UNIVERSAT
ITALIA SERVICES
GLOBAL SATELLITE COMMUNICATIONS

C-email

from Universat

User Guide

Version 2.1

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1 General Information

1.1 About this manual

This manual explains:

• how to send Email messages from Inmarsat-C terminals to Internet email;

• how to send Email messages from Internet email to Inmarsat-C terminals;

• how to handle (optional) attachments

Note: *Allowing attachments to be sent from shore to ship is disabled by default and must be specifically requested on the C-email Form at time of registration or by contacting Universat customer support after registration.*

2 About C-email

2.1 Introduction

C-email links the Inmarsat-C satellite network to the global Internet email network. Emails originating from email addresses that are registered in the C-email gateway will be authenticated and forwarded to the vessel. Messages of non-registered Internet users will be rejected and the sender will be notified of the procedure to register for the service.

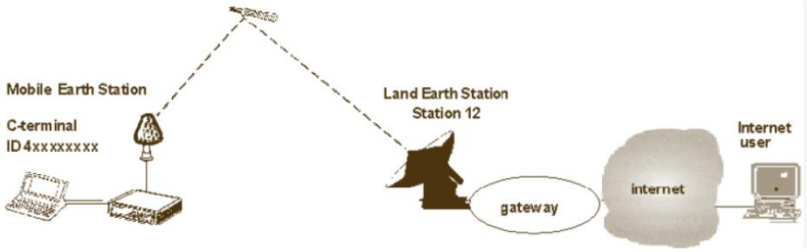
Inmarsat-C users can send Email messages to any Internet address. Registration is not necessary, as per international billing arrangements for Inmarsat services. From the vessel, the user simply sends the message via Special Access Code 28 (or EMAIL) using LES X12 or X02, where X is the Ocean region:

• AORW, X = 0

• AORE, X = 1

• POR, X = 2

• IOR, X = 3



Note that the LESs 02 and 12 are operated independently from each other, therefore in order to use both LESs at any time, you must register for service on both. Once registered on a specific LES (02 or 12), email users can send messages to any Inmarsat-C terminal. The basic format for sending messages is as follows:

For LES 02: 4xxxxxxxx@stratosmobile.net

For LES 12: 4xxxxxxxx@c12.stratosmobile.net

where 4xxxxxxxx is the 9 digit Inmarsat-C Mobile Number. Additional information for sending in other formats such as 5-bit, are explained further in this manual.

Note: *The C-email service can be used in combination with other Universat services such as Data Reporting & Polling, FleetNet and SafetyNET. For more information on these services please visit our web site or contact our Customer Services Centre as there are specific conditions when registering for each service type.* 5 / 17

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2.2 Registration

Internet users wishing to send Email from Internet email to Inmarsat-C must first register for the service by completing the application for C-email on our website. Existing customers can also register online by selecting the option from our web site. You can register your email address specifically for C-email or you can request an Inmarsat-C Registered Username, allowing you to send from any email address. The username and password must then be included in the first two lines of the message as such:

Username: 123xxx
Password: xxx456

Sending messages without being registered will result in a returned message indicating that the sender is not authorized to use the service. The returned message will also provide instructions on how to register for service.

Inmarsat-C shipboard users have access to C-email without prior registration, however, shipboard users must also be aware that only Internet users who are registered for the C-email service can reply to their messages as the basic principle of c-email is that the sender pays for their own messages. Exceptions to this scenario for alternate billing are explained further below.

2.3 Billing and accounting

By default, registered shore side C-email users will be billed directly for all C-email traffic originating from their email address, unless a prior arrangement has been agreed in writing with the vessel owner for third party billing. Each bill is based on the message records of the registered Email address or registered username in the gateway. If a company has registered more than one email address, a bill will be generated for each email address. Messages from shore to ship cannot be billed to an Accounting Authority in the same manner as ship to shore traffic. For Inmarsat-C terminal owners, billing of C-email traffic originating from mobiles is executed through the standard method for all ship to shore traffic, which is via the accounting authority or via direct billing.

2.4 Charges

Charges for C-email messages are billed in blocks of 256 bits, which includes characters, carriage returns, spaces and line feeds. Messages from Inmarsat-C terminals will be charged based on the size of the message originally sent by the mobile. The original size will depend on the alphabet used by the mobile, which can be 5-bit ITA-2 Telex, IA5-ASCII or 8-bit Transparent Data. Messages to mobile will be charged based on the size of the original message plus the LES header in case of sending the message in 5-bit or ASCII. The LES header is not added and therefore not charged for messages sent to mobile in 8-bit transparent data mode. A message from mobile addressed to multiple Internet Email addresses will be charged only once for the text portion of the message (including addressing information). A message from an Internet Email address to multiple mobile destinations will be charged as many times as the number of mobiles addressed.

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2.5 Headers

There are several types of headers that are associated with messages from email to Inmarsat-C terminal, including the email tracing information as well as the *From* and *Subject* lines. The email tracing headers can be quite extensive and therefore costly, so Universat automatically removes these from every message sent from shore to ship. The *From* and *Subject* lines can be requested to be removed on an email address basis. This option is included on the registration form or can be requested directly to support@universatitalia.it after registration. Note that *From* and *Subject* lines are included by default and will only be removed upon request.

2.6 Plain Text Format

In many Email programs, HTML or Rich Text Format (RTF) is the standard for formatting Email messages. The HTML or RTF allows the sender to use many different presentation features, such as change the font size or other font attributes, etc. However, this layout information will increase the size of the message considerably and consequently increase the cost, but as well cannot be interpreted by the Inmarsat-C terminal software, which can only read plain text.

Therefore, the C-email gateway will remove all HTML formatting information before sending the message to the mobile terminal, to avoid unnecessary costs and will simply send the plain text only. Because all layout information will be stripped off and the email message will arrive at the Inmarsat-C terminal in Plain Text Format, it is advised to create messages in Plain Text Format originally.

To create Email messages in Plain Text Format, we recommend you to please consult the 'Help' function of your Email program; however this is also discussed in more detail later in this manual.

2.7 Maximum Size of an Email Message

The technical limitation of message size for the Inmarsat-C network is 32,000 bytes, which would be quite a large message for this service. The limit for Mini-C is 10,000 bytes, which would also be quite large, considering that the average Inmarsat-C plain text message is usually far less than 1,000 bytes. Messages larger than 32,000 bytes will automatically be rejected by the system and will not be transmitted. When this occurs in the "to mobile" direction, the satellite LES Universat partner will send a negative delivery notification to the Email originator.

To assist in the potential erroneous transmission of large messages, Universat offers the option to limit the maximum message size that can be sent from a specific email address, domain or Registered User name. This option is selected at time of registration or can be requested through Universat Customer Support at support@universatitalia.it.

2.8 Attachments

For customers that have developed very specific applications for Inmarsat-C, Universat offers the possibility to send attached files in your Email messages to mobiles. However, ***caution is required!*** Attachments such as Word

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or Excel documents or graphics files can be quite large in size. Remember that charges are per 256 bits. To avoid high communication costs, check the size of the attachment before you decide to enable your email address for sending attachments. We recommend that attachments only be enabled for specific proprietary applications.

In the ship to shore direction, if the terminal selects 8-bit or data mode for transmission, the text message will arrive at the email destination as an attachment to the email. Most customers select 7-bit transmission from their terminal software options. In this case, the text simply arrives at the email address in the body of the message.

2.9 Spam and Viruses

The Service Internet environment has been equipped with spam and virus filters such that they should not be sent to the mobiles or to Internet addresses. As with any Internet provider, Universat (Stratos LES partner) cannot guarantee that 100% of all spam will be detected and stopped from being transmitted.

Some viruses, worms and spam will cause a message to be sent or copied to all addresses in the address book of the sender. If that happens and a message is unwillingly sent to Inmarsat-C mobiles, Universat service cannot distinguish whether the sender meant to send a message to a mobile or not.

In every case and in this last case in particular, the originator of the message is ultimately responsible for their virus protection. Universat will not refund costs due to extra text or attachments added by viruses / worms / spam or other programs that cannot be detected as a virus themselves. The best protection to avoid unwilling attachments to be sent to mobiles is not to allow attachments for a registered email address, as explained in the previous section, as well as to set a maximum message size that is practical for your usage.

The our Internet server will scan every message coming into LES platform(s). The scan applies to messages addressed to C-email service, as well as other Universat services. The Universat LES partner will use industry best practices to eliminate the virus from the incoming message. If the message can be "repaired" (i.e. the virus is eliminated without destroying the original message), the repaired message will be sent to the destination. The Universat LES partner will add a warning to the message indicating that a virus was detected and eliminated and the receiver will be advised to inform the sender of the virus. If the message could not be repaired, the destination will receive a message saying that the originator tried to send a message but that it was aborted due to a virus. In this case as well, the receiver will be advised to contact the originator to inform them of the virus.

Important Note: *The sender does not receive a notification on virus detection. The reception of a Positive Delivery Notification does not imply that the message was finally delivered as originally sent. Content eliminated while eliminating the virus will not be invoiced to the originating cause of the virus. The originator will pay for the extra "warning" text.*

2.10 Economic use of the C-email service

As mentioned in the sections above, the best way to keep satellite costs low is to send email in plain text format. Caution is also required for using the **'reply'** facility that on many Email packages sends back not just the response to a message, but the original message as well. Avoid unnecessary satellite costs by making sure that the original text is deleted before sending the reply message.

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3 Messages from Inmarsat-C to Internet (Ship to Shore)

Every activated Inmarsat-C terminal is authorized to send any type of message, including email. Therefore, registration of mobile terminals for C-email is not necessary.

3.1 How to send an Email message

Create your message with the text editor in your terminal software. The keywords TO, CC and SU start at the left-hand side of a line. Like the addresses, they may contain upper and lower case characters. A colon (:) follows the keywords. The keyword 'Subject' may also be abbreviated to SU. Note that email addresses below are used as example only.

Email message to one email address

Type "to:" followed by the Email address on the first line. Next leave a blank line and continue with the message text. It should look like this:

TO: john.smith@domain.com
<blank line>
Start to type your message here, after the blank line.....

Email messages to more than one address

To send a message to more than one addressee type "to:" again on the next line(s). A message to three addresses looks like this:

TO: mario.rossi@domain.com
TO: sales@domain.com
TO: info@universatitalia.it
<blank line>
Start to type your message here, after the blank line.....

Using "CC" (Carbon Copy) command

You may use the CC command to send copies. More CC's can be added on new lines.

TO: mario.rossi@domain.com
TO: sales@domain.com
CC: marketing@domain.com
CC: info@universatitalia.it
<blank line>
Start to type your message here, after the blank line.....

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Using "SU" (subject) command

Add the "SU" command after the email address. A message with a subject line included looks like this:

TO: mario.rossi@domain.com
CC: sales@domain.com
CC: info@universatitalia.it
SU: Stratos test Message
<blank line>
Start to type your message here, after the blank line.....

Other ways of multiple addressing

Instead of entering different "TO:" and "CC:" commands, more addresses can also be specified as shown below. The addresses should be separated with semi-colons (;).

Addresses should not be truncated. For more addresses, start a new line only after the semi-colon (;). Note: one space after ": " or "; " is allowed but not necessary.

TO: mario.rossi@domain.com; sales@domain.com
CC: info@universatitalia.it; anna.bianchi@domain.com
SU: Universat test Message
<blank line>
Start to type your message here, after the blank line.....

3.2 Transmission of the Message From an Inmarsat-C Terminal

After an Email message has been created on your Inmarsat-C terminal, send it to special access code (SAC) 28 or EMAIL. Both SAC codes are available for Stratos LES IDs 12 and 02 in all ocean regions.

Your message will arrive at the destination address as being sent by:

4xxxxxxxx@stratosmobile.net when you use LES 02; or
4xxxxxxxx@c12.stratosmobile.net when you use LES 12

where 4xxxxxxxx is the 9 digit Inmarsat-C mobile number.

If an Inmarsat-C confirmation is requested, confirmation OK status indicates that your message was forwarded to the Internet. However, this does not indicate that the message was successfully delivered via the Internet to the final destination recipient. Even if the message is delivered to the mail-server it is not possible to determine if the receiver has checked their mailbox for new mail.

Special remark for users of Thrane & Thrane software EasyMail

Old versions of Thrane & Thrane software EasyMail still format e-mail messages to be sent via LES x22 using the old Telstra Satellite Services format (INET: instead of To). Messages sent using this old format will fail.

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To avoid failed messages, customers are requested to change the EasyMail parameters for Telstra /. Please go to the EasyMail options menu, click Configuration, select Email Service Providers. Once the Email Service Providers screen appears, please change the Parameters so that Telstra/ Perth (=Perth LES x22) parameters are the same as the ones for Station 12 (=Burum LES x12) and then click OK.

EasyMail should now be correctly configured for sending e-mails via LES x22 Perth. For your information: the most up-to-date versions of EasyMail can be downloaded for free directly from Thrane & Thrane (new Cobham) website.

3.2.1 Sending an e-mail in 5 bits

The ITA-2 Telex (5 bits) alphabet format does not contain many of the characters usually present in Email addresses or text such as @ (at), _ (underscore), etc.

In order to be able to send an Email in 5 bits mode from ship to shore, Stratos has developed a special convention. This method can be used with **all terminals that are able to send messages to SAC codes using 5 bits presentation**. For example the JRC mobile model JUE75C is not able to select 5-bits mode when addressing a message to a SAC code. In order to know whether your terminal can send messages in 5 bits mode to a SAC code, please consult the manual provided by the terminal manufacturer.

In order to send emails in 5 bits format from any Inmarsat-C terminal, users are requested to replace the special characters not available in the ITA-2 alphabet by a combination of characters that can be processed by our platform.

The list below contains the combination of characters to be used in place of the special characters that are not supported in the 5-bit alphabet. No other special characters will be recognized if used in the address fields. These special characters also cannot be placed in the subject field. These combinations, if appearing in the body text, will not be translated into the special characters when the message is delivered to an Internet Email address.

Special Character	Description	Use this combination
@	At sign	(a)
%	Percent sign	(p)
|	Vertical bar	(b)
_	Underscore	(u)

Examples:

To send an Email to john_smith@yahoo.com, write the address as: John(u)smith(a)yahoo.com. Our Internet gateway will translate the address to the correct Email format.

Please remember these basic rules for a successful Email from mobile in 5 bit mode:

1. All special characters work only as such [e.g. (a) is translated into @ when you send your messages in 5 bits. Do not use them when sending in 7 or 8 bits!

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2. Leave an empty line between the header (address with or without subject) and the body text. This is done by pressing enter).

3. Since semicolon ";" is not a 5 bit character, you must use a comma "," to separate addresses in the fields To: and Cc:

4. In the fields To: and CC: you may use a space or a new line immediately before or after the separation character (in this case ",") between addresses.

Example:

Email to John_Smith@domain.com, to W.Williams@domain.com and to mary.smith@domain.com with a cc to sales_dept@domain.com to be sent in 5 bits.

TO: john(u)smith(a)domain.com, w.williams(a)domain.com, mary.smith(a)domain.com
CC: sales(u)dept(a)domain.com

Possible errors and consequences:

If you forget to include part of the "special character" (e.g. you type (a instead of (a) or () instead of (u), etc.) in the To: or CC: fields, our Inmarsat- C platform will not recognize the rest of the address following the mistake. It will also ignore the addresses following the one where the mistake was made. Our platform will still send the message to the Internet but as being sent by ...@relay1.station12.com or ...@relay2.station12.com.

As this is a non-existent address, the mobile will receive a Negative Delivery Notification (NDN) indicating the email could not be delivered to this non existent address. In this case please send your message again and ensure to type the address correctly.

3.3 Creating a New Address

This example refers to Thrane & Thrane Capsat mobiles. Please refer to your terminal's manual if you use a different Inmarsat-C terminal or software. Additional instruction sheets are also available at our website.

• Go to "APPLICATIONS"
• Select "ADDRESSBOOK"
• Choose "NEW"
• Give name: EMAIL (or any other name you like)
• Enter special access code: 28 (or EMAIL)
• Select type: SPECIAL
• Select presentation: 5, 7 or 8 bits

Note that if you select 8-bit format, messages will be received at the shore side as text attachments. This may be desirable for some customers using specific applications to receive emails, however most customers simply select 7-bit, to receive the text as normal email in the body of the message. If you select 5-bit, the messages will be sent using the limited 5-bit telex alphabet. If your Inmarsat-C terminal is unable to accept alphanumeric Special Access Codes, you must use code 28 instead of EMAIL.

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3.4 Delivery Notifications for Messages from Inmarsat-C

3.4.1 Positive delivery notification (PDN)

Asking for a PDN is of little value for email over Inmarsat-C and the use of it is discouraged for the following reason. Sending a Request Confirmation will cause the Inmarsat-C network to return a Positive Delivery Notification, as soon as the message has been successfully forwarded to the Internet. The status of the message at the log-book of the mobile will change from "Delivered to LES" to "Delivered to end-user". However, this does not imply that the message was successfully delivered via the Internet to its final destination. The message could still fail if for example the recipient email address is incorrect or if their mailbox is full.
Positive delivery notifications are optional for the Inmarsat-C services. You can request this functionality when sending a message.

PDNs for multiple address messages

If you send an email to several addresses, Stratos C-email service will copy your message into individual messages (one per address) before sending them to the final email destination(s). If you have requested a PDN for this message, the network will generate a PDN for each email address and each PDN will be sent to your mobile. However, your mobile can only change the status of the message once. It will not change the status "delivery successful" unless an NDN arrives (FYI: All Land Earth Stations using a Thrane & Thrane Internet gateway behave in this way). This means that your mobile will be charged for only one message and with as many PDNs as addresses included in the message header.

Note: *JRC terminals sending multiple-addressed messages will behave different from other mobiles. The status of a message sent from a JRC mobile to only one email address will change from "Delivered to LES" to "Delivered to end-user" when the requested PDN arrives at the mobile. When a message is sent to multiple addresses, its status will remain as "Delivered to LES" and not change to "Delivered to end-user".*

3.4.2 Negative delivery notification (NDN)

Universat Inmarsat-C service provides free-of-charge Negative Delivery Notifications (NDN) for messages sent to wrong / not available telex, fax, PSTN, PSDN (X.25) and Universat mailbox destinations. It also provides a free-of-charge NDN for messages sent to an invalid Special Access Code (SAC).

For C-email service, such an NDN could be provided to the mobile if, for instance, the mobile has selected the wrong SAC code (e.g. 29 instead of 28). When you receive such an NDN, the Universat LES partner is telling you that your message cannot be delivered to the Internet.

Such an NDN does not provide insight on whether the message has been finally delivered (or not) to the correct Email address. The notification providing this information is called UDI (Unsuccessful Delivery to Internet). See more details in next section.

A NDN created by our Inmarsat-C platform will change the status of the message from "delivered" to "failed" at the log book of the Inmarsat-C mobile. A UDI is not an Inmarsat-C NDN but a normal message. A UDI does not change the status of a message at the logbook of the mobile.

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3.4.3 Unsuccessful Delivery to Internet (UDI)

In most cases, you will be notified automatically if your message could not be forwarded to the Internet by the C-email service. However, a message successfully forwarded to the Internet does not mean that the Internet has managed to deliver it successfully to the final destination. Again in most cases, Internet providers notify the sender when they have not been able to reach the destination address.

For those cases when our LES partner receives such a notification, a UDI (Unsuccessful Delivery to Internet) notification will be sent to the originating Inmarsat-C mobile indicating the following:

> LES header & date
> Message ref number xxxx to email address: aaaa@bbbb.ccc failed.
> Address incorrect or unreachable.

The status of the message at the mobile will not change from "Delivered" to "Failed" as a result of a UDI. Please note that a UDI is not an Inmarsat-C NDN (Inmarsat-C NDNs have the property of updating the message status on the mobile) but was specifically implemented by Universat to assist customers in knowing the message status as mush as possible.

There are many reasons for a non-successful delivery. Unfortunately, each Internet provider has a different description and/or layout to describe the reasons behind the unsuccessful delivery. This makes it difficult for Universat and our LES partner to provide a consistent Negative Delivery Notification other than the one shown above.

The most common reasons for unsuccessful deliveries are:

- Undeliverable message or delivery failed after xx attempts.
- Warning, message not delivered within xx hours or days.
- Message could not be delivered within xx days, so it will be deleted.
- Address non-existing; address incorrect; address not existing in public Name & Address book.
- Message did not reach following recipient aaa@bbb.ccc

3.5 Receiving Attachments on the Inmarsat-C Terminal

When a message sent from the Internet contains attachments, each attachment will be sent as an individual message in 8 bits presentation to the mobile terminal. The original message will be sent as a normal message announcing the attachment(s) plus as many messages as attachments.

The arriving message with the lower message reference number will have the headers, the message text of the original email accompanying the attachment(s) and a line indicating the number of attachments following. The messages with higher reference numbers will contain the attachments.

Example:

> Stratos LES 01-MAR-2007 00:26:48 717548
> From: Customer Support (support@universatitalia.it)
> Subject: Test

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1 attachment 9216 bytes, test.doc <<test.doc>>
Hello John, this is the test document
Regards, Bill

No announcement before attachment: no announcement will be sent to the mobile when the originator sends the message without body text and without subject (subject field empty and body part empty).

4 Messages from Internet to Inmarsat-C

Internet users wishing to send Email from Internet to Inmarsat-C mobiles must register for the C-email service. Registration forms can be obtained from our website or Universat Customer Services. Sending messages without being registered will result in a returned message indicating that the sender is not authorized to use the service.

Existing customers may also use the electronic form online to add email addresses to their account.

4.1 Address information

In the address box of a message you should enter the address of an Inmarsat-C terminal as shown below. The domain you use depends on the Stratos LES to which you have registered your email address.

4xxxxxxxx@c12.stratosmobile.net when user is registered on LES 12 **or**

4xxxxxxxx@stratosmobile.net when user is registered on LES 02

The mobile number 4xxxxxxxx must consist of nine digits and it always begins with 4.

Example of an Email address to an Inmarsat-C terminal

412345678@c12.stratosmobile.net when user is registered on LES 12

or

412345678@stratosmobile.net when user is registered on LES 02

After preparing your message, simply send it using your standard email program. After the message is received at the our gateway, the Inmarsat-C terminal will be located (i.e. correct ocean region) and the message will be delivered.

4.2 Authentication of Originator

Normally our LES partner authenticates the email sender based on their email address. However, you can also choose to send emails from any email address, using a Registered Username and Password. Your emails will then be authenticated based on these two parameters placed on the first two lines of the message text. There is no extra cost, as these two extra lines will not be transmitted to the Inmarsat-C terminal.

Example 1: email sent using Email address authentication method.

To: 412345678@c12.stratosmobile.net

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From: anna.bianchi@yahoo.com (*this address must be registered at Universat for C-email Service)*
Cc: Subject: whatever subject text
---
your text

Example 2: email sent using userid & password authentication:

To: 412345678@c12.stratosmobile.net
From: any email address
Cc:
Subject: whatever subject text
---
userid:<your userid>
password:<your password>
your text

Note: *If you are using this userid & password authentication method, send the message from an email address that has not also been registered for C-email before. If you cannot do this, please contact Universat Customer Services to configure your email registration most effectively.*

4.3 Sending an Email in 5-bit or 8-bit Format

4.3.1 Shore to Ship

In the shore to ship direction, the default character set format for messages is plain text ASCII, or IA5. It is possible to send messages in 5-bit format (telex character set) as well as 8-bit transparent data format as shown in the table below. Note that in all cases, 4xxxxxxxx is the 9-digit Inmarsat-C number which always begins with the number "4".

Message Format	LES 02	LES 12
Standard ASCII IA5 (default)	4xxxxxxxx@stratosmobile.net	4xxxxxxxx@c12.stratosmobile.net*
5-bit Telex (ITA2)	4xxxxxxxx@stratosmobile.net plus put AL:Telex as the first line of the message	4xxxxxxxx@c12.stratosmobile.net plus put AL:Telex as the first line of the message; or use below addressing:
	"tx" addressing not available on LES 02	tx.4xxxxxxxx@c12.stratosmobile.net
8-bit Transparent Data	4xxxxxxxx@stratosmobile.net plus put AL:Data as the first line of the message	4xxxxxxxx@c12.stratosmobile.net plus put AL:Telex as the first line of the message; or use below addressing:
	"cd" addressing not available on LES 02	cd.4xxxxxxxx@c12.stratosmobile.net
Standard ASCII IA5 (non-default)	4xxxxxxxx@stratosmobile.net plus put AL:Text as the first line of the message	ca.4xxxxxxxx@c12.stratosmobile.net
	"ca" addressing not available on LES 02	

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*This is usually the default that email programs use. If your email program is set to use an 8-bit format, you can use ca.4xxxxxxxx@c12.stratosmobile.net on LES 12 or AL:Text in the message body on LES 02 or LES 12, to force the message to be sent in IA5 ASCII format as shown in the last table entry above.

Example 1: sending email in 5 bits using LES 12

Method 1a) AL:Telex in the message body, with registered email address

To: 412345678@c12.stratosmobile.net F
rom: mary.smith@yahoo.com
Cc:
Subject: whatever subject text

AL:telex
your text

Method 1b) AL:Telex in the message body, with registered userid and password

To: 412345678@c12.stratosmobile.net
From: any email address
Cc:
Subject: whatever subject text

AL:telex
userid:<your userid>
password:<your password>
your text

Method 1c) tx. addressing, with registered email address

To: tx.412345678@c12.stratosmobile.net
From: mary.smith@yahoo.com
Cc:
Subject: whatever subject text
---
your text

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Method 1d) tx. addressing, with registered userid and password

To: tx.412345678@c12.stratosmobile.net
From: any email address
Cc:
Subject: whatever subject text
---
userid:<your userid>
password:<your password>
your text

Note that methods c and d are not available on LES 02.

Example 2: sending email in 8 bit transparent data using LES 12

Method 2a) AL:Data in the message body, with registered email address

To: 412345678@c12.stratosmobile.net
From: mary.smith@yahoo.com
Cc:
Subject: whatever subject text

AL:data
your text

Method 2b) AL:Data in the message body, with registered userid and password

To: 412345678@c12.stratosmobile.net
From: any email address
Cc:
Subject: whatever subject text

AL:data
userid:<your userid>
password:<your password>
your text

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Method 2c) cd. addressing, with registered email address

To: cd.412345678@c12.stratosmobile.net
From: mary.smith@yahoo.com
Cc:
Subject: whatever subject text
---
your text

Method 2d) cd. addressing, with registered userid and password

To: cd.412345678@c12.stratosmobile.net
From: any email address
Cc:
Subject: whatever subject text
---
userid:<your userid>
password:<your password>
our text

Note that methods c and d are not available on LES 02.

4.3.2 Ship to Shore

The ITA-2 Telex (5 bits) alphabet format does not contain many of the characters usually present in Email addresses or text such as @ (at), _ (underscore), etc.

In order to be able to send an Email in 5 bits mode from ship to shore, Stratos has developed a special convention. This method can be used with **all terminals that are able to send messages to SAC codes using 5 bits presentation**. For example the JRC mobile model JUE75C is not able to select 5-bits mode when addressing a message to a SAC code. In order to know whether your terminal can send messages in 5 bits mode to a SAC code, please consult the manual provided by the terminal manufacturer.

In order to send emails in 5 bits format from any Inmarsat-C terminal, users are requested to replace the special characters not available in the ITA-2 alphabet by a combination of characters that can be processed by our platform.

The list below contains the combination of characters to be used in place of the special characters that are not supported in the 5-bit alphabet. No other special characters will be recognized if used in the address fields. These

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special characters also cannot be placed in the subject field. These combinations, if appearing in the body text, will not be translated into the special characters when the message is delivered to an Internet Email address.

Special Character	Description	Use this combination
@	At sign	(a)
%	Percent sign	(p)
|	Vertical bar	(b)
_	Underscore	(u)

Examples:

To send an Email to john_smith@yahoo.com, write the address as: John(u)smith(a)yahoo.com. Our Internet gateway will translate the address to the correct Email format.

Please remember these basic rules for a successful Email from mobile in 5 bit mode:

5. All special characters work only as such [e.g. (a) is translated into @ when you send your messages in 5 bits. Do not use them when sending in 7 or 8 bits!
6. Leave an empty line between the header (address with or without subject) and the body text. This is done by pressing enter).
7. Since semicolon ";" is not a 5 bit character, you must use a comma "," to separate addresses in the fields To: and Cc:
8. In the fields To: and CC: you may use a space or a new line immediately before or after the separation character (in this case ",") between addresses.

Example:

Email to John_Smith@domain.com, to W.Williams@domain.com and to mary.smith@domain.com with a cc to sales_dept@domain.com to be sent in 5 bits.

TO: john(u)smith(a)domain.com, w.williams(a)domain.com, mary.smith(a)domain.com
CC: sales(u)dept(a)domain.com

Possible errors and consequences:

If you forget to include part of the "special character" (e.g. you type (a instead of (a) or () instead of (u), etc.) in the To: or CC: fields, our Inmarsat- C platform will not recognize the rest of the address following the mistake. It will also ignore the addresses following the one where the mistake was made. Our platform will still send the message to the Internet but as being sent by …@relay1.station12.com or …@relay2.station12.com.

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As this is a non-existent address, the mobile will receive a Negative Delivery Notification (NDN) indicating the email could not be delivered to this non existent address. In this case please send your message again and ensure to type the address correctly.

4.4 Using Customer Reference Numbers in the 'Subject' Box

Users sending many Emails can use the subject box to enter a reference number or other message identifier with each message. The number or text in the subject box will be sent back in the standard delivery notification. In this way the delivery notification will not only tell you when and to which Inmarsat-C terminal ID the message was delivered, but also which message, particularly if you have sent more than one message to the same Inmarsat-C terminal or many messages to many Inmarsat-C terminals.

4.5 Delivery Reports for Messages from Internet

Positive Delivery Notifications

The C-email gateway will always return a Delivery Notification indicating when and to which terminal ID the message was delivered. The text, which was entered in the 'subject' box, will also be returned.

> Positive Delivery Notification as received by sender
>
> Your message to <412345678@c12.stratosmobile.net
> Subject: test 1
> Arrived at the Stratos C-email service at Mon, Mar 26, 2007 12:28:42 UTC and was successfully delivered.
> The Inmarsat reference number for your message is: 802058

Negative Delivery Notifications

In the following situations the Stratos gateway will automatically generate a Negative Delivery Notification:

Mobile terminal is logged in.

If the addressed Inmarsat-C terminal is logged-in properly, the LES (Land Earth Station) of Stratos accepts the message and will transmit it to the terminal. However in some cases the message cannot be delivered. This happens if the mobile terminal is switched off or if the mobile terminal has no clear sight to the satellite. The LES will try to deliver the message. If the first attempt is not successful, it will retry 6 times. If the last delivery attempt has failed the message will eventually be discarded and you will receive a Negative Delivery Notification.

Mobile terminal is logged out.

In this case the Land Earth Station knows the terminal cannot be reached and will not accept the message. A non-delivery notification will immediately be sent to the originator.

This illustrates the importance of logging out mobile Inmarsat-C terminals before they are switched off!

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A Negative Delivery Notification could look like this

Your message to <412345678@c12.stratosmobile.net
Subject: test 1
Arrived at the Stratos C-email service at Mon, Mar 26, 2007 12:28:42 UTC and could not be delivered for the following reason:
Failed due to MES not available

*MES = Mobile Earth Station (Inmarsat-C terminal)

Note: *If a message has not been delivered to the Inmarsat-C terminal the message will not be charged*

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Technical department: support@universatitalia.it
Customer Support: customercare@universatitalia.it

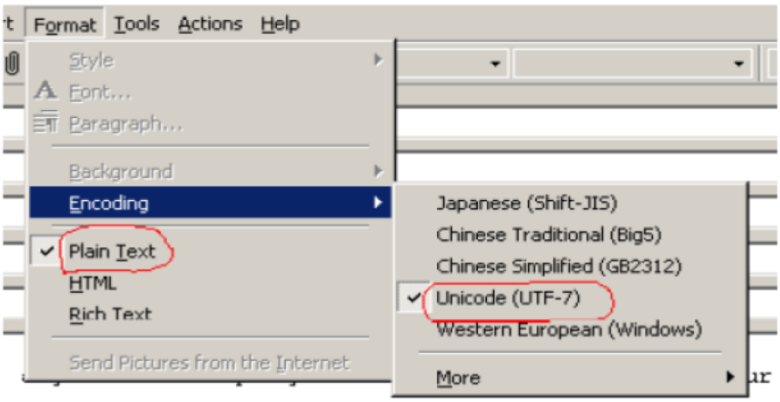
APPENDIX A

Tips to send an e-mail to a mobile in plain text

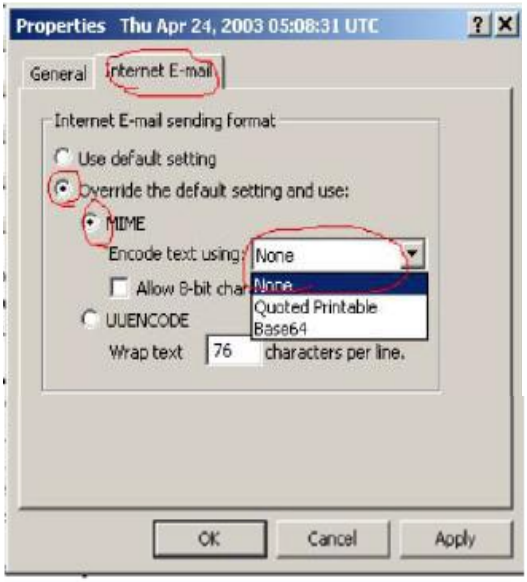
All Inmarsat-C mobiles can receive and read directly on the screen messages originally sent in IA5-ASCII alphabet (7 bits). A mobile will be able to receive messages sent in data mode (8 bits) depending on the model and whether it has previously received a message in 8 bits. Messages received on a mobile in data mode (8 bits) will be stored in the received log of the Inmarsat-C terminal but the message will not be printed automatically as it happens for messages in 7 or 5 bits. In order to make sure that you send a message as Plain text in IA5-ASCII (7 bits) alphabet (and therefore that the message can be automatically printed when it arrives at the mobile) you may use one of the following two methods.

Method 1

Make sure that you select the format "Plain text" and Encoding "Unicode (UTF-7)" in your email program. The following picture shows how to select this for the MS-Outlook e-mail package.



You can also click File/properties and change the setting as follows:



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Method 2

Other solution to force a text to be sent in IA5-ASCII format (7 bits) is to add the words "al:text" on the first line of the body-text of your email.

Example:

To: 412345678@ c12.stratosmobile.net

From: mary.smith@yahoo.com **this address should be registered at**

Cc:

Subject: happy birthday

y ----------

al: text Happy birthday John

Love, Mary

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