This documentation applies to the product iMan manufactured by BioControl, Norway.

Documentation version 1.1 completely replaces previous versions.

Modifications since last documentation version:
- none – version 1.0
- version 1.0 - version 1.1
  a) small additions
- b) changed name from COM_Messenger to Terminal

Note:
All information in this document describes product and details ‘as is’. BioControl can not be held liable for (consequences of) incorrect or missing information in this document.

Check our website for latest version of this document and information on this product.
1. Configuring and connecting serial port

1) Open Terminal application using the link on the iMan Menu:

2) When application starts, **Settings** tab will show various configuration options:

Here you can choose the serial port settings through which you will start transmission.
3) To open serial port and start transmission switch to **Console** tab by simply clicking on it. You should see text "<< Transmission start >>" which indicates that connection is successful:

![Com Messenger Window](image)

**Note:** If text didn’t appeared, try sending some data first.

### 2. Sending text messages

By default Terminal will start in ASCII mode that enables you to easily transfer simple text data. To send a message just type it in white box at the bottom of window. When you click on box, virtual keyboard should appear:

![Virtual Keyboard](image)

After typing text, press **[Enter]** key or click **Send** button to send it via serial port.
Notice single arrow > character before text you typed – it indicates that message was sent by you.

### 3. Sending binary messages

COM Messanger can send raw, binary messages. Those messages are represented as a text consisting of hexadecimal digits: 0-9 and a-f.

To enter binary mode – first you need to expand combo box around lower left corner of Console tab and select ‘BINARY’ option:

![Com Messenger window]

When you click on selected (BINARY) mode, Binary command input window will appear:
Binary command input window has several buttons with hexadecimal digits on it to facilitate typing them in command edit box.

There are also two input mode switch buttons: ASCII and Binary. In Binary input mode you can input only hexadecimal digits (remember to put them in pairs to form a valid byte). On the other hand ASCII input mode works almost the same as ASCII mode in main application window – you can type any text but also by use of escaping sequence any raw bytes you like. The following two images show data of the same command in different representation:
To enter raw character in *ASCII input mode*, precede its hexadecimal representation with a dollar character – $:

![Binary command input](image)

**Note:** If you want to insert single dollar character – precede it with a dollar character: ‘$$’.

There is also **Import cmd** button that enables you to insert data of another command into command edit box (to modify it), and **Clear** button that removes all characters already typed in edit box.

When you end typing command, click **OK** button to close dialog and send it after.

### 4. Sending commands

Terminal ships with several predefined commands that are stored in *commands.csv* file in application directory (which usually is: `\Program Files\COM_Messenger\`). To access **Command selection** window, you need to switch to ‘**COMMAND**’ mode. To do so, click on combo box around lower left corner of **Console** tab and select ‘**COMMAND**’ option; window will appear:

![Command selection](image)
**Command selection** window contains two lists. The left one is category list, and the right one contains commands in selected category. So to select command, for example “Warm start” you need to select “PMTK” category first. At the top of the window, there is a grayed out field – preview window, where command’s data representation is displayed. On the left of the preview window there is a type of representation which can be **ASCII** or **BIN** (from **B**inary, just like in **B**inary command input window).

To send selected command click on **OK** button (that will close window and navigate you to **Console** tab) and then, on **Send** button:

![COM Messenger window](image)

### 5. Adding new commands

Terminal’s predefined commands are stored in the `commands.csv` file in the application directory (usually: `\Program Files\COM_Messenger\`) and they can be modified by user directly in Terminal application.

To add or remove commands, you need to navigate to **Command selection** window – see paragraph 4. *Sending commands*. When you are there, you will see two buttons: **New** and **Delete** in bottom-right corner of the window.

To add new command: click on **New** button and **Binary command input** window will appear. There you can input command representation just like in 3. *Sending binary messages* paragraph. After forming new command click on **OK** button and **Command edit** window will appear:
In this window you can type name of the newly created command and select appropriate category for it.

Note: Command name is optional – if you leave Name field empty, command representation will be used in place of name.

Note: You can select existing category or type new category name in Category field.

After clicking on OK button in Command edit window you should see your new command in appropriate category:

To remove command: select its category, then command to remove and click on Delete button.

Note: After adding or removing command, changes are automatically written to commands.csv file.
6. Custom command buttons

You could notice that there are five Custom commands buttons on the right of Console tab. They are numbered from C1 to C5 and provide you with fast access to mostly used commands. Custom command buttons by default aren’t assigned to any specified command.

To assign command to a button by first time, simply click on one of the buttons and Command selection window will appear where you can choose command to associate button with. After clicking on OK button (in Command selection window) you can now use Custom command button to quickly send command associated with it.

To change command associated with button, hold [Ctrl] key on keyboard and then click on the command button which you want to modify – this will cause Command selection window to appear.