RADIODETECTION®

C.A.T Manager® Online

Web Management tool for the C.A.T4 Cable Avoidance Tool range

Operation manual

90/UG107INT/03

SPX®

Contents

1 Preface

1.1 Before You Begin

Please read this user manual before accessing or using the Radiodetection Portal.

Where appropriate, sections or paragraphs will start with an indication of the company's users and C.A.T Manager subscription level access rights

Main user

Administrators

Managers/Supervisors

C.A.T operators

Standard **Pro** **Advanced**

C.A.T Manager subscription levels

For further information about company users and subscription levels read section 3.

Scans and surveys scoring feedback provided by the C.A.T Manager online system is intended to be used for reference only. It cannot be used as an indication of the true performance of the operators and the quality of their surveys. You should always analyse all scans details and keep in consideration the type of survey being carried out and the nature of the location.

Google's Chrome is the only fully supported web browser, other browser will be added soon.

Note that this manual and all its contents are subject to change. Radiodetection products are under continuous development. Radiodetection Ltd reserves the right to modify the product without notice and some product changes may have taken place after this user manual was published.

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1.3 Copyright and Trademarks

2 Introduction to C.A.T Manager Online

2.1 About C.A.T Manager Online

The CAT Manager Online system is an internet based remote management tool that enables near real-time usage monitoring of gC.A.T4 and Genny4 fleets, helping to drive best practice.

2.2 System Requirements

To take fully advantage of the C.A.T Manager online system the following components are required:

- gC.A.T4 locator updated to the latest software
- Genny4 transmitter
- A compatible Android or Apple device with C.A.T Manager online app installed and a live data connection
- PC or other computing devices with a live internet connection and with the Chrome internet browser installed
- USB 2.0, or higher standard, A-Male to Mini-B, mini to USB link cable
- A valid Radiodetection Portal Account

2.2.1. Updating your gC.A.T4 locator's software

To update your gC.A.T4 locator to the latest software available install and use the C.A.T Manager for PC. This can be downloaded by visiting http://www.spx.com/en/radiodetection/resources/software-downloads/cable-pipe-locators/C.A.T Manager/.

To use C.A.T Manager for PC you will need a Windows PC with XP or higher operating system.

For further information please refer to the C.A.T Manager for PC operational guide.

2.3 Android compatibility

All gC.A.T4 models offer Bluetooth connectivity to Radiodetection's C.A.T Manager app for android, available from the Google's Play Store.

gC.A.T4 models manufactured before August 2016 are compatible with android devices with Bluetooth connectivity and Lollipop (5.0) or higher operating system.

gC.A.T4 models manufactured from August 2016 onwards are equipped with Bluetooth Low Energy (BLE) connectivity and are compatible with BLE equipped android devices using Lollipop (5.0) or higher operating system.

To quickly identify if a gC.A.T4 is equipped with Bluetooth Low Energy connectivity check if the sentence "**Works with Android and iOS devices**" is present at the bottom of the label directly above the battery compartment.

2.4 iOS compatibility

All gC.A.T4 models manufactured from August 2016 onwards are compatible with iOS devices with X.x or higher operating system.

3 Radiodetection Portal account

Companies can create a Portal Company account by registering at https://portal.radiodetection.com.

Registration is free. For further information on how to register and use the Radiodetection Portal account consult the Radiodetection Portal guide or copy and paste this link http://online.radiodetection.com/doclib/Radiodetection_Portal_User_Guide.pdf in your web browser (only Google Chrome is fully supported, other browser will be added soon).

3.1 Accessing your Radiodetection Portal Account

Standard **Pro** **Advanced**

3.1.1. Sign in

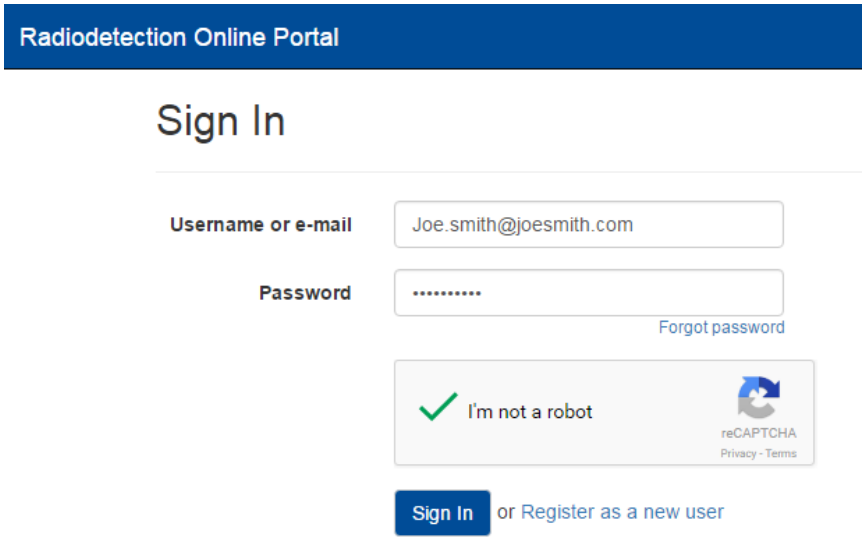
Any company users can access theirs Company's Radiodetection Portal account using a standard web browser.

Access to function and/or screens depends on the user type and the C.A.T manager Subscription level.

To learn more about users and their hierarchy read here

To access your company account:

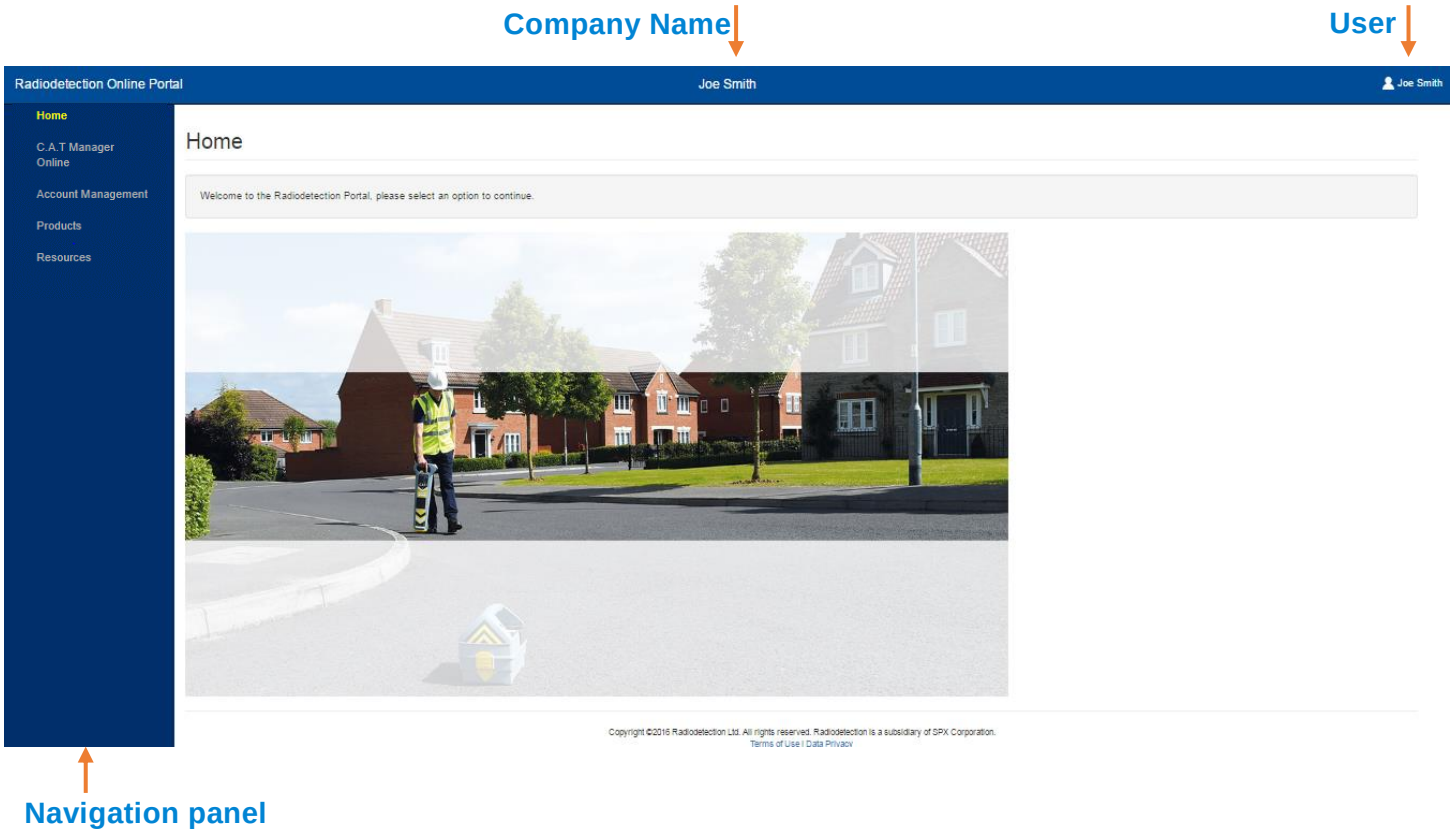
1. Navigate to https://portal.radiodetection.com:



2. Enter your login details. The password field is case sensitive
3. Check the **reCAPTCHA** box
4. **Sign in**

Warning: Your account will get locked if you enter your password wrong 5 consecutive times. To unlock your account click the Forgot password link or contact your system administrator.

3.2 Portal Home Page



The Radiodetection Portal Home page is the landing page for all company users accessing their account.

On the screen all users will see the company name and their registered name on the top bar.

The Navigation panel on the left side provides access to all accessible features, based on your company C.A.T Manager Online subscription level and users' permissions.

3.3 C.A.T Manager Subscriptions

Standard **Pro** **Advanced**

When a guest user creates a company account he also subscribes to the C.A.T Manager online system.

The C.A.T Manager Online system currently offers 2 subscription levels open to the general public in the UK and Ireland only:

Subscriptions Levels		
Features	**Standard**	**Pro**
Android and Apple* mobile app	✔	✔
C.A.T fleet management	✔	✔
Online Storage	3 months	indefinite**
C.A.T operator feedback	✔	✔
Survey Analysis & Usage reporting	✔	✔
PC Backup	✔	✔
E-mail Ticket support	✔	✔
Phone Support	✖	✔
Teams and Account management	✖	✔
Advanced statistical analysis	✖	✔

*** Apple device compatibility requires the use of a gC.A.T4s supporting Bluetooth 4 (all models produced after July 2016)**

**** Full usage data store for 12 months; summary thereafter**

3.3.1. Features

Android and Apple mobile app

C.A.T Manager mobile for Android and Apple is free to download and use from their respective app stores.

C.A.T fleet management

Register and maintain all your gC.A.T4 and Genny 4 products. Check calibration expiry date, see who last used the locator. Download the data as CSV file to use them with your company system

Online Storage

The C.A.T Manager Online system stores and backs up all your company's gC.A.T4 data on a secure cloud based server. No need to change or use your company's IT infrastructure.

C.A.T operator feedback

C.A.T Manager Mobile app allows the operators to receive immediate on-site feedback, helping them to improve their performance and to operate more safely

Survey analysis & Usage reporting

All scans received from C.A.T Manager Mobile, or uploaded using the web upload function, are automatically grouped into surveys and can be reviewed using a Google's Chrome or Microsoft IE web browser. Usage analysis and Survey reports can be generated and downloaded as PDF files

Backup option

Retrieve all your data from C.A.T Manager cloud to store on your PC or local network

Teams and work management

gC.A.T4 operators can be organised in areas and depots, field operations in accounts and contracts.

This allows managers to review the performance of different groups of users. Reports can be generated for customers and stakeholders, showing adherence to best practice, or documenting ongoing improvements

Advanced statistical analysis

Access detailed analysis to assess users, regions and accounts. This allows objective performance reviews to aid continuous improvement processes

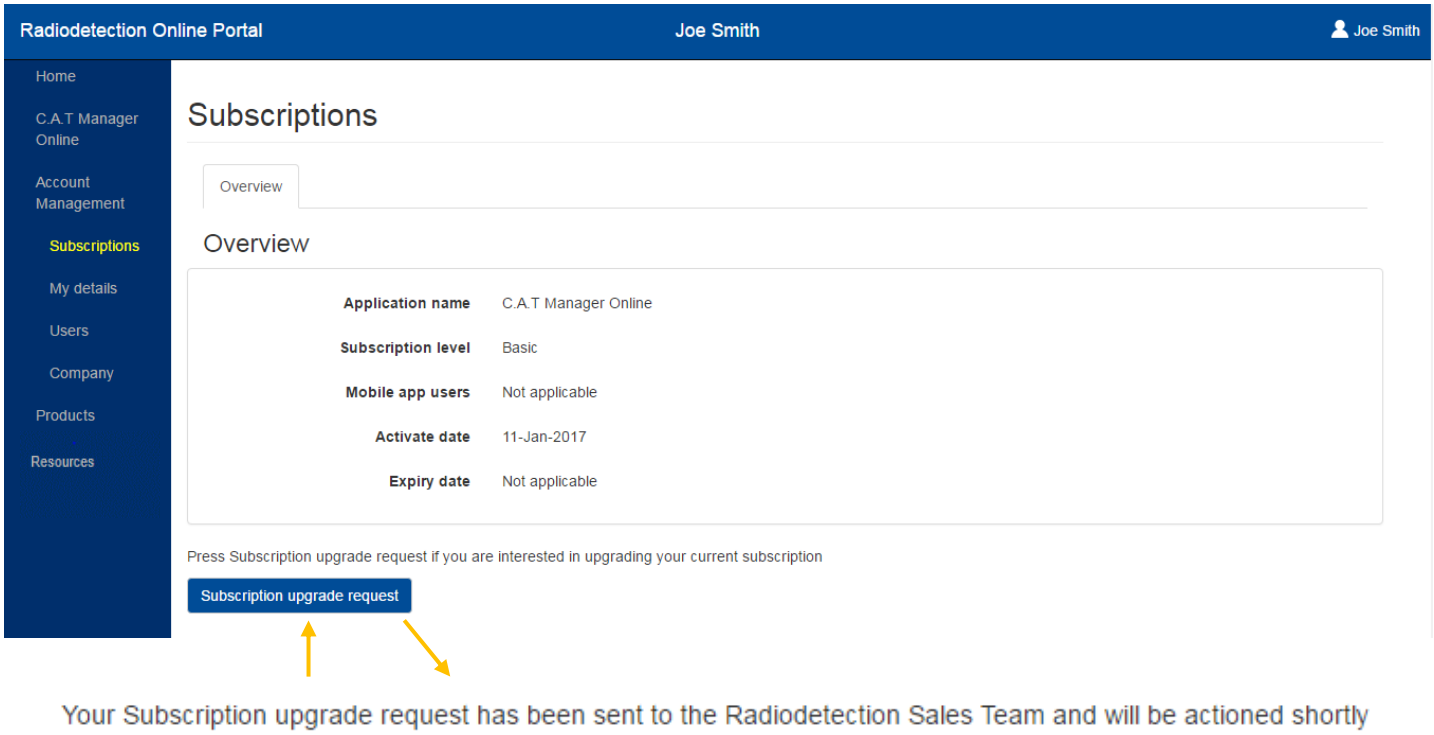
The Standard subscription is free to use.

The Pro subscription is licensed per gC.A.T4 operator. Contact us for more information or for a free trial of the Pro subscription.

3.3.2. Accessing Subscription information

Navigate to **Account Management ► Subscriptions**

The Subscriptions overview screen, available only to main users and administrators, gives access to a list of all the subscriptions active for your company.



By default companies are automatically subscribed to the **Standard/Basic level** for C.A.T Manager online system.

The Standard subscription level is free of charge and you can start using it immediately.

If you wish to discuss or upgrade to another subscription level, click on the **Subscription upgrade request**.

The system will automatically contact a member of the Radiodetection Sales team who will contact you shortly.

3.4 Creating a C.A.T Operator

Standard **Pro** **Advanced**

NOTE: You may not have access to the User's feature or to all the functionality described in this paragraph.

A C.A.T operator is a user that can use the C.A.T Manager mobile app with a compatible gC.A.T4.

For more information about how to use the C.AT Manager mobile app refer to the relevant user guide (Android or iOS).

In general C.A.T operators are organised as Field Operators but small companies may prefer to set any user to be an operator.

Creating a user is subject to the following, role based rules:

Main User
Able to create and manage all company users

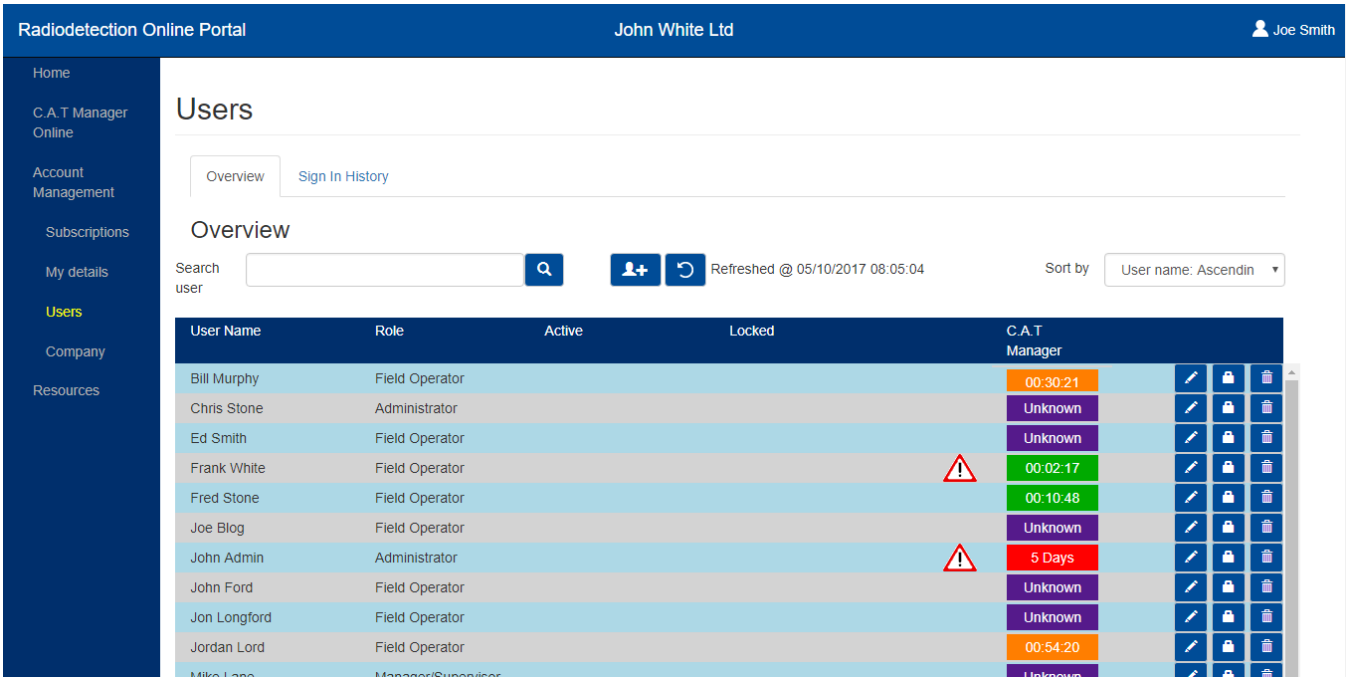
Administrator
Able to create and manage Administrators, Manager/Supervisor and C.A.T field operators

Manager/Supervisor

Able to create and manage C.A.T field operators

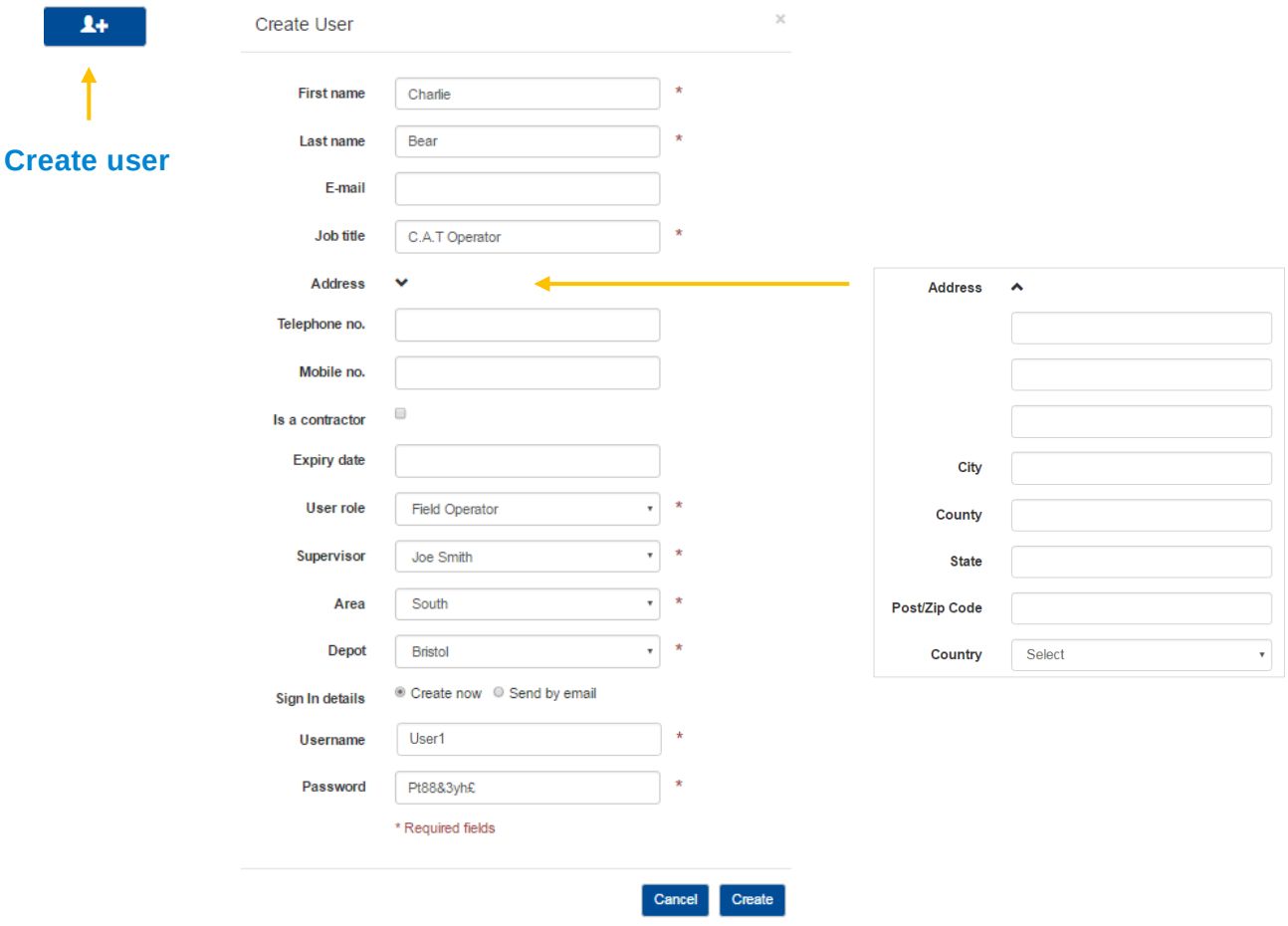
Company users can be easily created, organised and managed by authorised users by navigating to the Overview screen:

Account Management ► Users ► Overview



To create a C.A.T field operator:

1. Press the **Create user** button to access the Create user form



2. Fill the form. All fields marked with a red * are mandatory

NOTE Mandatory fields vary with the User role.

3. If required you can expand the **Address** field
4. Indicate if the user you are creating **is a contractor.**
   NOTE: This feature is not currently active.
5. If required set an **Expiry date** for this account. The account will be automatically de-activated on the chosen date at 00:00

   The account may be re-activated but a new expiry date will have to be provided
   NOTE: This feature is not currently active.

6. Select **Field Operator** as **User role**
7. Select a **Supervisor**

NOTE: you can also allow other user types to become a C.A.T operator, but only Field Operators can be associated to Supervisors.

8. **Area** and **Depot** are mandatory fields if the user role is a field operator (only available to Pro and Advanced accounts). **Default** is the only choice available if areas and depot have not been defined

   Pro **Advanced**

9. Enter or modify the **Username** (this will be set automatically to match the e-mail address if present)

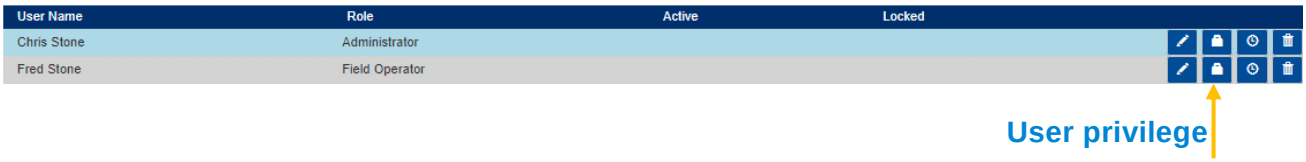
   Username rules:
   - **Must** only contain letters (a-z A-Z), numbers (0-9), dashes (-), apostrophes ('), underscores (_), e-mail (@) and periods (.)
   - **Cannot** contain more than one period (.) in a row
   - **Cannot** start or finish with a period (.)
   - **Must** be less than 50 characters

10. Indicate if you want the system to automatically generate and e-mail a temporary password for the user (**Send by e-mail** - this requires a valid e-mail address) or if you want to enter one manually (**Create now**)

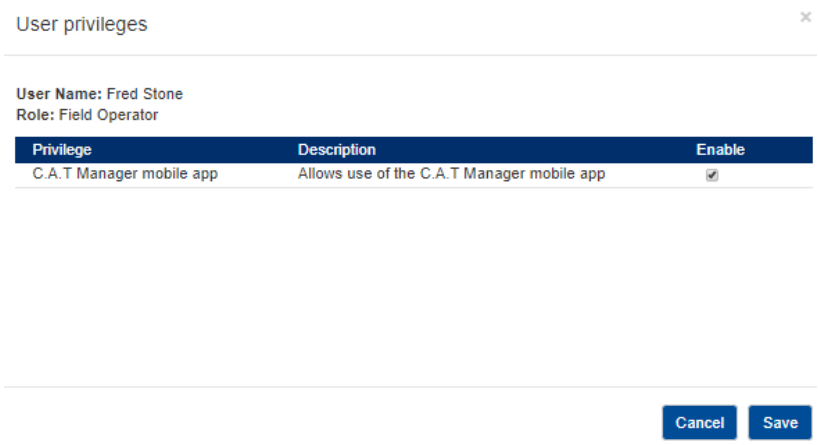
    Password rules:
    - **Must not** contain the user's account name or parts of the user's full name that exceed 3 consecutive characters
    - **Must** be at least 8 characters in length
    - **Must** contain at least 1 character from all of the following categories:
      - English uppercase characters (A - Z).
      - English lowercase characters (a - z).
      - Base 10 digits (0 - 9).
      - Non alphanumeric characters (for example, !, $, #,%)

11. Press **Create**

NOTE: The user will be prompted to change the password at the first use of his login details.



12. Press the **User privilege** button for the user you just created

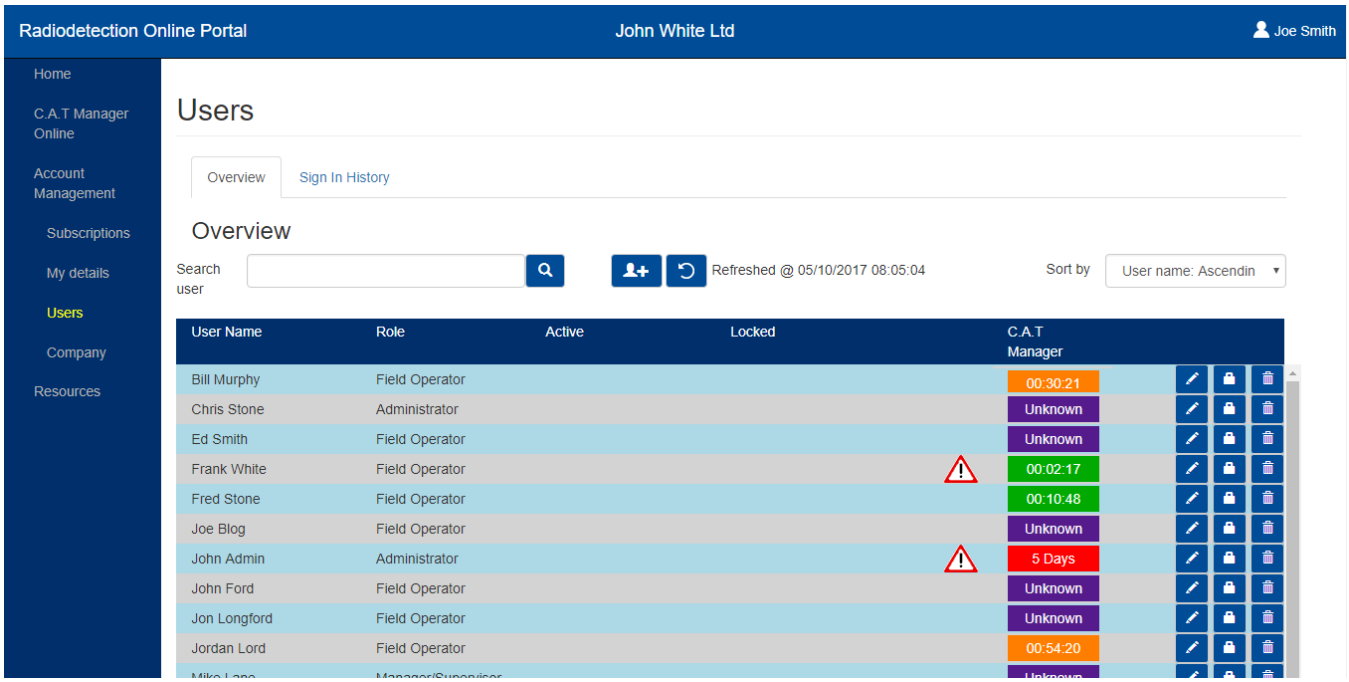


13. Enable the **C.A.T Manager mobile app** privilege
14. Press **Save**

NOTE: Any user can be allowed to become a C.A.T operator by setting the C.A.T Manager mobile app privilege.

WARNING: For Pro and Advance accounts, any C.A.T operator, regardless of his role, will count towards the maximum number of C.A.T operators allowed by the subscription limit.

3.5 Monitoring C.A.T Manager Online Mobile status

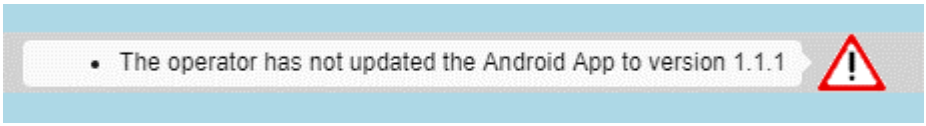


If the user's app is running on the end user's mobile device, it sends a status report to the cloud server every 30 minutes.

The C.A.T manager column provides the time elapse since the last status report or data connection for a standard survey data. The data is characterised using a traffic light system:

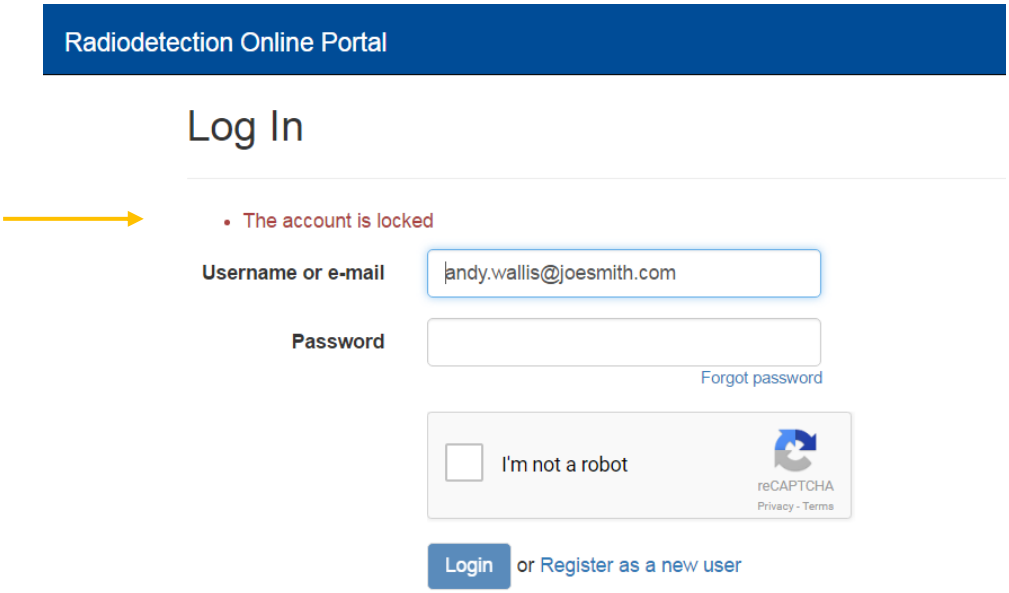
The system reports as Unknown, in purple, all users that have not used the app at least once:

A warning symbol is displayed if there are further information, such as using an older version of the app. Use the mouse to hover on the warning symbol to display the message:



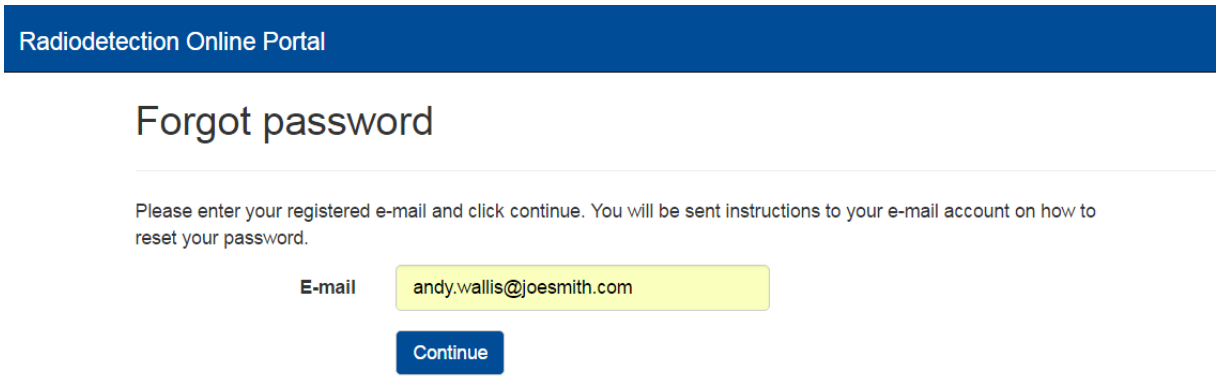
3.6 Unlocking an account / Forgot Password

A user account is locked after 5 consecutive attempts to log in with a wrong password.



If you are trying to Sign In into your account and you receive the message **The account is locked** you will need to unlock your account. You can contact an account administrator or, if your username is valid e-mail address, you can follow the **Forgot Password** procedure:

1. Click on the Forgot Password link



2. Enter your registered **E-mail**

3. Press **Continue**

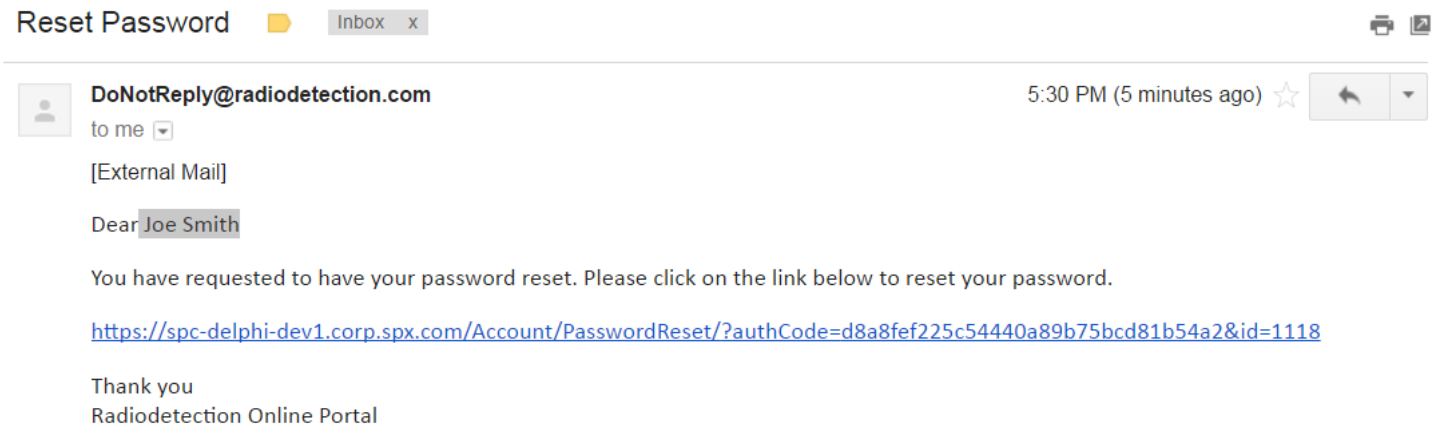
If your e-mail is registered with us you will receive an e-mail with a reset link

4. Go to your e-mail inbox and open the Radiodetection's reset password e-mail

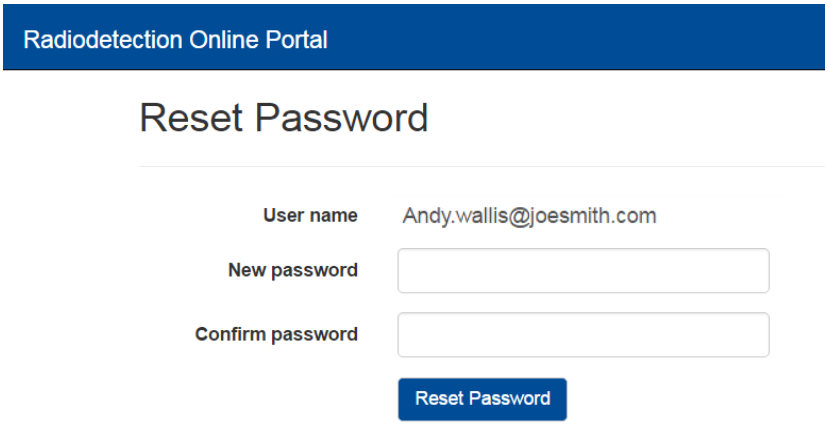
NOTE: Try again if you have not received the reset password e-mail within 5 minutes. Before doing so:

- **Make sure you have entered your registered e-mail**
- **Check your spam folder to make sure it didn't end up there**
- **Try adding DoNotReply@radiodetection.com to your address book**

- **Some email account security will disable the link, the https address will need to be copied and pasted into a web browser**



5. Click on the reset **link**



6. Enter and confirm your new **password**

   Password rules:

Must not contain the user's account name or parts of the user's full name that exceed 3 consecutive characters.

Must be at least 8 characters in length.

Must contain at least 1 character from all of the following categories:

- English uppercase characters (A - Z).
- English lowercase characters (a - z).
- Base 10 digits (0 - 9).
- Non alphanumeric characters (for example, !, $, #, %)

7. Press the **Reset Password** button. If successful you will be logged in and redirected to your home page

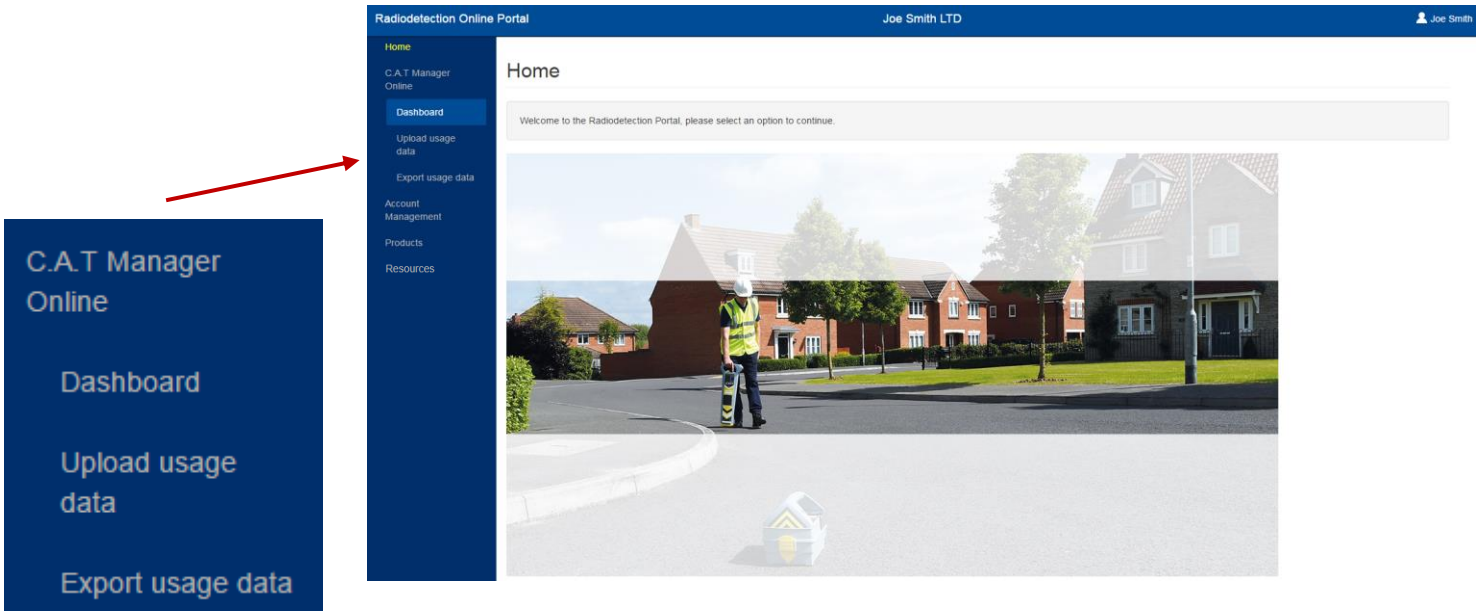
3.7 Reset a C.A.T Operator password / unlock or deactivate an account

If you are managing C.A.T operators who may have forgotten their password or locked their account or if you wish to deactivate their access to the Radiodetection Portal and the C.A.T Manager Online system, read the Manage Company Users article

4 C.A.T Manager Online Dashboard

Standard **Pro** **Advanced**

You can access the C.A.T Manager features by navigating to **C.A.T Manager Online**

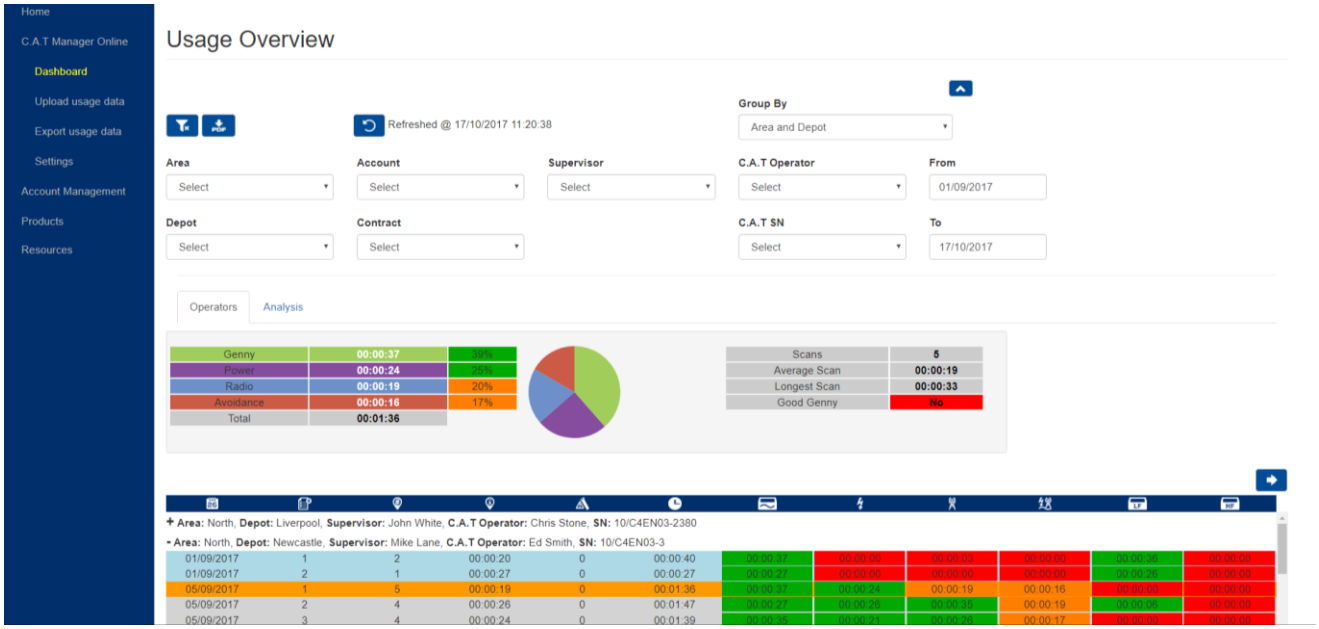


4.1 Dashboard

The C.A.T Manager Online dashboard gives users access to the company's C.A.T operators usage history, and for Pro and Standard account to a detailed statistical analysis of the C.A.T operators operations.

Standard users can review the last 3 months of data.

Pro and Standard can see all their data.



This screen is accessible by every active company user:

Main Users and Administrators

They have access to all of their company's C.A.T operators usage data and statistical analysis

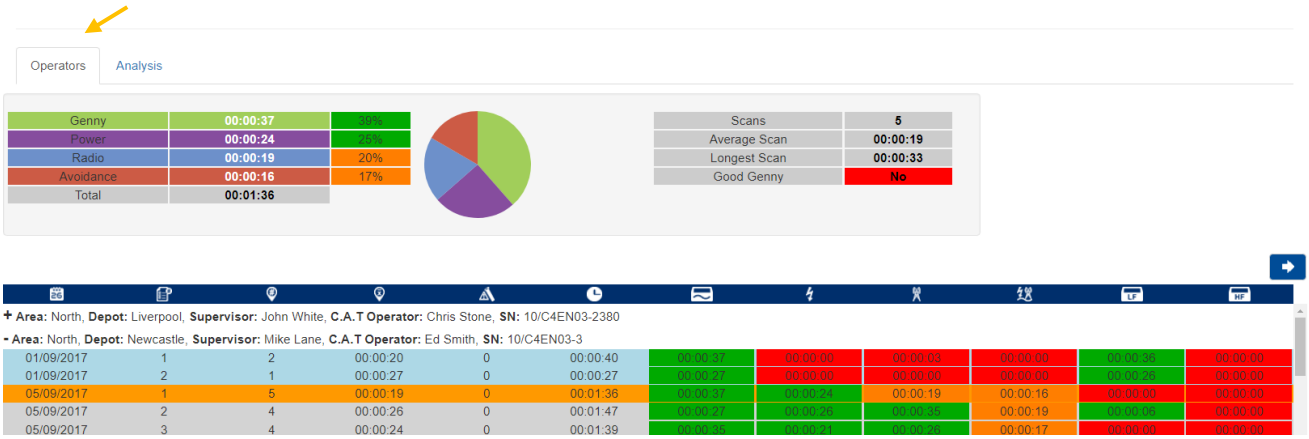
Managers/Supervisors

They have access to their operators' C.A.T usage data and statistical analysis

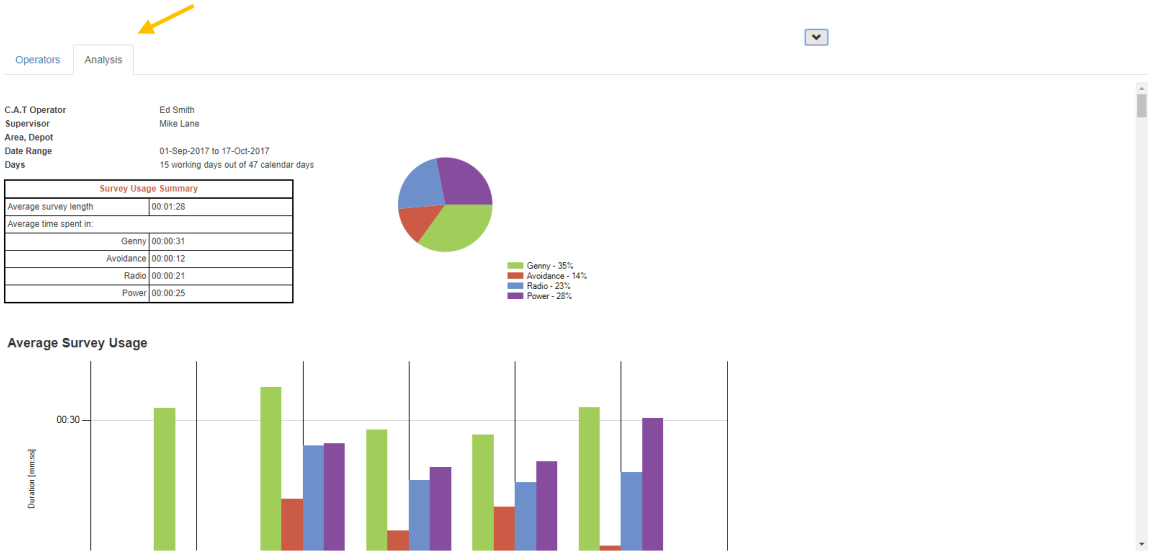
C.A.T Operators

They have access to their own data and statistical analysis use the mobile app and may log into the portal to review their performance

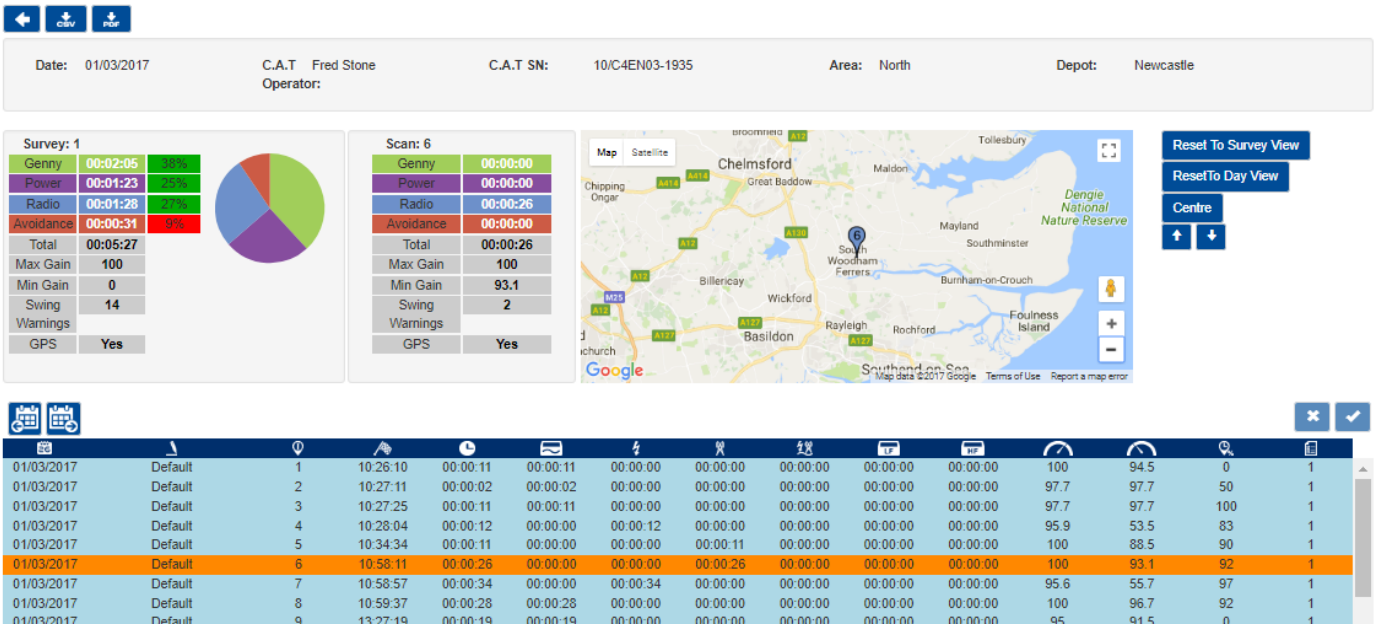
- the **Operators Usage Overview** /**Analysis** is the top level which is split into 2 tabs:
    - **Operators** tab which offers the C.A.T summary overview screen



- **Analysis** tab which provides a detailed statistical analysis of the operator operations. This is only available to Pro and advanced subscription users

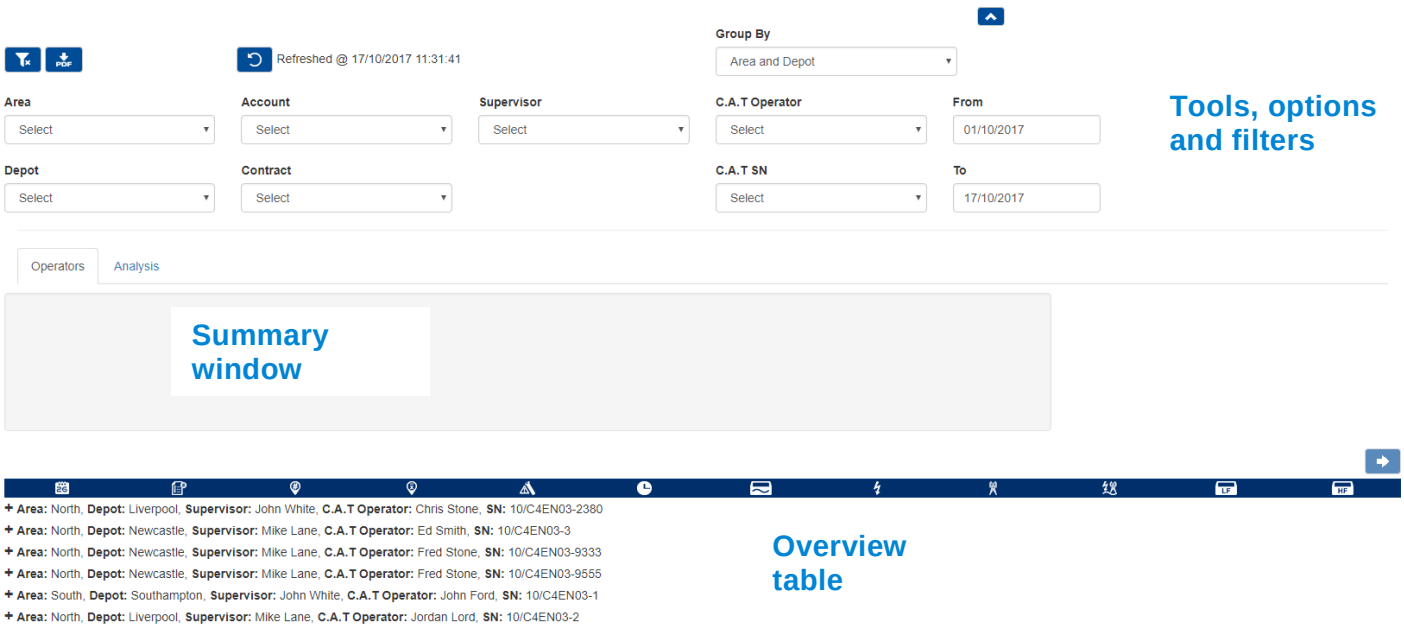


- the **Scans Overview** is the bottom level and gives access to more detailed, x scan based, overview analysis



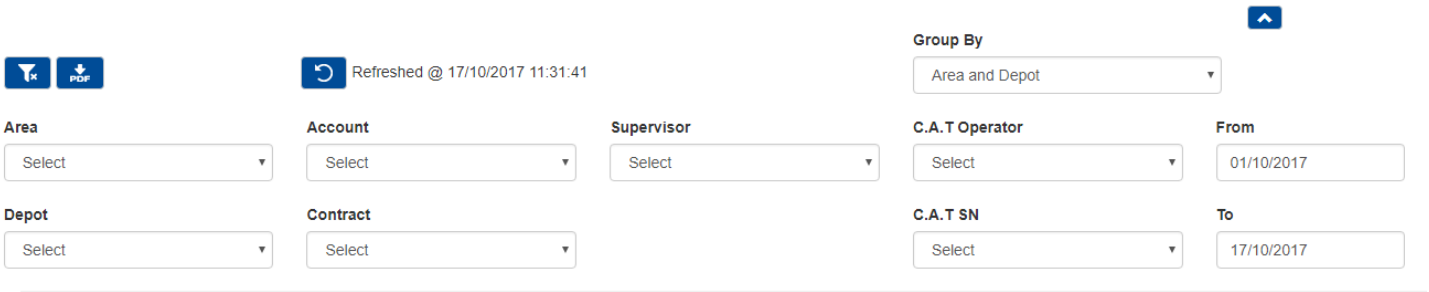
01/03/2017	Default	1	10:26:10	00:00:11	00:00:11	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	100	94.5	0	1
01/03/2017	Default	2	10:27:11	00:00:02	00:00:02	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	97.7	97.7	50	1
01/03/2017	Default	3	10:27:25	00:00:11	00:00:11	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	97.7	97.7	100	1
01/03/2017	Default	4	10:28:04	00:00:12	00:00:00	00:00:12	00:00:00	00:00:00	00:00:00	00:00:00	95.9	53.5	83	1
01/03/2017	Default	5	10:34:34	00:00:11	00:00:00	00:00:00	00:00:11	00:00:00	00:00:00	00:00:00	100	88.5	90	1
01/03/2017	Default	6	10:58:11	00:00:26	00:00:00	00:00:00	00:00:26	00:00:00	00:00:00	00:00:00	100	93.1	92	1
01/03/2017	Default	7	10:58:57	00:00:34	00:00:00	00:00:34	00:00:00	00:00:00	00:00:00	00:00:00	95.6	55.7	97	1
01/03/2017	Default	8	10:59:37	00:00:28	00:00:28	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	100	96.7	92	1
01/03/2017	Default	9	13:27:19	00:00:19	00:00:19	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	95	91.5	0	1

4.2 C.A.T Operators Usage Overview



The C.A.T Usage overview screen has 3 different sections:

4.2.1. Tools, options and filters



This section provides a number of commands, options and filters to help review your company's data. Area, Depot, Account, Contract and Supervisor are only available for **Pro or Advanced** subscriptions. Available commands are:

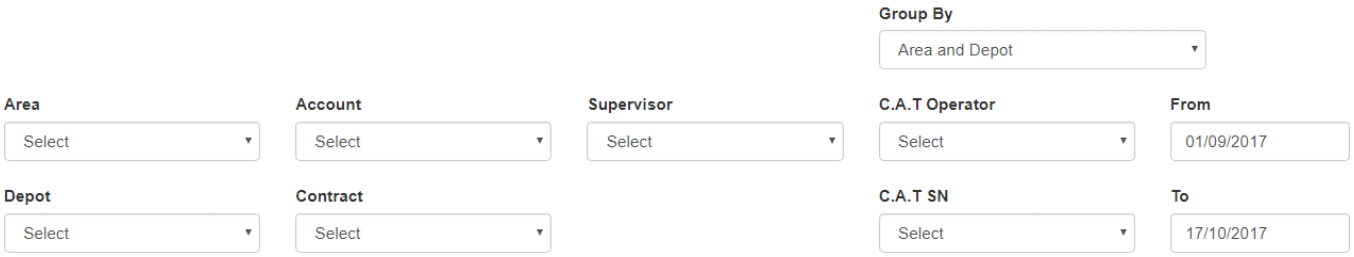
Command	Description
	**Clear filters**
	**Download a PDF** report summary of the data shown in the summary table
	**Refresh** Use this to obtain the latest data from your C.A.T operators in the field
	**Hlide** Use this to hide this section

Pro and Advanced users have the option to change the grouping of the table data:

Group by Area and Depot (default option)

or by **Account and Contract**

Filters provide a quick and easy way to narrow down usage data to a specific subset.



- Filter by Areas, Depots, Contracts, Accounts and Supervisors (Pro and Advanced account required)
- Filter by C.A.T operators and C.A.T serial numbers
- Filter by a date range

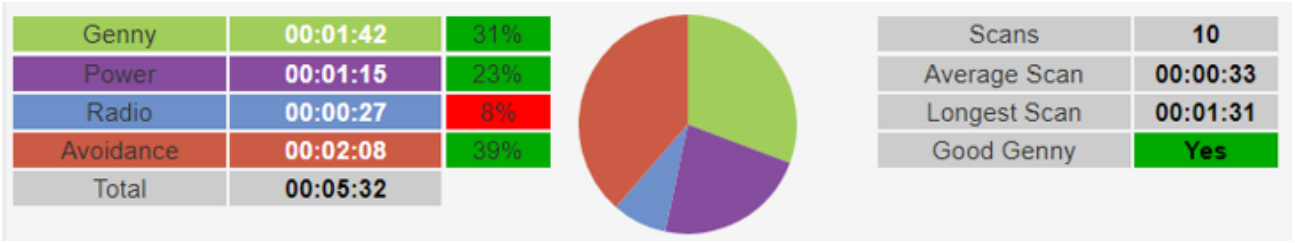
  The **From - To** date range cannot be empty

Filters are automatically applied when a selection is made and will affect all the others. For example if you select a specific user all the other filters will only show values available to that specific user.

To reset the filters press the **clear filter** button.

NOTE: When opening the dashboard screen the date filter range is set to the current date: the overview table and the filters may be empty if no C.A.T usage is available for the day.

4.2.2. Summary window

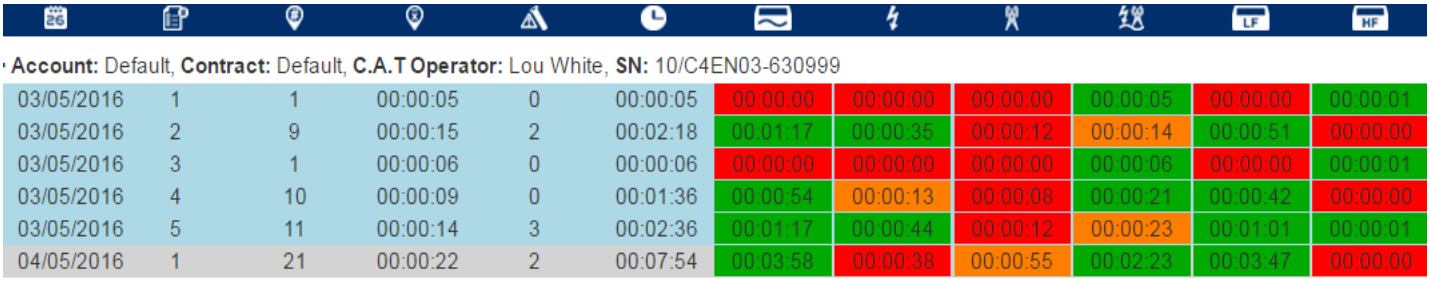


The summary window becomes active when hovering with your mouse over the C.A.T data in the overview table below and shows the scans summary of the day or survey highlighted in yellow

You can lock a specific survey by clicking anywhere on the desired row which will turn partially orange

To unlock click again on the highlighted row

4.2.3. Overview Table



Account: Default, **Contract:** Default, **C.A.T Operator:** Lou White, **SN:** 10/C4EN03-630999

03/05/2016	1	1	00:00:05	0	00:00:05	00:00:00	00:00:00	00:00:00	00:00:05	00:00:00	00:00:01
03/05/2016	2	9	00:00:15	2	00:02:18	00:01:17	00:00:35	00:00:12	00:00:14	00:00:51	00:00:00
03/05/2016	3	1	00:00:06	0	00:00:06	00:00:00	00:00:00	00:00:00	00:00:06	00:00:00	00:00:01
03/05/2016	4	10	00:00:09	0	00:01:36	00:00:54	00:00:13	00:00:08	00:00:21	00:00:42	00:00:00
03/05/2016	5	11	00:00:14	3	00:02:36	00:01:17	00:00:44	00:00:12	00:00:23	00:01:01	00:00:01
04/05/2016	1	21	00:00:22	2	00:07:54	00:03:58	00:00:38	00:00:55	00:02:23	00:03:47	00:00:00

The overview table shows the data available for the applied filters, grouped by users and C.A.T SN.

NOTE: When you first access the dashboard, the date range filter is set to today's date.

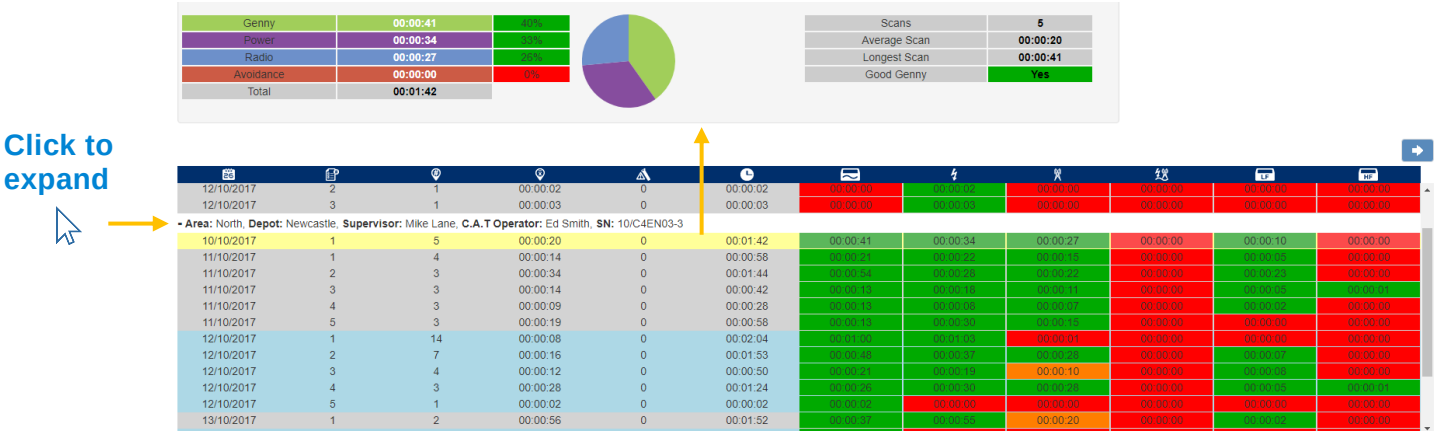
The overview table provides the following information:

Icon	Description
	Date
	Survey number for a specific day Shown when the overview shows a surveys summary
	Daily or Survey **scans count**
	Daily or Survey **average scan duration*** Mathematical scan average duration for the scans in that day or survey
	Daily or Survey **swing warnings count**
	Daily or Survey **overall duration*** How long the C.A.T was used in that day or survey
	Genny duration* How long the C.A.T was used in Genny mode in that day or survey
	Power duration* How long the C.A.T was used in Power mode in that day or survey
	Radio duration* How long the C.A.T was used in Radio mode in that day or survey
	Avoidance duration* How long the C.A.T was used in Avoidance mode in that day or survey
LF	**Low Frequency Genny signal duration*** How long the C.A.T has detected a low frequency Genny signal with a strength greater than 10% of full scale on the display - Avoidance and Genny mode only

Icon	Description
HF	**High Frequency Genny signal duration*** How long the C.A.T has detected a high frequency Genny signal with a strength greater than 10% of full scale on the display - Avoidance and Genny mode only

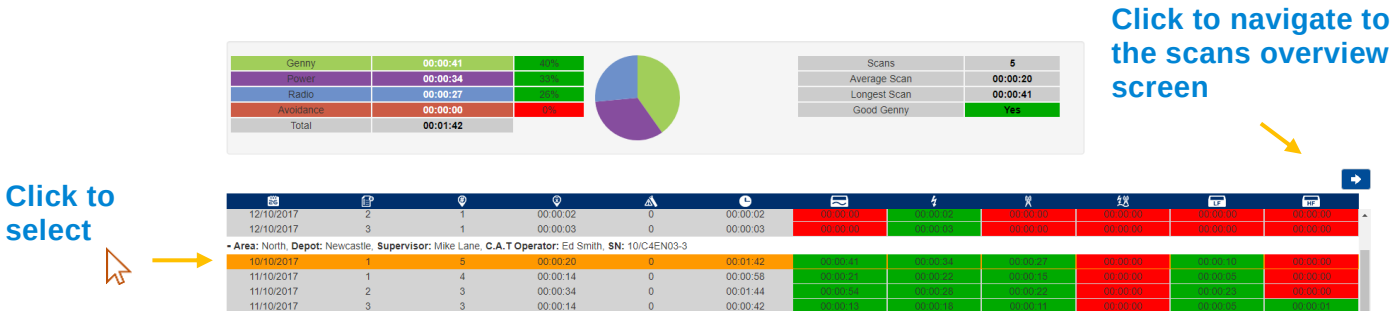
*** Measured in hh:mm:ss**

4.2.4. Using the Usage Overview screen



Using the C.A.T Usage Screen overview:

1. Choose how to summarise the data: by Areas and Depots or Accounts and Contracts (Pro and Advanced only)
2. Use the filters to narrow down to the desired subset
3. If the table shows any results, click on any row to show the overview summary
4. Hover with the mouse on the expanded data, the summary window will display a more detailed summary for the survey highlighted in yellow



5. Click on the survey to select it and lock the summary view screen
6. Click on the left arrow, which activates when a survey is selected, to navigate to the C.A.T scans overview screen

4.2.5. Mode usage scoring feedback

The C.A.T Manager online system provides a visual feedback on the overall, daily or survey, C.A.T mode usage using a traffic light style colour scoring.

Each mode overall use (duration) is compared to the overall usage during the specific survey or day. Colour scoring follows the following table.

Less than 10%
Between 10% and 20%
More than 20%

NOTE: The scoring feedback provided by the C.A.T Manager online system is intended to be used for reference only. It cannot be used as an indication of the true performance of the operators and the quality of their surveys

4.2.6. Genny signal scoring feedback

The C.A.T Manager online system provides a visual indication if a Genny signal, with a strength above 10% of the full scale on the display, was received or not

No signal above 10%
Presence of signal above 10%

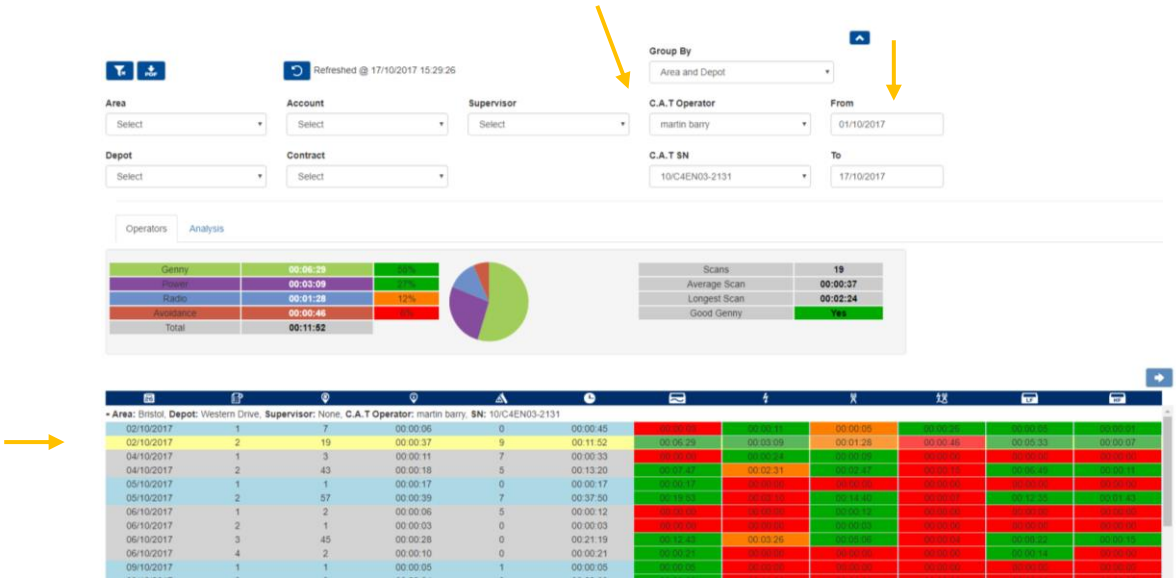
This rule is used to score High Frequency and Low Frequency Genny durations in the table and Good Genny (HF Genny + LF Genny) in the summary window.

NOTE: The scoring feedback provided by the C.A.T Manager online system is intended to be used for reference only. It cannot be used as an indication of the true performance of the operators and the quality of their surveys.

4.2.7. Using the C.A.T Dashboard Usage overview screen - Example

Let’s assume you want to review one specific operator

1. Select a date range and C.A.T operator’s name
2. Select the C.A.T Serial Number you want to review and expand the data



3. Hover with the mouse on the expanded rows in the table overview to review usage

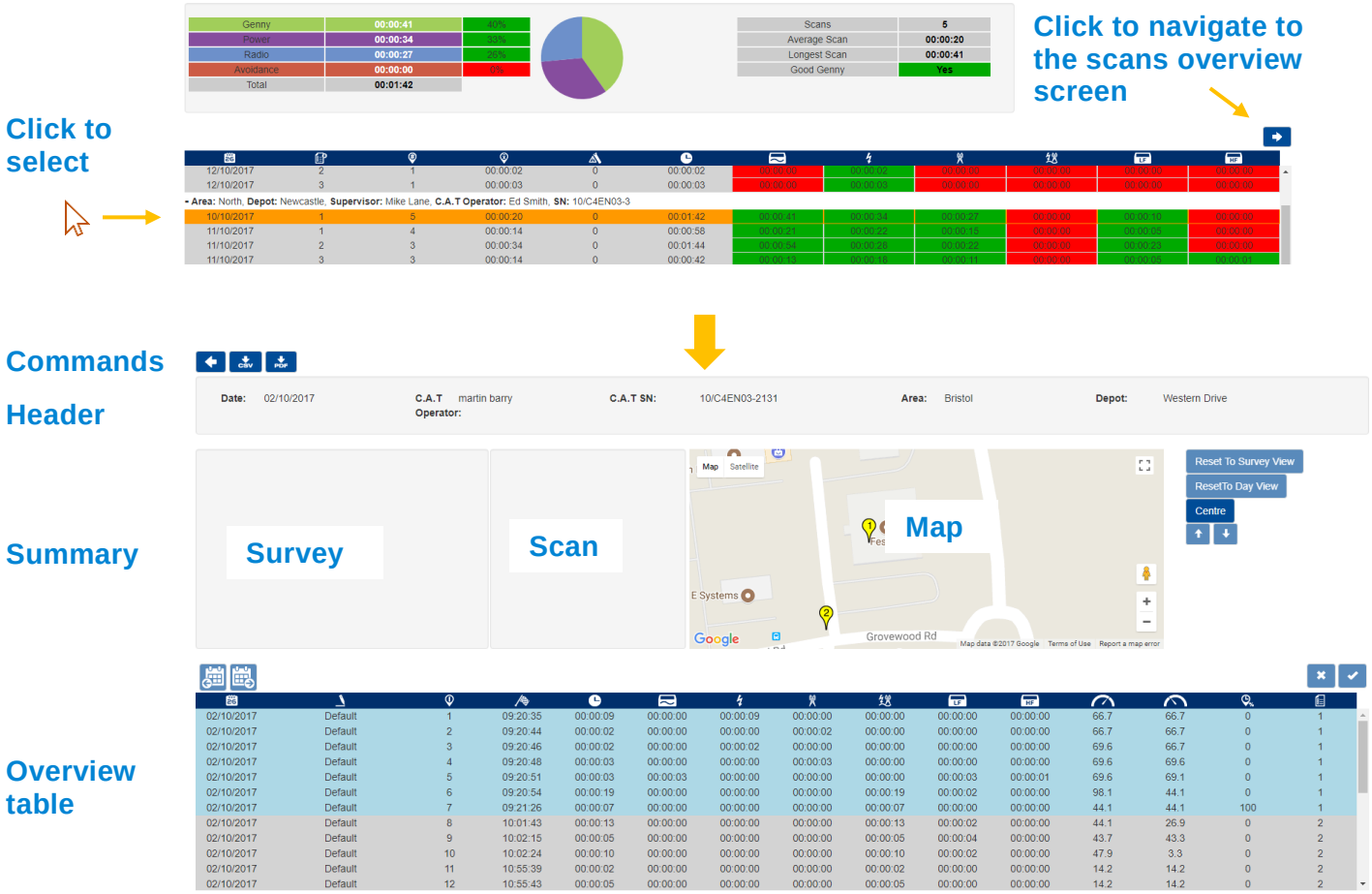
On the 02/10/2017, C.A.T operator **Martin Bary**, belonging to **Western Drive** depot of the **Bristol** area, was using C.A.T serial number **10/C4EN03-2131**. He completed 2 surveys.

Looking in more detail at the highlighted survey above (survey 2) we can see (left to right) that on that day the C.A.T operator:

- In **survey 2**
- completed **19** different scans
- was averaging 37seconds per scan
- he had 9 **swing warnings**
- used the locator for **11 minutes and 52 seconds** in total
- used Genny for 6 minutes **29 seconds in total** – green score (55% of the total time)
- used Power for **3 minutes 9 seconds** in total – green score (27% of the total time)
- used Radio for **1 minute 28 seconds** in total – orange score (12% of the total time)
- used Avoidance for **46 seconds** in total – red score (6% of the total time)
- located a valid Low Frequency Genny signal for 5 minutes 33 seconds – green score
- located a valid High Frequency Genny signal for 7 seconds – green score

4.3 C.A.T Scans Overview Screen

To navigate to the Scans overview screen, you must first select the survey you want to analyse: click with your mouse on the desired survey and then press the left arrow.



The C.A.T Scans Overview screen has 4 different sections:

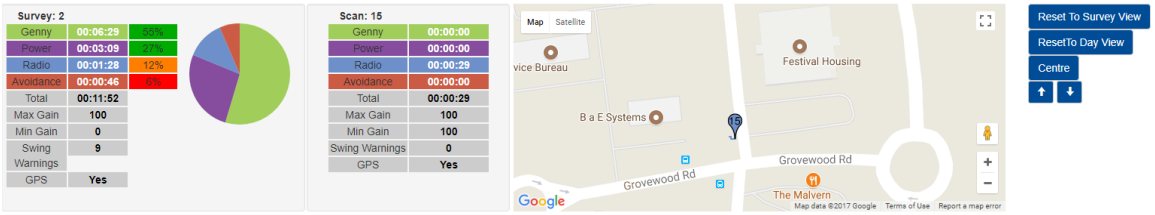
Commands

Command	Action
	Return to previous screen
	Export Data as CSV file
	Generate a PDF report for a specific Survey

Header

The header section identifies the date shown, the locator's serial number, the C.A.T operator and his supervisor (if applicable), area and depot.

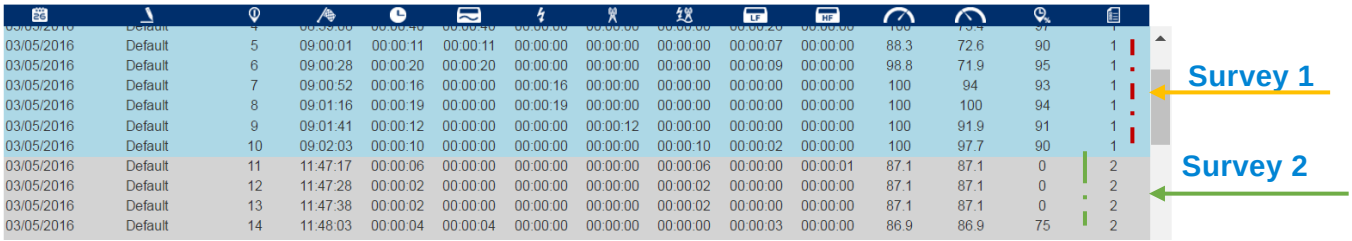
Summary



The summary section is divided into 3 different areas; these are (from left to right): Survey, Scan and Map. The map links the survey and/or scan under observation to a specific location.

NOTE: The map function is only available for gC.A.T4 locators if they had a valid GPS position at the time of the scan and/or paired to a mobile device running C.A.T Manager mobile app, where the Location mode is enabled.

4.3.1. Overview Table



The overview table provides a detailed view of all surveys conducted and distinct scans associated to them.

Surveys are colour banded, alternating blue and grey. All the scans associated to a specific survey are displayed with the same colour.

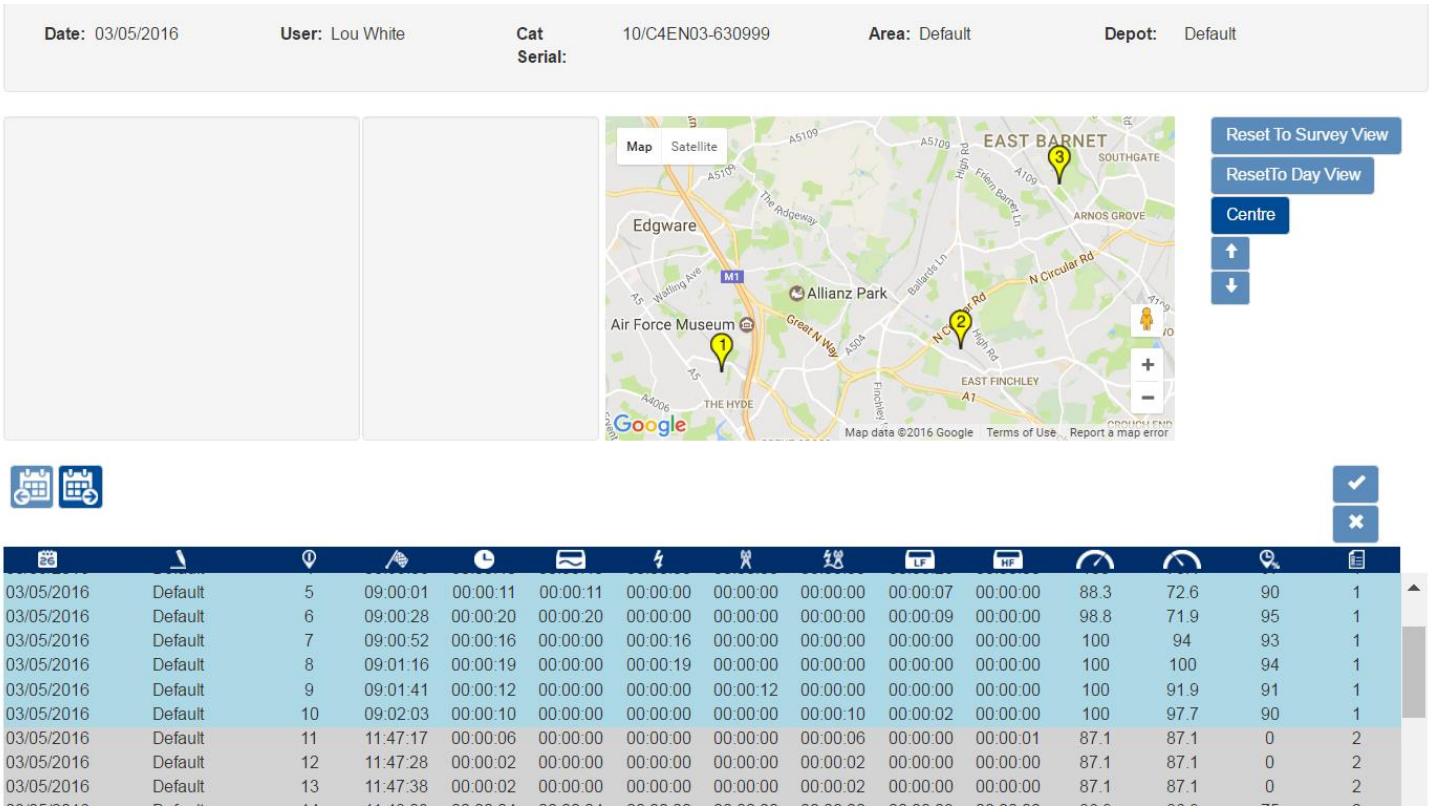
The overview table provides the following information:

Icon	Description
	Date
	Contract Contract associated to the survey
	Scan number
	Start time
	Scan duration*
	Genny duration* How long the C.A.T was used in Genny mode in that day or survey
	Power duration*

Icon	Description
	How long the C.A.T was used in Power mode in that day or survey
	Radio duration* How long the C.A.T was used in Radio mode in that day or survey
	Avoidance duration* How long the C.A.T was used in Avoidabce mode in that day or survey
LF	**Low Frequency Genny signal duration*** How long the C.A.T has detected a low frequency genny signal with a stregth greater than 10% of full scale on the display - Avoidance and Genny mode only
HF	**High Frequency Genny signal duration*** How long the C.A.T has detected a high frequency genny signal with a stregth greater than 10% of full scale on the display - Avoidance and Genny mode only
	Maximum sensitivity gain
	Minimum sensitivity gain
%	**Scan GPS % duration*** Compared to the overall survey duration
	Survey number

*** Measured in hh:mm:ss**

4.3.2. Using the Scans Overview screen



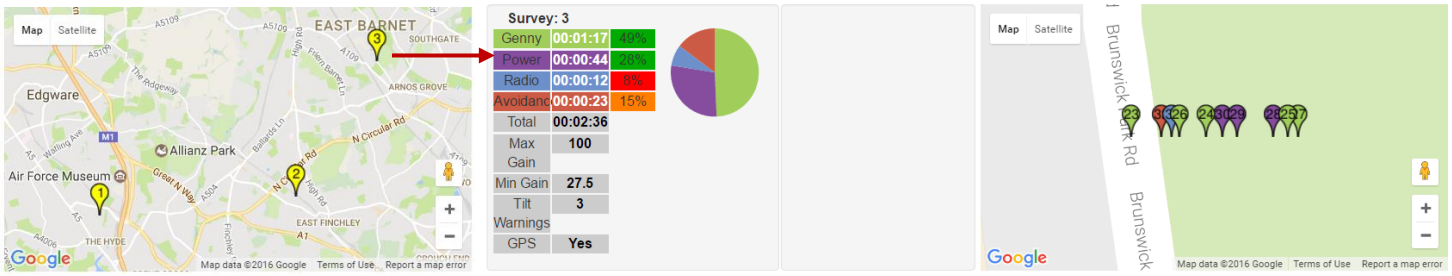
03/05/2016	Default	5	09:00:01	00:00:11	00:00:11	00:00:00	00:00:00	00:00:00	00:00:07	00:00:00	88.3	72.6	90	1
03/05/2016	Default	6	09:00:28	00:00:20	00:00:20	00:00:00	00:00:00	00:00:00	00:00:09	00:00:00	98.8	71.9	95	1
03/05/2016	Default	7	09:00:52	00:00:16	00:00:00	00:00:16	00:00:00	00:00:00	00:00:00	00:00:00	100	94	93	1
03/05/2016	Default	8	09:01:16	00:00:19	00:00:00	00:00:19	00:00:00	00:00:00	00:00:00	00:00:00	100	100	94	1
03/05/2016	Default	9	09:01:41	00:00:12	00:00:00	00:00:00	00:00:12	00:00:00	00:00:00	00:00:00	100	91.9	91	1
03/05/2016	Default	10	09:02:03	00:00:10	00:00:00	00:00:00	00:00:00	00:00:10	00:00:02	00:00:00	100	97.7	90	1
03/05/2016	Default	11	11:47:17	00:00:06	00:00:00	00:00:00	00:00:00	00:00:06	00:00:00	00:00:01	87.1	87.1	0	2
03/05/2016	Default	12	11:47:28	00:00:02	00:00:00	00:00:00	00:00:00	00:00:02	00:00:00	00:00:00	87.1	87.1	0	2
03/05/2016	Default	13	11:47:38	00:00:02	00:00:00	00:00:00	00:00:00	00:00:02	00:00:00	00:00:00	87.1	87.1	0	2

When the Scans overview screen is accessed, the Map screen shows all the surveys conducted by the user on that day. The surveys are represented by yellow icons.

All individual scans are colour banded into surveys in the scans table.

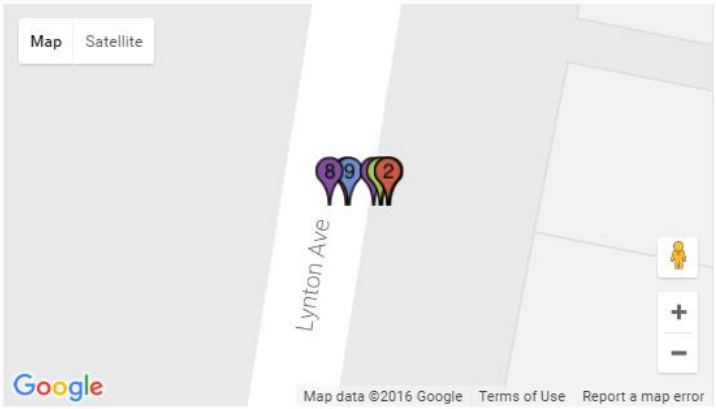
To use the Scans Overview screen using the map Icons:

1. Click on any survey's icon to show all the associated scans.

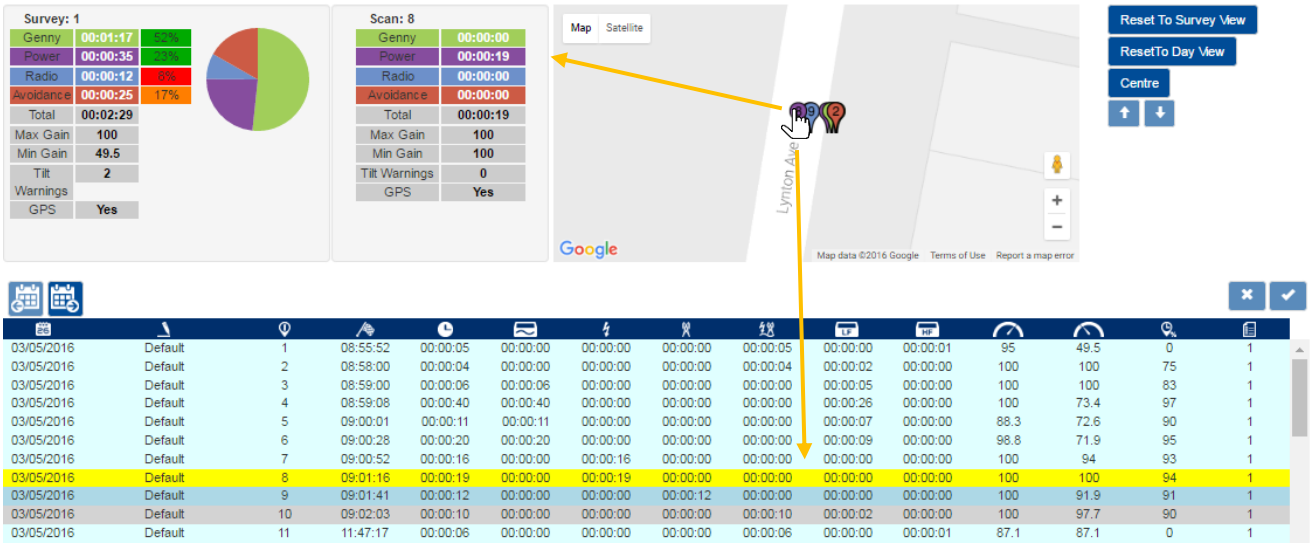


Scans are identified by icons coloured in their predominant mode

2. Use the Google's maps commands to switch from a map to a satellite picture, zoom in and out or to switch to Street View



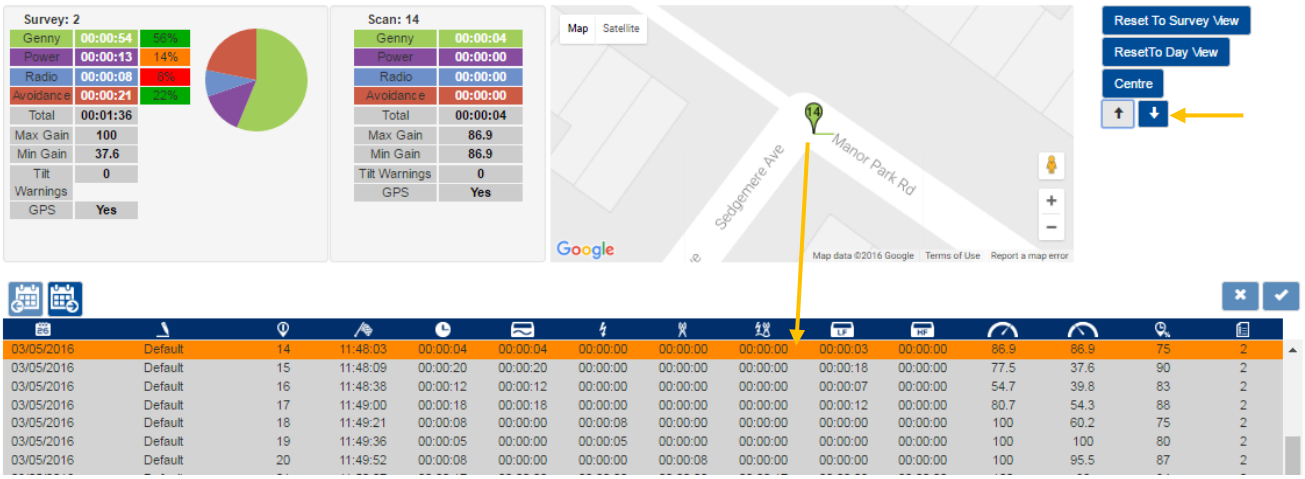
3. Hover with a mouse on any icons on the map to see information about the scans associated with it



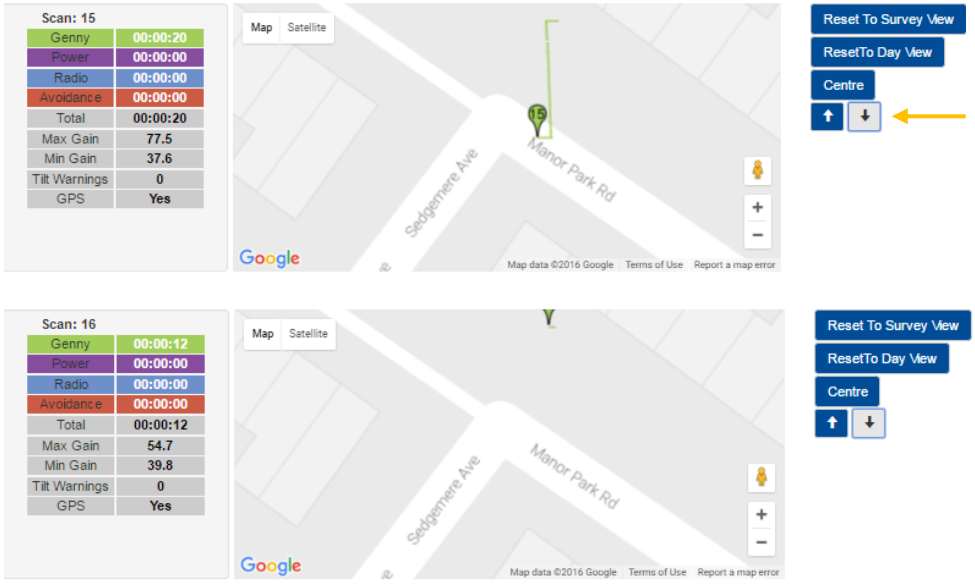
03/05/2016	Default	1	08:55:52	00:00:05	00:00:00	00:00:00	00:00:00	00:00:05	00:00:00	00:00:01	95	49.5	0	1
03/05/2016	Default	2	08:58:00	00:00:04	00:00:00	00:00:00	00:00:00	00:00:04	00:00:02	00:00:00	100	100	75	1
03/05/2016	Default	3	08:59:00	00:00:06	00:00:06	00:00:00	00:00:00	00:00:00	00:00:05	00:00:00	100	100	83	1
03/05/2016	Default	4	08:59:08	00:00:40	00:00:40	00:00:00	00:00:00	00:00:00	00:00:26	00:00:00	100	73.4	97	1
03/05/2016	Default	5	09:00:01	00:00:11	00:00:11	00:00:00	00:00:00	00:00:00	00:00:07	00:00:00	88.3	72.6	90	1
03/05/2016	Default	6	09:00:28	00:00:20	00:00:20	00:00:00	00:00:00	00:00:00	00:00:09	00:00:00	98.8	71.9	95	1
03/05/2016	Default	7	09:00:52	00:00:16	00:00:00	00:00:16	00:00:00	00:00:00	00:00:00	00:00:00	100	94	93	1
03/05/2016	Default	8	09:01:16	00:00:19	00:00:00	00:00:19	00:00:00	00:00:00	00:00:00	00:00:00	100	100	94	1
03/05/2016	Default	9	09:01:41	00:00:12	00:00:00	00:00:00	00:00:12	00:00:00	00:00:00	00:00:00	100	91.9	91	1
03/05/2016	Default	10	09:02:03	00:00:10	00:00:00	00:00:00	00:00:00	00:00:10	00:00:02	00:00:00	100	97.7	90	1
03/05/2016	Default	11	11:47:17	00:00:06	00:00:00	00:00:00	00:00:00	00:00:06	00:00:00	00:00:01	87.1	87.1	0	1

The correspondent row in the scans table is highlighted in yellow

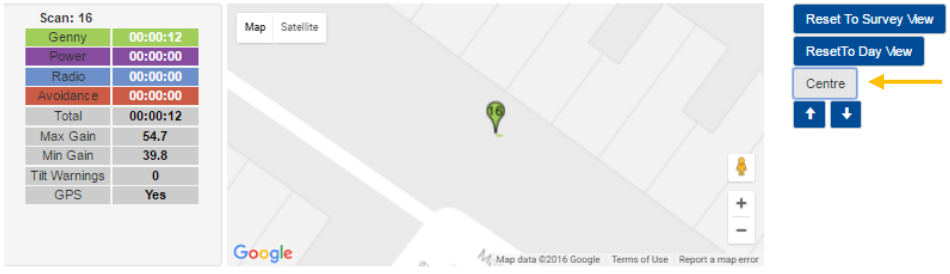
4. Left-click on any icons on the map to lock the scans on the map and overview table (row is highlighted in orange)



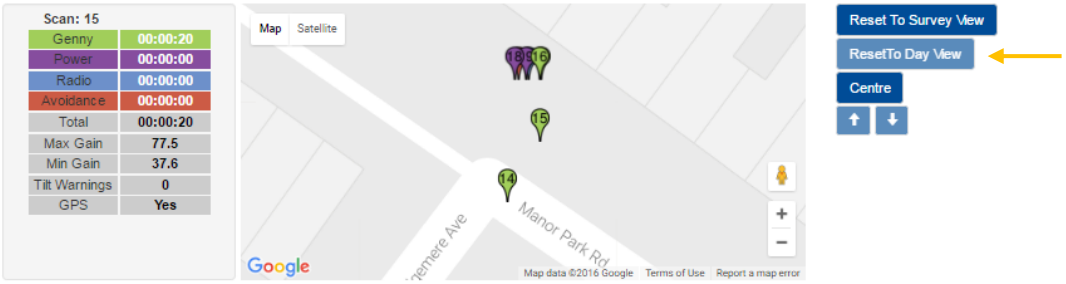
5. Use the **UP** and **DOWN** buttons to scroll through the icons



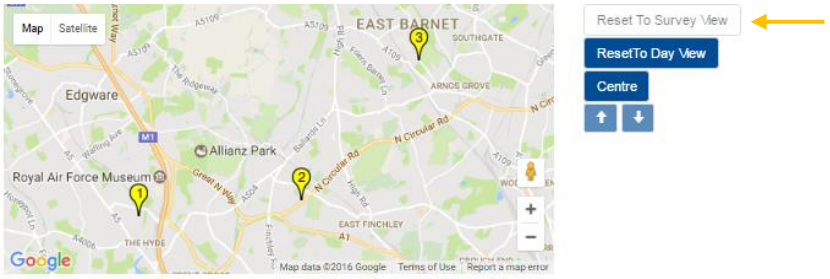
6. Press on the **Centre** button to move the icon to the centre of the map



7. Press on the **Reset to Day View survey** to zoom out and show all the icons associated with the survey

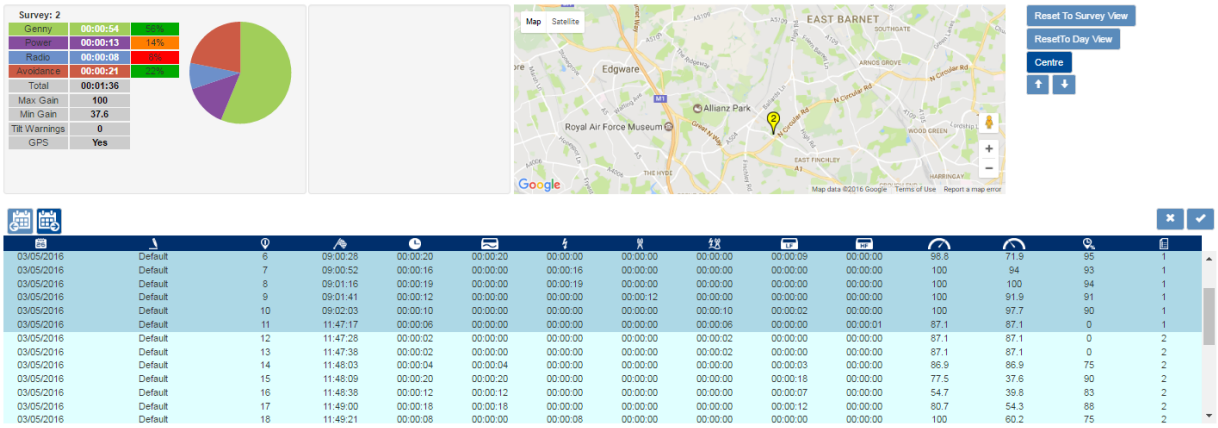


8. Press on the **Reset to Surveys View** to zoom out and show all the surveys



To use the Scans Overview screen using the scans table:

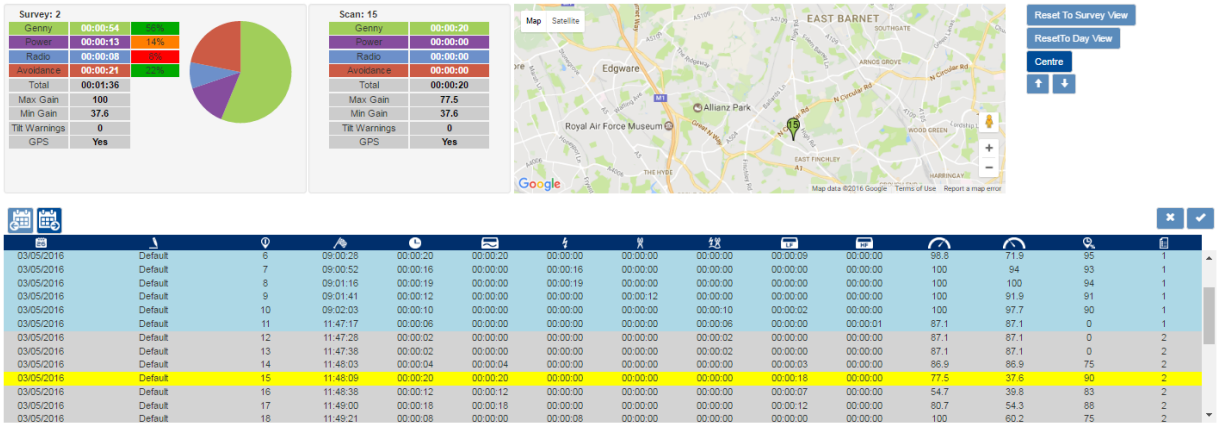
1. Hover your mouse on the table area
    - The survey underneath is selected and changes colour to light blue (Survey 2 in the example below)



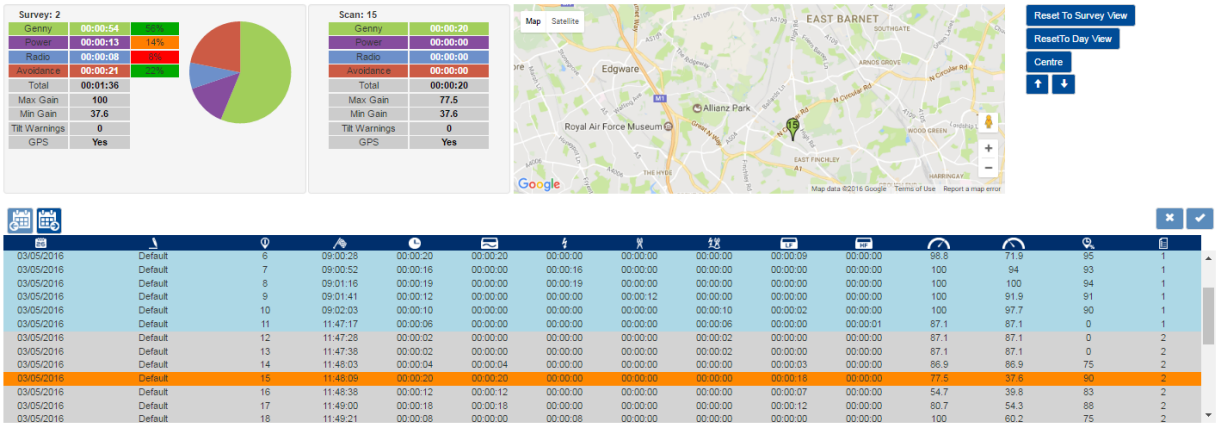
    - The Survey summary displays a detailed overview of the survey highlighted
    - The map shows the area where the survey took place. This is represented by a yellow icon, positioned in the average point of all the scans locations

2. Click once on any scan (row) to select it:
    - The selected scan will turn yellow
    - The Scan summary will display a detailed overview of the survey

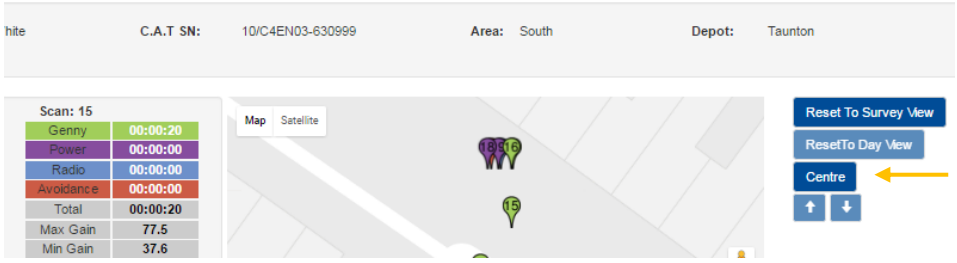
- The map will show the average location point as an icon, showing the scan number and route followed, coloured as for the predominant C.A.T mode (Genny, Power, Radio or Avoidance) for that scan operation.



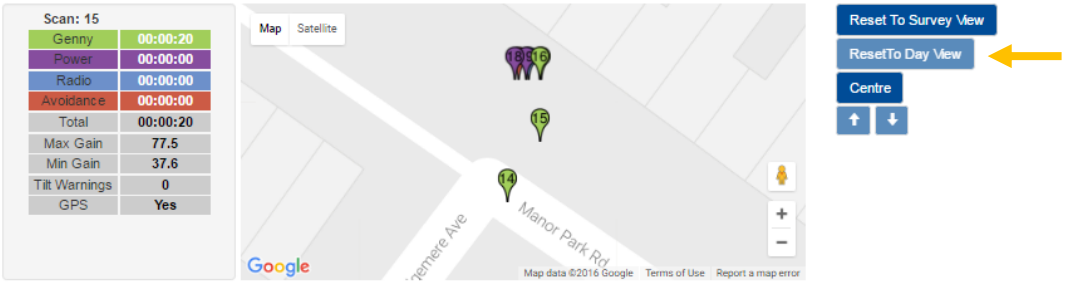
3. Click again on the row to lock the scan and icon:
   - The selected scan will turn orange



4. Press on the **Centre** button to move the icon to the centre of the map



5. Unlock the scan by clicking again on the scan highlighted in orange or by pressing on the **Reset to Day View survey.**



4.3.3. Editing surveys

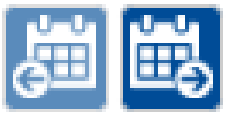
Identify all the scans completed to survey a specific area.

They are normally created by the field operator using the C.A.T Manager mobile application.

If the operator does not make use of the Survey feature, the C.A.T Manager online system will try to automatically identify them.

You can edit a survey by using the overview table:

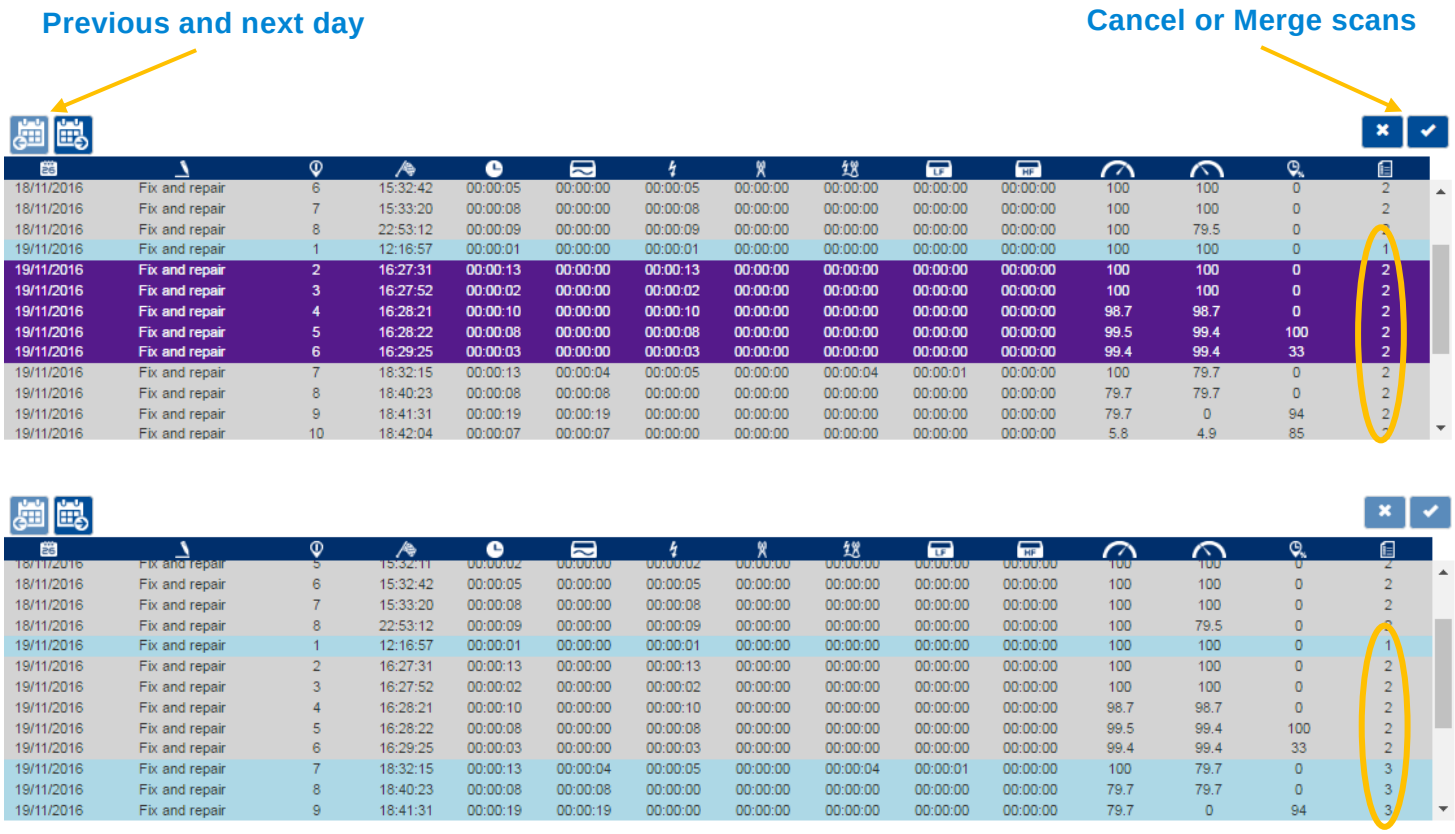
1. Click on the previous or next day buttons to show scans from these days



NOTE: The calendar buttons will only work if there are scans data on a contiguous day.

2. Select all the scans on the table which belong to the same survey by pressing the **CTRL** key on the keyboard and left-click with the mouse
3. Press the **Merge scans** button to group all the scans in a new survey or **Cancel**

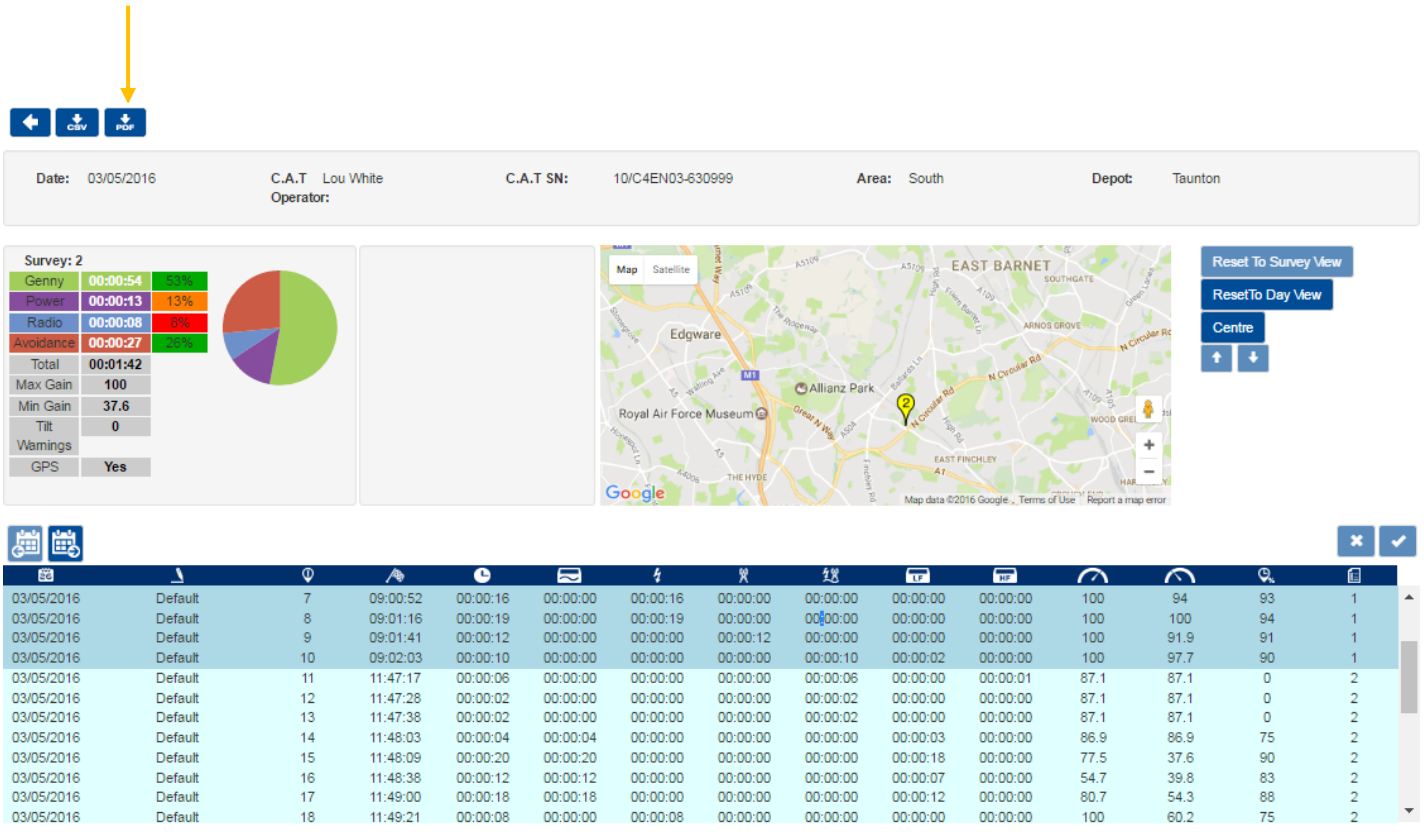
NOTE: The survey numbers are automatically changed to take into account the changes applied



18/11/2016	Fix and repair	6	15:32:42	00:00:05	00:00:00	00:00:05	00:00:00	00:00:00	00:00:00	00:00:00	100	100	0	2
18/11/2016	Fix and repair	7	15:33:20	00:00:08	00:00:00	00:00:08	00:00:00	00:00:00	00:00:00	00:00:00	100	100	0	2
18/11/2016	Fix and repair	8	22:53:12	00:00:09	00:00:00	00:00:09	00:00:00	00:00:00	00:00:00	00:00:00	100	79.5	0	2
19/11/2016	Fix and repair	1	12:16:57	00:00:01	00:00:00	00:00:01	00:00:00	00:00:00	00:00:00	00:00:00	100	100	0	1
19/11/2016	Fix and repair	2	16:27:31	00:00:13	00:00:00	00:00:13	00:00:00	00:00:00	00:00:00	00:00:00	100	100	0	2
19/11/2016	Fix and repair	3	16:27:52	00:00:02	00:00:00	00:00:02	00:00:00	00:00:00	00:00:00	00:00:00	100	100	0	2
19/11/2016	Fix and repair	4	16:28:21	00:00:10	00:00:00	00:00:10	00:00:00	00:00:00	00:00:00	00:00:00	98.7	98.7	0	2
19/11/2016	Fix and repair	5	16:28:22	00:00:08	00:00:00	00:00:08	00:00:00	00:00:00	00:00:00	00:00:00	99.5	99.4	100	2
19/11/2016	Fix and repair	6	16:29:25	00:00:03	00:00:00	00:00:03	00:00:00	00:00:00	00:00:00	00:00:00	99.4	99.4	33	2
19/11/2016	Fix and repair	7	18:32:15	00:00:13	00:00:04	00:00:05	00:00:00	00:00:04	00:00:01	00:00:00	100	79.7	0	2
19/11/2016	Fix and repair	8	18:40:23	00:00:08	00:00:08	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	79.7	79.7	0	2
19/11/2016	Fix and repair	9	18:41:31	00:00:19	00:00:19	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	79.7	0	94	2
19/11/2016	Fix and repair	10	18:42:04	00:00:07	00:00:07	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	5.8	4.9	85	2

18/11/2016	Fix and repair	6	15:32:42	00:00:05	00:00:00	00:00:05	00:00:00	00:00:00	00:00:00	00:00:00	100	100	0	2
18/11/2016	Fix and repair	7	15:33:20	00:00:08	00:00:00	00:00:08	00:00:00	00:00:00	00:00:00	00:00:00	100	100	0	2
18/11/2016	Fix and repair	8	22:53:12	00:00:09	00:00:00	00:00:09	00:00:00	00:00:00	00:00:00	00:00:00	100	79.5	0	2
19/11/2016	Fix and repair	1	12:16:57	00:00:01	00:00:00	00:00:01	00:00:00	00:00:00	00:00:00	00:00:00	100	100	0	1
19/11/2016	Fix and repair	2	16:27:31	00:00:13	00:00:00	00:00:13	00:00:00	00:00:00	00:00:00	00:00:00	100	100	0	2
19/11/2016	Fix and repair	3	16:27:52	00:00:02	00:00:00	00:00:02	00:00:00	00:00:00	00:00:00	00:00:00	100	100	0	2
19/11/2016	Fix and repair	4	16:28:21	00:00:10	00:00:00	00:00:10	00:00:00	00:00:00	00:00:00	00:00:00	98.7	98.7	0	2
19/11/2016	Fix and repair	5	16:28:22	00:00:08	00:00:00	00:00:08	00:00:00	00:00:00	00:00:00	00:00:00	99.5	99.4	100	2
19/11/2016	Fix and repair	6	16:29:25	00:00:03	00:00:00	00:00:03	00:00:00	00:00:00	00:00:00	00:00:00	99.4	99.4	33	2
19/11/2016	Fix and repair	7	18:32:15	00:00:13	00:00:04	00:00:05	00:00:00	00:00:04	00:00:01	00:00:00	100	79.7	0	3
19/11/2016	Fix and repair	8	18:40:23	00:00:08	00:00:08	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	79.7	79.7	0	3
19/11/2016	Fix and repair	9	18:41:31	00:00:19	00:00:19	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	79.7	0	94	3

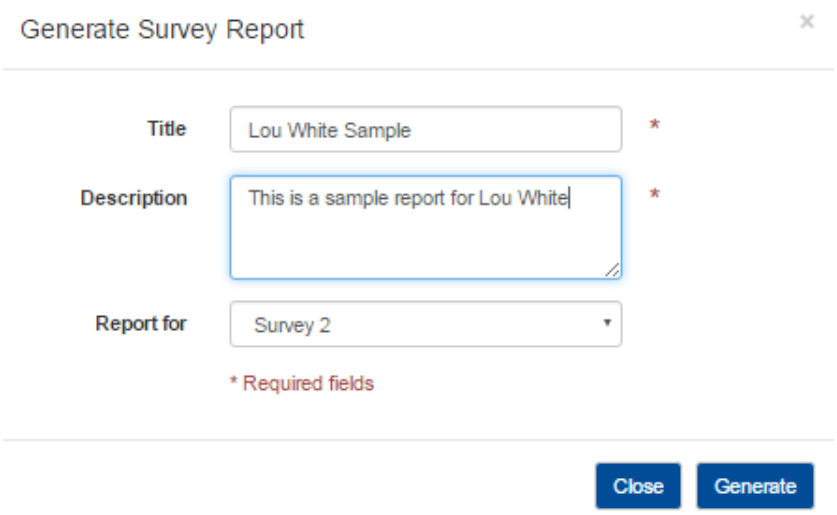
4.3.4. Creating a survey report



03/05/2016	Default	7	09:00:52	00:00:16	00:00:00	00:00:16	00:00:00	00:00:00	00:00:00	00:00:00	100	94	93	1
03/05/2016	Default	8	09:01:16	00:00:19	00:00:00	00:00:19	00:00:00	00:00:00	00:00:00	00:00:00	100	100	94	1
03/05/2016	Default	9	09:01:41	00:00:12	00:00:00	00:00:00	00:00:12	00:00:00	00:00:00	00:00:00	100	91.9	91	1
03/05/2016	Default	10	09:02:03	00:00:10	00:00:00	00:00:00	00:00:00	00:00:10	00:00:02	00:00:00	100	97.7	90	1
03/05/2016	Default	11	11:47:17	00:00:06	00:00:00	00:00:00	00:00:00	00:00:06	00:00:00	00:00:01	87.1	87.1	0	2
03/05/2016	Default	12	11:47:28	00:00:02	00:00:00	00:00:00	00:00:00	00:00:02	00:00:00	00:00:00	87.1	87.1	0	2
03/05/2016	Default	13	11:47:38	00:00:02	00:00:00	00:00:00	00:00:00	00:00:02	00:00:00	00:00:00	87.1	87.1	0	2
03/05/2016	Default	14	11:48:03	00:00:04	00:00:04	00:00:00	00:00:00	00:00:00	00:00:03	00:00:00	86.9	86.9	75	2
03/05/2016	Default	15	11:48:09	00:00:20	00:00:20	00:00:00	00:00:00	00:00:00	00:00:18	00:00:00	77.5	37.6	90	2
03/05/2016	Default	16	11:48:38	00:00:12	00:00:12	00:00:00	00:00:00	00:00:00	00:00:07	00:00:00	54.7	39.8	83	2
03/05/2016	Default	17	11:49:00	00:00:18	00:00:18	00:00:00	00:00:00	00:00:00	00:00:12	00:00:00	80.7	54.3	88	2
03/05/2016	Default	18	11:49:21	00:00:08	00:00:00	00:00:08	00:00:00	00:00:00	00:00:00	00:00:00	100	60.2	75	2

Once you have reviewed all the scans and the surveys for a specific day you may want to download a report for a specific survey:

1. Press the PDF button. The Report generation window will appear



2. Enter a **Title** and a **Description**
3. Select a **Survey**
4. Press **Generate.**

   Note the status message at the bottom right corner of your web browser

5. Depending on your security settings the report will be automatically downloaded

6. Press **Close** to exit the Report generation window

4.3.5. Survey report structure

The PDF report can be found in the default download folder. The default name is

pdfReport_dd-mm-yy hh-mm-ss.pdf

where dd-mm-yy hh-mm-ss are the date and time of when the report was generated.

NOTE: You need a PDF viewer to open and review the report.

Depending on the size and presence of location data the report may comprise of more than one sections:

The first section is the summary overview for the specific survey

RADIODETECTION

Lou White Sample

This is a sample report for Lou White

CAT serial number: 10/C4EN03-630999
Operator: Lou White

Report Date: 31/12/2016
Created by: Joe Smith

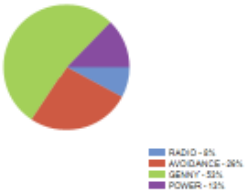
Company: Joe Smith LTD, 44 Low Street, Cheltenham, GL2 4TH, UNITED KINGDOM

Account: Default

Contract: Default

Genny Signal Detection	
Radio	00:00:08
Avoidance	00:00:27
Genny	00:00:54
Power	00:00:13
Total Duration	00:01:42

Number of Scans	11
Average Scan	00:00:09
Longest Scan	00:00:20
Swing Warning	0
Number of Scans with GPS	8
GPS Available [hhmmss]	
GPS Available %	84



Date	Scan	Survey	Start time	Duration	Swing Warnings	Radio	Avoidance	Genny	Power	Genny HF	Genny LF	Max Gain	Min Gain	GPS %
03/05/2016	11	2	11:47:17	00:00:06	0	00:00:00	00:00:06	00:00:00	00:00:00	00:00:01	00:00:00	87.1	87.1	0
03/05/2016	12	2	11:47:28	00:00:02	0	00:00:00	00:00:02	00:00:00	00:00:00	00:00:00	00:00:00	87.1	87.1	0
03/05/2016	13	2	11:47:38	00:00:02	0	00:00:00	00:00:02	00:00:00	00:00:00	00:00:00	00:00:00	87.1	87.1	0
03/05/2016	14	2	11:48:03	00:00:04	0	00:00:00	00:00:00	00:00:04	00:00:00	00:00:00	00:00:03	86.9	86.9	75
03/05/2016	15	2	11:48:09	00:00:20	0	00:00:00	00:00:00	00:00:20	00:00:00	00:00:00	00:00:18	77.5	37.6	90
03/05/2016	16	2	11:48:38	00:00:12	0	00:00:00	00:00:00	00:00:12	00:00:00	00:00:00	00:00:07	54.7	39.8	83
03/05/2016	17	2	11:49:00	00:00:18	0	00:00:00	00:00:00	00:00:18	00:00:00	00:00:00	00:00:12	80.7	54.3	88
03/05/2016	18	2	11:49:21	00:00:08	0	00:00:00	00:00:00	00:00:00	00:00:08	00:00:00	00:00:00	100	60.2	75
03/05/2016	19	2	11:49:36	00:00:05	0	00:00:00	00:00:00	00:00:00	00:00:05	00:00:00	00:00:00	100	100	80
03/05/2016	20	2	11:49:52	00:00:08	0	00:00:08	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	100	95.5	87
03/05/2016	21	2	11:50:07	00:00:17	0	00:00:00	00:00:17	00:00:00	00:00:00	00:00:00	00:00:02	100	86	94

The next section is available only for scans with location (GPS) coordinates, and provides a more detailed overview of the single scan alongside a map showing the scan location. Latitude and Longitude are also provided

Date	03/05/2016
Scan	14
Start:	11:48:03
Duration:	00:00:04
Page_no [Lat,Lon]:	51.5932, -0.185907950252525

Mode:		Gain:	
Radio	00:00:00	Variation:	86.9 to 86.9
Avoidance	00:00:00		
Genny	00:00:04		
Power	00:00:00		

Date	03/05/2016
Scan	15
Start:	11:48:09
Duration:	00:00:20
Page_no [Lat,Lon]:	51.59325, -0.185907950252525

Mode:		Gain:	
Radio	00:00:00	Variation:	37.6 to 77.5
Avoidance	00:00:00		
Genny	00:00:20		
Power	00:00:00		

Date	03/05/2016
Scan	16
Start:	11:48:38
Duration:	00:00:12
Page_no [Lat,Lon]:	51.5933, -0.185907950252525

Mode:		Gain:	
Radio	00:00:00	Variation:	39.8 to 54.7
Avoidance	00:00:00		
Genny	00:00:12		
Power	00:00:00		

Date	03/05/2016
Scan	17
Start:	11:49:00
Duration:	00:00:18
Page_no [Lat,Lon]:	51.5933, -0.185907950252525

Mode:		Gain:	
Radio	00:00:00	Variation:	54.3 to 80.7
Avoidance	00:00:00		
Genny	00:00:18		
Power	00:00:00		

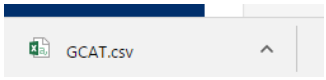
4.3.6. Exporting scans data

You can export the data for all the scans you are displaying in the Scans overview screen in a Comma Separated Value (CSV) format:

1. Click on the download **CSV** button

   Note the status message at the bottom right corner of your web browser

2. Depending on your security settings the report will be automatically downloaded



The CSV data file can be found in the default download folder. The default name is

gCAT.CSV

4.3.7. CSV Data Structure

The CSV data file is the same as the for data file generated by C.A.T Manager for PC.

	Serial Nur	Version	Log Refer	Plant Nur	Free Text	Date	Time	RTC Updat	Depth Me	Signal Stre	Power	Radio	Genny 33	Genny HF	Sensitivit	Mode	Depth Mo	Warnings	Swing Wa	Strike Ale	Batter
2	10/C4EN03-1781					########	08:41:09		METRIC	0	0	0	0	0	79.4872	GENNY	LINE	ENABLED	NO	NO	GOOD
3	10/C4EN03-1781					########	08:41:10		METRIC	0.536434	0	0	0.261902	0.274533	79.4872	GENNY	LINE	ENABLED	NO	NO	GOOD
4	10/C4EN03-1781					########	08:41:11		METRIC	0.335359	0	0	0.238319	0.097039	79.4872	GENNY	LINE	ENABLED	NO	NO	GOOD
5	10/C4EN03-1781					########	08:41:12		METRIC	0.721821	0	0	0.511572	0.210249	82.7416	GENNY	LINE	ENABLED	NO	NO	GOOD
6	10/C4EN03-1781					########	08:41:13		METRIC	0	0	0	0	0	90.5325	POWER	LINE	ENABLED	NO	NO	GOOD
7	10/C4EN03-1781					########	08:41:14		METRIC	8.78421	8.78421	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
8	10/C4EN03-1781					########	08:41:15		METRIC	27.3915	27.3915	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
9	10/C4EN03-1781					########	08:41:16		METRIC	32.9258	32.9258	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
10	10/C4EN03-1781					########	08:41:17		METRIC	12.6171	12.6171	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
11	10/C4EN03-1781					########	08:41:18		METRIC	50.9297	50.9297	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
12	10/C4EN03-1781					########	08:41:22		METRIC	10.666	10.666	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
13	10/C4EN03-1781					########	08:41:23		METRIC	2.72458	2.72458	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
14	10/C4EN03-1781					########	08:41:24		METRIC	14.688	14.688	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
15	10/C4EN03-1781					########	08:41:25		METRIC	28.0063	28.0063	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
16	10/C4EN03-1781					########	08:41:26		METRIC	9.90673	9.90673	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
17	10/C4EN03-1781					########	08:41:27		METRIC	28.931	28.931	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
18	10/C4EN03-1781					########	08:41:28		METRIC	34.756	34.756	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
19	10/C4EN03-1781					########	08:41:29		METRIC	0.085579	0.085579	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
20	10/C4EN03-1781					########	08:41:30		METRIC	0.000209	0.000209	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
21	10/C4EN03-1781					########	08:41:31		METRIC	0.002606	0.002606	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
22	10/C4EN03-1781					########	08:41:32		METRIC	6.42E-06	6.42E-06	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
23	10/C4EN03-1781					########	08:41:33		METRIC	1.56E-08	1.56E-08	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
24	10/C4EN03-1781					########	08:41:34		METRIC	1.8178	1.8178	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
25	10/C4EN03-1781					########	08:41:35		METRIC	0.156727	0.156727	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
26	10/C4EN03-1781					########	08:41:36		METRIC	0.000386	0.000386	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
27	10/C4EN03-1781					########	08:41:37		METRIC	0.919292	0.919292	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD
28	10/C4EN03-1781					########	08:41:38		METRIC	1.5256	1.5256	0	0	0	100	POWER	LINE	ENABLED	NO	NO	GOOD

GCAT

The table below gives an explanation of the available fields.

Field	Field explanation	Notes
Serial Number	Unit serial number	
Version	Not Used	Schema version – Reserved
Log Reference	Not Used	Log reference produced by C.A.T Manager for PC
Plant Number	16 free characters	User editable - requires C.A.T Manager
Free Text	70 free characters	User editable - requires C.A.T Manager
Date	Date(dd-mm-yyyy)	gC.A.T4 time
Time	Time (hh-mm-ss)	gC.A.T4 time
RTC Updated	Indicates if the RTC has been updated using a GPS source	GPS models only
Depth Measured	Metric / Imperial	User configured Depth Units - requires C.A.T Manager + models only
Signal Strength	Bargraph %	
Power	Power signal received as % of scale	
Radio	Radio signal received as % of scale	
Genny 33 kHz	Genny 33kHz signal received as % of scale	Presence of this signal indicates that a Genny was used
Genny HF	Genny HF signal received as % of scale	Absence of this **may** indicate that the Genny was used only in induction mode and not in direct or clamp mode
Sensitivity Control	Sensitivity (Gain) control as % of scale	
Mode	Mode in use	Power, Genny, Radio and Avoidance, Unit OFF (Used to indicated the GPS Lock mode, if a valid GPS has been acquired), Hard OFF
Depth Mode	Line / Sonde	Indicate type of depth measurement
Warnings Disabled	Enabled / Disabled	Indicates current status of Warnings (Strike Alert and Swing). They momentarily de-activated by the user in the field.
Swing Warning	Yes / No / Disabled	Yes indicates that the C.A.T reported a Swing Warning
StrikeAlert Warning	Yes / No /Disabled	Yes indicates that the C.A.T reported a StrikeAlert Warning
Battery Status	Good / Poor / Critical	

Field	Field explanation	Notes
DOP Status	Normal / Protecting	Indicates if the DOP (Dynamic Overload Protection) is active (Protecting) or not (Normal)
Overload Warning	Normal / Overload	Overload indicates that the C.A.T recorded an overvoltage status
Blade Angle	integer scale figure	Angle in the plane of the receiver, passing through the central vertical axis
Paddle Angle	integer scale figure	Angle of the plane perpendicular to the plane of the receiver, passing through the central vertical axis – imagine using the C.A.T as a canoe paddle!
Power Audio Indicator	1 or 0	1 Indicates that the C.A.T is giving audio feedback for a detected Power signal
Radio Audio Indicator	1 or 0	1 Indicates that the C.A.T is giving audio feedback for a detected Radio signal
Genny 33 Audio Indicator	1 or 0	1 Indicates that the C.A.T is giving audio feedback for a detected 33KHz Genny signal
Genny HF Audio Indicator	1 or 0	1 Indicates that the C.A.T is giving audio feedback for a detected HF Genny signal
GPS Date	DD/MM/HHHH or MM/DD/HHHHH	
UTC	HHMMSS.SS	
Horizontal Dilution	GPS Data	
Altitude	In Meters	
Geoid	INVALID/METERS	
DGPS Time	GPS Data	
DGPS ID	GPS Data	
Geoid Units	INVALID/METERS	
Number of Satellites	Number of satellites used	
GPS Fix	NO_GPS_FIX / GPS_FIX / ESTIMATED / DISABLED	
Altitude Units	Invalid or Meters	
Latitude	GPS Data	
Longitude	GPS Data	
Time Reference	System, GPS, Unused	
Heading	GPS Data	Degrees

Field	Field explanation	Notes
Ground Speed	GPS Data	Km/h

NOTE: Location information is only available for gC.A.T4 locators, if a valid GPS location was recorded

4.4 Upload C.A.T usage data

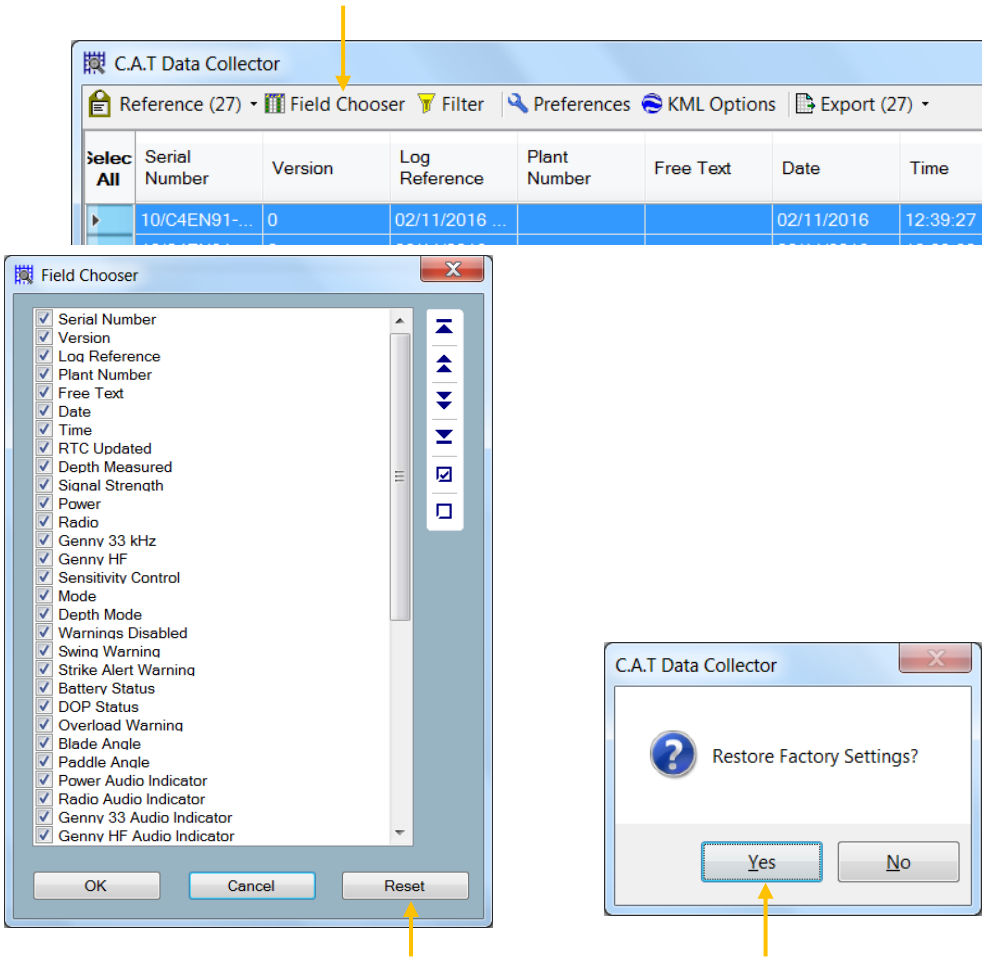
eC.A.T4 and gC.A.T4 locators are equipped with an automatic recording system which stores up to 2 years' worth of usage data in its internal memory. When the locator's memory is full the recording system will start overwriting the older records.

Data stored includes parametric information about the settings of the device (time, mode, gain, etc.), the signals it is receiving and any alerts being generated. gC.A.T4 models will store location information if a GPS signal is available. All parameters are logged once per second when the locator is used.

Users can use **C.A.T Manager for Windows PC** to quickly retrieve usage data and stored them in the C.A.T Manager online for storage or data analysis.

For further information on how to download C.A.T Manager for PC and retrieve data logs from your compatible C.A.T4 visit the software's webpage by clicking this link or by copying and pasting it into your web browser address box: https://www.radiodetection.com/en-gb/resources/software-downloads/cat-manager

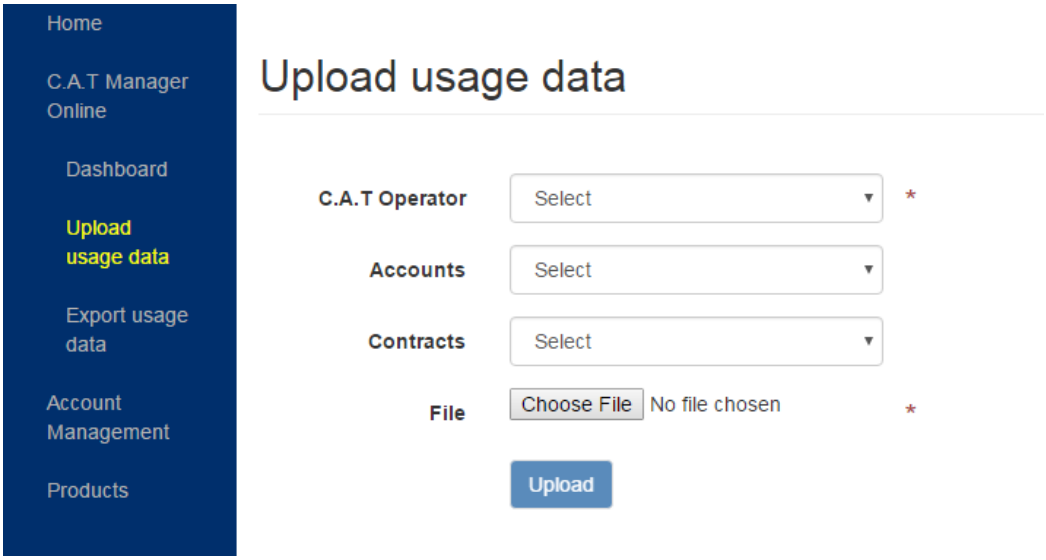
When exporting data from C.A.T Manager for PC, you need to ensure you use the C.A.T Data Collector default field settings. In the C.A.T Manager for PC's **Data Collector** window:



1. Press Field Chooser
2. Click on Reset
3. Restore Factory Settings

To upload eC.A.T4 or gC.A.T4 usage data to the C.A.T Manager Online system:

1. Using C.A.T Manager for PC create a compatible **CSV** file
2. Navigate to In **C.A.T Manager Online ► Upload usage data**



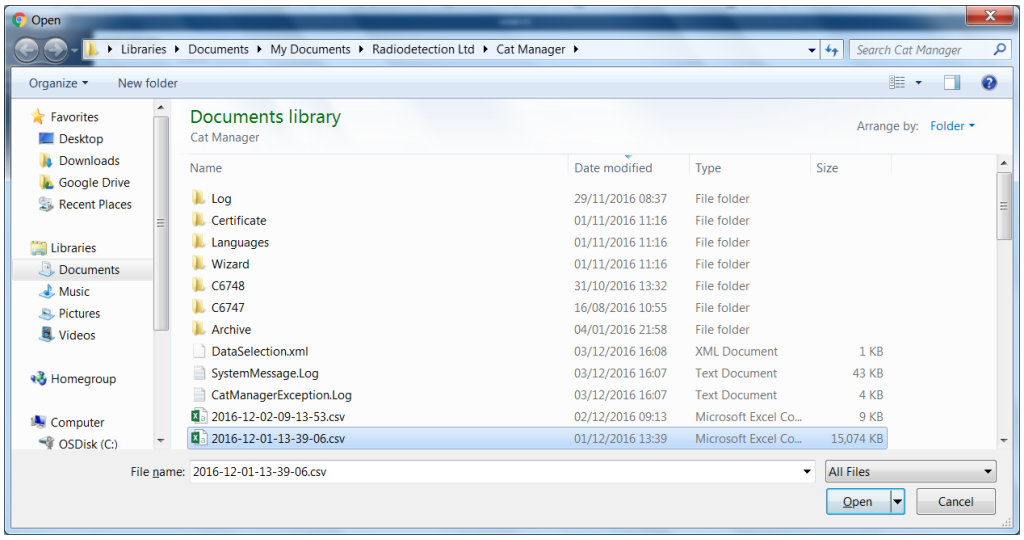
3. If required, chose a **C.A.T operator** from the list of available field operators

NOTE: Field operator users can only upload data assigned to themselves. Supervisors can only choose between their field operators.

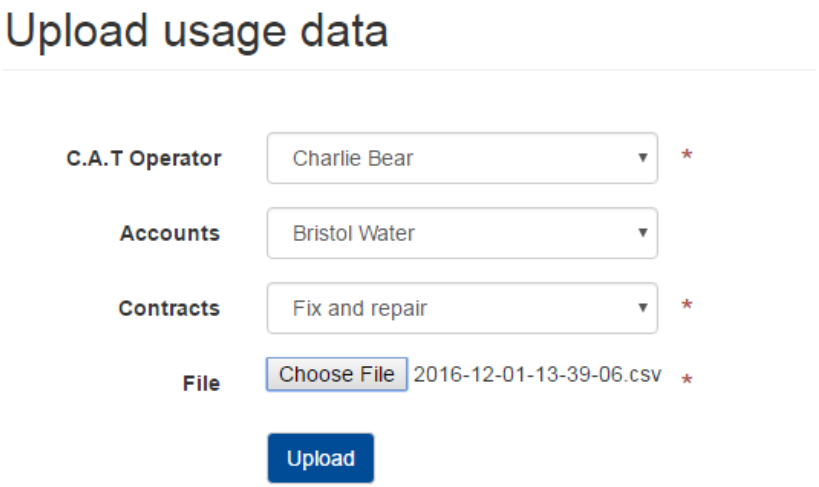
4. Select Accounts and Contracts (if available)

NOTE: When selecting an account you must also select a contract

5. Press **Choose File** to browse to the folder containing your CSV data



6. Select the file you wish to upload and press **Open**



7. Press **Upload** to start the data transfer.
   The upload progress is available at the bottom right of the browser screen

8. Wait for the end of the process for a success or failure message:

   √ The C.A.T Usage data upload was successfully completed

   or

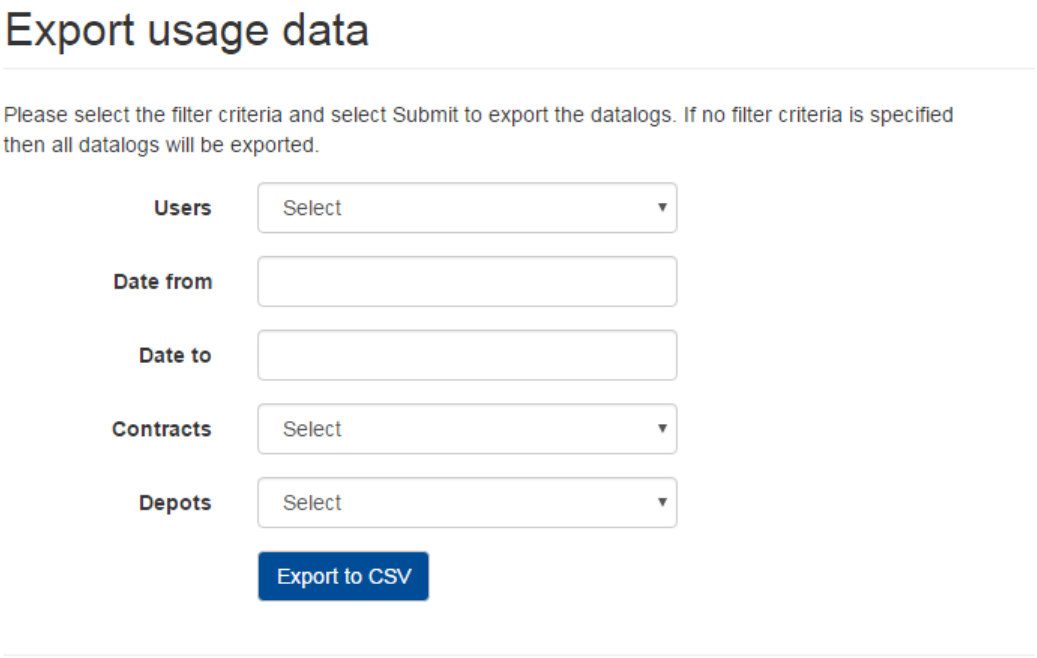
   √ The C.A.T Usage data upload was successfully completed with some duplicate logs ignored

   or

   X The selected file is not a valid datalogs file

4.5 Export Usage Data

You can use the Export Usage Data screen to download CSV files of your company's C.A.T4 data logs. This is useful if you want to maintain a local backup copy of your users' data or for further in depth analysis.



To export C.A.T4 data to your PC follow these steps:

1. Select the **C.A.T4 field operator**
2. Select a date range
3. Select a **Contract**
4. Select a **Depot**
5. Press **Export to CSV**

A CSV will automatically start downloading to your default downloads location.

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