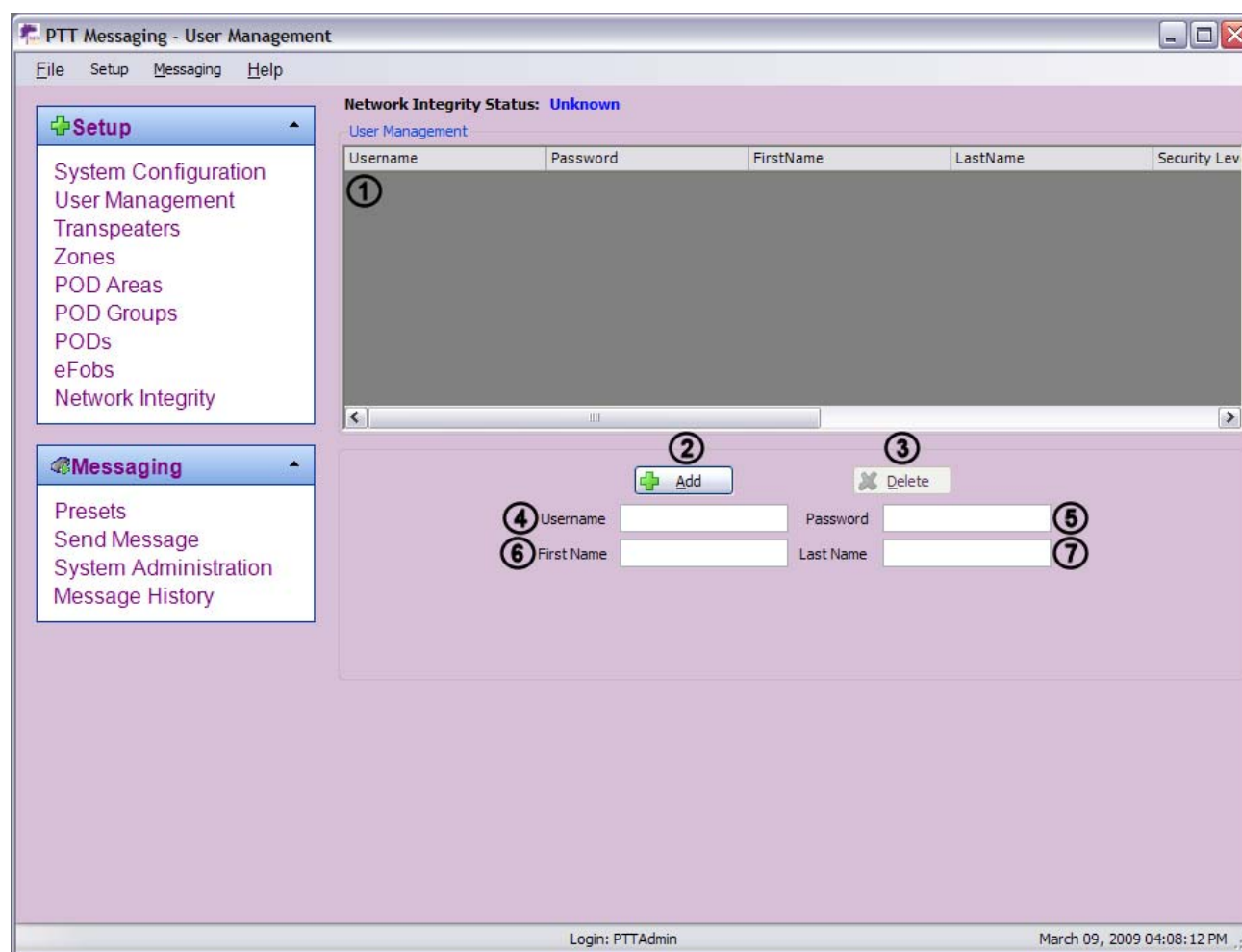


Figure 4: User Management Screen

1. User List – List of configured users
2. Add New User button – Button used to add a new user to the system
3. Delete Selected User Button – Button used to delete the selected user from the system
4. Username Field * – Field used to enter a new username
5. Password Field * – Field used to enter the password of the new user

6. First Name Field * – Field used to enter the first name of the new user
 7. Last Name Field * – Field used to enter the last name of the new user
- * Required fields

Creating New User

To create a new user:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the User Management screen
3. Enter a unique username, password, first name and the last name
4. Select the Add button.

The new user will appear in the user list at the top of the screen; see User Management Screenshot.

All the fields are required, and each user must have a unique username.

Editing Existing User

To edit an existing user:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the User Management screen
3. Select the user to edit from the list
4. Double click in the cell and proceed to editing the content.
5. Select the Enter key to save the changes, or the Esc key to cancel changes.

The updated content will appear in the user's entry in the user list; see User Management Screenshot.

The username, password, first name, and last name are required fields, and each user must have a unique username.

Deleting a User

To delete an existing user:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the User Management screen
3. Select the user to delete from the list
4. Select the Delete button to delete the selected user
5. When prompted by the system if you are sure you want to delete the selected user, press the Yes button

The selected user's entry will be removed from the user list; see User Management Screenshot.

The delete button is disabled if there are no entries in the user list.

Security

PTT Messaging has a multi tiered security scheme. The 1st tier is the security level. The 2nd tier is the priority level and the 3rd tier is assignable rights. To change a user's security:

1. Select the user's entry in the user list
2. To change the security level, choose from the available entries in the security level drop down list
3. To change the priority level, choose from the available entries in the priority level drop down list
4. To change the assignable rights, add/remove a check from the available rights.

For more detailed information, see the detailed sections.

Security Levels

There are 3 security levels available in the system. The security levels and what's available are as follows:

- PTT Admin – The PTT Admin has access to all aspects of the application.
- Site Admin – The Site Admin has access to all aspects of the application except for the System Administration screen because it is for more advanced hardware/software configuration.
- Message Sender – This security level only allows users to send messages. The only available link is send message under the messaging menus.

Priority Levels

The priority level setting controls which priorities the assigned user has available. The all clear priority level is available to all.

- Red – If a user is assigned the red priority level, the user can send red, yellow and green priorities.
- Yellow – If a user is assigned the yellow priority level, the user can send yellow and green priorities. The red priority is not available.
- Green – If a user is assigned the green priority, the user can send green priorities. The red and yellow priorities are not available.

Assignable Rights

There are 2 assignable rights; preset and custom messaging. The rights are not mutually exclusive and a user can have neither assigned.

Preset Messaging

Gives the user the ability to send preset messages

Custom Messaging

Gives the user the ability to send custom messages

Transpeater Management

Transpeater Management Screenshot

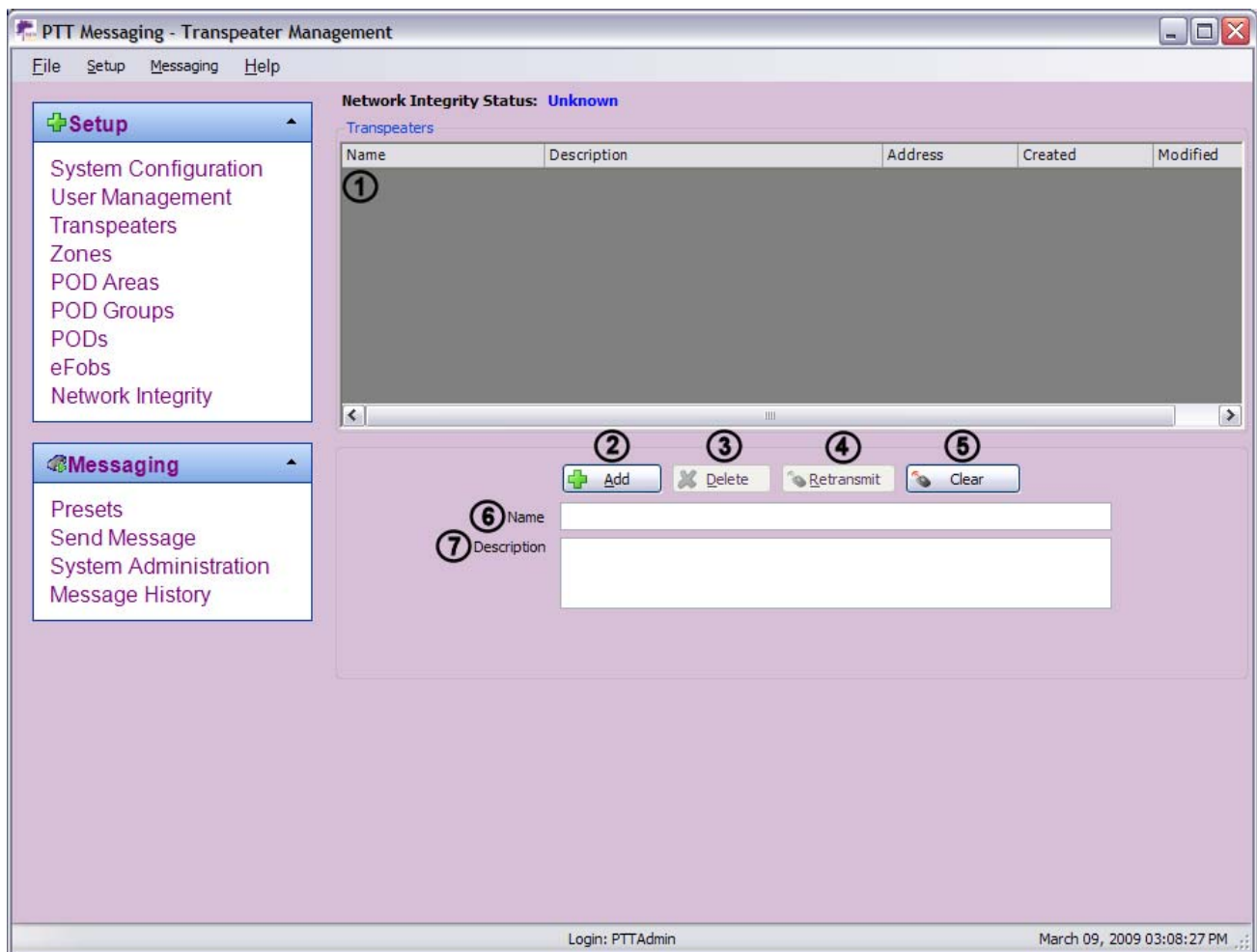


Figure 5: Transpeater Management Screen

1. Transpeater List – List of configured transpeaters
2. Add New Transpeater Button – Button used to add a new transpeater to the system
3. Delete Selected Transpeater Button – Button used to delete the selected transpeater from the system

4. Retransmit Address Configuration Message Button – Button used to resend address configuration message for the selected transpeater
5. Clear Button – Button used to send the clear transpeater address message
6. Transpeater Name Field * – Field used to enter the name of the new transpeater
7. Transpeater Description Field * – Field used to enter a description of the new transpeater

* Required fields

Configuring Transmitter

The transmitter is a transpeater that is tethered to a PC running the PTT Messaging application. It is the device that transmits the messages throughout the system. Configuring the transmitter is like adding a new transpeater to the system but requires a few extra steps. To setup the transmitter:

1. Log into the system with a user that is either a PTT admin
2. Go to the System Configuration screen
3. Select the COM port associated with the transmitter
4. Go to the System Administration screen
5. Configure the addressing to a broadcast message
6. Select the Enable Configuration button to set the transmitter into configuration mode
7. Go to the Transpeater Management screen
8. Enter a unique name and description
9. Select the Add button

The new transpeater will appear in the Transpeater list at the top of the screen if configuration was seen as successful

Creating New Transpeater

To create a new transpeater:

1. Log into the system with a user that is either a PTT admin
2. Go to the Transpeater Management screen
3. Enter a unique name and description
4. Power on or enable transpeater configuration (see System Administration)
5. Select the Add button

The new transpeater will appear in the Transpeater list at the top of the screen if configuration was seen as successful; see Transpeater Management Screenshot.

The definition of a successful transpeater configuration as seen by the application is defined as follows:

When adding a new transpeater, the application attempts to send the address of the newly created transpeater to the transpeater connected to the computer, then message is transmitted to the new transpeater. The application will not add the new transpeater to the system if the transpeater connected to the computer does not acknowledge that it received the message, but there is no way for the application to know if the transpeater's address was successfully configured. To physically verify that the address was configured, the 2 middle LEDs on the transpeater will blink twice when the configuration message has been received. So a successful configuration, according to the application, is the acknowledgement of the configuration message from the Transpeater. If the transpeater does not receive the configuration message, then press the retransmit button to send the configuration message again. For more information on system configuration, see Appendix C.

A transpeater can only be configured during the 30 second window after power up or after enabling configuration (see System Administration).

The name and description are required fields, and each transpeater must have a unique name.

As each transpeater is added, the system will sequentially set the address until the maximum address value has been reached, then the system will find and use an available address.

The maximum address value is 127 so when the maximum number of transpeaters has been reached, the Add button will become disabled.

See the troubleshooting section if there were configuration issues or a transpeater needs to be reconfigured.

Editing Existing Transpeater

To edit an existing Transpeater:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the Transpeater Management screen
3. Select the transpeater to edit from the list
4. Double click in the cell and proceed to edit the content.
5. Select the Enter key to save the changes, or the Esc key to cancel changes.

The updated content will appear in the transpeater's entry in the transpeater list; see Transpeater Management Screenshot.

The only fields that are editable are the name and the description fields.

The name and description are required fields, and each transpeater must have a unique name.

Deleting Transpeater

To delete an existing Transpeater:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the Transpeater Management screen
3. Select the transpeater to delete from the list
4. Select the Delete button to delete the selected transpeater
5. When prompted by the system if you are sure you want to delete the selected transpeater, press the Yes button

The selected transpeater's entry will be removed from the transpeater list; see Transpeater Management Screenshot.

The delete button is disabled if there are no entries in the transpeater list.

Zone Management

Zone Management Screenshot

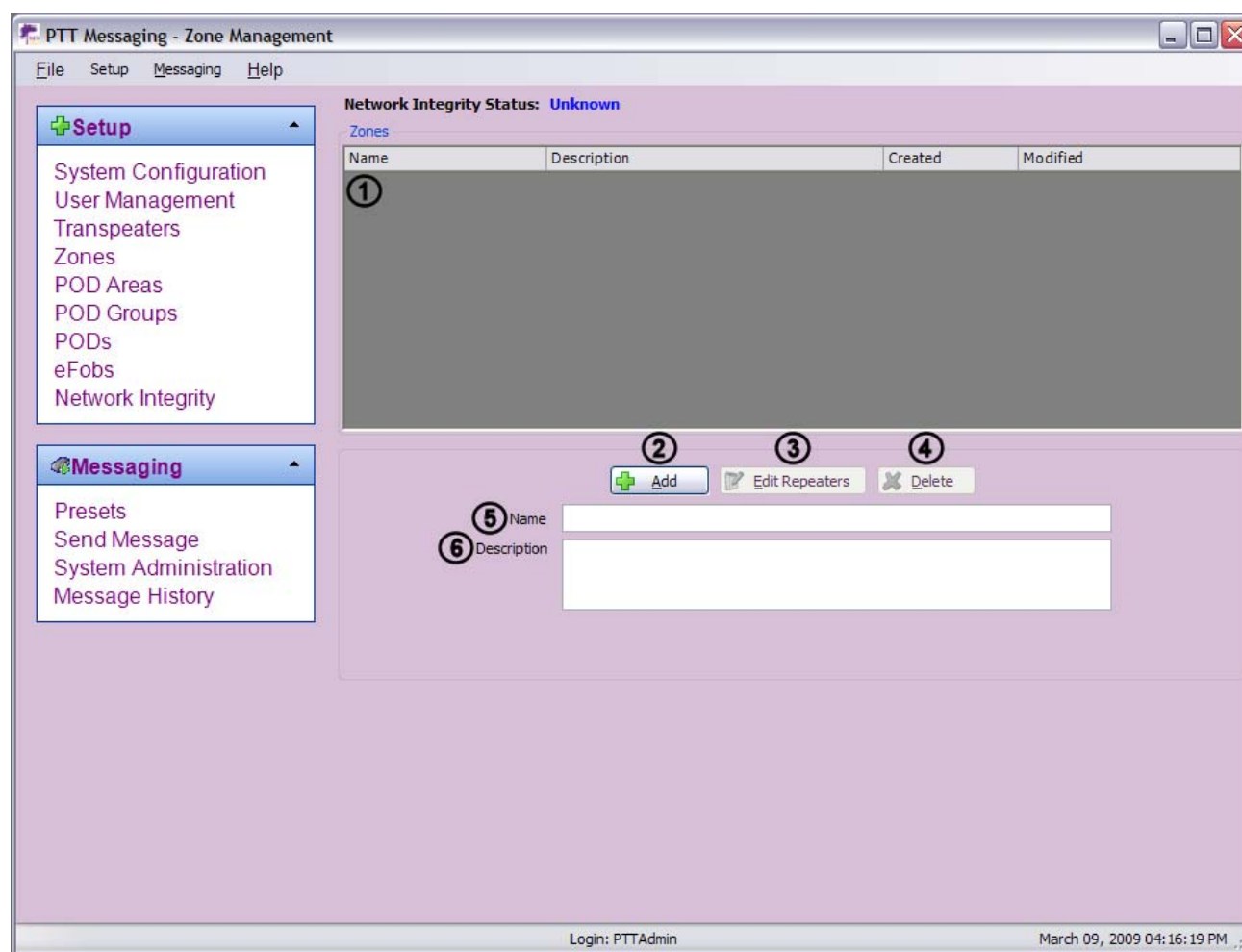


Figure 6: Zone Management Screen

1. Zone List – List of configured zones
2. Add New Zone Button – Button used to add a new zone to the system
3. Edit Zone Transpeaters Button – Button used to display the screen used to edit the transpeaters assigned to the selected zone
4. Delete Selected Zone Button – Button used to delete the selected zone from the system

5. Zone Name Field * – Field used to enter the name of the new zone
 6. Zone Description Field * – Field used to enter a description of the new zone
- * Required fields

Creating New Zone

To create a new zone:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the Zone Management screen
3. Enter a unique name and a description
4. Select the Add button.

The new zone will appear in the zone list at the top of the screen; see Zone Management Screenshot.

Both the name and the description are required fields, and each zone must have a unique name.

The maximum number of zones is 127 therefore when the maximum number of zones has been reached; the Add button will become disabled.

Editing Existing Zone

To edit an existing zone:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the Zone Management screen
3. Select the zone to edit from the list
4. Double click in the cell and proceed to editing the content.
5. Select the Enter key to save the changes, or the Esc key to cancel changes.

The updated content will appear in the zone's entry in the zone list; see Zone Management Screenshot.

Both the name and the description are required fields, and each zone must have a unique name.

Deleting Zone

To delete an existing zone:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the Zone Management screen
3. Select the zone to delete from the list
4. Select the Delete button to delete the selected zone
5. When prompted by the system if you are sure you want to delete the selected zone, press the Yes button

The selected zone's entry will be removed from the zone list; see Zone Management Screenshot.

The delete button is disabled if there are no entries in the zone list.

Assigning Transpeaters to Zones

There must be transpeaters configured in the system before continuing.

To assign a transpeater to a zone:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the Zone Management screen
3. Select the zone to assign a transpeater to
4. Select the Edit Transpeaters button and the Transpeater Assignment dialog will be displayed
5. Put a check next to the transpeater to assign it to the select zone
6. Select the OK button to save the changes

Transpeater Assignment Dialog

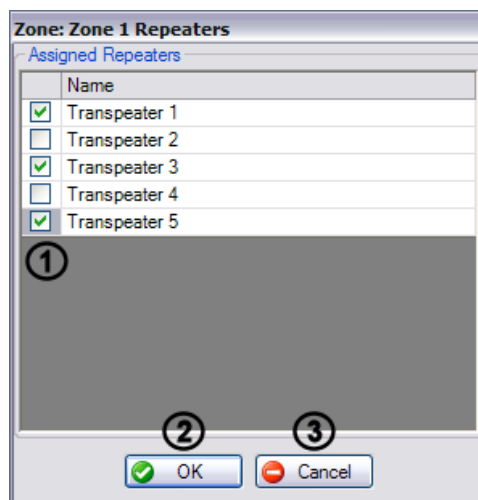


Figure 7: Transpeater Assignment Screen

1. Transpeater Assignment List – List of transpeaters available to the system. There are 2 columns, the name of the transpeater and a checkbox column used to assign the transpeater to the selected zone.
2. Save Changes (OK) Button – Button used to save the settings
3. Cancel Changes Button – Button used to cancel the settings

POD Area Management

POD Area Management Screenshot

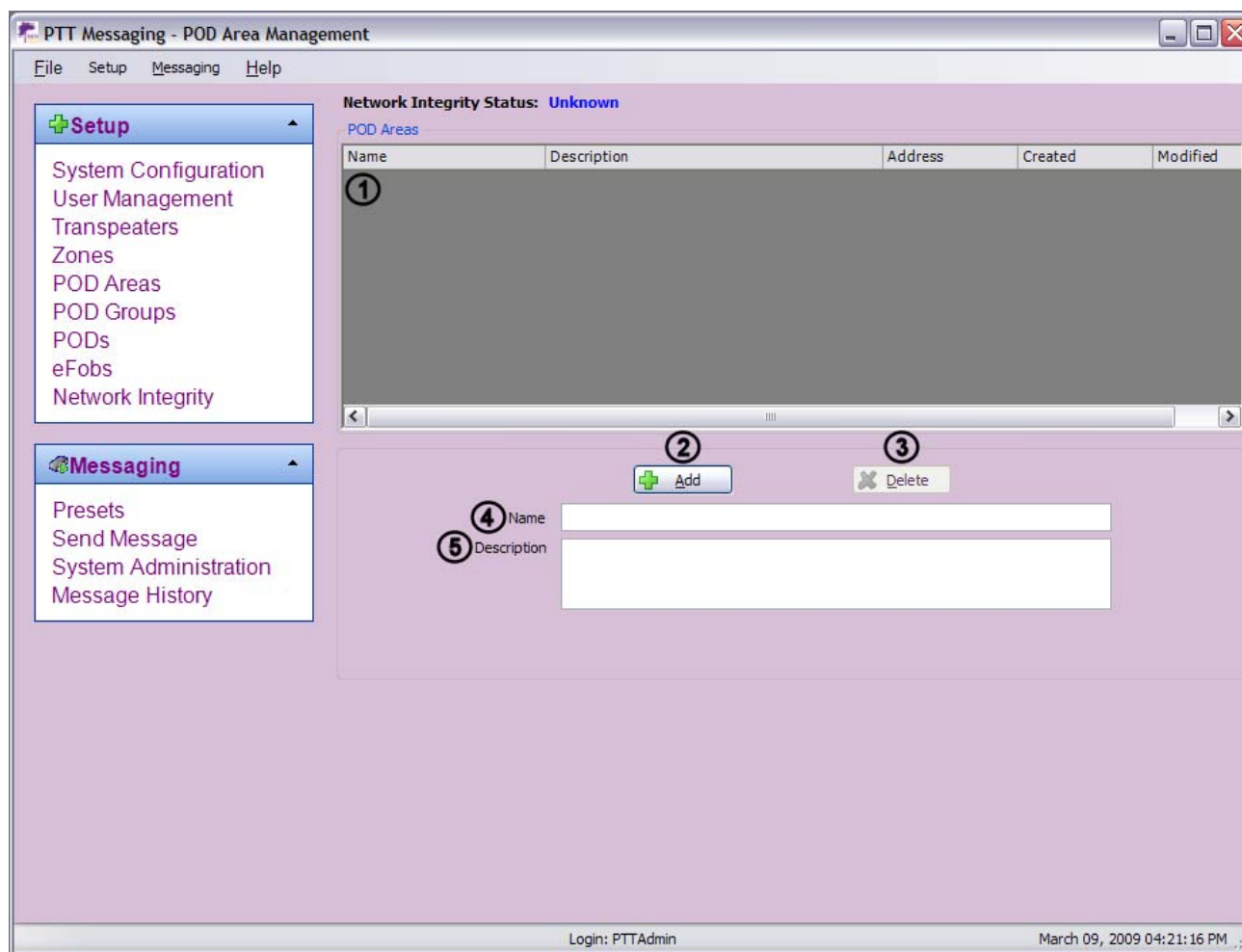


Figure 8: POD Area Management Screen

1. Area List – List of configured areas
2. Add New Area Button – Button used to add a new area to the system
3. Delete Selected Area Button – Button used to delete the selected area from the system
4. Area Name Field * – Field used to enter the name of the new area
5. Area Description Field * – Field used to enter a description of the new area

* Required fields

Creating New POD Area

To create a new area:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the POD Area Management screen
3. Enter a unique name and a description
4. Select the Add button.

The new area will appear in the area list at the top of the screen; see POD Area Management Screenshot.

Both the name and the description are required fields, and each area must have a unique name.

As each area is added, the system will sequentially set the address until the maximum address value has been reached, then the system will find and use an available address.

The maximum number of areas is 255 therefore the maximum address value is 255. When the maximum number of areas has been reached, the Add button will become disabled.

Editing Existing POD Area

To edit an existing area:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the POD Area Management screen
3. Select the area to edit from the list
4. Double click in the cell and proceed to editing the content.
5. Select the Enter key to save the changes, or the Esc key to cancel changes.

The updated content will appear in the area's entry in the area list; see POD Area Management Screenshot.

The only fields that are editable are the name and the description fields.

Both the name and the description are required fields, and each area must have a unique name.

Deleting POD Area

To delete an existing area:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the POD Area Management screen
3. Select the area to delete from the list
4. Select the Delete button to delete the selected area
5. When prompted by the system if you are sure you want to delete the selected area, press the Yes button

The selected area's entry will be removed from the area list; see POD Area Management Screenshot.

The delete button is disabled if there are no entries in the area list.

POD Group Management

POD Group Management Screenshot

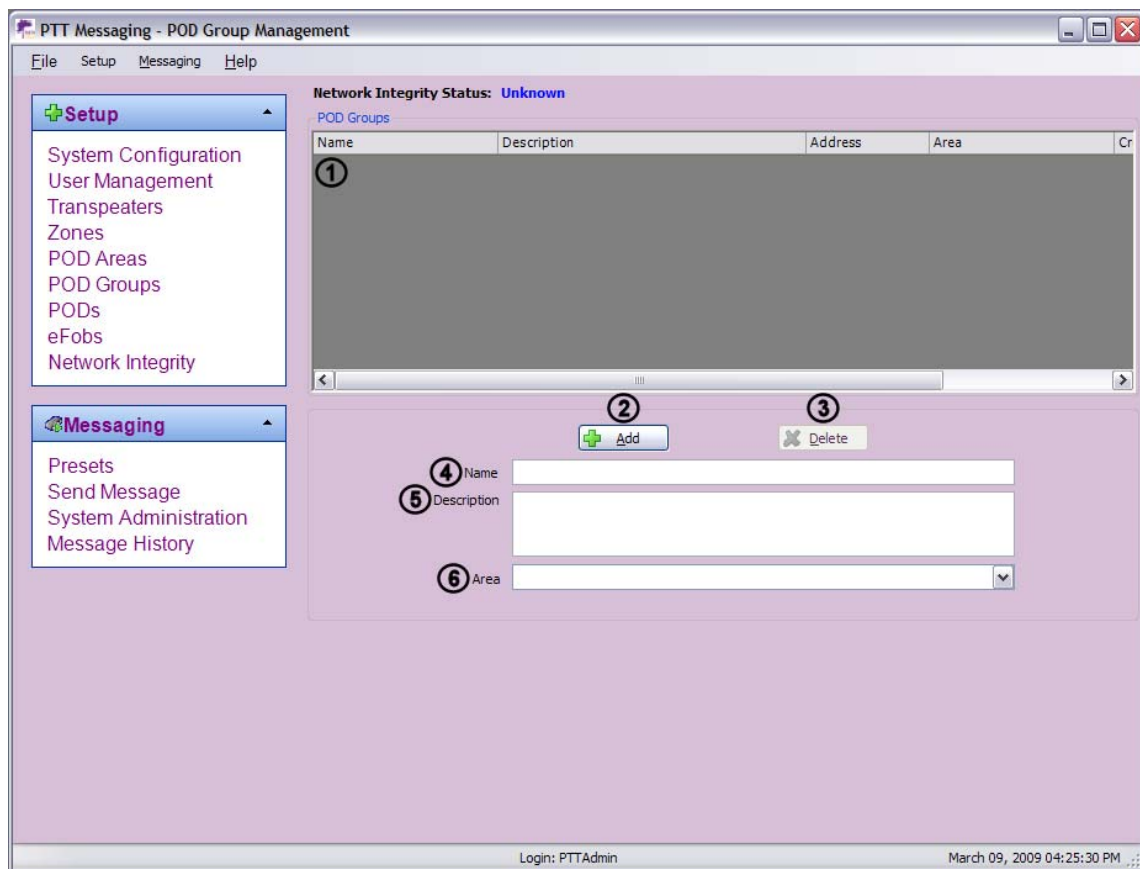


Figure 9: POD Group Management Screen

1. Group List – List of configured groups
2. Add New Group Button – Button used to add a new group to the system
3. Delete Selected Group Button – Button used to delete the selected group from the system
4. Group Name Field * – Field used to enter the name of the new group
5. Group Description Field * – Field used to enter a description of the new group
6. Group Area Drop Down List * – Drop down list of areas available to the system used to assign the group to an area

* Required fields

Creating New POD Groups

To add a new group, first there must be areas in the system because groups are assigned to areas. To add an area to the system, see Creating New POD Area.

To create a new group:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the POD Group Management screen
3. Enter a unique name, a description, and select the assigned area from the Area drop down list.
4. Select the Add button.

The new group will appear in the group list at the top of the screen; see POD Group Management Screenshot.

The name, description and area are required fields, and each group must have a unique name.

As each group is added, the system will sequentially set the address until the maximum address value has been reached, then the system will find and use an available address.

The maximum number of groups is 255 therefore the maximum address value is 255. When the maximum number of groups has been reached, the Add button will become disabled.

Editing Existing POD Group

To edit an existing group:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the POD Group Management screen
3. Select the group to edit from the list
4. Double click in the cell and proceed to editing the content.
5. Select the Enter key to save the changes, or the Esc key to cancel changes.

The updated content will appear in the group's entry in the group list; see POD Group Management Screenshot.

The only fields that are editable are the name and the description fields.

Both the name and the description are required fields, and each group must have a unique name.

Deleting POD Group

To delete an existing group:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the POD Group Management screen
3. Select the group to delete from the list
4. Select the Delete button to delete the selected group
5. When prompted by the system if you are sure you want to delete the selected group, press the Yes button

The selected group's entry will be removed from the group list; see POD Group Management Screenshot.

The delete button is disabled if there are no entries in the group list.

POD Management

POD Management Screenshot

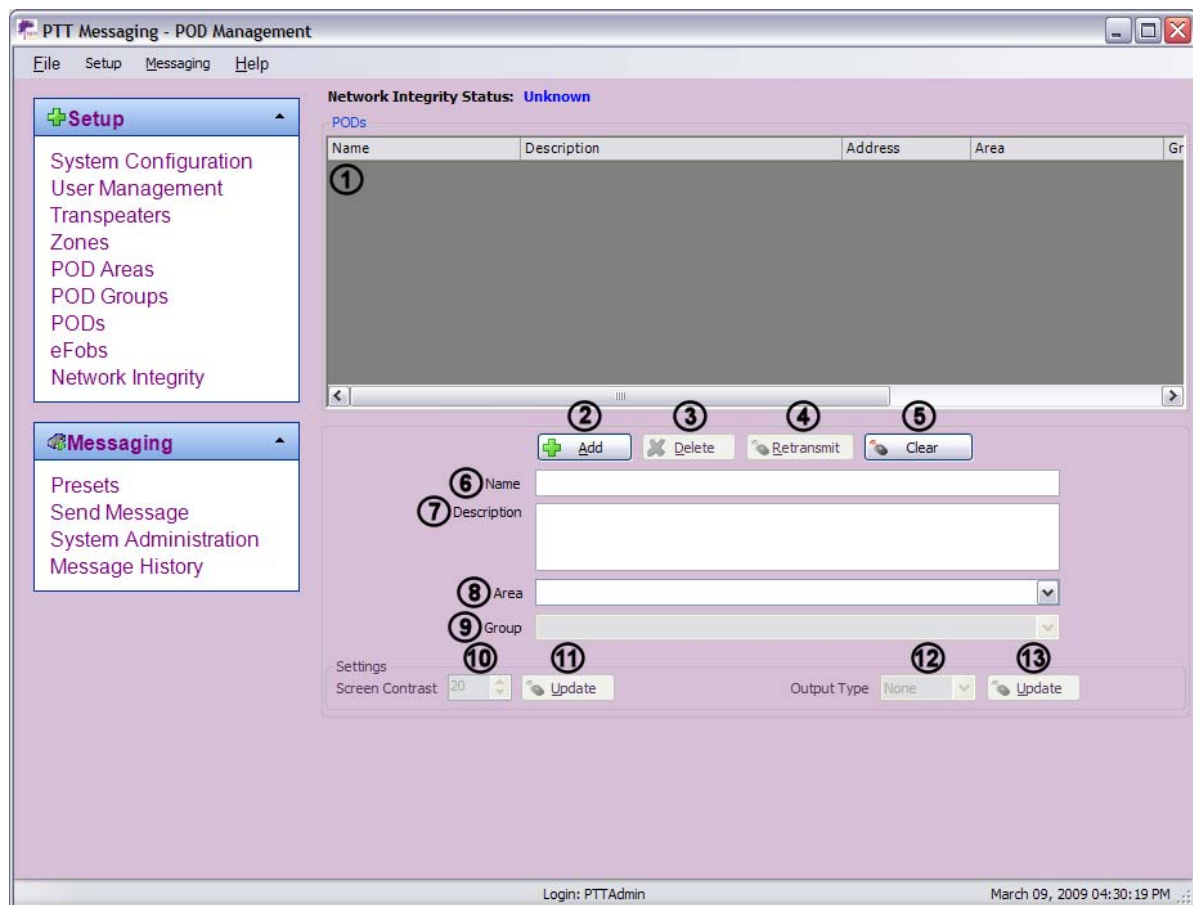


Figure 10: POD Management Screen

1. POD List – List of configured PODs
2. Add New POD Button – Button used to add a new POD to the system
3. Delete Selected POD Button – Button used to delete the selected POD from the system
4. Retransmit Address Configuration Message Button – Button used to resend address configuration message for the selected POD
5. Clear Button – Button used to send the clear POD address message
6. POD Name Field * – Field used to enter the name of the new POD

7. POD Description Field * – Field used to enter a description of the new POD
8. POD Area Drop Down List * – Drop down list of areas available to the system used to assign the POD to an area
9. POD Group Drop Down List * – Drop down list of groups available to the system used to assign the POD to a group
10. Screen Contrast Field – Field used to set the screen contrast for the update message
11. Update Button – Button used to send the set screen contrast message
12. Output type Drop Down List – Drop Down list of available output types to assign the POD to
13. Update button – Button used to send the set output type message

* Required fields

Creating New PODs

To add a new POD, first there must be areas and groups in the. To add an area to the system, see Creating New POD Area. To add a group to the system, see Creating New POD Group.

To create a new POD:

1. Power on the Transpeater connected to the computer
2. Log into the system with a user that is either a PTT admin
3. Go to the POD Management screen
4. Enter a unique name, a description, select the assigned area from the Area drop down list, and select the assigned group from the Group drop down list.
5. Power on the new POD being configured
6. Select the Add button.

The new POD will appear in the POD list at the top of the screen if configuration was seen as successful; see POD Management Screenshot.

The definition of a successful POD configuration as seen by the application is defined as follows:

When adding a new POD, the application attempts to send the address of the newly created POD to the Transpeater connected to the computer, and then the Transpeater transmits this address to the new POD. The application will not add the new POD to the system if the Transpeater does not acknowledge that it received the message, but there is no way for the application to know if the POD's address was successfully configured. To physically verify that the PODs' address was configured, the LEDs on the POD will blink twice when the configuration message is received and the address information on the screen will be updated. So a successful configuration, according to the application, is the acknowledgement of the configuration message from the Transpeater. If the POD does not receive the configuration message, then press the retransmit button to send the configuration message again. For more information on system configuration, see Appendix C.

A POD can only be configured during the 30 second window after power up or after enabling configuration (see System Administration).

The name, description, assigned area, and assigned groups are required fields, and each POD must have a unique name.

As each POD is added, the system will sequentially set the address until the maximum address value has been reached, then the system will find and use an available address.

The maximum number of groups is 65,535 therefore the maximum address value is 65,535. When the maximum number of PODs has been reached, the Add button will become disabled.

See the troubleshooting section if there were configuration issues or a POD needs to be reconfigured.

Editing Existing PODs

To edit an existing POD:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the POD management screen
3. Select the POD to edit from the list
4. Double click in the cell and proceed to edit the content.
5. Select the Enter key to save the changes, or the Esc key to cancel changes.

The updated content will appear in the POD's entry in the POD list; see POD Management Screenshot.

The only fields that are editable are the name and the description fields.

The name, description, assigned area, and assigned groups are required fields, and each POD must have a unique name.

Deleting PODs

To delete an existing POD:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the POD Management screen
3. Select the POD to delete from the list
4. Select the Delete button to delete the selected POD
5. When prompted by the system if you are sure you want to delete the selected POD, press the Yes button

The selected POD's entry will be removed from the POD list; see POD Management Screenshot.

The delete button is disabled if there are no entries in the POD list.

POD Configuration

This section discusses configuring the screen contrast and output type of a POD.

Screen Contrast

To change a PODs screen contrast:

1. Log into the system with a user that is either a PTT or Site admin
2. Power on or enable POD configuration (see System Administration)
3. Go to the POD Management screen
4. Select the POD to update from the list
5. Set the desired screen contrast value
6. Select the Update button to send the screen contrast configuration message

Output Type

To change a PODs output type:

1. Log into the system with a user that is either a PTT or Site admin
2. Power on or enable POD configuration (see System Administration)
3. Go to the POD Management screen
4. Select the POD to update from the list
5. Select the desired output type
6. Select the Update button to send the output type configuration message

eFOB Management

eFOB Management Screenshot

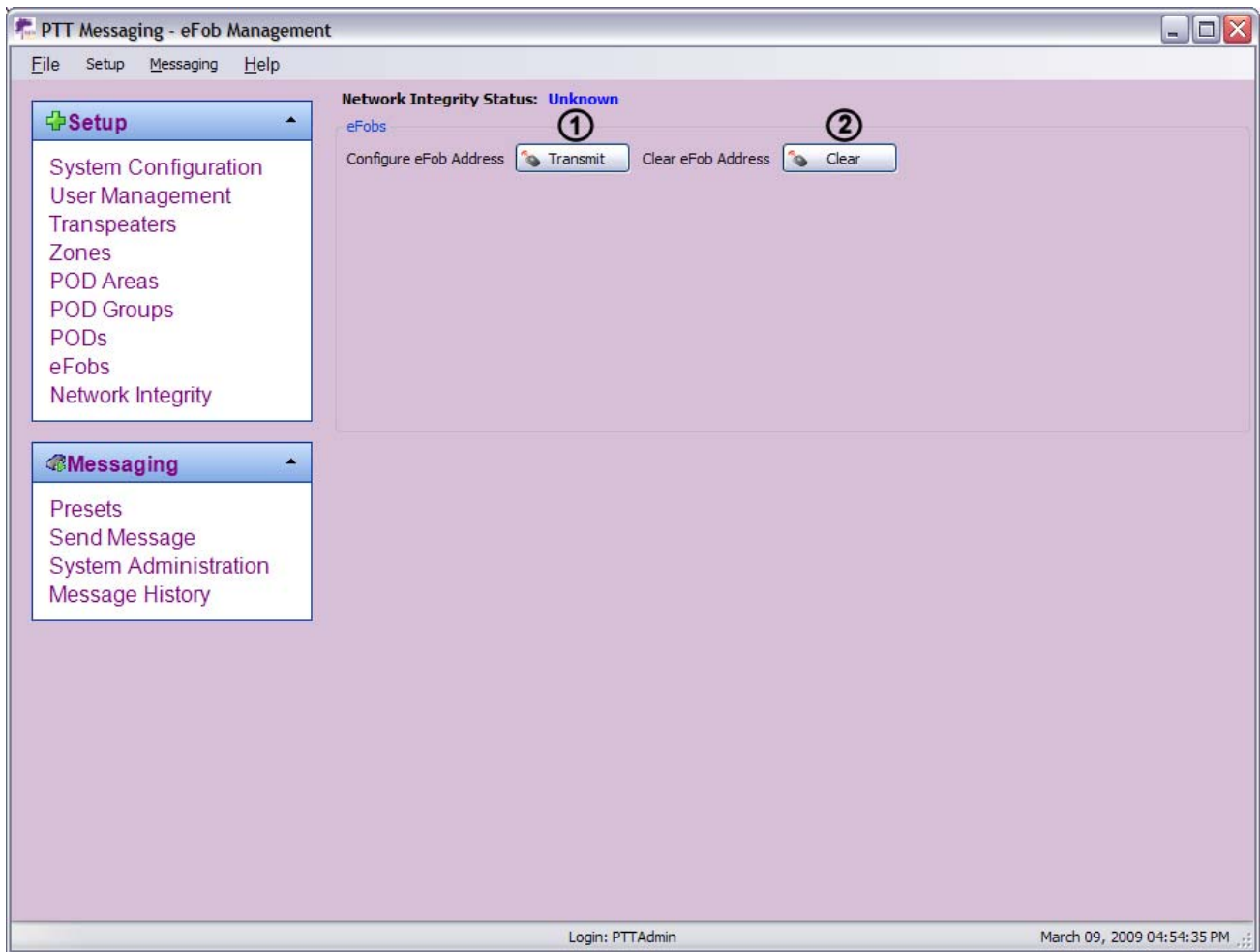


Figure 11: eFOB Management Screenshot

1. Transmit Button – Button used to transmit the site id configuration message to eFOBs
2. Clear Button – Button used to send the clear eFOB address message

eFOB Configuration

To configure the site ID of an eFOB:

1. Power on the transpeater connected to the computer
2. Log into the system with a user that is either a PTT admin
3. Go to the eFOB management screen
4. Power on or enable eFOB configuration (see System Administration)
5. Select the Transmit button

If the eFOB was configured correctly, the LEDs should flash twice and the site ID will be part of the info scrolling across the screen.

To clear the site ID of an eFOB:

1. Power on the transpeater connected to the computer
2. Log into the system with a user that is either a PTT admin
3. Go to the eFOB management screen
4. Power on or enable eFOB configuration (see System Administration)
5. Select the Transmit button

If the eFOB was cleared correctly, the LEDs should flash.

See the troubleshooting section if there are configuration issues or an eFOB needs to be reconfigured.

The eFOB address can only be configured during a 30 second window after power on or by sending the enable configuration command (see System Administration for more details).

Network Integrity

Network Integrity Screen

The network integrity screen is for viewing and exporting record information for network integrity checks that have been performed on the system.

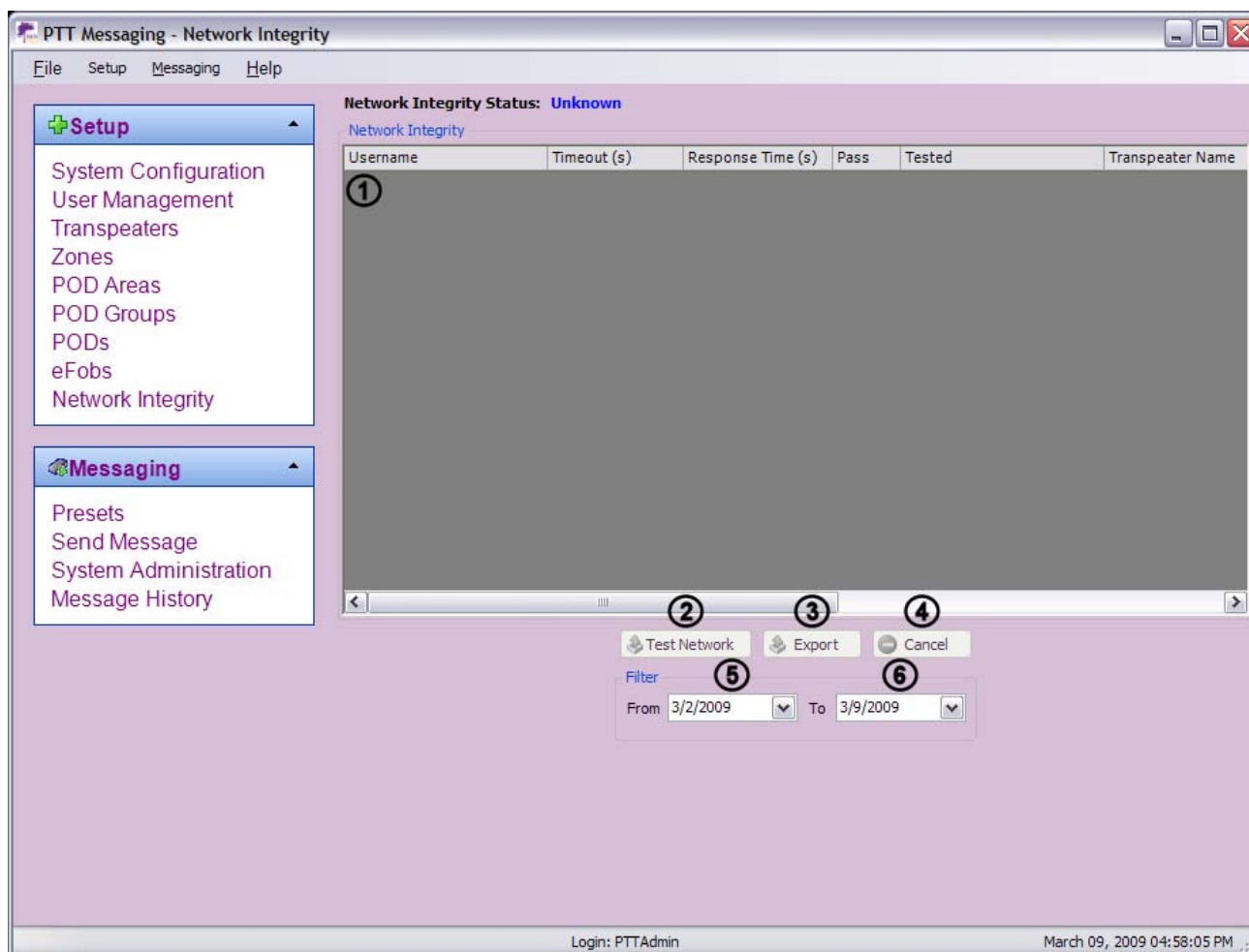


Figure 12: Network Integrity Screenshot

1. Network Integrity List – List of network integrity test records
2. Test Network button – Button used to manually run the network integrity check
3. Export Button – Button used to export the visible record list to a CSV file
4. Cancel button – Button used to cancel the network integrity check
5. From Date – Field used to pick the start date for filtering the network integrity test records
6. To Date – Field used to pick the end date for filtering the network integrity test records

Network Integrity Check

Network integrity check is the mechanism by which the application verifies the integrity of the system and displays the status to the user; see Main Screen for status location. The network integrity sends a request to each transponder in the system and waits for a response. If the transponder does not respond then it is marked as a failure. The application will attempt to contact the transponder X number of times before marking it as a failure where x is the number of retries associated with network integrity; see System Administration for more details. The check can be set to run automatically every 6 hours or can be run manually from the Network Integrity screen.

The network integrity statuses are as follows:

- Success – All transponders responded during the last check
- Fail – 1 or more transponders failed to respond during the last check
- Aborted – 1 or more transponders was not tested during the last check
- Unknown – There is no network integrity data to determine the status from

Preset Management

Preset Management Screenshot

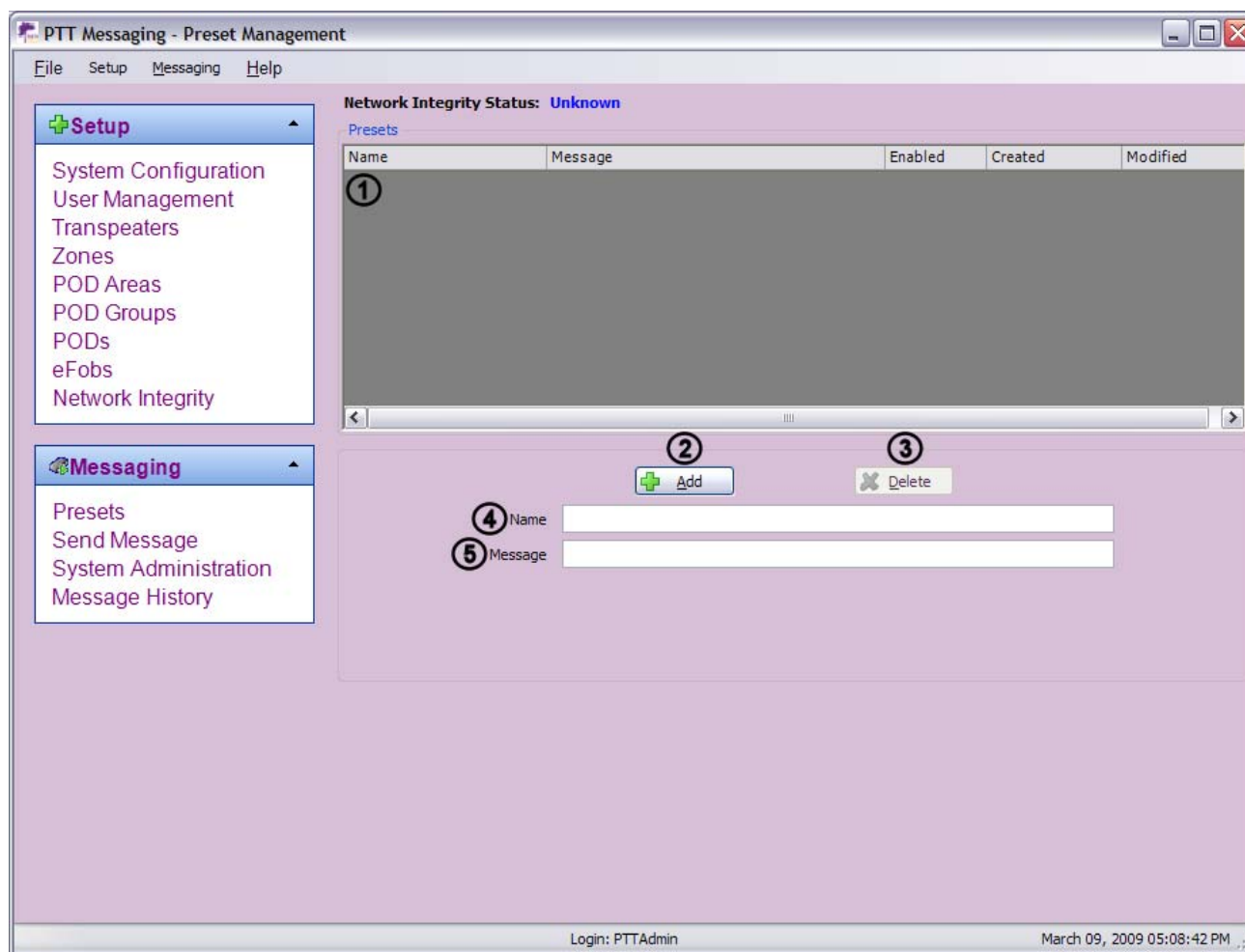


Figure 13: Preset Management Screen

1. Preset List – List of configured presets
2. Add New Preset Button – Button used to add a new preset to the system
3. Delete Selected Preset Button – Button used to delete the selected preset from the system
4. Preset Name Field * – Field used to enter the name of the new preset
5. Preset Message Field * – Field used to enter the message text of the new preset

* Required fields

Creating New Preset

To create a new preset:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the Preset Management screen
3. Enter a unique name and the message associated with the preset
4. Select the Add button.

The new preset will appear in the preset list at the top of the screen; see Preset Management Screenshot.

Both the name and the message are required fields, and each preset must have a unique name.

Editing Existing Preset

To edit an existing preset:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the Preset Management screen
3. Select the preset to edit from the list
4. Double click in the cell and proceed to editing the content.
5. Select the Enter key to save the changes, or the Esc key to cancel changes.

The updated content will appear in the preset's entry in the preset list; see Preset Management Screenshot.

The name and the message are required fields, and each preset must have a unique name.

Deleting Preset

To delete an existing preset:

1. Log into the system with a user that is either a PTT or Site admin
2. Go to the Preset Management screen
3. Select the preset to delete from the list
4. Select the Delete button to delete the selected preset
5. When prompted by the system if you are sure you want to delete the selected preset, press the Yes button

The selected preset's entry will be removed from the preset list; see Preset Management Screenshot.

The delete button is disabled if there are no entries in the preset list.

Send Message

Send Message Screenshot

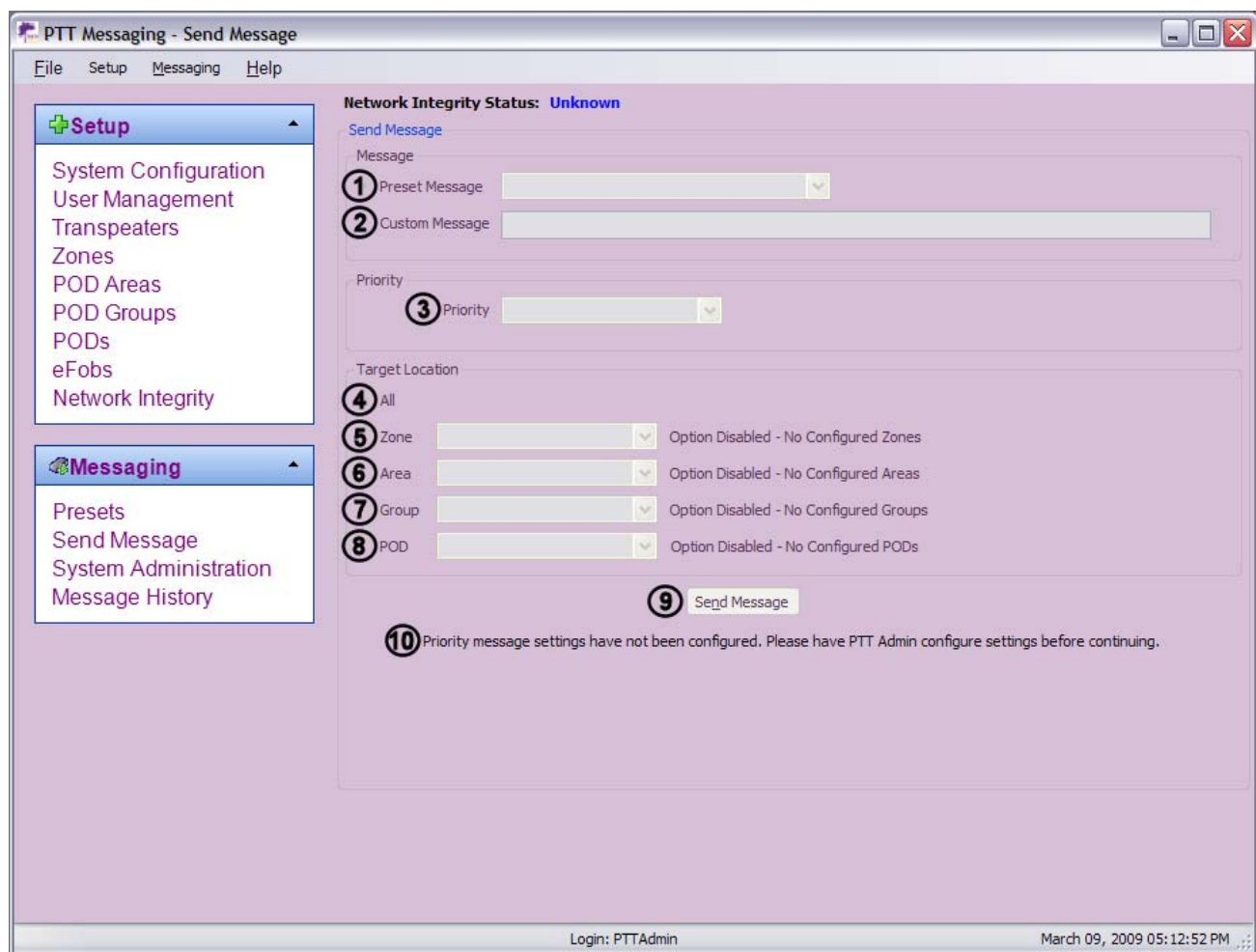


Figure 14: Send Message Screen

1. Send selected preset message – Drop down list of available preset messages to send
2. Send specified custom message – Fields for entering custom messages to send
3. Message priorities – Drop down list of available message priorities
4. Send to all units – Option selected when sending message to all units
5. Send to selected zone – Option selected when sending message to specified zone

6. Send to selected area – Option selected when sending message to a specified area
7. Send to selected group – Option selected when sending message to a specified group
8. Send to selected POD – Option selected when sending message to a specified unit
9. Send message button – Button used to send a message
10. Error message area – Area for displaying error messages to the user

Sending Messages

The send message screen is the main screen in the application in that it's the only screen available to everyone and is the 1st screen displayed after a user logs in. The screen is broken up into 3 sections: message, priority and target.

The message section is where the user will either select a preset message to send or enter a custom message.

The priority section allows the user to select what priority to send the message under; red, yellow, green or all clear.

The target location section is where the user will select which devices get the message. The following are the available locations

All – a message that targets all devices

Zone – a message that targets transpeaters assigned to the selected zone

Area – a message targeted to PODs assigned to a selected area.

Group – a message targeted to PODs assigned to a selected group.

POD – a message targeted to a specific POD.

System Administration

System Administration Screenshot

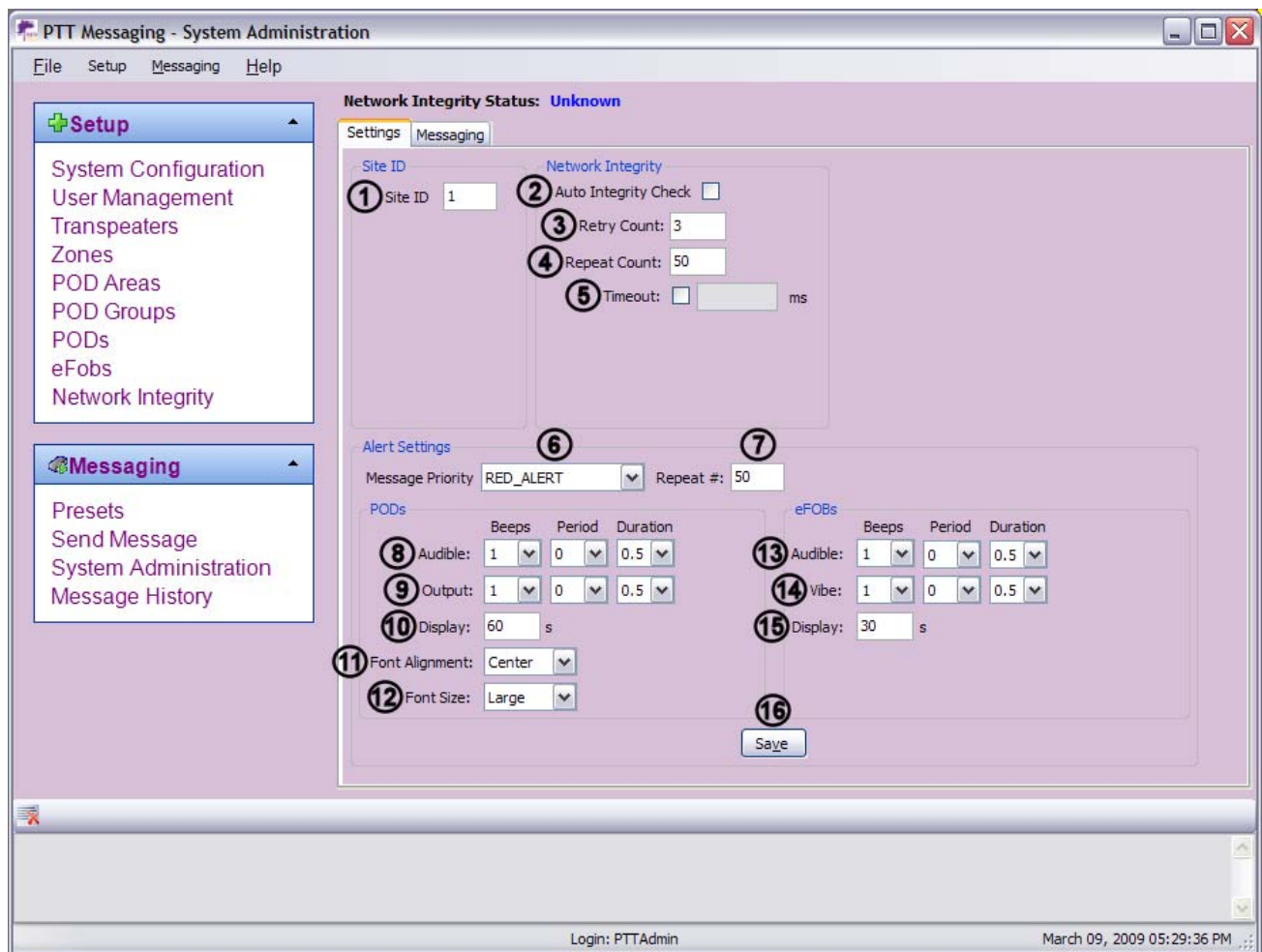


Figure 15: System Administration Screen - Settings Tab

1. Site Id Field – Field to enter the site id
2. Auto Integrity Check Checkbox – Checkbox used to enable/disable the auto network integrity check
3. Retry Count Field – Field used to specify the number of times to retry contacting each transpeater in the system during a network integrity check

4. Repeat Count Field – Field used to specify the number of times the transpeaters are to repeat the message during a network integrity check
5. Timeout Checkbox/Field – Checkbox/Field used to control the timeout value used during network integrity checks. This value is only used during runtime and is not saved
6. Message Priority Drop Down List – Drop down list of available message priorities
7. Repeat message Count Field – Broadcast repeat setting for the selected priority
8. POD Beep Settings – POD beep setting for the selected message setting
9. POD Output Settings – POD output setting for the selected message setting
10. POD Display Settings – POD display setting for the selected message setting. This is the display timeout value in seconds from 0 – 2550 inclusively
11. Font Alignment Drop Down List – Font alignment setting for the selected message priority
12. Font Size Drop Down List – Font size setting for the selected priority
13. eFOB Beep Settings – eFOB beep setting for the selected message setting
14. eFOB Vibrate Settings – eFOB vibrate setting for the selected message setting
15. eFOB Display Settings – eFOB display setting for the selected message setting. This is the display timeout value in seconds from 0 – 2550 inclusively
16. Save Alert Settings Button – Button used for saving the settings assigned to the selected priority

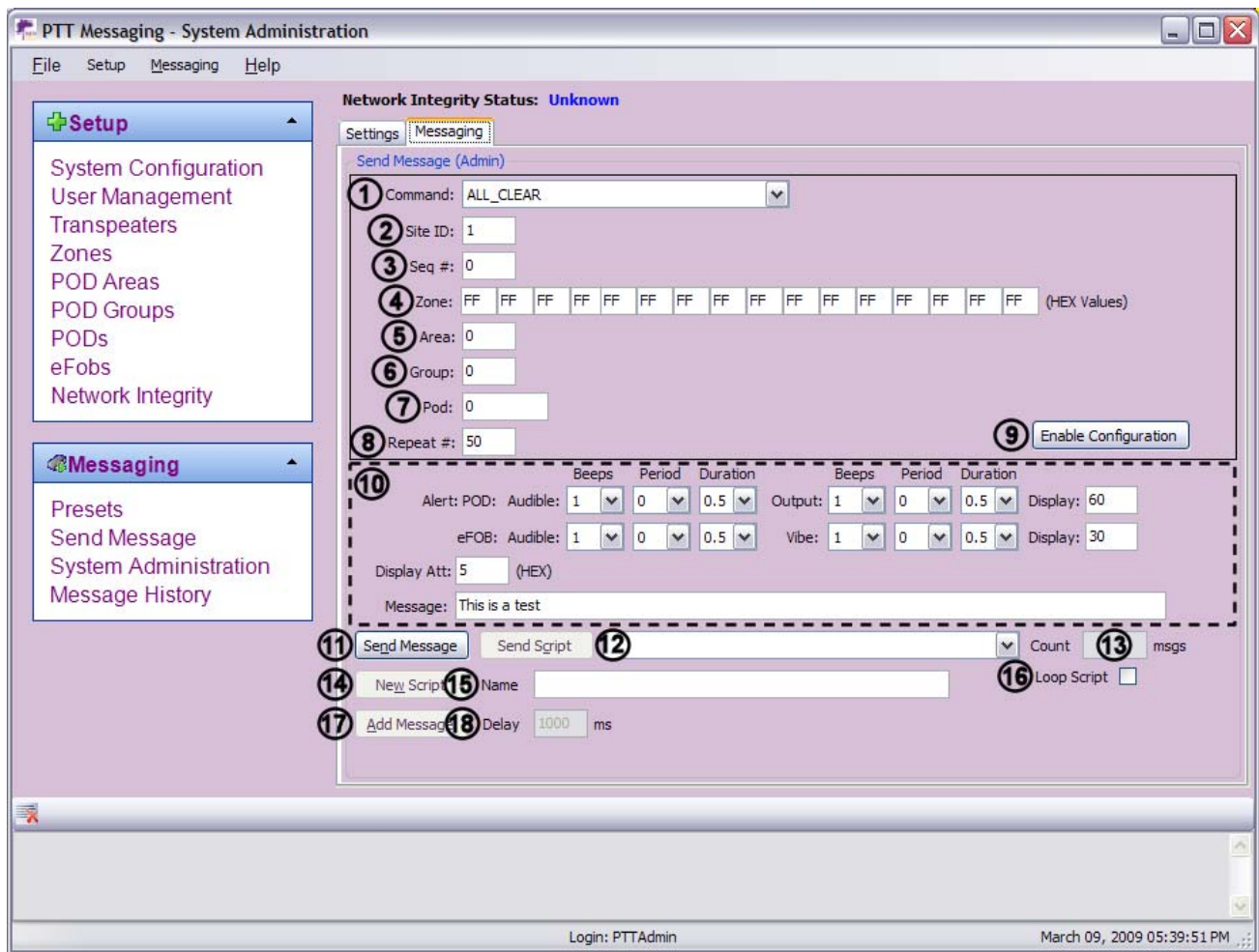


Figure 16: System Administration Screen – Messaging Tab

1. Command Drop Down List – Drop down list of available commands
2. Target Site ID Field – Field used to enter the target site id
3. Message Sequence Number Field – Field used to enter the message sequence number
4. Target Zone Addressing Fields – Field used to enter the target zone address
5. Target Area Addressing Field – Field used to enter the target area address
6. Target Group Addressing Field – Field used to enter the target group address
7. Target POD Addressing Field – Field used to enter the target POD address
8. Repeat Message Broadcast Count Field – Field used to specify the number of times the transpeaters are to repeat the message
9. Button used to send the enable configuration message using the specified address
10. Command Specific Field Area – Area that changes the available fields based on the selected command
11. Send Message Button – Button used to send the configured message
12. Send Script Button/Drop Down List – Button used to send the script selected from the drop down list of available scripts

13. Script Message Count – Doubles as either the number of messages in the selected script or the message number currently being sent
14. New Script Button – Button used to add a new script to the system. The button will only be enabled when there is data in the field
15. New Script Name Field – Field used to enter the name of a new script.
16. Loop Script Check Box – Checkbox used to specify whether to keep repeating the script being run
17. Add Message To Selected Script Button – Button used to add the configured message to the selected script
18. Delay After Message Field – Field used to enter the delay time in milliseconds after the configured message sent

System Administration - Settings

The settings tab contains configuration settings for the Site ID, network integrity and message alert settings.

Site ID

The site ID is a value between 1 – 255 inclusively that is used to uniquely identify a site.

Network Integrity

The network integrity settings consist of a checkbox to enable/disable auto network integrity checks, a field to specify the number of retries as an integer value, a field to specify the retry count as an integer, message priority settings per alert type, and a checkbox and an integer field for setting the timeout value to be used during run time therefore the setting is not saved; the timeout value is the amount of time the application waits for a response from a transponder.

Alert Settings

The alert settings allow users to change how the POD and eFOB alert users for each priority level offering a high degree of configuration. The alert settings are as follows:

- Repeat # - This value is the number of times the message is rebroadcast by transponders
- POD Alert Settings
 - Audible Settings – the number of beeps, the period and the duration
 - Output Settings – the number of beeps, the period and the duration
 - Display – a field for entering the number of seconds a message remains on the display
 - Font Alignment – the alignment of the text on the POD display
 - Font Size – the size of the text on the POD display
- eFOB Alert Settings
 - Audible Settings – the number of beeps, the period and the duration
 - Vibe Settings – the number of beeps, the period and the duration
 - Display – a field for entering the number of seconds a message remains on the display

System Administration – Messaging

The messaging tab is used for sending messages but allows the user to customize every aspect of the message like the addressing and settings information. A user can also create scripts to run; see scripting for more details.

Scripting

To create a new script:

1. Log into the system with a user that is a PTT or Site admin
2. Go to the System Administration screen
3. Select the messaging tab
4. Enter a new script name in the field right of the New Script button
5. Select the new Script button save the script

To add messages to a script:

1. Log into the system with a user that is a PTT or Site admin
2. Go to the System Administration screen
3. Select the messaging tab
4. Select the script to add a message to from the script drop down list
5. Configure the message to add
6. Select the Add Message button to add the configured message to the script (the count should increment indicating a message has been added)

To run a script:

1. Log into the system with a user that is a PTT or Site admin
2. Go to the System Administration screen
3. Select the messaging tab
4. Select the script to run from the script drop down list
5. Select the Send Script button

To loop the scrip, check the Loop Script check box.

Message History

Message History Screenshot

The message history screen is for viewing and exporting record information for messages that have been sent from the system.

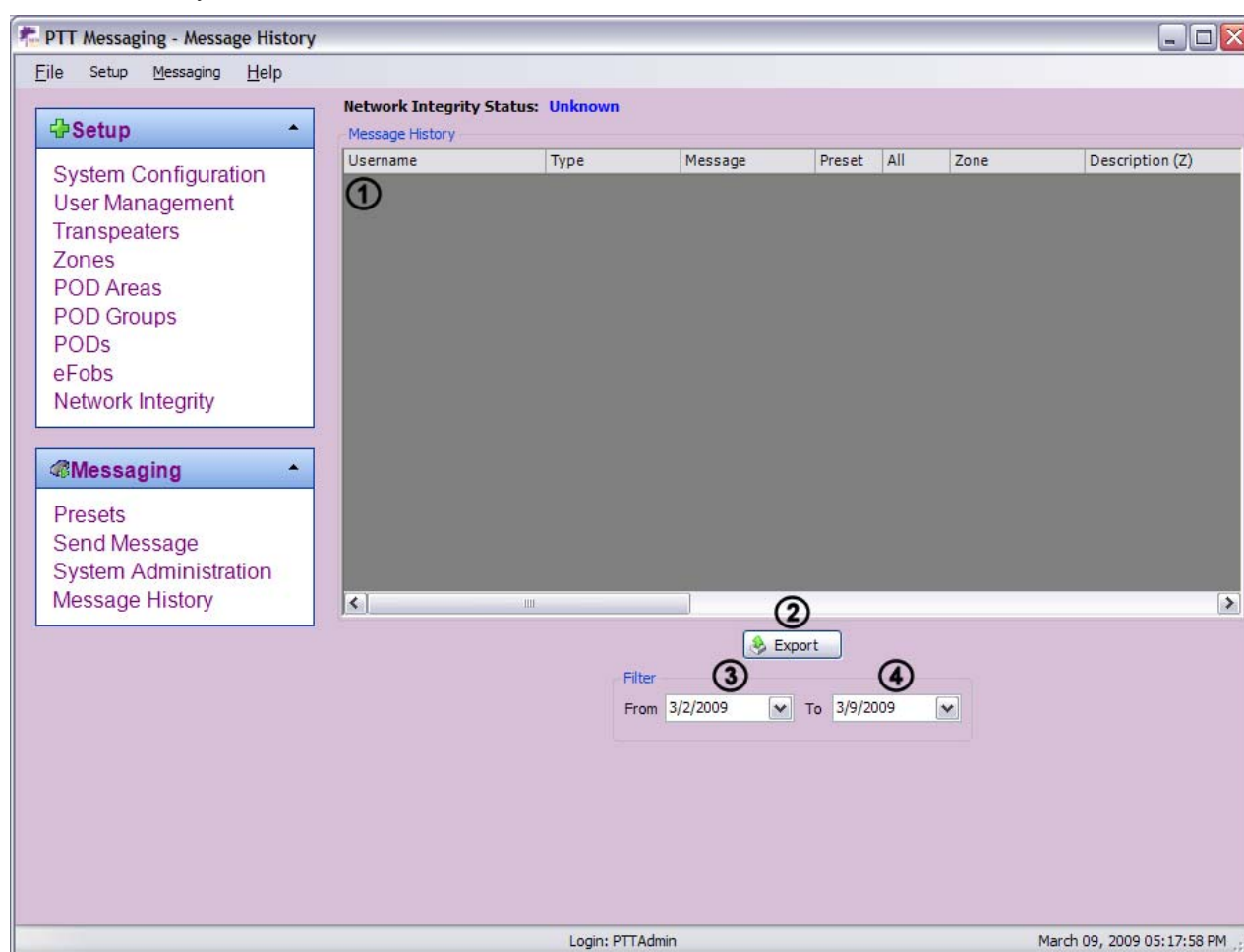


Figure 17: Message History Screen

1. Message History List – List of messages sent by the system
2. Export List Button – Button used to export message history as comma delimited (CSV) file.
3. From Date – Field used to pick the start date for filtering the message history records
4. To Date – Field used to pick the end date for filtering the message history records

Troubleshooting

Reconfigure Transpeater Address

Once a transpeater has been configured, or failed initial configuration, the only way to change its address is to send the enable configuration message. The difficult part is how to address the device. If you know the old address of the transpeater then you can address it directly without any issues. If you do not know the address, then you can either connect the transpeater to a computer without broadcasting the enable configuration message or use a broadcast message. The problem with the broadcast message is that every transpeater that receives this message, including the transpeater connected to the computer, will enable its configuration so you **MUST** be very careful when proceeding with this method. To proceed:

1. Turn on all repeaters that you want to enable configuration
2. Log into the system with a user that is a PTT admin
3. Go to the System Administration screen
4. Configure the addressing
5. Press the enable configuration button

The enable configuration is only active for 30 seconds so you must be fast in order to set the address. To set the repeaters' address see the transpeater management section.

Reconfigure POD Address

Once a POD has been configured, or failed initial configuration, the only way to change its address is to send the enable configuration message. The difficult part is how to address the device. If you know the old address of the POD then you can address it directly without any issues. If you do not know the address, then you must use a broadcast enable configuration message. The problem with the broadcast message is that every POD that receives this message will enable its configuration so you **MUST** be very careful when proceeding with this method. To proceed:

1. Turn on all PODs that you want to clear the address from
2. Log into the system with a user that is a PTT admin
3. Go to the System Administration screen
4. Configure the addressing
5. Press the enable configuration button

The enable configuration is only active for 30 seconds so you must be fast in order to set the address. To set the POD's address see the POD management section.

Reconfigure eFOB Site ID

Once an eFOB has been configured, or failed initial configuration, the only way to change its address is to send the enable configuration message. The problem with the enable configuration message for eFOBs is that it needs to be a broadcast message. Since the message is a broadcast message, then every eFOB that receives the message enables its configuration so you **MUST** be very careful when proceeding with this method. To proceed:

1. Turn on all eFOBs that you want to clear the address from
2. Log into the system with a user that is a PTT admin
3. Go to the System Administration screen
4. Configure the addressing
5. Press the enable configuration button

The enable configuration is only active for 30 seconds so you must be fast in order to set the address. To set the eFOB's address see the eFOB management section.

Appendix A: Agency Certifications

FCC (United States) Certification

The Purple Tree Technologies PT2 Transmitter complies with Part 15 of the FCC rules and regulations. Compliance with the labeling requirements, FCC notices and antenna usage guidelines is required.

FCC Notices

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Re-orient or relocate the receiving antenna, Increase the separation between the equipment and receiver, Connect equipment and receiver to outlets on different circuits, or Consult the dealer or an experienced radio/TV technician for help.

FCC-approved Antennas

WARNING: This device has been tested with Reverse Polarity SMA connectors with the antennas listed in the tables of this section.

RF Exposure

WARNING: This equipment is approved only for mobile and base station transmitting devices. Antenna(s) used for this transmitter must be installed to provide a separation distance of at least 30 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

NOTE: The separation distance indicated in the above is 30 cm, but any distance greater than or equal to 23 cm can be used (per MPE evaluation).

Table 1: Antenna Options (1-watt transmit power output or lower)

| Manufacturer | Part Number | Type | Connector | Gain | Required Cable Loss |
|--------------------|---------------|--|-----------|------------|---------------------|
| Hyperlink Tech | HG903RD-RSP | Omnidirectional Articulating Rubber Duck | RPSMA | 3dBi | None |
| Hyperlink Tech | HG905RD-RSP | Omnidirectional Articulating Rubber Duck | RPSMA | 5dBi | None |
| Conectec | Ant-3800C50GB | Omnidirectional Articulating Rubber Duck | RPSMA | 5dBi | None |
| Hyperlink Tech | HGV-906U | Omnidirectional Fiberglass | N-Female* | 6dBi | None |
| Laird Technologies | FG9023 | Omnidirectional Fiberglass | N-Female* | 5.15dbi** | None |
| Cushcraft | PC904N | Yagi | N-Female* | 8.15 dbi** | 2.15dB |
| Laird Technologies | YS8963 | Yagi | N-Female* | 8.15 dbi** | 2.15dB |
| Laird Technologies | Y(B)8963 | Yagi | N-Female* | 8.15 dbi** | 2.15dB |

*FCC regulations stipulate that a non-standard antenna connection is required. Users implementing these antennas must convert the end connector to RPSMA.

**FCC regulations stipulate a 36 dBm EIRP power requirement. Users implementing antenna gain greater than 6.0 dB must compensate for the added gain with cable loss. When operating at 1 W power output, the sum (in dB) of cable loss and antenna gain shall not exceed 6.0 dB.

Appendix B: Database Structure

This section discusses the structure of the Microsoft Access 2007 database used by PTT Messaging application.

Database Structure

The PTTMessaging.accdb file contains transpeater, zone, area, group, pod, user, and communication configuration data, message history, network integrity, and scripting data.

Relationship Diagram

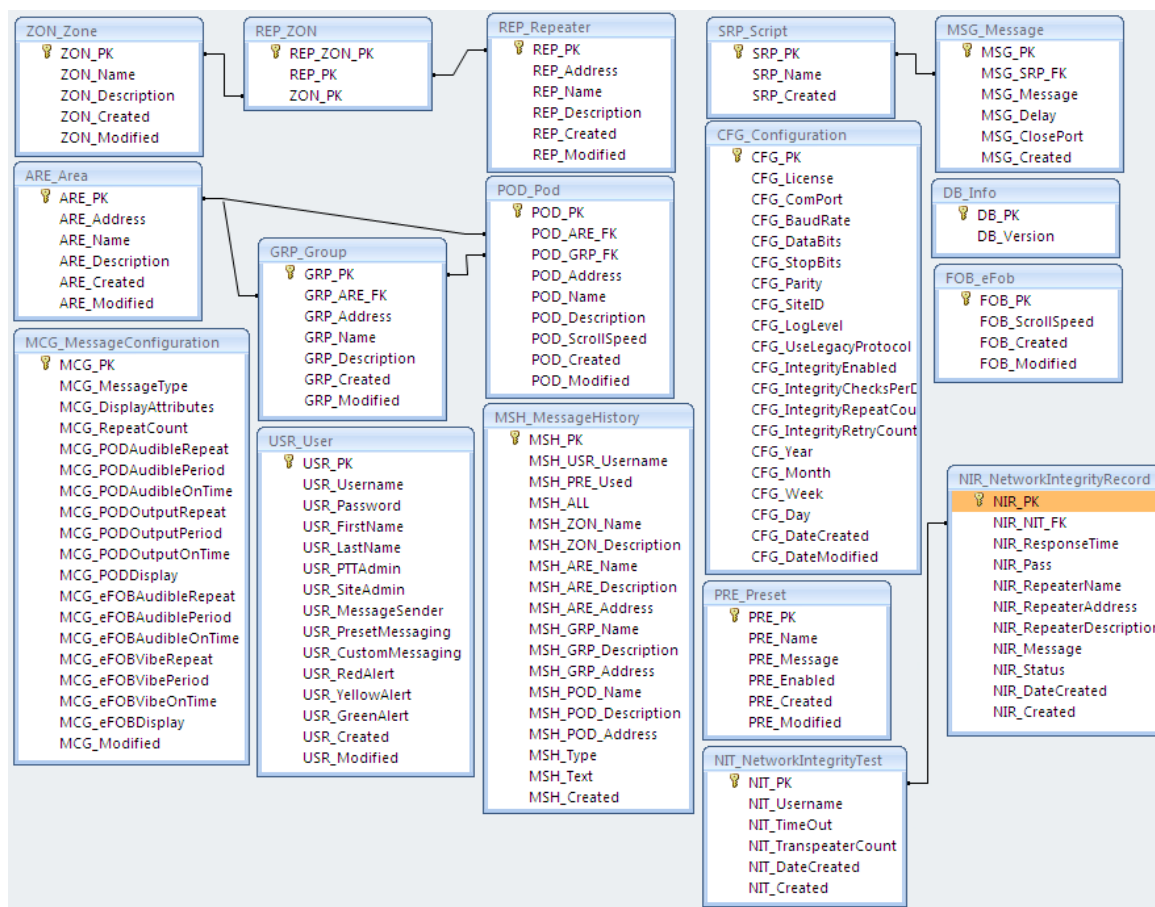


Figure 18: Database Relationship Diagram

Table Definitions

This section defines the tables and the fields contained within each table in the database.

ARE_Area

The ARE_Area table contains area configuration data. The following describes the fields contained within the table.

Table 2: ARE_Area Table

| Field | Description |
|-----------------|---------------------------------|
| ARE_PK | Primary Key |
| ARE_Address | Address of the area |
| ARE_Name | Name of the area |
| ARE_Description | Description of the area |
| ARE_Created | Date the area was created |
| ARE_Modified | Date the area was last modified |

CFG_Configuration

The CFG_Configuration table contains communication configuration data. The following describes the fields contained within the table.

Table 3: CFG_Configuration Table

| Field | Description |
|---------------------------|---|
| CFG_PK | Primary Key |
| CFG_License | NOT USED |
| CFG_ComPort | Communications port |
| CFG_BaudRate | Baud rate |
| CFG_DataBits | Number of data bits |
| CFG_StopBits | Number of stop bits |
| CFG_Parity | Parity used in communications |
| CFG_SiteID | The site ID of the overall system |
| CFG_LogLevel | NOT USED |
| CFG_UseLegacyProtocol | Flag to indicate if legacy protocol is used |
| CFG_IntegrityEnabled | Flag to indicate if auto network integrity is used |
| CFG_IntegrityChecksPerDay | The number of times a day the auto network integrity check runs |
| CFG_IntegrityRepeatCount | The number of times to repeat a network integrity message |
| CFG_IntegrityRetryCount | The number of times the system attempts to contact a transpeater before failing it in |

| | |
|------------------|--------------------------------------|
| | network integrity checks |
| CFG_Year | Number of messages in the last year |
| CFG_Month | Number of messages in the last month |
| CFG_Week | Number of messages in the last week |
| CFG_Day | Number of messages in the last day |
| CFG_DateCreated | The date the record was created |
| CFG_DateModified | The date the record was modified |

DB_Info

The DB_Info table contains information that pertains to the database. The following describes the fields contained within the table.

Table 4: DB_Info Table

| Field | Description |
|------------|-----------------------------|
| DB_PK | Primary Key |
| DB_Version | The version of the database |

FOB_eFob

The FOB_eFob table contains eFOB configuration data. The following describes the fields contained within the table.

Table 5: FOB_eFob Table

| Field | Description |
|-----------------|---|
| FOB_PK | Primary Key |
| FOB_ScrollSpeed | A numeric value for the speed in which the display scrolls text |
| FOB_Created | The date the record was created |
| FOB_Modified | The date the record was modified |

GRP_Group

The GRP_Group table contains group configuration data. The following describes the fields contained within the table.

Table 6: GRP_Group Table

| Field | Description |
|-----------------|---------------------------------------|
| GRP_PK | Primary Key |
| GRP_ARE_FK | Area foreign key; links to area table |
| GRP_Address | Address of the group |
| GRP_Name | Name of the group |
| GRP_Description | Description of the group |
| GRP_Created | Date the group was created |
| GRP_Modified | Date the group was last modified |

MCG_MessageConfiguration

The MCG_MessageConfiguration table contains message configuration data for each message priority. The following describes the fields contained within the table.

Table 7: MCG_MessageConfiguration Table

| Field | Description |
|-----------------------|--|
| MCG_PK | Primary key |
| MCG_MessageType | The message priority; red, yellow, green or all clear |
| MCG_DisplayAttributes | The font alignment and font size for each priority type |
| MCG_RepeatCount | The number of times to repeat the message |
| MCG_PODAudibleRepeat | The number of beeps for a POD |
| MCG_PODAudiblePeriod | The total on and off time of each beep for a POD |
| MCG_PODAudibleOnTime | The duration of the beep for a POD |
| MCG_PODOutputRepeat | The number of actions for a POD's output device |
| MCG_PODOutputPeriod | The total on and off time of each action for a POD's output device |
| MCG_PODOutputOnTime | The duration of the action for a POD's output device |
| MCG_PODDisplay | How much time the message is displayed in seconds for PODs |
| MCG_eFOBAudibleRepeat | The number of beeps for an eFOB |
| MCG_eFOBAudiblePeriod | The total on and off time of each beep for an eFOB |

| | |
|-----------------------|--|
| MCG_eFOBAudibleOnTime | The duration of the beep for an eFOB |
| MCG_eFOBVibeRepeat | The number of vibrations for an eFOB |
| MCG_eFOBVibePeriod | The total on and off time of each vibration for an eFOB |
| MCG_eFOBVibeOnTime | The duration of the vibration for an eFOB |
| MCG_eFOBDisplay | How much time the message is displayed in seconds for PODs |
| MCG_Modified | Date the configuration was last modified |

MSG_Message

The MSG_Message table contains message data for each message associated with a script. The following describes the fields contained within the table.

Table 8: MSG_Message Table

| Field | Description |
|---------------|--|
| MSG_PK | Primary key |
| MSG_SRP_PK | Script foreign key; links to script table |
| MSG_Message | The text of the message |
| MSG_Delay | The delay in milliseconds to wait after the message is sent |
| MSG_ClosePort | A flag to indicate whether to close the port after the message is acknowledged |
| MSG_Created | Date the message was created |

MSH_MessageHistory

The MSH_MessageHistory table contains a record of each message sent by the PTT Messaging application. The following describes the fields contained within the table.

Table 9: MSH_MessageHistory Table

| Field | Description |
|---------------------|--|
| MSH_PK | Primary key |
| MSH_USR_Username | The name of the user that sent the message |
| MSH_PRE_Used | A flag that indicates if a preset message was sent |
| MSH_ALL | A flag indicating if the message was sent to all units |
| MSH_ZON_Name | The name of the zone the message was sent to, if the message was sent to a zone |
| MSH_ZON_Description | The description of the zone the message was sent to, if the message was sent to a zone |
| MSH_ARE_Name | The name of the area the message was sent |

| | |
|---------------------|--|
| | to, if the message was sent to an area |
| MSH_ARE_Description | The description of the area the message was sent to, if the message was sent to an area |
| MSH_ARE_Address | The address of the area the message was sent to, if the message was sent to an area |
| MSH_GRP_Name | The name of the group the message was sent to, if the message was sent to a group |
| MSH_GRP_Description | The description of the group the message was sent to, if the message was sent to a group |
| MSH_GRP_Address | The address of the group the message was sent to, if the message was sent to a group |
| MSH_POD_Name | The name of the pod the message was sent to, if the message was sent to a pod |
| MSH_POD_Description | The description of the pod the message was sent to, if the message was sent to a pod |
| MSH_POD_Address | The address of the pod the message was sent to, if the message was sent to a pod |
| MSH_Type | The priority the message was sent with; red, yellow, green or all clear |
| MSH_Text | The text of the message |
| MSH_Created | The date/time the message was sent |

NIR_NetworkIntegrityRecord

The NIR_NetworkIntegrityRecord table contains a record of each network integrity message sent by the PTT Messaging application. The following describes the fields contained within the table.

Table 10: NIR_NetworkIntegrityRecord Table

| Field | Description |
|-------------------------|--|
| NIR_PK | Primary key |
| NIR_NIT_FK | Test foreign key; links to Network Integrity Test table |
| NIR_Respondetime | The amount of time it took a transpeater to respond to network integrity request |
| NIR_Pass | Flag to indicate if the transpeater passed a network integrity test |
| NIR_RepeaterName | Name of the transpeater checked |
| NIR_RepeaterAddress | Address of the transpeater checked |
| NIR_RepeaterDescription | Description of the transpeater checked |
| NIR_Message | Network Integrity check message |
| NIR_Status | Status that indicates whether the transpeater was tested |
| NIR_DateCreated | Legacy date created field |
| NIR_Created | Date the record was created |

NIT_NetworkIntegrityTest

The NIT_NetworkIntegrityTest table contains a record of each network integrity test by the PTT Messaging application. The following describes the fields contained within the table.

Table 11: NIT_NetworkIntegrityTest Table

| Field | Description |
|----------------------|--|
| NIT_PK | Primary key |
| NIT_Username | The username logged into the system when the test was run |
| NIT_TimeOut | The amount of time in milliseconds before the system times out while waiting for a response to a network integrity message |
| NIT_TranspeaterCount | The number of transpeaters in the test |
| NIT_DateCreated | Legacy date created field |
| NIT_Created | Date the record was created |

POD_Pod

The POD_Pod table contains pod configuration data. The following describes the fields contained within the table.

Table 12: POD_Pod Table

| Field | Description |
|-----------------|---|
| POD_PK | Primary key |
| POD_ARE_FK | Area foreign key; links to area table |
| POD_GRP_FK | Group foreign key; links to group table |
| POD_Address | Address of the pod |
| POD_Name | Name of the pod |
| POD_Description | Description of the pod |
| POD_ScrollSpeed | A numeric value for the speed in which the display scrolls text |
| POD_Created | Date the pod was created |
| POD_Modified | Date the pod was last modified |

PRE_Preset

The PRE_Preset table contains preset message data. The following describes the fields contained within the table.

Table 13: PRE_Preset Table

| Field | Description |
|--------------|---|
| PRE_PK | Primary key |
| PRE_Name | Name of the preset |
| PRE_Message | Text of the preset message |
| PRE_Enabled | Flag to indicate if the preset message is enabled |
| PRE_Created | The date the preset message was created |
| PRE_Modified | The date the preset message was last modified |

REP_Repeater

The REP_Repeater table contains transpeater configuration data. The following describes the fields contained within the table.

Table 14: REP_Repeater Table

| Field | Description |
|-----------------|--|
| REP_PK | Primary key |
| REP_Address | Address of the transpeater |
| REP_Name | Name of the transpeater |
| REP_Description | Description of the transpeater |
| REP_Created | Date the transpeater was created |
| REP_Modified | Date the transpeater was last modified |

REP_ZON

The REP_ZON table is a table that links transpeaters to zones. The following describes the fields contained within the table.

Table 15: REP_ZON Table

| Field | Description |
|------------|-------------------------|
| REP_ZON_PK | Primary key |
| REP_PK | Transpeater primary key |
| ZON_PK | Zone primary key |

SRP_Script

The SRP_Script table contains script description data. The following describes the fields contained within the table.

Table 16: SRP_Script Table

| Field | Description |
|-------------|---------------------------------|
| SRP_PK | Primary key |
| SRP_Name | Name of the script |
| SRP_Created | The date the script was created |

USR_User

The USR_User table contains user account data. The following describes the fields contained within the table.

Table 17: USR_User Table

| Field | Description |
|---------------------|---|
| USR_PK | Primary key |
| USR_Username | Log in name of the user |
| USR_Password | Log in password of the user |
| USR_FirstName | First name of the user |
| USR_LastName | Last name of the user |
| USR_PTTAdmin | Flag to indicate if the user is a PTT Admin |
| USR_SiteAdmin | Flag to indicate if the user is a Site Admin |
| USR_MessageSender | Flag to indicate if the user is a message sender |
| USR_PresetMessaging | Flag to indicate if the user can send preset messages |
| USR_CustomMessaging | Flag to indicate if the user can send custom messages |
| USR_RedAlert | Flag to indicate if the user can send red priorities |
| USR_YellowAlert | Flag to indicate if the user can send yellow priorities |
| USR_GreenAlert | Flag to indicate if the user can send green priorities |
| USR_Created | Date the user account was created |
| USR_Modified | Date the user account was last modified |

ZON_Zone

The ZON_Zone table contains zone configuration data. The following describes the fields contained within the table.

Table 18: ZON_Zone Table

| Field | Description |
|-----------------|-------------------------------------|
| ZON_PK | Primary key |
| ZON_Name | Name of the zone |
| ZON_Description | Description of the zone |
| ZON_Created | The date the zone was created |
| ZON_Modified | The date the zone was last modified |

Appendix C: System Configuration

Initial Configuration

The initial configuration requires the setting of the site ID in the PTT Messaging application. To set the applications site ID;

1. Log into the system with a user that is a PTT admin
2. Go to the System Administration screen
3. Select the settings tab
4. Change the value of the site ID

Once the site ID has been configured, the rest of the system can be configured.

Transpeaters (Transmitters and Repeaters)

To configure the Transpeaters in the system, connect the first Transpeater to the PC (transmitter) and power it on making sure no other Transpeaters are powered on at this time. Next, log into the system as either a PTT or Site admin, go to the Transpeater Management screen, and follow the steps on creating new Transpeaters

When the Transpeater accepts the address change message, both the Data In and Data Out LEDs will flash twice.

Power up the next Transpeater and repeat this process until all of the Transpeaters have been addressed. There is no need to power off any Transpeater that have already been programmed.

NOTE: a transpeater can only be configured while configuration is enabled. A transpeaters' configuration is enabled for 30 seconds after power up or for 30 seconds after it has received the enable configuration command.

PODs

When configuring the hardware in the system, the Transpeaters must be configured first; see Transpeaters section.

To configure the PODs in the system, log into the system as either a PTT or Site admin, go to the POD Management screen, and follow the steps on creating new PODs. Only configure one POD at a time.

When the POD accepts the address change message, all three LEDs will flash twice.

Power up the next POD and repeat this process until all of the PODs have been addressed. There is no need to power off any POD that has already been programmed.

NOTE: a POD can only be configured while configuration is enabled. A PODs' configuration is enabled for 30 seconds after power up or for 30 seconds after it has received the enable configuration command.

eFOBs

When configuring the hardware in the system, the Transpeaters must be configured first; see Transpeaters section.

The only addressing that the eFOBs have is the Site ID. They respond to Zone addressing, but they need no additional setup for this functionality. Turn on the eFOBs, or send the enable configuration message from the system administration screen, then send the eFOB address message and all eFOBS will be programmed to the specified site ID. When the eFOB accepts the address change message, the beeper will beep with two short beeps and all the alert LEDs will blink twice.

NOTE: an eFOB can only be configured while configuration is enabled. An eFOBs' configuration is enabled for 30 seconds after power up or for 30 seconds after it has received the enable configuration command.

Appendix D: Hardware

Transpeater Installation and Diagnostics

There are 4 Green LED's on the front of the Transpeater:

- Power
- Data In
- Data Out
- RF Power

At power up, the Power LED will light, and the Data In and Data Out LED's will alternate three times.

Every receive scan, the Data In LED will light for the duration on the scan (400 mS maximum, less if a message is received). If any message is received and the message CRC is OK, the LED will blink once. If the CRC is bad, it will blink 3 times.

During transmit, the Data Out and the RF Power LED's will both light for the duration of the transmission.

If the battery is low, the Data Out LED will blink once in about 5 seconds (except when transmitting, see above).

If the battery controller detects a fault, or an over temperature condition, the Data Out LED will blink rapidly (except when transmitting, see above).

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