TREK

HOSC LOGIN

USER GUIDE

January 2023

Approved for Public Release; Distribution is Unlimited.

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FIGURES

1 Welcome

The Telescience Resource Kit (TReK) is a suite of software applications and libraries that can be used to monitor and control assets in space or on the ground.

The TReK HOSC Login application provides the capability to create a login session with the Huntsville Operations Support Center (HOSC) that can be shared across TReK applications (e.g. HPEG, Command).

1.1 Getting Started

Start with the Introduction which provides an application overview. Next, try the Quick Start Guides for "How Tos" for common functions. For help with details, reference the Details section. See the FAQ and Troubleshooting section for helpful hints and solutions to the common "gotchas".

2 Technical Support

If you are having trouble installing the TReK software or using any of the TReK software, please contact us for technical assistance:

TReK Help Desk E-Mail, Phone & Fax:

E-Mail: trek.help@nasa.gov
Telephone: 256-544-3521 (8:00 a.m. - 4:00 p.m. Central Time)
Fax: 256-544-9353

If you call the TReK Help Desk and you get a recording please leave a message and someone will return your call. E-mail is the preferred contact method for help. The e-mail message is automatically forwarded to the TReK developers and helps cut the response time. The HOSC Help Desk (256-544-5066) can provide assistance as needed and is available 24x7.

3 Introduction

The TReK HOSC Login application provides the capability to create a login session with the Huntsville Operations Support Center (HOSC). This login session can be shared across TReK applications (e.g. HPEG, Command).

Important Note: Please use Port 9219 when logging into the HOSC. Port 9209 is no longer supported by the HOSC. If you have been using port 9209 in the TReK HOSC Login application, this will continue to be the default until you change it. The TReK HOSC Login application and the TReK ERIS Sim Console application use the Transport Layer Security (TLS) for all ports except 9209. The TReK ERIS Sim Console

application's eris_sim_properties.xml configuration file contains a port number configuration parameter that controls the port used by the simulator. When working with the simulator you are free to choose which ports to use, but we suggest using port 9219 for the simulator. If you wish to use TLS with TReK ERIS Sim Console, you can copy the eris_sim_properties.xml file from the install to your home directory and edit the IP address.

4 Overview of the User Interface

4.1 Main Window

The main window contains several areas as shown in Figure 1. The Message Area is a dock window that you can float or dock. To float a dock window, use your left mouse button to click and hold the title area while dragging the window to another area of the screen. To dock, use the title bar to drag the dock window over the main window and drop.
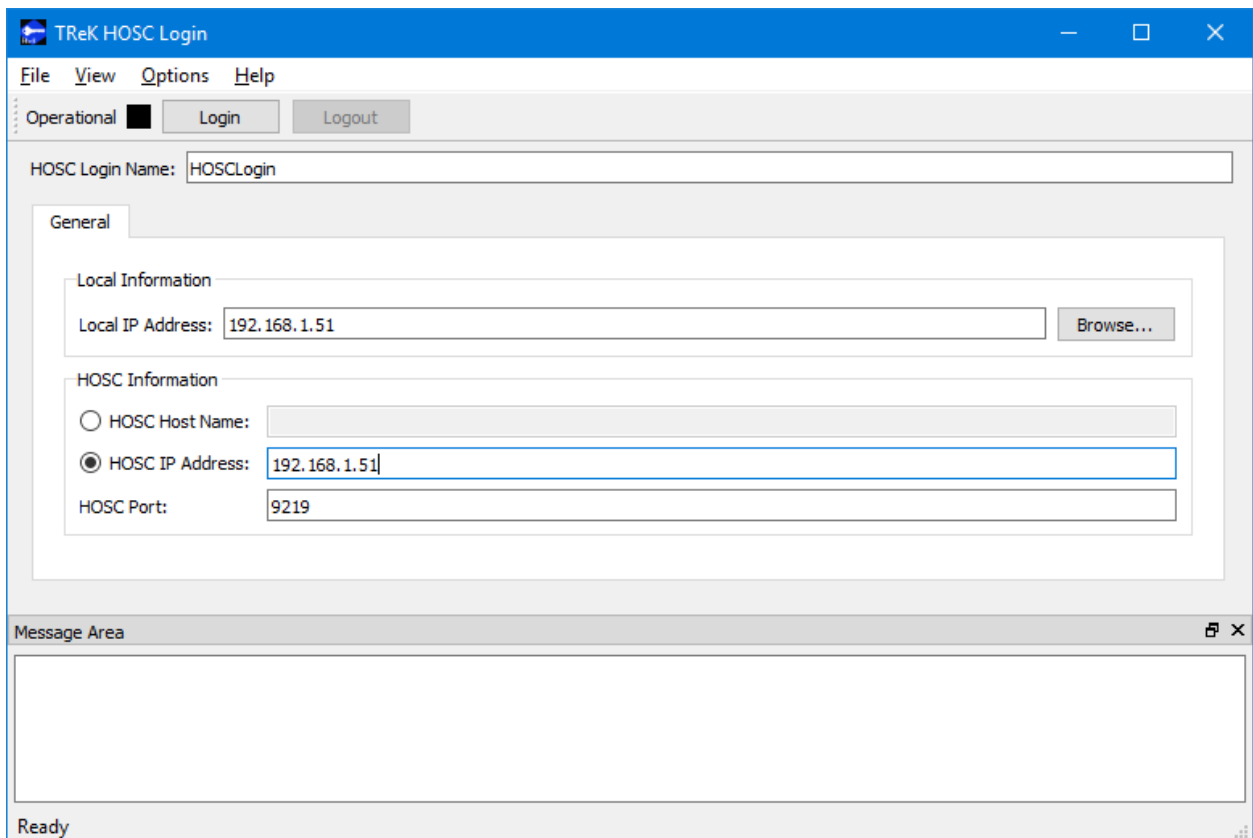

Figure 1 Main Window

Toolbar
The toolbar at the top of the window provides quick access to Login and Logout.

Login

The Login area provides the capability to enter the information required to establish a login session with the HOSC.

Message Area
The Message Area displays important status and error messages. The message area can be cleared using the View menu.

4.2   Toolbar

The toolbar provides visual information about the state of the application and provides access to common application functions.

Operational Status
When the Operational status is black, this indicates the login session is inactive. When the Operational status is green, this indicates the login session is active.

Use the Login button to establish a login session with the HOSC. Use the Logout button to exit the login session.

4.3   Menus

The HOSC Login application menus are: File, View, Options, and Help. Each of these menus is described in more detail below.

File Menu
The File menu provides the capability to exit the application.

View Menu
The View menu provides the capability to clear the main window message area and show and hide different areas in the main window.

Options Menu
The Options menu provides the capability to change your HOSC password, re-authenticate your HOSC login, and request HOSC common information. It also provides access to the Messages dialog which can be used to display and filter application messages. Access to advanced settings is also available.

Help Menu
The Help menu provides access to on-line help and application version information.

5   Quick Start Guides

This section provides "How Tos" for common functions.

5.1　How to Start a Login Session with the HOSC

The following steps describe the minimum necessary to start a login session with the HOSC. For additional information and details please reference section 6.1.

1. Enter a name for the login session in the HOSC Login Name field.

    Note: You will use this name when referencing the login session from other TReK Applications (e.g. HPEG, Command).

2. Enter a local IP address in the Local IP Address field.

    Note: If you are connecting to the HOSC, and have established a VPN Client login, you should enter the Office Mode IP Address assigned by the VPN Client. If you are connecting to a TReK training tool that is simulating the HOSC login, enter your computer's local IP address. You can use the Browse button to view and select a local IP Address.

3. Enter the HOSC information.
    a. Enter either the HOSC Host Name or the HOSC IP Address.
    b. Enter the HOSC Port.

    Note: If you are connecting to the HOSC, enter the HOSC Host Name or IP Address and the HOSC Port. If you are connecting to a TReK training tool that is simulating the HOSC login, enter the IP Address and Port corresponding to the configuration of the training tool. For example, if you are running the training tool on the same computer as the HOSC Login application, then you would use your local IP address for the Local IP Address and the HOSC IP Address.

4. Push the Login button to activate the login sequence. You will see a series of dialogs requesting information such as Username, Password, Passcode, Role, and Mission Operational Support Mode (MOP). Enter the information requested.

    Note: The Passcode is your PIN number followed by your RSA token number.

If the login session is successfully activated, the Operation status will be green.

5.2　How to Change Your HOSC Login Password

The Options menu provides the capability to initiate a HOSC password change.

5.3　How to Re-Authenticate your HOSC Login

The Options menu provides the capability to initiate a HOSC login re-authentication.

5.4 How to Request HOSC Common Information

The Options menu provides the capability to request HOSC Common Information. This includes various types of information such as project, mission, and database information.

6 Details

This section covers various application details.

6.1 Main Window Login Area

The Main Window Login Area is shown in Figure 2. Each field is described below.

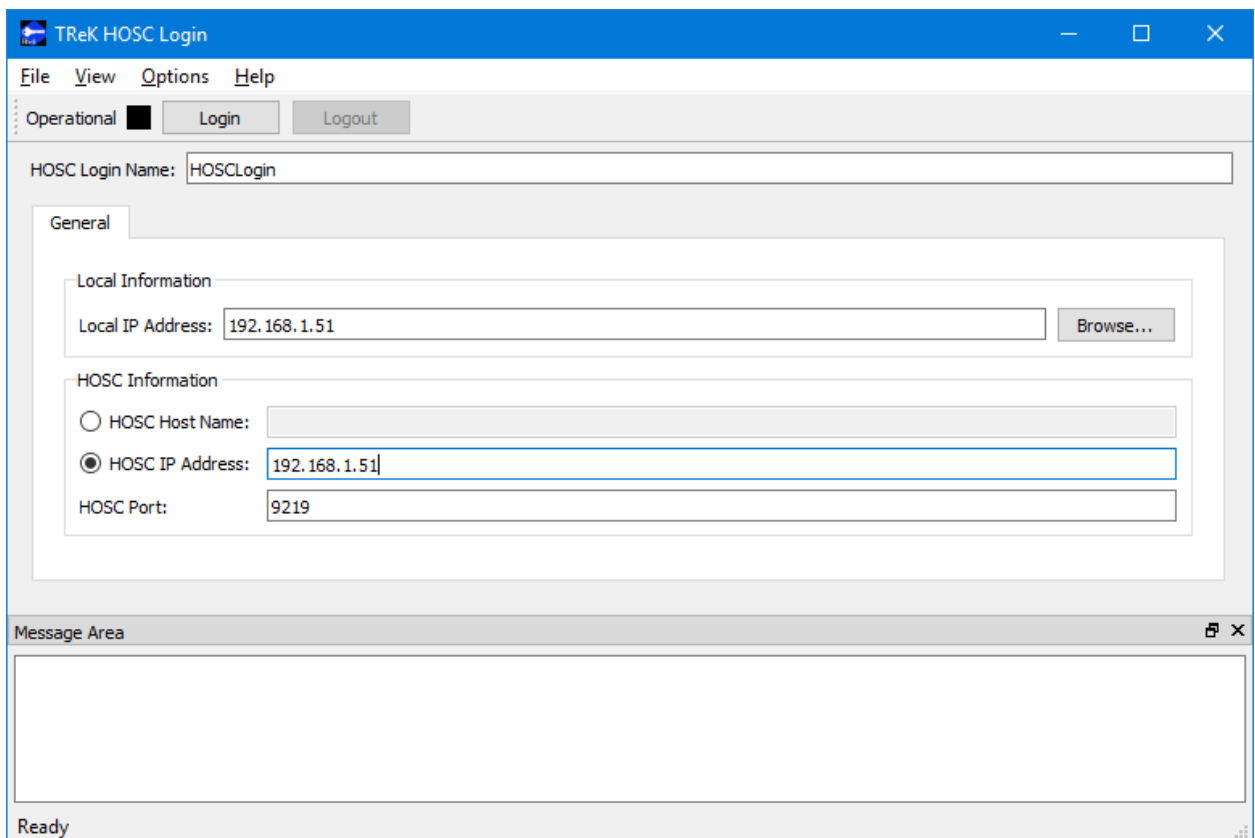**Figure 2 Main Window General Tab**

HOSC Login Name
The HOSC Login Name should contain a name for the login session. You will need this name when referencing the login session from other TReK Applications (e.g. HPEG, Command).

Local IP Address
The Local IP Address is used to perform network communication when establishing the login session. If you are connecting to the HOSC, and have established a VPN Client

login, you should enter the Office Mode IP Address assigned by the VPN Client. If you are connecting to a TReK training tool that is simulating the HOSC login, enter your computer's local IP address. You can use the Browse button to view and select a local IP Address.

HOSC Information
HOSC information fields include the HOSC Host Name, HOSC IP Address, and HOSC Port.   If you are connecting to the HOSC, enter the HOSC Host Name or IP Address and the HOSC Port. If you are connecting to a TReK training tool that is simulating the HOSC login, enter the IP Address and Port corresponding to the configuration of the training tool. For example, if you are running the training tool on the same computer as the HOSC Login application, then you would use your local IP address for the Local IP Address and the HOSC IP Address.

6.2   Manage E-Mail and Text Settings Dialog

The Manage E-Mail and Text Settings Dialog is shown in Figure 3. This dialog provides the capability to manage global e-mail and text settings, application alert settings, e-mail and text dropboxes, and the capability to send an e-mail or text.
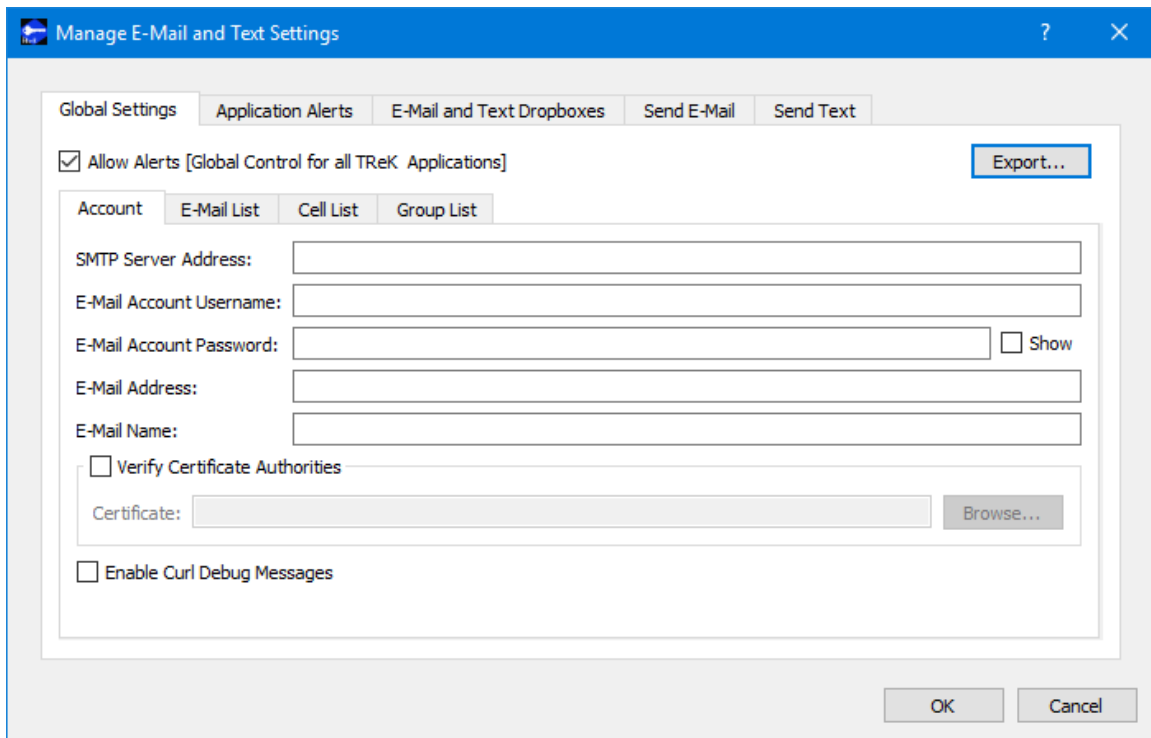

Figure 3 Manage E-Mail and Text Settings Dialog (Global Settings Account Tab)

The TReK software's e-mail and text capability is dependent on libcurl, an open source client-side URL transfer library developed by the cURL project. The libcurl library provides C API functions that configure the library to programmatically establish a

secure connection with an email server using a Transport Layer Security (TLS) version 1.3 socket prior to logging into an email account using an email account name and password.

The TReK email and text capability has been successfully tested with the Google Gmail server. It is recommended that users create a new Gmail account and use it to send emails and texts to designated recipients. The TReK software does not support retrieving emails from the user's Gmail account. When creating the Gmail account to send emails and texts you will need to configure your Gmail account to enable two-step verification and you need to generate a Gmail App Password for TReK. Please reference Gmail Help for instructions. The Gmail App Password is used in place of your e-mail account password on the Global Settings Account tab in the "Manage E-Mail and Text Settings" dialog. TReK recommends only using the Gmail account to send emails and texts using the TReK software. TReK does not recommend using the account to receive emails.

The maximum size of a text message is approximately 900 characters. However, if you send more than 900 characters your message may be broken up during transmission and then concatenated on the recipient's phone. The maximum length of a TReK email message is 65,000 characters or bytes. The maximum length of an email with a file attachment is generally considered to be 10MB (email message size plus file attachment size). Note, file attachments may become much larger than their original file sizes. This is due to the encoding employed by email servers when sending non text-based information.

Global Settings
Global Settings are e-mail and text settings used in all TReK applications. They can be changed in any TReK application with a Manage E-Mail and Text Settings dialog. When you change a setting on the Global Settings tab, it will be changed for all TReK applications. Each Tab is described below.

Allow Alerts
The Allow Alerts Checkbox is a global setting to turn on and off all alerts in all TReK applications. If you turn this checkbox off, no alerts will be generated in any applications.

Export
The Export button provides access to the Export dialog shown Figure 4. This dialog provides the capability to save the settings on the Global Settings tab in a TReK email configuration file that can be used with the TReK E-Mail and Text API. You also have the option to include the dropboxes defined on the E-Mail and Text Dropboxes tab.
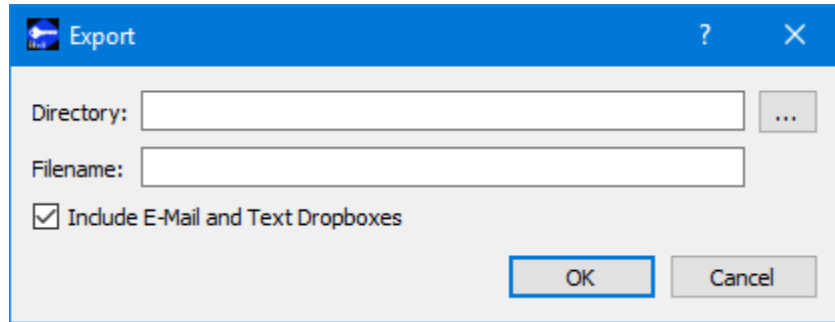
Figure 4 Manage E-Mail and Text Settings (Export Dialog)

Account
In order to use the Alerts capability, you must have a Gmail account. The Gmail account must be configured with two-step verification enabled and you must have a Gmail App Password for TReK. Please reference Gmail Help for instructions. The Account tab is used to enter your Gmail account information. The TReK software only stores account information locally. The account password will be hidden by default and will always be encrypted when it is stored. Please enter the Gmail App Password you generated for TReK in the E-Mail Account Password field (not your Gmail account password). This password will only be decrypted when it is used communicate with the Gmail server to execute a requested function. An example of account information is shown below.

smtp_server_address: smtp.gmail.com
email_account_username: jane.doe@gmail.com
email_account_password: Gmail App Password for TReK [Hidden unless show
                                          checkbox is checked]
email_address: jane.doe@gmail.com
email_name: Jane Doe

The Verify Certificate Authorities checkbox is used to turn on the certificate authority check. If you turn on the certificate authority check, you must provide the complete path to a Certificate file.

The Enable Curl Debug Messages checkbox is used to turn on additional debug messages generated by the curl software library.

E-Mail List
The E-Mail List tab is used to enter e-mail addresses that will be used to populate the e-mail address list that is available when configuring alert functions or sending an e-mail. The E-Mail List tab is shown in Figure 5. The Add button is used to add a row to enter e-mail address information. The Delete button is used to delete a row.
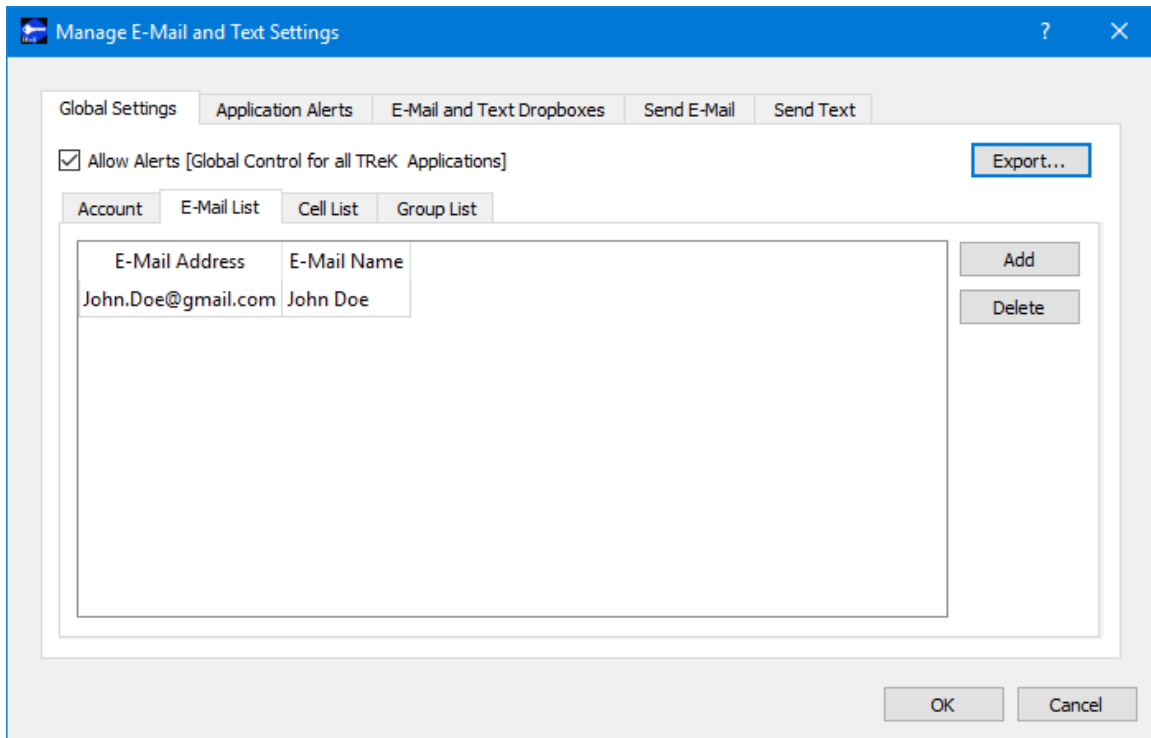
Figure 5 Manage E-Mail and Text Settings Dialog (Global Settings E-Mail List Tab)

Cell List
The Cell List tab is used to enter mobile cell phone numbers that will be used to populate the Cell list that is available when configuring alert functions or sending a text. The Cell List tab is shown in Figure 6. The Add button is used to add a row to enter cell number information. The Delete button is used to delete a row. Cell numbers can be entered with or without dashes. The Set Carrier button is available when a Cell Carrier cell is selected. It is shown in Figure 7 and can be used to select a carrier address. If the carrier address you need is not in the list, you can enter it directly into the cell.
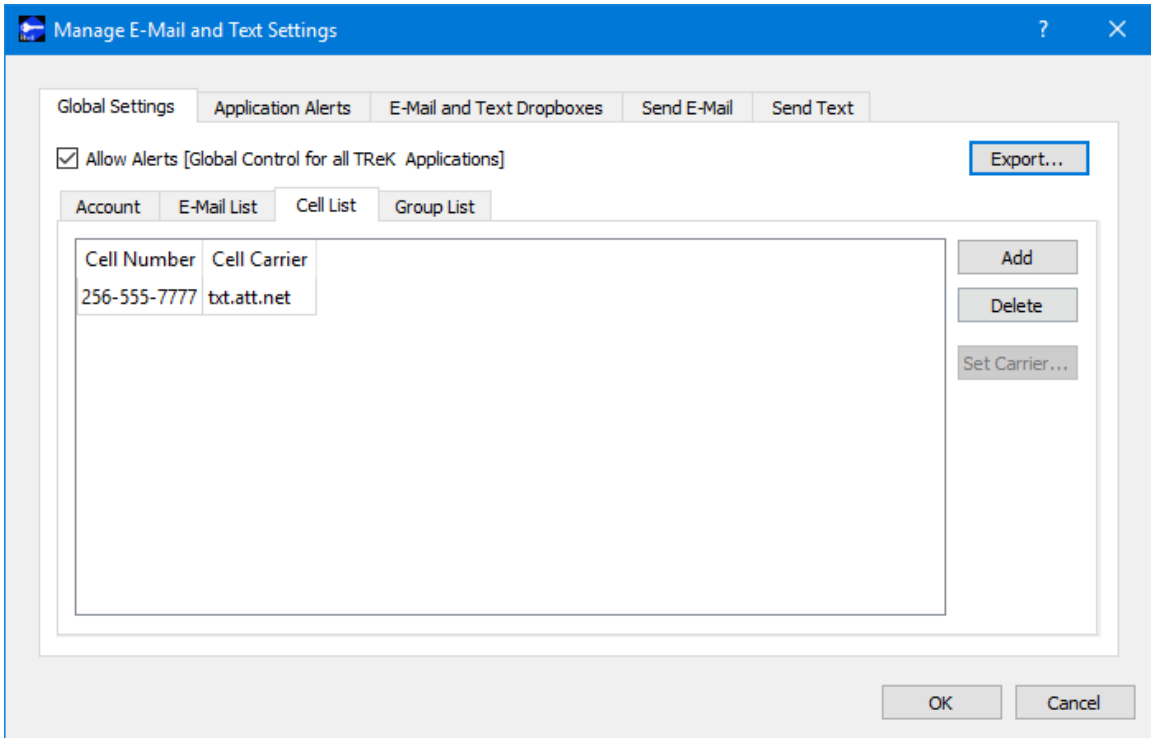
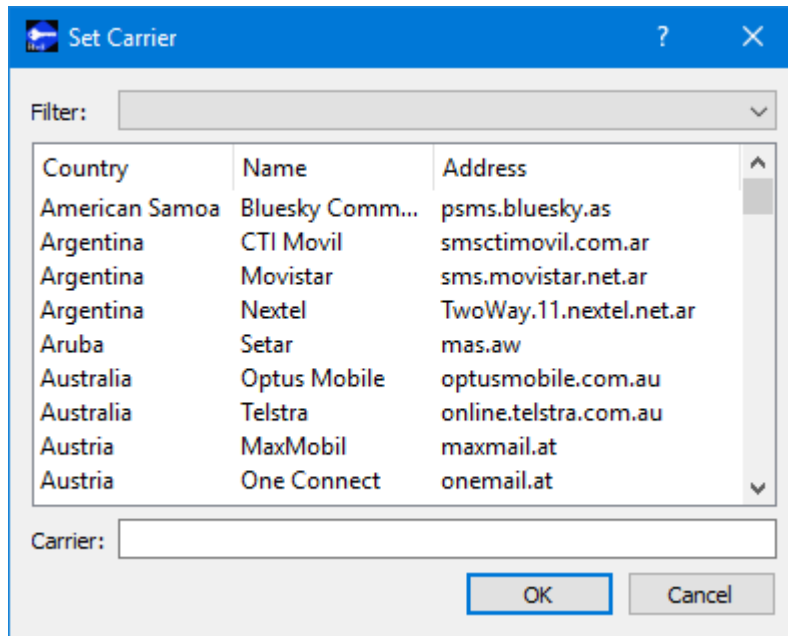**Figure 6 Manage E-Mail and Text Settings Dialog (Global Settings Cell List Tab)**

Figure 7 Manage E-Mail and Text Settings (Set Carrier Dialog)

Group List

When configuring an application alert or sending an e-mail or text, you will have the option to identify an e-mail address, a cell phone number, or a group as a recipient. The

Group List is shown in Figure 8. You can define zero or more groups. A group can contain e-mail addresses and cell numbers. If you have a group with both e-mail addresses and cell numbers and you send an e-mail to that group, the e-mail generated will only be sent to the e-mail addresses in the group. You can add, modify, and delete a group using the buttons on the right.
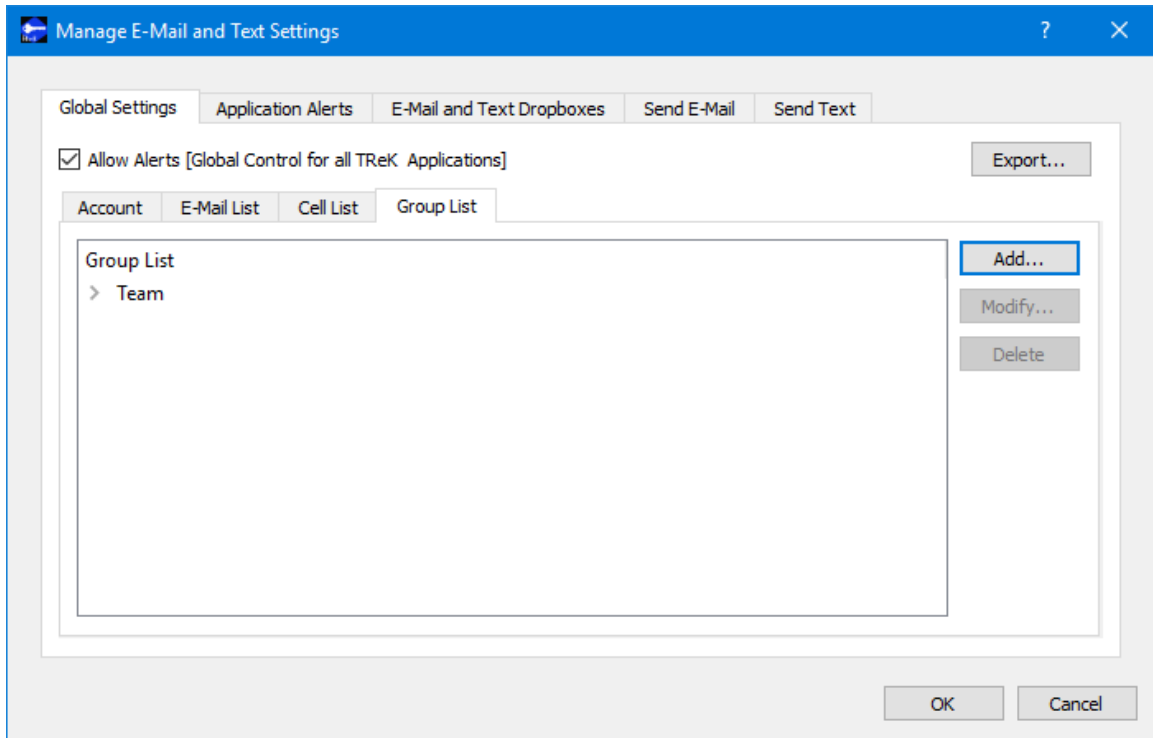

Figure 8 Manage E-Mail and Text Settings Dialog (Global Settings Group List Tab)

The Add button will display the Add Group dialog shown in Figure 9. At the top you can enter a name for the group. On the left you will see all the e-mail addresses and cell numbers you entered on the Global Settings main E-Mail List and Cell List tabs. You can add zero or more e-mail addresses and zero or more cell numbers to a group. To add an e-mail or cell to the group, select the e-mail or cell number on the left and push the Add button to add it to the group. You can use the Delete button to delete a recipient from the group.
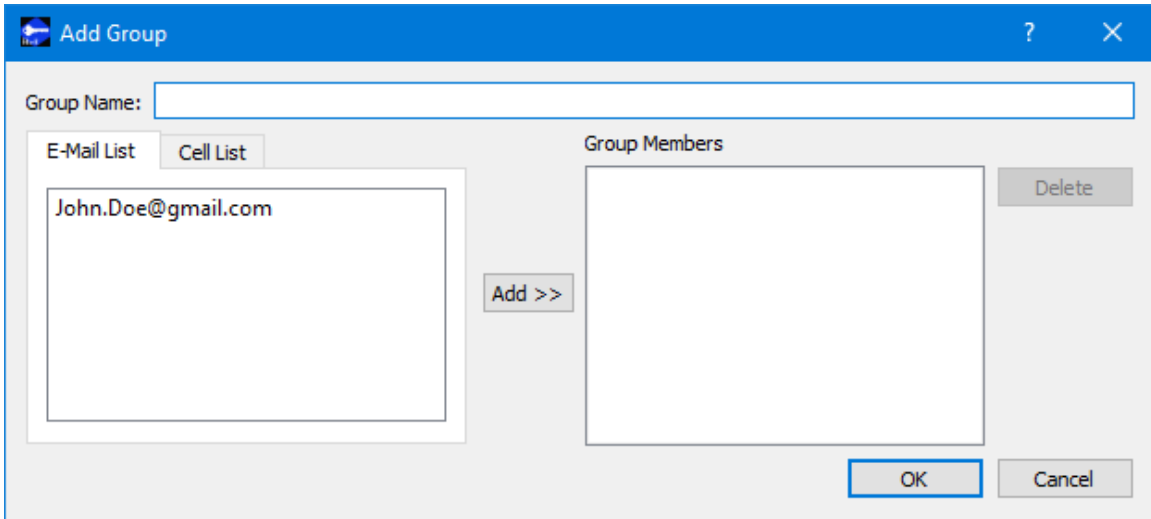
Figure 9 Manage E-Mail and Text Settings (Add Group Dialog)

Application Alerts

The Application Alerts tab is shown in Figure 10. It is used to configure application specific alerts.
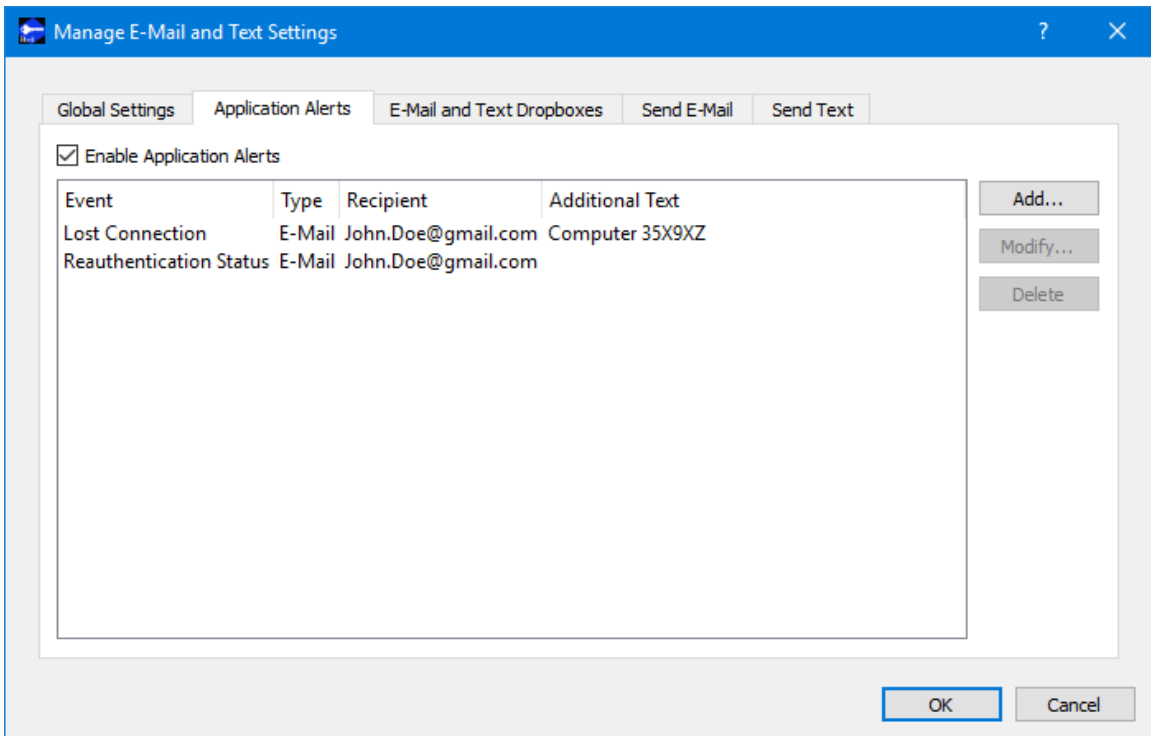

Figure 10 Manage E-Mail and Text Settings Dialog (Application Alerts Tab)

Enable Application Alerts
The Enable Application Alerts Checkbox is used to turn all alerts on or off in the current application. If you uncheck Enable Application Alerts, no alerts will be generated in the Command application.

Event List
The Event area provides the capability to identify one or more alerts to send when a specific application event occurs. You can add, modify, and delete alerts using the buttons on the right. The Add button will display the Add Alert dialog shown in Figure 11.
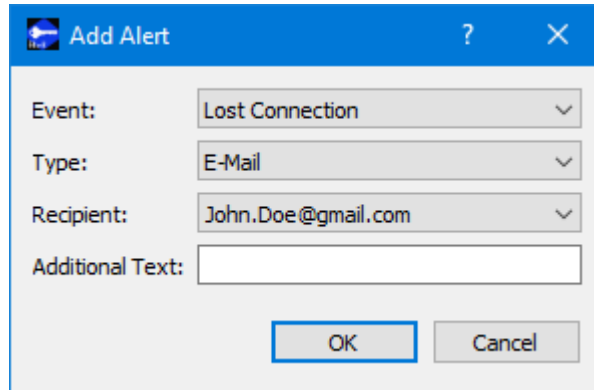

Figure 11 Manage E-Mail and Text Settings (Add Alert Dialog)

Event
The Event is what triggers the alert. There may be one or more events in an application that can trigger an alert. The HOSC Login application can generate an alert for the following types of events:

Lost Connection
This event is triggered if the login connection to the HOSC is lost.

Reauthentication Status
This event is triggered when you receive a reauthentication status message from the HOSC.

Type
The type of alert to send. Options are E-Mail, E-Mail and Text, or Text.

Recipient
The recipient identifies who should be notified when the event is triggered. The Recipient list will be populated with applicable recipients based on Type. If you select E-Mail in the Type menu, the Recipient list will be populated with e-mails from the E-Mail List tab and groups that contain at least one e-mail address from the Group List tab. If you select E-Mail and Text in the Type menu, the Recipient list will be populated with groups from the Group List tab that contain at least one e-mail address and one cell phone

number. If you select Text in the Type menu, the Recipient list will be populated with cell phone numbers from the Cell List tab and groups that contain at least one cell phone number from the Group List tab.

Additional Text
The alert will contain the name of the event that occurred and any text that is provided in the Additional Text field. Additional Text is optional.

E-Mail and Text Dropboxes
The E-Mail and Text Dropboxes tab is shown in Figure 12. This tab can be used to define E-Mail and Text Dropboxes. It is important to remember that each E-Mail and Text Dropbox will correspond to a directory on the file system and must be unique. Using a directory for more than one dropbox will result in unexpected behavior. When you define a dropbox using the Manage E-Mail and Text Settings dialog, the dropbox information is automatically saved with that specific application's settings.

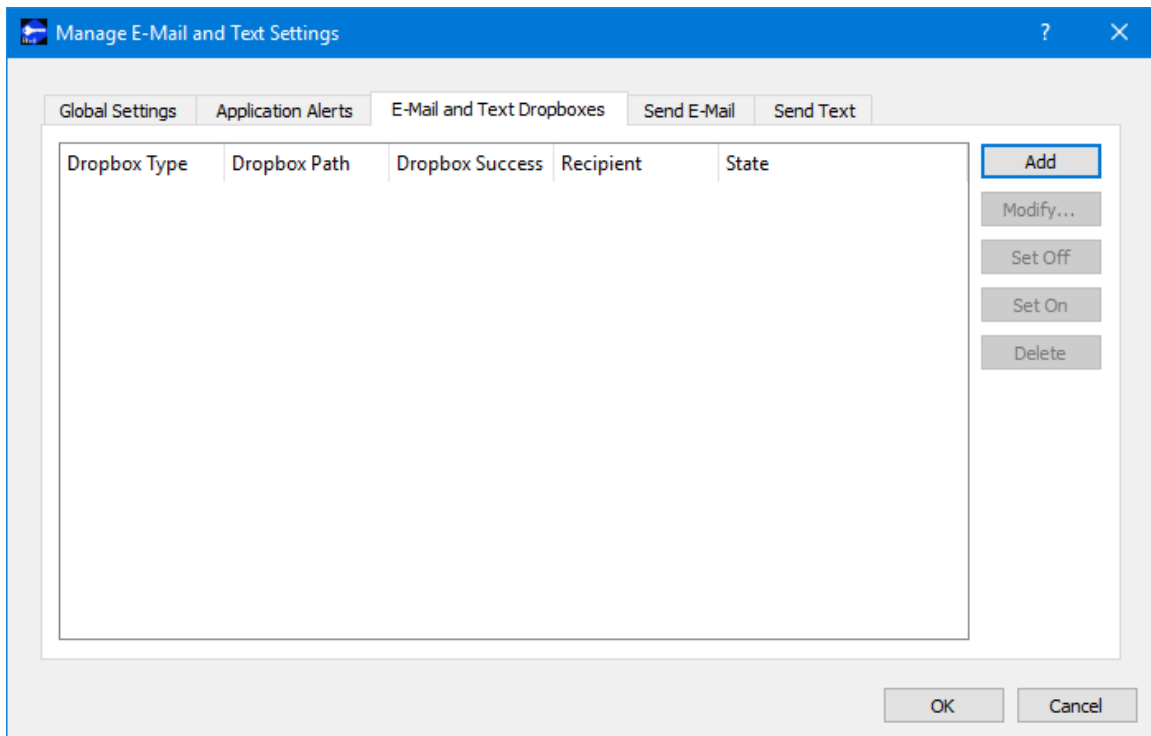Figure 12 Manage E-Mail and Text Settings Dialog (E-Mail and Text Dropboxes Tab)

Dropbox List
The Dropbox List is used to define zero or more dropboxes. For each dropbox you can define the Dropbox Type, the Dropbox Path, the Dropbox Success Path, a Recipient, and a State. The buttons on the right can be used to add, modify, delete, or change the state of a dropbox. The Add Dropbox dialog is shown in Figure 13.
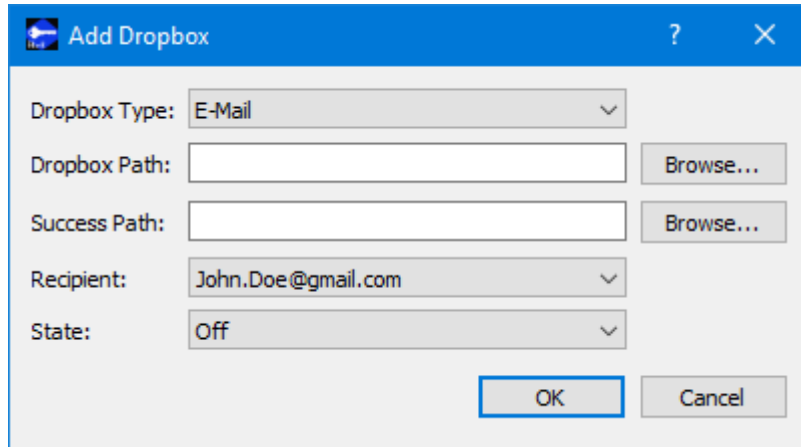
Figure 13 Manage E-Mail and Text Settings (Add Dropbox Dialog)

Dropbox Type
There are three types of dropboxes: E-Mail, E-Mail File, and Text. An E-Mail dropbox will e-mail the contents of a file placed in the dropbox. An E-Mail File dropbox will e-mail the file placed in the dropbox. A Text dropbox will text the contents of a file placed in the dropbox.

Dropbox Path
The Dropbox Path identifies the local directory to be used for the dropbox. The Browse button can be used to select a directory.

Dropbox Success Path
The Dropbox Success Path is optional. If the Dropbox Success Path is defined, the dropbox will move the original file placed in the dropbox to the success directory if and only if the corresponding e-mail or text is successfully delivered to the e-mail server. If the success path is empty, the dropbox will delete the original file placed in the dropbox if and only if the corresponding e-mail or text is successfully delivered to the e-mail server. If the dropbox fails to generate the e-mail or text, the file will be renamed with a time tagged ".droperror" extension and remain in the dropbox. The dropbox will not attempt to generate an e-mail or text for a file with a ".droperror" extension in its filename.

Recipient
The Recipient identifies the designated recipient(s) for the e-mail or text. The Recipient list will be populated with applicable recipients based on the Dropbox Type. For example, if you select E-Mail or E-Mail File in the Type menu, the Recipient list will be populated with e-mails from the E-Mail List Tab and groups with at least one e-mail address from the Group List Tab. If you select Text in the Type menu, the Recipient list will be populated with cell phone numbers from the Cell List Tab and groups with at least one cell number from the Group List Tab.

State

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The state controls whether the dropbox is activated. It can be set to Off or On. If the state is set to Off, the dropbox will not be activated. If the state is set to On, the dropbox will be activated when you push the OK button. If the state is set to On when you exit the application, it will automatically be activated the next time you run the application. If you do not want the dropbox to be activated on application initialization, set the state to Off before exiting the application.

Send E-Mail

The Send E-Mail tab is shown in Figure 14. This tab can be used to send an e-mail if valid information has been entered on the Global Settings tab. Once the To, Subject, optional File (Browse can be used to browse the local disk for a file), and Message information has been entered, press the Send button to send the e-mail. This will initiate a request to send the e-mail. Look at the main window message area for information about whether the e-mail request was successful or encountered any errors.
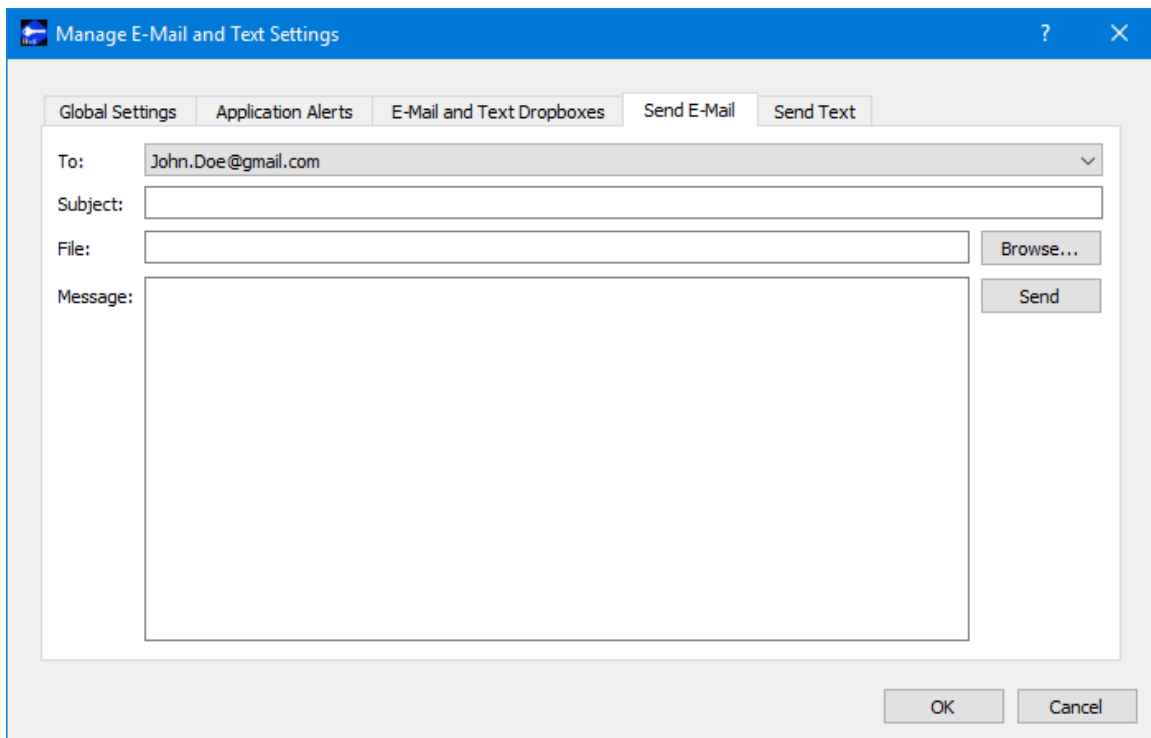

Figure 14 Manage E-Mail and Text Settings Dialog (Send E-Mail Tab)

Send Text

The Send Text tab is shown in Figure 15. This tab can be used to send a text if valid information has been entered on the Global Settings tab. Once the To and Message information has been entered, press the Send button to send the text. This will initiate a request to send the text. Look at the main window message area for information about whether the text request was successful or encountered any errors.
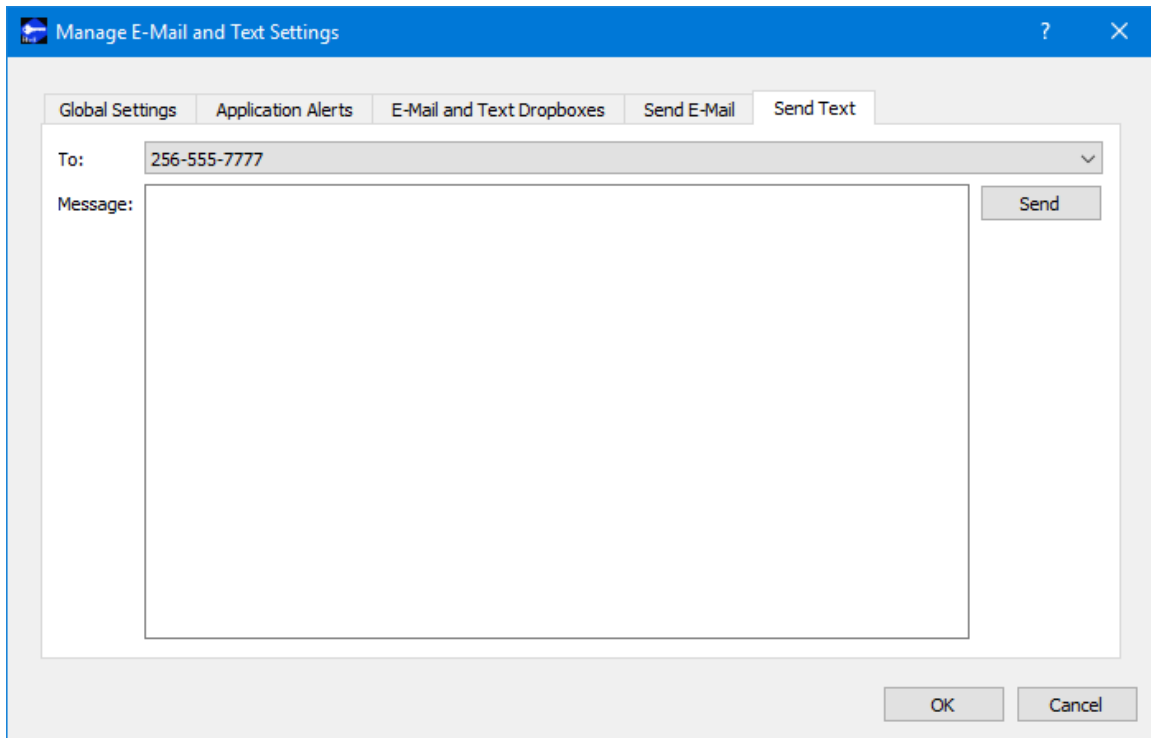
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Figure 15 Manage E-Mail and Text Settings Dialog (Send Text Tab)

6.3 Advanced Settings

The Advanced Settings dialog provides access to configure several advanced settings. The Advanced Settings dialog is shown in Figure 16.
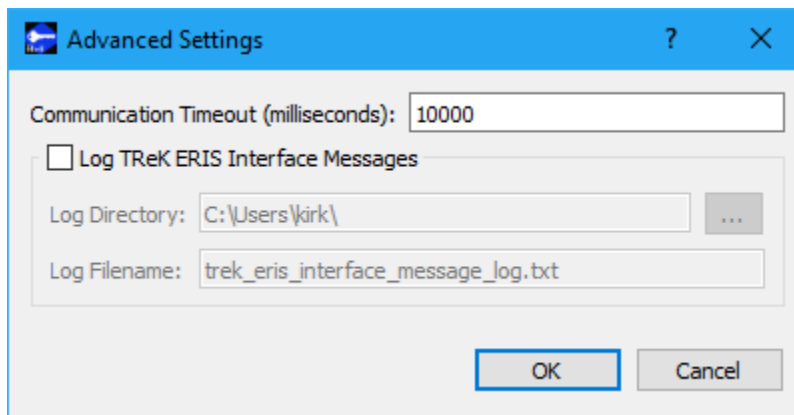

Figure 16 Advanced Settings Dialog

Communication Timeout

You can set the timeout value used in communication with the Huntsville Operations Support Center.   It is unlikely there would ever be a need to modify this setting. The timeout value can only be modified when the Login session is inactive.

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Log TReK ERIS Interface Messages
The TReK HOSC Login application provides the capability to log messages that are exchanged between the TReK HOSC Login application and the HOSC ERIS software to a file. This capability has been provided for troubleshooting purposes. Hopefully this is a feature you will never need to use. If you check the Log TReK ERIS Interface Messages checkbox, the messages that are exchanged between the TReK HOSC Login application and the HOSC ERIS software will be written to the log file specified. Message Logging will start when the Login Session is activated and stop if you uncheck the box or the Login Session is deactivated. Once a log file exists, any new messages will be appended to the existing log file. Log files are appended with the time the file was created as shown in the example below. Log files older than 7 days are automatically deleted.

Example Log File: trek_eris_interface_message_log_2021-03-14-18-26-29.txt

Log Directory
The Log Directory field should contain the absolute path to the directory where the log file should be written.

Log Filename
The Log Filename field should contain the name to use for the log file.

6.4   Application Messages

Various types of application messages are generated including information, progress, warning, error, and debug messages. Application messages are stored in memory and written to a temporary log file. The temporary log file is created on application initialization and exists as long as the application is running. It is deleted when you exit the application. The log file is located in the temporary directory provided by the operating system. Only a subset of messages are stored in memory while all messages are written to the temporary log file. The maximum number of application messages stored in memory is controlled by the message storage setting in the Configure Messages dialog. Once the maximum is reached, older messages are deleted to make room for new messages. Setting the maximum value to a large number can impact application performance since it will increase the amount of memory used by the application. Setting this number too low can cause you to miss important messages. The application default was selected to protect against both of these scenarios. Messages stored in memory are displayed in the Main Window Message Area and the Messages dialog. The Messages dialog is shown in Figure 17. The Main Window message area only displays Info, Warning, and Error messages. The Messages dialog displays messages based on the display preferences defined in the Configure Messages dialog. By default, the Messages dialog will display information, progress, warning, and error messages. Columns in the Messages dialog can be sorted by clicking on the column header. The Messages dialog is available from the Options menu.
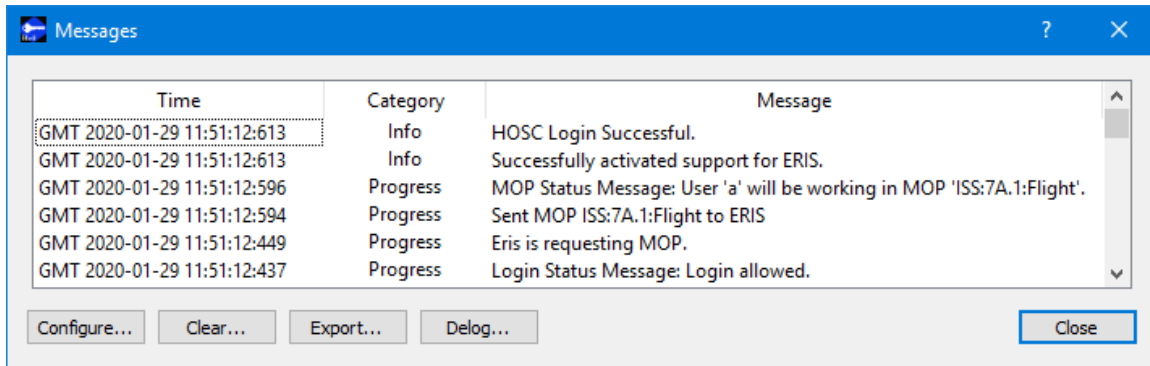
Figure 17 Messages Dialog

Configure

The Configure button provides access to the Configure Messages dialog shown in Figure 18. This dialog provides access to preferences associated with messages. Display preferences can be set to filter the types of messages (category) displayed in the Messages dialog. Export Preferences control how the time tag is added to the filename that is created when messages are exported. See the Export section for details. Message storage defines the maximum number of messages that will be stored in memory while the application is running. Once the maximum is reached, older messages are deleted to make room for new messages. The Set to Defaults button can be used to reset these properties to application defaults.
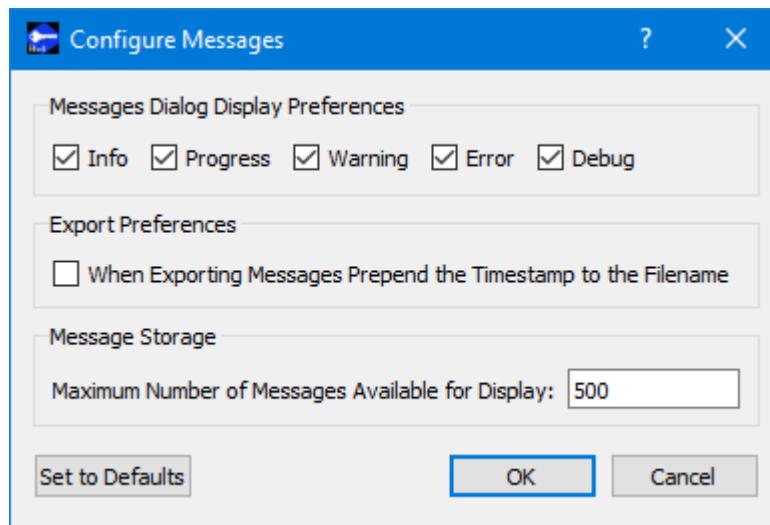

Figure 18 Configure Messages Dialog

Clear

The Clear button provides access to the Clear Messages dialog shown in Figure 19. This dialog provides two ways to clear application messages stored in memory. You can clear

all the messages or clear selected messages. Once you clear messages, the messages are permanently deleted in all views (Main Window Message Area and the Messages dialog).
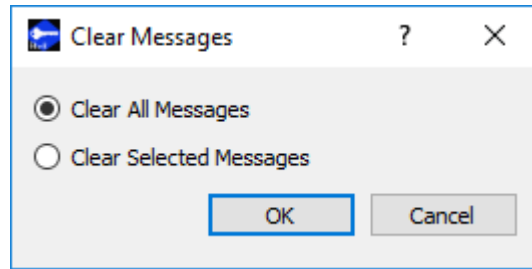

Figure 19 Clear Messages Dialog

Export
The Export button provides the capability to save all the application messages currently in memory to a file. When you push the Export button you will be prompted for a directory and filename. Export will save all messages in memory, not just the messages currently displayed in the Messages dialog (i.e. the Display Preferences are not applied). The name you provide for the file will be modified with a time tag that is added to the filename. The time tag indicates the time the file was closed. The default is to append the time tag to the filename. For example:

Filename Input: messages.txt
Filename Output: messages_2017-05-07_13~03~28.txt

If you would like to prepend the time tag to the filename you can set this preference in the Configure Messages dialog. This would result in the following:

Filename Input: messages.txt
Filename Output: 2017-05-07_13~03~28_messages.txt

Delog
The Delog button provides the capability to save all application messages generated since the application was started. Delog will retrieve the messages from the temporary log file. When you push the Delog button you will be prompted for a directory and filename. A timetag is not applied to the filename.

Filename Input: messages.txt
Filename Output: messages.txt

6.5   Application Settings

The HOSC Login application saves some settings as application settings each time you exit the application. The next time you run the application, the application will initialize with the previous application settings. Only one set of settings are saved. If you run multiple instances of the application, the settings in the instance that is exited last will be saved. The following application settings are saved:

- ➢ Application Window Size
- ➢ HOSC Login Name
- ➢ HOSC Host Name or HOSC IP Address Selection
- ➢ HOSC Host Name Entry
- ➢ HOSC IP Address Entry
- ➢ HOSC Port Entry
- ➢ Configure Messages Selections
- ➢ E-Mail and Text Settings
- ➢ Advanced Settings

7   FAQ and Troubleshooting

This section addresses Frequently Asked Questions and provides tips for troubleshooting common gotchas.

No FAQs Yet.