



## OG2 Modem Control Console User Manual

Document Number: 772433201

Version 1.0



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## **Document History**

Version	Issued By	Issue Date	Comments
1.0	T. Guichon	February 2014	Initial

## **More Information**

To obtain information relative to this or other ORBCOMM documents, send an e-mail to:  
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## Overview

OG2-MCC is a Microsoft Windows program, allowing the user to evaluate and get a good working knowledge of the ORBCOMM modem and the ORBCOMM network.

A summary of the program capabilities are:

- Control via serial port of an ORBCOMM satellite modem
- Interface with the ORBCOMM XML gateway allowing to receive messages from the modem and to send messages to the modem.
- Display of all messages sent and received both by the modem and by the XML gateway
- Flexible screen layout with dockable windows and toolbars
- Continuous logging of the serial port traffic with full decoding of the information exchanged
- Continuous display of the modem status
- Display of the ORBCOMM satellite track which are within view of the modem
- Creation of all supported Modem Originated messages ( Messages, Reports, Position Reports, Globalgrams)
- Creation of all supported Modem Terminated messages (Messages, User Commands, Global grams)
- Support for all ‘communication command’ allowing performing special operations with the modem.
- Creation of scheduled messages on a weekly basis. Message sending time can be entered either as fixed time of the day or as starting time and interval.
- Message content can be created automatically with random data.

## Pre-Requisites

The application runs on a computer running Windows XP, Windows 7 or Windows 8.x

The computer running the application must be connected to an ORBCOMM modem using either an internal serial port of the computer or an external USB to serial adapter.

The application provides the capability to also connect to the ORBCOMM XML Gateway<sup>1</sup>, a back office application allowing a user to receive messages sent by the modem and to send messages to the modem. To use this capability an XML Gateway account needs to be created and the modem used must be associated with this XML Gateway account. Please refer to ORBCOMM customer service for further information. An internet connection is consequently required for this capability.

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<sup>1</sup> If the XML gateway is used, please note that the existing messages sent by the XML gateway or received by the XML gateway will not be visible any more if the computer on which the program is changed, even if the modem is the same.

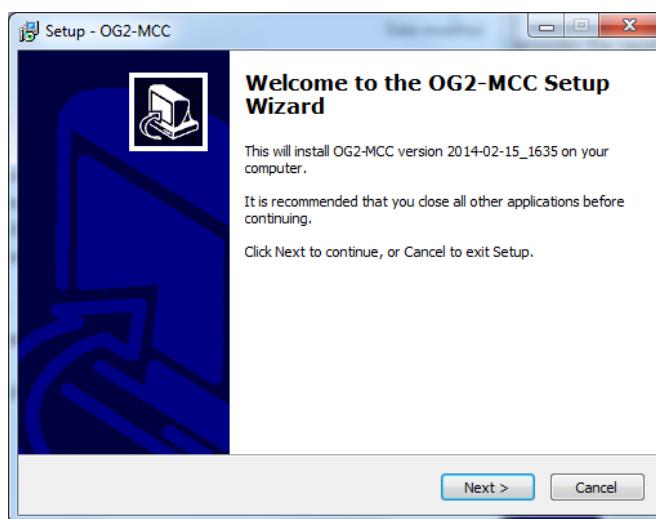


The application provides the capability to display the satellites in view of the location of the modem. To use this capability, the application must be able to obtain TLE<sup>2</sup> files from the ORBCOMM web site [www.orbcomm.com](http://www.orbcomm.com). An internet connection is consequently required for this capability.

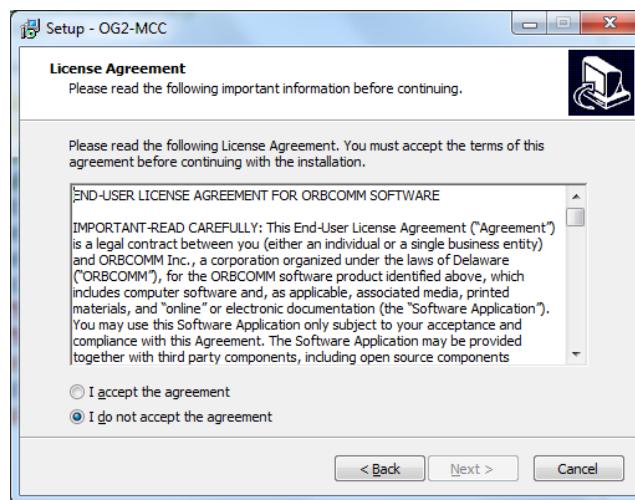
## Program Installation

The application is installed on the computer using an installation program. Please follow the following procedure to install it:

- 1) Locate the installation program OG2-MCCSetup.exe and double click to run it
- 2) Dismiss any safety warning occurring
- 3) Press Next on the screen



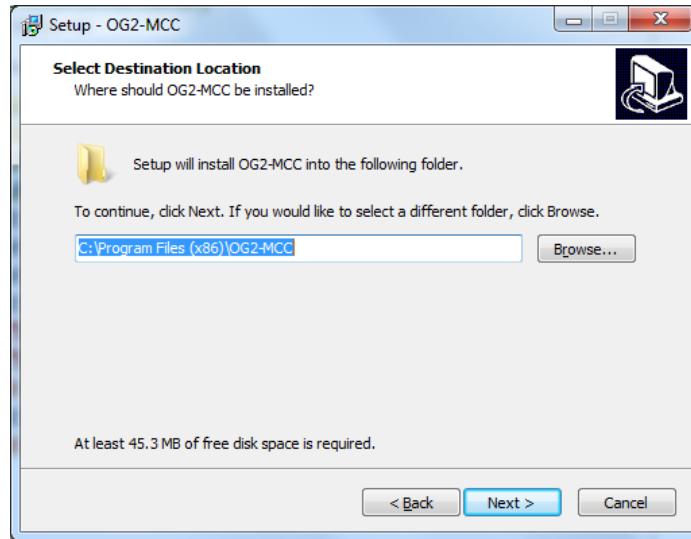
- 4) Accept the End User License Agreement by clicking the "I do accept the agreement" radio button



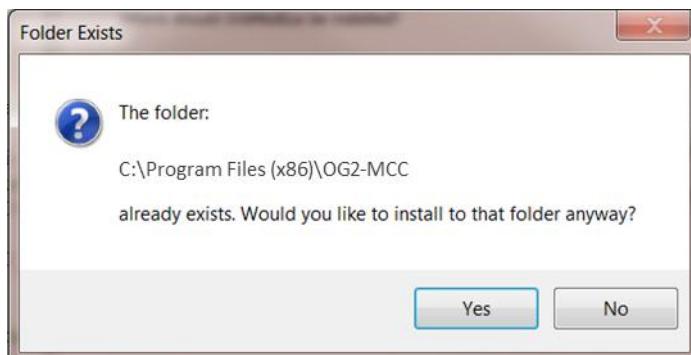
- 5) Select the destination directory then press Next

<sup>2</sup> TLE files are files which describe the orbital parameters of a satellite.

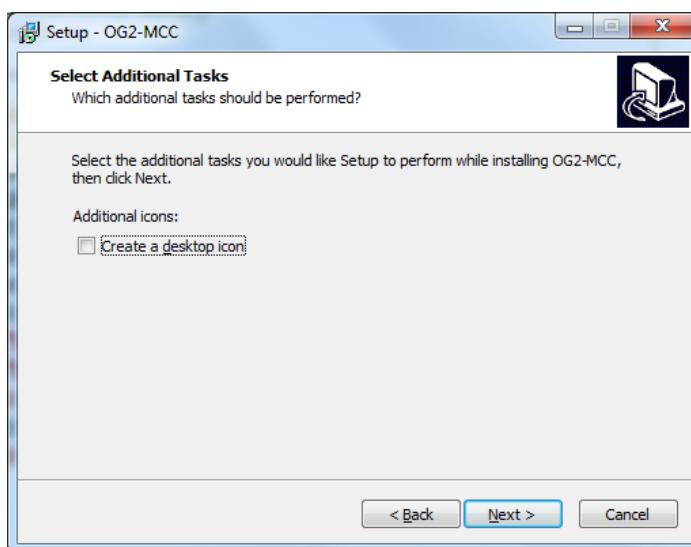




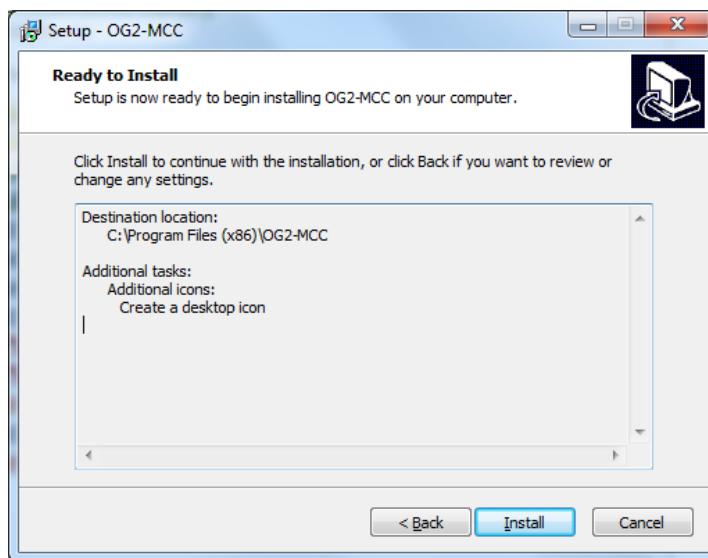
- 6) A warning may occur if the directory already exists; respond accordingly



- 7) Select whether or not, you want to have an icon to the program on your desktop then press Next



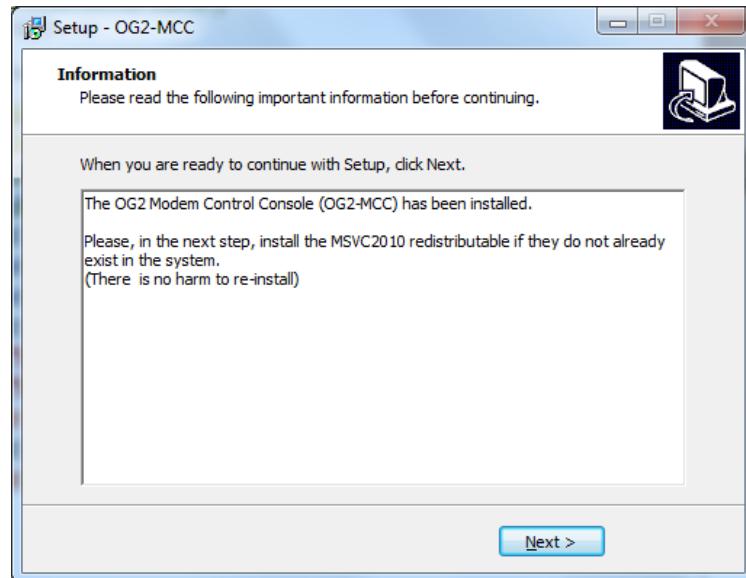
8) Press Install



9) A warning may appear if OG2-MCC is currently running. Check 'Automatically close the applications' and press Next



- 10) After the installation some information text is displayed, press Next



- 11) If this is the first time that the program is installed on this computer, select 'Installing VC2010 run-time'. If you have a serial port and a modem connected to the computer, select also 'Launch OG2-MCC.exe'

Note: If you select to install VC2010 and you already have VC2010, the re-installation of VC2010 will fail. This is a normal behavior.



- 12) Press 'Finish'. If the installation of VC2010 has been selected, the VC2010 setup program will run. If 'Launch OG2-MCC' has been selected, the application starts automatically after the completion of the installation.
- 13) If you just installed VC2010, run Windows Update in order to update the run-time library.

## Application Startup

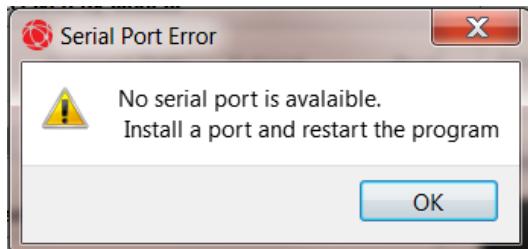


To start the application, double-click on the  icon on the desktop (if it has been installed) or select and click the program in the Windows start menu.

The program will start and display the main window as shown in Figure 1.



If no serial port is available, the following dialog is displayed. Stop the program by pressing the , install a serial port and a modem and restart the program.



The first time the application is started with a serial port and a modem connected (or each time the serial port or modem is changed), it needs to be configured. To access the configuration menu, select Configuration → Program Configuration. Refer to section Program Configuration for further details on the configuration.



# Main Window

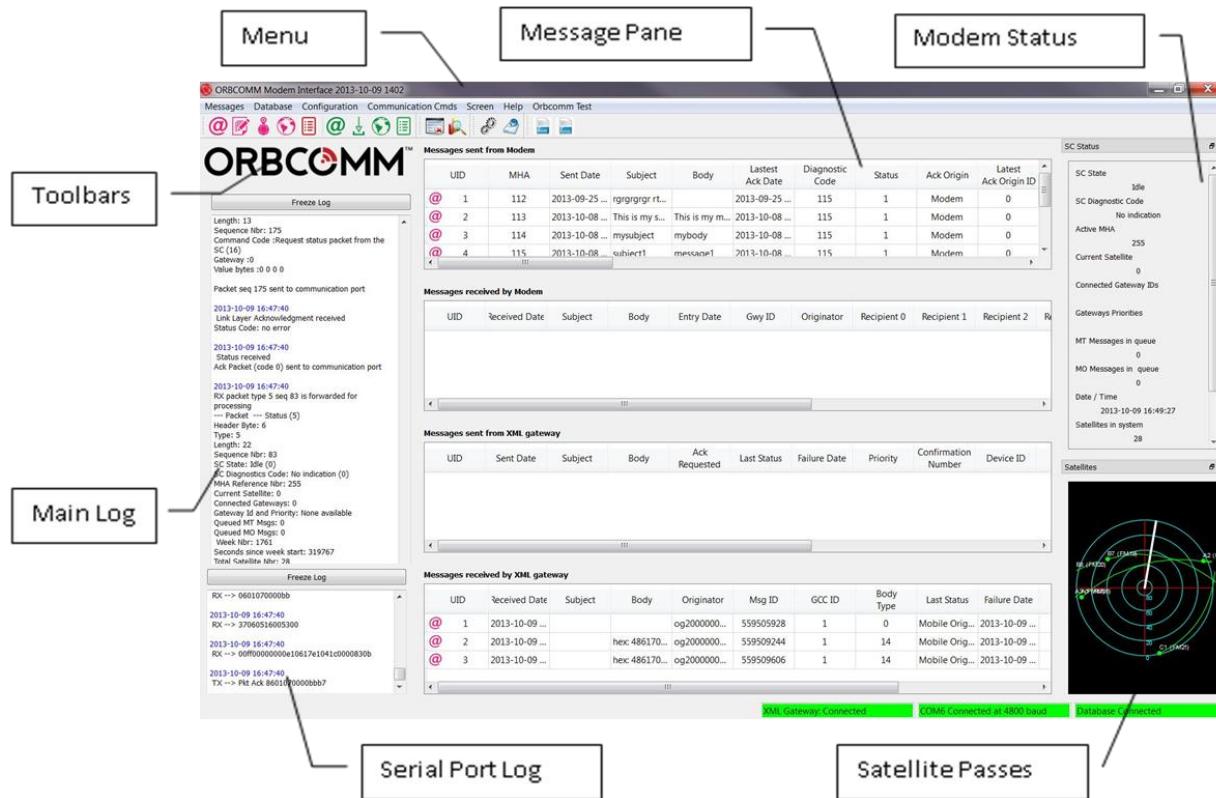


Figure 1 – Main Window

The different components of the screen are described below:

## MenuBar

Give access to all the features of the program. Select a menu and its submenu to select a feature.

## ToolBars

Provide quick access to some of the menu items. The toolbars available are:

### Messages Tool Bar

Provide access to the creation of messages and the editing of scheduled messages.



The icons from left to right represent:

- Create a Modem Originated message
- Create a Modem Originated report
- Create a Modem originated Position Report

- Create a Modem Originated Globalgram
- Edit the list of scheduled Modem Originated messages
- Create a Modem Terminated message
- Create a Modem Terminated User Command
- Create a Modem Terminated Globalgram
- Edit the list of scheduled Modem Terminated messages

### **Database Tool Bar**

Provide access to the message database functions.



The icons from left to right represent:

- Clear all the database tables
- Display message statistics

### **Configuration Tool Bar**

Provide access to the program and modem configuration



The icons from left to right represent:

- Program settings (serial port, XML gateway , ...)
- Modem parameter settings

### **Log Files Tool Bar**

Provide access to the log files



The icons from left to right represent:

- Open main log file
- Open serial port log file
- Open program manual



## Main Log

The screenshot shows a window titled "Freeze Log". The log content is as follows:

```
Length: 13
Sequence Nbr: 231
Command Code :Request status packet from the
SC (16)
Gateway :0
Value bytes :0 0 0 0

Packet seq 231 sent to communication port
2013-10-09 15:48:15
Link Layer Acknowledgment received
Status Code: no error

2013-10-09 15:48:15
Status received
Ack Packet (code 0) sent to communication port
```

Display the serial port packets sent and received by the application. The packets are fully decoded and written in plain text. The time at which the packet arrives or is sent is also displayed.

Refer to the ORBCOMM Modem Serial Specifications for information on each of the field.

By pressing the 'freeze' button, the scrolling of the log window is stopped. The scrolling will automatically restart after a while.

## Serial Port Log

The screenshot shows a window titled "Freeze Log". The log content is as follows:

```
RX --> 01070000bb370605160048
2013-10-10 14:33:01
RX --> 0000ff00000000e1061413061c0000

2013-10-10 14:33:01
RX --> 1d4b

2013-10-10 14:33:01
TX --> Pkt Ack 8601070000bbb7
```

The Serial Port Log displays the raw bytes of the serial port data. Line preceded by 'Rx →' shows the bytes received on the serial port from the modem. Lines preceded by 'Tx →' shows the bytes sent on the serial port by the application.

Refer to the ORBCOMM Modem Serial Specifications for information on the format of these packets.

By pressing the 'freeze' button, the scrolling of the log window is stopped. The scrolling will automatically restart after a while.



## Message Panes

Messages sent from Modem									
UID	MHA	Sent Date	Subject	Body	Lastest Ack Date	Diagnostic Code	Status	Ack Origin	Latest Ack Origin ID
@ 1	112	2013-09-25 ...	rgrgrgrgr rt...		2013-09-25 ...	115	1	Modem	0
@ 2	113	2013-10-08 ...	This is my s...	This is my m...	2013-10-08 ...	115	1	Modem	0
@ 3	114	2013-10-08 ...	mysubject	mybody	2013-10-08 ...	115	1	Modem	0
@ 4	115	2013-10-08 ...	subject1	message1	2013-10-08 ...	115	1	Modem	0

There are four message panes. Each pane displays all the parameters of a specific type of message:

- Message sent by the modem
- Messages received by the modem
- Messages sent from the XML gateway towards the modem
- Messages received by the XML gateway

These panes are periodically updated from the message database content.

By hovering the mouse cursor over the header names or the data of the pane, additional information can be obtained.

## Modem Status

The application periodically requests the status information from the modem. This window displays this information. The requesting rate of status information can be adjusted in the Program Parameters.

This window can be detached and enlarged as desired by pressing the “Un-dock” icon or double-clicking on its title bar. It can also be closed by pressing the “close” button. To restore a closed window, just select the menu item 'Screen → SC Status'

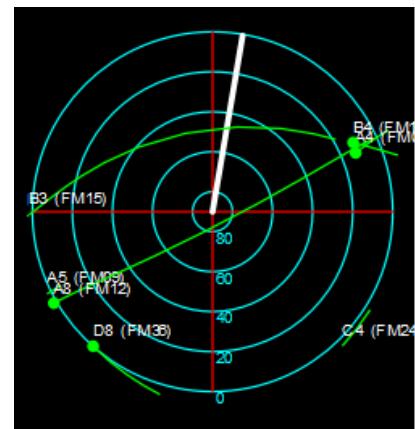
SC State
Idle
SC Diagnostic Code
No indication
Active MHA
255
Current Satellite
0
Connected Gateway IDs

## Satellite Passes

Display the satellites currently in view of the modem. Each dot represents the current position of a satellite while the lines represents the future ground track of the satellites.

The center of the screen is the modem position while the top of the screen represents the North. The circles represent the satellite elevation related to the position of the modem.

Note: The modem position must be set correctly using the ‘Program Configuration’ in order for this feature to work properly.



Note: This feature requires internet access to the ORBCOMM site [www.orbcomm.com](http://www.orbcomm.com)

This window can be detached and enlarged as desired by pressing the “Un-dock” icon or double-clicking on its title bar. It can also be closed by pressing the “close” button. To restore a closed window, just select the menu item ‘Screen → Satellites’

## ***Status bar***

Miscellaneous information is displayed in the status bar. The left part of the status part is used to display information or temporary warnings. The right part of the status bar displays the following color coded information:

- XML Gateway Status: Indicates whether or not an active connection exists for the XML gateway
- Serial Port Status: Indicates the current serial port and its baud rate (It does not indicate whether or not a modem is connected)
- Database Status: Indicates the current status of the database connection. It should always be green

## **Main Functions**

### ***Program Configuration***

The program configuration is accessed by selecting the Configuration→Program Configuration menu or by pressing the  icon.

Once entered, the configuration is saved and does not need to be re-entered unless the serial port parameters or the modem are changed.

Select first the 'Program Defaults' tab. Enter the information as desired. Please note that the XML gateway configuration is optional.



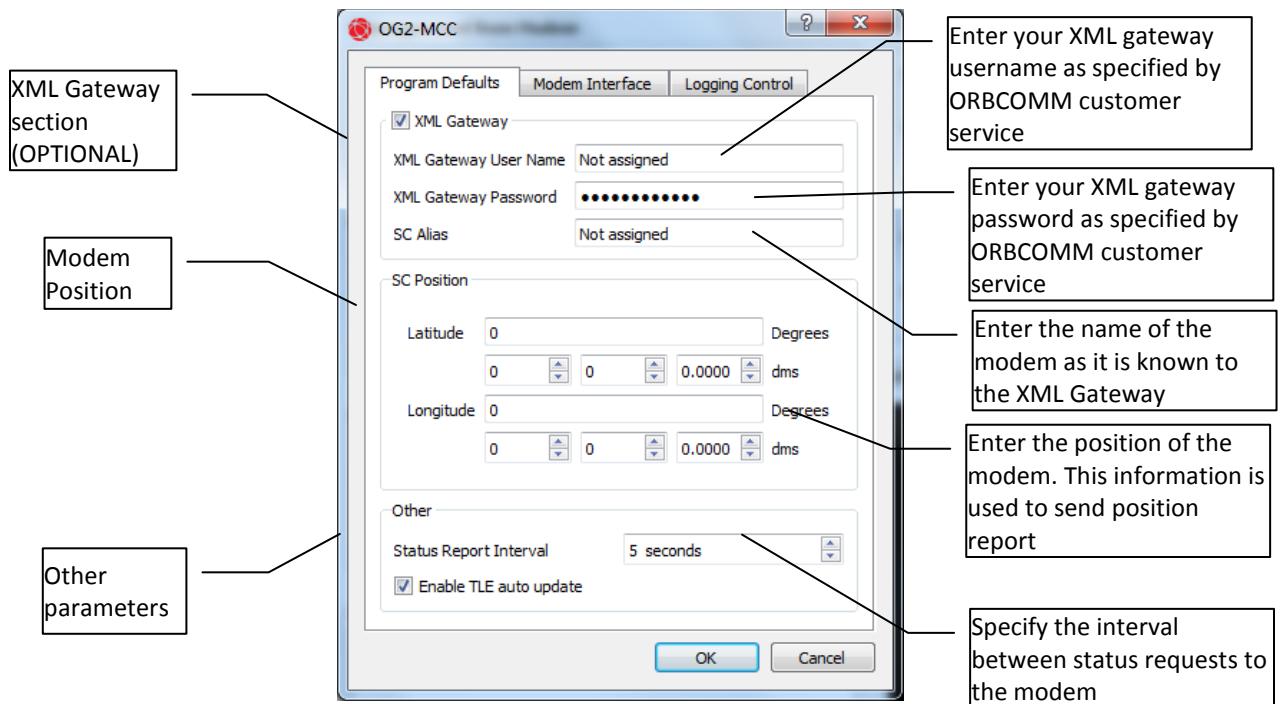


Figure 2 - Configuration Program Defaults

Correctly entering the position of the modem is especially important for the following features:

- Message Terminated messages are sent to the modem and
- The Satellite Passes window is used

Select the '*Modem Interface*' tab then enter the information as desired

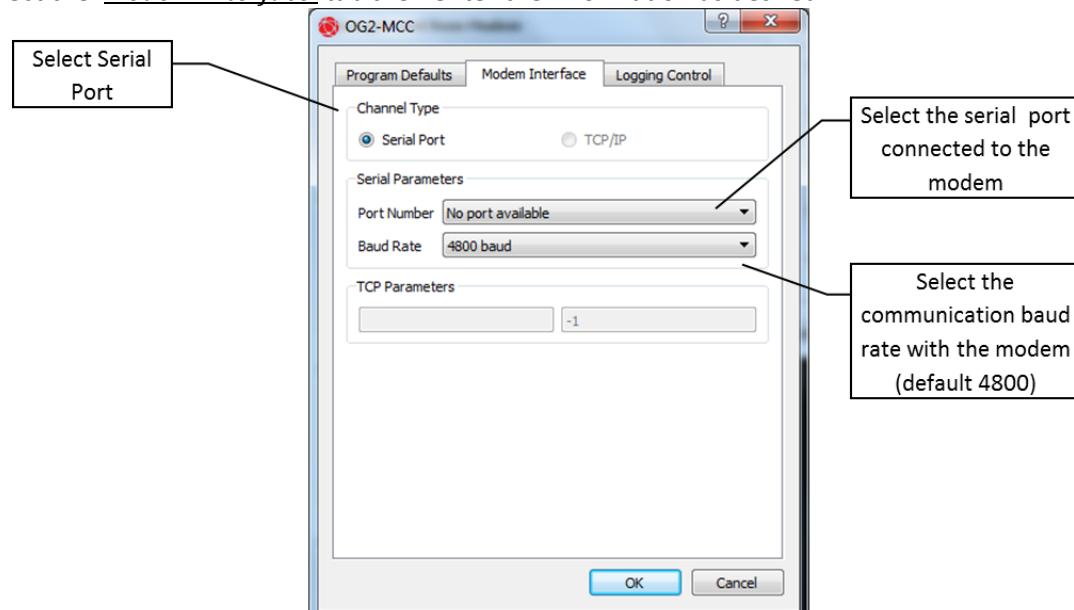
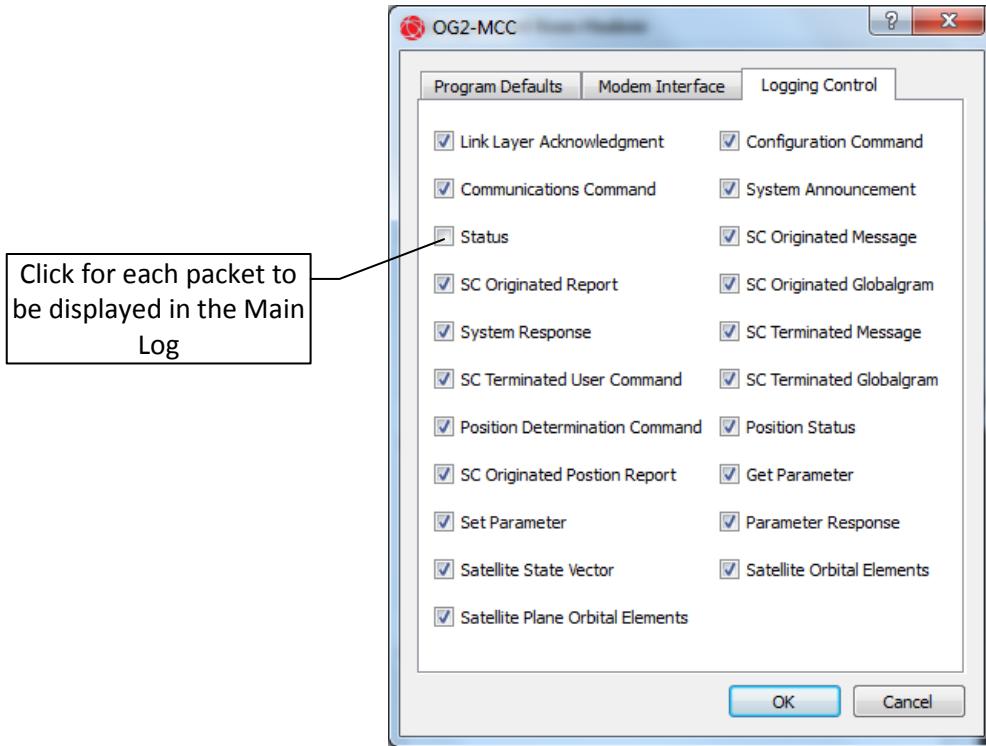


Figure 3 Configuration Modem Interface

displayed in the Main Log window. Refer to the ORBCOMM Modem Serial Port Specifications for more information on each of the packets.



**Figure 4 Configuration Logging Control**

## Modem Parameters

The Modem Parameters dialog is accessed by selecting the Configuration→Modem Parameters

menu item or by clicking the  icon.

Once the dialog box is displayed, press 'Refresh All' in order to update all parameters from the modem. Parameters with the  icon on the left of their names are editable. To edit, double click the value of the parameter, enter the desired value, and then click any other field to validate.

The Modem Parameters uses the following color code:

Green: the value has been correctly updated from the modem

Red: the modem did not recognize this parameters

Magenta: Waiting for the new entered value to be validated.

Please refer to the ORBCOMM Modem Parameters document for information on the meaning and the possible values of each of these parameters



The screenshot shows a window titled "Modem Parameters". It contains a table with two columns: "Parameter Name" and "Parameter Value". The table lists various parameters such as Manufacturer ID (Panasonic), Serial Number (OJBGA100037), Hardware Version (A1), Software Version (1.20), Postion Determination Capability (GPS), Active MHA (-1), SCO Requeue Options (Requeuing), Outgoing Messages in Queue (0), Incoming Messages in Queue (0), Diagnostics Code (No indication), Current Processing State (Idle), Personal Identification Number (Error decoding value), Position Report Destination OR (Specified parameter out of r...), Current Satellite (0), Total Number of Satellites (28), Number of Stored Satellite Elements (0), Channel List (100 265 285 80 90 295 176 3...), and Most Recent Downlink (Error decoding value). The last few rows are cut off. At the bottom right are "Close" and "Refresh All" buttons.

Parameter Name	Parameter Value
Manufacturer ID	Panasonic
Serial Number	OJBGA100037
Hardware Version	A1
Software Version	1.20
Postion Determination Capability	GPS
Active MHA	-1
SCO Requeue Options	Requeuing
Outgoing Messages in Queue	0
Incoming Messages in Queue	0
Diagnostics Code	No indication
Current Processing State	Idle
Personal Identification Number	Error decoding value
Position Report Destination OR	Specified parameter out of r...
Current Satellite	0
Total Number of Satellites	28
Number of Stored Satellite Elements	0
Channel List	100 265 285 80 90 295 176 3...
Most Recent Downlink	Error decoding value
Other Configuration	None

Figure 5 Modem Parameters

## Watching Log and Accessing Log Files

The log information is displayed automatically in the Main Log and Serial Port Log windows. However the amount of history available in these windows is limited. To access more historical data, please select Help → Open Main Log and Help → Open Serial Log to open a text file containing all the history since the program was started.

A new log file is created each time the program is started.

## Changing Screen Layout

The screen layout can be easily customized by the user.

### Windows Disabling

Pressing the Screen menu allows to select which of the visual components should be displayed.

Each of the messaging panes can be independently turned on or off. The Status and Satellite windows can also be independently turned on or off.

In addition the Status and Satellite windows can be un-docked, enlarged and left floating.

### Windows Size



The size of the Main Log, Serial Port Log and messaging panes can be adjusted by dragging their edges and move them to the desired location.

## Toolbar Selection and Location

The user can move the toolbars by dragging them to the desired position alongside the edges of the screen.

When the user right-click on the Menu Bar or the Toolbar, a menu appears which gives the user the options to enable or disable specific toolbars

## Sending MO Messages

There are three types of Message Originated (MO) messages which can be sent by the modem:

- MO Message
- MO Report
- MO Position Report
- MO Globlagram

Please refer to the ORBCOMM Message Service description for more information on each of these messages.

To send any of these messages, select the menu item Messages → MO Desired Message or click the associated toolbar icon.

A dialog box with three tabs appears.

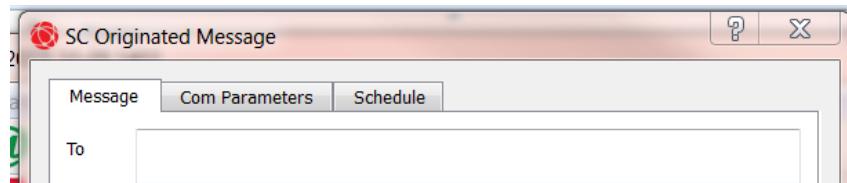


Figure 6 – Sending an MO

- The Message tab is different for each message type and allows entering the content as well as the destination of the message
- The Com Parameters tab is similar for each message type, although some of the parameters only apply for some type of messages and not others (Refer to the section describing the message type).
- The Schedule tab is similar for all messages and allow to schedule a message

Fill the information for each of the three tabs, and then press Send. If the message does not have a schedule associated with it, it will be sent immediately, and otherwise it will be sent according to its schedule.

This section describes the Com Parameters and Schedule tabs while the section specific to each message describes the Message tab.



Desired Gateway	1
Gwy Search Mode	Once for desired gateway; then first found downlink
Priority	Normal
Ack Level	Positive Gateway Ack
Pin Code	0 0 0 0 0 0
Service Type	Normal Priority, Positive Gateway Ack
Polled	Immediate Transfer

Figure 7 – Com Parameters Tab

In the Com Parameters tab (Figure 7), only the parameters applicable to the desired type of messages are enabled. Other parameters are grayed out. Please refer the ORBCOMM Serial Port specifications for more details on each of these parameters.

The Schedule tab shown in Figure 8 allows the user to schedule a message to be sent at a specific time each day of the week. The schedule will repeat each week until it is deleted. For each day of the week, the user can either enter a list of times or can enter a start time and an interval. All times are in UTC (GMT).

More information can be obtained by hovering the mouse over an area of the form.

<input checked="" type="checkbox"/> Monday	Time List
	Start Time 02:00 Interval 00:05
<input type="checkbox"/> Tuesday	Time List
	Start Time 00:00 Interval 00:00

Figure 8 – Schedule Tab

1. Click the check box corresponding to the day when you desire to send messages
2. Enter a time list consisting of one or more times separated by spaces (00:34 03:45 ...)
3. Enter a Start Time and an Interval. For example if a Start Time of 03:00 is entered and an interval of 00:50 is entered, the message will be sent every 50 minutes starting at 03:00  
Note: Entering a Start Time and Interval takes precedence and disables the Time List
4. Repeat the process for the other day of the week

## MO Message

An MO Message can have multiple recipients, a subject and a body.



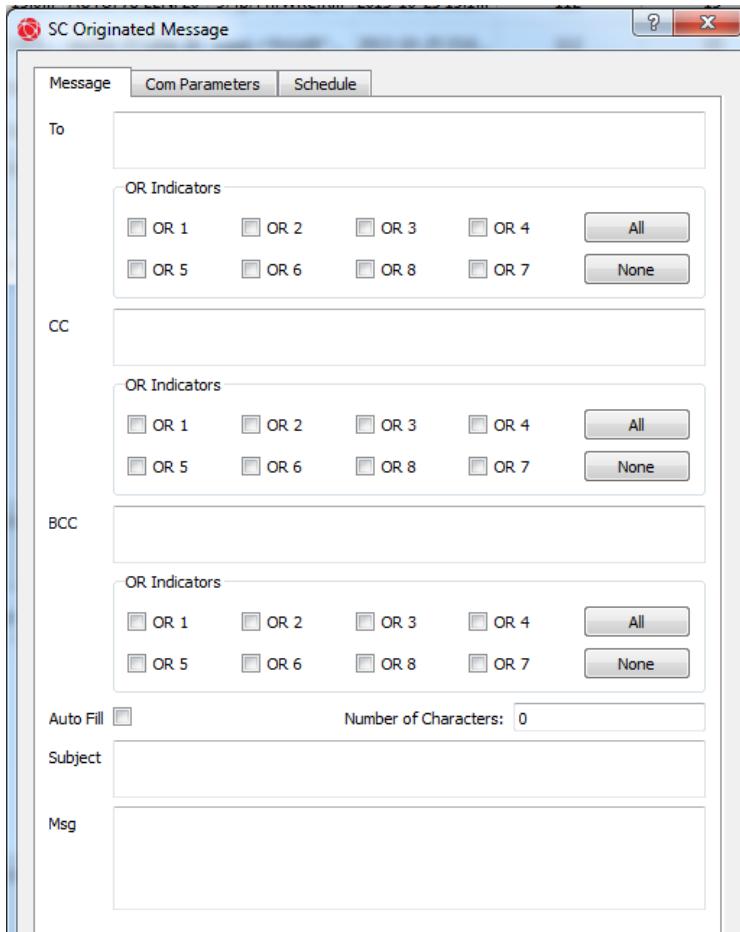


Figure 9 – MO Message Content Tab

- 1) Enter the destination of the message in the To, Cc and Bcc field. Multiple addresses can be entered by separating them with a space. Addresses can be primary, copy or blind copy.
- 2) Enter the desired Speed Dial to which you want to send the message. Speed dials can also be primary, copy or blind copy.
- 3) If you want the program to automatically fill the subject and the body of the message, check the Auto Fill box and enter the number of desired characters in the message. This capability is particularly useful to send regularly scheduled messages.
- 4) Enter the subject of the message. If the Auto Fill has been selected and the subject is left blank, it will be automatically filled with AUTO: xxx LEN: yyy where xxx is a sequential message counter and yyy is the requested length of the message. If a short header is entered in the subject (for example TEST), the subject will be filled with TEST: xxx LEN: yyyy
- 5) Enter the text of the message. The text of the message cannot exceed 2000 characters. If Auto Fill has been selected, random data will be automatically inserted in the body, erasing any entered data.

Warning: The total number of addresses and Speed Dial values for a message cannot exceed 7

## MO Report

A report sends 6 bytes of information to the recipient and can only have a Speed Dial value as a recipient.

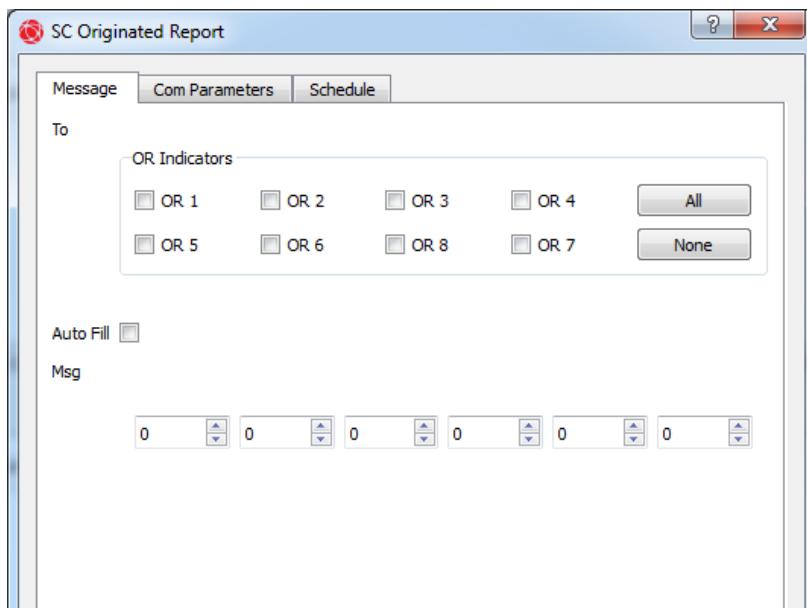


Figure 10 – MO Report Content Tab

- 6) Select one speed dial for the recipient of the report
- 7) If you want the program to automatically fill the content of the report, check the Auto Fill box. This capability is particularly useful to send regularly scheduled reports.
- 8) Enter the value of each byte of the message by directly entering the decimal value of the byte or by using the up/down arrows of each byte. Each byte value is between 0 and 255. If Auto Fill has been selected, the content of the report is automatically filled when the message is sent. The two left bytes contains a sequence number of the report.<sup>3</sup>

## MO Position Reports

A position report is a 6 bytes message containing the position of the modem. The recipient of the report is the Position Report speed dial recipient specified in the modem parameters (See Modem Parameters).

To automatically enter the modem position in the form, please make sure that the latitude and longitude of the modem are correctly set in the program configuration (See Program Configuration)

---

<sup>3</sup> A 6 byte sequence of 1, 45, 34, 67, 123, 234 indicates that this is the  $(1 \times 256) + 45$  report of the sequence. The four left bytes are just random bytes.



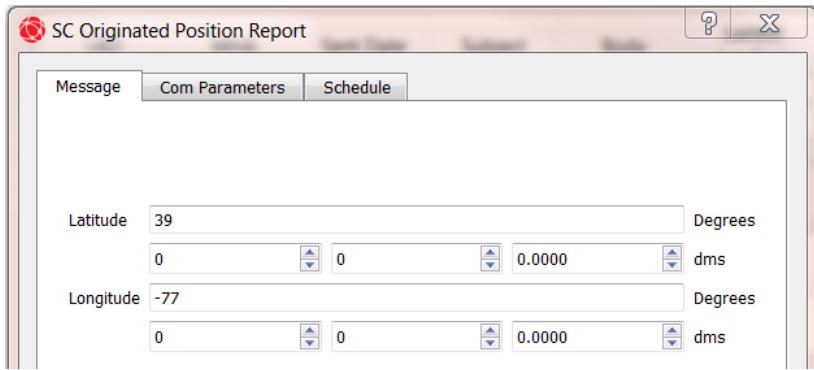


Figure 11 – MO Position Report

- 1) If not entered automatically or if incorrect, enter the latitude and longitude of the modem. The values can either be entered in decimal degrees or in degrees, minutes, seconds.

## MO Globalgram

Globalgrams are special type of messages which can be sent only when the modem is listening to a satellite which is not connected to an ORBCOMM gateway. Please refer to the ORBCOMM Message Service description for more information.

A Globalgram can only be sent to a Speed Dial address.

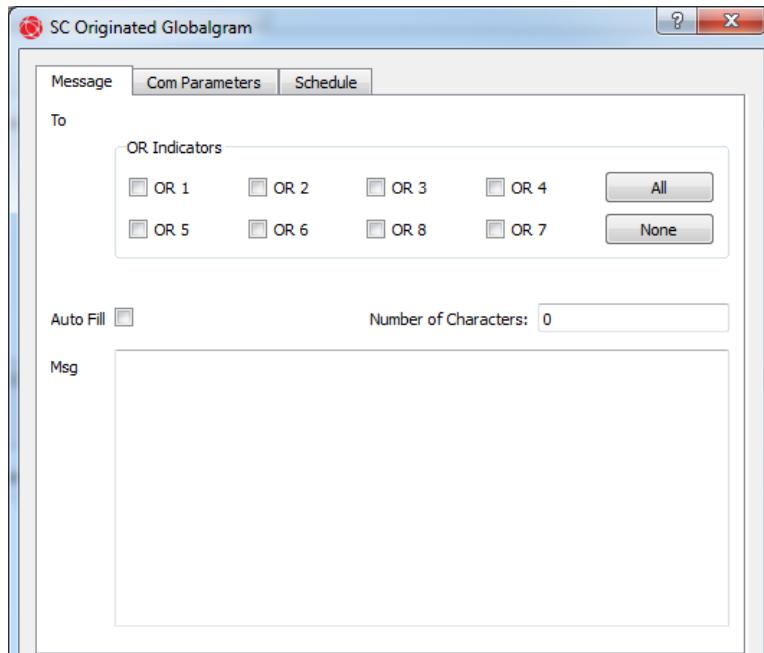


Figure 12 – MO Globalgram

- 1) Enter the destination Speed Dial of the globalgram
- 2) If you want the program to automatically fill the body of the globalgram, check the Auto Fill box and enter the number of desired characters in the body. This capability is particularly useful to send regularly scheduled messages.



- 3) Enter the text of the globalgram. The length of the text has a maximum value. The application will warn you if your text is longer than this maximum length. If Auto Fill has been selected, a header AUTO: xxx LEN: yyyy will be automatically entered in the body followed by random data so that the length of the body is as specified. Any data manually entered will be ignored.

## Sending MT Messages

There are three types of Message Terminated (MT) messages which can be sent by the XML Gateway to the modem:

- MT Message
- MT User Command
- MT Globlagram

Note: The destination of a Message Terminated message is always the ORBCOMM Modem specified in the Program Configuration.

Note: Before any MT messages is sent to the modem, an MO Position report with the correct position of the modem should be sent to the Speed Dial #1<sup>4</sup>

Please refer to the ORBCOMM Message Service description for more information on each of these messages.

To send any of these messages, select the menu item Messages → MT Desired Message or click the associated toolbar icon.

A dialog box with three tabs appears.

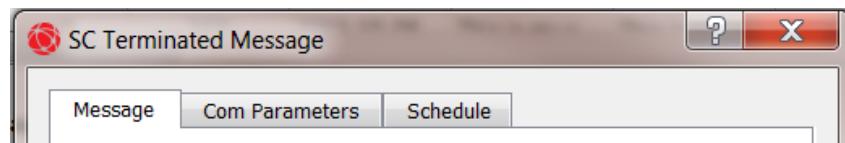


Figure 13 – Sending an MT

- The Message tab is different for each message type and allows entering the content of the message (The destination of the message is always the modem specified in the Program Configuration)
- The Com Parameters tab is similar for each message type, although some of the parameters only apply for some type of messages and not others (Refer to the section describing the message type).
- The Schedule tab is similar for all messages and allow to schedule a message

Fill the information for each of the three tabs, and then press Send. If the message does not have a schedule associated with it, it will be sent immediately, and otherwise it will be sent according to its schedule.

<sup>4</sup> This position report allows the ORBCOMM Gateway to know the position of the modem to accurately used the appropriate satellite to send the Message Terminated messages.



This section describes the Com Parameters and Schedule tabs while the section specific to each message describes the Message tab.

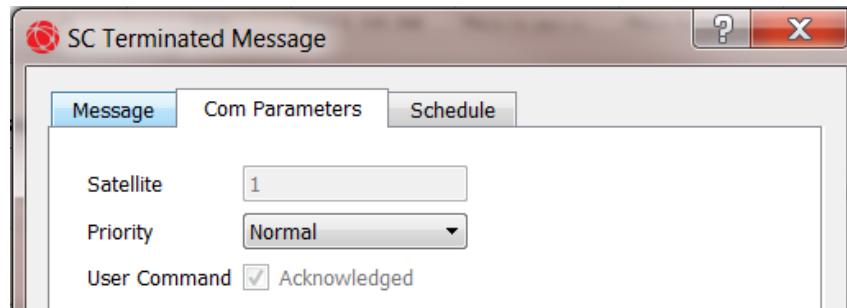


Figure 14 – MT Com Parameters Tab

In the Com Parameters tab (Figure 14), only the parameters applicable to the desired type of messages are enabled. Other parameters are grayed out. Please refer the ORBCOMM Serial Port specifications for more details on each of these parameters.

The Schedule tab shown in Figure 8 allows the user to schedule a message to be sent at a specific time each day of the week. The schedule will repeat each week until it is deleted. For each day of the week, the user can either enter a list of times or can enter a start time and an interval. All times are in UTC (GMT).

More information can be obtained by hovering the mouse over an area of the form.

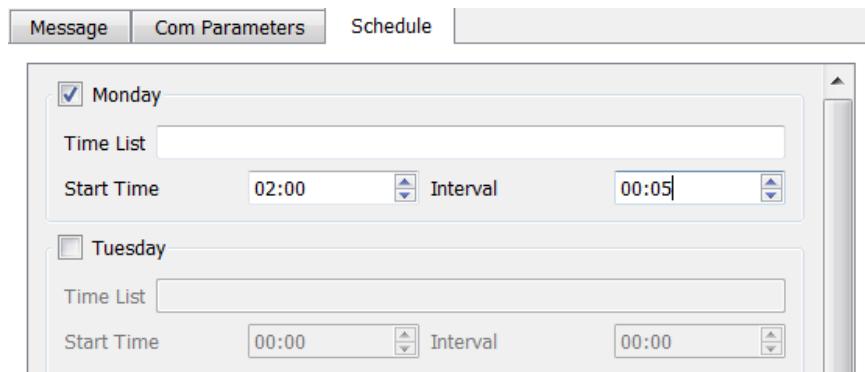


Figure 15 – MT Schedule Tab

1. Click the check box corresponding to the day when you desire to send messages
2. Enter a time list consisting of one or more times separated by spaces (00:34 03:45 ...)
3. Enter a Start Time and an Interval. For example if a Start Time of 03:00 is entered and an interval of 00:50 is entered, the message will be sent every 50 minutes starting at 03:00  
*Note: Entering a Start Time and Interval takes precedence and disables the Time List*
4. Repeat the process for the other day of the week

## ***Sending MT Messages***

An MT message can have a subject and a body



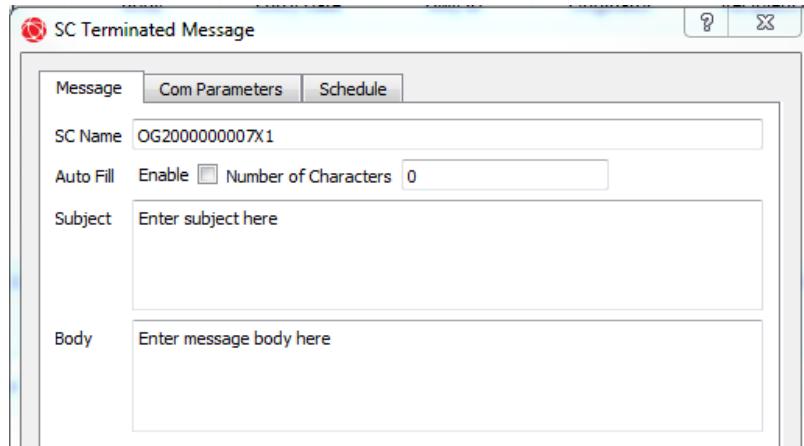


Figure 16 – MT Message Content Form

- 1) If you want the program to automatically fill the subject and the body of the message, check the Auto Fill box and enter the number of desired characters in the message. This capability is particularly useful to send regularly scheduled messages.
- 2) Enter the subject of the message. If the Auto Fill has been selected and the subject is left blank, it will be automatically filled with AUTO: xxx LEN: yyy where xxx is a sequential message counter and yyy is the requested length of the message. If a short header is entered in the subject (for example TEST), the subject will be filled with TEST: xxx LEN: yyyy
- 3) Enter the text of the message. The text of the message cannot exceed 2000 characters. If Auto Fill has been selected, random data will be automatically inserted in the body, erasing any entered data.

### ***Sending MT commands***

An MT command consists of 5 bytes sent to the Modem.

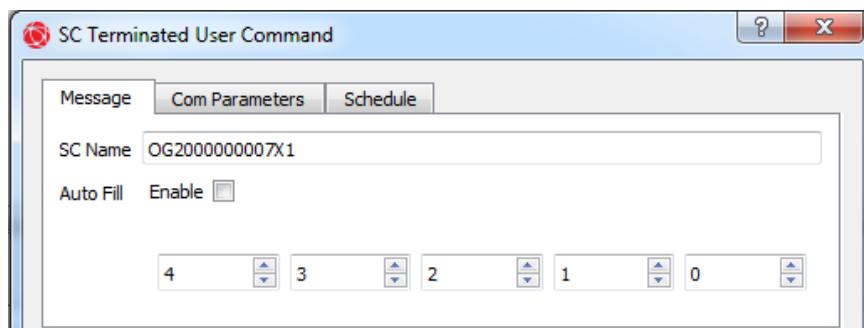


Figure 17 – MT User Command Content Form

- 1) If you want the program to automatically fill the content of the command, check the Auto Fill box. This capability is particularly useful to send regularly scheduled reports.
- 2) Enter the value of each byte of the command by directly entering the decimal value of the byte or by using the up/down arrows of each byte. Each byte value is between 0 and 255. If Auto Fill has been selected, the content of the report is

automatically filled when the message is sent. The two left bytes contains a sequence number of the report.<sup>5</sup>

## Sending MT Globalgrams

An MT Globalgram consists of a text sent to a specific satellite for the Modem

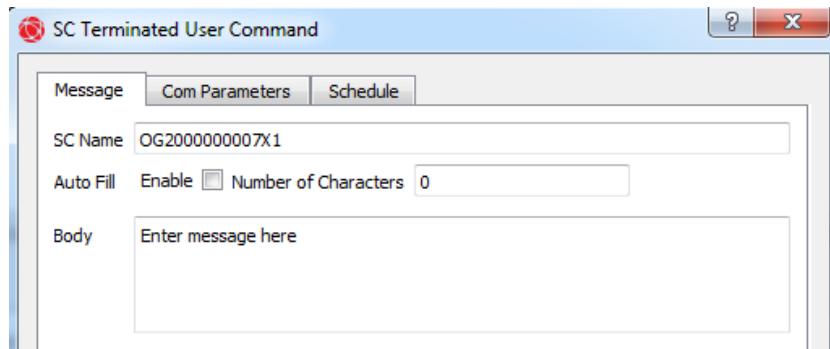


Figure 18 – MT Globalgram Content Form

- 1) If you want the program to automatically fill the body of the globalgram, check the Auto Fill box and enter the number of desired characters in the body. This capability is particularly useful to send regularly scheduled messages.
- 2) Enter the text of the globalgram. The length of the text has a maximum value. The application will warn you if your text is longer than this maximum length. If Auto Fill has been selected, a header AUTO: xxx LEN: yyyy will be automatically entered in the body followed by random data so that the length of the body is as specified. Any data manually entered will be ignored

## Reviewing Scheduled List

As described in Sending MO Messages and Sending MT Messages scheduled messages can be created. To view and/or edit the list of scheduled messages select Messages→Edit Scheduled MX or press the corresponding toolbar icon. The Edit Scheduled MX form is then displayed. (Figure 19). The tabs of this form are similar to the tabs described in Sending MO Messages and Sending MT Messages. However the bottom of the form displays additional buttons enabling the navigation thru the scheduled messages.

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<sup>5</sup> A 5 byte sequence of 1, 45, 34, 67, 123 indicates that this is the (1 x 256) + 45 command of the sequence. The three left bytes are just random bytes.

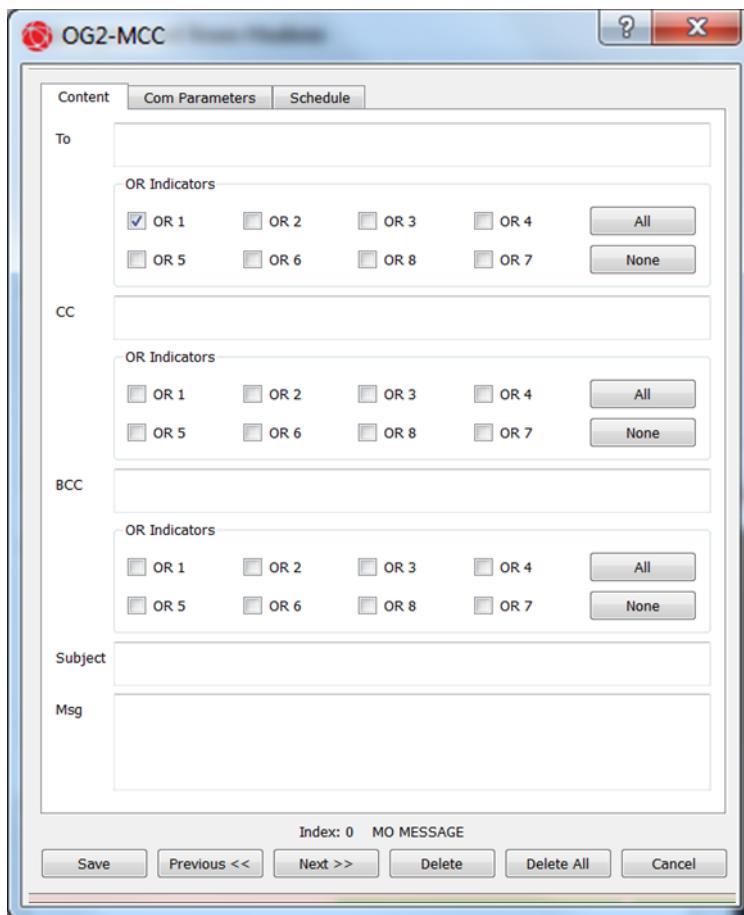


Figure 19 – Edit Scheduled MO Form

The navigation buttons are:

- Save: Save the modified list and close the form
- Previous: Navigate to the previous message in the list
- Next: Navigate to the next message in the list
- Delete: Delete the currently displayed message from the list
- Delete All: Delete all the messages in the list
- Cancel: Cancel all modifications made on the list and close the form

## Watching Statistics

The application monitors the number of messages sent and received by the Modem and the XML gateway. The number of messages as well as delay measurements can be displayed by selecting Database → Statistics in the menu. The Statistics Window is then displayed (Figure 20)

Information on each column/row can be obtained by hovering the mouse over the specific column or row header.



The screenshot shows a Windows application window titled 'OG2-MCC'. At the top, there are date/time fields for 'From' (2/2/2014 2:44:32 AM) and 'To' (2/16/2015 2:44:32 AM), a 'Validate' button, and standard window controls. Below these are two rows of buttons: a left arrow, a right arrow, and a magnifying glass. The main area is a table with the following columns: Nbr Sent, Nbr sent with Ack, Nbr Acked, Percent Acked (%), Ack Delay Average (mn), Ack Delay Min (mn), Ack Delay Max (mn), and Nbr Received. The table contains the following data:

	Nbr Sent	Nbr sent with Ack	Nbr Acked	Percent Acked (%)	Ack Delay Average (mn)	Ack Delay Min (mn)	Ack Delay Max (mn)	Nbr Received
SCO Msg	0	0	0					0
SCO Report	0	0	0					0
SCO Position Rpt	0	0	0					0
SCO Globalgram	0	0	0					0
SCT Message	0	0	0					0
SCT Command	0	0	0					0
SCT Globalgram	0	0	0					0

Figure 20 Statistics Window

## MO Messages

The four top rows refer to Modem originated messages and report statistics on the message sent by the modem.

The delay is the difference between the time messages are provided to the modem and the time the message are acknowledged by the ORBCOMM gateway. Delay measurement only applies to messages sent with acknowledgement.

The *Nbr Received* columns indicate the number of Modem Originated messages which were received by the ORBCOMM XML Gateway. It may be different than the number of messages sent if the messages were not sent to the Speed Dial #1

## MT Messages

The three bottom rows refer to Modem Terminated messages and report statistics on the messages sent from the XML gateway to the modem.

The delay is the difference between the time that messages are provided to the XML gateway and the time the messages are acknowledged by the modem. Delay measurements only apply to messages sent with acknowledgments.

The *Nbr Received* column indicates the number of Modem Terminated messages which were received by the Modem. It may be different than the number of messages sent by the XML Gateway.

## Sending Communication Commands

Communications commands are used to order the modem to do a specific operation like clearing its internal message memory or inquire if there are any messages pending in the ORBCOMM gateway for delivery. Please refer to the ORBCOMM Serial Port specifications for a full description of the available Communication Commands and their description.

To send a communication command, select *Communication Cmds* → desired command. The 'Select Communication Command' form is displayed. (Figure 21)



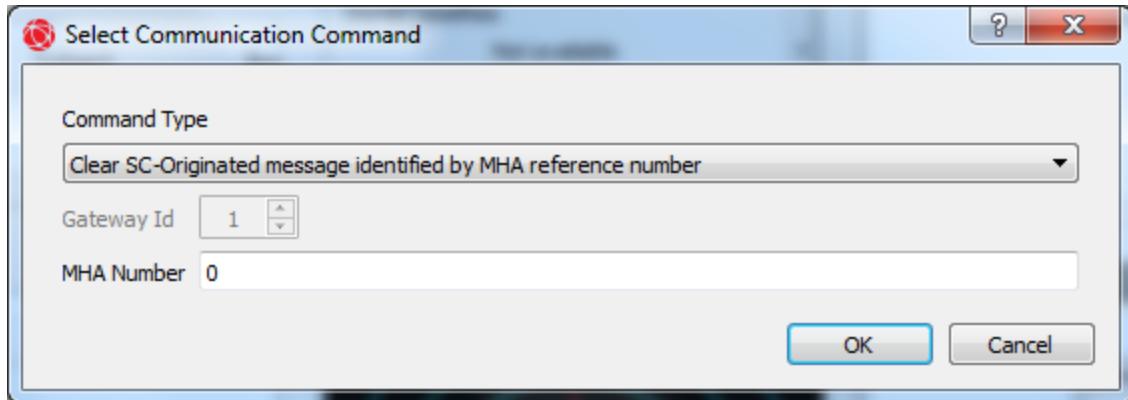


Figure 21 – Communication Command Form

1. Confirm or change the desired command by clicking the down arrow and selecting the command.
2. Enter the required additional information (Command dependent)
3. Press OK to send the command

The response to the command may be delayed and depends upon the specific command.

## ***Clearing the Database***

The application stores all messages received and sent in a database. It is sometimes necessary, in order to remove clutter, after changing to a new modem, before starting a new test session to clear the databases.

Select Database → Clear Tables. It may take few seconds before the Messaging Panes become empty. It may take few seconds before the screens shows the changes.

It is recommended to clear the Modem MT and MO queues at the same time by using the Communication Cmds → Modem Terminated Cmds → Clear Modem local queue and Communication Cmds → Modem Originated Cmds → Clear Modem local queue

## ***Getting Help***

In most locations, the application provides tooltips and/or status bar information when the mouse is hovered over an area of the screen.

Additional help can be obtained by selecting the Help menu.

- Main Log
- Serial Port Log
- Manual

Additional help is also available from the documents listed in Annex 1: Reference Documentation



## Annex 1: Reference Documentation

The following documentation is available. Please ask ORBCOMM Customer Service for a copy of the desired documentation.

- ORBCOMM System Overview
- ORBCOMM Modem Serial Port Specifications
- ORBCOMM Modem Parameters
- ORBCOMM Message Service Description
- ORBCOMM XML Gateway Interface Description

## Annex 2: Provisioning for XML Gateway

In order to provision the unit correctly to be used by the application and the XML gateway, choose a name for the unit (*myunitname*), a name for your XML gateway account (*myxmlgatewayname*) and make sure that ORBCOMM customer service provisions the unit with the parameters below. Please note that only one modem may be used with the XML gateway when using this program<sup>6</sup>.

Location Type	Mobile
SC Location Info	Specify the location of the unit
SC Internet Address WH	<a href="mailto:myunitname@ORBCOMM.NET">myunitname@ORBCOMM.NET</a>
SC Internet Address EH	<a href="mailto:myunitname@ORBCOMM2.NET">myunitname@ORBCOMM2.NET</a>
Speed Dial #1	IPGWY@IPGWY.ORBCOMM.NET
Speed Dial #2	As desired or blank
Speed Dial #3	As desired or blank
Speed Dial #4	As desired or blank
Speed Dial #5	As desired or blank
Speed Dial #6	As desired or blank
Speed Dial #7	As desired or blank
Speed Dial #8	As desired or blank
Personal Identification Number	0
Alternating Terminating Address	
ATA Rule	Not used
Message Blocking	None
Delivery Plan	0
IP gateway	Yes – <i>myxmlgatewayname</i>

<sup>6</sup> When not using this program, the XML gateway can be used to receive and send commands to multiple modems.

