Introduction

The Remote Command System is a real-time command-dispatcher which allows AMVERSEAS users to send commands from a remote platform via email using Iridum account. There is a list of predifined commands.

The application is linked with Seas Console and PC Watchdog modules. The SEAS Transceiver Interface module has to be started before.

Remote Command System provides several key benefits:

- **Integrated Dispatching Application:** Managing sent commands to AMVERSEAS applications system. Several actions can be requested from a remote station.

- **Flexibility**: Increasing the flexibility of AMVERSEAS by enabling adding, replacing or removing any command handler at any point of time.

- **Extensibility**: Developers can ease extend the command set.

- **Preventing acquisition data loss**: Enabling the system's reconfiguration or the execution of a list of actions remotely.

It was developed in the Integrated Development Environment (IDE) from Microsoft Visual Studio C++ 2008 Standard Edition under Windows 7.

Contact Information

Caridad Ibis Gonzalez
Software Developer
UM/RSMAS/CIMAS and NOAA/AOML/PhOD
4301 Rickenbacker Causeway
Miami, FL 33149
Phone: (305) 361-4322
Fax: (305) 361-4392
E-mail: caridad.i.gonzalez@noaa.gov

Pattern

Command: Represents an action that has to be processed. A command will be executed by using a Concrete Command Handler. The command object also encapsulates the parameters to be passed to the concrete command handler object to perform the request.

Command format: <command>,<argument1,...,argumentN>,<application>;

Example:
CALLSIGN+160301210623,ZCD6,SeasConsole;
REBOOT+160222225701;

Command Handler: Declares an interface for executing an operation.

Concrete Command Handler: Knows how to perform the concrete action (e.g. REBOOT), and performs the request (e.g. shuts down the system and then restarts the system).

Command Dispatcher: Acts as an administrative entity that manages the linking of commands to the appropriate Command Handlers. Also passes parameters from the Command object to the Concrete Command Handler.

The incoming commands and the output messages are in a database persistent storage. Once a command or a message is handled, it is deleted from the corresponding table. The used method is First-In, First-Out *(*FIFO*)*. The element added first to the table will be the one to be removed first. Elements are always added to the back of the table and removed from the front of the table.

Command Set

Commands have to be sent individually finished with a semicolon. The command has to include a unique identifier, YYMMDDHHMMSS format is recommended. Where:

YY   = Year
MM   = Month
DD   = Day
HH   = Hour
MM   = Minute
SS   = Second

Example: 160302191456

System wide commands

REMOVEREQUESTS:
    Syntax: REMOVEREQUESTS+<number>;. <number> is a unique identifier.
    Action: Remove all pending requests.
    Example: REMOVEREQUESTS+160301210623;
    Response: Good or Bad (e.g. ZCD6 - REMOVEREQUESTS+160301210623 Good).

REMOVEOUTPUT:
    Syntax: REMOVEOUTPUT+<number>;. <number> is a unique identifier.
    Action: Remove all pending output messages.
    Example: REMOVEOUTPUT+160202110623;
    Response: Good or Bad (e.g. ZCD6 - REMOVEOUTPUT+160202110623 Good).

REBOOT:
    Syntax: REBOOT+<number>;. <number> is a unique identifier.
    Action: Shuts down and restarts the system.
    Example: REBOOT+160222225701;
    Response: System restarted (e.g. ZCD6 - REBOOT+160222225701 System restarted.).

PING:
    Syntax: PING+<number>;. <number> is a unique identifier.
    Action: Responds with a sign that the system is alive.
    Example: PING+160222155256;
    Response: A GPS sentence (e.g. ZCD6 - PING+160222155256 02-25-2016,20:42:50,25 44 08 N,080 09 72 W,000,297,0.00).

CALLSIGN:
    Syntax: CALLSIGN+<number>,<argument>;. <number> is a unique identifier.
    Action: Sets the ship's Call Sign.

Example: CALLSIGN+161202153621,ZCD6;
Response: Good or Bad (e.g. ZCD6 - CALLSIGN+161202153621 Good).

SHIPNAME:
  Syntax: SHIPNAME+<number>,<argument>;. <number> is a unique
       identifier.
  Action: Sets the ship's name.
  Example: SHIPNAME+161202152736,ARANDA;
  Response: Good or Bad (e.g. ZCD6 SHIPNAME+161202152736 Bad).

IMONUMBER:
  Syntax: IMONUMBER+<number>,<argument>;. <number> is a unique
       identifier.
  Action: Sets the ship's IMO number.
  Example: IMONUMBER+161202154512,8814275;
  Response: Good or Bad (e.g. ZCD6 - IMONUMBER+161202154512 Good).

To start a send command section, it is recommended to follow these instructions to ensure that the system is working properly:

1. Send command REMOVEOUTPUT.
2. Send command REMOVEREQUESTS.
3. Send command PING.

Once you get the PING command response, then start sending commands.

# User Interface
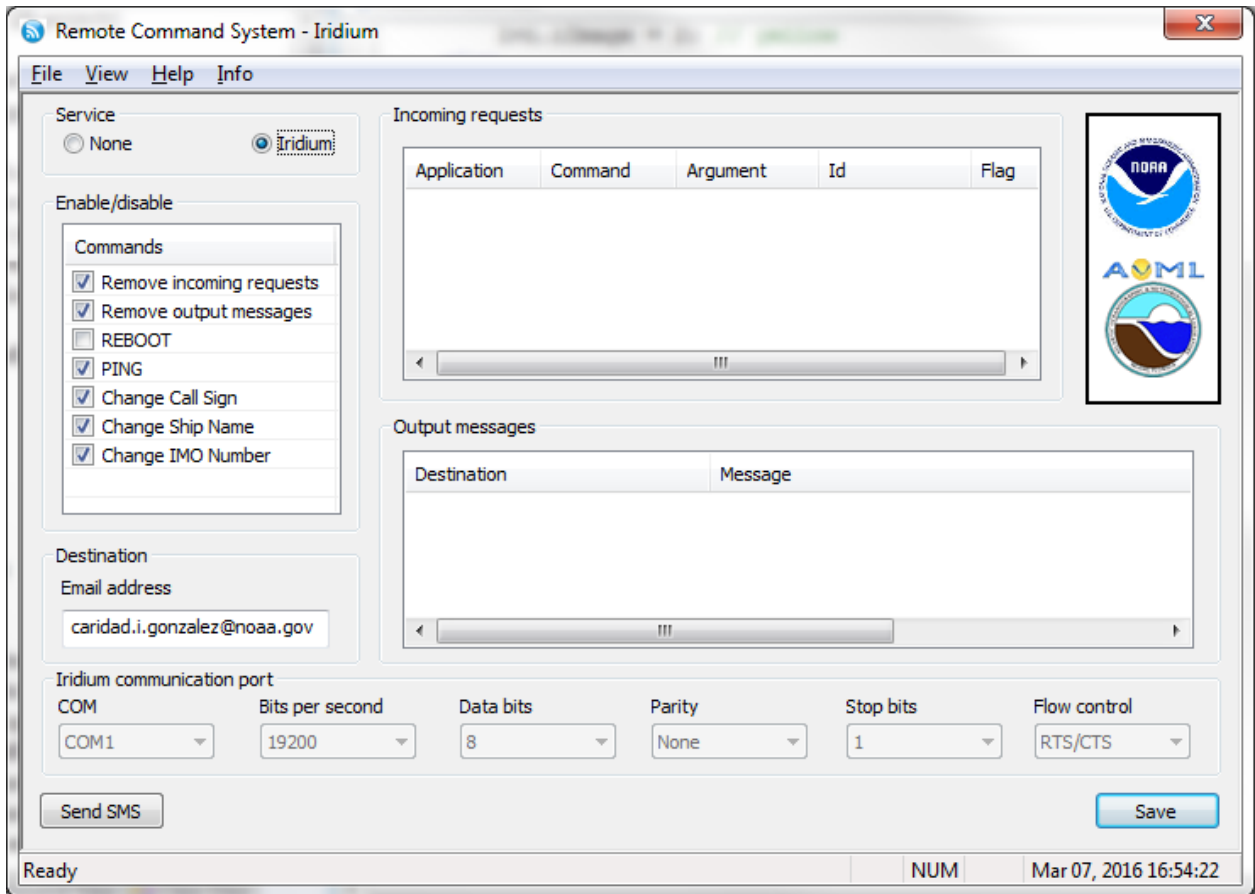
The Remote Command System user interface is separated into these sections:

- **Main Menu bar**:

    - **File > Exit:** Exits the application.

    - **View >Status Bar:** Shows or hide the Status bar.

    - **Help > About Remote Command System…:** Shows the About dialog box for copyright information and which versions of the product are installed.

    - **Info:** Links to documents.

- **Main screen:**

- **Status bar:** Displays the status of the current activity.

Main Menu bar

File > Maximize: This command is always disabled see system tray to know how to maximize the Remote Command System application window (under construction).
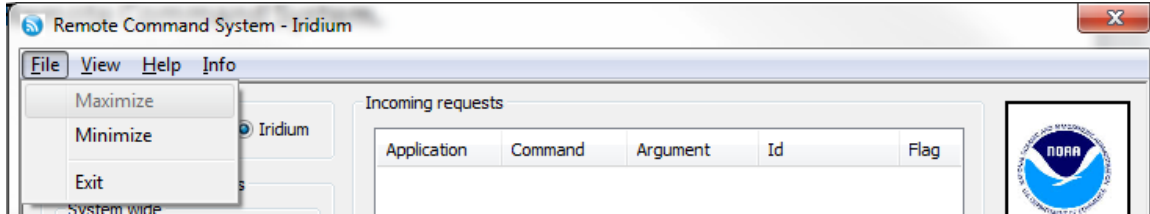

File > Minimize: Use this command to minimize the Remote Command System application window. An icon will be display in the system tray (under construction).
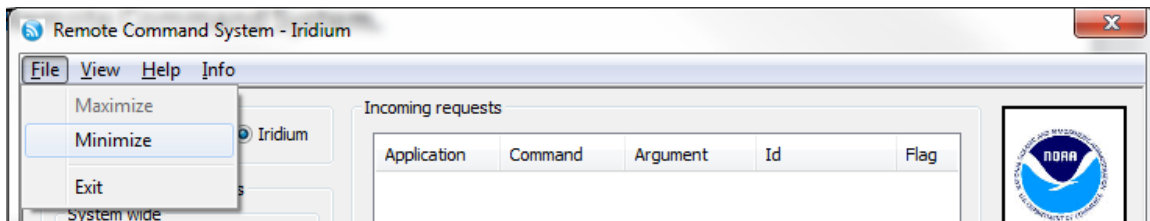
The notification area -commonly referred as the system tray for Microsoft- is the portion of the taskbar usually at the bottom right corner that displays icons for easy access to system functions such as printer, modem, sound volume, battery status, and more. It is used to launch and monitor running applications.

A single right click on the tray icon will bring up a menu while a double click will perform the default action (**Minimize** or **Maximize** Remote Command System application window).

The **About Remote Command System** option will display a window with the version information.
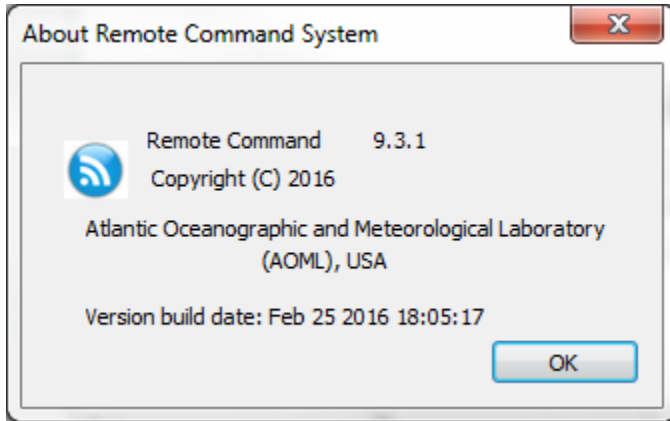
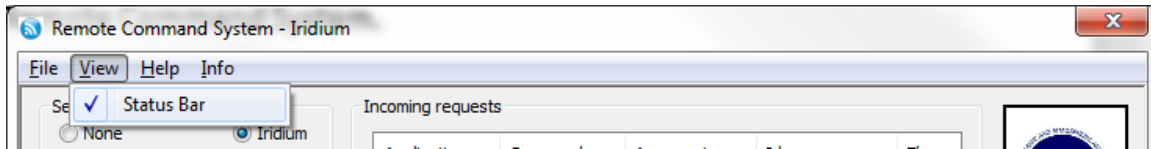**File > Exit**: Exits the application

Use this command to end the Remote Command System application.

When a service is active, Remote Command System needs to stay running all the time unless they are explicitly terminated. When the operator wants to exit the application, it prompts the user for a password to exit.
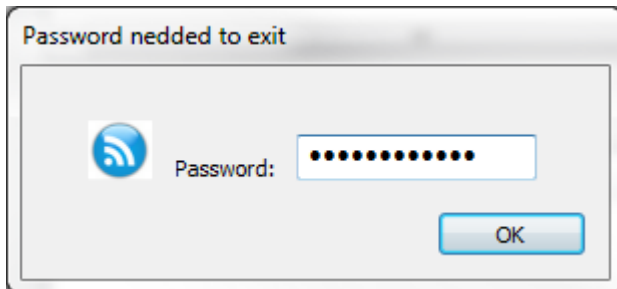
View > Status Bar: Shows or hides the Status Bar.

Use this command to display or hide the status bar, which describes the action to be executed by the selected menu item and keyboard latch state. A checkmark appears next to the menu item when the status bar is displayed.

Help > Help Topics: Displays the opening screen of help. From the opening screen, you can jump through the step-by-step instructions for using Remote Command System and various types of reference information (under construction).
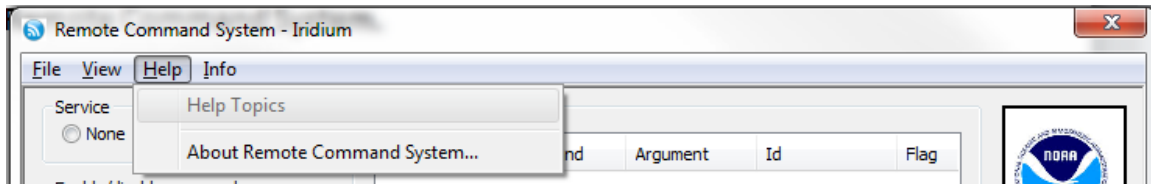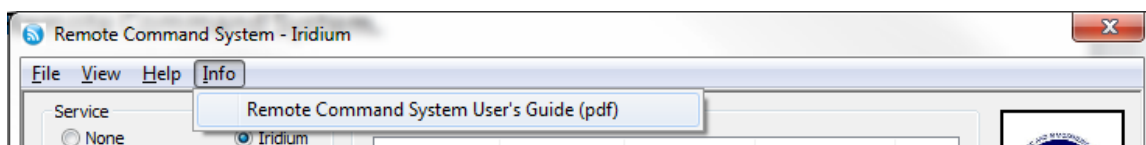

Help > About Remote Command System…: Use this command to displays the copyright notice and version number of your copy of Remote Command System.
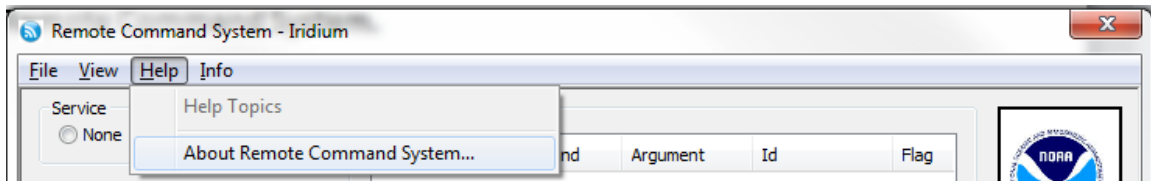
Once the command is selected the **About Remote Command System** dialog box appears.
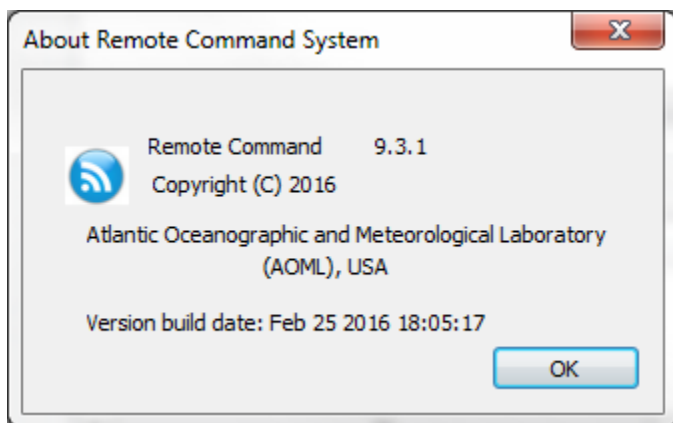
Info: This menu provides you links to documents that can help you work with Remote Command System application.

It contains following documents:

- Remote Command System User's Guide.

Main Screen

Service group: Activates any or none service.

**Enable/disable commands group:** Enables or disables the registered commands.

Destination Email address: Used to enter the destination email address. This email address is the output messages' recipient.

Iridium communication port group: Shows the Iridium communication port setting from SEAS Transceiver Interface application.

Incoming requests list: Shows the incoming commands which have to be processed.

Output messages list: Shows the output messages which have to be sent.

Send SMS button: Can be pressed to compose and to send an SMS. The **SMS sender** dialog comes up; the operator can compose, and send an SMS pressing the button **Send**, otherwise has to hit the **Exit** button.
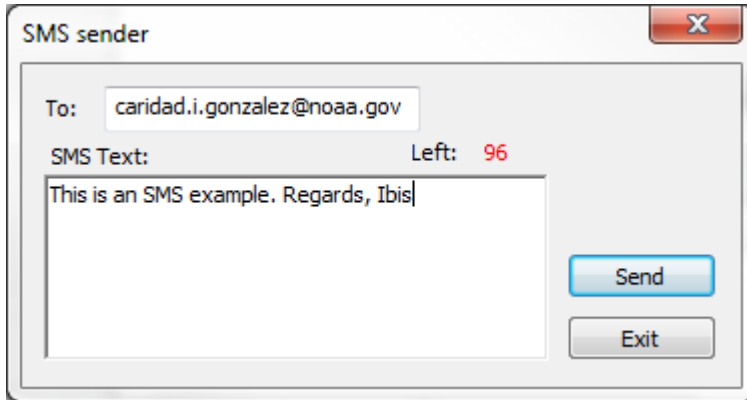
Save button: Can be pressed to save the Remote Command System application configuration.

Status bar

The status bar is displayed at the bottom of the Remote Command System window. The left area of the status bar describes actions of menu items as you use the arrow keys to navigate through menus. This area similarly shows messages that describe the application's status.

The right areas of the status bar indicate which of the following keys are latched down:

Indicator	Description
CAP	The Caps Lock key is latched down.
NUM	The Num Lock key is latched down.
SCRL	The Scroll Lock key is latched down.
DATE	The system clock.