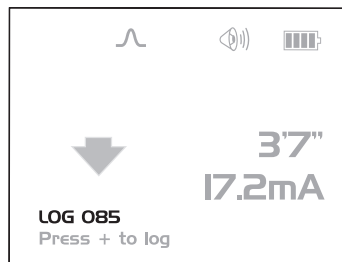# Data Logging

The vLoc2 has an internal memory that can be used to store location data. It can store in excess of 1000 records.

To store a record first locate a point of interest. Hold the vLoc stationary over the target and press the "i" pushbutton. When in the depth and current screen, press the "+" pushbutton to save the data. The "Log" number indicates the number of records stored.

If the GPS function is enabled the GPS coordinates will also be displayed and attached to any saved file. For more information on Data logging and GPS see section 5.2.5.4.
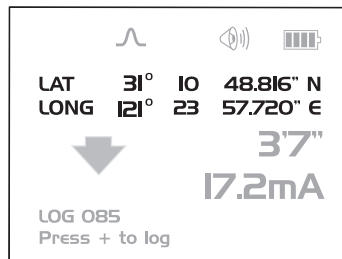
5.1   Bluetooth

As an optional extra the vLocPro2 and vLocML2 receivers can be fitted with a Bluetooth communications accessory. The Bluetooth option can be retrofitted and can be ordered at a later date if preferred.

5.1.1   Fitting the Bluetooth Module

1. Ensure the unit is switched off.
2. Use a small cross head screw driver to remove the two screws retaining the Bluetooth cover. This is found at the back of the handle near the battery compartment.
3. Remove the cover by sliding it away from the handle.
4. Take the Bluetooth module and carefully slide it into the position the cover was occupying.

5. Replace the two cross head screws.
6. Switch on the unit and after a few seconds a grey, Bluetooth icon should appear showing that the module is fitted.
7. If a red line is shown through the icon, this indicates that the Bluetooth module is not enabled. Bluetooth enable is located in the user menu which is accessed using a long press of the "i" button.
8. The Bluetooth can communicate with external devices that are also Bluetooth enabled. There are many Bluetooth enabled GPS devices but Vivax-Metrotech offer the Holux GPS as a suitable solution for those requiring mapping to accuracies better than 5m. For those requiring accuracies better than this, for instance submeter accuracy, the customer should contact a GPS supplier of their choice. However, as a recommendation, one such device that delivers submeter accuracy is the Trimble ProXT.

5.2   Holux GPS Device Overview

The Holux M-1200E is a simple GPS device with integral rechargeable batteries and Bluetooth communications. It can either be mounted in the purpose designed holder from Vivax-Metrotech or can be positioned anywhere within a few meters from the vLocPro2. For instance using "Velcro" to attach it to the peak of a baseball cap ensures clear view of the sky and satellites.

The best accuracy that can be expected from this device is better than 2.2m. However, this depends on satellite and DPGS satellite availability. It is compatible with EGNOS and WAAS SBAS differential satellite correction systems.

Ensure the battery is charged by either using the cigarette charger lead supplied or attaching it to a USB interface using a standard USB to mini USB lead.

To switch on the M-1200E position the slider switch, located on the side of the device, to the on position. The Bluetooth icon will flash rapidly (approx every half second). This indicates that it is searching for a device to pair with. When the Holux is paired with a device the flashing will change to a slower rate.

The GPS icon will be continuously illuminated indicating that GPS lock is not achieved. When the GPS icon starts to flash GPS lock is achieved.

TIP
For best results allow the GPS indicator to flash at least 15 minutes before commencing a survey.

5.2.1   Pairing with the vLocPro2/vLocML2 Receivers

1. Switch on the M1200 and ensure it is within a couple of meters of the receiver.
2. Pairing the M1200 with the receiver is achieved through the setup menu. To enter the setup menu press and hold the "i" pushbutton.
3. Press the "+" button to scroll to "Bluetooth Pairing" and press the "M" pushbutton. The vLocPro2 will begin to search for available devices. At the end of the search, a list will be displayed which should include "HOLUX_M-1200" Use the "+" and "–" pushbuttons to highlight this device and press the "M" pushbutton.
4. The vLocPro2 will automatically return to the locate screen. Within 10 seconds the Bluetooth icon will change from grey to blue. This indicates that pairing is successful.

> **TIP**
>
> **When not using the Bluetooth function switch off the Bluetooth search function by entering the user menu and deselecting "Bluetooth Search". This will save battery life and prevent interference from the Bluetooth search activity, in the Radio mode.**
>
> **When the Bluetooth search function is deactivated a red line will appear through the Bluetooth icon in the locate screen.**

5. Next to the Bluetooth icon is the red GPS signal strength bar graph. This will not appear until a valid GPS signal is detected.
6. The bar graph has 4 levels. For best results, allow a few minutes after the bar graph has started before commencing the survey. The accuracy will improve with more bars illuminated.

5.2.2   Gathering Data in Active Modes

Switch on the Holux and ensure pairing as indicated above. (Bluetooth icon should be blue) Wait for a valid GPS signal as indicated by the red bar graph next to the Bluetooth icon.

> **TIP**
>
> **It is a good idea to ensure the datalog is clear before commencing. To do this press the "i" button. Whilst the depth screen is displayed press and hold the "-" button. The message:**
> **"Are you sure you want to delete all this datalog. Press + key to Delete"**
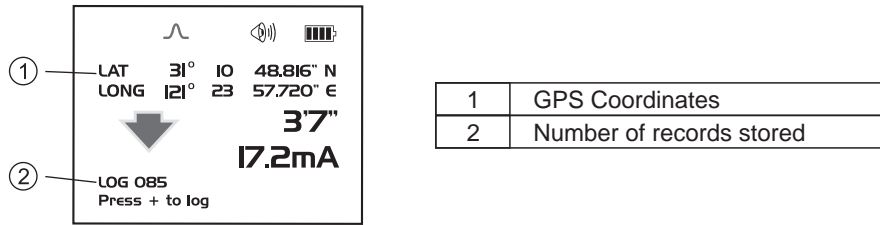> **Pressing the "+" key will clear the datalog.**

5.2.3   Gathering Data in Power and Radio (Passive) Modes

This is done in the same way as in the active modes except that it is not possible to enter the measure mode unless a valid GPS signal is received from the Holux GPS.

Depth and current are not available in the passive modes but all other data can be saved to the datalog.

Locate the cable as described in the vLocPro2 user handbook.

Momentarily press the "i" button. A screen similar to the below will be shown:

① — (GPS display screen)

1	GPS Coordinates
2	Number of records stored

To save a record press the + button whilst in this screen.

5.2.4   Transferring Data from the Locator to a Computer

To transfer data it is necessary to use the vLocPro2 Configurator Tool. This is a simple program that can be downloaded from the Vivax-Metrotech web site at **www.vivax-meterotech.com**. The file can be found under the Support/Download Library/Others Download.

TIP

To view Google files it is first necessary to install the Google earth application to your computer. This is a free application which can be found at http://www.google.com/earth/download/ge/agree.html

5.3   Trimble ProXT/XH

For those wishing to work with accuracies better than 1 meter, the Trimble ProXT/XH provides a simple and cost effective solution. The ProXT operates in a very similar way to the Holux in that it has two LEDs indicating that there is Bluetooth lock and another for GPS lock. Bluetooth pairing is one in the same way as the Holux described above. Data gathering is exactly the same as with the Holux described above.

5.3.1   Trimble ProXT/XH Setting up Procedure

The ProXT can also be configured for different applications so the first time it is used it should be configured to operate with the vLocPro2/vLocML2 receiver.

Install to your computer the Trimble GPS Controller software. This is a free application and can be found at **http://www.trimble.com/pathfinderproxt_ts.asp?Nav=Collection-32840**

Connect the Trimble ProXT to your computer either by setting up a Bluetooth connection or by using the RS232 lead supplied.
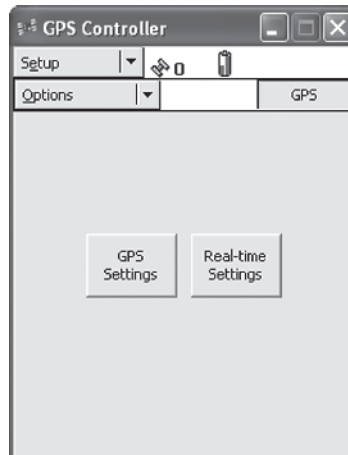
Launch the application and switch on the GPS. When connection is achieved a little satellite icon will appear in the middle of the top bar.
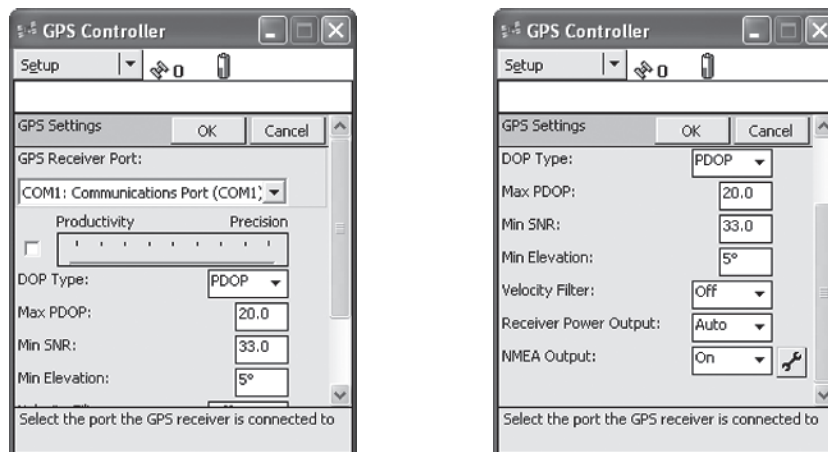
1. From "Skyplot" select "Setup".
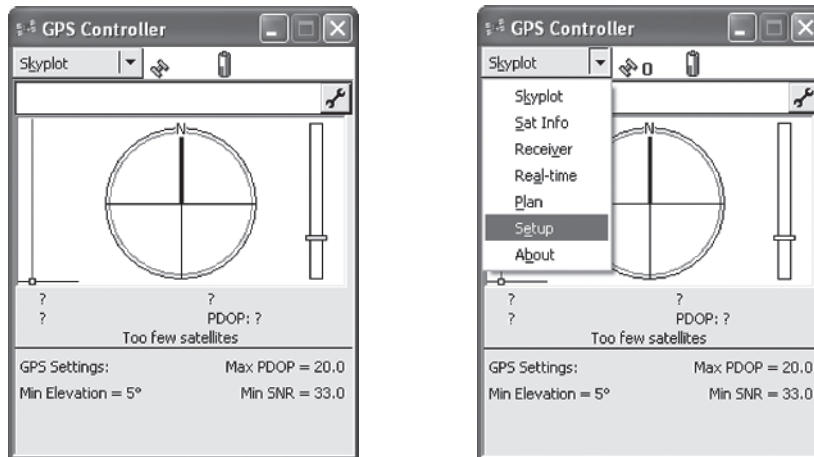
2. Now select "GPS Settings".
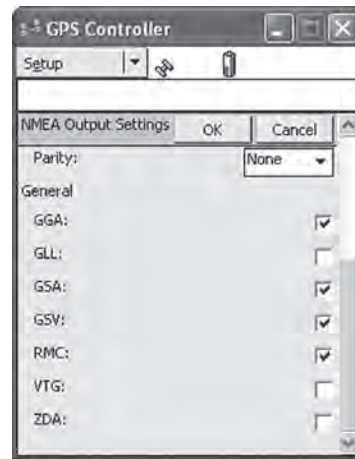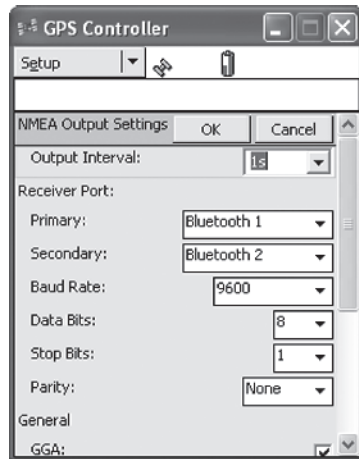

3. Select COM1 and set the parameters as below and then press OK.
4. Now select the spanner on the "NMEA Output" line.

5. Set the following perameters:

6. Press OK to save parameters to the GPS.
7. These parameters are suggested values. Experienced users may decide to alter them to suit the particular requirements of an application.
8. Pairing with the vLoc receiver is similar to the Holux described previously. Data gathering is also similar to the Holux procedure.

5.3.2   Transferring Data from the vLoc2 to a Computer

To transfer data from the vLoc series 2 receiver to a computer requires the use of a simple free of charge software package MyLocator2. It can be downloaded from the Vivax-Metrotech web site **www.vivax-metrotech.com.**

5.4   MyLocator2

MyLocator2.configuration tool is a software package that enables the operator to configure the vLoc series 2 of locators. The software is compatible with Window XP, Vista and 7. To install, use the link on the Vivax-metrotech web site and follow the installation instructions. A MyLocator2 shortcut icon will appear on your desktop. MyLocator2 is also used to transfer data from the locator to a host computer.

MyLocator2 is under continual development so the following is a guide to its operation but there may be subtle changes to screens etc. However, the guide should still give sufficient information for the user to navigate MyLocator2.

### 5.4.1   Launch the Application

To launch MyLocator2, double click on the MyLocator2 shortcut icon. If the host computer is connected to the web, it will check to see if MyLocator2 is the latest version. If it is not, it will ask if you wish to install the latest version. Follow the instructions if you wish to install the new version.

MyLocator2 can be operated on different levels. Each level enables different features and functionality. Some levels require a dongle to operate. Dongles are available from Vivax-Metrotech. In its basic form it allows the operator to:

- Check the software revision number and download the latest version. This feature is useful where software changes have been made to enhance existing features and to install new free of charge features as they become available.
- Upload data files. Files that have been saved in the equipment such as location/GPS data can be transferred to a PC using MyLocator2.
- Adding flash screens: The user can add pictures or company Logo's of his choice to the start up screen.

The basic operational screen is displayed below. This will change slightly depending on which tab is active.
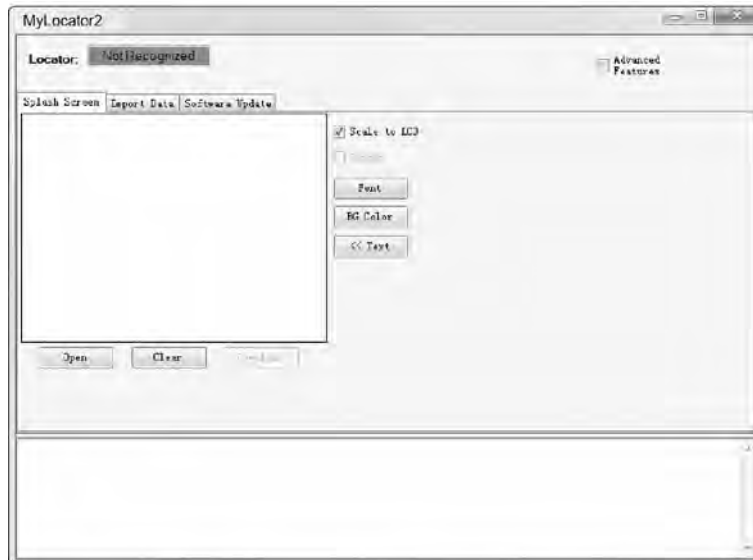
Connect the vLoc Receiver to the PC using a USB to Mini USB cable. The PC should recognize the vLoc and the display will now change to the below or similar.
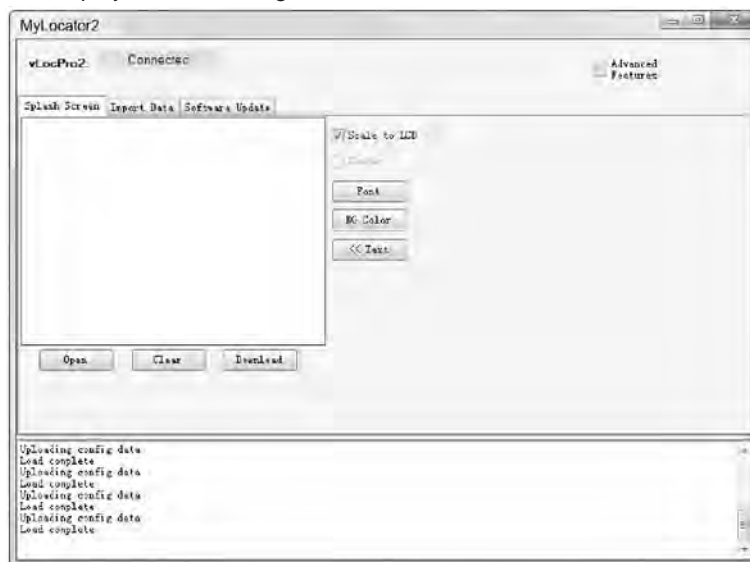
It will now be possible to perform the three operations in the tabs shown.

5.4.2   Splash Screen

1.   Click the Splash Screen tab. Click on the "Open" button. Browse your computer to find the picture that is intended to be the splash screen.

2.   The software will accept the following formats: JPEG, BMP, GIF, PNG, ICO.

3.   Select the file and open. The screen below should now also contain a representation of the picture.

4.   Press "Download" to transfer the file to the vLoc or "Clear" to remove the file.

5.   Clicking on "Scale to LCD" will alter the aspect ratio of the picture to fully fill the screen. Leave this unchecked if no scaling is required. Check the "Centre" button to centre the graphic on the screen.

6.   Text can also be added to the flash screen.

7.   Use the "Text", "BG Color" (Background color) and "Font" buttons to add text to the start up flash screen.

5.4.3   Upload Data Files

1.   Click on the "Import Data" tab. A screen similar to the one below should be shown.

2.   Select your preference for Date, Time and Distance.

3.   Click on the "Import Data" button.

4. When the upload is complete (Should only take a second or two) it will be possible to save the data.

5. Press the "Save As" button.

6. Browse your computer files to find the desired file location. Name the file and use the "Windows" pull down tab to select the desired file type. (.xl, .txt, .shp or .kml)

7. Press the windows "save" button.

8. Use the "Clear Log" button to clear the log from the locator. Note that this can also be achieved by using a long press on the "-" pushbutton on the locator, when in the depth & current screen.

5.4.4   Software Update

1. With the locator switched on and connected to the computer, click on the "Software Update" tab.

2. A screen similar to the one below should be shown.
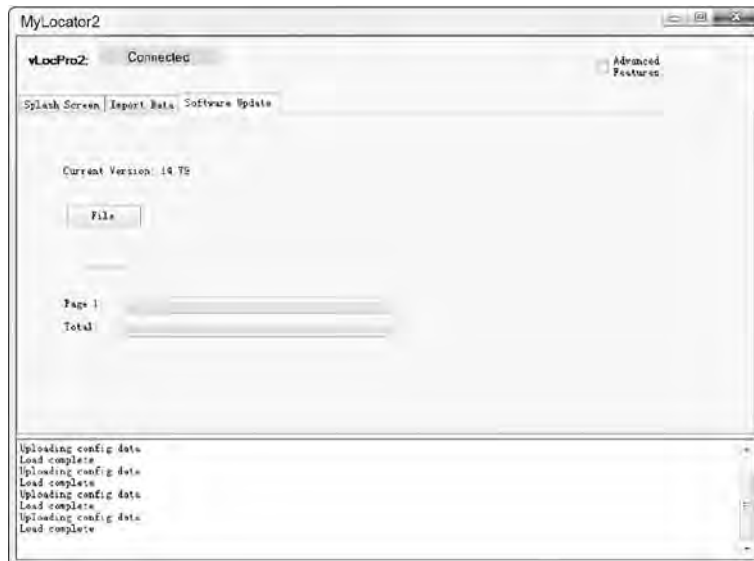
3. If connected to the Web, press the "Get latest sw rev" button. Alternatively, if the software revision required is already saved, use the "File" button to browse to the relevant file.

4. Click on the "Download" button. The progress bars below will start to activate showing the progress of the software installation. When it is complete a message "software upload complete" will be shown both on the computer and locator screen.

5. Note that the new software will not be active until the unit has been switched off and on again.

5.4.5 Advanced Configuration Tool

Clicking the "Advanced" button allows the user to configure the instrument to specific requirements.
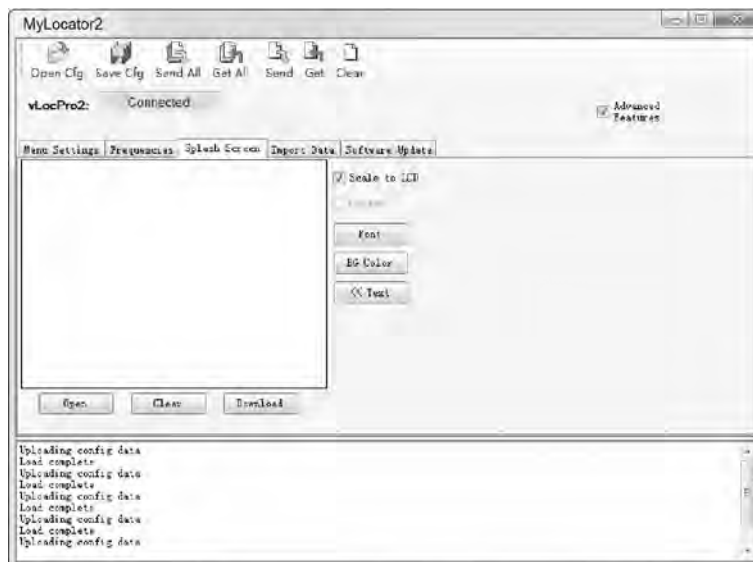
The extra features available are:

• Switch on or off user menu settings
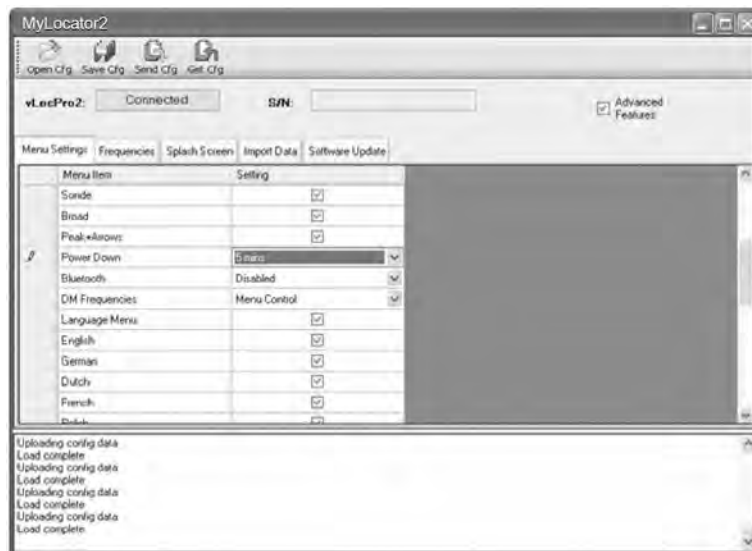
• Switch off frequency selections

By doing this the locator is simplified and tailored exactly to the customer requirements.

The configuration can be saved as a "configuration" file and used to configure other vLoc2 locators. This ensures consistency throughout the locator fleet.

5.4.6 Switch On/Off User Menu Settings

1. With the locator switched on and connected to the host computer click on the "Menu Settings" tab.

2. A screen similar to the one below should be shown. If not, click on the "Get Cfg" icon on the top bar. This will load the configuration of the connected locator to the host pc.
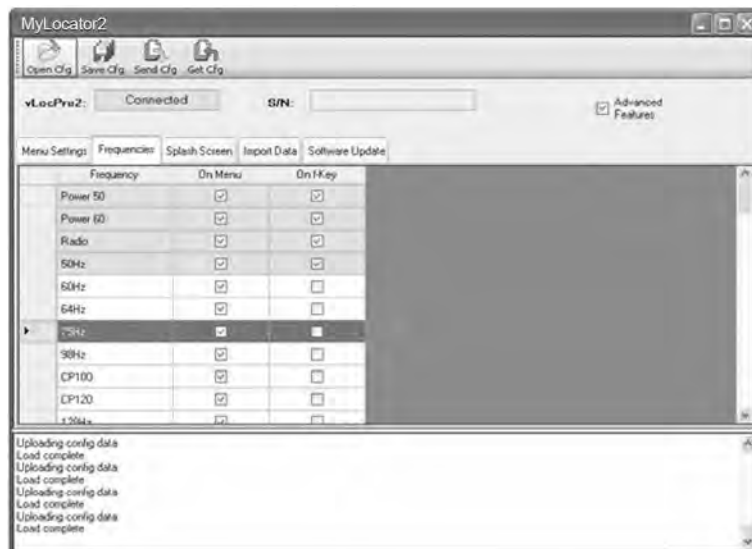
3. Check the boxes that are required to be made available.

4. Click on the pull down menu and select the settings required.

5. Clicking on the "Send Cfg" icon will send the configuration to the locator.

5.4.7   Switching On/Off Frequency Selections

1. Click on the "Frequencies" tab. A screen similar to the one below should be shown.

2. Each row is color coded:

   a. **Grey** indicates that frequency is not selected for either the menu or the frequency key.

   b. **White** indicates that the frequency will be active in the locator menu but has not been selected to show on the frequency key. (Note that it is still possible to make this frequency available on the locator by selecting it in the locator frequency menu.

   c. **Green** indicates that the frequency will be available both in the locator menu and frequency select key.

   d. **Blue** shows active line.

3. Make the selections required.

4. Clicking on the "Send Cfg" icon will send the configuration to the locator.

5.4.8   Saving a Configuration

Having created a configuration it is possible to save this for future use.

To save a configuration:

1. Click on the "Save Cfg" icon.

2. Browse to a desired file location.

3. Create a name for that file, the extension will be: filename.vmcfg.

4. Press "Save" in the window.

To retrieve the file:

1. Click on the "Open Cfg" icon and browse to select the desired file.

2. Click on "open" in the window.

3. The file will populate the MyLocator2 screen automatically with the settings from the configuration file.

5.4.9   Configuration Lock Dongle

A Configuration Lock dongle is available that allows "lockout" of features and functions so that operators are forced to use particular settings. The dongle is also used to unlock these features.

To activate the dongle, plug it into any USB socket on the host computer.

With the dongle active, the MyLocator2 screen will look similar to the picture below.
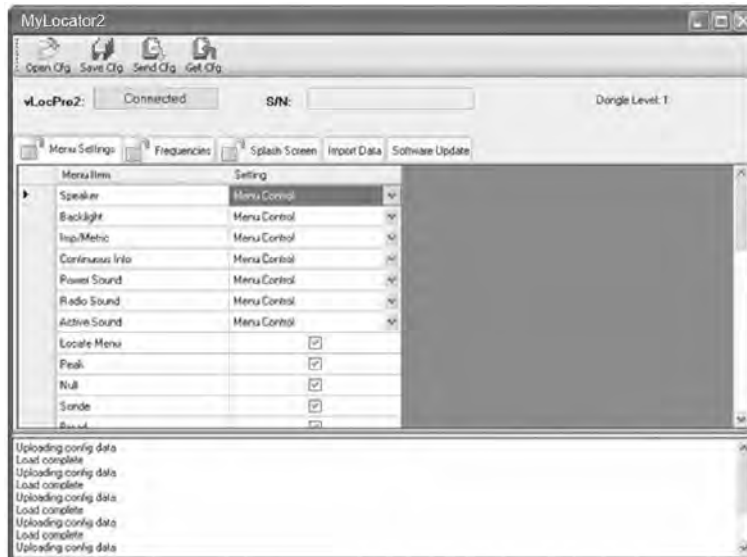
Note the padlocks on the three tabs, Menu Settings, Frequencies and Splash Screen.

When a locator is configured with these locks activated, the menu and frequency options in the locators user menu will not appear, stopping the user from altering the settings downloaded to the locator by the Dongle activated MyLocator2 facility.

To activate the padlocks simply double click on the desired tab.

The features can only be re activated by connecting to a host computer with MyLocator2 which has been dongle activated. Double click on the padlocks as before to unlock them and download the changes to the locator.

Example use of the Dongle Lock:

Supposing the Dongle User wishes to force the user to only use 8kHz Peak Mode. The operation would be:

1. Connect the locator to the host computer and switch on. Launch MyLocator2.
2. Click on the "Get Cfg". This will populate MyLocator2 with the Locators configuration.
3. Click on the "Frequency" tab.
4. Uncheck all frequencies except 8.19 kHz.
5. Check both boxes associated with 8.19 kHz as below.
6. Double click on the Frequency tab to lock the padlock.
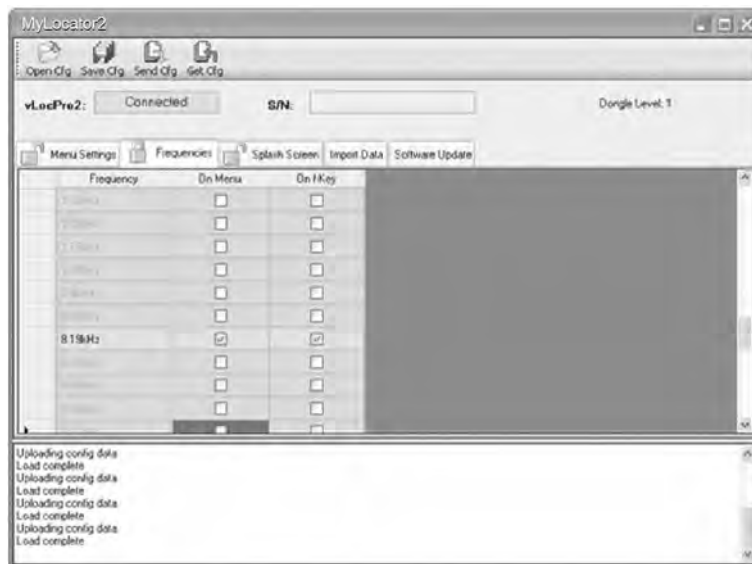
7. Now click on the "Menu Settings" Tab
8. Uncheck the Frequency and all antenna modes except "Peak" as below. Note also the Locate Menu box is un-checked; this will prevent the function appearing in the user menu.
9. Double click on the "Menu Settings" tab to lock the padlock.
10. Now click on the "Send Cfg" icon to send it to the locator.
11. To activate the new configuration switch the locator off and on.
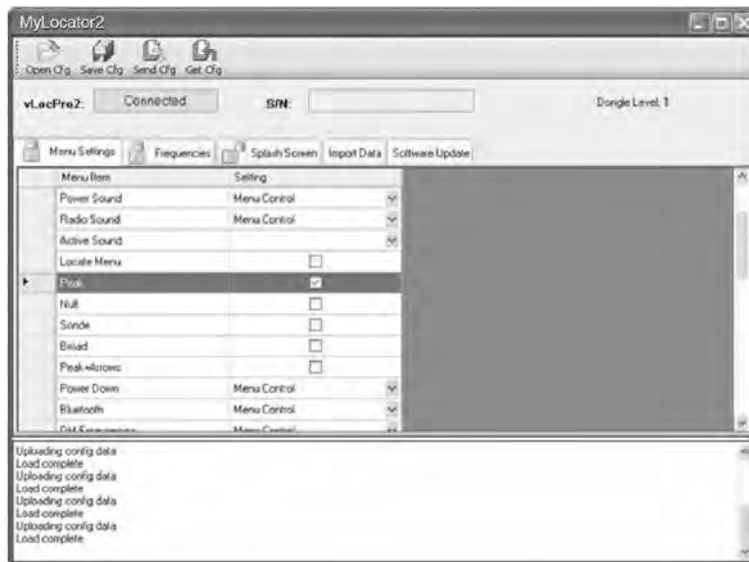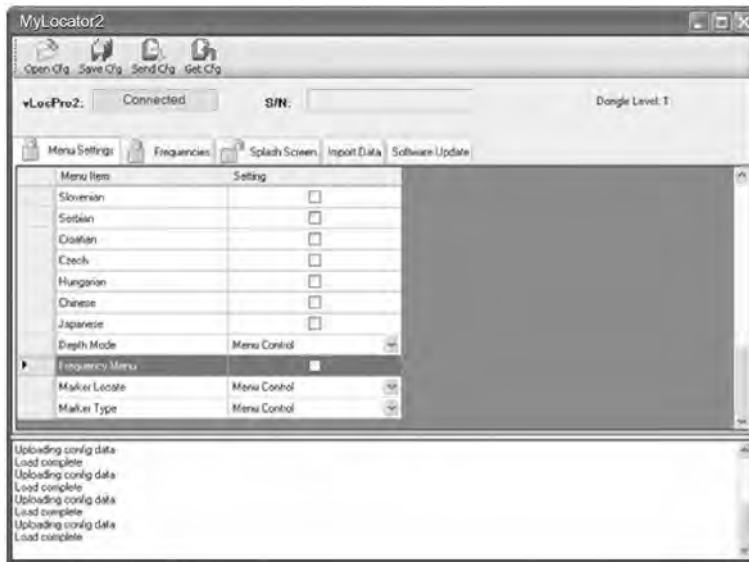
5.4.10   Icon Summary

Icon	Function
Open Cfg	Opens a previously saved configuration.
Save Cfg	Saves a configuration created by the operator to a file of your choice.
Send Get	Either "Send" (saves) configuration to a locator or "Get" (copy) a configuration from a locator.
Clear	"Clears" a configuration created on the configuration tool.