

DILUPE DMT-50



SKYMSG-50 User's Guide

VERSION 1.00



Disclaimer of warranty

This software and the accompanying files are provided on an "as is" basis and you assume full responsibility for determining the suitability of the program and for results obtained.

DILUPE disclaims all warranties relating to this software, whether expressed or implied, including but not limited to any implied warranties of merchantability, free of defects, fitness for a particular purpose and non-infringement of third party rights.

Neither DILUPE nor anyone else who has been involved in the creation, production, or delivery of this software shall be liable for any indirect, consequential, special, or incidental damages (including, without limitations, damages for loss of business profits, business interruption, loss of business information, data loss, or any other pecuniary loss) arising out of the use or inability to use such software, even if DILUPE has been advised of the possibility of such damages or claims.

The person using the software bears all risk as to the quality and performance of the software. Should the software prove defective in any respect, you and not DILUPE or its suppliers assume the entire cost of any service and repair.

Some jurisdictions do not allow limitation or exclusion of incidental or consequential damages, so the above limitations or exclusion may not apply to you to the extent that liability is by law incapable of exclusion or restriction.

In no event shall any theory of liability exceed the license fee paid to DILUPE.

No liability for consequential damages

In no event shall DILUPE or its suppliers be liable to you for any consequential, special, incidental or indirect damages of any kind arising out of the delivery, performance or use of the software, even if DILUPE has been advised of the possibility of such damages. In no event will DILUPE's liability for any claim, whether in contract, tort or any other theory of liability, exceed the license fee paid by you, if any. DILUPE shall have no obligation to you with respect to any claim of infringement based upon your use of the software in combination, operation or otherwise with the data or materials not supplied by DILUPE.

Product Release v1.00



**DILUPE B.V.B.A -
Industrielaan 4
B-9320 Erembodegem Belgium**

<mailto:info@dilupe.com>

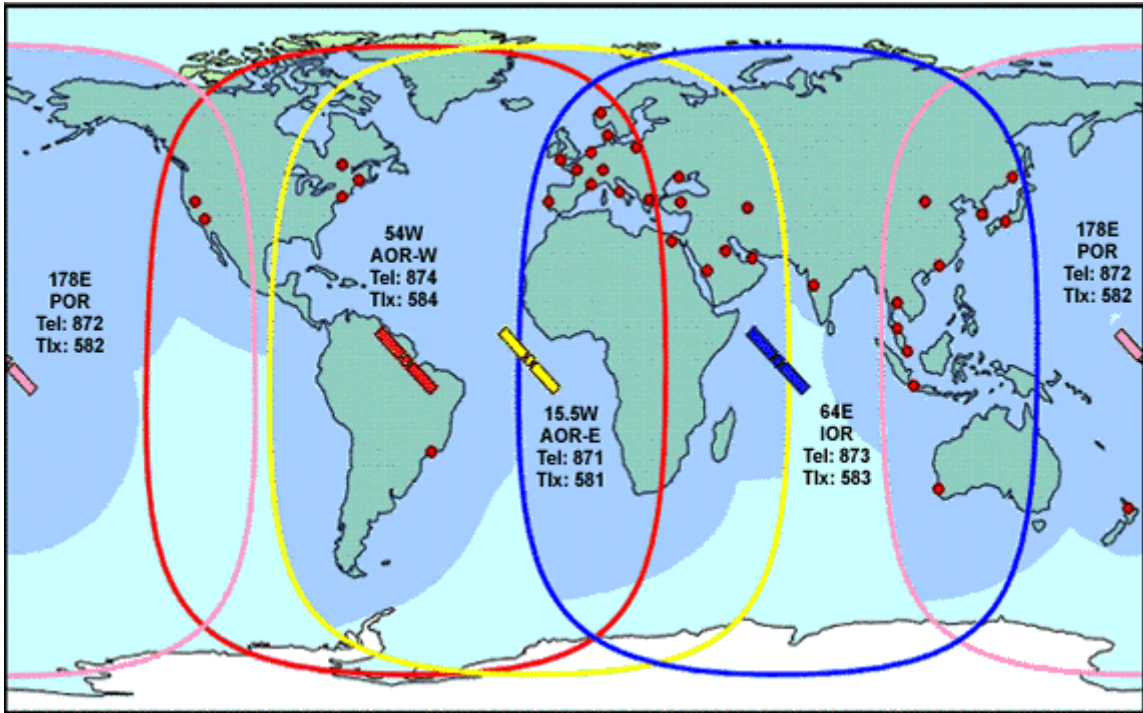
<http://www.dilupe.com>

Table Of Contents

DISCLAIMER OF WARRANTY	2
NO LIABILITY FOR CONSEQUENTIAL DAMAGES	2
TABLE OF CONTENTS	3
D+ MESSAGING PRINCIPLES	4
TYPICAL INSTALLATION	7
DASHBOARD SCREEN	8
MAIN MENU	9
INBOX	10
SEND A PREDEFINED MESSAGE	11
SEND A SPEEDBOX MESSAGE	12
SETTINGS MENU	13
SET CONTRAST	14
SET BACKLIGHT	15
SET TIMEZONE	16
SET MESSAGE PRIORITY	17
SET OCEAN REGION	18
SET SPEED MODE	19
SET DEBUG MODE	20
DISPLAY INFO	21
CUSTOMIZE THE SKYMSG-50 APPLICATION	22
EDIT THE MESSAGE BOOK	22
EDIT THE SPEEDBOX MESSAGES	23
CHANGE THE STARTUP SPLASH SCREEN	24
IMPORT / EXPORT CUSTOMIZED DATASETS	24
DOWNLOAD DATA FILES WITH ARMLoad	25
DOWNLOAD NEW APPLICATIONS WITH ARMLoad	27

D+ Messaging principles

Inmarsat D+ is a global mobile telecommunications system, which supports bi-directional store-and-forward short message data communications. It is the perfect high quality, affordable communication solution for those requiring short data messaging across wide or remote areas.



Forward link: 'To-mobile' D+ messages have many different uses, including simple commands to the remote location, configuration instructions, position or status polling and text messages. Up to 2000 bits of information can be sent in a single to-terminal message, though it is more economic to minimize the amount of data using macro-codes.

Possible forward messages are

Tone Only – Up to four alert signals.

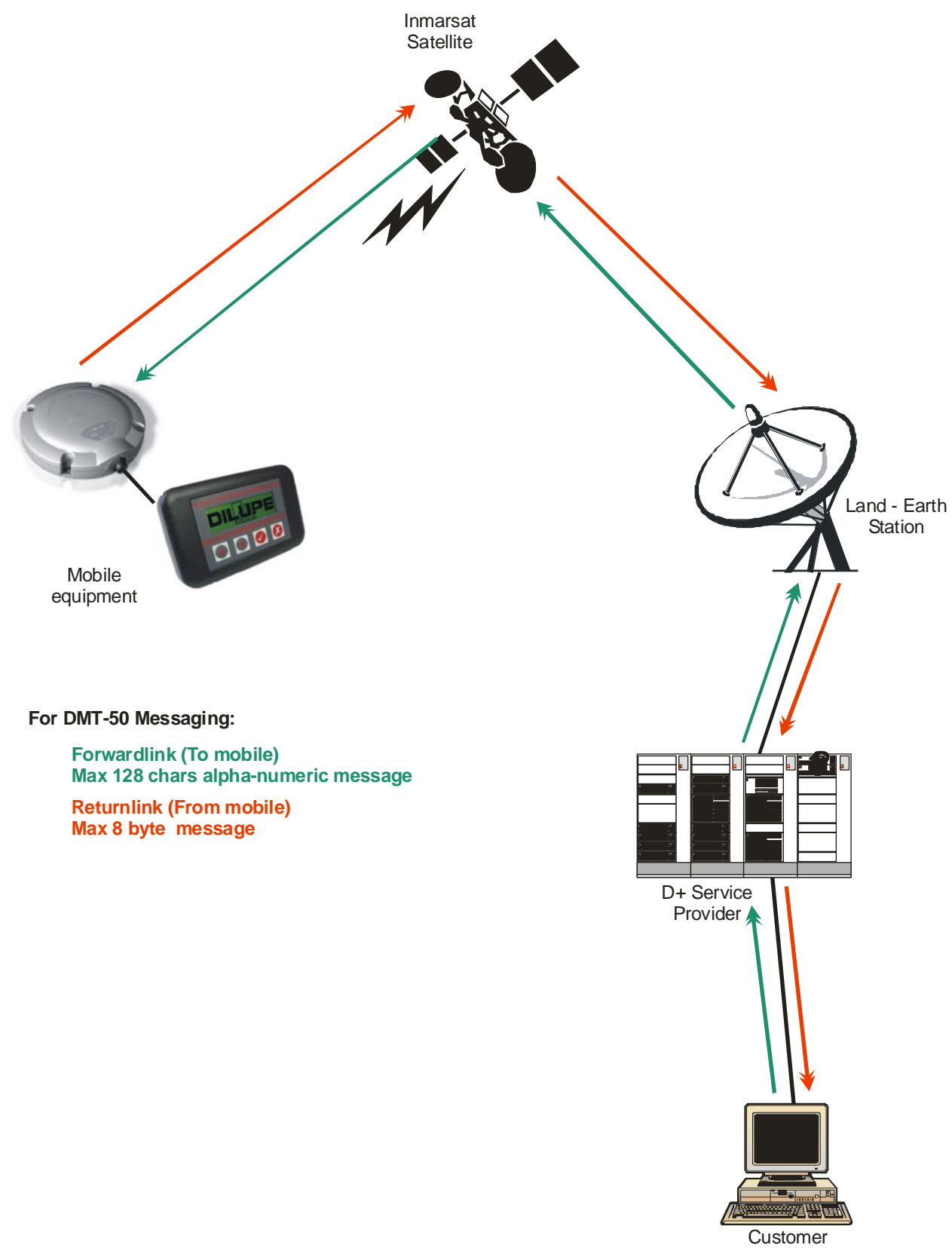
Numeric – Up to 32 numeric or special characters (0..9, Space, (,), +, X) together with one of four alerts signals may be transmitted as a single message.

Alpha-Numeric – Up to 128 characters may be transmitted as a single message together with one of four alert signals.

Transparent Data – Messages of up to 2000 bits together with one of four alert signals may be sent as a single message.

The contents of the transparent data message must be defined on an end-to-end basis within the application.

Return link: 'From-mobile' D+ messages are generally sent in the form of macro-code. This can comprise up to 64 bits of data, enough for GPS position reports, alarms or telemetry data and an unlimited number of application-defined macro-codes. Every message is automatically identified with a terminal and receives a date/time stamp when it passes through the Land Earth Station, a few seconds after being sent.



For DMT-50 Messaging:

- Forwardlink (To mobile)
Max 128 chars alpha-numeric message
- Returnlink (From mobile)
Max 8 byte message

D+ Messaging Principles (continued)

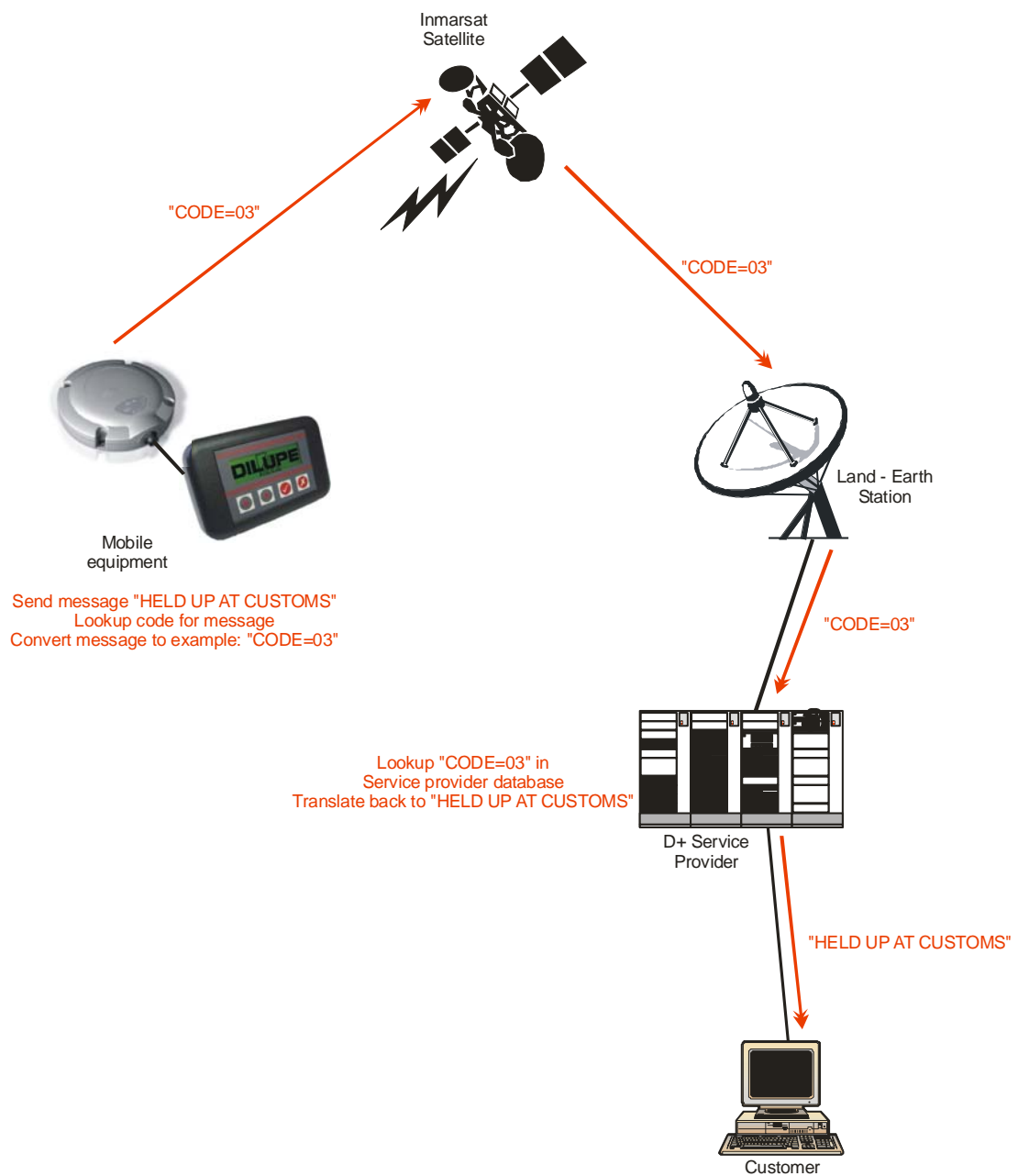
Inmarsat D+ messages supported by the DMT-50.

Forward link messages (To mobile)

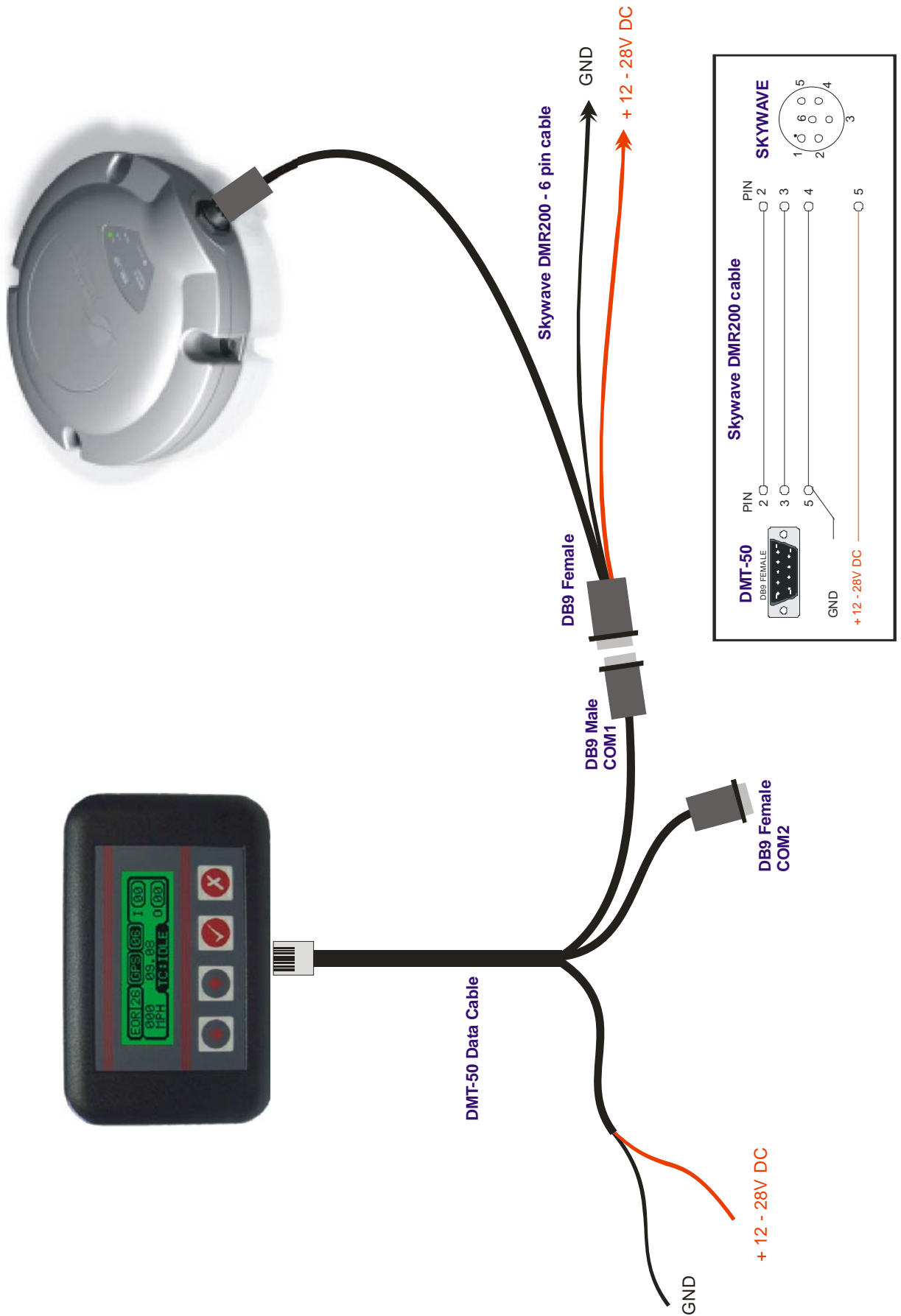
Forward link messages must be Alpha-Numeric messages of Max 128 chars.
Consult your Inmarsat D+ service provider on how to send Alpha-Numeric messages.

Return link messages (From mobile)

Return link messages are Max 64 bits (8 bytes) long. This is why the DMT-50 only transmits predefined messages as macro code.
Below an example of sending a fixed message "HELD UP AT CUSTOMS" with "CODE=03" as D+ payload.



Typical installation



Dashboard Screen



In Idle mode, the DMT-50 displays the dashboard screen. This screen displays some general information about the SKYMSG-50 application.

EOR 26

Indicates the current satellite in use and the signal strength in DB.

WOR = Atlantic Ocean West
 EOR = Atlantic Ocean East
 IOR = Indian Ocean
 POR = Pacific Ocean

GPS 06

Indicates GPS fix and number of sats. "GPS" visible = GPS fix.

**000
MPH**

The current speed. You can change the speedmode (Km/h , mph , knots) in the settings screen.

09.08

The current Local Time (Set Time zone in the settings screen)

**I 00
O 00**

I = Number of unread messages in the inbox.
 O = Number of messages in the outbox of the DMR200

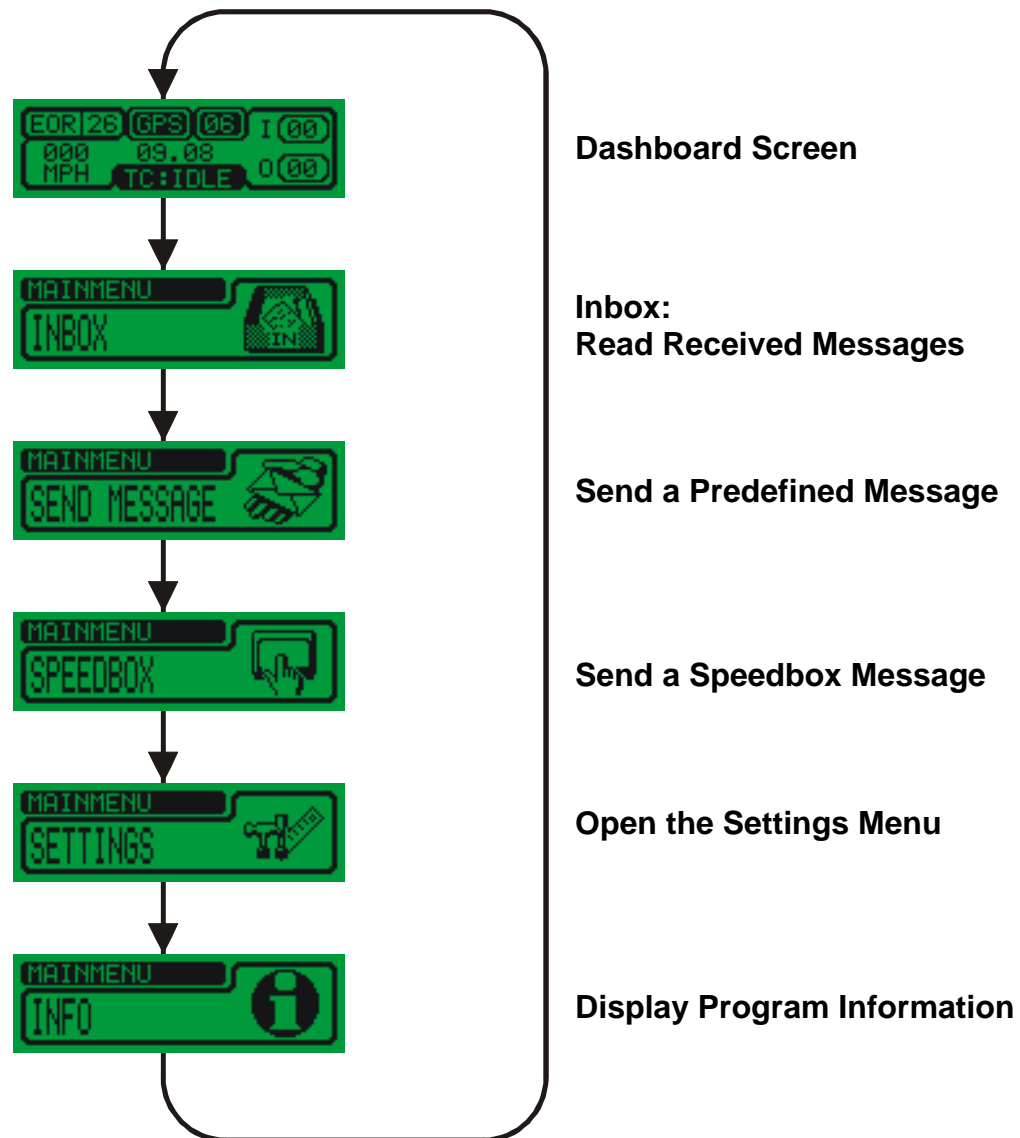
TC:IDLE





Current channel state. Possible states are:

BB:WB	Bulletin Board Wide Band
BB:NB	Bulletin Board Narrow Band
BB:DD	Bulletin Board Demodulating Data
TC:WB	Traffic Channel Wide Band
TC:NB	Traffic Channel Narrow Band
TC:DD	Traffic Channel Demodulating Data
TC:IDLE	Traffic Channel Idle (Sleeping)

Main Menu

From the Dashboard screen you can browse through the Main Menu with the Up – Down Keys.



Keyboard navigation	
	Go to the Next Menu Item
	Go to the Previous Menu Item
	Activate the currently selected Menu Item
	Cancel... Back to the Dashboard screen





Inbox



To activate the inbox, select **INBOX** from the Main Menu.



In the Inbox, you can read the 3 last received messages. (Last, Last-1, Last-2)
The time is the received time in Local format.
When the received message > 19 characters, the message will scroll.

Keyboard navigation	
	Go to an older message
	Go to a newer message
	No Function
	Cancel... Back to the Main Menu





Send a Predefined Message



To Send a predefined message, select **SEND MESSAGE** from the Main Menu.



Keyboard navigation

	Next Predefined Message
	Previous Predefined Message
	Select current message for transmission
	Cancel... Back to the Main Menu



Confirm the message transmission with the OK key



Cancel message transmission with the Cancel key.

Send a Speedbox Message





To Send a speedbox message, select



from the Main Menu.



Keyboard navigation

	Next Speedbox Message
	Previous Speedbox Message
	Select current Speedbox Message for transmission
	Cancel... Back to the Main Menu



Confirm the message transmission with the OK key

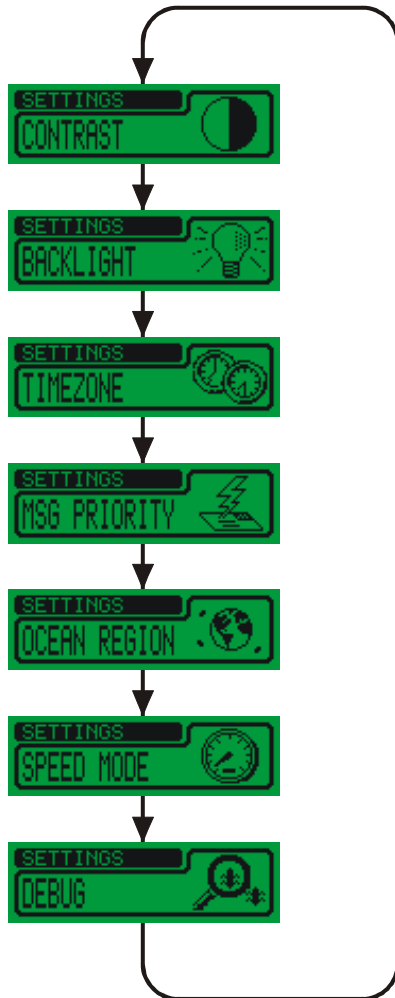


Cancel message transmission with the Cancel key.

Settings Menu



Select **SETTINGS** from the Main Menu.



Contrast Settings

Backlight Settings





Time Zone Settings

Message Priority Settings

Ocean Region Settings

Speed mode Settings

Debug Settings





Keyboard navigation	
	Go to the Next Menu Item
	Go to the Previous Menu Item
	Activate the currently selected Menu Item
	Cancel... Back to the Dashboard screen

Set Contrast



To Set the display contrast, select **CONTRAST** from the Settings Menu. Adjust the contrast with the UP / DOWN buttons for best readability.



Keyboard navigation	
	Contrast Down 5 units
	Contrast Up 5 units
	OK Save contrast and go back to the settings menu
	Cancel Don't save contrast... Go back to the settings menu





Set Backlight



To Set the display backlight, select **BACKLIGHT** from the Settings Menu.



The Display backlight can be configured so that it switches OFF after a certain time of keyboard inactivity. The automatic backlight dim time can be from 0 to 100 seconds. Setting the dim time to 0 = backlight always ON

Keyboard navigation	
	Decrease dimtime
	Increase dimtime
	OK Save backlight settings and go back to the settings menu
	Cancel Don't save backlight settings ... Go back to the settings menu





Set Timezone



To Set the Timezone, select **TIMEZONE** from the Settings Menu.



Set the time offset from GMT with the UP / DOWN keys.
The program will use this value to calculate the Local time from the GPS time.

Keyboard navigation	
	Decrease time offset with 30 minutes
	Increase time offset with 30 minutes
	OK Save Timezone settings and go back to the settings menu
	Cancel Don't save Timezone settings ... Go back to the settings menu

Set Message Priority







To Set the Message Priority, select from the Settings Menu.



Set the priority for transmitted text messages. Select with the UP / DOWN keys between:

- LOW
- NORMAL
- HIGH
- URGENT

Keyboard navigation	
	Next priority selection
	Previous priority selection
	OK Save Priority settings and go back to the settings menu
	Cancel Don't save Priority settings ... Go back to the settings menu

Set Ocean Region

To Set the Ocean Region, select







from the Settings Menu.



Set the preferred ocean region to use. Select with the UP / DOWN keys between:

- AOR-W Atlantic Ocean West
- AOR-E Atlantic Ocean East
- IOR Indian Ocean
- POR Pacific Ocean
- AUTO Automatic setting based on GPS position

Keyboard navigation

	Next Ocean Region selection
	Previous Ocean Region selection
	OK Save Ocean Region settings and go back to the settings menu
	Cancel Don't save Ocean Region settings ... Go back to the settings menu

Set Speed Mode







To Set the Speed Mode, select **SPEED MODE** from the Settings Menu.



Select the speed unit used in the dashboard speed indication
Set the preferred speed mode . Select with the UP / DOWN keys between:

- Km/h
- Mph
- knots





Keyboard navigation	
	Next Speed Mode selection
	Previous Speed Mode selection
	OK Save Speed Mode settings and go back to the settings menu
	Cancel Don't save Speed Mode settings ... Go back to the settings menu

Set Debug Mode

To Set the Debug Mode, select  from the Settings Menu.



For Debug and fault analysis, the program can display a lot of information on the COM2 serial port. This information can be logged on a PC.
You can switch the debug mode ON / OFF in this setting.

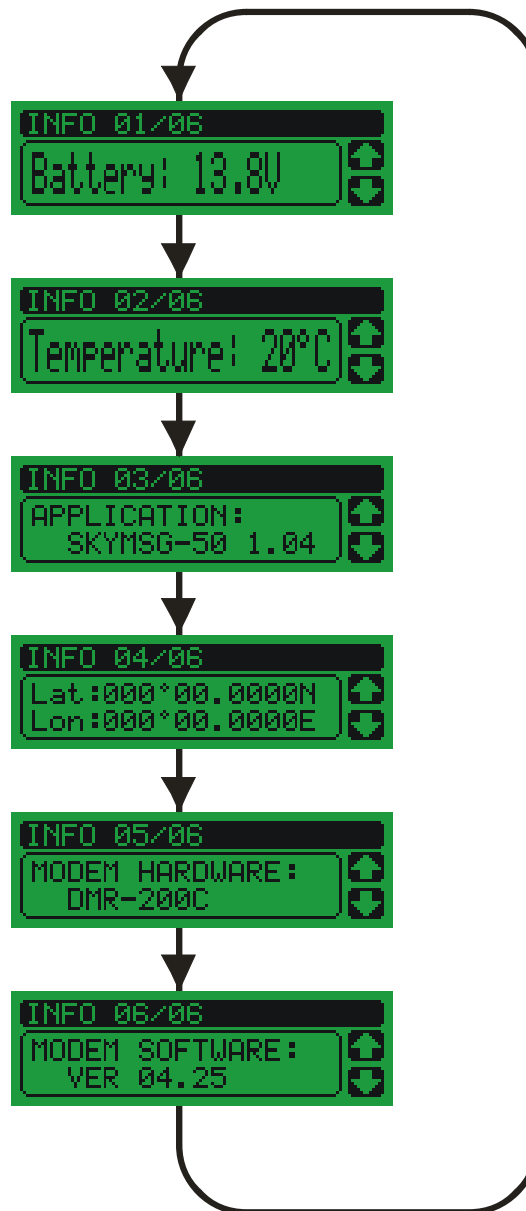
Keyboard navigation	
	Next Debug Mode selection
	Previous Debug Mode selection
	OK Save Debug Mode settings and go back to the settings menu
	Cancel Don't save Debug Mode settings ... Go back to the settings menu

Display Info



Select from the Main Menu.

Browse through the info screens with the UP / DOWN buttons.

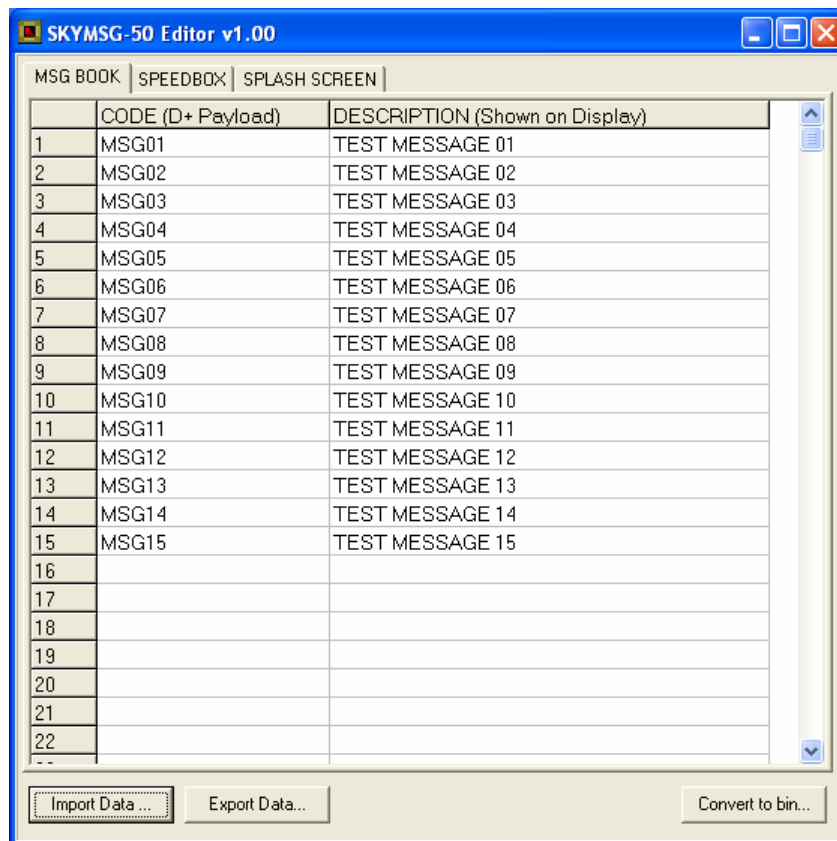


Customize the SKYMSG-50 application

You can customize the SKYMSG-50 application to your needs with an easy to use PC application. The SKYMSG-50 Editor has the following features:

- Define up to 50 predefined messages
- Define up to 12 speedbox messages
- Define a custom startup screen

Edit the Message book



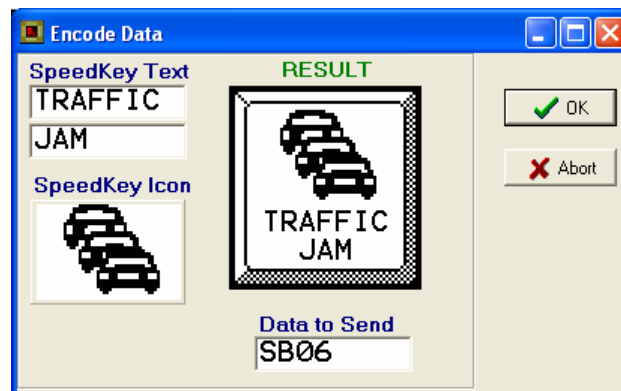
In the “MSG BOOK” tab, you can enter up to 50 predefined messages. Give for every message up to 8chars as D+ payload. (the actual over air message) and a description that will appear in the message list (Max 16 chars)

Edit the Speedbox messages



In the “SPEEDBOX” tab, you can enter up to 12 speedbox messages. Speedbox messages are predefined messages with an extra bitmap image.

Click on one of the 12 buttons to customize the SPEEDBOX message.



Here you can enter 2 lines of 8chars “speedkey text”
Select the speedkey icon (Must be BMP 48x32 pixels 2bit black&white)
Enter the Data to Send (D+ payload)
If all fields are valid, the speedkey will appear in the main window.

Change the startup splash screen



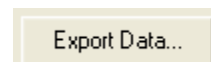
In the “SPLASH SCREEN” tab you can select a bitmap image that will be displayed for 4 seconds at DMT-50 power on.

Press the Select Splash Screen button to browse to the BMP image.
The Image must be 122x32 pixels 2bit black&white BMP format.

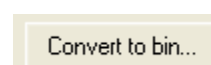
Import / Export customized datasets



Load a previously saved design from disk.



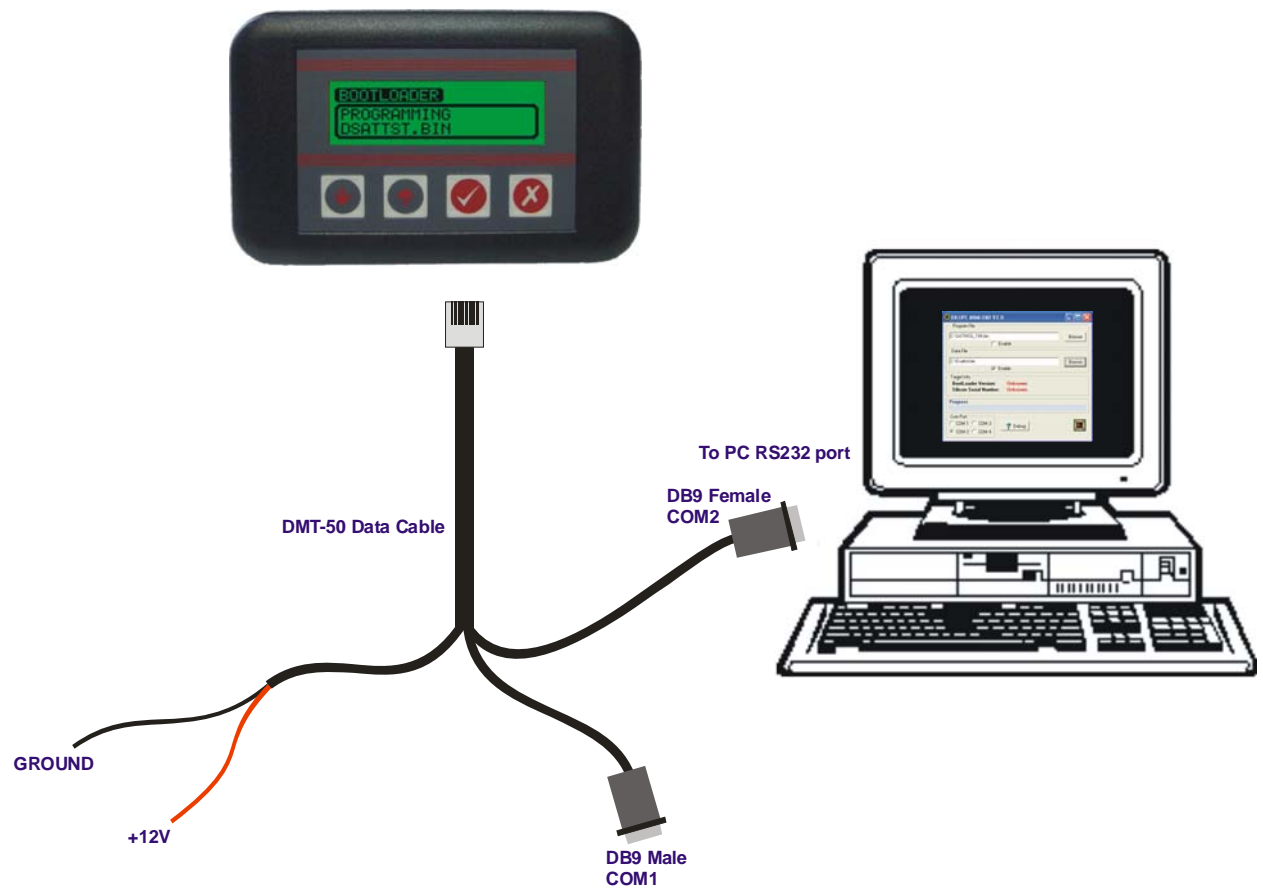
Save the current customization to disk (MSG BOOK + SPEEDBOX + SPLASHSCREEN)



Convert the current design to binary format (compatible with ArmLoad)
This file can be loaded in the DMT-50 (See the Armload Section)

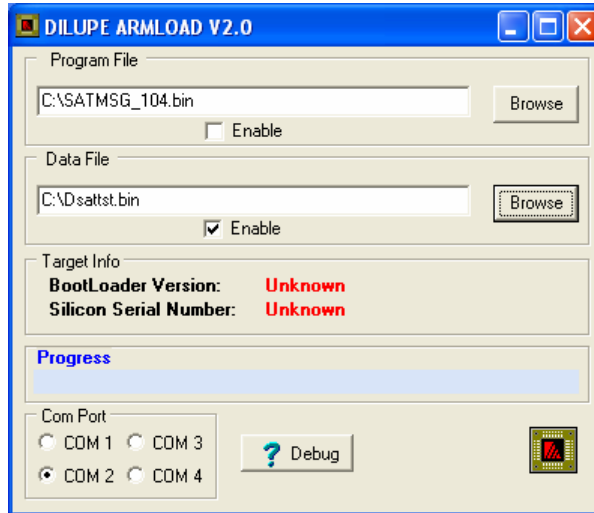
Download Data files with ARMLoad

Armload Setup.



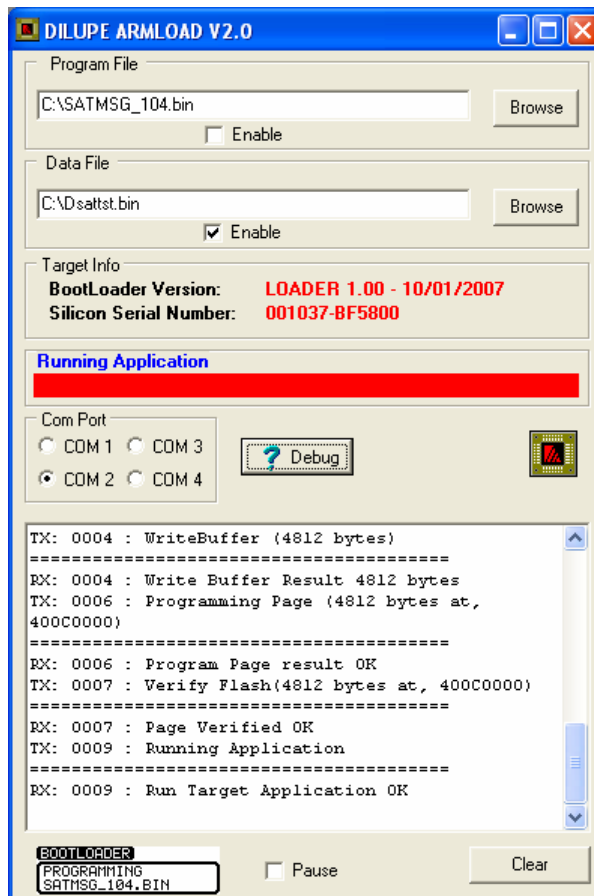
Download Data Files with ARMLoad (continued)

Launch ARMLoad V2.0 or up



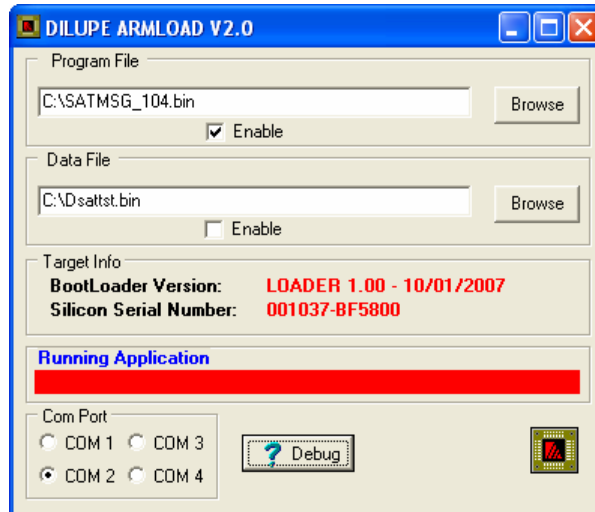
Select the PC COM port where the DMT-50 is connected to.
Select the Data File to load in the DMT-50 (BIN file. Generated by the SKYMSG-50 Editor)
Enable the Data File checkbox.
Disable the Program File checkbox !!!!

Power ON the DMT-50 while the Armload program is running.
The DMT-50 goes automatically in Bootloader mode and starts downloading the application.
After download the application is started.
Click the Debug button to get more detailed loading information.



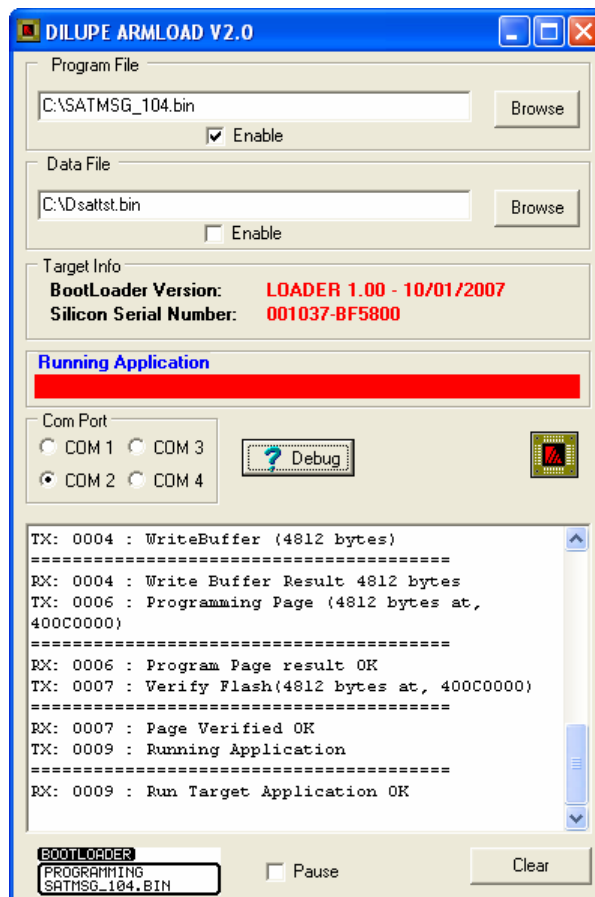
Download new applications with ARMLoad

Launch ARMLoad V2.0 or up



Select the PC COM port where the DMT-50 is connected to.
Select the Program File to load in the DMT-50 (BIN file. Generated by the SDK)
Enable the Program File checkbox.
Disable the Data File checkbox !!!!

Power ON the DMT-50 while the Armload program is running.
The DMT-50 goes automatically in Bootloader mode and starts downloading the application.
After download the application is started.
Click the Debug button to get more detailed loading information.



Download applications with ARMLoad (continued)

You can minimize the ARMLoad application to the system tray. The application will still be active.



When loading applications in minimized mode, information messages are displayed as system tray balloons.

