SCATS Log 6.9.4 user manual

A guide to viewing SCATS events

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Any errors, omissions, comments or suggestions should be submitted to Roads and Maritime Services for possible inclusion in a future issue. All submissions must include the document number, issue and date.

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Contents

Chapter 1: Introduction

This chapter describes the things you need to know before you install or start to use SCATS Log.

About SCATS Log

Each SCATS Region saves events in a daily event log file stored on the regional computer. When these events occur, they are also sent to the SCATS Central Manager, where they are saved in an aggregated event log file. In this way, there is a backup and a centralised record of all events from all regions.

In addition to the events received from all the regions, the SCATS Central Manager also stores any events that it generates itself. The SCATS Central Manager and SCATS Regions can also store events generated by intelligent transport systems (ITS) applications such as SCATS Event Generator or other third-party applications.

Where are SCATS Central Manager event logs stored?

The SCATS Central Manager event logs are stored in the **Central Manager\SCMSData\Log** folder relative to the location where the SCATS Central Manager is installed.

There is one event log file created for each day that the SCATS Central Manager is running. These files are kept for the period specified when the SCATS Central Manager was configured, typically 365 days.

The file naming convention for the SCATS Central Manager event log files is:

> *yyyymmdd*.**evl**

where:

> *yyyy* is the year (4 digits)
>
> *mm* is the month (01 = January, 02 = February etc.)
>
> *dd* is the day (01 to 31)
>
> **evl** is the file extension that identifies this file as a SCATS event log file ('evl' is an abbreviation of 'event log')

Where are SCATS Region event logs stored?

The SCATS Region event logs are stored in the **Region\SCATSData\Log** folder relative to the location where the SCATS Region is installed.

There is one event log file created for each day that the SCATS Region is running. These files are kept for the period specified when the SCATS Region was configured, typically 365 days.

The file naming convention for SCATS Region event log files is:

> *region_yyyymmdd*.**evl**

where:

> *region* is the region name (up to 6 ASCII characters)
>
> *yyyy* is the year (4 digits)
>
> *mm* is the month (01 = January, 02 = February etc.)
>
> *dd* is the day (01 to 31)
>
> **evl** is the file extension that identifies this file as a SCATS event log file ('evl' is an abbreviation of 'event log')

What does SCATS Log do?

The event logs are binary files. SCATS Log allows you to load these files and display the individual event log records in plain text. It also allows you to filter the records in a number of ways, sort, search and get summary statistics. From version 6.7.2, you can also view a summary of the filtered events as graphics.

How does SCATS Log work?

SCATS Log is an ITS application that connects to a SCATS host through the ITS interface. The SCATS host may be the SCATS Central Manager or a SCATS Region. SCATS Log asks the SCATS host to send an event log file. SCATS Log validates the data, identifies the records, applies any filters and displays the results. All this is done incrementally, so that you can see the results as soon as a record is received that matches your filter criteria.

Because SCATS Log is an ITS application, it can request event log data for nominated days from the SCATS Central Manager without needing to know where the data is stored. It also bypasses the need for the data to be in a shared folder with username/password access. Alternatively, SCATS Log can read data directly from an event log file on your local computer or any accessible networked computer.

System requirements

Operating system requirements

SCATS Log is compatible with:

- Windows® XP
- Windows® 7
- Windows® 8
- Windows® Server 2003
- Windows® Server 2008 R2
- Windows® Server 2012 R2

SCATS Log runs on 64-bit operating systems using 32-bit emulation. It may be compatible with other versions of Windows® operating systems, but these have not been tested and are not supported by Roads and Maritime Services.

Hardware requirements

The minimum hardware required to run SCATS Log is the same as that required to run the operating system. See the Microsoft® web site <windows.microsoft.com> for details for your operating system. As a guide, the *minimum* hardware required when using Windows® 7 is:

- 1 gigahertz central processing unit (CPU)
- 1 gigabyte of random access memory (RAM) if using a 32-bit CPU
- 2 gigabytes of random access memory (RAM) if using a 64-bit CPU
- 20-gigabyte hard drive
- DirectX 9 graphics device with WDDM 1.0 or higher driver
- CD or DVD drive (for software installation)
- keyboard
- pointing device such as a mouse, trackball or touch pad

A higher specification is highly recommended.

Other software requirements

SCATS Log is an ITS application that connects to a SCATS host. The SCATS host may be a SCATS Central Manager version 6.4 or above or a SCATS Region version 6.4 or above.

SCATS Access is needed to register the ITS licence.

About this manual

This document describes how to use SCATS Log.

Chapter 2 describes how to configure the SCATS host before you can use SCATS Log. This chapter is only applicable to system administrators.

Chapter 3 describes how to install, upgrade, start, configure, stop, repair and uninstall SCATS Log.

Chapter 4 describes everything in the main window, except for the results area.

Chapter 5 describes the results area in the main window.

Chapter 6 describes each of the supplementary dialogues, including the **Filter** dialogue.

Chapter 7 describes any warnings and error messages.

Appendix A describes the SCATS Log initialisation file format.

You cannot install or use SCATS Log unless you agree to the terms of the end-user licence agreement. A copy of the end-user licence agreement is included in Appendix B.

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Chapter 2: Pre-requisites

This chapter is only applicable to SCATS system administrators.

SCATS Log is an ITS application that connects to a SCATS host so that it can load event log files. The SCATS host may be a SCATS Central Manager or a SCATS Region. Under normal circumstances, the SCATS host should be a SCATS Central Manager. This allows you to load event log data for all your regions at the same time. If you only need to analyse event logs for a single region or you need to load event log files that span a long period of time, then it may be more beneficial for the SCATS host to be a SCATS Region.

In either case, you must first configure the SCATS host's ITS port and register the ITS licence. This chapter describes how to do this.

Configuring the ITS port

Before you can use SCATS Log, you must enable and configure the ITS port on the SCATS host. This is usually done during the initial installation and configuration of the SCATS host and only needs to be done once for all ITS applications.

To configure the ITS port on the SCATS Central Manager

Enable the ITS port and set the port number as described in SCATS6-UM-007 *SCATS Central Manager Configuration user manual*. The recommended port number for the SCATS Central Manager is 2012.

To configure the ITS port on a SCATS Region

Enable the ITS port and set the port number as described in SCATS6-UM-009 *SCATS Region Configuration user manual*. The recommended port number for the SCATS Region is 2005. If running multiple regions on the same computer, see the table in SCATS6-UM-008 *SCATS Region user manual* for the recommended port numbers for the second and subsequent regions.

Registering the ITS licence

Before you can use SCATS Log, you must register its ITS licence with the SCATS host. This only needs to be done once for each SCATS host.

Note: This procedure can only be performed by a SCATS system administrator with access level 1.

To register the ITS licence on the SCATS Central Manager

1.	Start SCATS Access.

2.	Choose **Tools** > **Access** from the **Central Manager** window.

	The **User Access** dialogue opens.

3.	Specify your user ID.

	Note: You must use an account that has access level 1, otherwise you cannot continue.

4.	Enter your password in the **Password** text box.

5.	Click **Logon**.

6.	Click **Close** to close the **User Access** dialogue.

7.	Choose **Tools** > **Configure** from the **Central Manager** window.

	The **Configuration** dialogue opens.

8.	Click **ITS Names**.

	The **ITS Names** dialogue opens.

9.	Click **New**.

10. Enter 'SCATS Log' in the **ITS name** text box. This is case-sensitive.

    Note: The ITS licence name was changed from 'Roads and Traffic Authority Utility' to 'SCATS Log' in version 6.7.2 so that it can be configured and monitored independently of other RTA applications that use the same licence name. The old licence name is still supported, but this will be removed in a future version.

11. Make sure **Enabled** is selected.

12. Leave the **Licence** text box blank.

    Note: The **Licence** text box only appears in SCATS Access version 6.6.1 or above.

13. Enter the maximum number of connections that you want SCATS Log to be able to use.

    Note: The maximum number of connections must be less than or equal to the maximum number of ITS connections permitted by your SCATS Central Manager licence.

14. Enter the number of reserved connections (normally 0).

    Note: Make sure the total number of reserved connections allocated to all ITS applications is less than or equal to the maximum number of ITS connections permitted by your SCATS Central Manager licence.

15. Click **Save**.

16. Click **Close** to close the **ITS Names** dialogue.

17. Click **Close** to close the **Configuration** dialogue.

You can now run SCATS Log and configure it to connect to this SCATS Central Manager.

To register the ITS licence on a SCATS Region

1. Start SCATS Access.

2. Monitor a site in the region that you want to configure.

3. Choose **Tools** > **Access** from the **Central Manager** window.

    The **User Access** dialogue opens.

4. Specify your user ID.

    Note: You must use an account that has access level 1, otherwise you cannot continue.

5. Enter your password in the **Password** text box.

6. Click **Logon**.

7. Click **Close** to close the **User Access** dialogue.

8. Choose **Configure** > **Region** > **ITS names** from the **Monitor** window.

    The **ITS Names** dialogue opens.

9. Click **New**.

10. Enter 'SCATS Log' in the **ITS name** text box. This is case-sensitive.

    Note: The ITS licence name was changed from 'Roads and Traffic Authority Utility' to 'SCATS Log' in version 6.7.2 so that it can be configured and monitored independently of other RTA applications that use the same licence name. The old licence name is still supported, but this will be removed in a future version.

11. Leave the **Licence** text box blank.

    Note: The **Licence** text box only appears in SCATS Access version 6.6.1 or above.

12. Make sure **Enabled** is selected.

13. Enter the maximum number of connections that you want SCATS Log to be able to use.

    Note: The maximum number of connections must be less than or equal to the maximum number of ITS connections permitted by your SCATS Region licence.

14. Enter the number of reserved connections (normally 0).

    Note: Make sure the total number of reserved connections allocated to all ITS applications is less than or equal to the maximum number of ITS connections permitted by your SCATS Region licence.

15. Click **Save**.

16. Click **Close** to close the **ITS Names** dialogue.

You can now run SCATS Log and configure it to connect to this SCATS Region.

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Chapter 3: Getting started

This chapter describes how to install, upgrade, start, configure, stop, repair and uninstall SCATS Log.

Installing SCATS Log

This section describes how to install SCATS Log for the first time. If SCATS Log is already installed and you only want to replace the existing files, see 'Repairing SCATS Log'. If SCATS Log is already installed and you want to upgrade to a newer version, see 'Upgrading SCATS Log'.

SCATS Log is included in the *SCATS core client applications* installer. This is normally provided as a zip file, but it may sometimes be provided on a CD. The first procedure describes how to install it from a zip file. The second procedure describes how to install it from a CD.

You can install SCATS Log by itself or in conjunction with any of the other SCATS core client applications that are provided in the same installer.

To install SCATS Log from a zip file

1. Copy the zip file to a temporary location.

2. Unzip the zip file using an application such as WinZip®, 7-Zip or WinRAR.

    Hint: For all of these applications, you can right-click on the zip file, choose the appropriate program from the shortcut menu, followed by **Extract Here** or **Extract to here**.

3. Double-click the **msi** file to open the installer.

4. Click **Next**.

5. Read the end-user licence agreement.

6. If you accept the terms of the end-user licence agreement, select **I accept**.

    Note: The installer does not allow you to continue unless you select **I accept**. If you do not accept the terms of the end-user licence agreement, you must not install or use the software. In this case, click **Cancel** to cancel the installation.

7. Click **Next**.

8. Select SCATS Log and any other applications that you want to install.

9. Click **Next**.

10. Click **Install**.

    The software is installed. This may take a few minutes.

11. Click **Finish**.

The installer creates a shortcut folder for each application that you install in the Windows® **Start** menu. These shortcuts provide quick access to the application and the documentation.

To install SCATS Log from a CD

1. Insert the CD into your CD drive.

    The installer should run automatically. If it doesn't, use Windows® Explorer to navigate to the root folder of the CD and double-click the **msi** file to open the installer.

2. Follow steps 4 to 11 as for installation from a zip file (described above).

3. Eject the CD.

Upgrading SCATS Log

This procedure describes how to upgrade SCATS Log. If SCATS Log is already installed and you only want to replace the existing files, see 'Repairing SCATS Log'. If SCATS Log is not already installed, see 'Installing SCATS Log'.

SCATS Log is included in the *SCATS core client applications* installer. This is normally provided as a zip file, but it may sometimes be provided on a CD. The first procedure describes how to upgrade it from a zip file. The second procedure describes how to upgrade it from a CD.

To upgrade SCATS Log from a zip file

1. Copy the zip file to a temporary location.

2. Unzip the zip file using an application such as WinZip®, 7-Zip or WinRAR.

    Hint: For all of these applications, you can right-click on the zip file, choose the appropriate program from the shortcut menu, followed by **Extract Here** or **Extract to here**.

3. Double-click the **msi** file to open the installer.

4. Click **Next**.

5. Read the end-user licence agreement.

6. If you accept the terms of the end-user licence agreement, select **I accept**.

    Note: The installer does not allow you to continue unless you select **I accept**. If you do not accept the terms of the end-user licence agreement, you must not install or use the software. In this case, click **Cancel** to cancel the installation.

7. Click **Next**.

8. Click **Upgrade**.

    The old software is removed and the new software is installed. This may take a few minutes.

9. Click **Finish**.

Note: The installer does not replace any files that it did not install during the original installation. Your initialisation file remains unchanged, so you do not have to change your configuration.

To upgrade SCATS Log from a CD

1. Insert the CD into your CD drive.

    The installer should run automatically. If it doesn't, use Windows® Explorer to navigate to the root folder of the CD and double-click the **msi** file to open the installer.

2. Follow steps 4 to 9 as for upgrading from a CD (described above).

3. Eject the CD.

Starting SCATS Log

This procedure describes how to start SCATS Log. It assumes that you installed SCATS Log as described in 'Installing SCATS Log' or upgraded the software as described in 'Upgrading SCATS Log'.

To start SCATS Log

1. Do one of the following:

    ●   Click the **Start** button in the task bar, navigate to the **SCATS Log** folder, expand this and click **SCATS Log**.

    ●   Use Windows® Explorer to navigate to **C:\Program Files (x86)\SCATS\Log** (for 64-bit operating systems) or **C:\Program Files\SCATS\Log** (for 32-bit operating systems) and double-click **ScatsLog.exe**.

    If this is the first time that you have started SCATS Log or you have deleted the SCATS Log initialisation file (**ScatsLog.ini**), the **Central Manager** dialogue opens. In this case, see 'Configuring SCATS Log'. Otherwise, the main window opens.

Note: If you are running a firewall on your computer, it may try to block communications with SCATS Log. SCATS Log does not do anything malicious to your system, so it is safe to unblock it.

Configuring SCATS Log

You must configure SCATS Log so that it can connect to a SCATS host. You will need to know the SCATS host's IP address or host name and ITS port number. If you do not know these details, you can ask your SCATS system administrator or find out for yourself using one of the first two procedures below.

You can change the configuration details for up to ten SCATS hosts using the third procedure below.

The configuration details are saved in the SCATS Log initialisation file (**C:\Users*UserName*\AppData\Roaming\SCATS\Log\ScatsLog.ini**). If you want to delete all the configuration details and start from scratch, you can follow the steps in the fourth procedure.

To determine SCATS Central Manager configuration details

1. Start SCATS Access.

2. Choose **Tools** > **Configure** from the **Central Manager** window.

   The **Configuration** dialogue opens.

3. Note the IP address or host name in the **Management System** area. The IP address is in dotted decimal format. The host name is a string. These do *not* include the comma and port number appended at the end.

4. Close the **Configuration** dialogue.

5. Choose **View** > **Miscellaneous** > **Ports** from the **Central Manager** window.

   The **Central Manager Port Usage** dialogue opens.

6. Note the ITS port number in the **Host communication ports** area. The default is 2012.

   Note: If the ITS port number is 0, then the ITS port is not enabled. In this case, ask the SCATS system administrator to enable the ITS port as described in Chapter 2. You cannot use the SCATS Central Manager as the SCATS host unless the ITS port is enabled.

7. Close the **Central Manager Port Usage** dialogue.

You can now use this IP address or host name and port number to configure your SCATS host in SCATS Log.

To determine SCATS Region configuration details

1. Start SCATS Access.

2. Choose **Tools** > **Configure** from the **Central Manager** window.

   The **Configuration** dialogue opens.

3. Note the IP address of the appropriate region in the **Regional Systems** area. The IP address is in dotted decimal format in the **Address** column.

4. Close the **Configuration** dialogue.

5. Use the **Monitor** window to monitor a site in the appropriate region.

6. Choose **Show** > **Region monitors** > **Ports** from the **Monitor** window.

   The **Port Usage** dialogue opens.

7. Note the ITS port number in the **Host communication ports** area. The default is 2005.

   Note: If the ITS port number is 0, then the ITS port is not enabled. In this case, ask the SCATS system administrator to enable the ITS port as described in Chapter 2. You cannot use a SCATS Region as the SCATS host unless the ITS port is enabled.

8. Close the **Port Usage** dialogue.

You can now use this IP address and port number to configure your SCATS host in SCATS Log.

To configure SCATS Log on its first use

1. Start SCATS Log.

   The **Central Manager** dialogue opens.

2. Do one of the following:

- If you want to load the event logs from SCATS Central Manager using the ITS interface, enter the SCATS Central Manager IP address or host name and ITS port number. Enter a description such as 'Central Manager' for the location and click **OK**.

- If you want to load the event logs from a SCATS Region using the ITS interface, enter the SCATS Region IP address and ITS port number. Enter a description such as the region name and click **OK**.

- If you do not want to use the ITS interface and you only want to load the event logs from a file, click **Cancel**.

The SCATS Log main window opens.

If you chose to use the ITS interface and your configuration was successful, the **ITS state** button is green.

If you chose to use the ITS interface and your configuration was unsuccessful, the **ITS state** button is red. In this case, check that the SCATS host is running and properly configured and that your configuration details are correct.

If you chose not to use the ITS interface, the **ITS state** button is white.

To configure SCATS Log on subsequent uses

1. Start SCATS Log.

2. Do one of the following:

- Choose **Tools** > **Central Manager**.

- Click the **ITS state** button in the control panel.

The **Central Manager** dialogue opens.

3. Do one of the following:

- If you want to add a new SCATS host, select an unused number from the list.

- If you want to modify or delete an existing SCATS host, select an existing SCATS host from the list.

4. To add or modify a SCATS host:

- Enter the IP address or host name of a SCATS Central Manager or the IP address of a SCATS Region in the **Host name** text box.

- Specify the ITS port number in the **Port** spin box. The recommended value is 2012 for a SCATS Central Manager or 2005 for a SCATS Region.

- Add an optional description in the **Location** text box.

5. To delete a SCATS host, click the **Clear** button.

6. Optionally, repeat steps 3 to 5 for other SCATS hosts.

7. Select the SCATS host that you want to connect to.

8. Click **OK**.

SCATS Log attempts to connect to the SCATS host that was selected when you clicked **OK**. If the **ITS state** button is green, then the connection was successful. If the **ITS state** button is red, then the connection was unsuccessful. In this case, check that the SCATS host is running and properly configured and that your configuration details are correct.

Stopping SCATS Log

To stop SCATS Log, you only need to close the main window.

To stop SCATS Log

1. Do one of the following:

- Click the application icon in the title bar and choose **Close**.

- Double-click the application icon in the title bar.

- Right-click the title bar and choose **Close**.

- Click the Windows® **Close** button.

- Choose **File** > **Exit**.

SCATS Log closes. If you had **Save settings on exit** selected in the **File** menu, your settings are saved in the initialisation file. These are restored the next time you open the application.

Repairing SCATS Log

This section describes how to repair any files that have been corrupted, deleted, renamed or moved since the initial installation or last upgrade of SCATS Log.

To repair SCATS Log

1. Stop SCATS Log.

2. Open the Windows® Control Panel and navigate to **Programs and Features**.

3. Do one of the following:

   - Select SCATS Log and click **Repair** from the menu near the top of the screen.

   - Right-click on SCATS Log and choose **Repair** from the shortcut menu.

   The old resources are replaced. This may take a few minutes.

Uninstalling SCATS Log

If you have installed SCATS Log using the *SCATS core client applications* installer, you must uninstall it using one of the following procedures. Do *not* uninstall it by simply deleting files or folders or you will corrupt the Windows® registry.

There are several ways to uninstall SCATS Log. The easiest way is to uninstall all the SCATS core client applications as described in the first procedure below. Alternatively, you can uninstall it by itself using the second procedure described below.

Versions of SCATS Log prior to 6.7.2 saved all their settings in the Windows® registry. More recent versions use an initialisation file, but some of the registry settings are still used. If you want to remove these registry settings, you will have to it manually after uninstalling the software. This is described in the third procedure below. You can omit this step without causing any harm, but your registry is left with unused settings.

Warning: Be very careful when removing the registry settings. If you remove the wrong settings, you can cause damage to another application. If you are uncomfortable with the registry editor, ask a systems administrator to remove the settings for you.

To uninstall all SCATS core client applications

1. Close all the SCATS core client applications, i.e. SCATS Access, SCATS Log and SCATS Picture.

2. Open the Windows® Control Panel and navigate to **Programs and Features**.

3. Do one of the following:

   - Select SCATS Log and click **Uninstall** from the menu near the top of the screen.

   - Right-click on SCATS Log and choose **Uninstall** from the shortcut menu.

4. If a confirmation dialogue opens, click **Yes**.

   The SCATS core client applications files, folders, shortcuts and registry settings are removed. This may take a few minutes.

The only files, folders, shortcuts and registry settings that are removed are those that were installed during the original installation or the last upgrade. If there are any files that have been created, modified, renamed or moved since the original installation, these are not removed. Most notably, the SCATS Log initialisation file is not removed. If you no longer need this file, it can be deleted manually.

To uninstall selected SCATS core client applications

1. Close all the SCATS core client applications, i.e. SCATS Access, SCATS Log and SCATS Picture.

2. Open the Windows® Control Panel and navigate to **Programs and Features**.

3. Do one of the following:

   ● Select SCATS Log and click **Change** from the menu near the top of the screen.

   ● Right-click on SCATS Log and choose **Change** from the shortcut menu.

   The installer opens.

4. Click **Next**.

5. Select **Change**.

6. Click **Next**.

7. Select the applications that you want to be installed. Clear the applications that you want to be removed.

8. Click **Next**.

9. Click **Change**.

10. Click **Finish**.

Note: The uninstallation procedure does not remove any registry settings that were created with earlier versions of SCATS Log. If you would like to remove these, see the following procedure.

To remove SCATS Log registry settings

1. From the task bar, click the **Start** button, enter 'regedit' in the search text box, then press **Enter**.

   The **Registry Editor** window opens.

2. Navigate to **HKEY_CURRENT_USER\Software\Roads and Traffic Authority\SCATS\ScatsLog**.

3. Select the **ScatsLog** folder.

4. Press the **Del** (or **Delete**) key.

   A confirmation dialogue opens.

5. Click **Yes**.

6. Navigate to **HKEY_CURRENT_USER\Software\Roads and Traffic Authority\SCATS**.

7. Select the **SCATS** folder.

8. If the **SCATS** folder is empty (apart from the **(Default)** entry) and has no sub-folders, press the **Del** (or **Delete**) key and click **Yes** to confirm the deletion.

9. Navigate to **HKEY_CURRENT_USER\Software\Roads and Traffic Authority**.

10. Select the **Roads and Traffic Authority** folder.

11. If the **Roads and Traffic Authority** folder is empty (apart from the **(Default)** entry) and has no sub-folders, press the **Del** (or **Delete**) key and click **Yes** to confirm the deletion.

12. Close **Registry Editor**.

Note: If multiple users have used SCATS Log on the same computer, you will have to repeat this process for each user.

Getting help on SCATS Log

There is no online help with SCATS Log. If you have trouble, try reading the user manual. Remember that most buttons and text fields have tool tips. If you are still having trouble, customers in Australia and New Zealand should contact the SCATS help desk. Customers in other countries should contact their SCATS distributor.

Chapter 4: Main window

This chapter describes the SCATS Log main window.

Overall layout

The SCATS Log main window contains a title bar, menu bar, control panel, results panel, progress indicator and status bar. These are described below.
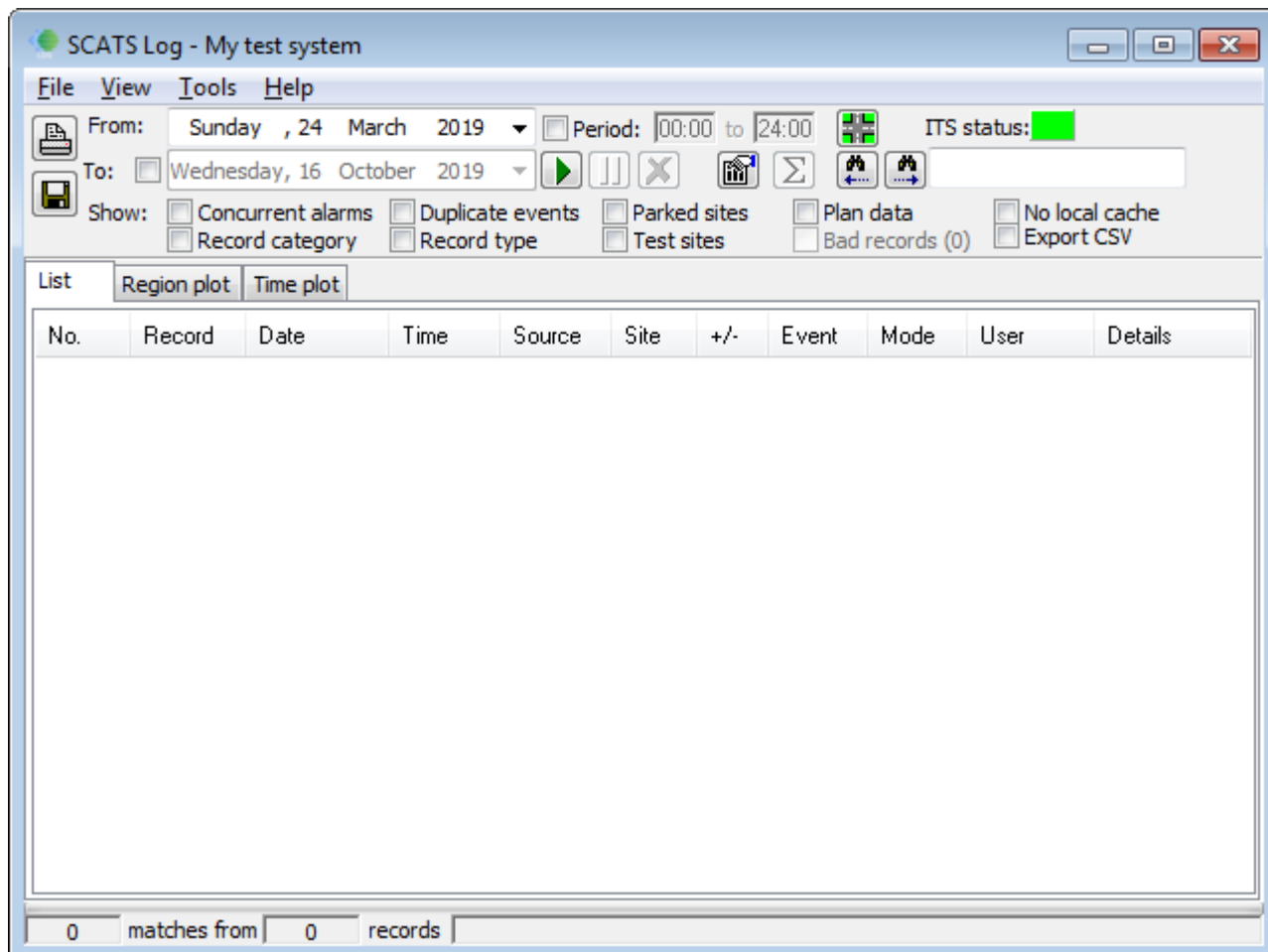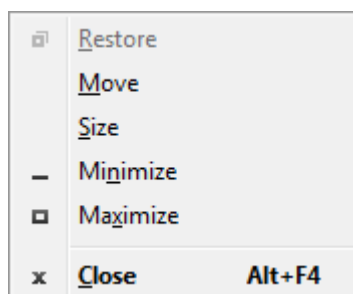

Title bar

The title bar contains an application icon, title, **Minimize** button, **Restore** or **Maximize** button and **Close** button.

Application icon

Click the application icon to open the drop-down menu for manipulating the window.

This is a standard menu that is common to all Windows® applications, so is not described here.

Title

The title shows the application name. This is optionally followed by extra information using the following syntax:

> **SCATS Log**[{ **-** *host_description*[**- Reading** *file_date*]| **- Reading** *file_spec*}]

where:

> *host_description* is the description of the SCATS host as defined in the **Location** text box in the **Central Manager** dialogue.

> *file_date* is the date of the file. This is updated dynamically as files are attempted to be read through the ITS interface. When reading is complete, it retains the date of the last file that was attempted to be read. This is the date in the **From** field, when reading only one day, the date in the **To** field, when reading a range of days, or the date of the last file opened, if the load was cancelled. In any case, this gives no indication of whether the file read was actually successful or not.

> *file_spec* is the full path and file name of the file that was read when opening the file directly, rather than reading it through the ITS interface.

Here are some examples:

> **SCATS Log**

This indicates that you are not connected to a SCATS host or you are connected to a SCATS host, but you have not given it a description.

> **SCATS Log - My host**

This indicates that you are connected to a SCATS host that you have described as 'My host', but you have not read any files.

> **SCATS Log - - Reading Saturday, 24 March 2012**

This indicates that you are connected to a SCATS host that you have not described and the last file you read through the ITS interface was dated Saturday, 24 March 2012.

> **SCATS Log - My host - Reading Saturday, 24 March 2012**

This indicates that you are connected to a SCATS host that you have described as 'My host' and the last file you read through the ITS interface was dated Saturday, 24 March 2012.

> **SCATS Log - Reading C:\Program Files (x86)\SCATS\Region\SCATSData\Log\TEST_20120324.evl**

This indicates that the last file you read was the file for TEST region dated 24 March 2012 stored in the **C:\Program Files (x86)\SCATS\Region\SCATSData\Log** folder.
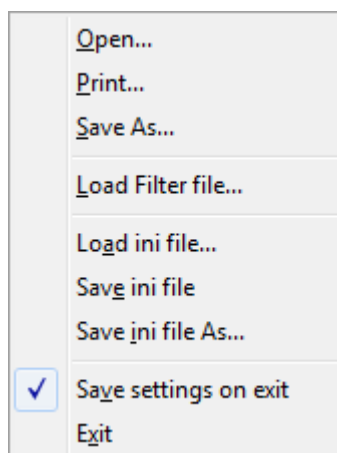
Minimize, Restore, Maximize and Close buttons

The **Minimize**, **Restore**, **Maximize** and **Close** buttons are standard controls that are common to all Windows® applications, so is not described here.

Menu bar

The menu bar contains **File**, **View**, **Tools** and **Help** menus. These are described below.

File menu

Open

This opens a file selector to allow you to browse for and open an event log file. You can only do this if you have access to the SCATS Central Manager (or SCATS Region) event logs or you have a copy of the event logs in another accessible location.

Print

This opens the **Print** dialogue to allow you to print the results that are currently displayed in the **List** panel. This is disabled if there are no results to print.

If you want to print all the results that are currently displayed in the **List** panel, select **All** in the **Print range** area of the **Print** dialogue. This is the default.

If you select one or more rows in the **List** panel before you open the **Print** dialogue, then you can print only those rows by selecting **Selection** from the **Print range** area in the **Print** dialogue. This is disabled if there are no results selected in the **List** panel.

You cannot print graphics, but they can be copied to the clipboard, pasted into another program such as Microsoft® Word and printed from there.

Save As

The **Save As** menu item opens a file selector so that you can save the text in the **List** panel as a text file (**.txt**) or comma-separated values (**.csv**) file. The latter can be imported into a spreadsheet, such as Microsoft® Excel®.

The graphics in the **Region plot** and **Time plot** panels cannot be saved, but they can be copied to the clipboard.

The **Save As** menu item is disabled if there are no results to save.

Load Filter file

This opens a file selector so that you can load a previously saved filter file. This is the same as the **Load** button on the **Filter** dialogue.

Load ini file

This opens a file selector so that you can load a previously saved initialisation (***.ini**) file.

Save ini file

This saves the initialisation file before closing the application. This is unnecessary under normal circumstances, as the initialisation file is automatically saved when you close the application. The file is saved in **C:\Users*UserName*\AppData\Roaming\SCATS\Log\ScatsLog.ini**.

Save ini file As

This opens a file selector so that you can save an initialisation file to a file name and/or location other than the default.
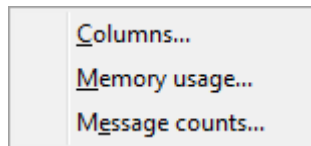
Save settings on exit

If **Save settings on exit** is selected (i.e. checked), your settings are saved in the initialisation file when you close SCATS Log. These settings are restored the next time you start SCATS Log.

If **Save settings on exit** is not selected (i.e. not checked), your settings are not saved when you close SCATS Log.

Exit

This closes SCATS Log.

View menu

Columns

This opens the **Columns** dialogue, where you can configure the layout of two different sets of columns for showing the results in the **List** panel.
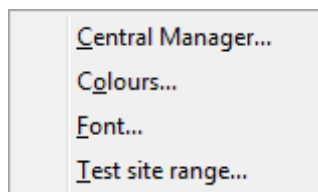
Memory usage

This opens the **Memory usage** dialogue.

Message counts

This opens the **Message count** dialogue, where you can see the number of each event record type for each region, together with totals by event record type and region.

Tools menu

Central Manager

This opens the **Central Manager** dialogue, where you can configure up to ten SCATS hosts.

Colours

This opens the **Graphics colours** dialogue, where you can configure the text and graphics colours used in the **Region plot** and **Time plot** panels.
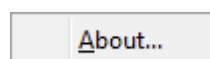
Fonts

This opens the **Font** dialogue, where you can configure the font, style, size and colour of the text used in the **List** panel.

Test site range

This opens the **Test Sites** dialogue, where you can configure the range of sites to be considered as test sites.

Help menu

About

This opens the **About** dialogue.

Control panel

The control panel is used to select and load event logs, filter and search the results. It contains the following buttons:

Button	Meaning
🖨	Print
💾	Save as
✥	SCATS Access
🟩	ITS state
▶	Go
❚❚	Pause
✖	Cancel
🏙	Filter
Σ	Summary
🔍	Find previous
🔍	Find next

These and the other controls are described below.

Print

This opens the **Print** dialogue to allow you to print the **List** panel.

This button is disabled if there is no event log data loaded.

Save

This opens a file selector to allow you to save the **List** panel to a text file.

This button is disabled if there is no event log data loaded.

From

This specifies the start date of the event log data to be loaded when using the ITS interface. To change the date, you can click the day, month or year then change the date using the keyboard as follows:

- Press the left arrow key to move to the previous field. This wraps around from day to year.
- Press the right arrow key to move to the next field. This wraps around from year to day.
- Press the up arrow key to increase the value of the selected field.
- Press the down arrow key to decrease the value of the selected field.
- Enter a new value for the selected field using numeric input.

Alternatively, click the drop-down arrow to open the drop-down calendar.

The calendar is a Windows® component, so its appearance and operation varies depending on the operating system.

In Windows® 7, the selected date is shown as a shaded button with a dotted focus rectangle. The current date is shown as blue text on a white background with a blue border.
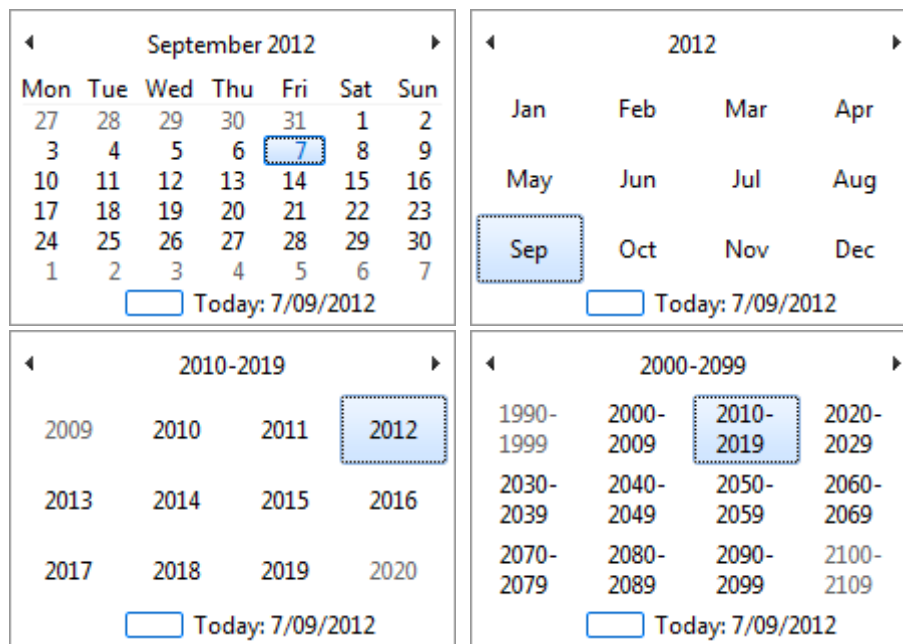
Calendars in Windows® 7

In both cases, the current date is also shown at the bottom of the calendar.

When viewing the monthly calendar, you can change the date using the keyboard as follows:

■   Press the left arrow key to move to the previous day.

■   Press the right arrow key to move to the next day.

■   Press the up arrow key to move to the previous week.

■   Press the down arrow key to move to the next week.

■   Press **PgUp** or **Ctrl**+left arrow to move to the previous month.

■   Press **PgDn** or **Ctrl**+right arrow to move to the next month.

■   Press **Ctrl+PgUp** to move to the previous year (Windows® XP only).

■   Press **Ctrl+PgDn** to move to the next year (Windows® XP only).

■   Press **Enter** to accept the selected date and close the calendar.

■   Press **Esc** to close the calendar without changing the date.

Windows® 7 has three extra views showing months of the year, years and ranges of years. You can navigate within these views using the keyboard as follows:

■   Press the arrow keys to move up, down, left and right.

■   Press **PgUp** or **Ctrl**+left arrow to move to the previous year, tenth year or year range.

■   Press **PgDn** or **Ctrl**+right arrow to move to the next year, tenth year or year range.

■   Press **Ctrl**+up arrow to move to a higher level in the calendar hierarchy.

■   Press **Ctrl**+down arrow to move to a lower level in the calendar hierarchy.

When viewing the monthly calendar, you can change the date using the mouse as follows:

■   Click the ◀ button to go to the previous month.

■   Click the ▶ button to go to the next month.

■   Click the month in the title to open a shortcut menu and choose any month of the year (Windows® XP only).

- Click the year in the title to show a spinner (Windows® XP only), then:

    - Click the up arrow button or press the up arrow key to move to the next year.

    - Click the down arrow button or press the down arrow key to move to the previous year.

    - Click anywhere away from the spinner or press the **Enter** or **Esc** key to hide the spinner.

- Click a date to select that date and close the calendar.

- Click the current date at the bottom of the calendar to select that date and close the calendar.

You can navigate between the extra views in Windows® 7 using the mouse as follows:

- Click the title to move to a higher level in the calendar hierarchy.

- Click a month, year or year range to move to a lower level in the calendar hierarchy.

Note: As soon as you change the date, any loaded event log data is discarded.

To

This specifies the end date of the event log data to be loaded when using the ITS interface. If **To** is selected, the adjacent date box is enabled and you can specify an end date as described for the **From** box. If **To** is cleared, the adjacent date box is disabled, the date in it is ignored and the event log data is loaded for the single day specified in the **From** box.

Note: Event log data is loaded from the start date to the end date inclusive. If the start date is earlier than the end date, then the days are incremented. If the start date is later than the end date, then the days are decremented.

Period

This allows you to restrict the loaded event log data to a specific period of the day. If **Period** is selected, you can optionally specify a start time and end time as described below. If **Period** is cleared, the whole day is loaded. In this case, the start time and end time are disabled.

Note: If you load data for multiple days, the same period applies to every day. It is *not* the start time on the first day to the end time on the last day.

Start time

This allows you to set the start time if **Period** is selected. The time must be specified using a 24-hour clock. The hours must be from 00 to 23. The minutes must be from 00 to 59. Leading zeros must be used. The start time may be anywhere from 00:00 to 23:59 and must be less than the end time. If you enter an invalid time, the background colour changes to red.

This field is disabled if **Period** is not selected.

End time

This allows you to set the end time if **Period** is selected. The time must be specified using a 24-hour clock. The hours must be from 00 to 24. The minutes must be from 00 to 59. Leading zeros must be used. The end time may be anywhere from 00:01 to 24:00 and must be greater than the start time. If you enter an invalid time, the background colour changes to red.

This field is disabled if **Period** is not selected.

SCATS Access

This opens SCATS Access. The path to SCATS Access is read from the Windows® registry. If the path cannot be found, the **SCATS Access** button is disabled. To enable it, open and close SCATS Access at least once before opening SCATS Log.

ITS state

This shows the status of the ITS connection to the SCATS host as listed below. You can also click the coloured **ITS state** button to open the **Central Manager** dialogue.

Colour	Meaning
White	SCATS host not defined.
	This occurs if the SCATS Log initialisation file was deleted or manually altered, the application was run and the **Central Manager** dialogue was closed without specifying a SCATS host.
Yellow	SCATS Log is attempting to connect to the SCATS host.
	This normally only appears very briefly. If a connection cannot be established, the colour changes to red.
Dark green	SCATS Log has connected to the SCATS host and is waiting for the SCATS host to validate the ITS licence.
	This normally only appears very briefly. If the ITS licence cannot be validated, the connection is dropped and the colour changes to red.
Red	ITS connection is inactive.
	There are several reasons for this, as described below.
Light green	SCATS Log has connected to the SCATS host and the ITS licence has been validated. The ITS connection is now active.

There are several factors affecting the ITS status including:

- IP address or host name

- port number

- SCATS host status

- communications line status

- ITS licence status

Move the mouse pointer over the coloured **ITS state** button to show a tool tip with the current settings and status. The first two lines of the tool tip use the following format:

Host=[*IP address or host name*]**, Port=**[*ITS port number*]
Location=[*User-defined description*]

The third line of the tool tip describes the status of the connection. This is related to the colour of the box. If there is an error, the third line shows an error message provided by Windows®. This may give an indication of the problem.

If there is an error or the ITS connection is inactive, it may be because:

- the SCATS host is offline

- the communications line is down

- the IP address or host name is incorrect

- the port number is incorrect

- the ITS licence has not been registered

- the ITS licence name is spelt incorrectly

- the ITS licence is registered but not enabled

- the ITS licence is using the maximum number of connections allocated to it

- the SCATS host has no spare connections

When an error occurs, SCATS Log waits for a short time (about 10 seconds) before attempting to reconnect. The number of retry attempts is shown in the fourth line of the tool tip.

Go

This starts loading the event log data when using the ITS interface. It also restarts loading the event log data after it has been paused.

This button is disabled if there is no valid ITS connection or a load is in progress.

Pause

This pauses the loading of event log data when using the ITS interface. Use the **Go** button to continue loading or the **Cancel** button to abort. When paused, a 'Data read paused' message is shown in the status bar.

This button is disabled if there is no valid ITS connection or there is no data currently being loaded.

Cancel

This stops the loading of event log data when using the ITS interface. When cancelled, a 'Data read cancelled' message is shown in the status bar.

This button is disabled if there is no valid ITS connection or there is no data currently being loaded.

Filter

This opens the **Filter** dialogue to allow you to change the filter criteria.

Summary

This opens the **Summary** dialogue to show how many alarms of the selected type were generated and from how many sites.

This is disabled unless only a single site event is selected in the **Filter** dialogue.

Find previous

This searches for the string specified in the unlabelled **Search for** text box. It always searches backwards from the previous search result, the most recently selected record or the beginning of the **List** panel. If the search is successful, it highlights the line with the search string. If the search is unsuccessful, it displays a warning dialogue. If there is no event log data loaded, it makes a 'ding' sound.

Find next

This searches for the string specified in the **Search for** field. It always searches forwards from the previous search result, the most recently selected record or the beginning of the **List** panel. If the search is successful, it highlights the line with the search string. If the search is unsuccessful, it displays a warning dialogue. If there is no event log data loaded, it makes a 'ding' sound.

Search for

This unlabelled text box specifies a search string to be used by the **Find previous** and **Find next** buttons.

Note: When SCATS Log does a search, it treats each record as a single line, not individual fields. If you want to restrict your search to a single field, try using leading and trailing spaces around your search string. For example, if you want to find site 124, use a search string of ' 124 ' (without the quotes). This finds site 124, but not site 2124 or 1240. However, it also finds any other records with the string ' 124 ', such as record 124.

Concurrent alarms

You must select one or more site events in the **Filter** dialogue for this option to be enabled. If enabled and selected, any other alarms that were on at the same time are included in the **Details** column of the **List** panel. These are shown as a string of alarm codes with no intervening spaces.

Duplicate events

You must select one or more site events in the **Filter** dialogue for this option to be enabled.

There are situations where a single site event is recorded more than once. This should not happen under normal circumstances, but may happen during testing of new controllers, new software or other unusual circumstances. This option allows you to specify whether or not to show these duplicate events.

If **Duplicate events** is selected, duplicate events are included in the results. These can be identified as site events (i.e. non-blank in the **Event** column) with a blank space in the **+/–** column.

If **Duplicate events** is cleared, duplicate events are not included in the results.

Parked alarms

You must select one or more site events in the **Filter** dialogue for this option to be enabled. If enabled and selected, the filter includes sites with parked alarms.

Plan data

You must select one or more site events in the **Filter** dialogue for this option to be enabled. If enabled and selected, details of the plan and phase status at the time of the event are included in the **Details** column of the **List** panel. The format used is:

> **PL***split*{**.**|**#**}*link*{**.**|**#**}[**LR**][[**Y−**][**Z−**][**Z+**]][*phase.interval*[**>***next*]]

where:

> *split* = split plan number (0 = active plan, 1–16 = stored plan)
>
> *link* = link plan number (0 = active plan, 1–4 = stored plan)
>
> **.** = preceding plan not locked
>
> **#** = preceding plan locked
>
> **LR** = lamps released (i.e. lamps off)
>
> **Y−** = Y− special facility flag was on
>
> **Z−** = Z− special facility flag was on
>
> **Z+** = Z+ special facility flag was on
>
> *phase* = current phase (A to G), if known
>
> *interval* = phase interval, if phase is known (R/Y = red/yellow, LST = late start, MIN = minimum green, VIG = variable initial green, GRN = rest or extension green, ECG = early cut-off green, YEL = yellow and RED = all-red)
>
> *next* = next phase, if known

No local cache

Under normal circumstances, SCATS Log stores event log data in memory as it loads the event log files. The advantage of this is that when you change the filter, the event log data can quickly be reloaded from memory without needing to reload the file. The disadvantage is that you can quickly run out of memory if you load event log data for a large range of dates. In this case, you can opt not to save event logs in memory, but to reload them whenever you change the filter.

The **No local cache** option specifies whether to save the loaded event log files in memory.

- Clear **No local cache** to save event log data in memory. This is quicker, as it reloads the event log data from memory when the filter is changed, but it does not allow you to view as much data.

- Select **No local cache** to not save event log data in memory. This is slower, as it reloads the event log data from the original source when the filter is changed, but it allows you to view more data.

Record category

Record category shows the filter categories at the beginning of the **Details** column. These correspond to the filter categories selected in the **Filter** dialogue.

Record type

Record type shows the event record types (in hexadecimal) at the beginning of the **Details** column. These correspond to the event record types as stored in the original binary event log file. The event record types refer to the file format used for the event log records, hence this information is only of interest to a SCATS developer or possibly a system administrator. The text message event record type includes alarms and status from the subsystem, region and system.

Code	Event record type
0x03	Command
0x06	Controller log
0x0E	Site status
0x10	Text message
0x1F	Central Manager status

Test sites

You must select one or more site events in the **Filter** dialogue for this option to be enabled. If enabled and selected, the filter includes test sites as defined in the **Test Sites** dialogue.

Bad records

If you load an event log file that has corrupted data, SCATS Log attempts to localise that data and place it in 'bad records'. When this happens, this option is enabled and the count of bad records is shown in brackets. Select this option to show the bad records. Clear this option to hide the bad records.

Export CSV

Under normal circumstances, SCATS Log shows the filtered event log data as it is loaded. If you want to load event log data for a very long period of time, you can quickly run out of memory, even if **No local cache** is selected, as the displayed event log data is still stored in memory.

The **Export CSV** option allows you to not display the event log data at all, but send it to a comma-separated values (CSV) file. In this way, you can load event log data for an extremely long period of time (such as a year) and view it in another program such as a spreadsheet.

- Select **Export CSV** to export the loaded event log data to a CSV file. The loaded event log data is not visible in the results panel.

- Clear **Export CSV** to view the loaded event log data in the results panel.

Results panel

This is described in chapter 4.

Progress indicator

When data is being loaded, a thin blue (Windows$^®$ XP) or green (Windows$^®$ 7) progress bar is shown in between the results panel and the status bar. This indicates the proportion of the event log data that has been loaded for each day that was requested. The progress bar restarts for each day of event log data.

Status bar

The status bar shows the number of matches, the total number of records read and a message area.

Matches

The number of matches is the number of records between the start and end dates after the time period and filter criteria were applied.

Records

The total number of records is the number of records between the start and end dates before the time period and other filter criteria were applied.

A single event generated at a SCATS Region may create multiple events in the results window. For example, if a site reports that its limit green watchdog timer has expired, SCATS generates a green watchdog (GW) alarm and a forced fallback (FL) alarm at the same time. This is written to the event log as a single event record. However, SCATS Log reports these as two separate events occurring simultaneously but originating from the same event record. When this happens, you will see multiple instances of the same record number. As a result, the total number of events can exceed the total number of event records.

Message area

The message area shows a message when the loading of data is paused or cancelled. If any records are selected, then it shows the number of records selected.

Chapter 5: Results panel

The main area of SCATS Log's main window is a tabbed panel called the results panel. This is where the contents of the event log files are displayed after they have been loaded and filters applied.

The results panel has three tabs:

■ List

■ Region plot

■ Time plot

Selecting one of these tabs displays the equivalent panel. These panels are described below.

List panel

The **List** panel shows all the event log data between the start and end dates subject to any filter criteria specified in the **Filter** dialogue and the control panel.

The **List** panel shows the results as a table. Each row corresponds to an event. SCATS Log sometimes recognises multiple events from a single event log record. The columns show the properties of an event as described below. The columns can be configured using the **Columns** dialogue.

Column	Description
No.	The row number after filtering is applied.
Record	The event log record number as determined from reading the event log file. Note that record numbers may be omitted when a filter is applied and record numbers may be duplicated if SCATS Log detects multiple events from the same event log record.
Date	The date that the event occurred in the format $ddmmmyy$, where: dd = day (01 to 31) mmm = month (Jan to Dec) yy = last two digits of year (00 to 99)
Time	The time that the event occurred in the format $hh:mm:ss$, where: hh = hours (00 to 23) mm = minutes (00 to 59) ss = seconds (00 to 59)
Source	The source of the original event record, where: $SCMS$ = SCATS Central Manager. (SCMS is an abbreviation of SCATS Central Monitoring System. This was used on the VAX with SCATS version 5, but is no longer used.) $region$ = region name **Note:** This corresponds to **Source** in the **Filter** dialogue.
Site	The source of the event, where: $number$ = site (1 to 64999) if the event originated at a site $region$ = region name if the event originated at a region blank = unknown or not applicable for this type of event
+/–	The type of event, where: $+=$ = the first alarm record for a site within the filtered period where it is known that one or more of the alarms were on, but it is not known whether they were on prior to this $+$ = on event such as a site alarm or user-defined alarm going on

Column	Description
	− = off even such as a site alarm or user-defined alarm going off
	blank = a stateless event such as a user logging on or data being changed
Event	The event, where:
	alarm = two-character alarm code for an alarm at a site (see SCATS6-UM-017 *SCATS operating instructions* for a description of the alarm codes)
	System = Central Manager status (see the **Details** column for details of the alarm)
	blank = an event other than a site alarm or Central Manager status
Mode	The operating mode of the site at the time the event occurred, where:
	Isol = isolated
	Flexi = Flexilink
	Mlink = Masterlink
	HCall = hurry call
	Maint = maintenance
	Pol O = police off
	Pol M = police manual
	Pol R = police red
	blank = not a site
User	The identification of the user who carried out the operation that caused the event, where:
	number = user ID (1 to 200)
	CM = SCATS Central Manager
	FSD = fire services department
	IPM = incident plan manager
	ITS = intelligent transport systems application
	RPC = route pre-emption control
	Schedule = scheduler
	System = system
	VR = variation routine
	blank = other
	Note: This field corresponds to **Origin** in the **Filter** dialogue.
Details	Additional details or description of the event. The details and the type of information vary depending on the type of event. In the case of site events, this is also affected by whether **Plan data** and **Concurrent alarms** are selected. For all events, this is also affected by whether **Record category** or **Record type** are selected.

Click a column heading to sort the data by that column in ascending order. Click the column heading again to sort in descending order. Further clicks toggle between ascending and descending order.

Drag the boundary between column headings to resize a column.

Use the **Columns** dialogue to show or hide columns.

Select an event to mark the starting point when doing a text search.

The data read from the event log may not be in chronological order. If communication with a SCATS Region is lost, the event data for that region is queued and sent to the SCATS Central Manager when communications are restored. Similarly, if communication with a site is lost, the event data for the site may

be queued and sent to the SCATS Region when communications are restored. The event data from dial-up sites is only sent when the dial-up site is connected.

When the state of an alarm changes at a site, SCATS Region records the site's status at the time of the change. It does *not* record the alarm as such. SCATS Region determines the changes in alarm states by comparing the current site status with the previous site status. If two or more alarms change state at the same time, they are recorded in the same event record. SCATS Log separates these into separate events. Thus the number of events is normally greater than the number of event records.

Right-click on the table in the list panel to open a shortcut menu.

<u>C</u>opy as text
C<u>o</u>py as CSV
<u>S</u>elect All
C<u>l</u>ear All
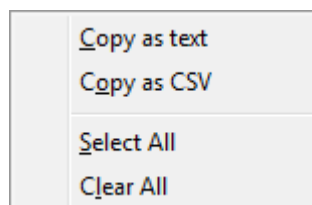
This is described below.

Copy as text

This copies the selected rows to the clipboard as plain text. Only the displayed columns are copied. Spaces are inserted between the columns. The column width shown on screen does not affect the number of spaces inserted.

Note: When you right-click on the table, make sure you right-click on one of the selected rows or the selection is changed.

Copy as CSV

This copies the column headings and the selected rows to the clipboard as comma-separated values. Only the displayed columns are copied. Any fields that contain spaces are surrounded by double quotes.

Note: When you right-click on the table, make sure you right-click on one of the selected rows or the selection is changed.

Select all

This selects all the rows in the table.

Clear all

This deselects all the rows in the table. It does *not* clear them or remove them.

Region plot panel

The **Region plot** panel shows a graph of the total number of events for the current filter criteria and the total number of sites that caused those events.

The elements in this panel are described below.

Scale

This specifies the scale of the graph as follows:

■　　If you select **Automatic**, the graph is scaled automatically so that the largest total (see below) fits within the window.

■　　If you select or enter a number, then that number is used instead of the largest total to scale the graph. This is useful if you need to use a constant scale so that you can view different time periods or different filter criteria and relate them to one another. Note that if you specify a number smaller than the largest total, then the graph extends past the edge of the window and the right-hand part of the graph and the totals are cropped. There is no horizontal scroll bar to allow you to view the cropped part of the graph.

In either case, if you resize the main window, the graph is resized to fit.

Largest total

The number of events and number of sites for each row are added together. The **Largest total** is the largest of those sums.

Graph

The graph shows the following:

- The first line shows the date (if you have loaded an event log for a single day) or the range of dates (if you have loaded event logs for a range of days).

- The second line shows the number of sources (as specified in the **Filter** dialogue) and a list of the source names. If the list is long, it is truncated. This is indicated by an ellipsis (...) at the end of the list.

- The third line shows a legend for the colour bars. The colours can be changed in the **Graphics colours** dialogue. **Events** is the number of events as specified by your filter criteria. **Contributing sites** is the number of sites that caused those events.

- The remaining area shows a bar chart. Each row in the bar chart shows the name of the source, a colour bar for the number of events as specified by your filter criteria, a colour bar for the number of sites that caused those events and the total for each in brackets.

- The horizontal axis shows the scale of the graph. This is the sum of the number of events and the number of sites that caused those events.

Right-click anywhere on the graph to open a shortcut menu.
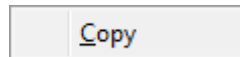
This is described below.

Copy

This copies the image to the clipboard as a bitmap.

Time plot panel

The **Time plot** panel shows a graph of the total number of events for the current filter criteria for each minute of the day.

The elements in this panel are described below.

Scale

This specifies the scale of the graph as follows:

- If you select **Automatic**, the graph is scaled automatically so that the largest total (see below) fits within the window.

- If you select or enter a number, then that number is used instead of the largest total to scale the graph. This is useful if you need to use a constant scale so that you can view different time periods or different filter criteria and relate them to one another. Note that if you specify a number smaller than the largest total, then the graph extends past the edge of the window and the top part of the graph is cropped. There is no vertical scroll bar to allow you to view the cropped part of the graph.

In either case, if you resize the window, the graph is resized to fit.

Largest total

This is the largest number of events for each minute.

Graph

The graph shows the following:

- The first line shows the date (if you have loaded an event log for a single day) or the range of dates (if you have loaded event logs for a range of days).

- The second line shows the number of sources (as specified in the **Filter** dialogue) and a list of the source names. If the list is long, it is truncated. This is indicated by an ellipsis (...) at the end of the list.

- The third line shows a legend for the colour bars. The colours can be changed in the **Graphics colours** dialogue. **Events** is the number of events as specified by your filter criteria.

- The remaining area shows a column chart with the number of events recorded per minute according to your filter criteria. Depending on your filter criteria, the first minute may have a high number of events, as these are the events that carry over from the previous day. In this case, you may want to change the start of the time period from 00:00 to 00:01.

- The vertical axis shows the number of events. The horizontal axis shows the time using a 24-hour clock.

Right-click anywhere on the graph to open a shortcut menu.
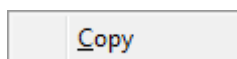
Copy

This is described below.

Copy

This copies the image to the clipboard as a bitmap.

Notes

Chapter 6: Dialogues

This chapter describes all the supplementary dialogues in SCATS Log. The dialogues are arranged in alphabetical order.

About SCATS Log dialogue

The **About SCATS Log** dialogue provides information about the version of the application.

To open the About SCATS Log dialogue

Choose **Help** > **About**.

Description

The **About SCATS Log** dialogue shows you the product name, version and copyright information.

Product name

The product name is 'SCATS Log'. This is a trademark. The product must *always* be referred to using this exact name, using the same spelling and capitalisation.

Version

The version is split over two lines using the following format:

> **Version *a.b.c***
> **Build *d***

where:

> *a* is the major version number

> *b* is the minor version number

> *c* is the revision number

> *d* is the build number

A commercial release refers to the first three numbers only. The build number is for internal use. This identifies test versions, beta releases and bug fix versions. The build number is usually omitted from user documentation, unless it is particularly relevant.

Please quote the full version (including the build number) as 'version *a.b.c.d*' if you ever need to contact the SCATS help desk or your SCATS distributor with a query or bug report.

Copyright

The copyright line shows the copyright date for this particular version of the software and the copyright owner, i.e. Roads and Maritime Services.
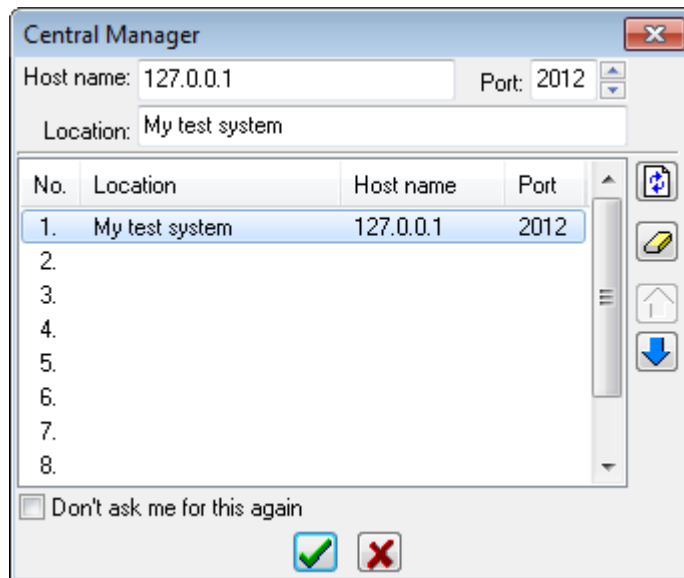
Close

This closes the dialogue.

Central Manager dialogue

The **Central Manager** dialogue is used to configure any SCATS hosts that you may want to use via the ITS interface.

To open the Central Manager dialogue

Do one of the following:

■ Choose **Tools** > **Central Manager**.

■ Click the **ITS state** button in the control panel.

This dialogue also opens automatically when you run SCATS Log in the following circumstances:

■ There is no initialisation file and there are no registry entries from an earlier version of SCATS Log that define a SCATS host.

■ There is an initialisation file, but there are no SCATS hosts defined in the file and the **Don't ask me for this again** option had not been selected when the initialisation file was saved.

Description

The **Central Manager** dialogue allows you to define up to ten SCATS hosts. Each SCATS host may be a SCATS Central Manager or a SCATS Region. In most circumstances, you will want the SCATS host to be a SCATS Central Manager, as this allows you to see all the events from all your regions as well as those from the SCATS Central Manager itself. If you have a SCATS Region configured to use the ITS interface, then you can define the SCATS Region as a SCATS host, but this only allows you to see the events from that region.

The SCATS hosts are shown in a list. The controls in the dialogue allow you to add, modify, delete and move the SCATS hosts in the list.

To define a new SCATS host, select a blank row in the list and specify its properties with the controls at the top of the dialogue. Once a host is defined, you can change to that host by selecting it in the list and clicking **OK**. Note that the SCATS host must have SCATS Log registered as an ITS application before you can connect to that host.

To modify an existing SCATS host, select it in the list and modify its properties with the controls at the top of the dialogue.

To delete a SCATS host, select it in the list and click the **Clear** button.

Whenever you make any changes, you must click the **OK** button to save and apply the changes.

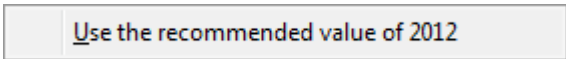The controls in this dialogue are described below.

Host name

This is the IP address or host name of the SCATS host. The IP address is specified using dotted decimal notation, i.e. *a.b.c.d*, where each number is an integer from 0 to 255. The host name is a string of up to 63 ASCII characters.

Note: If you do not know the IP address or host name, you can ask your system administrator or find it out for yourself by using the procedure described under 'Configuring SCATS Log' in chapter 2.

Port

This is the TCP/IP port number of the ITS port. The valid range is 1 to 32767.

Right-click on the text area to open a shortcut menu:

Use the recommended value of 2012

Choose **Use the recommended value of 2012** to change the port number to 2012. Note that the recommended port number of 2012 only applies if the SCATS host is a SCATS Central Manager. The recommended port number is 2005 if the SCATS host is a SCATS Region.

Note: If you do not know the actual port number, you can ask your system administrator or find it out for yourself by using the procedure described under 'Configuring SCATS Log' in chapter 2.

Location

This is an optional description of the SCATS host so that you can remember which host is which when you have multiple hosts defined. This is useful for those working with development, test, simulation and/or training environments in addition to their real system and for those who use their SCATS Central Manager and one or more SCATS Regions as SCATS hosts.

If you only use SCATS Log on a real system, then a good description would be 'Central Manager' if the SCATS host is the SCATS Central Manager or the region name if the SCATS host is a SCATS Region.

If you use SCATS Log on multiple systems, then a good description would be a description of the system, e.g. 'My test environment' or 'Real system'.

Refresh

This aborts any changes that have been made since opening the dialogue and refreshes the display.

Clear

This clears the selected entry in the list of SCATS hosts.

Move up

This moves the selected entry up one row in the list of SCATS hosts. This button is disabled if the selected entry is at the top of the table.

Move down

This moves the selected entry down one row in the list of SCATS hosts. This button is disabled if the selected entry is at the bottom of the table.

Don't ask me for this again

The first time you open SCATS Log, it opens the **Central Manager** dialogue automatically so that you can configure one or more SCATS hosts. If you do not configure at least one SCATS host or you do not save your settings when you close SCATS Log, this behaviour is repeated every time you re-open SCATS Log. You can override this by selecting **Don't ask me for this again**.

If you have *not* configured at least one SCATS host and this option is *not* selected, then the **Central Manager** dialogue opens automatically every time you open SCATS Log.

If you have *not* configured at least one SCATS host and this option is selected, then the **Central Manager** dialogue does *not* open automatically every time you open SCATS Log.

If you have configured at least one SCATS host, then this option is ignored.

OK

This saves the current settings and closes the dialogue.

Cancel

This closes the dialogue without saving the current settings. If you have made any changes, you will *not* be prompted to save the changes, so be careful when using this button.

Color dialogue

The **Color** dialogue is used to select or change colours.

To open the Color dialogue

1.   Choose **Tools** > **Colours**.

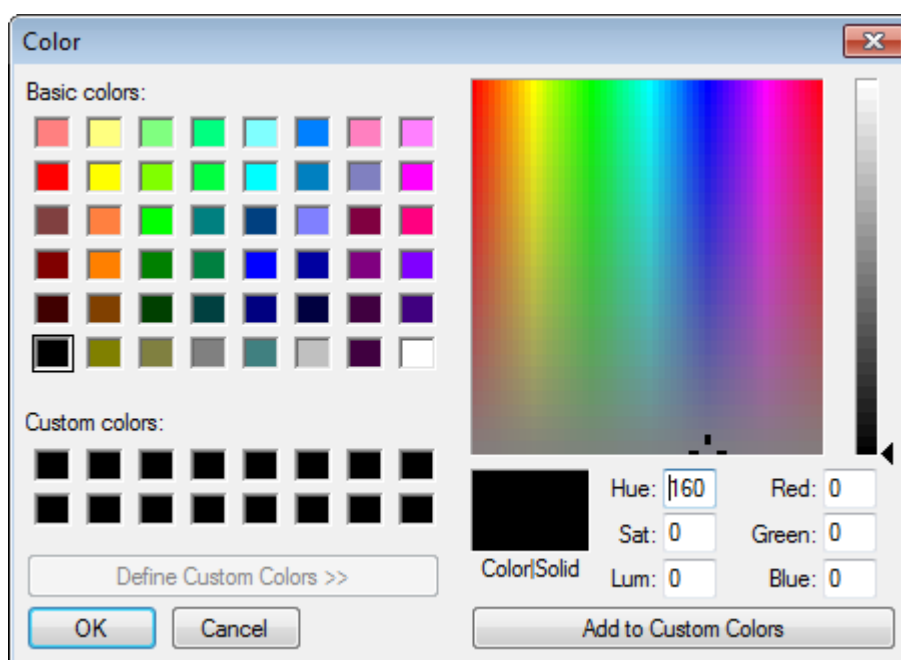   The **Graphics colours** dialogue opens.

2.   Click one of the ellipsis buttons.
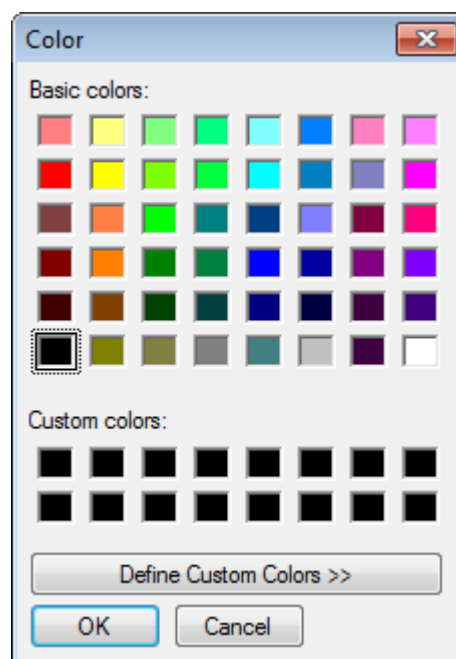
Description

The **Color** dialogue is used to select or change colours when defining the text and background colours in the **Graphics colours** dialogue.

Select a colour from the colour palette and click **OK** to accept the colour. Optionally, click **Define Custom Colors** to expand the dialogue.

Click on the large coloured box to select the hue and saturation. Drag the arrow on the right to adjust the luminance. Alternatively, enter the hue (0–239), saturation (0–240) and luminance (0–240) values or the red, green and blue (0–255) values directly. If entering values directly, you can cut and paste into the text fields.

When you are satisfied with the custom colour, click **Add to Custom Colors**, select the newly added custom colour and click **OK**.

Note: This is a Windows® component, so it may look different on different operating systems.

Columns dialogue

The **Columns** dialogue is used to configure the layout of the columns in the **List** panel.

To open the Columns dialogue

Choose **View** > **Columns**.
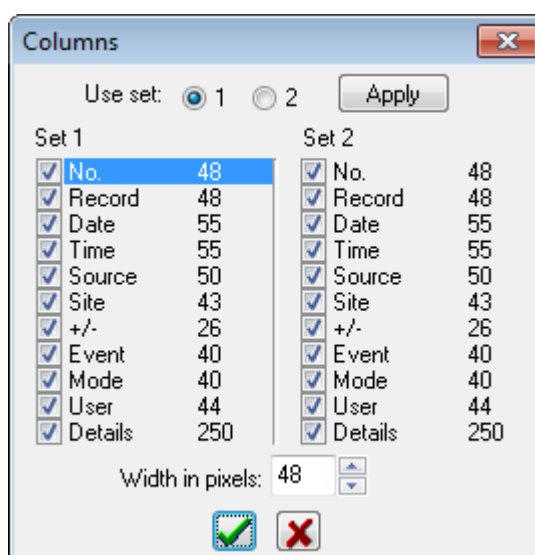
Description

The **Columns** dialogue allows you to configure the layout for two different sets of columns. Each set can have columns turned on or off and have the column widths changed. When you select one of these sets of columns, this is the layout that is used in the **List** panel.

The controls in this dialogue are described below.

Use set

This specifies which layout to use for the columns in the **List** panel. Select **1** to use the column properties defined for set 1. Select **2** to use the column properties defined for set 2.

Set *n*

There are two sets of columns. For each set:

- Select the check box beside the column name to show that column in the **List** panel.
- Clear the check box beside the column name to hide that column in the **List** panel.
- Select the column name and adjust its width using the **Width in pixels** spin box.

Note: You can also adjust the column widths in the **List** panel by dragging the border between adjacent column headings. If you drag the column heading adjacent to a hidden column, this causes it to re-appear.

See the section on the **List** panel in chapter 4 for a description of each column.

Apply

This saves the current settings and applies the settings for the selected set of columns without closing the dialogue.

Width in pixels

This is the width of the selected column in pixels. You can specify a column width from 0 to 1024 pixels.

OK

This saves the current settings, applies the settings for the selected set of columns and closes the dialogue.

This button is disabled if the selected set of columns does not have any columns selected.

Cancel

This closes the dialogue without saving or applying the current settings.

Filter dialogue

The **Filter** dialogue is used to filter the results shown in the **List** panel, **Region plot** panel and **Time plot** panel.

To open the Filter dialogue

Click the **Filter** button in the control panel.

Description

When you initially load an event log, you may be overwhelmed by the volume of data. The **Filter** dialogue is used to filter the data so that you only display the data that is of interest to you.

When event log data has been loaded, changing the filter automatically updates the displayed results to show only the data that matches the filter criteria. You do not have to re-load the data, as SCATS Log keeps a copy in memory.

Common buttons

The **Filter** dialogue is divided into various lists and miscellaneous criteria for selecting the types of events to be displayed. The lists include three common buttons as shown below:

Button	Description
✔	Select all
✘	Clear all
🔁	Select subset

These are described below.

Select all

This selects all the options in the appropriate area.

Clear all

This clears all the options in the appropriate area.

Select subset

This opens the **Subset Selector** dialogue for the appropriate area.

Commands

The **Commands** area is used to filter commands, i.e. instructions issued by an operator, an internal SCATS service (such as the scheduler) or an external service (such as an ITS application). The **Commands** area is divided into two halves:

- **Origin**
- **Type**

If you want to filter on commands, you must select at least one origin and one type.

Origin

This is the user who issued the command. This corresponds to the **User** column in the **List** panel.

The available origins (or users) are:

Origin	Description
Central Manager	SCATS Central Manager
Fire Services	An external agency responsible for fire prevention and control
Incident plan	SCATS incident plan manager
ITS	Intelligent transport systems (ITS) application
Operator	SCATS user
RPC	SCATS route pre-emption control manager
Scheduler	SCATS Central Manager scheduler or SCATS Region scheduler
System	SCATS system command (other than those listed elsewhere)
Variation routine	SCATS variation routine or action list
Other	Anything other than those listed above

Operator ID

This allows you to specify the user ID of a specific SCATS user. The valid range is 1–200.

Operator ID is disabled unless **Operator** is selected in the **Origin** area and at least one option is selected in the **Type** area.

Type

This is used to specify the type of command.

The available types are:

Type	Description
Alarm cancel	Cancelling or acknowledgement of an alarm
Dwells	Application or removal of a dwell
Incident plan	Application or removal of an incident plan
Lamps	Changing of lamp state, i.e. on, off or flashing
Locks and trims	Application or removal of a lock or trim

Type	Description
Route preemption	Application or removal of a route pre-emption plan
Site pictures	Changing any site graphics or building new graphics
Other	Anything other than those listed above

Other events

The **Other events** area is used to filter system messages, text messages and data faults.

The available other events are:

Other event	Description
Access control	Shows when an operator logged on, logged off, entered an incorrect password, connected to a region or disconnected from a region.
Action list errors	Shows errors from action lists that contain invalid entries.
Bad data	Shows specific details that caused a bad data (BD) alarm at a site.
Controller log	Shows controller log entries from controllers that support this feature.
Controller MSS	Shows events related to miscellaneous status (MSS) flags received from the controller.
Controller XSF	Shows events related to extra special facility (XSF) flags sent to the controller.
Day summary	Shows a daily summary of communications statistics for sites in regions that have the CE extended region option turn on.
Dial-up sites	Shows logging of all events associated with connecting to and disconnecting from dial-up sites.
Disk space	Shows events related to disk space.
External	Shows events from external sources. This includes the **Miscellaneous**, **Network** and **Printer** status as shown in the **System Status Filter** dialogue in SCATS Access.
Fallback	Shows events related to the activation or clearing of fallback at a site or subsystem.
Hourly summary	Shows an hourly summary of communications statistics for sites in regions that have the CE extended region option turn on.
Increment failure	Shows increment failures and clearing of increment failures at a subsystem.
ITS/region	Shows connections and disconnections from ITS applications.
Lamp dim levels	Shows details of changes related to lamp dimming levels.
Lamp faults	Shows details of site lamp faults and the colour and number of faulty lamps by signal group.
Messages	Shows text messages entered in the event log, usually as the result of an action in an action list.
Network sites	Shows events related to networked sites, such as: ■ site region location requests ■ site connection requests ■ site connections and disconnections ■ network site server connections and disconnections ■ remote site server connections
Ping responses	Shows pings to IP addressable communications devices.
RAM update	Shows the success or failure of events related to the copying of EPROM to RAM at sites and the updating of RAM from SCATS.

Other event	Description
Ramp metering	Shows events related to SCATS Ramp Metering System (SRMS) sites.
Region comms	Shows events related to communication failure and recovery at SCATS Regions.
Region watchdog	Shows events related to SCATS Region watchdog alarms.
SI faults	Shows details of the detectors associated with strategic input alarms.
Site comms	Shows the site-specific communications errors that are logged if the **CE - Display all CE alarms** extended region option is selected in SCATS Access.
Site validation	Shows the success or failure of site validation checks.
System alarms	Shows system events generated by the SCATS Central Manager or a SCATS Region (such as system startup) and other user-defined events.
System control	Shows events related to system configuration, such as: ■ adding and deleting regions ■ adding and deleting sites ■ moving sites from one region to another ■ enabling and disabling queued locks ■ region to region connections and disconnections
Unknown records	Shows unknown record types. This is to allow for forward compatibility. If a future version of SCATS adds a new record type, this version of SCATS Log will still be able to read the record, but it will not know how to interpret the data. In this case, it shows the unknown data as a string of hexadecimal numbers in the **Remarks** column.
Other	Shows anything other than those listed above.

Site events

The **Site events** area is used to filter site alarms and selected site status.

The label under the buttons shows whether summary is enabled. If only one site alarm or site status option is selected, then this shows:

> *XX* **summary enabled**

where:

> *XX* is the site alarm or site status code that is selected

If anything other than one site alarm or site status code is selected, then this shows:

> **Summary disabled**

The remainder of the **Site events** area shows the two-character alarm codes and site status codes. The meaning of these codes is listed below. Those marked with an asterisk (*) are site status, the remainder are site alarms.

Code	Meaning
BD	Bad data
BO	Blackout
CA	Clock alarm
CE	Communications error
CF	Controller fault
CK	Checksum
DA	Detector alarm
DW	Dwell*

Code	Meaning
DZ	Output interface
FB	Site fallback*
FL	Forced fallback
FY	Flashing yellow
GT	Green time
GW	Green watchdog
IH	Inhibit
IR	Invalid RAM
IV	Invalid message
LC	Long clearance
LF	Lamp fault
LM	Link mode*
NC	No carrier
NF	New controller fault
OD	Overdue message
PE	Phase error
PF	Power failure
PK	Parked
SC	Short clearance
SF	Special facility
SI	Strategic input
ST	Stopped talking
SY	Synchronising request
UD	RAM update failure
VE	Validation error
WD	Watchdog
XU	External unit

Source

The **Source** area is used to filter on the **Source** column of the **List** panel. This is the source of the event record, i.e. where the original event record was stored, *not* where the event originated. The **Source** area is built dynamically, so the available sources vary depending on your system.

The available sources are:

Source	Description
Manager	SCATS Central Manager, i.e. SCMS in the **Source** column of the **List** panel.
Regions	Any named regions that are currently known to the SCATS Central Manager, listed in alphabetical order.
(Other)	Any named regions that are not currently known to the SCATS Central Manager. This occurs if a region has been renamed or deleted.
All regions	If no region names are received from the SCATS Central Manager, **All regions** appears in place of *Regions* and **(Other)**.

If filtering by selected sites (as described below), the labels in the **Source** area are greyed out. They are *not* disabled. The sources can still be selected and deselected, as the source is still valid when filtering on commands and other events.

Containing text

You must select at least one source and one event type (commands, other events or site events) to enable the **Containing text** area. Once enabled, select **Containing text** to enable the text filter controls. When the controls are enabled, this area allows you to filter the event log records based on:

■   a single string of text

■   either of two strings of text

■   two strings of text

The text filter criteria is applied to each event record *after* the other filter criteria have been applied and only the records that meet the text filter criteria are shown in the **List** panel. In other words, this is a logical AND, not a logical OR. Both the text filter criteria AND the other filter criteria must be met for a record to be shown.

The filter is not case sensitive.

The **Containing text** area contains the following button:

Button	Description
🧽	Clear

Clear

This clears both the text fields. This is disabled if the text fields are already clear.

To filter on a single string in a record

1.   Select **Containing text**.

       This enables the radio buttons.

2.   Select **no String 2**.

3.   Enter a string in the first field.

To filter on either of two strings in a record

1.   Select **Containing text**.

       This enables the radio buttons.

2.   Select **or**.

3.   Enter a string in the first field.

       This enables the second field.

4.   Enter a string in the second field.

To filter on two strings in the same record

1.   Select **Containing text**.

       This enables the radio buttons.

2.   Select **and**.

3.   Enter a string in the first field.

       This enables the second field.

4.   Enter a string in the second field.

Selected sites

You must select at least one command, other event or site event to enable the **Selected sites** area. Once enabled, select **Enable** in the **Selected sites** area to enable the other controls in this area. When the

controls are enabled, this area allows you to filter the site events based on one or more sites, rather than the source.

There is no need to select the region that a site belongs to, as the site specification overrides the source specification when filtering site events. As confirmation of this, the labels in the **Source** list are greyed out when **Selected sites** is selected and one or more sites have been entered, but the check boxes in the **Source** list are still selectable, as these are still appropriate for commands and other events.

The **Selected sites** area contains the following buttons:

| Button	Description
🧽	Clear
📂	Open
💾	Save
↓	Sort

Clear

The **Clear** button clears the edit area.

The **Clear** button is disabled if the edit area is already clear.

Open

The **Open** button opens a file selector to allow you to enter the sites from a text file. The format of the text file is the same as that used for the edit area (see below). If there are any invalid characters in the file, SCATS Log reads as much of the file as it can and shows an error message similar to the following:
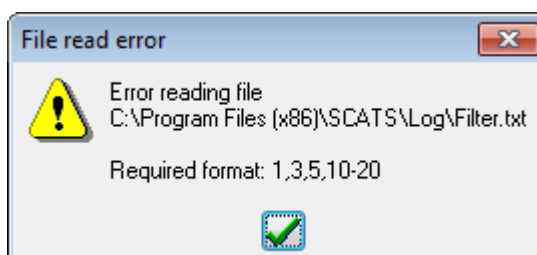
If this occurs, open the file in a text editor, remove the offending characters from the file and try again.

Save

The **Save** button opens a file selector to allow you to save the sites to a text file.

The **Save** button is disabled if the edit area has an error.

Sort

The **Sort** button sorts the sites into numerical order, removes duplicates and compresses the format by converting lists to ranges where possible. For example, if you enter '`6,4,9,4,2,1,5`' in the edit area, then click **Sort**, the sites you entered change to '`1-2,4-6,9`'.

The **Sort** button is disabled if the edit area has an error.

Edit area

The edit area is where you specify which sites to be included in the filter. You can specify:

- a single site, e.g. `123`
- a list of single sites, e.g. `123,125,130`
- a range of sites, e.g. `125-128`
- a list of ranges of sites, e.g. `123-125,128-130`
- a list of single sites and ranges of sites, e.g. `123,125-128,130`

The formal syntax of the site specification is:

      site[**-***site*][**,***site*[**-***site*]][...]

where:

      site = a site number from 1 to 64999

The background colour of the edit area changes to red if you have an error. This occurs if:

- a site is greater than 64999, e.g. `75000`

- the first site is missing from a range, e.g. `-123`

- two dashes are used in a range, e.g. `123--456`

- two ranges are used without a separating comma, e.g. `123-456-789`

There are some cases where bad syntax does not cause an error, because the program makes adjustments as follows:

- a trailing comma is ignored, e.g. `123,` is treated as `123`

- consecutive commas are treated as a single comma, e.g. `123,,,456` is treated as `123,456`

- a trailing dash is ignored, e.g. `123-` is treated as `123`

You can also separate list items with a carriage return character instead of a comma.

The full range of editing keys can be used or you can right-click to open the Windows® standard text field shortcut menu. This allows you to cut and paste entries as with other Windows® based applications.

Load from file

You must enable **Selected sites** to enable the **Load from file** area. Once enabled, select **Load from file** to enable the other controls in this area. When the controls are enabled, this area allows you to load a list of sites from a file at start-up. The path and file name are specified in the text box below the **Load from file** check box. The path is relative to the folder where SCATS Log is located. The background colour of the text box is red if the specified file is not found.

Find

The **Find** button opens a file selector to allow you to specify the path and file name of the file with the list of sites to be loaded at start-up.

This button is disabled unless **Enable** and **Load from file** are selected.

Reload

The **Reload** button loads (or reloads) the list of sites from the file specified in the text box to its left.

This button is disabled unless a valid file is specified.

Ignored sites

You must select at least one command, other event or site event and disable the **Selected sites** area in order to enable the **Ignored sites** area. Once enabled, select **Enable** in the **Ignored sites** area to enable the other controls in this area. When the controls are enabled, this area allows you to filter the event log data to ignore one or more sites from the selected source.

Unlike the **Selected sites** area, the site specification does not override the source specification and the labels in the **Source** area are not greyed out.

The controls in the **Ignored sites** area are the same as in the **Selected sites** area.

Command buttons

Load

This opens a file selector so that you can load a previously saved filter file. This is the same as **File** > **Load Filter file**.

Save

This opens a file selector so that you can save the current filter settings to a file.

Apply

This saves and applies any changes without closing the dialogue.

The **Apply** button is disabled if:

- there is no command, other events or site events selected

- there is no source selected

- there is no event log file loaded

OK

This saves and applies any changes and closes the dialogue.

The **Close** button is disabled if:

- there is no command, other events or site events selected
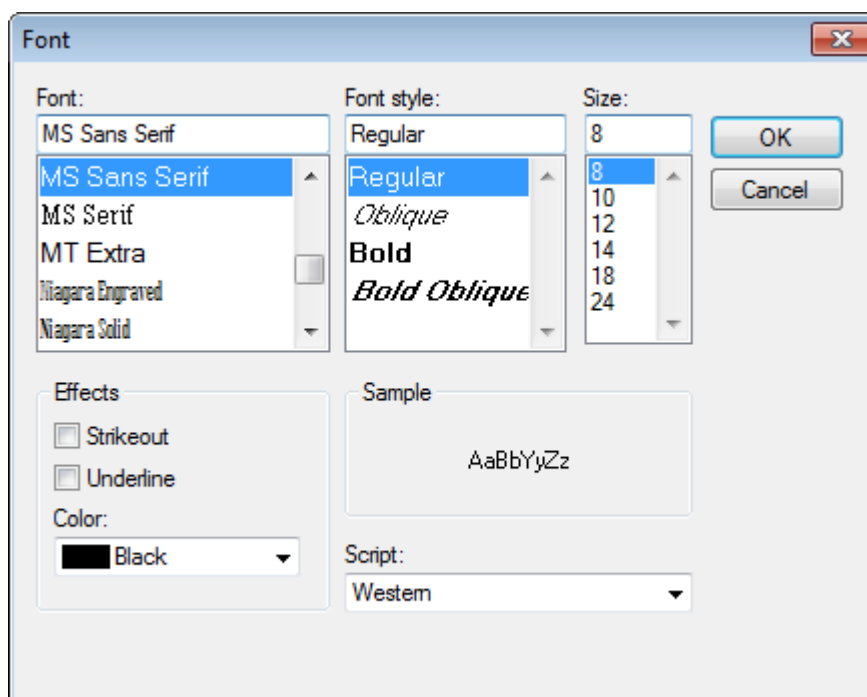
- there is no source selected

Cancel

This closes the dialogue without saving or applying any changes. If you have made any changes, you will *not* be prompted to save the changes, so be careful when using this button.

Font dialogue

The **Font** dialogue is used to change the appearance of the fonts used in the **List** panel.

To open the Font dialogue

Choose **Tools** > **Font**.

Description

The **Font** dialogue is used to configure the fonts used in the **List** panel. Some of the properties affect both the table headings and the table contents and some affect the table contents only. Some of the properties are not saved when you close SCATS Log.

The controls in this dialogue are described below.

Note: This is a Windows® component, so it may look slightly different on different operating systems.

Font

This is the name of the font used for the column headings and content. This can be entered in the text box or selected from the list.

This property is saved in the SCATS Log initialisation file.

Font style

This is the style of the font used for the column headings and content. This can be entered in the text box or selected from the list.

This property is saved in the SCATS Log initialisation file.

Size

This is the size of the font (in points) used for the column headings and content. This can be entered in the text box or selected from the list.

This property is saved in the SCATS Log initialisation file.

Effects

This is the special effects applied to the font used for the column headings and content.

Select **Strikethrough** to draw a line through the middle of the text.

Select **Underline** to draw a line under the text.

These properties are *not* saved in the SCATS Log initialisation file.

Color

This is the colour of the font used for the content. It does not affect headings.

This property is *not* saved in the SCATS Log initialisation file.

Sample

This shows a sample of text with all your changes applied so that you can preview the results before saving the changes.

Script

This is the type of alphabet to use for displaying text. The choices available depend on your system configuration. This should be set to Western, as all event record text fields are stored in ASCII, which requires a Latin script.

This property is *not* saved in the SCATS Log initialisation file.

OK

This saves and applies any changes and closes the dialogue.

Cancel

This closes the dialogue without saving or applying any changes. If you have made any changes, you will *not* be prompted to save the changes, so be careful when using this button.

Graphics colours dialogue

The **Graphics colours** dialogue is used to configure the colours used in the **Region plot** and **Time plot** panels.

To open the Graphics colours dialogue

Choose **Tools** > **Colours**.
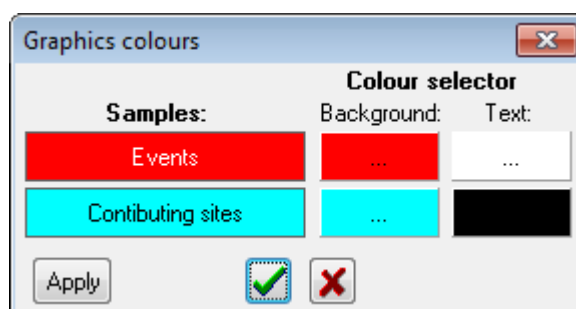
Description

The **Graphics colours** dialogue is used to configure the text and graphics colours used in the **Region plot** and **Time plot** panels. The middle part of the dialogue is divided into two rows and three columns.

The top row shows the colours used for the event counts. The bottom row shows the colours used for site counts.

The **Samples** column shows a sample of the colours that you have selected so that you can preview the results before saving the changes. The **Background** column shows the colour used for the colour bars and the background of the colour legend. The **Text** column shows the colour used for the text in the colour legend.

The controls in this dialogue are described below.

Ellipsis buttons

Click one of the ellipsis buttons to open the **Color** dialogue so that you can change the colour of the appropriate property. For example, click the ellipsis button in the **Events** row and the **Background** column to change the background colour used for event counts.

Apply

This saves and applies any changes without closing the dialogue.

OK

This saves and applies any changes and closes the dialogue.

Cancel

This closes the dialogue without saving or applying any changes. If you have made any changes, you will *not* be prompted to save the changes, so be careful when using this button.

Memory usage dialogue

The **Memory usage** dialogue shows memory usage for the currently loaded event log files.

To open the Memory usage dialogue

Choose **View** > **Memory usage**.

Description

The **Memory usage** dialogue shows memory usage for the currently loaded event log files. This is normally only of interest to a developer.

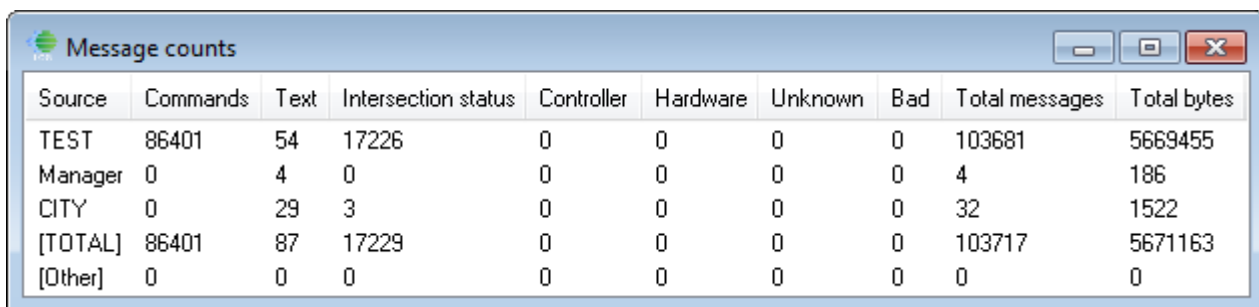The control in this dialogue is described below.

Close

This closes the dialogue.

Message counts dialogue

The **Message counts** dialogue shows a summary of the event record types for the currently loaded event log files.

To open the Message counts dialogue

Choose **View** > **Message counts**.

Source	Commands	Text	Intersection status	Controller	Hardware	Unknown	Bad	Total messages	Total bytes
TEST	86401	54	17226	0	0	0	0	103681	5669455
Manager	0	4	0	0	0	0	0	4	186
CITY	0	29	3	0	0	0	0	32	1522
[TOTAL]	86401	87	17229	0	0	0	0	103717	5671163
[Other]	0	0	0	0	0	0	0	0	0

Description

Each of the event records stored in an event log file has an event record type. The **Message counts** dialogue shows the number of each event record type for each source, together with totals by event record type and source. This is normally only of interest to a developer.

The statistics for the event record types are stored in a table. The meanings of the columns in the table are described below.

Source

This shows the source of the event record, i.e. where the original event record was stored, *not* where the event originated. This is the same as the **Source** area in the **Filter** dialogue.

An extra row labelled '[TOTAL]' shows the total of all the sources.

Commands

This shows the number of command event log record types. When **Record type** is selected in the control panel, these can be identified as event record type 0x03.

Text

This shows the number of text message event log record types. When **Record type** is selected in the control panel, these can be identified as event record type 0x10.

Intersection status

This shows the number of site status event log record types. When **Record type** is selected in the control panel, these can be identified as event record type 0x0E.

Controller

This shows the number of controller log event log record types. When **Record type** is selected in the control panel, these can be identified as event record type 0x06.

Hardware

This shows the number of Central Manager status event log record types. When **Record type** is selected in the control panel, these can be identified as event record type 0x1F.

Unknown

This shows the number of unknown event log record types. This should normally be zero. A non-zero value could indicate a corrupted event record in the event log or a new event record type not supported by this version of SCATS Log.

Bad

This shows the number of bad event log records. This should normally be zero. A non-zero value indicates one or more corrupted event records in the event log. The value is an approximation. The total number of bad records should match the number shown in brackets adjacent to the **Bad records** option in the control panel of the main window.

Total messages

This shows the total number of all the event log record types for this source.

Total bytes

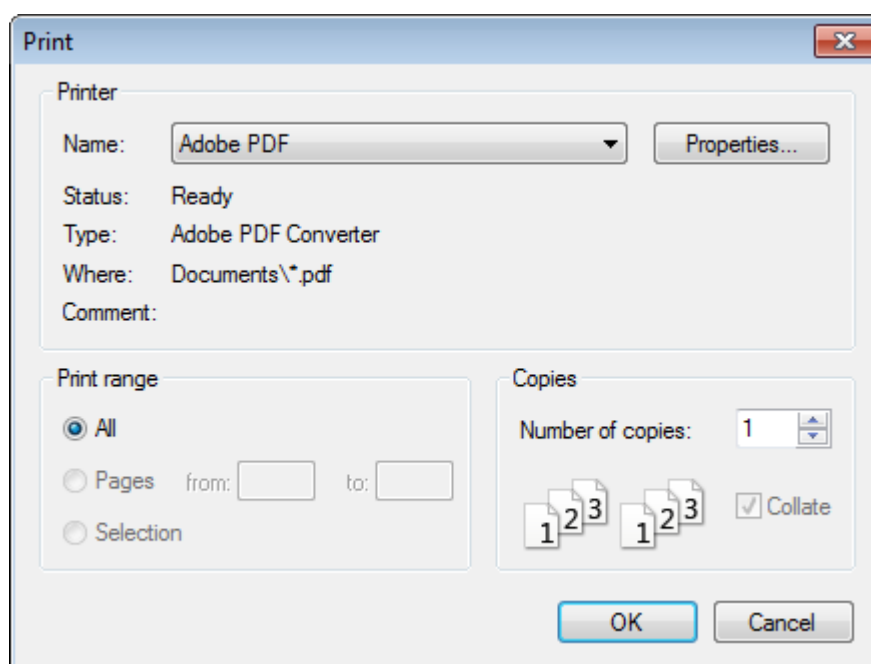This shows the total size (in bytes) of all the event log record types for this source.

Print dialogue

The **Print** dialogue is used to configure the printer and print range used when printing results in the **List** panel.

To open the Print dialogue

Do one of the following:

- Choose **File** > **Print**.
- Click the **Print** button in the control panel.

Description

The **Print** dialogue allows you to specify the printer settings before printing the results in the **List** panel. This is a standard Windows® dialogue, so is not described here.

Note: This is a Windows® component, so it may look different on different operating systems.

Subset Selector dialogues

The **Subset Selector** dialogues are used to configure which options are affected by the **Select all** and **Clear all** buttons in the **Filter** dialogue.

To open the Subset Selector dialogue

1. Click the **Filter** button in the control panel.

2. Click one of the **Select subset** buttons.
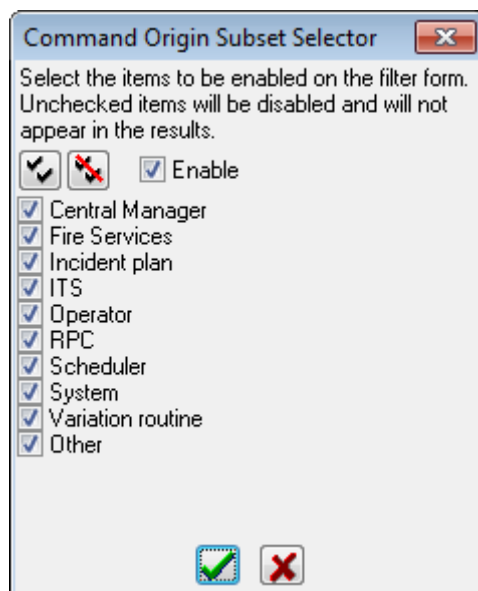
Description

Each list of options in the **Filter** dialogue has a **Select subset** button, which opens a **Subset Selector** dialogue similar to the one above. Each **Subset Selector** dialogue shows the same options as in the equivalent area of the **Filter** dialogue. When the **Enable** check box is selected in this dialogue, a subset of the items can be selected. The items selected are then enabled in the **Filter** dialogue and those not selected are disabled in the **Filter** dialogue. The **Select all** and **Clear all** buttons in the **Filter** dialogue then only affect the items that are enabled.

These dialogues contain the following buttons:

Button	Description
	Select all
	Clear all
	OK
	Cancel

These and the other controls in these dialogues are described below.

Select all

This selects all the options below the buttons.

This button is disabled unless **Enable** is selected.

Clear all

This clears all the options below the buttons.

This button is disabled unless **Enable** is selected.

Enable

This enables subset selection.

OK

This saves and applies any changes and closes the dialogue.

Cancel

This closes the dialogue without saving or applying any changes. If you have made any changes, you will *not* be prompted to save the changes, so be careful when using this button.

Summary dialogues

The **Summary** dialogues show a summary of a single type of site alarm or site status.

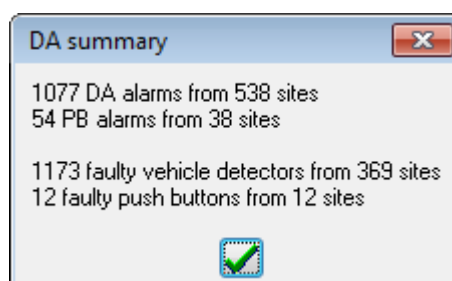**To open the Summary dialogue**

1.   Click the **Filter** button in the control panel.

    The **Filter** dialogue opens.

2.   Select one (and only one) option in the **Site events** area.

    The label under the **Site events** buttons change to *XX summary enabled*, where *XX* is the site alarm or site status code that you selected.

3.   Click **Apply** or **Close**.

    The **Summary** button in the control panel is enabled.

4.   Click the **Summary** button.

Description

The **Summary** dialogues show a count of all the site alarms or site status of a single type and how many sites caused those alarms or status.

There are two types of dialogue:

■   The **DA summary dialogue** shows statistics for detector alarms and 'faulty' detectors for both vehicle and push-button detectors.

■   The other summary dialogues show statistics for that type of alarm.
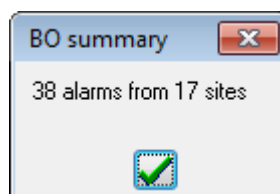
The control in these dialogues is described below.

Close

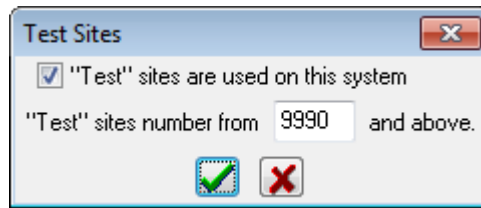Closes the dialogue.

Test Sites dialogue

The **Test Sites** dialogue is used to configure the range of site numbers that are considered to be test sites.

To open the Test Sites dialogue

Choose **Tools** > **Test site range**.

Description

Many systems are configured to have test sites so that software or controllers can be tested without spurious alarms appearing in SCATS Access. The events are still logged, but they do not appear in SCATS Log unless you choose to view them by selecting **Test sites** in the control panel.

The **Test Sites** dialogue allows you to specify which sites are regarded as test sites. It contains two buttons:

Element	Description
✔	OK
✘	Cancel

These buttons and the other controls in this dialogue are described below.

"Test" sites are used on this system

This specifies whether test sites are used. Select this option if your system has test sites. Clear it if your system does not have test sites.

"Test" sites number from *n* and above

This is the site that is to be regarded as the first test site when the above option is selected. All sites from this site to 64999 are then treated as test sites. The valid range is 1 to 64999. If you enter zero, test sites are disabled when you click **OK**.

This text box is disabled if **"Test" sites are used on this system** is cleared.

Note: This value is set by your SCATS system administrator when configuring SCATS Region. Each region can have a different value. Roads and Maritime Services uses 9900 for all regions. See your system administrator to find the value for your system.

OK

Saves the changes and closes the dialogue.

Cancel

Closes the dialogue without saving any changes. If you have made any changes, you will *not* be prompted to save the changes, so be careful when using this button.

Chapter 7: Warnings and error messages

This chapter describes the most commonly encountered warnings and error messages that you are likely to encounter in SCATS Log.

Error opening file
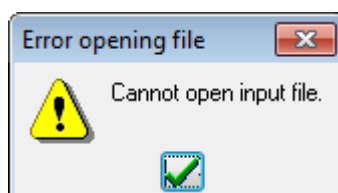
This error occurs in the main window when you attempt to open an event log file that does not exist.
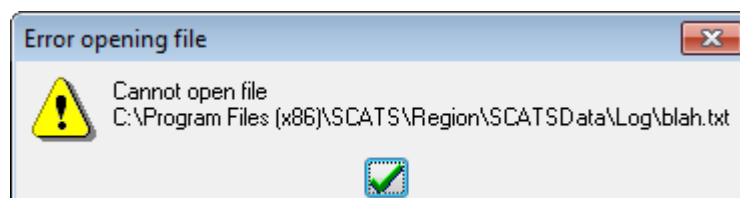
This error occurs in the **Filter** dialogue when you attempt to open a list of sites from a text file that does not exist.

Find
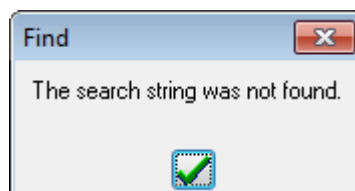
This error occurs when you search for a string that was not found. Remember that the search is performed from the most recently selected record to the start of the records, when using **Find previous**, or to the end of the records, when using **Find next**.

File error
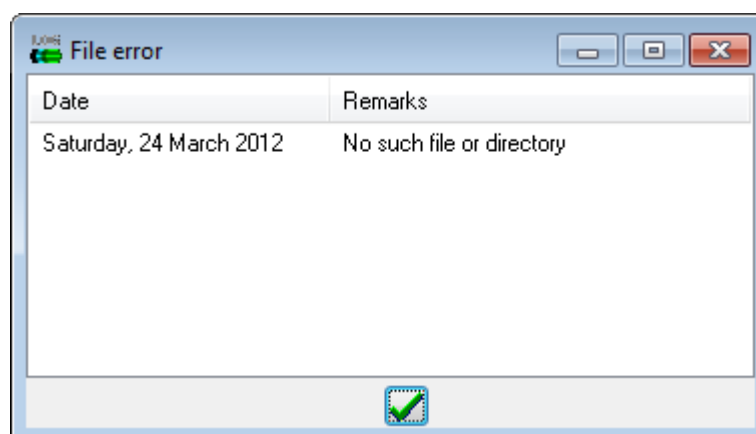
The **File error** dialogue is displayed when you try to load event log files from the SCATS host via the ITS interface when one or more of the event log files are missing from the SCATS host.

This error occurs if you specify:

■ a date in the past that has no event log because the file has been archived, moved, renamed or deleted

■ a date where no event log existed because the SCATS host had not been installed or was out-of-service for the whole day

■ a date in the future

Other errors

You should not receive any other errors. If you do, please contact the SCATS help desk, give the SCATS Log version that you were using and describe the steps necessary to reproduce the error.

Appendix A: Initialisation file format

SCATS Log has an option to save its settings when you close the program. This option is selected by default and it is strongly recommended that you leave it selected.

The settings are saved in an initialisation file with the same file name as the SCATS Log executable, but with a **.ini** extension. The default is **ScatsLog.ini**. If you rename the SCATS Log executable (not recommended), then you must also rename the initialisation file.

For Windows® XP, the initialisation file is saved in:

C:\Documents and Settings*UserName*\Application Data\SCATS\Log

For Windows® 7 and Windows® 8, the initialisation file is saved in:

C:\Users*UserName*\AppData\Roaming\SCATS\Log

In both cases, **_UserName_** is your Windows® user name.

When SCATS Log opens, it tries to read the settings from the initialisation file in the above location. If the initialisation file is not found, it tries to read the initialisation file from the location where SCATS Log is installed. If neither file is found, it tries to read the settings from the Windows® registry. The registry settings are found in **HKEY_CURRENT_USER\Software\Roads and Traffic Authority\SCATS\ScatsLog**, but these only exist if you have run a version of SCATS Log prior to version 6.7.2 and you have not deleted the registry entries. This is the only time that the registry settings are used and they are no longer updated by SCATS Log.

If neither of the initialisation files or the registry entries are found, then SCATS Log uses default values.

If you want to reset SCATS Log to its default settings, just delete the initialisation file and the old registry settings.

Editing ScatsLog.ini

There are two ways to make changes to **ScatsLog.ini**:

- Edit the file with a text editor such as Notepad.
- Don't do anything! Just change your preferences in SCATS Log and let the program make the changes for you.

The first option is not recommended, as it is prone to human error. Always make a copy of the file before making any changes. In this way, you can restore the original file if you accidentally damage it.

Do not edit **ScatsLog.ini** while SCATS Log is running unless the **Save settings on exit** option is cleared. If you do, your changes are overwritten when SCATS Log closes.

Sections

ScatsLog.ini contains several sections. Each section is identified by a section name surrounded by square brackets []. For example:

```
[SectionName]
```

In this example, 'SectionName' is the name of the section. The enclosing brackets are required and the left bracket must be the first character in the line.

Key names

Each section contains one or more key names followed immediately by an equals sign (=) and an optional value. For example:

```
KeyName=value
```

In this example, 'KeyName' is the name of the property and 'value' is the value to be allocated to that property. A key name can consist of any combination of letters and digits in uppercase or lowercase. The value can be an integer or a string, depending on the property.

Comments

Comments can be included to provide explanatory notes, but these are removed the next time SCATS Log saves the initialisation file. A comment is any line that begins with a semicolon (;). For example:

```
; This is a comment
```

Blank lines

Blank lines are ignored. These can be used to add spacing between sections to make the file more readable, but these are removed the next time SCATS Log saves the initialisation file.

Description of section names and key names

The remainder of this section describes all the valid section names and key names that can be included in **ScatsLog.ini**.

[Main Form]

This section contains the size and position of the main window.

Left=

The x coordinate of the left edge of the main window.

Top=

The y coordinate of the top edge of the main window.

Height=

The height of the main window.

Width=

The width of the main window.

[Columns]

This section contains the properties of the two sets of columns.

Current set=

The set of columns that is currently active (1 or 2).

Set *n* widths=

The width of each column in the **List** panel for column set *n*. This is a string of 11 decimal numbers separated by commas.

Set *n* columns=

A bit map of the default show/hide status for each column in column set *n* (0 = hide column, 1 = show column).

[Font]

This section contains the properties of the font used in the **List** panel. Note that the strikeout, underline and colour properties are not saved.

Name=

The name of the font.

Size=

The size of the font (0 = system font size, non-zero = size in points).

Italic=

The style of the italic property of the font (1 = normal, 2 = italic).

Bold=

The style of the bold property of the font (1 = normal, 2 = bold).

[Central Manager *n*]

This section contains the configuration data for host *n*, where *n* is 1 to 10.

Address=

The IP address or host name of SCATS host *n*. The IP address uses dotted decimal format. The host name is a string.

Port=

The TCP/IP port number of the ITS port for host *n* (0 = not used, 1–65535 = port number).

Location=

The description for host *n*.

[Regions]

This section contains the state of the options in the **Source** area of the **Filter** dialogue.

Filtering=

The state of the subset selection (0 = disabled, 1 = enabled).

Central Manager=
Regions_*n*=
Other regions=

The state of each of the options (+ = selected, − = disabled, +− = selected and disabled).

Note: Regions_1 to **Regions_10** contain a comma-separated list of region names or null if there are no region names to list.

[Options]

This section contains the state of various options, mainly in the control panel.

Active CM=

The SCATS host selected in the **Central Manager** dialogue (1–10).

Ask for CM=

The state of the **Don't ask me for this again** option in the **Central Manger** dialogue, 0 = selected (i.e. don't ask), 1 = not selected (i.e. ask).

Test site number=

The first site ID in the range of test sites (1–64999).

Test sites enabled=

Whether test sites are enabled (0 = disabled, 1 = enabled).

Operator ID=

The user ID of the SCATS user specified in the **Operator** text box in the **Commands** area of the **Filter** dialogue (1–200).

Show parked alarms=

The state of the **Parked alarms** option in the control panel (0 = not selected, 1 = selected).

Show test sites=

The state of the **Test sites** option in the control panel (0 = not selected, 1 = selected).

Show plan data=

The state of the **Plan data** option in the control panel (0 = not selected, 1 = selected).

Show other alarms=

The state of the **Concurrent alarms** option in the control panel (0 = not selected, 1 = selected).

Show duplicate events=

The state of the **Duplicate events** option in the control panel (0 = not selected, 1 = selected).

To Date selected=

The state of the **To** option in the control panel (0 = not selected, 1 = selected).

Period selected=

The state of the **Period** option in the control panel (0 = not selected, 1 = selected).

From: hours=

The starting hour for the period (0–23).

From: minutes=

The starting minute for the period (0–59).

To: hours=

The ending hour for the period (0–24).

To: minutes=

The ending minute for the period (0–59).

Region Scale=

The scale used in the **Region plot** panel (0 = automatic, non-zero = manual scale).

Time Scale=

The scale used in the **Time plot** panel (0 = automatic, non-zero = manual scale).

[Text search]

This section contains the state of the **Containing text** area of the **Filter** dialogue.

Enabled=

The state of the **Containing text** check box (0 = disabled, 1 = enabled).

String 1=

The first text string in the **Containing text** area of the **Filter** dialogue.

String 2=

The second text string in the **Containing text** area of the **Filter** dialogue.

And/Or=

The type of boolean operation to perform with string 1 and string 2 when **Containing text** is enabled (0 = none, 1 = AND, 2 = OR).

[Command origins]

This section contains the state of the options in the **Origin** column of the **Commands** area of the **Filter** dialogue.

Filtering=

The state of the subset selection (0 = disabled, 1 = enabled).

Central Manager=
Fire Services=
Incident plan=
ITS=
Operator=
RPC=
Scheduler=
System=
Variation routine=
Other=

The state of each of the options (+ = selected, – = disabled, +– = selected and disabled).

[Command types]

This section contains the state of the options in the **Type** column of the **Commands** area of the **Filter** dialogue.

Filtering=

The state of the subset selection (0 = disabled, 1 = enabled).

Alarm cancel=
Dwells=
Incident plan=
Lamps=
Locks and trims=
Route preemption=
Site pictures=
Other=

The state of each of the options (+ = selected, – = disabled, +– = selected and disabled).

[Other events]

This section contains the state of the options in the **Other events** area of the **Filter** dialogue.

Filtering=

The state of the subset selection (0 = disabled, 1 = enabled).

Access control=
Action list errors=
Bad data=
Controller log=
Dial-up sites=
Disk space=
External=
Fallback=

Increment failure=
ITS/region=
Lamp dim levels=
Lamp faults=
Messages=
Network sites=
Ping responses=
RAM update=
Region comms=
Region watchdog=
SI faults=
Site comms=
Site validation=
System alarms=
System control=
Unknown records=
Other=

The state of each of the options (+ = selected, − = disabled, +− = selected and disabled).

[Site events]

This section contains the state of the options in the **Site events** area of the **Filter** dialogue.

Filtering=

The state of the subset selection (0 = disabled, 1 = enabled).

BD=
BO=
CA=
CE=
CF=
CK=
DA=
DW=
DZ=
FB=
FL=
FY=
GT=
GW=
IH=
IR=
IV=
LC=
LF=
LM=
NC=
NF=
OD=
PE=
PF=
PK=
SC=
SF=
SI=
ST=
SY=
UD=
VE=
WD=
XU=

The state of each of the options (+ = selected, − = disabled, +− = selected and disabled).

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[Selected sites]

This section contains the state of the options in the **Selected sites** area of the **Filter** dialogue.

File name=

The file name of the list of selected sites to load at start-up.

Load from file=

The state of the **Load from file** option (0 = disabled, 1 = enabled).

Use site list=

The state of the **Enable** option (0 = disabled, 1 = enabled).

Line_*n*=

The list of sites specified in line *n*, where *n* = 1 to 20. The format is the same as described for the **Selected sites** area of the **Filter** dialogue, except that the data is compressed into the most efficient form. For example, if '1,2,3,5' was entered in the **Selected sites** area, it is compressed as '1-3,5'.

[Excluded sites]

This section contains the state of the options in the **Ignored sites** area of the **Filter** dialogue.

File name=

The file name of the list of ignored sites to load at start-up.

Load from file=

The state of the **Load from file** option (0 = disabled, 1 = enabled).

Use site list=

The state of the **Enable** option (0 = disabled, 1 = enabled).

Line_*n*=

The list of sites specified in line *n*, where *n* = 1 to 20. The format is the same as described for the **Ignored sites** area of the **Filter** dialogue, except that the data is compressed into the most efficient form. For example, if '1,2,3,5' was entered in the **Ignored sites** area, it is compressed as '1-3,5'.

[Plot Colours]

This section contains the state of the colours in the **Ignored sites** area of the **Filter** dialogue.

Faults Background=

Background colour of the event bars in the **Region plot** panel and **Time plot** panel (blue × 65536 + green × 256 + red).

Faults Text=

Text colour of the event bar legend in the **Region plot** panel and **Time plot** panel (blue × 65536 + green × 256 + red).

Sites Background=

Background colour of the site bars in the **Region plot** panel (blue × 65536 + green × 256 + red).

Sites Text=

Text colour of the site bar legend in the **Region plot** panel (blue × 65536 + green × 256 + red).

Notes

Appendix B: End-user licence agreement

IMPORTANT LEGAL NOTICE: PLEASE READ CAREFULLY

This software is made available to you subject to the terms of this end-user licence agreement. Before you install or use the software, please read this end-user licence agreement carefully, as it is a legally-binding contract between you and RMS.

If you do not accept this end-user licence agreement, you may not install or use the software. By installing or using the software, you agree to be bound by the terms of this end-user licence agreement.

1. Definitions

In this Licence Agreement:

Authorised Distributor means the distributor who provided the Software to You or such other RMS-approved distributor notified by You to RMS from time to time.

includes and **including** are not intended to limit the words to the examples referred to.

Intellectual Property includes copyright and trade secrets.

Licence Agreement means this end-user licence agreement.

Purchase Order means Your written purchase order to RMS or RMS's Authorised Distributor (as agent for RMS) for the supply of Software.

RMS means Roads and Maritime Services (ABN 76 236 371 088) of 101 Miller St, North Sydney, NSW, Australia.

Software means the executable version of RMS software described in the Purchase Order and any related documentation, together with any upgrades and new releases as may be issued from time to time by RMS to You (in RMS's absolute discretion) subject to You having a current maintenance contract with RMS or RMS's Authorised Distributor.

Third-Party Terms means each of the terms (if any) included in the Software or attached to the Schedule to this Licence Agreement or found in the file entitled 'Third-Party Terms'.

You and **Your** means the individual or entity which installs or uses the Software.

2. Licence

2.1 RMS grants You a non-exclusive, non-transferable licence to use the Software on equipment controlled by You for the purpose of traffic control, subject to the terms of this Licence Agreement.

2.2 The Software may include third-party software which is not proprietary to RMS. By installing or using the Software, You acknowledge and accept the Third-Party Terms. RMS cannot alter the Third-Party Terms. If there is any inconsistency between the terms of the main body of this Licence Agreement and any of the applicable Third-Party Terms, the relevant Third-Party Terms will prevail only to the extent of that inconsistency and only to the applicable third-party software.

2.3 The Software controls no more than the number of traffic sites specified in Your Purchase Orders for SCATS which are dated prior to the date of this Licence Agreement (but You can increase the number of sites that You use the Software for if You pay RMS or its Authorised Distributor the required additional fees and obtain RMS's approval to the increase).

2.4 RMS retains all ownership and Intellectual Property rights in the Software.

2.5 The Software is enabled by software authorisation keys and/or a hardware dongle protection device issued by RMS.

3. Use rights

3.1 You must not do or try to do any of the following and You must not allow anyone else to do or try to do any of the following:

(a) Sub-license, assign, share, sell, rent, lease or otherwise transfer Your right to use the Software.

(b) Copy, modify, translate, decompile, disassemble, tamper with or reverse engineer any part of the Software.

(c) Use the Software to develop other software.

(d) Combine or incorporate the Software with other software.

(e) Alter, remove or obscure any copyright or other Intellectual Property notifications applied to the Software.

4. Confidentiality

4.1 You must not disclose the Software to any other person (except Your employees who need to know, provided that such employees are directed to keep such information confidential).

4.2 If You have disclosed the Software to any person (including an employee) and You become aware that that person may breach confidentiality then You must immediately notify RMS.

5. Limitation of liability and indemnity

5.1 Subject to clause 5.3, RMS excludes all liability for indirect, special and consequential loss arising from or in relation to this Licence Agreement or the Software (including loss of revenue, profits, bargain or goodwill).

5.2 Subject to clause 5.1 and 5.3, RMS's total liability in aggregate under this Licence Agreement is limited to the total amount You paid for the Software to RMS or the Authorised Distributor.

5.3 Nothing in this Licence Agreement operates to limit or exclude liability that cannot by law be limited or excluded. RMS's liability under any obligation implied by law in this Licence Agreement is limited, at RMS's option, to resupplying the Software or paying for the resupply of the Software.

5.4 You indemnify RMS, its agents and contractors against all expenses, losses, damages and costs (including legal costs on a full indemnity basis and whether incurred by or awarded against RMS) suffered or incurred by RMS in respect of Your breach of this Licence Agreement or Your use of the Software, whether negligent or otherwise.

6. Termination

6.1 This Licence Agreement will take effect when You first install or use the Software and will remain in force until terminated in accordance with this Licence Agreement.

6.2 RMS can terminate this Licence Agreement if You breach a provision of this Licence Agreement and have not remedied that breach within 7 days after receipt of a notice from RMS or its Authorised Distributor requiring You to rectify such breach.

6.3 On termination of the Licence Agreement, You must immediately:

(a) Stop using the Software.

(b) Return to RMS all copies of the Software and any dongle.

(c) Ensure all copies of the Software are deleted or permanently removed from any form of storage.

(d) Return to RMS all other confidential information of RMS in material form.

7. Governing law and jurisdiction

This Licence Agreement is governed by the laws of New South Wales, Australia. The parties submit to the non-exclusive jurisdiction of the courts of New South Wales, Australia.