# FlexiSight<sup>™</sup> Manager

Import, store and manage digital inspection data

**Operation Manual** 

90/FSM-OPMAN-ENG/03

# **Preface**

# Before you begin

Please read this operation manual before attempting to use FlexiSight Manager. Note that this manual and all its contents are subject to change. Radiodetection products are under continuous development.

This manual is intended for FlexiSight Manager versions from 1.2.0.0.

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For the avoidance of doubt, while FlexiSight Manager is the PC companion for P350 flexitrax, flexiprobe P330+, P340, GatorCam3+ and GatorCam4 systems, this manual is not intended to nor does it in any way address the safe or appropriate ownership, use, operation or maintenance of those systems and customers should not use such systems without reviewing and consulting the appropriate Operations Manual for such systems.

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# Section 1 - **Introduction**

## 1.1 About this manual

This manual provides comprehensive operating instructions for the use of FlexiSight Manager, also referred to as FSM in the manual. Before attempting to use FlexiSight Manager, it is important that you read this manual noting licensing terms, notes, cautions and procedures in the Preface and throughout the rest of this manual.

Once you have read this manual, we recommended that you retain it for reference purposes. A printed version of this manual is available on request. Please contact your local Pearpoint representative for more information. The rest of the manual has the following structure:-

Section 2: Guidelines for quick setup of FlexiSight Manager, including activating the paid additional features.

Section 3: Introduces the concept of Jobs, the Jobs browser, importing and backup of files.

Section 4: Describes how to use FSM to review and edit Survey data, optional pipe inclination analysis module and produce reports.

Section 5: Describes how to Edit and annotate pictures.

Section 6: Describes how to use the FSM video editor, including how to cut or merge videos, to show smaller clips of survey video and reduced file size.

Section 7: Describes the use of the FlexiSight+ Classic Window to allow use of existing surveys from legacy systems.

Section 8: A guide to setup and customization of FSM. Including languages, Condition Codes, Survey Parameters and other advances features.

Section 9: A guide to customizing the Word Template (advanced users).

Section 10: How to remove FlexiSight Manager from your system.

#### 1.2 Overview

FlexiSight Manager is the PC companion for P350 flexitrax, flexiprobe P330+, P340, GatorCam3+ and GatorCam4 systems.

NOTE: Survey data (video recordings, pictures or observations) created using third parties' software or hardware is not supported by FSM.

Use FSM to import, store and review all your survey recordings and observations from your controller, create new observations and create detailed reports.

P350 (software V4.00 or later), P340 and GatorCam4 users can also use FSM to customize their controller by modifying job templates, Condition Codes and Survey Parameters and by being able to create and edit text pages.

# 1.3 Compatible Systems

Fully compatible systems are currently defined as the P340, GatorCam4 and P350 (software 4.00 or higher).

Legacy systems are currently defined as the P330+, GatorCam3+ and P350 (software prior to 4.00) and can be used with the Flexisight+ Classic window. They can also be converted to the modern FSM style surveys, please note that once imported to the modern FSM they can no longer be used on legacy systems.

# Section 2 - **Installation**

# 2.1 Requirements

FlexiSight Manager is compatible with Microsoft® Windows XP, Windows Vista and Windows 7 and 8. It is not compatible with Android system or iPads. It will also require a licensed copy of Microsoft Word installed as a program (web enabled Office systems, such as Office 365 will not work).

To ensure the program will run smoothly on your computer ensure you have at least 2GB of RAM and several gigabytes worth of free storage space.

NOTE: Video recordings will require a large amount of free storage capacity: 55 minutes of video recordings will require around 1G of free memory. Radiodetection recommends backing-up your completed JOBs onto a network, external drive or other backup device.

Administrator installation rights may be required to install software.

## 2.2 Installation guide

NOTE: The basic FlexiSight Manager package is licensed free of charge and it requires the installations of a number of libraries and programs which are provided under the GNU Lesser General Public License and GNU General Public License agreements.

To install FlexiSight Manager onto your PC follow these steps:

- 1. Insert the FlexiSight Manager CD
- 2. Using Windows Explorer, navigate to the FlexiSight Manager folder and double click the setup.exe file to start the installation process.

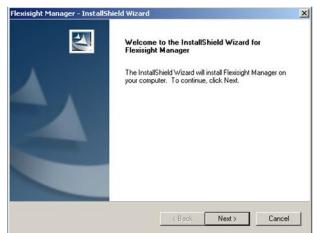
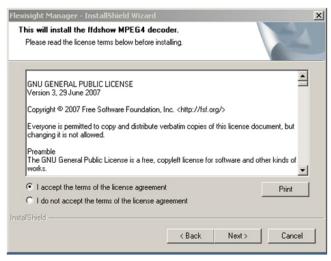


Figure 2.1 Installer

- 3. Once the Install Wizard (Figure 2.1) appears click on the **Next** button.
- 4. You will then be presented with 5 License Agreement windows (see Figure 2.2).
  - General License
  - FS Manager
  - MP4Box:
  - DirectShowLib play
  - LAV Filter

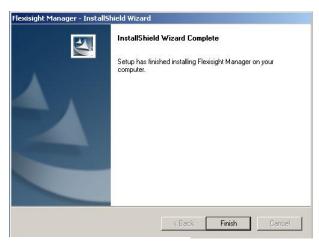


**Figure 2.2 License Agreements** 

You will have to read and accept each individual license agreement. Press **Next** to proceed with the installation.

When asked press Next to accept the default folder locations for FlexiSight Manager.

- 5. Once the installation of FlexiSight Manager is complete press **Finish** (see Figure 2.3).
- 6. The ffdshow installation program will then run. No interaction is required with this process.
- 7. At the end of the Installation process you may be requested to re-start your computer.



**Figure 2.3 Installation Complete** 

# 2.3 Running FSM for the first time

When you run FSM for the first time you will have to setup your software:

1. You can choose to install FSM in one of the languages supported. Choose your preferred language by pressing on a country flag (see Figure 2.5).

You can also change your language at any time from the Setup screen (see Section 6.1.1).

Enter your company details (see Figure 2.6). The information provided will be used to compile reports.



Figure 2.5 FlexiSight Manager Language Setup Screen

You can also enter or modify the company details at any time from the Setup screen (see Section 6.1.2.), these details will be included in the FSM word survey.

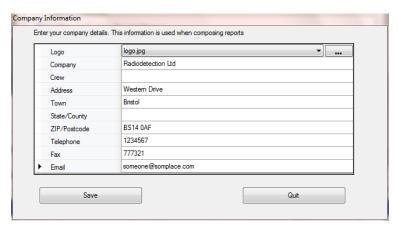


Figure 2.6 Company Information Screen

Selecting a Logo will present your company logo at the front of the Word Report, this can lead to professional looking reports created within minutes.

#### 2.4 About

FlexiSight Manager is divided into 3 tabbed windows (see Figure 2.7).

- Job Browser: Lets you import and manage jobs (see section 3).
- Site / Surveys: Lets you review and edit your survey files and observations and create reports (see section 4).



Figure 2.7 FSM tabbed windows

• FlexiSight+ Classic: Use this window if you are using FlexiSight Manager to open files generated with legacy systems.

# 2.5 Upgrade to the Pipe Inclination Analysis Module

The basic version of FlexiSight Manager will create a WRc or PACP compliant Word report (custom codes can also be added at any time). It allows photos, observations, industry codes and basic pipe graphics to be reported.

The Pipe Inclination Analysis Module is made available in the latest release as an optional upgrade, FSM can now use crawler inclination data to map the slope of surveyed areas. This can be used to review the suitability of slopes for adequate flow and functions.

FSM has an online update tool called FSM User Manager to enable this paid feature. License codes are purchased by contacting a Pearpoint sales representative, who can remotely allocate license credits to enable this feature.

This will require an internet connection and a compatible PC.

# 2.5.1 FlexiSight User Manager

FlexiSight User Manager authorizes upgrades to the paid functionality. Open it from within FlexiSight Manager via the Setup menu, by clicking 'Run User Manager'.

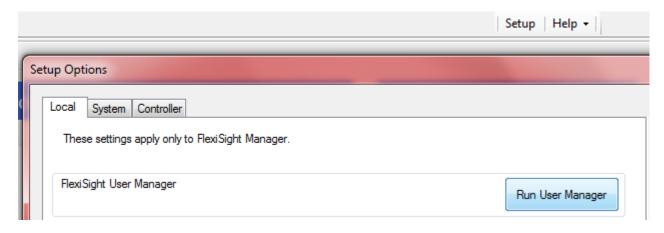


Figure 2.7a – Running the User Manager

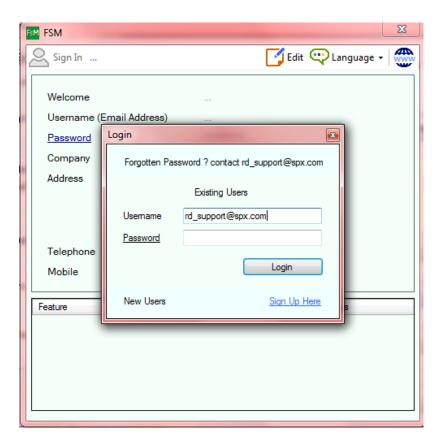
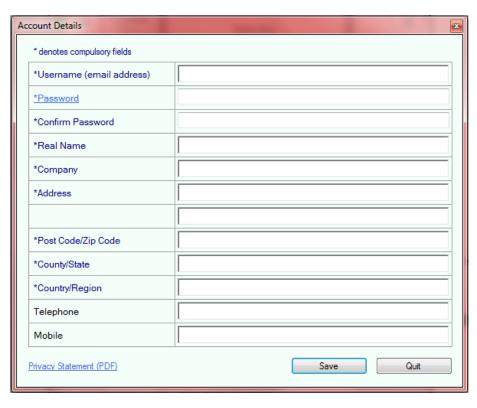


Figure 2.7b User Manager - Login / Account Registration screen

Existing customers should enter their Username and password and click 'Login'.

New users should click 'Sign Up Here' and fill in the following details followed by clicking the 'Save' button:



2.7c User Manager - Account Details Registration

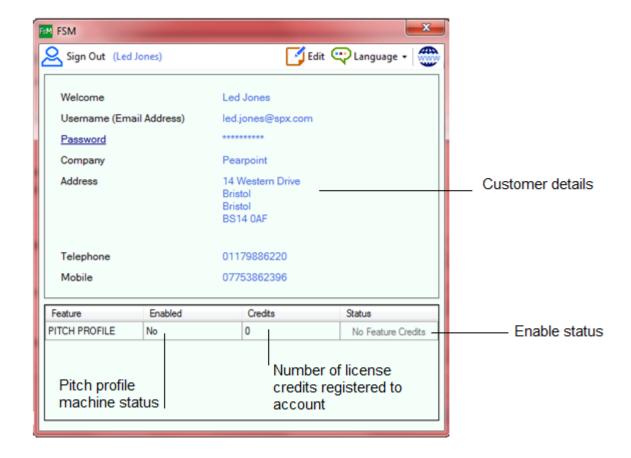


Figure 2.7d User Manager - Credit Status Menu

Once an account is set up, make a note of the e-mail address linked to the account, then contact a Pearpoint sales representative to discuss payment options. These will be linked to the user e-mail account and PC. After confirmation from Pearpoint the account has been updated, it will be necessary to log out and back in again. The option will become available to enable the advanced features.

In the top right corner, the edit button allows a quick change of customer details, while the language selection button displays the available languages for the program.

Click 'Sign Out' to log out of the account (if required, for example to change users).

The P350 controller and crawlers log data automatically and do not require any upgrades, they may however require the latest software 'matched set' to be installed, this is available free of charge on the Pearpoint website.

NOTE: User passwords are encrypted with modern security technology and passwords are not recoverable by any of our staff. Our staff have the option of resetting lost passwords if necessary, by request to our technical support team.

# Section 3 - **Jobs**

This section introduces the concept of FlexiSight Manager's Jobs, how these are imported or created from your system's survey data and how to browse and edit them.

## 3.1 What is a JOB?

Inspection systems are mostly used to survey pipelines. During a pipe survey you can use any compatible controller to record videos, take pictures and / or make observations to document your inspection.

In most cases a Survey is conducted on behalf of a Client, at a specific Site on a specific section of a specific pipe.

FSM defines a **Job** as a **Survey**, or inspection of a specific section of a pipe, conducted at a **Site** on behalf of a **Client**.

A single client may have more than one site, and for each site there may be multiple surveys.

# 3.2 The Job Browser Window

FSM has a Job browser window (Figure 3.1) to allow you to manage all of your jobs. This window is divided into 2 main areas:

#### Jobs pane

Use this pane to import, browse edit and delete your Jobs. FSM imports and stores your survey data files into your PCs default job folder.

Jobs are identified by the client names and sorted in alphabetical order. Each client may have multiple sites and multiple surveys.

You can use the main Jobs window to:

- 1. Select a client to display all the associated sites.
- 2. Select a site to display all the associated surveys.

Use the Filter pane to quickly identify the surveys you are looking for. Double click any site or survey to enter the Survey's window.

#### Reports pane

Use this pane to edit, rename, delete and browse all the word reports associated with the selected site in the Jobs pane.

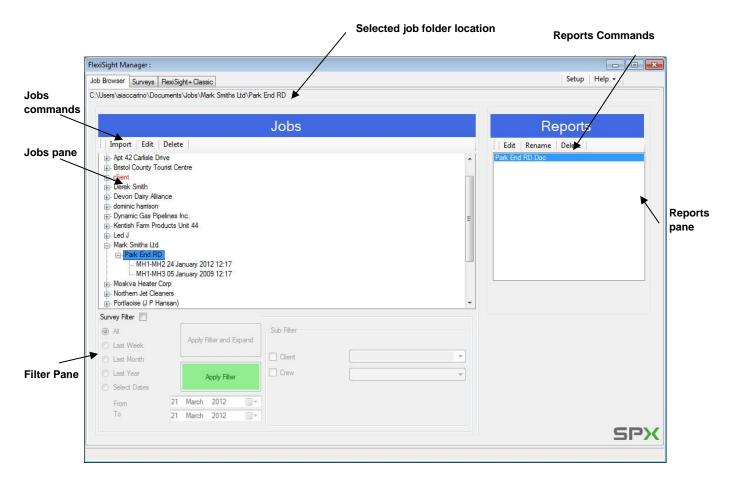


Figure 3.1 Job Browser window

# 3.3 Importing Jobs and survey files

Survey data files (video recordings, pictures, report files and observation) created using your inspection system are stored on the system memory storage device. FSM will access your storage device and import

the data files in your PC.

#### 3.3.1 Jobs folder structure

FSM stores all your Jobs data (survey files) in the default Jobs folder. For more information about the default location of the Jobs folder and how to modify it refer to paragraph 6.1.1.

The Jobs folder is organized by client, site then survey (see Figure 3.2).

All files belonging to an individual survey are imported and stored in a unique **Survey** folder. Each survey folder is contained within a **Site** folder, which is contained in a **Client** folder.

- The top folder is the Client folder; named after the client's name, and contains your client data in a XML system file.
- The Site folder; is named after the site's address, and contains the client's site data in a XML system file.
- The Survey folder is where all your survey files are stored.
   This is named after your survey start and finish references plus a date and time stamp:

start reference\_finish reference\_yymmdd\_hhmm

MH1\_MH2\_110129\_1225 for example, is a survey between MH1 and MH2 conducted on 29 January 2011 at 12:25

Each **Client** may contain multiple **Sites**. Each **Site** may contain multiple **Surveys**.

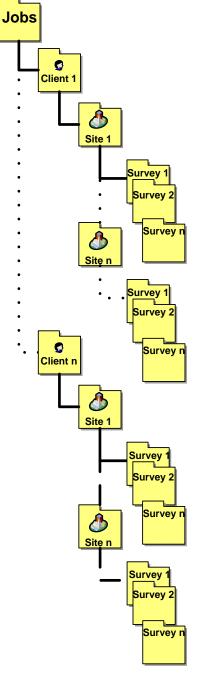


Figure 3.2 JOBS folders structure

CAUTION: The Jobs folder hierarchical structure and the integrity and location of the XML are critical to the operation of FSM. **Do not** modify, rename or delete XML files. **Do not** rename, move or delete any files/folders, **unless** you completely understand the consequences of your actions.

## 3.3.2 Backing up the Jobs folder

It is good practice to regularly backup the content of the Jobs folder, as well as the content of the FSM settings folder (*My Documents \FlexiSight Manager*), to protect against hardware failure or to recover data accidentally deleted or modified.

You may also want to free up some hard drive space by moving some old jobs data to a different location.

When backing up or moving your jobs data take care to include the entire content of your Client folders (Figure 3.3) to ensure preserving the integrity of FSM data. Ensure to include all files!

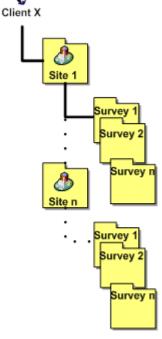


Figure 3.3 Client folder structure

# 3.3.3 Importing Jobs (new systems)

FSM automatically import and stores surveys created with a flexiprobe P340 or Gatorcam4 system by using the job details entered at the start of each survey.

In order to take advantage of this feature enter the client's name, site address, start and finish chamber or position when you start a new survey. Refer to the flexiprobe P340 or GatorCam4 Operation manual for more information.

If no details are entered, FSM will copy the survey in a default folder, from where you will be able to file it manually at the end of the import procedure.

To import your P350, P340 or Gatorcam job files follow these steps:

- 1. Connect your Memory device to your PC.
- 2. Press the **Import** button on the Jobs pane (see Figure 3.1).
- The Browse For Folder screen (Figure 3.4) will appear.
   Navigate to your removable storage device and select the JOBS folder, where your surveys data are located.

NOTE: Selecting the **JOBS** folder will import all jobs that are contained under **JOBS**. If you only wish to import one client's jobs, select the appropriate folder for that client.

4. Press OK to continue or Cancel. The Import Jobs screen will



Figure 3.4 Browse for Folder screen

appear for the Import of the survey data (see Figure 3.5).

NOTE: A message may appear to warn you that you have less than 1Gb of memory storage available on your PC. .Always ensure to have at least 1Gb of free memory storage on your PC.

This screen summarizes all the actions taken.

- Press Cancel at any time to interrupt the import process.
- Press Start to re-initiate an interrupted Import.
- Press Finish to move to the next screen

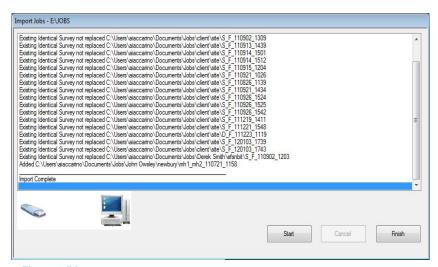


Figure 3.5 Import screen

NOTE: The import process may take a considerable amount of time depending on the size of the survey files you are importing.

- At the end of the import process you will be asked if you want to delete the job files from your removable storage device (see Figure 3.6).
  - Select the jobs, identified by the client names, you wish to delete, and then press the **Delete** button to delete them from your source JOBS folder.
  - 5. Press **Cancel** to cancel the remove operation.

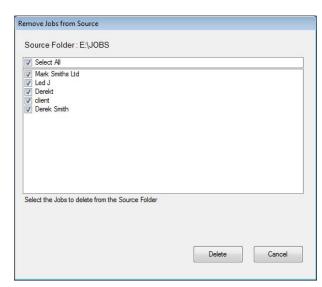


Figure 3.6 Remove screen

Caution: Deleting the JOBS folder from your memory storage is an action which cannot be undone.

# Filing surveys not containing or with incomplete Job details

By default flexiprobe P340 and GatorCam4 systems use **client** and **site** as label names if no information is entered. FSM will import these surveys (or jobs) in a default client folder. This folder is highlighted in red (see Figure 3.7).



Figure 3.7 Default client folder

You can file your jobs to an existing client and site job folder structure:

# Filing an individual survey:

- 1. Select the survey you wish to move (see Figure 3.8).
- 2. Select Copy, (or right click on your mouse) and the Default Copy screen will appear (see Figure 3.9).

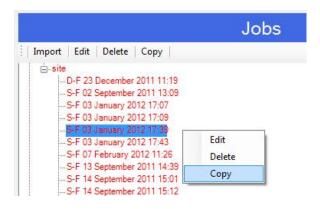




Figure 3.8 Selecting an individual survey

Figure 3.9 Copy a default survey to a client / site

- 3. Select an existing Client or create a new one.
- 4. Select an existing Site or create a new one.
- 5. Press Copy to add the chosen survey to the selected client and site.
- 6. The Copy Jobs windows will appear (Figure 3.10) and when the copy is completed, it will show you the location of the new survey folder. Press **Finish** to continue.

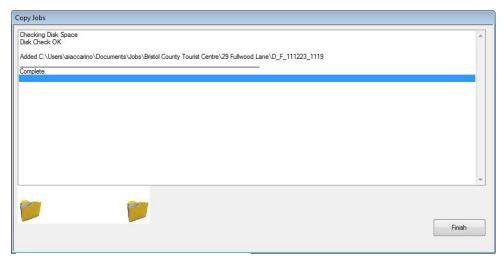
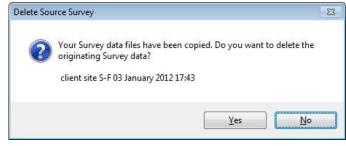


Figure 3.10 Copy Jobs summary screen

7. FSM will offer you the option to delete the originating survey folder (see Figure 3.11). This is recommended to avoid duplicating files in your JOBS folder. Press Yes to delete the survey folder or **No** to maintain a copy of it.



A CAUTION: The delete operation cannot be undone.

Figure 3.11 Delete Source Survey

#### Filing all surveys associated to a site:

- 1. Select the site you wish to associate to a client (see Figure 3.12).
- 2. Select Copy or the right button on your mouse and the Default Copy screen will appear (see Figure 3.13).
- 3. Select an existing Client or create a new one.
- Press Copy to add the chosen site and its surveys to the selected client.

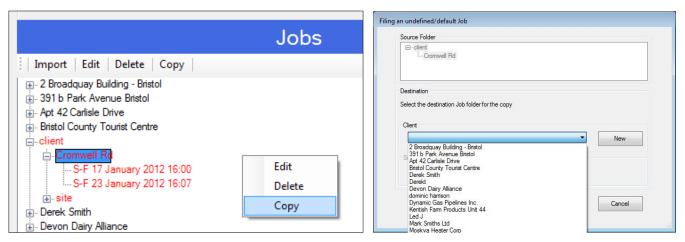


Figure 3.12 Selecting a site to copy

Figure 3.13 Selecting a client

5. The Copy Jobs windows will appear and when the copy is completed, it will show you the location of the new survey folders (see Figure 3.14). Press **Finish** to continue.

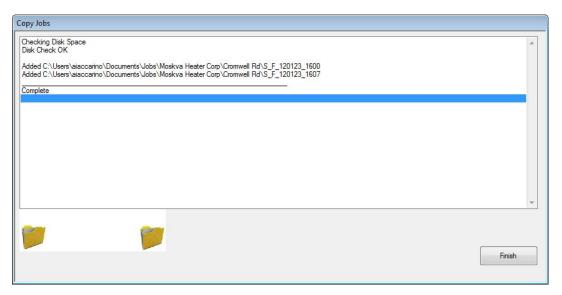


Figure 3.14 Copy Jobs summary screen

6. FSM will offer you the option to delete the originating site folder. This is recommended to avoid duplicating files in your JOBS folder. Press **Yes** to delete the site folder or **No** to maintain a copy of it.

▲ CAUTION: This Operation cannot be undone.

## 3.3.4 Importing legacy Jobs

P350 (software prior to V3.00), P330+ and GatorCam3+ survey files

By default flexitrax P350, flexiprobe P330+ or GatorCam3+ survey files are stored in folders, named after the day and month the files were created, with no identification of the client name, site address or survey details. Users have also the option to create survey reports where client, site and survey information and observations can be added. Refer to the relevant operation manual for more information.

To import your legacy survey files into FSM follow these steps:

- 1. Connect your Memory card.
- 2. Press the **Import** button on the Jobs pane (see Figure 3.1).
- The Browse for Folder screen (Figure 3.15) will appear.
   Navigate to the DVC folder contained into your removable storage device and select the folder where your survey's data are located.

NOTE: Make sure to select the folder containing your survey files. FSM will fail to import your files if you select the DVC folder.

4. Press **OK** to continue to the Import Survey Files screen or **Cancel**.

Depending on the presence of a survey report, and the details entered into this, the next step will be different:

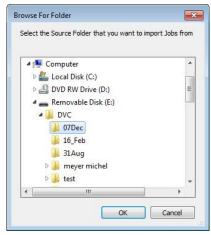


Figure 3.15 Browse for Folder screen

# Importing survey files contained in a folder with no report

5. Use the files browser in the Import Survey Files screen to select the survey files you wish to import into FSM (see Figure 3.16). You can use **Select All** to select all files or you can manually select individual files.

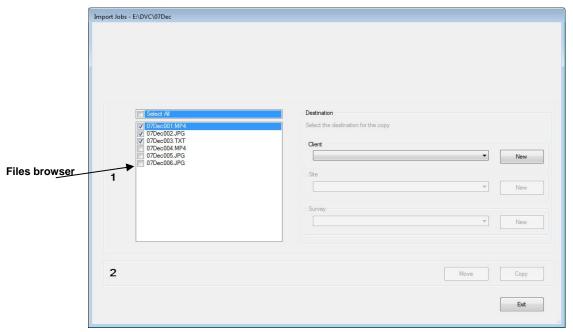


Figure 3.16 Import Survey Files screen - No survey report presents

6. Use the Client, Site and Survey dropdown boxes to select the client, site and survey where you want to import the selected file (see Figure 3.17). You can also press **New** to define new details



Figure 3.17 Entering the Survey details

7. Press **Move** or **Copy** to import the selected files into FSM (see Figure 3.18). The files will be imported into the relevant subfolder in the FSM Jobs folder.

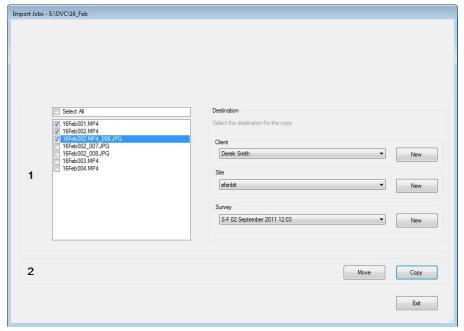


Figure 3.18 Importing survey files - No survey report present

#### NOTE: The Move and Copy buttons are only available if steps 5 and 6 have been completed.

- 8. Repeat steps 5 to 7 to import survey files to different Jobs (client, sites and survey).
- 9. Press Exit to return to the Job browser.

# Importing survey files contained in a folder containing reports

5. Use the reports browser in the Import Survey Files screen (Figure 3.19) to select the report associated to the survey files you wish to import into FSM. Press **Import** to progress and to obtain the client, site and survey information, press **Finish** to complete.

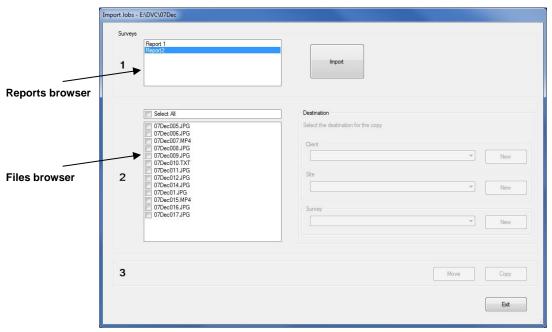


Figure 3.19 Import Survey Files screen - Survey reports presents

6. FSM will ask you to confirm the date in which the survey took place (see Figure 3.20). This information will be used to create the survey folder. Press **OK** to continue.

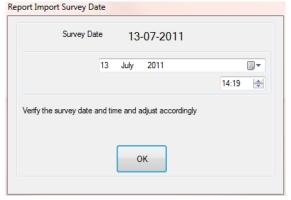


Figure 3.20 Survey Date confirmation screen

The user may be asked to confirm the data format if the system cannot detect this automatically.

7. FSM will create a new survey folder associated to a new or existing client and/or site. The import screen shows the location of the folder associated to the survey in the Jobs folder (see Figure 3.21). Press **Finish** to continue.

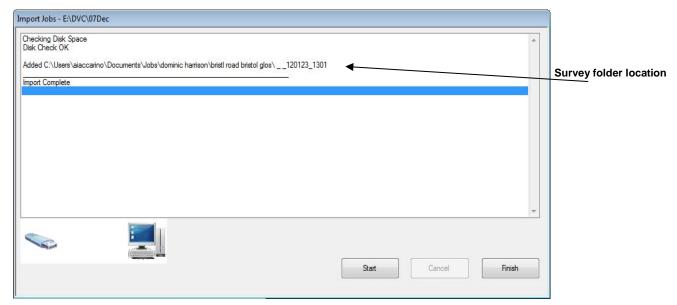


Figure 3.21 Import Screen

- 8. FSM will give you the option to delete the report you have just imported from the Memory Card (see Figure 3.22). Press Yes to delete the report or No to continue without deleting it.
- ▲ CAUTION: The delete operation cannot be undone.

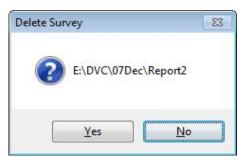


Figure 3.22 Deleting the imported report

9. Use the files browser in the Import Survey Files screen to select the survey files you wish to import into FSM (see Figure 3.23). You can use **Select All** to select all files or you can manually select individual files.

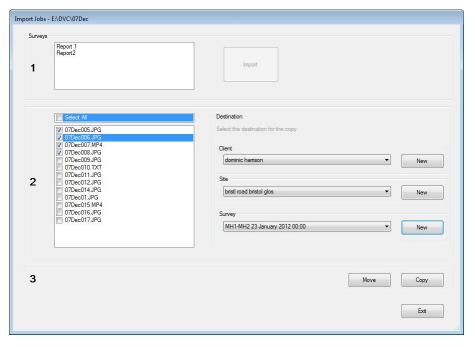


Figure 3.23 Import Survey Files Screen - Selecting the files to copy or move

10. Review the Client, Site and Survey dropdown boxes to confirm the client, site and survey where you want to import the selected file (Figure 3.24). You can also press **New** to define new details.



Figure 3.24 Confirming the Survey details

11. Press **Move** or **Copy** (Figure 3.23) to import the selected files into FSM. The files will be imported into the relevant subfolder in the FSM Jobs folder.

NOTE: The Move and Copy buttons are only available if steps 10 and 11 have been completed.

- 12. Repeat steps 5 to 12 to import survey files to different Jobs (client, sites and survey).
- 13. Press Exit to return to the Job browser.

# 3.4 Reviewing your Jobs

Use the Jobs browser to review all the Jobs stored in your default Jobs folder location (see Figure 3.25).

The Jobs pane shows all clients, sorted in alphabetical order.

- 1. Click the name of the client you want to review. A list of all the sites belonging to the client will appear underneath.
- 2. Click on the name of the site you want to review. A list of the surveys belonging to the site will appear. Double click the site to enter the Surveys tab (or click the Surveys tab).

Any Word reports that have been created for this Site will be listed in the Reports pane and the "Surveys" Tab will show surveys at this Site (see Figure 3.26).

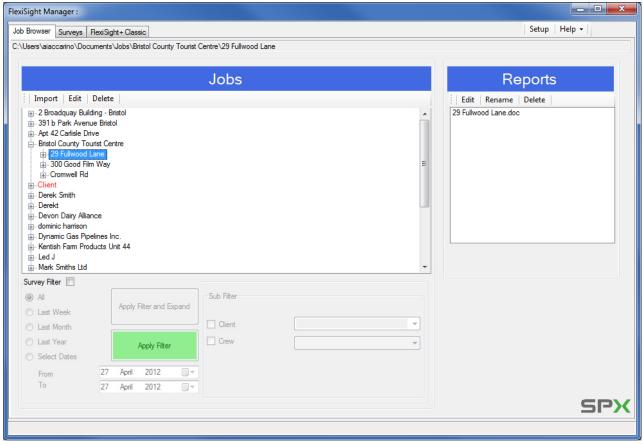


Figure 3.25 Job browser

## Editing a client/site

- 1. You can edit a client/site by selecting the desired record and pressing **Edit** on the toolbar or by pressing the right button on your mouse and by selecting Edit.
- 2. A screen will open which will allow you to modify the client/site records (see Figure 3.26).
- 3. Press Save to confirm your changes or Quit to cancel

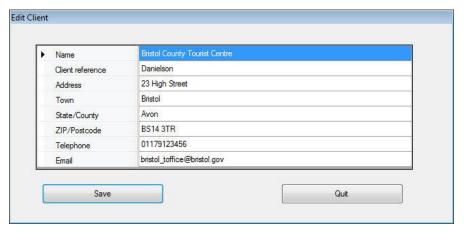


Figure 3.26 Modifying Client records

## Deleting a client / site / survey

- 1. You can delete a client, site or survey by selecting the desired record and pressing **Delete** on the toolbar, or right-click on your mouse.
- 2. A warning screen will open up. Press **Yes** to delete your records or **No** to cancel

⚠ CAUTION: Deleting a client will permanently delete all the sites and surveys associated with this client. Deleting a site will permanently delete the site and every survey associated with the site.

#### **Default Clients and Sites**

If client and site details have not been entered on the controller then, the client and site will default to predefined names (e.g. "client" and "site"). These jobs will be displayed in red text in the job browser pane.

A "**Copy**" button will appear on the toolbar if a "default job" is selected. See Section 3.3.3 for more information on how to file a default job.

# Browsing existing reports

The Reports pane shows all the existing MS Word reports associated with the site selected in the Jobs pane (see Figure 3.25).

- Select a report and press Edit or double-click on the file to open the report in MS Word.
- Press Rename to change the name of the report.
- Press Delete to delete the report.

⚠ CAUTION: Deleting a report will permanently remove it from your PC.

## Opening the Selected Job Folder in Windows Explorer

You can access your client/site or survey folders in Windows Explorer by double clicking on the selected job folder location at the top of the Job browser window.

## Filtering surveys

You can select and apply a number of filters to aid navigation through the surveys stored in your Jobs folder (see Figure 3.27).

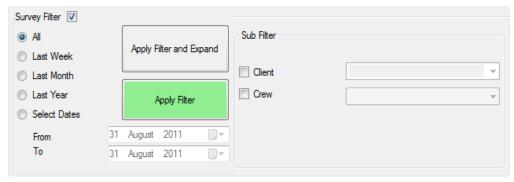


Figure 3.27 Filter Pane

Check the Surveys Filters checkbox to enable the filtering.

NOTE: Clients with no surveys associated will not be displayed by the Job Browser when filtering.

#### Time filters:

- All: Select not to apply a time filter.
- Last Week: Select to filter by surveys conducted within the last week.
- Last Month: Select to filter by surveys conducted within the last month.
- Last Year: Select to filter by surveys conducted within the last year
- Select Dates: Select to filter the list by surveys performed between two specific dates.

#### Sub filters:

- Client: Select this to filter by clients. Use the drop down menu to select a specific client.
- Crew: Select this to filter by crews. Use the drop down menu to select a specific crew.

#### Applying the filters:

- 1. Press the **Apply Filter** button to apply your filter. The Job list will display all the jobs which match the filters criteria.
- 2. Press the **Apply Filter and Expand** button to apply your filter and expand all the jobs, which match the filters criteria, to show sites and surveys.

NOTE: When you start modifying the filters, the 2 "Apply filter" buttons change color to remind you to apply the filters.

# Section 4 - Surveys

This section describes how you can use FSM to review and edit your surveys data and to produce detailed Inspection reports.

## 4.1 Reviewing a survey

Once you have selected a client and site using the Job browser you can switch to the Site - Surveys window (see Figure 4.1). From this window you will be able to review and edit all your video, photos and observations. You can also enter new observations, take new photos and create new reports.

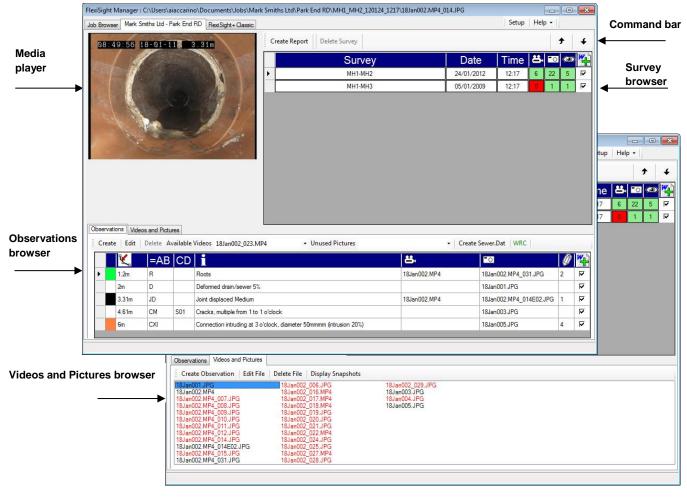


Figure 4.1 Site - Surveys Window

The Site - Surveys window is divided into 3 main areas:

- **Survey browser pane**: Lists all the surveys associated with the selected site and gives a summary of the media files and observations associated with each survey. See paragraph 4.2.
- Media player pane: Shows photos and plays videos.
- Survey details pane: Shows either the:

- Observations browser: This tab lists all the observations associated with the selected survey.
- Videos and Pictures browser: This tab lists all the video and photo files associated with the selected survey. See section 4.4.
- Charts: This tab displays any Pipe Inclinations Chart created using the inclinometer information (OPTIONAL paid module).

## The Survey Browser Pane

The Surveys browser pane (Figure 4.2) lists all the surveys associated with the site selected in the Job browser window.

Each row shows a survey: identified by the start and finish references (for example MH1-MH2 if MH1 is the start chamber and MH2 is the finish chamber) and by the date it was conducted.

You can also see how many videos, pictures and observations are associated with the survey.

If you want to include any of your surveys in a report, you can do so by checking the **Include in Report** box. Each survey will be added in the order they are shown in the browser.

Surveys are listed in alphabetical order by survey name.

To modify the position of a survey within the printed report

- 1. Select the survey that you want to move by clicking on it.
- 2. Use the up and down arrows, located at the top of the Survey browser pane to change the survey position.



# 4.2 Review survey information

To review or modify the information associated with a survey, select it (in the survey browser pane) and the Survey Information screen (Figure 4.3) will be displayed.

- 1. Review or edit the survey details fields.
- 2. Press **Save** to save the changes.

NOTE: Invalid fields will be highlighted in Red

or

3. Press Quit to cancel

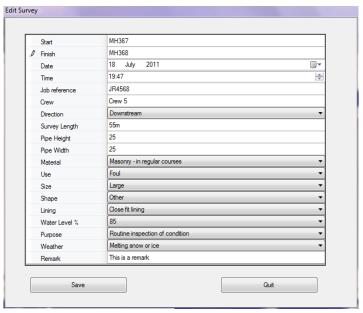


Figure 4.3 Survey information

## 4.3 Videos and pictures

To review, edit or delete videos and pictures associated with the selected survey, go to the **Videos and Pictures** tab (see Figure 4.1).

The Videos and Pictures browser will display all the media associated with the survey and highlight in red all the files which have not been associated or used in any observations (see Figure 4.4). From this area you will also be able to create observations. See Section 4.6 for more information.

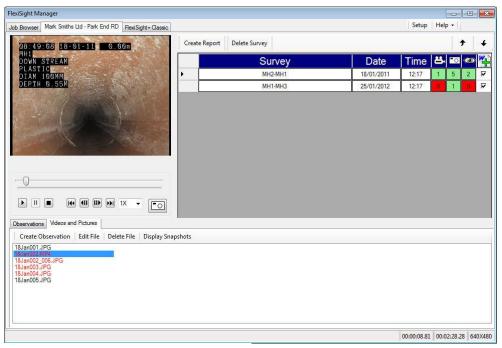


Figure 4.4 Videos and Pictures browser

- To review a media file just click on it once to open it in the relevant player.
- Press **Edit File** to open the associated editor. For more details on editing media files in FSM, see Section 6.
  - Press Delete File to delete the associated file.
- $\Lambda$

CAUTION: The delete operation cannot be undone.

- Press Create Observation to create an observation associated to the selected media file. See Section 4.6 for more information.
- To quickly identify a specific picture press **Display Snapshots** to open a window displaying snapshots for all the pictures present in the survey folder (see Figure 4.5)
  - Select a picture to show a larger version on the preview window.
  - Press Edit to edit the picture (See Section 5).
  - o Press Cancel to close the window.

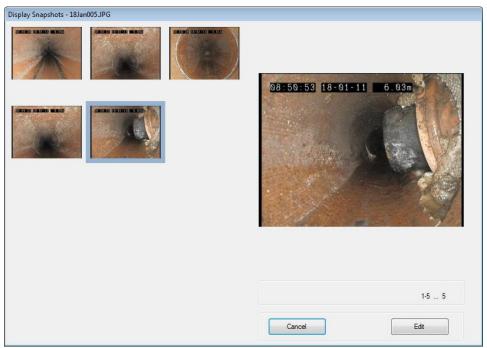


Figure 4.5 Display Snapshots

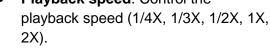
# 4.4 Reviewing a video

If you have selected a video, this will be displayed in the video media player (see Figure 4.6).

You can enlarge the window to full screen by pressing the Escape button on the keyboard. Press escape to return to the standard view.

There are a number of commands available:

- Use the slider in the progress bar to quickly move back and forward.
- Play: Starts the video playback.
- Pause: Pause the video playback.
- Stop: Stop the video playback.
- Start/End: Move to the first/last video frame of the video.
- Prev/Next frame: Move to the previous/ next frame.
- Playback speed: Control the



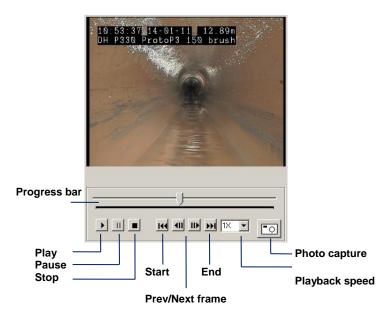
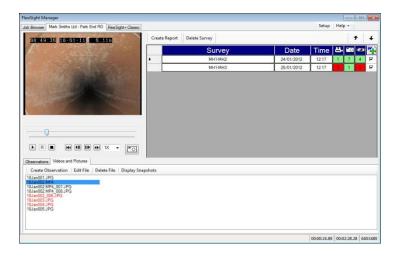


Figure 4.6 Video media player

Photo capture: Takes a still photo of the video

When playing a video FSM will display at the bottom right corner, the time elapsed, total time length and resolution of the video (see Figure 4.7)



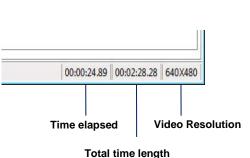


Figure 4.7 Video information

# 4.5 Observations

Observations about the pipe conditions are usually created on site during the inspection survey.

Using your system controller you will be able to document your findings by creating detailed observations associated to a certain position, and catalogued by a Condition Codes. You can also associate observations to a picture and/or to video.

Observations are normally taken in accordance with recognized national standards and coded following specific Condition Codes lists.

By default, FlexiSight Manager supports Condition Codes lists compatible with WRC MSCC issue 3 and NASSCO PACP codes. You can also create your own Condition Codes list or customize the existing one to suit your needs. See Section 8.3.1 for more details.

NOTE: Observations details may vary depending on your system. P340 and GatorCam4 systems can also be customized to meet your specific reporting requirements. Refer to the FlexiSight Manager operation manual for further information.

# 4.5.1 Legacy Observations

Created using P350 (software prior to V3.00), P330+ and GatorCam3+.

Observations created by legacy systems are converted into a FSM compatible format when imported. These systems may have used the defect code file (defect\_codes.txt) located in the root folder of the Memory card. If present when importing the Jobs this file will be converted as a new Condition Codes set and stored in the My Documents\FlexiSight Manager\Codes folder.

The stored filename will be DVC2x.XML, where **x** is a counter. Each time a different defect\_codes.txt file is present during an import, a new DVC2x.XML file will be created where x is the next incremental number.

If the defect\_codes.txt was not found in the root folder of the Memory card, FSM uses the defect\_codes.txt file located in the My Documents\FlexiSight Manager\Report\Old folder. If a defect\_codes\_.txt does not exist in the My Documents\FlexiSight Manager\Report\Old folder, the import will use the currently selected defect code set (as set in the Setup section).

## 4.5.2 Observations Browser

You can review, edit and create new observations using the Observations Browser (see Figure 4.8). This displays the Observations for the selected Survey.

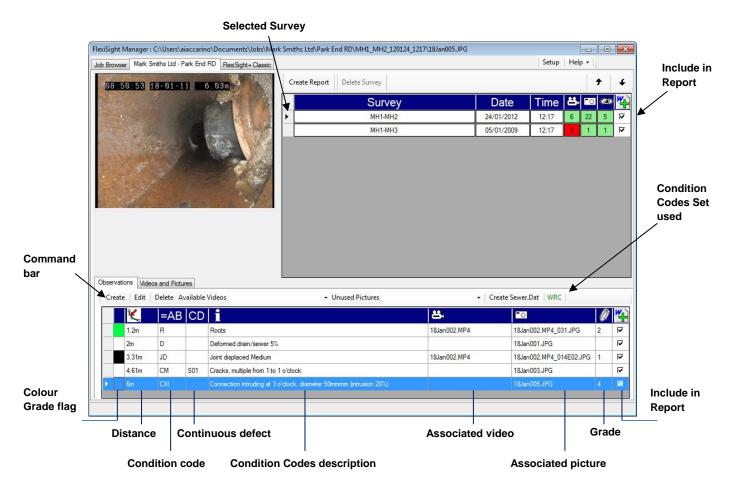


Figure 4.8 Observation Browser

Observations are organized in rows and sorted by distance. Observations with no distance will be shown at the end of the list.

Each row provides the following information:

- Color Grade flag: color flag, based on the grade associated to the observation, used to quickly identify critical issues. See Section 8.2.4 for more information on how to customize the color grade table.
- Distance: observation distance from the survey's start point. Double click to edit the observation.
- Condition Code: Condition Codes associated to the observation. The Condition Codes set used is displayed on the command bar. See Section 8.3 on how to select a Condition Codes set.
- Continuous Defect: start or finish labels for continuous defects.
- Condition Codes description: extended Condition Codes description as defined in the Condition Codes set used.
- Associated video: video associated to the observation. If present, click on this to open the video in the media player and display the relevant frame.
- Associated picture: image associated to the observation. If present, click on this to display it in the media player.
- Grade: grade associated to the observation and Condition Codes used.

• Include in report: use this check box to indicate if you want to include the observation in the final report.

Double clicking on any row will edit the observation.

From the command bar:

- Press Create to create a new observation.
- Press Edit to edit the selected observation
- Press Delete to delete the selected observation.

⚠ CAUTION: The delete operation cannot be undone.

• Press Create Sewer.Dat to create a sewer.dat (MSCC Issue 4) compatible file.

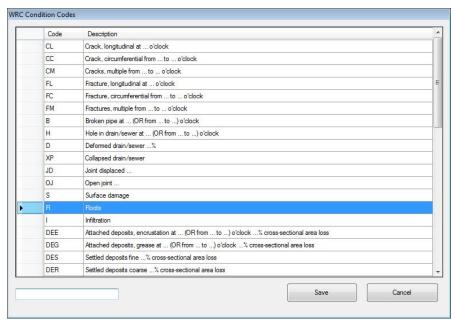
## 4.5.3 Create or edit an observation

You can create an observation from the **Videos and Pictures** or **Observations** browsers. You can edit any observation from the **Observations** browser.

If you create an observation whilst reviewing a picture this will be automatically added to the observation.

To create an observation during video playback, press pause at the desired location and press **Create Observation**. To add a picture press **Snapshot** to record a new picture, the **previous/next frame** buttons allow the user to fine-tune image frame selection.

1. Press Create Observation to start the process to create your observation.

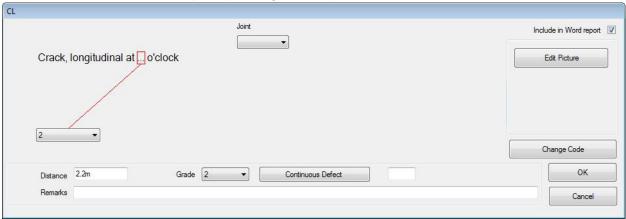


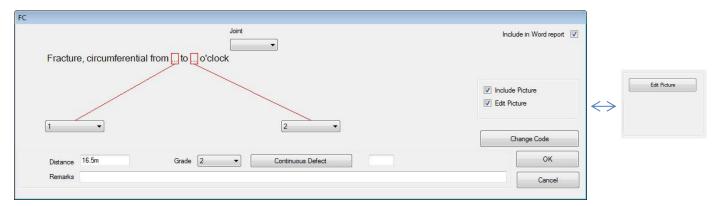
**Figure 4.9 Condition Codes browser** 

The Condition Codes browser (Figure 4.9) will appear: make a selection by browsing the list and double-clicking on the defect code or type the code in the text box.

Once you have made a selection press **Save** to continue or **Cancel** to return to the previous screen. See Section 8.3.1 for detailed information about choosing, creating or customizing the Condition Codes set.

2. The defect code screen will open: (see Figure 4.10).





**Figure 4.10 Condition Codes Screen** 

NOTE: the list of fields shown is dependent on the Condition Codes selected.

- Enter your measurements and observations as required.
- Enter the **distance** from the start of the survey to where the observation was taken. If required copy this from the picture or video's counter field The distance must include the measurement units (ft or m).
- Select the Include in Word Report box if you want the observation to be present in the final report.
- Depending on the media selected when your observation creation was initiated you can chose to:

Creation from a video:

- Select the Include Picture box if you want take a snapshot of the video and include it in your observation.
- Select the Edit Picture if you wish to edit your picture before saving the observation.

Creation from a picture:

- o Press **Edit Picture** if you wish to edit your picture before saving the observation.
- Press Continuous Defect to identify the start or the end of a continuous code (see Figure 4.11).

Continuous defects are used to identify defects which extend or repeat beyond the first meter from the initial observation point.

- Press Start to set the next available starting label.
   Start codes have the following structure: Snn where nn is a numeric counter from 01 to 99. This is the only command available for the start of the first continuous defect.
- Press Finish to select the finishing code from the drop down menu. Finish codes have the following structure: Fnn where nn is a numeric counter from 01 to 99.

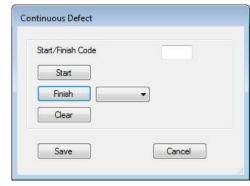


Figure 4.11 Continuous Defect window

- Press Clear to clear any start or finish codes.
- Press Save or Cancel.

NOTE: When using **Continuous** Defects, the "Finish" marker has to be the same fault type (Condition Code) as the "Start". If you set the Finish marker for a Continuous Defect on an observation with a different Condition Codes to the Start, it will be changed to match the Start and the associated data discarded.

- Press Change Code if you wish to go back to the defect codes browser and select another
  one.
- Press **OK** to save the observation or Cancel to abort the operation.
- 3. Edit your picture if requested. See Section 5 for more details.

The new observation will appear in the Observation browser.

# 4.6 Create and Edit Pipe Inclination Charts

The controller saves crawler inclination log data in the **JOBS** Survey folder on the memory card. By default this setting is turned off. If it is not recording, check the latest software is installed and the feature is enabled in the settings menu (**MENU>SETUP>EQUIPMENT**, **Pitch Profiler: ON**).

If FlexiSight Manager does not detect Pipe Inclination data, the chart window will not display.

The Pipe Inclination Chart window will not be available until an upgrade license is purchased and the upgrade activated via the FlexiSight Manager User Manager program online. See Section 2.5 'Upgrading to the Pipe Inclination Analysis Module.

To view chart information, click the 'Charts' tab on the left of the screen (see figure 4.11a on the following page).

The main window will now display the elevation chart, showing the survey length and calculated height. Clicking a location along the line will display Distance and Elevation in the **Position** window.

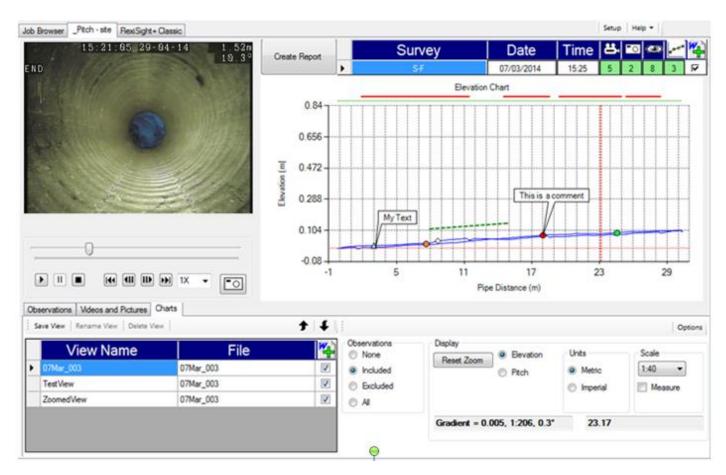


Figure 4.11a The Pipe Inclination Analysis Module.

The view can be customized. Click-and-drag the mouse along the chart to zoom in, release the mouse when the red selection box covers the required area.

The coloured horizontal lines at the top of the chart (immediately below the 'Elevation Chart' text) show where video was recorded along the survey path. The top line shows where the crawler is 'driving forward', while the bottom line shows where the crawler is 'driving backward'. The current active video displayed on the left will be coloured green (the inactive video will be coloured red).

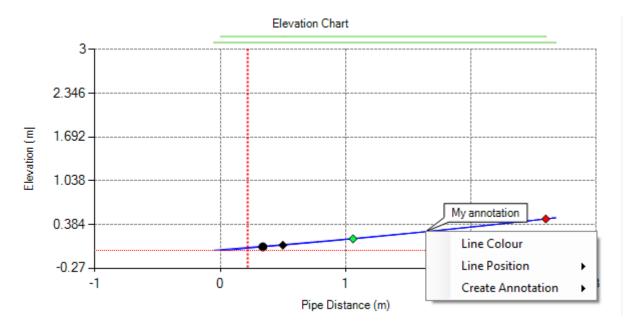


Figure 4.11b Chart Editing Options

Right clicking the mouse along the chart line provides options to:

- Change the Line colour
- View the Line position information
- Create Annotated text entries

Right-clicking the mouse in the general chart area will allow the user to change the Chart Title.

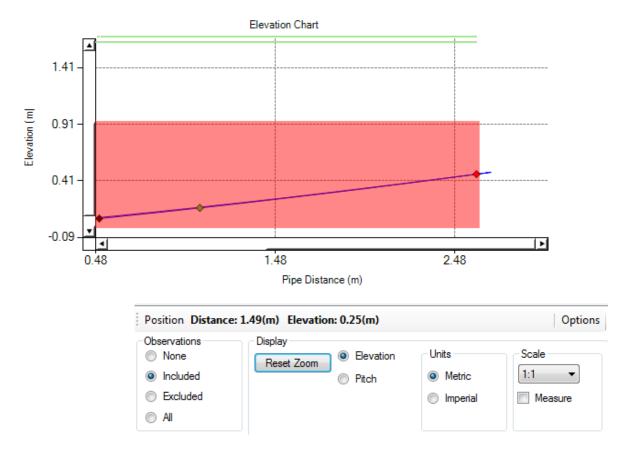


Figure 4.11c The Chart View Editor

The Chart View Editor allows custom views and optional display information.

- **Observations**: Displays survey observations along the length of the survey. Enable or disable depending on the survey requirements.
- Display: Modify the chart display information.
  - Reset Zoom: Resets the chart to the default auto-size.
  - Elevation / pitch: Elevation mode displays the calculated height of the system along the survey. Pitch mode displays the angle of the crawler along the survey.
  - Units: Select Metric (m) or Imperial (feet).
  - Scale: Increase or decrease the scale sizing of the graph to suit the visual requirements of the survey. Selectable scales between 1:1 and 1:300.
  - Measure: When this box is checked, it allows users to drag-and-click the mouse button between two points of interest, calculating the average slope between those points and displaying the details. This draws a green dotted-line along the pipe inclination chart and calculates the gradient between these points. The information is then displayed in the Measurement window in the bottom right window and in the final Word survey document. See figure 4.11d on the next page for an example.

CAUTION: You will not be able to use the video position cursor if the Measurement checkbox is checked. Similarly you cannot take a measurement unless the Measurement checkbox is checked.

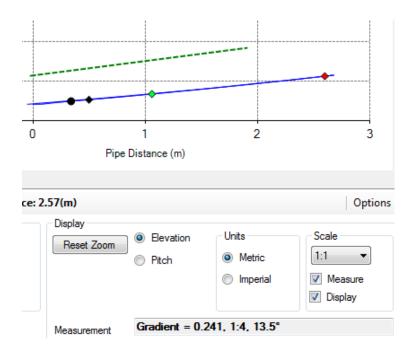
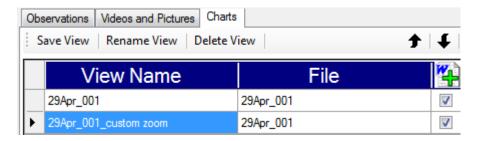


Figure 4.11d The Gradient Measuring Tool

The gradient measuring tool in operation above.



4.11e The Pipe Inclination View Manager

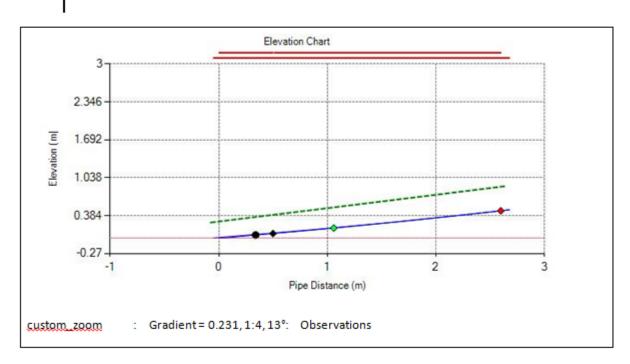
It may be useful to provide multiple viewing angles, or close ups of chart sections. The View Manager allows multiple views to be saved, stored, edited and included in the Word Report.

- Save View: Save the current chart view, enter a suitable name in the pop up window and press OK to save.
- Rename View: Rename an existing view.
- **Delete View:** You can delete a view by using the Delete View button.
- W+: Ticking the boxes adds the view to the Microsoft Word Survey report. The Up and Down arrows control the order the views appear in the survey.

Multiple views may be useful if the operator wishes to highlight multiple sections of interest along a pipe survey. The view must be saved and enabled (using the W+ box above) to be shown in the final report.

# **Elevation Chart**

Crew: LJ Team#3 Survey Customer: Bristol Construction Ltd Job Ref: #12345 Survey Date: 29/05/2014 Survey Address: Radiodetection HQ, Western Drive, Bristol, United Kingdom, BS14 0AF							
Start: Depth at Start Node: Direction: Length Surveyed:		s	Finish:		F		
		4m Downstream 3m	Depth at Finish Height:	HOUL.	0.4m 200mm		
Material:		Concrete	Size:	Medium	Shape:	Circular	



Position	Code	Description/Remarks	Grade
0.34m	CL	Crack, longitudinal at 4 o'clock, Minor cracking at 4 o clock, No remedial work necessary	1
0.5m	D	Deformed drain/sewer 10%. Minor deformed top of pipe, review annually and if pipe blockages interfere with waterflow.	1
2.6m	OB	Other obstacles 100% height/diameter loss. Total blockage of pipe with large blue cloth material, preventing water flow. Recommend remedial work.	5

Figure 4.11f Survey Report Example

# 4.7 Microsoft Word Survey Reports

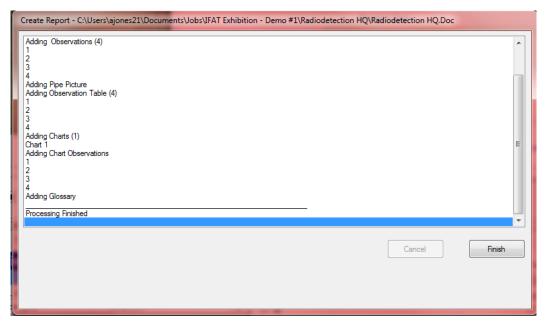
NOTE: Microsoft Word 2007 or above is required with Macro functionality enabled, Office 365 and other similar online office suites are not currently supported.

You can create a detailed Microsoft Word report of your survey(s):

- Use the **Include in Report** check boxes (Figure 4.8) to select the survey(s) required and for each of these select the observations you wish to include in your report.
- Use the up and down arrows to re-order the surveys if required (see Section 4.2).
- Press the Create Report button from the command bar on the top of the Survey browser (see Figure 4.1).

By default FSM will create a report file named after the site address and save it into the site folder. If a report file with the same name is already present, a window will appear to ask you to indicate a new file name.

The report window will open, providing progress details of the report creation (see Figure 4.12).



**Figure 4.12 Report Window** 

 Press Cancel to abort the operation or Finish, once the process is finished, to open the Word Document.

Use MS Word to review and edit your final report.

The resulting Word template can be customized to suit requirements. See Section 9 for details.

# 4.7.1 Converting Word files to PDF

FSM does not support PDF files. PDF files cannot be viewed or edited from within FSM.

To save a Word Survey as a PDF file (or another different file format), use the Microsoft Word Save As facility.

When using MS Office 2007 or higher the report can be saved using the Word's Save As function and selecting PDF as the output format.

NOTE: When using MS Office 2007 there may be a requirement to download an optional Add-In from Microsoft. Contact your IT department for more information.

With earlier versions of MS Office, PDF files can be created by installing a third party PDF creator. Please contact your IT department for more information.

▲ Files saved in formats other than .doc are not supported and cannot be viewed or edited by FSM.

# Section 5 - **Editing a picture**

Edit or annotate a picture by adding texts and graphics. Just select the picture to modify and press the edit button.

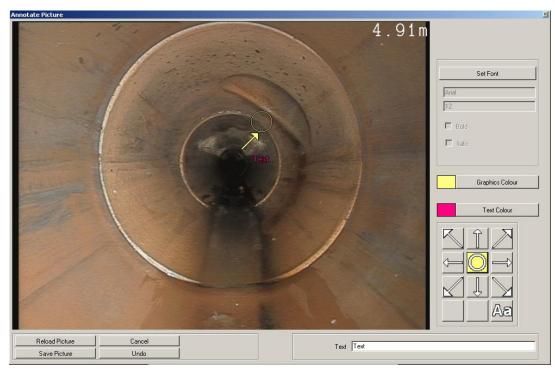


Figure 5.1 Edit Picture Screen

The Edit Picture screen (Figure 5.1) shows the editable picture and a series of controls:

- Arrow Selection: Adds a graphical arrow anywhere on the picture (see Section 5.1).
- Circle Selection: Adds a graphical circle anywhere on the picture (see Section 5.2).
- Graphics Color: Set the color for the graphics objects (see Section 5.3)
- **Text Selection**: Adds text anywhere on the picture (see Section 5.4).
- **Text Color**: Sets the color for the text (see Section 5.5).
- **Set Font**: Set the fonts for the text (see Section 5.6).
- Reload Picture: Reload the picture and undo all changes.

⚠ CAUTION: The reloading operation cannot be undone.

Save: Save picture.

• Cancel: Cancel operation

Undo: Undo last change.

# 5.1 Adding shapes to pictures

You can place an arrow anywhere on the picture you are editing:

- 1. Left click the mouse on the chosen arrow.
- 2. Move the mouse to the desired position on your picture.

#### NOTE: The cursor now has the chosen arrow.

- 3. Left click the mouse. The arrow will now be positioned on the picture.
- 4. If you make a mistake in placing the arrow press **Undo**.

You can change the color of the arrow by selecting a different graphic color (see Section 5.3).

You can place a circle anywhere on the picture you are editing:

- 1. Left click the mouse on the circle.
- 2. Move the mouse to the desired center position for the circle on the picture.

#### NOTE: The Cursor is a Cross-Hair

- 5. Hold Down the left button of the mouse.
- 6. Drag the mouse away from the chosen center.

#### NOTE: This is the circle radius

- 7. Release the left button of the mouse.
- 8. If you make a mistake in placing the circle press **Undo**.

You can change the color of the arrow by selecting a different graphic color, see the Section below.

#### **Graphic Color**

The current graphic color is indicated adjacent to the **Graphic Color** button.

To change graphic color, press the **Graphic Color** button:

- 1. The Color Selection screen will appear (see Figure 5.2).
- 2. Select the required color from the palette.



Figure 5.2 Color palette

# 5.2 Adding text to your picture

You can place a text anywhere on the picture you are editing:

- 1. Enter the text you wish to add to the picture in the text box at the bottom right corner of the edit picture screen
- 2. Left click the mouse on the text selection (Aa)
- 3. Move the mouse to the desired position on your picture

NOTE: The cursor is a vertical bar. The text is positioned to the right of the cursor, with the lower edge of the text level with the bottom of the cursor.

- 4. Left click the mouse. The text will now be positioned on your picture.
- 5. If you make a mistake in placing the text press **Undo**.

You can change text font and color.

## Changing text color and font

The current text color is indicated adjacent to the Text Color button.

To change text color, press the **Text Color** button:

- 1. The Color Selection Screen will appear (see Figure 5.2).
- 2. Select the required color from the palette.

The current font selection is displayed on the window below the **Set Font** button.

To change text font, press the **Set Font** button:

- 1. A font selection screen will appear (see Figure 5.3).
- 2. Make your selections and press **OK** or **Apply**.

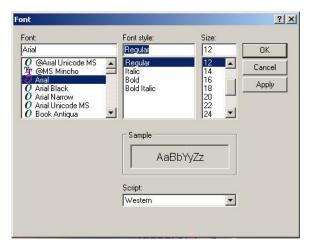


Figure 5.3 Set Text Font

# Section 6 - Editing a Video

This section provides instructions on how to use the FSM video editor which allows you to cut or merge one or more videos to produce a video showing only the relevant parts of the surveys. This is very useful when trying to reduce the size of a video file.

NOTE: FSM Video editor only supports MP4 files that were created with a compatible controller.

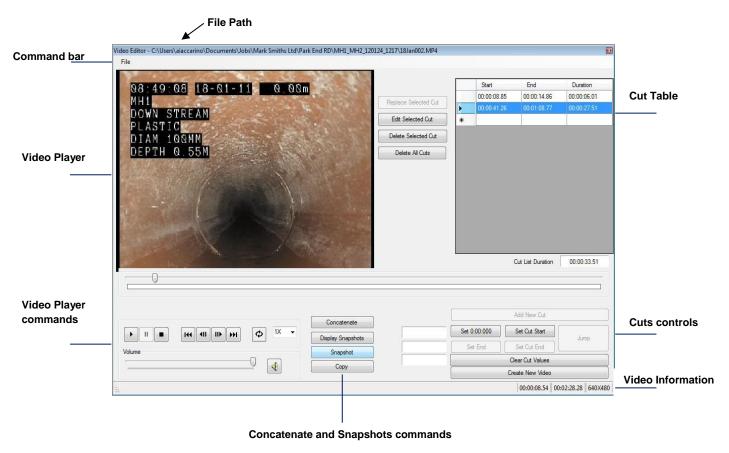


Figure 6.1 Video Editor Screen

## 6.1 Video Editor Screen

You can edit a video file by selecting and pressing edit.

The FSM video editor screen (Figure 6.1) provides with a video player and comprehensive and intuitive functions to take video Snapshots and to cut the video to include only selected parts. Different videos can also be concatenated into a single media file:

#### File Path

The upper portion of the video editor screen shows, the file name and location in your PC (see file path in Figure 6.1).

#### Video Information

When playing a video FSM will display, at the bottom right corner of the video editor screen, the time elapsed, total time length and resolution of the video.

### Command bar

Use File to create a backup copy of or close your opened video and to select a different video file.

FSM provides a series of buttons to take and review snapshots (pictures) of the video being re-produced.

# **Display Snapshots**

This allows the user to display all the JPEG image files saved in a folder.

## Snapshot

This button takes a picture of the currently displayed image, and stores it into the folder and filename of your choice.

## Copy

This button takes a picture of the currently displayed image, and stores it in the system's clipboard. This is useful if you wish to paste the image into an external document or e-mail.

# 6.2 Video Player

The video player pane displays the opened video file. Press **Esc** on the keyboard to switch to a "full-screen" view of the video (see Figure 6.2).



Figure 6.2 Video editor in "full screen mode"

Use the **Play Controls** menu on the bottom right of the full screen window to display or hide the **volume** and **play** controls.

You can move the volume and play control bars anywhere on the screen.

The video player commands give you control of the video displayed on the player screen (see Figure 6.3).

## **Play**

Press this button to play the selected video file.

#### **Pause**

Press this button to pause the video. Press the Play button to resume.

## Stop

Selecting this button stops the player.

#### First Frame

Selecting this button rewinds the video to the first frame.

# Play Pause Start frame End frame Playback speed Stop Prev/Next frame Repeat Volume bar Mute

Figure 6.3 Video player commands

## Previous/Next Frame

Selecting these buttons moves the video file to the previous/next frame.

#### Last Frame

Selecting this button advances the video to the last frame.

## Repeat

This button toggles on and off the play repeat function. When the repeat button is selected the video will play continuously.

## Volume

Use this slider to adjust the sound volume level.

## Mute

Use this button to mute or un-mute the sound.

## Progress bar

This control shows the playing progress of the video file.

You can use this to select a particular position of a video position: select the slider by holding down the left mouse button and slide to the desired position on the video. Release the left button.

The control also shows the location of any selected cuts as colored bars above the control slider. See paragraph 6.41 for more information.

# 6.3 Merging video files

Use this button to merge two or more MP4 video files into a single video file. This is useful if you have more than one file for a survey.

1. Press the **Concatenate** button: the Concatenate window will appear (see Figure 6.4).

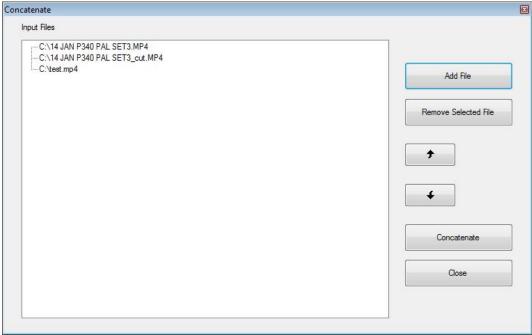


Figure 6.4 Concatenate window

- 2. Press Add file to select the files you wish to concatenate.
- 3. Video files will be concatenated in the order they are shown in this screen. Top file first, last file last. Use the arrow buttons to modify the concatenation order.
- 4. Press Remove Selected File, if you wish to remove the highlighted file.
- 5. Press Cancel to quit
- 6. Press Concatenate to produce the concatenated file. The Save As window will appear.

NOTE: Video files must match as resolution and bit rate.

## 6.4 Cutting a video

You can cut a video to show just your problematic area. This is useful to reduce the video file size and to minimize storage requirements.

## Setting up your cuts

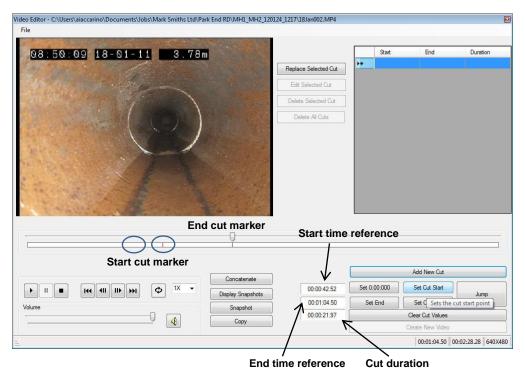


Figure 6.5 Setting up a cut

- 1. Slide the video progress bar to locate the frame in which to position you start cut marker (see Figure 6.5).
- 2. Press the **Set Cut Start** button. You can also press the **Set 0:00:000** button to set the start marker of the active cut to the beginning of the video. Note the start time reference.
- 3. Identify the frame in which to position the end marker.
- 4. Press the **Set Cut End** button. You can also press the **Set End** button to set the end marker of the active cut to the end of the video. Note the end time video stamp reference and the cut duration.
- 5. Press Clear Cut Values if you wish to start again.
- 6. Press the **Add New Cut** button: your cuts will now be shown in the cut table and the portion of the video selected will be highlighted in the color bar (see Figure 6.6).
- 7. Repeat the steps above to add further cuts.



Figure 6.6 Multiple cuts in a video

# Editing video cuts

You can edit or delete cuts present in the cut table (see Figure 6.6).

- 1. Press **Delete All Cuts** to delete all cuts present in the cut table.
- 2. Press Delete Selected Cut to delete just the highlighted cut.
- 3. Press **Edit Selected Cut** to edit the highlighted cut. Make the required adjustments to the start or/and end marker and press **Replace Selected Cut**.

## Creating a new video file

Once you are ready to create a new video file incorporating all your cuts press the **Create New Video** button.

NOTE: The source file video is not changed during the creation of a new video. The new video will be made from the highlighted sections of the video.

The Save As window will open. If you wish you can enter a new file name.

Press **Save** to proceed with the file creation or **Cancel** to quit.

# Section 7 - FlexiSight + Classic Window

FlexiSight+ Classic allows the creation of P330+, GatorCam3+ and P350 reports without the need to import them into the FSM environment.

You can also use the FlexiSight+ Classic window to edit compatible videos. Refer to Section 6 on instructions on how to edit your video files.



Figure 7.1 FlexiSight+ Classic Screen

# 7.1 Creating a Report

You can use your P330+, GatorCam3+ or P350 controller to create a report on site. This is generated as a series of HTML documents organized into a number of subfolders contained in the main report folder. The principle is similar to that of an internet website.

By default, the report folder is stored in the current default working folder of the Memory card and is named according to the name you gave the report when you created it.

Refer to the relevant operation manual for more detailed information on how to use you controller to create a report.

NOTE: You need to ensure you have copied the Defect\_Codes.txt file used in the My Documents \FlexiSight Manager\Report\Old\ directory

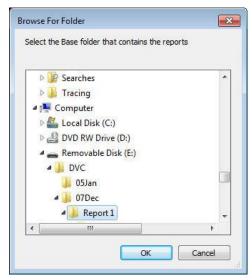


Figure 7.2 Selecting a Classic Report

You can create a word report based on the original report created on site:

- Select **Report** from the command bar.
- Navigate to the folder containing the report
- Press **OK** to create the report or **Cancel** to abort.
- MS Word will open and show the converted report.

# Section 8 - **Setup Options**

You can customize FSM and your compatible controller (P340USB and GatorCam4USB) to suit your company needs.

# 8.1 Setup Menu Options

You can access the setup menu by selecting **Setup** from FSM main window command bar (see Figure 8.1).

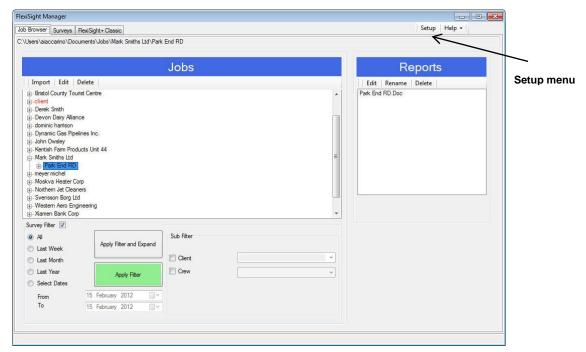


Figure 8.1 Setup in FSM Command Bar

The FSM Setup menu has 3 tabs (see Figure 8.2).

- Local, for general FSM settings (see section 8.2).
- System, for system wide settings such as Jobs templates, Condition Codes and Survey Parameters. These settings will have to be exported to the inspection system controller (see section 8.3).
- Controller, to create and edit text pages and to create system settings files to customize your controller(s) (see Section 8.4).

Select **Exit** to close the Setup Screen

# 8.2 Local settings tab

The Local tab is used to modify general FSM settings (see section 8.2).

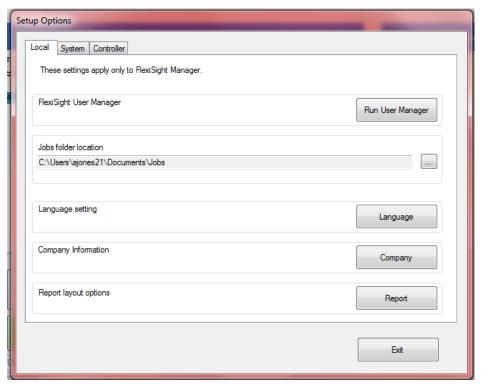


Figure 8.2 Local Setup Tab

# 8.2.1 FlexiSight User Manager

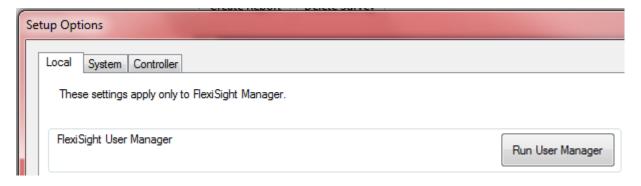


Figure 8.2a - User Manager

See section 2.5 for information on using FlexiSight Manager User Manager.

#### 8.2.2 Jobs folder location

You can modify the default location for your Jobs folder.

The Jobs folder is the area on your PC into which FSM imports the survey files created with your inspection system.

NOTE: It is important to back-up at regular interval the Jobs folder as well as the content of the FSM settings folder (*My Documents \FlexiSight Manager*) to protect against hardware failure or to recover data accidentally deleted or modified.

By default the location of the FSM Jobs folder is in your PCs default document folder. For example:

..\UserName\My Documents\Jobs

To modify the Jobs folder location:

- 1. Press the Jobs folder browse button in the setup tab (see Figure 8.2).
- 2. Navigate to the desired folder, or create a new one.
- 3. Press OK

# 8.2.3 Language Selection

Click on the Flag to select the required language.

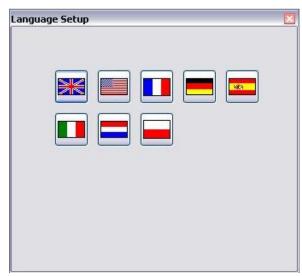


Figure 8.3 Language Setup

# 8.2.4 Edit Company Information.

Select Company to enter the Company Information screen (see Figure 8.4).

Use this screen to edit the company information that will be used to when creating FSM reports. See Section 4.7 for more information about creating a report.

You can customize the Company information by editing, adding or remove the company fields (see Section 8.3).

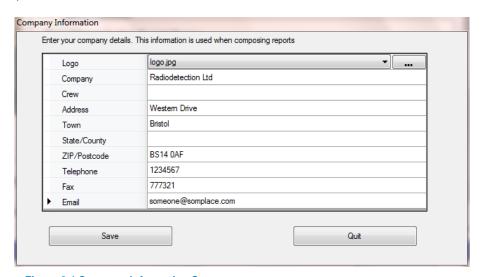


Figure 8.4 Company Information Screen

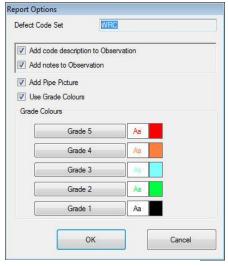
Press **Save** to save your changes made and exit.

Press Quit to ignore any changes made and exit.

## 8.2.5 Report Layout Options

Select **Report** to enter the Report Options screen (see Figure 8.5.)

Use this screen to edit information present in the FSM report. See Section 7.1 for more information about creating a report.



**Figure 8.5 Report Options** 

- Add code description to observation: This option sets the report to display the defect code text description alongside each defect code label.
- Add code notes to observation: This option sets the report to display the defect code remarks or notes.
- Add Pipe Graph: This option sets the report to display a pipe Graph of the observations.
- Use Grade Colors: This option when set will display the observations in the color defined for the grade of fault. If disabled all observations are printed in the default MS Word color.

#### **Grade Colors**

Each Grade color can be set by the user. Click on the appropriate Grade button to open a color selector.

- Press OK to exit the screen and save your changes.
- Press Cancel to exit the screen and ignore any changes

# 8.3 System SettingsTab

The System settings tab (Figure 8.6) allows choosing and customizing Condition Codes and Survey Parameters used by FSM and compatible system controllers to create observations and reports. It also allows customization of Jobs Templates by modifying the Client, Site, Survey and Observation tables as well as renaming the Free Text option.

NOTE: Any changes made must be exported to all your compatible controllers.

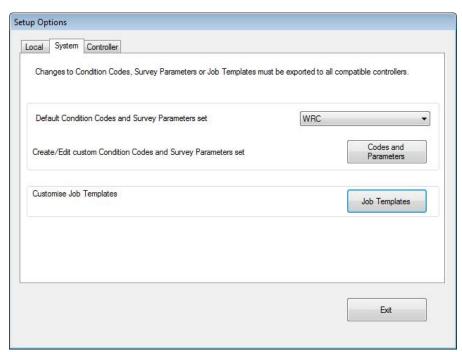


Figure 8.6 System Settings

# 8.3.1 Condition Codes and Survey Parameters Set

Condition Codes and Survey Parameters are used to describe in a standard and concise way survey details and any issue identified during the survey operation.

Depending on the applicable standards in your area and the nature and use of the pipes you normally survey, you will need to choose or define appropriate Condition Codes and Survey Parameters set for your observations and survey details.

By default, FSM supports Condition Codes and Survey Parameters as defined by the WRC Manual of Sewer Condition Classification 4th edition and by NASSCO (US National Association of Sewer Service Companies) PACP (Pipeline Assessment Certification Program).

You can edit, modify or create new Condition Codes and Survey Parameters sets based on the WRC or PACP sets.

## **Default Condition Codes and Survey Parameters set**

Choose the default FSM set by selecting between the available Condition Codes and Survey Parameters sets.

On compatible controllers, the system uses the default set when exporting Condition Codes and Survey Parameters. For P340 and Gatorcam4 Controller this requires Software version 3.7 and higher, or P350 Software version 4.0 and higher.

Create/Edit custom Condition Codes and Survey Parameters sets

Press Codes and Parameters to Create/Edit custom Condition Codes and Survey Parameters sets.

The Custom Condition Codes and Survey Parameters sets selection screen (Figure 8.7) will open and let you choose an existing set to edit or a pre-defined set such as WRC or PACP to copy and modify.

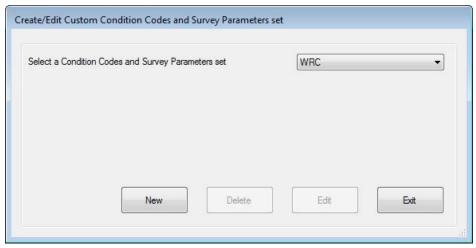


Figure 8.7 Selecting a Condition Codes and Survey Parameters sets

- **New**: press this to create a new user set based on the selected one. See section 8.3.1.3 for further details.
- **Delete**: press this to delete the selected user set.
- Edit: press this to edit the selected user set.
- Exit: select to exit the screen.

NOTE The New, Delete or Edit buttons are context sensitive and only available when permitted.

## Codes and Survey Parameters set editor

The codes and parameters set editor allows you customize Condition Codes and Survey Parameters (see Figure 8.8).

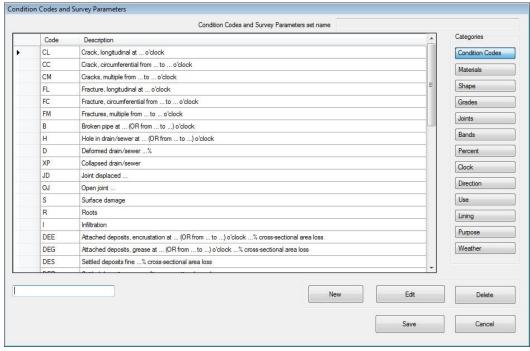


Figure 8.8 Condition Codes and Survey Parameters set editor

The following categories are used by a compatible controller and FlexiSight Manager.

- Condition Codes The codes and their description and definition.
- Materials The material that the sewer is made from.
- Shape The shape of the sewer.
- · Grades The Fault grades.
- Joints Joint codes.
- Bands Sizes.
- Percent Allowable values for selection.
- Clock Clock Face values.
- Direction Flow Direction.
- Use Type of use for the pipe.
- Lining Pipe lining descriptions.
- Purpose Purpose of the Survey.
- Weather The Weather during the survey.

For example you can start from the pre-defined WRC code set and customize this set by adding new Condition Codes or by adding new Survey Parameters like materials or shapes.

Select any of the above categories to load the data into the editor.

There are 3 editor commands available:

NOTE: For Clock and Percent categories both the Code and Description must be numeric. The Code and Description fields must be identical (i.e. Code = 24, Description = 24).

- New: creates a new item for the category selected.
- Edit: to modify the selected item.
- Delete: to remove the selected item.

For example you may wish to create a new condition code: **PM** to report "**Paint Marks**" as either:

Paint Mark at 2 o'clock

or

- Paint Mark from 2 o'clock to 4 o'clock
- 1 Select Condition Codes in the category pane
- 2 Press **New** and give it a unique code (up to 7 characters) "**PM**" in this case.
- 3 Select a suitable code template from the list of available types.



Figure 8.9 Condition Code template selector

4 Enter the text you want to appear in the code description (see Figure 8.10).

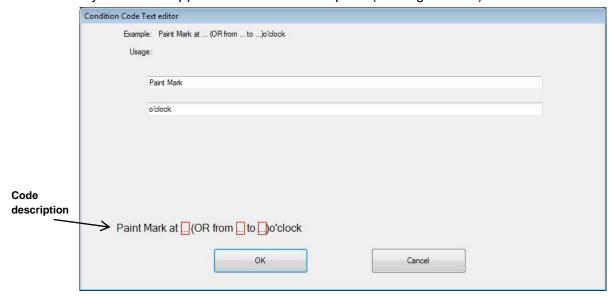


Figure 8.10 Condition Code Text editor

The final description of the Condition Codes is displayed at the bottom of the screen

5 Press **OK** to add your code to the custom Condition Codes set or **Cancel** to exit.

You can follow the above procedure to customize any of the available categories.

Once you finish customizing the set you need to save your changes:

Press Save to commit your changes or press Cancel to close the screen without saving.

CAUTION: If you close the screen without saving your changes you will lose any changes you have made to the selected set.

## Sharing Condition Codes and Survey Parameters sets

Condition Codes and Survey Parameters sets are saved in a single file, with a .XML extension, stored in the following folder:

#### My Documents \FlexiSight Manager\ Codes.

The file set name is based on the name given to the custom set + a numeric index. For example if you have saved a custom set as MySet, the file name will be MySetX.xml, where X is a numeric index based on your default language.

The language index is as follows

English(UK)	English(US)	French	German	Spanish	Italian	Holland	Polish
0	1	2	3	4	5	6	7

You can share a custom set with other FlexiSight Manager users by copying the file set from your computer into the My Documents \FlexiSight Manager\ Codes folder on each computer.

## 8.3.2 Job Template editor

You can customize the job templates used by the controller and FSM. You can add, remove and change most fields used in the Client, Site, Survey, Observation and Free-text tables.

You can also modify the Company table used by FSM to create your report. The controller's Company table fields cannot be modified.

Press **Job Templates** to enter the Job Templates editor (see Figure 8.11).

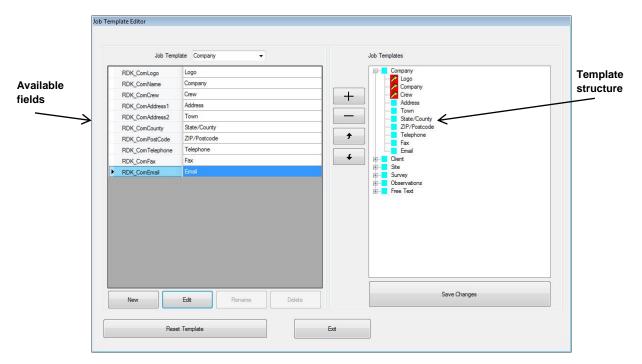


Figure 8.11 Job Template editor

Select the job template to edit (Client, Site, Survey, etc.) in the selection box at the top of the editor window. Job Templates available for edit are

- Company Your Company details used by FSM when generating a report.
- Client Client's details
- Site Site's details
- Survey Survey's details
- Observations Observation's details
- Free Text General survey commentary

NOTE: You may add and delete fields for all structures except Observations and Free Text where you will only be able to modify text legends.

The editor window is structured in 2 panes: the left one shows available fields, the right shows the fields included in the selected job template (template structure).

- To add an existing field to the selected job template, select it in the left pane and press the '+' button. The item will appear at the bottom of the template structure in the right pane.
- To remove a field from the job template, select it in the right pane and press the '-' button.
- To change the order, select the field in the right pane and press the 'Up' or 'Down' buttons.

You can add new user fields or modify existing one:

NOTE: FSM has critical fields which cannot be renamed or deleted. These fields are highlighted in red in the right pane.

Press New to create a user field

This function creates a new field. You are prompted for the following:

 New User Field Name. This name must be unique and contain no blank spaces (see Figure 8.12).



Figure 8.12 New User Field Name

This field name is used by FSM and MS Word to create the final report.

User fields with a name similar to existing one should be preceded with a character to make it unique. For example: if you have a field **MyUserField** and you want make a field **MyUserFieldxx** make the field as **UMyUserFieldxx**. This is to address a Microsoft Word automation process issue where Word erroneously selects part strings.

- o Heading: Heading of your user field as displayed by FSM and the controller
- Help Description: Help text displayed by a compatible controller

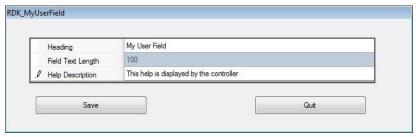


Figure 8.13 Creating a user field

NOTE: Field Text Length are fixed and cannot be modified.

- Press Edit to modify the Heading and Help description of the selected field.
- Press Rename to modify the name of the selected field.
- Press **Delete** to remove the selected field.

▲ CAUTION: Delete will permanently remove the selected field.

NOTE: Rename and delete will not work with FSM critical items.

- Press Reset Template to restore the FSM default template.
- Press Save Changes to save your templates changes.

▲ CAUTION: Ensure to export your Job Templates changes to your compatible controller

Press **Exit** to close the screen.

A CAUTION: You need to save your templates changes before exiting the screen

# 8.4 Controller Tab

The Controller Setup Tab allows you to customize your compatible controller (see Figure 8.14).

From this screen you will be able to create or edit text pages which you can save in the memory of your controller and create a single file which you will be able to use to export Condition Codes and Survey Parameters set and Job Templates to your controller.

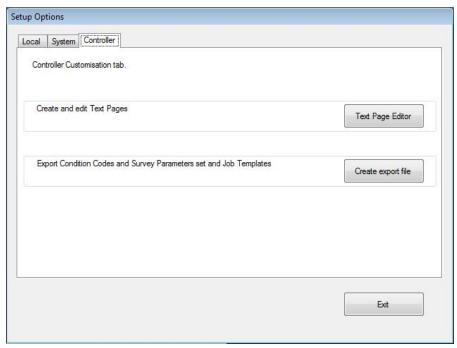


Figure 8.14 Controller Setup

# Create and Edit Text Pages

Press Text Page editor to create or edit Text pages which you will be able to export and store into a compatible controller. Please refer to the relevant controller operation manual on instructions on how to load text pages. Text page files have a .tpg extension.

NOTE: The P340USB and G4USB system controllers have a maximum of 20 text pages. The saved file must have a file name pageN.tpg, where N is a number between 0 and 19.

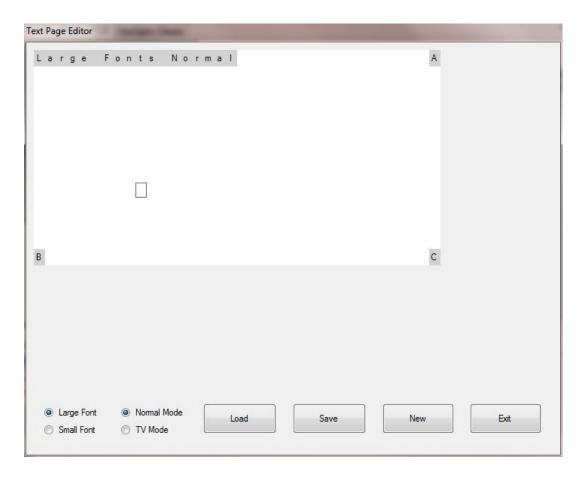


Figure 8.15 Text Page Editor

P340 and Gatorcam4 systems have one font size (Large) for displaying text pages. The P350 system has 2 font sizes, Large and Small.

Large font text pages have 13 lines.

Small font text pages have 21 lines.

The P340, GatorCam4 and P350 have 2 display modes, Normal and TV.

Normal mode: Uses the full width of the screen to display text.

TV mode: Places a border around the text ensuring that all characters can be viewed on the

screen when use with a TV monitor.

# Setting the Text Page Screen mode

Set the Font size and display mode by clicking on the selection in the bottom left of the screen.

NOTE: Changing the font size or display mode will clear any text being currently displayed in the editor window.

The Text Page screen (Figure 8.15) has the following buttons:-

• Load: Opens an existing text page (.tpg) file with the correct font and display mode.

**NOTE:** If FSM cannot determine the display mode you will be prompted to select the mode.

Save: Saves the current content of the editor as a .tpg file.

**NOTE:** Small font files are used on P350 systems only. If a small font files loaded on a P340 or GatorCam4 system, the screen display will be incorrect.

New: Clears the editor content.

Exit: Exits the editor page.

## **Editing Text**

- Select the Font size and display mode by clicking the selections in the bottom left of the screen.
- Use the mouse to move to the position that you wish to enter text.
- Use the keyboard to enter the required text.
- The backspace key will delete the text at the current location and move to the previous character in the editor.
- The delete key will delete the text at the current location, replacing with a blank character.

# 8.4.1 Export to Controller

FSM can create a setup file, containing Job Templates and Condition Codes, which will allow you to customize your compatible controller.

- Press the Create Export File button
- Browse for the desired destination folder
- Press **OK** to complete the operation or Cancel to exit.

The setup file, **romdrive2.bin** is created in your selected destination folder (see Figure 8.16). Save this on your local drive as a master Export file.



Figure 8.16 Setup file creation

NOTE: these are treated as a set and can't be uploaded individually, once installed the Controller will use the set of Condition Codes and Templates you create in the "romdrive2.bin" file.

The setup file contains both your chosen Condition Codes and Jobs Template (see Figure 8.17). You can use this file to setup your compatible controller(s). To export the file to a controller, copy the master Export file to the root folder of your removable media prior to loading it on the controller. Refer to the relevant controller Operation manual for instruction on how to install the setup file.

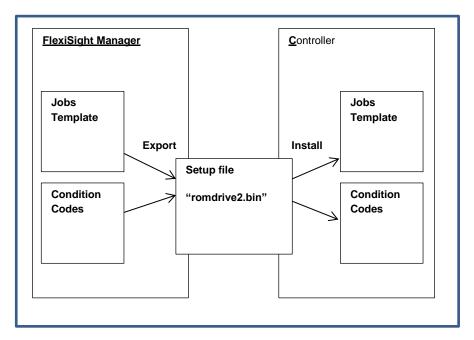


Figure 8.17 romdrive2.bin setup file

# Section 9 - **Customizing the Word template**

## 9.1 Adding your company details and logo

See Section 2.3 for details on how to display company details and logos at the beginning of Word surveys.

# 9.2 Editing the Word templates

FlexiSight Manager uses a standard Word document template to create Word versions of survey reports. If required, you can modify this template to change the design of the converted report to suit your company's in-house style.

There are 3 locations where templates are located.

For P350 (software V3.00 or later), P340 or GatorCam4 reports the template is located in the **My Documents\FlexiSight Manager\ Report** folder on your computer.

For P350 (software prior to V3.00), P330+ or GatorCam3+ reports the template is located in the **My Documents\FlexiSight Manager\ Report2** folder on your computer.

For FlexiSight+ reports the template is located in the **My Documents\FlexiSight Manager\ Report\Old** folder on your computer.

The templates **must be edited using Microsoft Word**.

NOTE: Before attempting to edit this document, it is recommended that you back up the original file.

To edit a Microsoft Word template you must first run Microsoft Word and open the template file. Template files are named: **inspectionreportXXX.dot**, where XXX is the language identifier. For example: **inspectionreportUSA.dot** for the US template.

The template file has key words that FlexiSight Manager uses to populate your report with your data. Each keyword begins with RDK\_. FSM replaces each key word with the text for that key stored in your report data.

For Example: If on the controller you entered **34 High Street** for the first line of the clients' site address. The key for this is **RDK\_SiteAddress1**. Each time **RDK\_SiteAddress1** is found in the document it will be replaced with the text **34 High Street**.

A list of all keys available for your current template is located in the following locations:

P340/GatorCam4/P350 (software V3.00 or later)

My Documents\FlexiSight Manager\ Report\TemplateCodes.txt

P330+/GatorCam3+/P350 (software prior to V3.00)

My Documents\FlexiSight Manager\ Report2\TemplateCodes.txt

You may edit the file to add or remove keys from your template. You can edit any text that is not a key word.

Any RDK\_ fields that have been removed by customizing the job template will be displayed in the in the output report (.doc) file. This is to assist in identifying fields that need to be removed from the current Word template (.dot) file.

NOTE: Do not delete the text **<SV>** and **</SV>** as these are special keys used by the system used to create a report with multiple surveys. Between the **<SV>** and **</SV>** keys are the information that is generated for each report.

You can also paste photographs into the document provided that the paste location is not between <SV> and </SV> keys

On completion of your edit, save your new template with the same name.

NOTE: Please make a backup copy of the modified file in another area of your computer as this file will be replaced if you Restore Default Program settings or you re-install the program.

# Section 10 - Removing FlexiSight Manager

## Windows XP

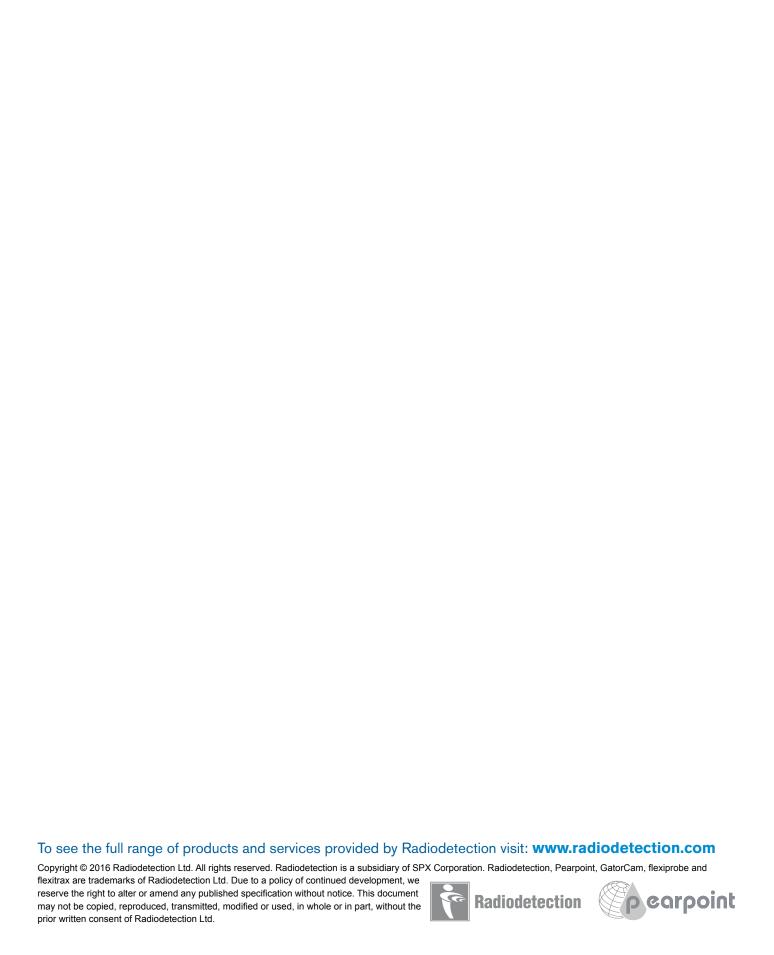
- Click on the Start Icon (Bottom left of the screen)
- Select Control Panel
- Add or Remove Programs
- Locate FSM in the list and click on it
- Click on Remove.

#### Windows Vista and Windows 7

- Click on the Start Icon (Bottom left of the screen)
- Select Control Panel
- In the Programs section select Uninstall a Program
- Locate FSM in the list and click on it
- Click on uninstall.

#### Windows 8

- Swipe in from the right edge of the screen, and then tap Search.
   (If you're using a mouse, point to the upper-right corner of the screen, move the mouse pointer down, and then click 'Search'.)
- Enter control panel in the search box, and then tap or click Control Panel.
- Under View by:, select Large Icons, and then tap or click Programs and features.
- Tap or click the program, and then tap or click Uninstall.
- Follow the instructions on the screen.



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