Flightcell® DZM Manager Users Guide V1.002

For use with DZM2 and DZM3 products

Installation and Operation Manual

Version history

Issue	Date	Author	Description
Version 1.0	10 Jan 2011	H. Twissell	Document created (FCN0147)
Version 1.001	12 May 2011	H. Twissell	Updated icon (FCN0199)
Version 1.002	10 August 2011	H. Twissell/J Mace	Added new sections to bring manual up-to-date with DZM Manager 1.007 and Firmware V4.009 (FCN0255)

Contents

About DZM Manager

The DZM Manager Application is a PC application that allows you to:

- Program the DZM with the latest firmware

- View, modify or reset the settings of the attached DZM a range of settings, including:

  - o Tracking settings

  - o Configuration settings

  - o Display settings

  - o Subscriber Line Integrated Circuit (SLIC) settings for the optional aircraft cabin phone

  - o Phonebook entries

  - o Fixed text message list entries

- Save the settings from the currently attached DZM to a file.

- Load settings from a file to update the settings of the currently attached DZM.

System Requirements for DZM Manager

To successfully install and use the DZM Manager on your PC, check that the PC you intend to use meets the following specifications and that you have the necessary serial ports and equipment for connecting the PC to your DZM:

- A native 9 pin serial port or a serial port adaptor (USB, PC Card or Express Card versions).

- Windows XP, Windows 2000 or Windows 7 with .NET 2.0 and .NET 2.0 service pack 1 (SP1) installed; if required, the .NET framework can be downloaded from the Microsoft website if not already installed.

- A serial cable to between the PC and the DZM serial port (blue connector on the wiring loom or directly into the bottom connector at the back of the unit if configuring a DZM3).

Installing DZM Manager

- Open the folder containing the DZM Manager Setup files

- Double click on *Setup.exe*

- Follow the installation prompts.

- DZM Manager can then be launched from the desktop icon…

- …or found under Flightcell in your start menu.

Using DZM Manager

- Connect your PC to the DZM's serial data port

- Turn aircraft power on and wait for the DZM to power up

- Open DZM Manager

- If the default port is not correct, select the correct COM port then click on Connect.

- Click on the **Upgrade** tab.

You should then see the following window:
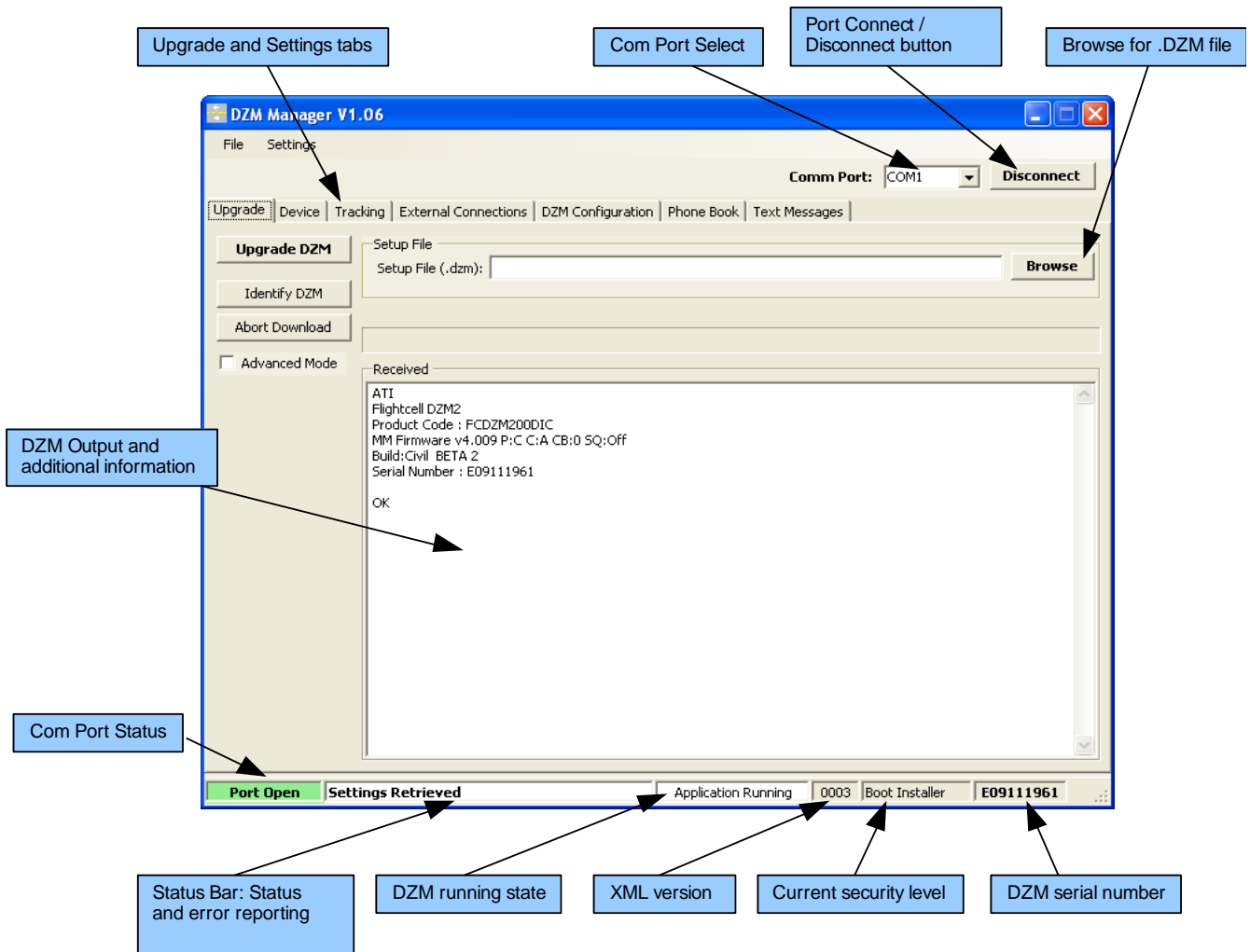
Upgrading your DZM Application Firmware

Before starting the upgrade procedure

Ensure that:

- The Com Port Status field display is green, indicating that the com port is open.

- The Status Bar is showing either 'Connected to DZM' or 'Settings Retrieved' indicating that DZM Manager correctly is communicating with the DZM on the correct com port.

- The DZM Firmware version is V3.110 or above. Click on the **Identify DZM** button. The version number will be displayed in the DZM Output window on the line where it displays 'MM Firmware..' If your DZM firmware is before v3.110, then please refer to the DZM Bootloader installation guide. DZMs with firmware before V3.110 will have to go through an additional procedure to install the DZM bootloader before installing the DZM application firmware.

- Ensure that you have a copy of the firmware files (DZM_Vx_xxx.dzm and DZM_Vx_xxx.ihex) in the same directory and that both the file names refer to the same firmware version.

Upgrade procedure

- Select the **Upgrade** tab

- Click on the **Browse** button and select the DZM_Vx_xxx.dzm file. The selected filename should appear in the Setup File box:

- Now click on the **Upgrade DZM** button. The DZM Manager will reboot the DZM into bootloader mode and then send the new firmware to the DZM. The DZM display will show 'Bootloader Running' as the DZM running state and the DZM display will change to show the bootloader main screen. You will see the progress bar fill up several times. The upgrade will take a few minutes, so be patient. The Status Bar will display the current step in the upgrade process and additional information regarding the upgrade will appear in the DZM Output window.

The time taken to upgrade the DZM varies depending on whether you are using a native serial port or a USB/Serial or PC Card/Serial converter (which can sometimes take up to 10 minutes).

When the upgrade is complete, the DZM will restart.

Using the DZM Manager Application

Understanding the DZM Manager Settings Interface

DZM Manager can be used to configure most settings on the DZM. When the DZM Manager application starts up and detects that it is connected to a DZM, it will automatically read in all the settings from the DZM and will display them on several tabs. Each tab represents a page of settings within the DZM. The DZM sends an XML description of each page of settings to the DZM Manager and the manager interprets the XML, which describes each setting: its type, security level, limits, current value, default value etc and dynamically creates the settings tabs. It is important to realise that all aspects of the settings displayed, including the number of pages, each setting's attributes (limits, security level etc), and the layout of the settings on a page may be different depending on the version of firmware currently loaded into the DZM. The settings and page layouts described in this document refer to the latest settings pages produced by XML Version 003 which will be output by any DZM running version 4.109 firmware and above.

DZM/DZM Manager Compatibility

The XML Version Number appears just after the DZM Running State on the status bar. The XML Version number is updated whenever a new version of DZM Manager is required to interpret any new types of setting sent by the DZM. DZM Manager Version 1.06 can interpret all settings versions up to an including XML Version 003. Refer to the table below for DZM Manager/DZM Version compatibility:

DZM Manager Version	Max compatible XML Version	DZM Firmware Version(s)	XML Settings interface Changes
1.04 and earlier	**001**	**4.003-4.006**	First version included just Device and a basic Tracking setting page.
1.05 and earlier	**002**	**4.007**	New setting types introduced. Added Lock Tracking, SMS Beep to Tracking page. Added External Devices page to access cell port, SLIC, Operating mode, Language, GPS and display settings.
1.05 and earlier	**002**	**4.008**	New DZM Configuration page added to include external digital and analog input configuration and also moved some settings from External Devices to this page. Low speed and Manual Message settings moved to Tracking Settings page.
1.06 and 1.07	**003**	**4.009**	Added Phonebook and SMS text message list.

Retrieving the current settings from the DZM

If a PC running the DZM Manager application is connected to a DZM loaded with firmware version 4.103 or above, then the DZM Manager should automatically read in all the settings from the DZM.

If for some reason the settings tabs have not appeared (it is best to wait for the DZM to power up before starting DZM Manager), or if you want to refresh/reload the settings into the DZM Manager:

- Ensure that the DZM is powered on, has finished its boot up sequence and is displaying the main screen.

- Using the menus, select *Settings*->*Get Settings from DZM*

The DZM Manager will retrieve and display seven pages of settings that will appear as separate tabs after the *Upgrade* tab:

Device, this page shows mainly read only, factory configured, DZM configuration information for the attached DZM. The Upgrade PIN is the only setting that can be modified on this page. If the upgrade PIN is set to anything other than 0000, then a PIN will be required before the DZM Manager will allow a user to upgrade the DZM.

Tracking
- The DZM message queue
- Preferred tracking communication method
- Automatic and periodic tracking settings

External Connections
- The cell port
- Digital and analog inputs
- The SLIC/Cabin Phone interface

DZM Configuration
- General operating settings
- GPS display
- A second DZM used as a remote control head
- Display settings for the DZM's LCD display and keypad
- The Installer password

Phone book
The DZM phonebook represented as a table. The first column contains Phonebook names, the second column contains the associated Phonebook phone numbers. Individual entries can be edited and written back to the DZM.

Text Messages
The fixed list of SMS text messages can be edited and written back to the DZM.

With the exception of the Text Messages, all settings displayed are also available, and can be modified, via the DZM Menus on the DZM. Details on how these settings affect the operation of the DZM are provided in the DZM Users' Guide, and are not repeated in this document.

Entering a PIN to access password-protected settings

Many of the DZMs settings are protected by an installer password, to prevent unauthorised changes.

Settings that can be edited by a standard user will be shown as a drop-down box, tick box, text box or table. Settings that require a higher security level, such as Installer settings, will be displayed as text but it will not be possible to change them.

To enable editing of installer settings:

- Via the menu, select **Settings**->**Enter PIN**
- Enter the DZM installer password in the PIN Entry box and click OK.

The DZM Manager will validate the PIN by sending it to the DZM and, if correct, will reload all settings into DZM Manager using the new installer security level. All installer level settings will now be available to edit. The current security level is displayed in the Status Bar at the bottom of the application.

Entering the installer password via the DZM Settings menu and then reloading the settings into the DZM Manager will have the same effect.

Changing settings on the DZM via the DZM Manager

The user can change settings using the drop down boxes, tick boxes or text boxes as appropriate. When a setting is changed, the background of the modified setting becomes shaded grey, indicating that the setting has been modified and the value in the DZM and the value displayed by DZM Manager are different.

Committing changes to the DZM

To update the DZM with the modified settings, from the menu, select **Settings**->**Send Settings to DZM**. The DZM Manager will first validate all modified settings to ensure they contain valid values. For example, valid characters for a phonebook number are '+' and the numbers 0-9. If a user tries to send an invalid setting to the DZM, any invalid settings will appear as red text…

	Name	Phone Number
1	Hazel	+6435458651
2	Flightcell	+testnumber

…and the Status Bar will display details of the error:

Port Open	Phone Number(2) must be numeric		Application Running	0003	Installer	E09111961

If the DZM Manager is happy that all settings are valid, the changed settings will be sent to the attached DZM and saved in the DZM flash memory. The background colour of the settings that have been sent to the DZM settings will return to normal:

Message Settings

Tracking Setup	Tracking On		SBD Enable	☑
SBD Message Size	Minimum		Preferred Device	Try Cell First
Sat Destination	in@dzm.daestra.com		Cell Destination	0272221169
Msg Queue Type	Send Newest First		Msg Queue Size	20
Restore Unsent Msgs	☐		Lock Tracking Menu	☐

Details of which settings have been changed will appear in the DZM Output window on the **Upgrade** tab. These details will also be written to a log file, which can be found in your **My Documents\DZM Manager\LogFiles** directory.

```
Received

ATI
Flightcell DZM2
Product Code : FCDZM200DIC
MM Firmware v4.009 P:C C:A CB:0 SQ:Off
Build:Civil  BETA 2
Serial Number : E09111961

OK
Tracking Setup has been changed to Tracking On (was Tracking Off)
Preferred Device has been changed to Try Cell First (was Sat Only)
Msg Queue Type has been changed to Send Newest First (was Send Oldest First)
Restore Unsent Msgs has been changed to 0 (was 1)
On Ground Timer has been changed to 10 (was 3)
```

Undoing changes

If changes have been made to settings within DZM Manager, but not yet sent to the DZM, it is possible to restore the settings back to the last value read from the DZM:

- Via the menu, select **Settings**->**Undo Changes**

- Choose either **On This Page** or **On All Pages**, as appropriate.

The settings within DZM Manager will revert to their previous values and the background colour of all affected settings will return to normal.

Resetting DZM settings to factory default values

It is possible to change all settings, or just a page of settings, to their factory default values.

To reset the settings within DZM Manager to factory defaults:

- Via the menu, select **Settings**->**Reset** to Default Values

- Choose either **On This Page** or **On All Pages**, as appropriate.
- To update the DZM with these changes, it will be necessary to send the modified settings to the DZM by selecting **Settings**->**Send Settings to DZM**.

Saving or Importing a DZM configuration

The DZM Manager allows you to save the current settings to a file.

Saving settings to file allows original DZM settings to be restored in cases where a DZM is repaired or replaced. Saving settings to file also allows the same settings to be deployed across a fleet of aircraft. Flightcell can also provide settings files to facilitate configuration support for new DZMs.

 To save a settings configuration file:

- Via the menu, select **Settings**->**Save Settings to File**

- A pop-up window will appear to enable you to select the pages you want to save by ticking the relevant boxes. Click on the **Save** button.

- The Save Settings File window will be displayed. Accept the default file name or change as appropriate, then click on **Save**. Settings are stored in XML format and are saved to **My Documents\DZM Manager\Settings** directory by default, with the default filename format being **Pages_x_x_x_<serial number>.XML**

Importing Settings from a File

To import a settings configuration file:

- Via the menu, select **Settings->Load Settings from File**

- Select the required file then click **Open**.

If all goes well, a message will confirm that the new settings have been imported, and advise how many settings have been changed.

If the XML version of the settings file is different from the XML version of the attached DZM, DZM Manager will try it's best to import settings that it recognises in the file and will report any errors, including details of which settings were not imported successfully. It will be possible to undo some or all changes via the Undo options on the Settings menu.

Modified settings will be shaded grey in the settings pages on DZM Manager and must be sent to the DZM to take effect.

To write these settings to the DZM, via the menu, select **Settings**->**Send Settings to DZM**. Just as for settings entered manually, all modified settings will be validated before being sent to the DZM. Settings that are not valid will be highlighted in red.

Note: Imported settings will only be changed if you currently have access to these settings. Protected settings will not be changed to those in the imported file if the installer PIN has not been entered.

Troubleshooting

Connection problems

- If you are using a native serial port on a PC, the Com port will usually be COM1.

- If you are using a serial adaptor, the correct com port to use will usually be the last one in the list.

- DZM Manager will remember the last-used Com port.

- If the DZM shows *Waiting to Reboot*, ensure the DZM is powered on

- If the DZM shows the following error message, check you have selected the correct Com port and that it is not being used by another application.
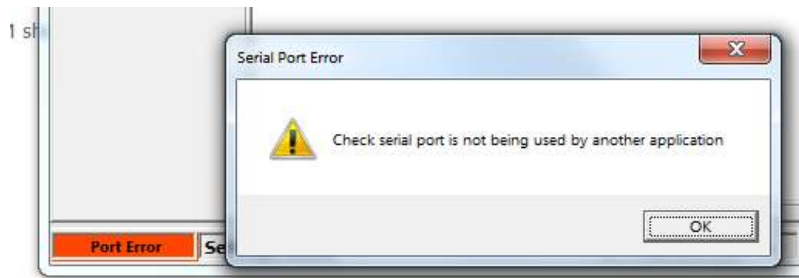
If the firmware upgrade does not start correctly

If DZM Manager shows *No Response from DZM*, press **Upgrade DZM** again.

Aborting a firmware upgrade

To abort a firmware upgrade while data is being streamed to the DZM, click **Abort Download**; the DZM can then be closed down and restarted as usual using the power key..