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Agilent Technologies

Varian Analytical Instruments
2700 Mitchell Drive
Walnut Creek, CA 94598-1675/USA

Star Chromatography Workstation

Version 6

StarFinder

Operation Manual



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About StarFinder

About this Manual



This manual is intended for people installing StarFinder for the first time, people who are adding new licenses to an existing StarFinder installation, or people who are already using StarFinder and need information about features, functions and uses. Refer to the Star Chromatography Workstation Data Acquisition Operation Manual and Data Handling and Reports Manual for further information about using the Star Workstation.

If you are...	Then...
installing StarFinder for the first time	continue reading this overview
installing multiple StarFinder licenses on a network	skip to page 5
looking for information about StarFinder features, functions and uses	skip to page 11

What does StarFinder Do?

The StarFinder application helps you find and examine results from chromatographic runs generated by the Star Chromatography Workstation. StarFinder's simple to use interface, coupled with a powerful database, allows you to review and respond to the information you need quickly. Used with other Star Workstation applications such as Report and Interactive Graphics, you can view the data in more detail with the push of a button.

StarFinder Components

StarFinder consists of three components: the StarFinder application, the StarLink AutoLink application, and the StarFinder database.

- The StarFinder application allows you to browse the data files you have generated with the Star Workstation. You may specify a variety of search criteria to help you find the data you are looking for. You may also keep track of archived data files.
- The StarLink AutoLink application is invoked automatically from System Control when you generate new data files. This application enters information about the data file into the StarFinder database.
- The StarFinder database keeps track of the data files generated by the Star Workstation. If the database and your data files are stored on a shared network server, then multiple Workstations can update the database concurrently, and the StarFinder application can be used as a convenient tool to access all of the Star Workstation data files generated by the entire lab.

What is ODBC?

Microsoft ODBC is the Open Database Connectivity interface used by many database vendors and applications. StarFinder uses ODBC to interface with the Microsoft Access database supplied with StarFinder. When you install StarFinder, you also install the ODBC drivers provided in your disk set.

Single Workstation or Network?

StarFinder can be used on a single Star Workstation, or on a network of Star Workstations. If you have more than one installation of the Star Workstation running on a network, a few steps of preparation will insure you get the most out of StarFinder. Refer to *Installing StarFinder for Use on a Network* on [page 3](#) if you are planning to use StarFinder in a network environment.

Installation and Configuration

Installing StarFinder on a Single Workstation

Note: If you have not already installed the Star Workstation on your computer, do so before proceeding.

StarFinder is installed from the Star Workstation CD. Refer to the booklet included with the CD for instructions on installing software. When you run the StarFinder installation, you will be prompted for your StarFinder software serial number which appears on the software serial number card included with the product.

The StarFinder installation installs ODBC 3.0 drivers if necessary. It installs an empty StarFinder database in the directory where the Star Workstation is installed.

Installing StarFinder for Use on a Network

This section describes the procedures for optimizing your Star Workstation installation for use with StarFinder on a network. If you do not plan to use multiple Star Workstations to update a single StarFinder database, you do not need to perform these steps.

If your computers are...	Then...
connected to a network and you have already configured the Star Workstation to store data files on the server	refer to page 5
connected to a network but are not configured to store data files on the server	continue reading this section

Configuring the Star Workstation for network data file storage

Follow these steps to configure your Star Workstation installations to store data files on the network server. *This example describes how to configure the Star Workstation for use on a Novell NetWare network. The procedure for other networks may vary.*

Step	Action
1	Identify a network volume and directory that can be accessed by all of the computers running the Star Workstation. This will be the <i>network root directory</i> .
2	For each networked computer running the Star Workstation, create a subdirectory in the <i>network root directory</i> . Name the subdirectories so the corresponding Star Workstation installations can be easily identified. These will be the <i>network Workstation directories</i> .
3	Determine a drive letter that can be mapped to the <i>network root directory</i> for all computers running Star Workstation on the network. This will be the <i>shared network drive letter</i> . Use the Windows Network Neighborhood to map the network root directory to the shared network driver letter. Important: This drive letter must be the same for all Star Workstations on the network.
4	When generating Data Files in System Control, specify the <i>network Workstation directory</i> , using the mapped network driver letter, as the Data File location.
5	Repeat steps 3 and 4 for each computer on the network running the Star Workstation.

Installing StarFinder for database sharing

This section describes how to install StarFinder on computers running the Star Workstation that are attached to a network server. If you have not configured your Star Workstation installations to automatically store data files on the network server, refer to [page 3](#) before proceeding.

Note: If you have not already installed the Star Workstation on your computer, do so before proceeding.

StarFinder is installed from the Star Workstation CD. Refer to the booklet included with the CD for instructions on installing software. When you run the StarFinder installation, you will be prompted for your StarFinder software serial number which appears on the software serial number card included with the product.

The StarFinder installation installs ODBC 3.0 drivers if necessary. It installs an empty StarFinder database in the directory where the Star Workstation is installed. To allow multiple StarFinder installations to access the same database on a network, perform the following steps.

Step	Action
1	Copy one StarFinder database file (starfind.mdb), which was installed in the directory where the Star Workstation resides, to the shared network location.
2	To link to this database, open the "32Bit ODBC" icon in the Windows Control Panel.
3	Select the StarFinder entry and choose Configure.
4	When the ODBC Microsoft Access 97 dialog is displayed with the StarFinder database, choose Select... and pick the database in the shared network directory that you wish to use.
5	Repeat steps 2 through 4 for each StarFinder installation that you wish to share the database.

Updating the StarFinder Database

StarFinder keeps track of data files generated by the Star Workstation by making entries in a database each time a new data file is created by System Control/Automation. This section describes how to update the StarFinder database with information about your data files.

Automatic updating during injections

When you install StarFinder, the StarLink AutoLink application is installed in the Star Workstation. StarLink is then automatically invoked after each injection and recalculation performed by System Control. When invoked, StarLink updates the StarFinder database with information about the data file. No further action is necessary to maintain your StarFinder database—as you perform injections and recalculations, entries are added automatically.

Turning off automatic database updating

You may wish to turn off automatic updating of the StarFinder database after each injection and recalculation performed by System Control. This is done in the StarFinder Options dialog box. Refer to [page 8](#) for a description of the *Automatically invoke StarLink from System Control* checkbox.

Using System Control to update the database with existing data files

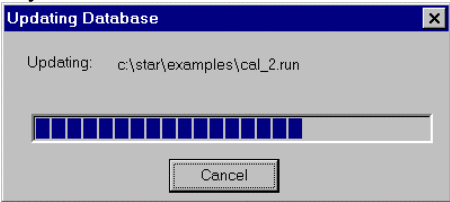
If you have data files you have already generated that you wish to track using StarFinder, follow these steps.

Step	Action
1	Make sure that automatic updating of the StarFinder database is turned on in the StarFinder Options dialog box. Refer to page 8 .
2	In System Control/Automation, create a RecalcList containing the data files you wish to add to the StarFinder database.
3	Begin the RecalcList, selecting either Recalc or Print as the action. When this RecalcList is processed, the file names are automatically added to the database.

Using drag and drop to update the database with existing data files

Data files can be added directly to the StarFinder database without using System Control. Follow these steps to add the data files to the database.

Step	Action
1	Start StarFinder using the Star Toolbar.  <i>Click on the StarFinder button.</i>
2	If presented with the Search dialog box, press Search.
3	Run the Windows Explorer. Select the data files to add to the StarFinder database.

Step	Action
4	While holding the mouse button down over the selected files, drag the selected files over the StarFinder main window and release the mouse button. A status bar shows the progress of the files being added to the database. When finished, you may have to modify your search parameters to display these newly added data files. 

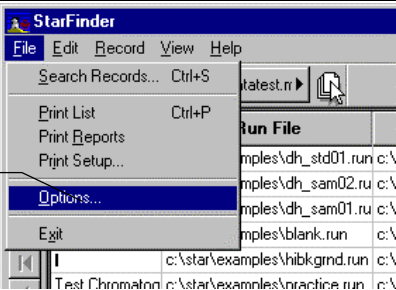
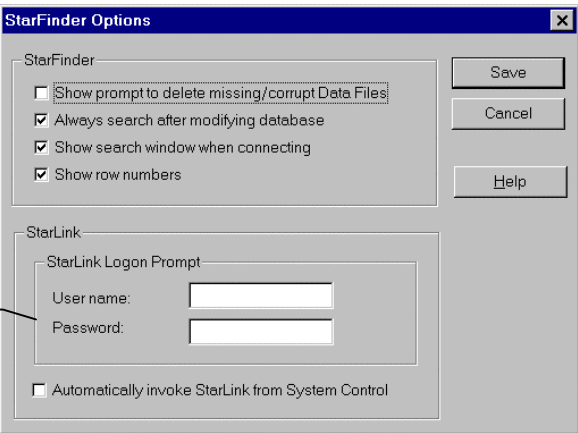
Changing StarFinder Options

This section describes how to modify options that affect the behavior of StarFinder.

The StarFinder Options dialog box

StarFinder options are set in the StarFinder Options dialog box. To access this dialog box, perform the following steps.

Step	Action
1	Start StarFinder using the Star Toolbar.  <i>Click on the StarFinder button.</i>
2	If presented with the Search dialog box, press Cancel.

Step	Action
3	Choose Options... from the File menu. 
4	The StarFinder Options dialog box is displayed.  Only used with database security. Refer to page 41 for security options. See the table below for a description of each field.
5	Change the appropriate options and press Save.

Select this checkbox...	To do this...
Show prompt to delete missing/corrupt Data Files	You will be prompted to remove database entries for data files that cannot be accessed by StarFinder.
Always search after modifying database	The StarFinder display will be updated when the database is modified, for example when new data files are added using drag-and-drop.
Show search window when connecting	The search window will be displayed when you start StarFinder.
Show row numbers	Row numbers will be shown in the spreadsheet display.
Automatically invoke StarLink from System Control	Data files will be automatically added to the database when performing Sequence automation in System Control.

Using StarFinder

Searching for Data Files

Once your StarFinder database contains information about the data files you have generated, you can use the StarFinder application to search for your data files.

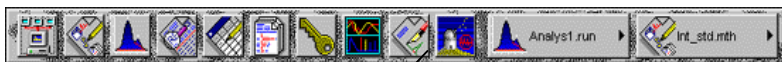
This section describes

- how to run StarFinder
- how to specify search criteria, and
- how to perform searches.

If you have not added data files to the StarFinder database, refer to [page 5](#).

Running StarFinder

Start StarFinder from the Star Toolbar.



Click on the StarFinder button.

You can also run StarFinder from the Varian Star folder in the Windows Start button.

Specifying search criteria

If the Search dialog box is not displayed when you run StarFinder, or if you wish to perform a new search, use the *Search Records...* item in the *File* menu. The Search dialog box displays all the fields that can be searched in the database. Data entered into a search field(s) will be used to select records from the database. You can search using more than one search field at a time to narrow your search. Likewise, the first 1000 records stored in the database will be returned if all search fields are blank. The records are retrieved in injection date order.

Search

Injection Dates

Year Month Day

Begin: 1988 01 23

End: 1991 02 15

Search

Cancel

Search Fields

Sample ID:

Operator:

Instrument:

Workstation:

Detector Type:

Bus Address:

Injection Notes:

StarFinder Notes:

Run File Name:

Method File:

Reset

Help

The following table describes the fields in the Search dialog box.

Field	Description	Type
Injection Dates	The date range specifying when the injection was performed.	3 edit boxes specifying the data in YYYY/MM/DD format
Sample ID	The name of the sample specified in the SampleList in System Control when the injection was performed.	Partial match
Operator	The name of the operator who performed the injection that generated the data file.	Drop down
Instrument	The name of the instrument on which the injection was performed.	Drop down
Workstation	The name of the Workstation used during the injection.	Drop down
Detector Type	The type of detector used to generate the data in the data file.	Drop down
Bus Address	The address of the detector module used to generate the data in the data file.	Drop down
Injection Notes	Notes entered by the Operator into the SampleList at the time of the injection.	Partial match
Run File	The path and file name of the data file.	Partial match
Method File	The path and file name of the Method used during the injection.	Partial match
StarFinder Notes	Notes added to database entries from StarFinder.	Partial match

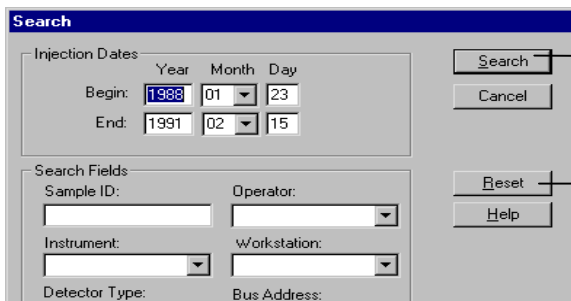
Search field types

This table describes the three types of search fields.

Field Type	Function
Partial match Sample ID: level	Partial matches allow you to specify any portion of a field you wish to match. Example: 'Star' will match records with 'Star', 'StarFinder', 'StarGazer', or 'SuperStar' in this field.
Date Year Month Day Begin: 1988 01 23 End: 1991 02 15	Date fields allow you to enter the starting and ending search date. An invalid start date will be replaced with 1980/01/01. An invalid end date will be replaced with the current date.
Drop down NS072393 CCK 	For convenience, many fields have a drop down list of all possible choices that can be searched. By pressing the drop-down control on the field, you can select the item on which to search. To clear this field, highlight the entry and hit the Backspace key.

Performing a search

After you have entered the information about the data files you wish to view, press the Search button.



Press the **Search** button to find data files matching the criteria entered in this window. Press the **Reset** button to clear all search fields. Use this to find all records or start a new search definition.

To repeat a search using the same search criteria, use the *Repeat Last Search* button on the StarFinder toolbar.

Rules about searching

Note that StarFinder's performance is affected by the number of data files selected by your search criteria. Keep the following rules in mind when performing searches:

- While the total number of data files stored in the StarFinder database is only limited by the size of the storage medium, the number of data files displayed at any given time is limited to 1000.
- The fewer data files returned by your search, the better the performance.
- You should be as specific as possible when performing searches so only those files in which you are interested are displayed.

Viewing Data File Information

The StarFinder window displays information about the data files found as a result of the search you performed. This section describes

- how to read the information in the StarFinder window, and
- how to navigate through the data files returned by your search.

Refer to [page 11](#) for information on performing a search.

The StarFinder main window

After a search is conducted, the main window lists the results from chromatographic runs matching the search criteria. The main window is separated into two halves.

The screenshot shows the StarFinder application window. At the top is a menu bar (File, Edit, Record, View, Help) and a toolbar with icons for file operations and navigation. Below this is a large table displaying search results. The table has columns for Sample ID, Run File, Method File, Date, Operator, Workstation, and Instrument. The table is divided into two panes by a vertical line. The left pane shows a list of sample IDs and run files. The right pane shows the corresponding method files, dates, operators, workstations, and instruments. Below the table is a 'Run Info' section with fields for Sample ID, Run File, Method File, Injection Date, Operator, Workstation, Instrument, Detector Type, Bus Address, and Injection Notes. To the right of the 'Run Info' section is a 'Result Info' section with a chromatogram plot showing mV vs Minutes. Below the plot are fields for Peaks (Detected, Identified), Channel, and Recalc Date. The 'Detail Window' is also visible, showing a list of peaks and their retention times.

Dockable Toolbars

Spreadsheet Window

Detail Window

Sample ID	Run File	Method File	Date	Operator	Workstation	Instrument
5	Blank Baseline	c:\star\examples\blank.run	c:\star\datatst2.mth	89/11/10	Data Sys Res	LC_RESEARCH GC Research
6	c:\star\examples\hibkqmd.run	c:\star\datatst2.mth	89/11/10	Data Sys Res	LC_RESEARCH GC Research	
7	Test Chromatogram	c:\star\examples\practice.run	c:\star\datatst2.mth	89/11/10	Data Sys Res	LC_RESEARCH GC Research
8	Manual Samp	c:\star\examples\star11.run	c:\lc_starc\startup.mth	90/10/23	Number 1	LC_GC_RSRCH Varian Star
9	12.0 NP	c:\star\examples\zzzz\cal_1a.run	c:\star_v3\np1.mth	92/12/24	A. Chemist	PEGASUS Varian Star #1
10	20.0 NP	c:\star\examples\zzzz\cal_1a.run	c:\star_v3\np1.mth	92/12/24	A. Chemist	PEGASUS Varian Star #1
11	40.0 NP	c:\star\examples\analysis.run	c:\star_v3\np1.mth	92/12/25	A. Chemist	PEGASUS Varian Star #1
12	40.0 NP	c:\star\examples\cal_2.run	c:\star_v3\np1.mth	92/12/25	A. Chemist	PEGASUS Varian Star #1

Run Info

Sample ID: Test Chromatogram

Run File: c:\star\examples\practice.run

Method File: c:\star\datatst2.mth

Injection Date: 11/10/89 01:05 AM

Operator: Data Sys Research

Workstation: LC_RESEARCH

Instrument: GC Research

Detector Type: ADCB

Bus Address: 16

Injection Notes:

Result Info

Peaks

Detected: 12

Identified: 0

Channel: A = A RESULTS

Recalc Date: 07/23/93 04:03 PM

Data Handling

The top half contains a *spreadsheet* listing all runs found during the search (up to 1000).

The bottom half contains detailed information for the run selected in the spreadsheet.

A Windows *splitter* separates the spreadsheet from the detailed information. Use the splitter to change the size of both windows by clicking on the splitter with the mouse and moving it.

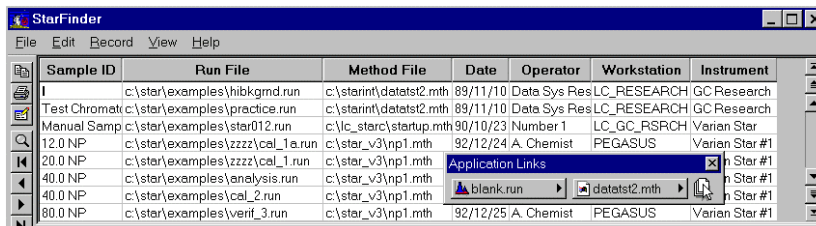
There are two toolbars on the main window. These can each be dragged with the left mouse button to a docked or undocked location. The View Menu items can be used to turn these toolbars off and on.

To change the position of a toolbar, use the following steps.

Step	Action
1	Point between buttons on a toolbar, or point to the toolbar title bar if it is a floating toolbar.
2	Drag the toolbar to a new location. If you drag it to the edge of the application window, the toolbar will dock to the edge of the window automatically.

The Spreadsheet display

Each row in the spreadsheet contains a single chromatographic run and the contents of each column are labeled above.



The screenshot shows the StarFinder application window with a menu bar (File, Edit, Record, View, Help) and a toolbar. The main area displays a spreadsheet with the following columns: Sample ID, Run File, Method File, Date, Operator, Workstation, and Instrument. The data rows are as follows:

Sample ID	Run File	Method File	Date	Operator	Workstation	Instrument
	c:\star\examples\hibkgmd.run	c:\star\int\data\stat2.mth	89/11/10	Data Sys Res	LC_RESEARCH	GC Research
Test Chromat	c:\star\examples\practice.run	c:\star\int\data\stat2.mth	89/11/10	Data Sys Res	LC_RESEARCH	GC Research
Manual Samp	c:\star\examples\star012.run	c:\lc_starc\startup.mth	90/10/23	Number 1	LC_GC_RSRCH	Varian Star
12.0 NP	c:\star\examples\zzzz\cal_1a.run	c:\star_v3\np1.mth	92/12/24	A. Chemist	PEGASUS	Varian Star #1
20.0 NP	c:\star\examples\zzzz\cal_1.run	c:\star_v3\np1.mth				h Star #1
40.0 NP	c:\star\examples\analysis.run	c:\star_v3\np1.mth				h Star #1
40.0 NP	c:\star\examples\cal_2.run	c:\star_v3\np1.mth				h Star #1
80.0 NP	c:\star\examples\verif_3.run	c:\star_v3\np1.mth	92/12/25	A. Chemist	PEGASUS	Varian Star #1

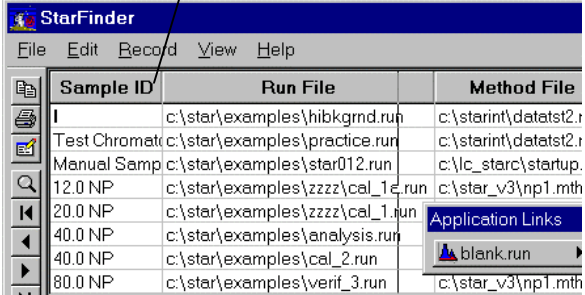
Below the spreadsheet, there is a section titled "Application Links" with buttons for "blank.run", "datastat2.mth", and "h Star #1".

The following table describes the spreadsheet columns.

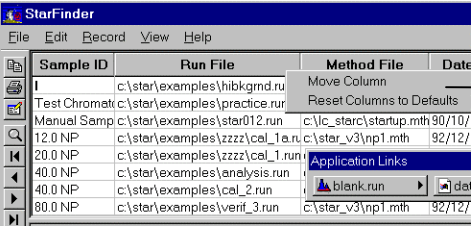
Column	Description
Sample Id	The name of the sample specified in the SampleList in System Control when the injection was performed.
Run File	The path and file name of the data file.
Method File	The path and file name of the Method used during the injection.
Date	The injection date.
Operator	The name of the operator who performed the injection that generated the data file.
Workstation	The name of the Workstation used during the injection.
Instrument	The name of the instrument on which the injection was performed.

Changing the spreadsheet columns

To resize a column, use the following steps.

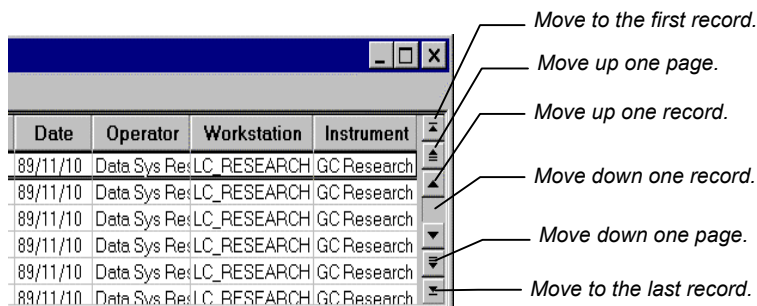
Step	Action
1	Position the mouse at the right edge of the column header until the mouse cursor changes.
2	Click the left button and drag to the new size and release the button.  The screenshot shows the StarFinder application window with a menu bar (File, Edit, Record, View, Help) and a toolbar. The main area displays a spreadsheet with three columns: Sample ID, Run File, and Method File. The Run File column is currently selected, and a mouse cursor is positioned over its right edge. A text box with an arrow pointing to the cursor indicates the action: 'Click the left button and drag to the new size and release the button.' The spreadsheet contains several rows of data, including 'Test Chromat', 'Manual Samp', '12.0 NP', '20.0 NP', '40.0 NP', and '80.0 NP'. An 'Application Links' panel is visible on the right side of the spreadsheet, showing a link to 'blank.run'.

To re-arrange the order of the columns, use the following steps.

Step	Action
1	Position the mouse over the header of the column you wish to move.
2	 <i>Click the right button and select "Move Column"</i> <i>The left mouse button will now drag the column to a new position.</i>

Scrolling the contents of the spreadsheet

The spreadsheet display can be scrolled to view rows that do not fit in the visible portion of the StarFinder window. Note that scrolling the spreadsheet does not change the active row. Use the buttons on the spreadsheet scrollbar to view hidden rows.



Changing the active row

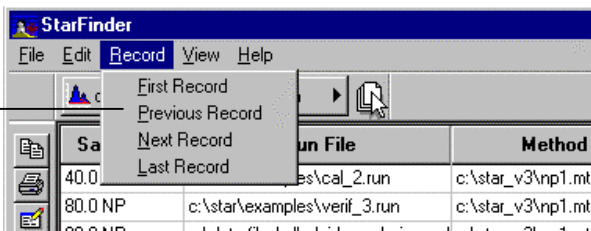
When you click on a row in the spreadsheet, the row becomes active. Commands in the Edit menu and Application Links toolbar operate on the data file specified in the active row.

Sample ID	Run File	Method File	Date	Operator	Workstation	Instrument
Test Chromat	c:\star\examples\practice.run	c:\starint\datatst2.mth	88/11/10	Data Sys Re	LC_RESEARCH	GC Research
Manual Samp	c:\star\examples\star012.run	c:\lc_starc\startup.mth	90/10/23	Number 1	LC_GC_RSRCH	Varian Star
12.0 NP	c:\star\examples\zzzz\cal_1.c	c:\star_v3\np1.mth	92/12/24	A. Chemist	PEGASUS	Varian Star #1
20.0 NP	c:\star\examples\zzzz\cal_1.c	c:\star_v3\np1.mth	92/12/24	A. Chemist	PEGASUS	Varian Star #1
40.0 NP	c:\star\examples\analysis.run	c:\star_v3\np1.mth	92/12/25	A. Chemist	PEGASUS	Varian Star #1
40.0 NP	c:\star\examples\cal_2.run	c:\star_v3\np1.mth	92/12/25	A. Chemist	PEGASUS	Varian Star #1

The active row is indicated by highlighted text and a border around the row.

To change the active row, perform one of these actions.

Choose First Record, Previous Record, Next Record or Last Record from the Record menu.



or

Click on the row to activate.

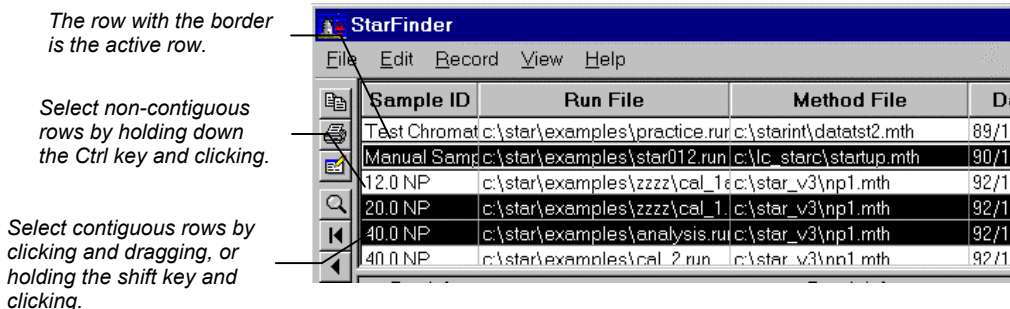
Sample ID	Run File	Method File
Test Chromat	c:\star\examples\practice.run	c:\starint\datatst2.mth
Manual Samp	c:\star\examples\star012.run	c:\lc_starc\startup.mth
12.0 NP	c:\star\examples\zzzz\cal_1.c	c:\star_v3\np1.mth
20.0 NP	c:\star\examples\zzzz\cal_1.c	c:\star_v3\np1.mth
40.0 NP	c:\star\examples\analysis.run	c:\star_v3\np1.mth
40.0 NP	c:\star\examples\cal_2.run	c:\star_v3\np1.mth

or

Use the up and down arrow keys on your keyboard.

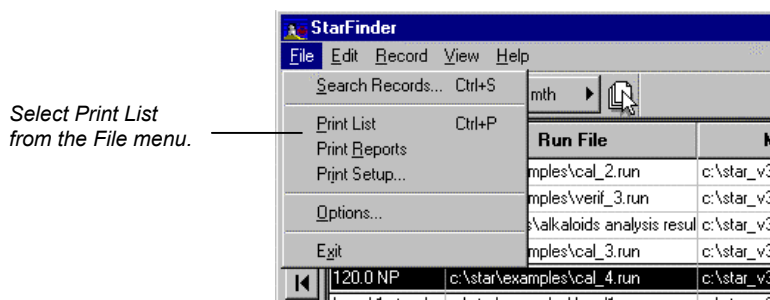
Selecting multiple data files

Multiple rows in the spreadsheet can be selected. Commands in the Edit menu apply to all selected rows. When multiple rows are selected in the spreadsheet, information from only one row, the active row, is shown in the detailed information display. The active row is the last one selected.



Printing the contents of the spreadsheet

The contents of the spreadsheet can be printed out using either of the following procedures. The spreadsheet is printed out exactly as it appears on the screen. The spreadsheet is printed to the Windows 95 default printer.



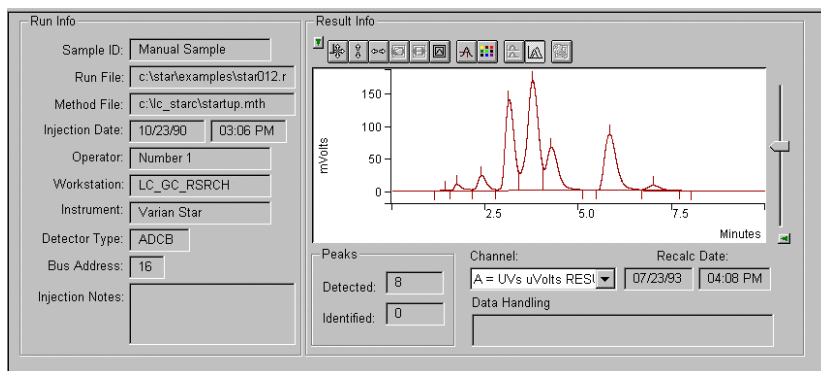
or

Press the Print List icon from the toolbar.

StarFinder		
File Edit Record View Help		
     		
Sample ID	Run File	Method
	c:\star\examples\dh_std02.ru	c:\starint\datates
	c:\star\examples\dh_sam02.	c:\starint\datates
	c:\star\examples\dh_std01.ru	c:\starint\datates
	c:\star\examples\dh_sam01.	c:\starint\datates
Blank Baseline	c:\star\examples\blank.run	c:\starint\datatst
	c:\star\examples\hibkard.ru	c:\starint\datatst

Detailed information display

Information about the active data file is displayed in the lower half of the main window. This information is partitioned into two groups -- Run Info and Result Info.



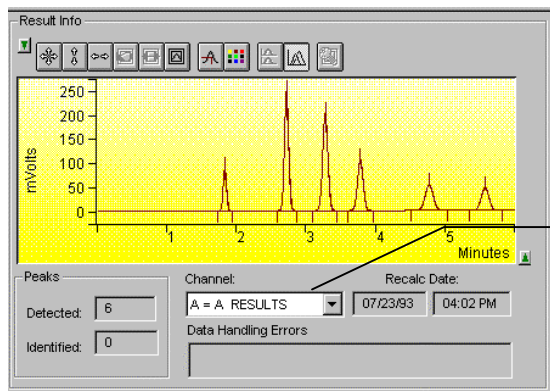
Run Info

The Run Info group contains information recorded at the time of the injection. Date and time fields are internationalized (as specified in the Windows Control Panel) and the *Injection Notes* field can be scrolled to view text too large to fit in the viewing window. The Run Info data is stored completely in the database and can be viewed even if the data file cannot be found by StarFinder. The following table describes the Run Info fields.

Field	Description
Sample ID	Sample ID assigned in SampleList
Run File Name	File name generated at the time of the injection
Method File Name	Original Method used to perform injection
Injection Date and Time	Date/Time when injection occurred
Operator Name	Operator who performed injection
Workstation Name	Workstation on which the run occurred
Instrument Name	Instrument performing injection
Detector Type	Detector used to generate the data
Bus Address	Bus address of detector
Injection Notes	Notes entered at time of injection

Result Info

Information in the Result Info group is not stored in the database and is read from the data file when the row is selected in the spreadsheet. Since results are stored on a channel by channel basis, the Result Info displayed in the window corresponds to the currently selected channel.



Use the Channel drop down control to select the channel to display.

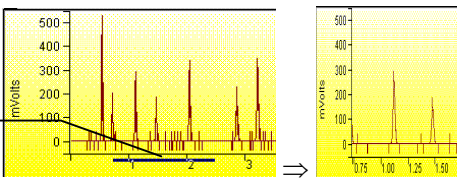
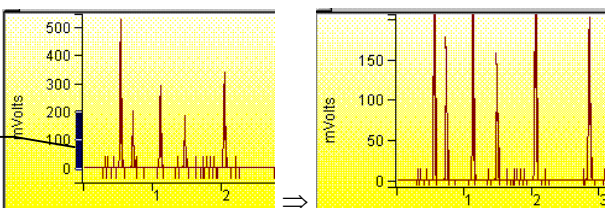
The following table describes the Result Info fields.

Field	Description
Channel	Channel currently displayed. Use to select the channel of the results you want to display. The word RESULTS follows channels with results.
Recalc Date	Date and time when most recent recalculation occurred.
Chromatogram Display and End Time	Graphic display of chromatogram and its end time in minutes.
Detected Peaks	Number of peaks detected
Identified Peaks	Number of peaks identified
Data Handling Errors	List of all Data Handling errors encountered

Scaling the Chromatogram Display

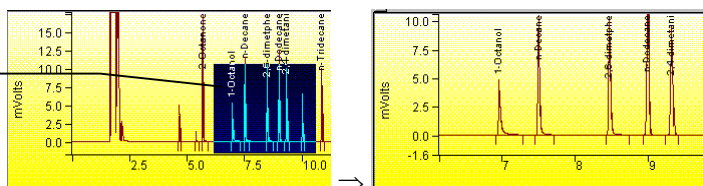
The scale for the graphic chromatogram display can be changed for both the X and Y axes. When the data file for the row selected in the spreadsheet is first displayed, the Y axis is scaled from zero to the highest point in the Data file and the X axis from zero to the number of minutes for the run. Both axes can be scaled as desired. To change the scale, use the following steps.

Step	Action
1	On either axis, click at the start of the range desired and,
2	holding down the left mouse button, drag to the end of the range. When the button is released, the display will rescale.

Step	Action
3	Click and drag in the chromatogram display to adjust the X axis.  or Click and drag in the chromatogram display to adjust the Y axis offset. 

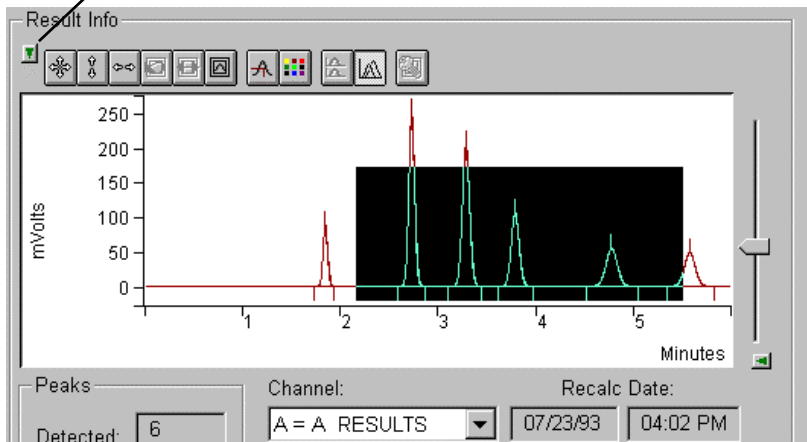
Both axes can be scaled simultaneously by dragging the mouse cursor in a rectangular region of the chromatogram.

Both axes can be scaled simultaneously by dragging the mouse cursor in a rectangular region of the chromatogram offset.



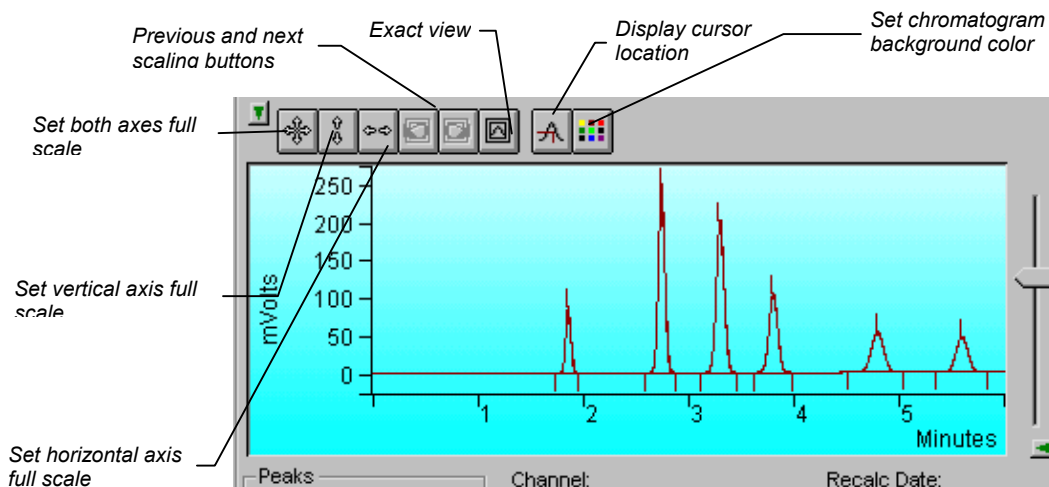
The slider on the right hand side of the chromatogram can be moved up and down to adjust the Y axis scale.

The green arrows on the toolbar and attenuation slider hide these items and increase the chromatogram viewing area.



You can restore the display to full scale by double clicking on the chromatogram.

There is a row of tools above the chromatogram that can be used to adjust the chromatogram display.



Accessing Data Files and Methods

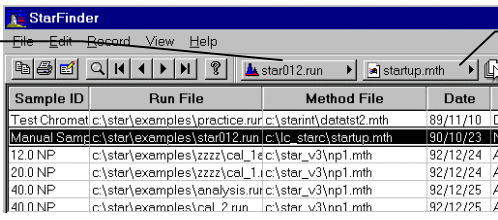
StarFinder allows you to access data files and Methods using Interactive Graphics, Report, Method Editor and PolyView or any other program that has been installed to access these files. This section describes how to use these applications directly from StarFinder to access the data files and associated Methods matching your search criteria.

For information on searching for data files or viewing data files resulting from a search, refer to the following table.

Topic	See Page
Searching for data files	11
Viewing and navigating through data file information	16

Viewing reports

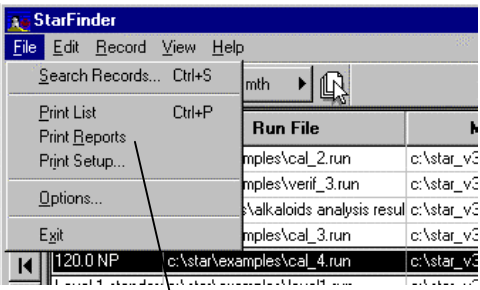
Reports for selected data files can be viewed by performing the following steps.

Step	Action
1	Select the data file of interest in the spreadsheet portion of the StarFinder window.
2	The Data File name, along with the name of the Method file used for the injection, will appear in the corresponding Quick Link buttons.
	 <i>Data File operations</i> <i>Method operations</i> <i>Selected data file</i>
3	Use the Quick Link buttons to select operations for either the Method or Data File.

Printing reports

Reports can be automatically printed for one or more selected data files. The format of each printed report is determined by the Report Format section of the Method used on the data file.

To print reports for the selected data files, use the following steps.

Step	Action
1	Select the data file(s) of interest in the spreadsheet portion of the StarFinder window. For information on selecting multiple data files in StarFinder, refer to page 21 .
2	 Select Print Reports from the File menu.

Batch Reprocessing

StarFinder can be used to create RecalcLists in System Control for batch reprocessing. Combined with StarFinder's searching and viewing features, this capability allows you to inspect data files, determine which need reprocessing, and build a RecalcList to perform the reprocessing.

Filling a RecalcList

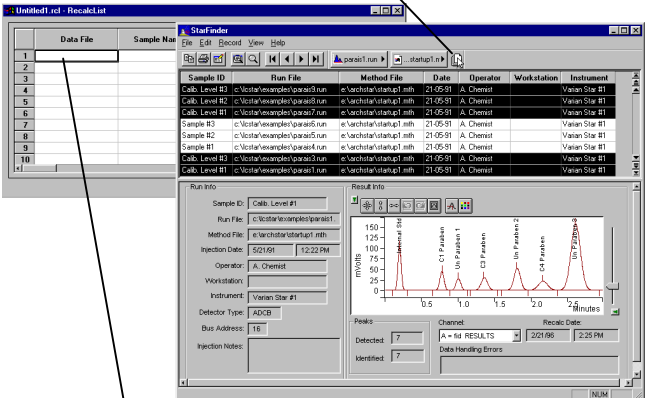
Perform the following steps to fill a RecalcList window in System Control with data files you have selected in StarFinder.

You can recalculate a group of Data Files from System Control. You do so by creating a RecalcList containing the names of the Data Files you wish to recalculate. A RecalcList can be created by selecting *New RecalcList* from the File menu, or by clicking on the *Create a new Automation File* button in the System Control toolbar.



Select New RecalcList.

If you are using a RecalcList that has already been created, use the *Open RecalcList* menu item or the *Open an Automation File* button on the toolbar to select it.

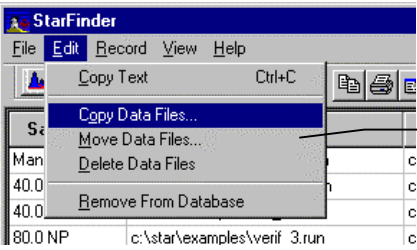
Step	Action
4	Select the data file(s) to reprocess in the spreadsheet portion of the StarFinder window. For information on selecting multiple data files in StarFinder, refer to page 21 .
5	Click and drag the icon...   ...into the RecalcList window.
6	When you release the mouse button with the icon over the RecalcList window, the selected data files are added to the RecalcList.
7	Click on the Begin button in the RecalcList window in System Control to process the Data Files.

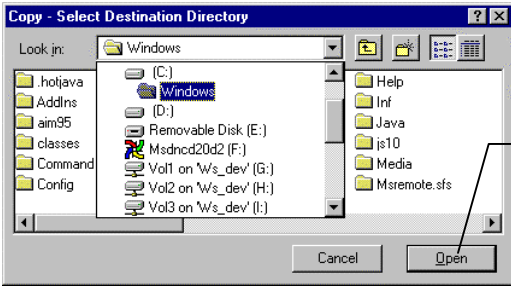
Managing Data Files

This section describes how to use StarFinder to copy, move and delete data files. You can also use the StarFinder Notes feature to add documentation to data file entries in the StarFinder database. Together, these features allow you to implement a result approval procedure, and also a mechanism to assist in the tracking of archived data files.

Copying, Moving and Deleting data files

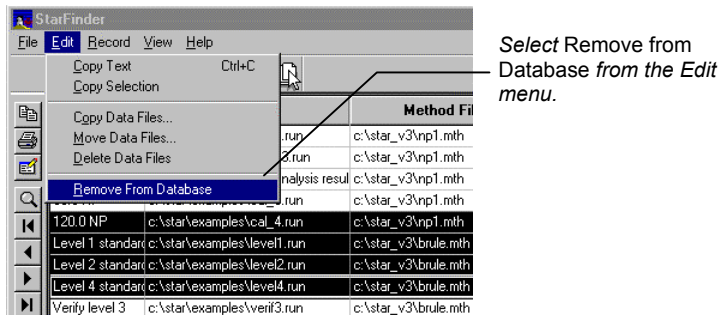
StarFinder should be used as an alternative to the Windows File Manager to move data files on your hard disk or network server. By managing files with StarFinder, the StarFinder database is always kept up to date. To copy, move or delete files, perform the following steps.

Step	Action
1	Select the data file(s) of interest in the spreadsheet portion of the StarFinder window. For information on selecting multiple data files in StarFinder, refer to page 21 .
2	 Select Copy Data Files..., Move Data Files..., or Delete Data Files from the Edit menu. Note: When you delete data files with StarFinder, the data file entries are also removed from the StarFinder database.

Step	Action
3	If you selected Copy data files... or Move data files..., select the destination directory.  <i>Press Open to copy or move the selected files to the destination directory.</i>

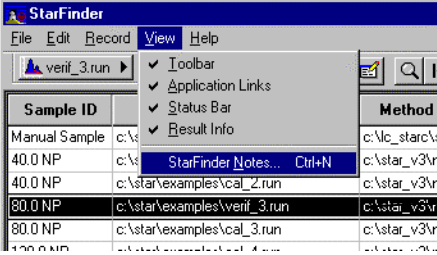
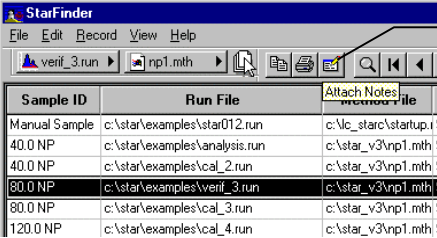
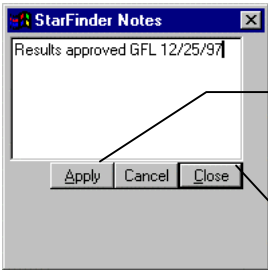
Deleting database entries

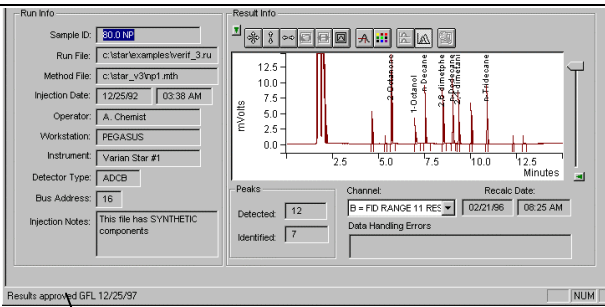
You can remove selected entries from the StarFinder database without deleting the data files.



Adding Notes to StarFinder Entries

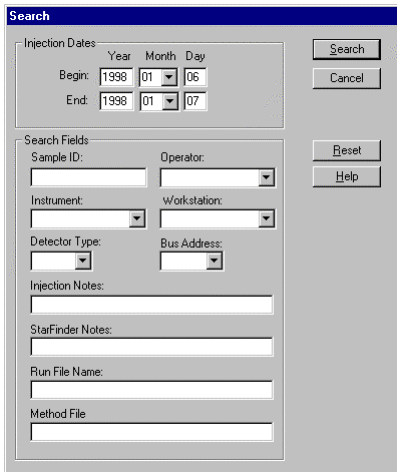
You can add notes to entries in the StarFinder database. These notes can be used to document result approval, indicate where data files were archived, or add other descriptive annotations to the data files tracked by StarFinder. To add notes to StarFinder database entries, perform the following steps.

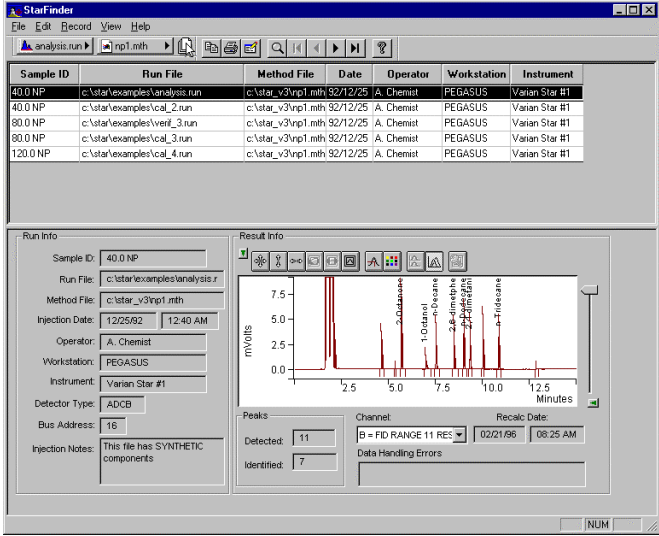
Step	Action
1	Select the data file(s) of interest in the spreadsheet portion of the StarFinder window. For information on selecting multiple data files in StarFinder, refer to page 21 .
2	Perform one of the follow two actions:  <i>Select StarFinder Notes... from the View menu.</i> or  <i>Click on the StarFinder Notes icon in the toolbar.</i>
3	Enter your annotation in the StarFinder Notes window.  <i>Press the Apply button to associate your notes with the selected data files.</i> <i>Press the Close button to dismiss the StarFinder Notes window.</i>

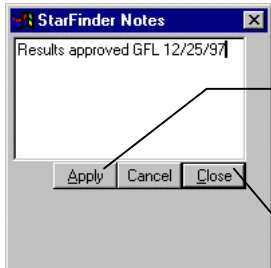
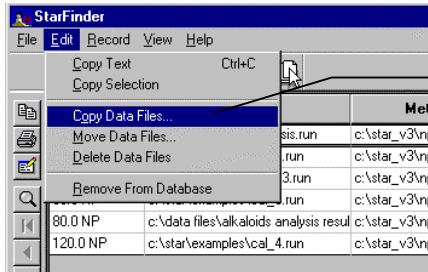
Step	Action
4	 When you select one of the data files that you have annotated, the StarFinder Note appears in the status bar at the bottom of the StarFinder window.

Review and Approval

StarFinder can greatly facilitate an on-line review and approval procedure. The following steps illustrate an example of how you may use StarFinder to review data files and indicate approval.

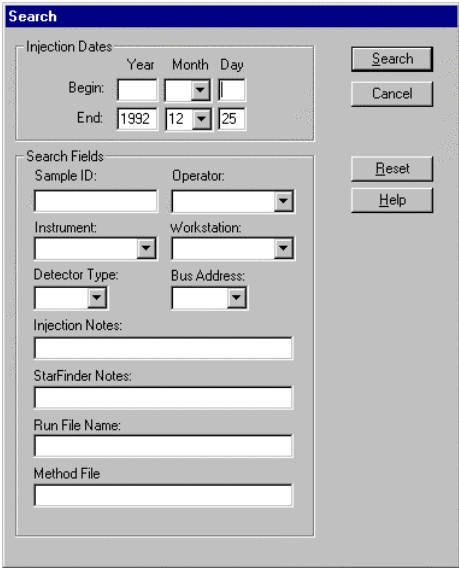
Step	Action
1	On a daily basis, perform a search for data files generated during the day. If a large number of data files are generated on a typical day, include other criteria to narrow the search. 

Step	Action
2	Select the first file returned by the search. Inspect the Result Info, launching Report or Interactive Graphics if necessary to determine whether the data file should be approved. 
3	If the file is approved, hold the Ctrl key down and click on <i>the next row</i> in the spreadsheet. Both rows should now be highlighted and information from the second row should be displayed in the lower portion of the StarFinder window. If the file is not approved, hold the Ctrl key down and click the currently highlighted row. This row should no longer be highlighted. <i>While continuing to hold down the Ctrl key</i>, click on the next row in the spreadsheet. Only the second row should be highlighted.
4	Continue to inspect each data file, repeating step 3 so only the approved data files are highlighted.

Step	Action
5	When done inspecting all data files for the day, click on the StarFinder Notes icon in the toolbar. Add a note indicating you approved the highlighted data files.  StarFinder Notes Results approved GFL 12/25/97 Apply Cancel Close Press the Apply button to associate your notes with the selected data files. Press the Close button to dismiss the StarFinder Notes window.
6	If you have set up a directory to store only approved data files, you may now select Copy Data Files... or Move Data Files... (depending on whether or not you want to keep a copy of the files in the original directory) from the Edit menu.  StarFinder File Edit Record View Help Copy Text Ctrl+C Copy Selection Copy Data Files... Move Data Files... Delete Data Files Remove From Database Select Copy Data Files..., or Move Data Files... from the Edit menu.
7	When you select any of the approved data files in StarFinder, your approval record is displayed in the status bar at the bottom of the StarFinder window. You can search for words in the StarFinder Notes, allowing you to recall data files approved on a particular day or by a particular individual.

Tracking Archived Data Files

Since data file entries in the StarFinder database are separate from the data files themselves, you can use StarFinder to track data files no longer resident on your hard disk or network server. The following steps illustrate an example of how you may use StarFinder to track archived data files.

Step	Action
1	Perform a search for data files you wish to archive. You may choose to archive files generated before a particular date. 
2	Select all data files in the StarFinder spreadsheet. A quick way to do this is to select the first row, then move to the last record (using the scrollbar or Last Record item in the Record menu). While holding down the Shift key, select the last row. All rows between and including the first and last row are selected.

Step	Action
3	Click on the StarFinder Notes icon in the toolbar. Add a note identifying the archive date and location (for example, the backup tape ID) of the data files.  The image shows a 'StarFinder Notes' dialog box. It has a title bar with the StarFinder logo and the text 'StarFinder Notes'. The main area contains the text 'Archived by LJR on tape WS9501 on January 30, 1995'. At the bottom are three buttons: 'Apply', 'Cancel', and 'Close'. An arrow points from the 'Apply' button to the text 'Press the Apply button to associate your notes with the selected data files.' Another arrow points from the 'Close' button to the text 'Press the Close button to dismiss the StarFinder Notes window.' <i>Press the Apply button to associate your notes with the selected data files.</i> <i>Press the Close button to dismiss the StarFinder Notes window.</i>
4	Backup the data files using your normal archive procedure (for example, tape backup). Remove the data files from their original location on your hard disk or network server.
5	When you select any of the archived data file entries in StarFinder, your archival record is displayed in the status bar at the bottom of the StarFinder window. You can search for words in the StarFinder Notes, allowing you to recall data file entries archived on a particular day or on a particular backup media.

Step	Action
6	StarFinder Notes can be used to indicate when and where the data files were archived. Result Info for data files no longer accessible from StarFinder is not shown.

Database Details

Open Database Connectivity and Security

Open Database Connectivity (ODBC) is Microsoft's strategic interface for accessing data in a heterogeneous environment of relational and non-relational database management systems. ODBC provides a vendor-neutral way of accessing data from a variety of proprietary personal computer, minicomputer and mainframe databases. ODBC offers maximum interpretability by allowing a single application to access a variety of different databases through drivers written for each database vendor. With growing industry support, ODBC has quickly emerged as an important industry standard for data access for Microsoft Windows applications.

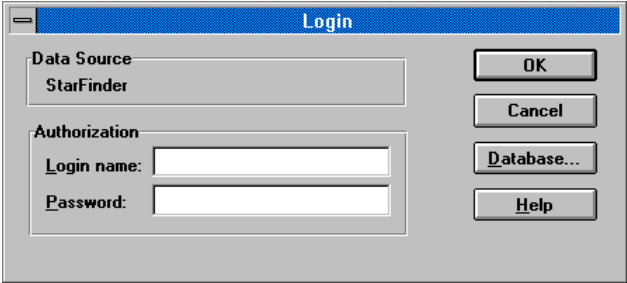
Using Microsoft Access to secure the StarFinder database

To enable security on the StarFinder database, you must configure the Access System Database (SYSTEM.MDA). The Access System Database is not available if using the Access database included with StarFinder. You must purchase Microsoft Access in order to configure the Access System Database.

Refer to the Microsoft Access manual titled "Building Applications" for details on configuring the Access System Database.

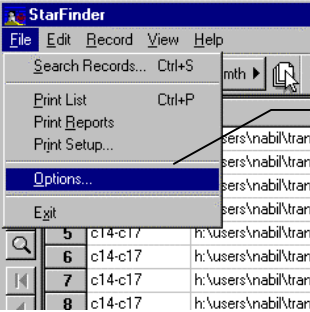
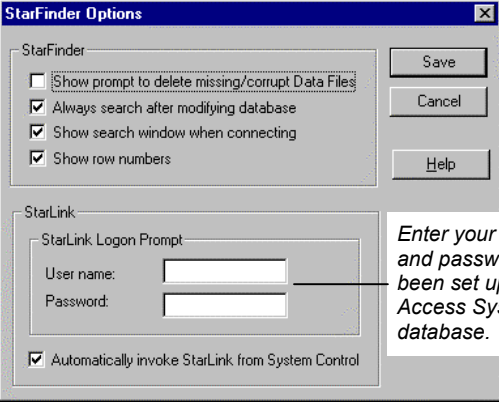
Setting login parameters in StarFinder

If you have purchased Microsoft Access and enabled security on your StarFinder database, you must provide your user name and password when running StarFinder.

Step	Action
1	Start StarFinder using the Star Toolbar.  Click on the StarFinder button. _____
2	The Login dialog box is displayed. Enter your name and password as it has been set up in the Access System database. Press OK. 

Setting login parameters for StarLink

If you have purchased Microsoft Access and enabled security on your StarFinder database, you must enter your user name and password so that the StarFinder database can be automatically updated from System Control/Automation. After logging into StarFinder, perform the following steps.

Step	Action
1	 Choose Options... from the StarFinder File menu.
2	The StarFinder Options dialog box is displayed.  Enter your user name and password as it has been set up in the Access System database.
3	Press Save.

Moving or Changing the Database File

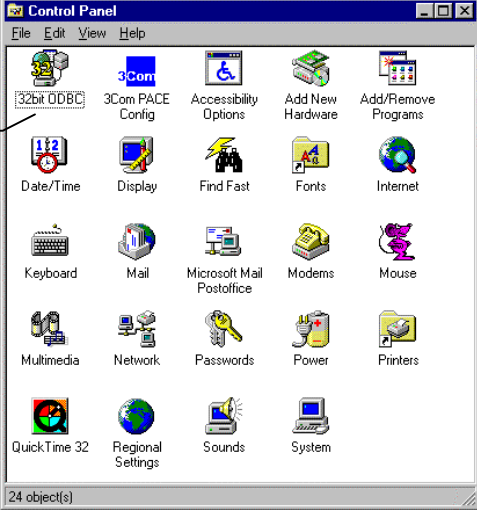
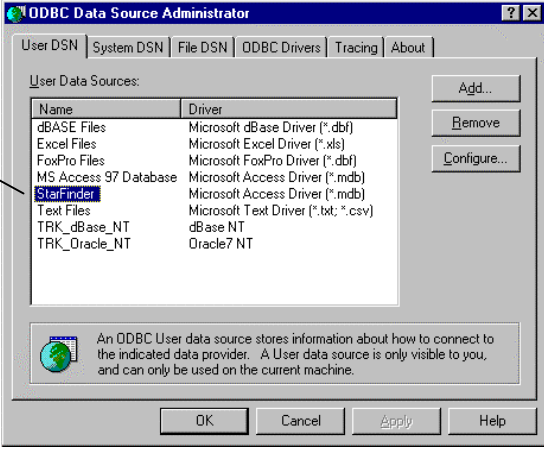
This section describes how to relocate your StarFinder database file, or to select an alternate StarFinder database file.

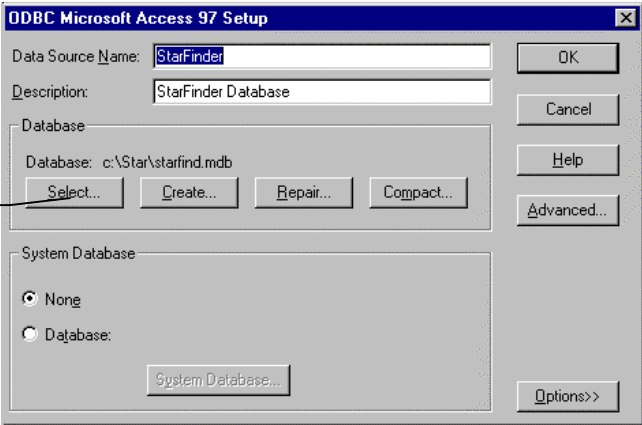
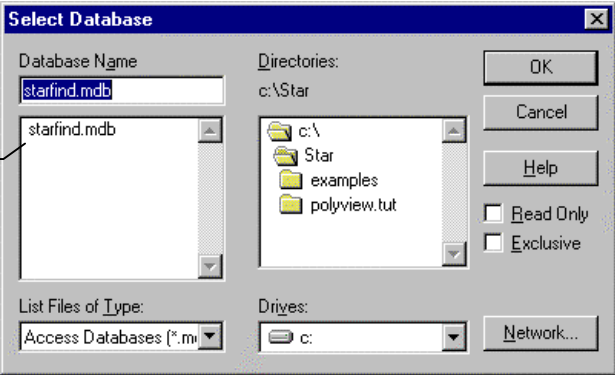
Using the ODBC Configuration Window

The StarFinder database used on your computer is specified in the ODBC Configuration, accessible from the Windows Control Panel. From the ODBC Configuration window you have access to the location of the StarFinder database *used by the instance of StarFinder running on this computer*.

Note: If you have more than one installation of StarFinder referring to a shared database, you must perform this procedure on all installations.

If you have moved your StarFinder database to a new location, you will use the ODBC Configuration to specify the new location. If you are selecting an alternate database, you will use the ODBC Configuration to select the alternate file. In either case, perform the following steps.

Step	Action
1	Run the Windows Control Panel from the Program Manager.
2	Open the ODBC Configuration window by double-clicking on the 32bit ODBC icon. 
3	The Data Sources dialog box is displayed. Select the StarFinder Data Source and press Configure... 

Step	Action
4	The ODBC Microsoft Access 97 Setup dialog box is displayed.  Press the Select... button in the Database box.
5	The Select Database dialog box is displayed.  Select the new database file and press OK. The specified database file will now be used by StarFinder.
6	Repeat steps 1 through 5 for all installations of StarFinder that are to use the specified database file.

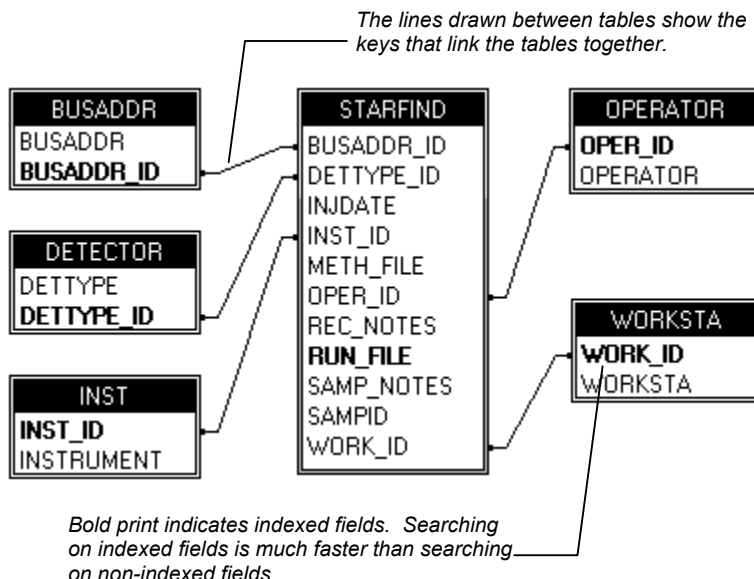
Database Structure

This section describes the tables that comprise the StarFinder database. Familiarity with the structure of these tables is not necessary to use StarFinder. This information is provided if you wish to manipulate or maintain the database using Microsoft Access.

Note: If you are using Microsoft Access, do not allow Access to convert the database to Access 97 format. If you wish to use the StarFinder database in Access 97, save it under a new name before converting it. StarFinder cannot open an Access 97 database.

The StarFinder tables

The StarFinder database contains several tables linked together by common fields. These common fields, also called keys, contain numbers that match an entry in another table. When data is displayed to the user, the tables are combined using these keys to show meaningful data from all the tables.



STARFIND Table

The STARFIND table fields are described below.

Column Name	Field Type	Description
BUSADDR_ID	number (foreign key)	Points to row in BUSADDR table
DETYPE_ID	number (foreign key)	Points to row in DETECTOR table
INJDATE	date (indexed)	Contains date/time of injection
INST_ID	number (foreign key)	Points to row in INST table
METH_FILE	char (256)	Contains method file name and path
OPER_ID	number (foreign key)	Points to row in OPERATOR table
REC_NOTES	char (255)	Contains StarFinder notes
RUN_FILE	char (256) (indexed primary key)	Contains Data File name and path
SAMP_NOTES	char (200)	Contains sample notes from injection
SAMPID	char (20) (indexed)	Contains sample ID name
WORK_ID	number (foreign key)	Points to row in WORKSTA table

BUSADDR table

The BUSADDR table fields are described below.

Column Name	Field Type	Description
BUSADDR	number	Contains bus address number
BUSADDR_ID	number (indexed primary key)	ID uniquely identifying bus address to database

DETECTOR table

The DETECTOR table fields are described below.

Column Name	Field Type	Description
DETTYPE	char (20)	Contains detector type name
DETTYPE_ID	number (indexed primary key)	ID uniquely identifying detector type to database

INST table

The INST table fields are described below.

Column Name	Field Type	Description
INSTRUMENT	char (20)	Contains instrument name
INST_ID	number (indexed primary key)	ID uniquely identifying instrument to database

OPERATOR table

The OPERATOR table fields are described below.

Column Name	Field Type	Description
OPERATOR	char (20)	Contains operator name
OPER_ID	number (indexed primary key)	ID uniquely identifying operator to database

WORKSTA table

The WORKSTA table fields are described below.

Column Name	Field Type	Description
WORKSTA	char (14)	Contains workstation name
WORK_ID	number (indexed primary key)	ID uniquely identifying workstation to database

Troubleshooting

Error Messages and Suggested Actions

This section lists error messages that you may encounter when running StarFinder. With each error message is a description of where the error message will appear and a suggestion for corrective action.

Error Messages

When encountering error messages in StarFinder or in the Message Log in System Control/Automation, refer to the following tables. The messages are listed in alphabetical order.

Error Message	<filename> is corrupted or not a Data File.
Location	In the Message Log in System Control/Automation when adding files to the StarFinder database during automation, or when adding files into StarFinder from File Manager using drag-and-drop.
Description	The file being added cannot be read as a Data File, or the module driver required to read the file is not accessible.
Corrective Action	Check to make sure the file being added to the StarFinder database is a Data File. Also verify that the instrument control driver corresponding to the detector that generated the Data file has been installed in the Star Workstation.

Error Message	Attempt to update or delete failed.
Location	Main screen of StarFinder.
Description	StarFinder could not update the database during an add, copy, move or delete operation.
Corrective Action	Make sure the access privilege to the StarFinder database file allows updates. Also, verify that the ODBC configuration (in the Windows Control Panel) does not specify read-only access to the database. Be sure no program such as Microsoft Access has the database open.

Error Message	Internal Application Error
Location	Main screen of StarFinder.
Description	The ODBC driver failed due to missing or incorrectly installed components.
Corrective Action	Reinstall the ODBC Driver (refer to page 3) to replace the missing or malfunctioning ODBC components.

Error Message	Invalid Login
Location	Main screen of StarFinder when first starting application, or when opening a new connection to the database.
Description	You have enabled security on your StarFinder database (using Microsoft Access) and the user name and password are not correct.
Corrective Action	Re-check user name and password and try again.

Error Message	ODBC Microsoft Access 3.0 driver login failed. Couldn't find file 'j'.
Location	Main screen of StarFinder when connecting to database. This usually occurs when first starting StarFinder.
Description	The ODBC Driver cannot find the database file specified in the Windows Control Panel, or the database is not recognized as an Access database.
Corrective Action	Run the ODBC Setup in the Windows Control Panel and make sure it refers to the StarFinder database.

Error Message	The maximum number of rows, 1000, has been reached. Data remaining in database will not be displayed.
Location	Main screen of StarFinder when scrolling down through the results of a query.
Description	A search was performed that resulted in more than 1000 rows, which is the maximum number the spreadsheet can hold.
Corrective Action	Use more specific search criteria to return fewer than 1000 rows from the database.

Error Message	Varian Star Data File is bad or missing. Do you wish to delete this entry from the database?
Location	Main screen of StarFinder when the spreadsheet is initially displayed or when clicking on another line in the spreadsheet.
Description	A Data File used to display information on the screen is missing or corrupt.
Corrective Action	If you wish to preserve the database entry, find and copy the Data File to location specified in error message and choose to keep entry in database. If you wish to remove the database entry, choose to delete the entry from the database. If you do not wish to receive this message for missing Data Files, refer to page 8 for instructions on removing the prompt.