

Chapter 6.

Find it! Sort it! Filter It!



And do it - FAST!

You can sort on screen information with the click of a button. With the assistance of well designed genies, you can quickly and easily set up complicated queries and save them for future use. Alpha Five has a full assortment of options for finding, sorting and filtering records. You can even have the user define the dates for a report.

Overview

There are many methods for finding, sorting and filtering records. The following chart will be helpful to decide which to use when. Our favorites are in bold font. See also “Using Sorts, Indexes, Filters and Queries” on page 169.se

Type	Name	Purpose	Sets	Used in	Page
Find	Drop Down Browse super-control	Creates field pick lists. Requires setup.	Parent (& all tables in db) ^a	Forms	149
	Find by key	Looks for a single field value, such as last name, date, etc.	Parent & 1-1 child	Browses, Forms	146
	Find by Form	Finds multiple field values. Allows wildcards.	Parent & 1-1 child	Forms	149
	Find Text	Search for text in current or all fields. Useful for memo fields.	Parent & 1-1 child	Browses, Forms	148
Sort	Column Title sort	Click column to sort ascend/descend. Requires setup.	Parent & 1-1 child	Browses	154
	Indexes	Automatic sort. May be defined. ^b		Browses, Forms	155
	Multi-field Sort	Sorts on multiple fields.	Parent & 1-1 child	Browses, Forms	155
	Sort by Key	Sorts on single field value, such as last name, date, etc.	Parent & 1-1 child	Browses	155
Filter	Quick Filter	Filters on a single field.	Parent & 1-1 child	Browses, Forms	157
	Multi-field Quick Filter.	Filters on same value(s) as in selected record.	Parent & 1-1 child ^c	Browses, Forms	160
	Multi-select Filter.	Filter based on group of similar records.		Browses	159
	Special Queries	Filters on special conditions, such as marked records, range, etc.		Browse, Forms	160
Queries	Query by Expression	Advanced.	Cross-Level	Browses, Forms, Reports	145 171
	Query by Form (QBF)	Complex filter for multiple criteria. Designed at form view only. May be saved & used in other layouts.	Parent & 1-1 child	Browses, Forms, Reports	164
	Query Genie	Complex filter. Most sophisticated, yet still user friendly. May be saved and used in other layouts.	Cross-Level	Browses, Forms, Reports	145 160
Other	Arguments	User input for reports.	All tables	Reports	172
	Filtered dialog	Complex filter for multiple criteria.		Button	191

a. Provides access to all tables in the database, but does not behave like a set.

b. Unlike other sort methods, Indexes are an integral part of Alpha Five. Indexes are covered in Alpha Five Made Easy.

c. All tables in set appear, but not all are acted on.

What's in this chapter

We have looked at forms for entering data and reports for consolidating it. Now we will look at finding, sorting and filtering data in specific records.

- First, we will look tools (page 145) and simple ways to find records (page 146), sort (page 154) and filter them (page 157).
- The Query Genie (page 160) creates complex queries. Query by Form (page 164) is a classic that is easy to use. Query by Expression (page 171) is usually for more advanced users.
- Arguments (page 172) are used in writing filter expressions and are useful in reports (page 176).
- Indexes (page 170) are an internal Alpha Five sorting system.



PLEASE TAKE A MOMENT TO
READ THIS

Tools for Finding, Sorting and Filtering records

Alpha Five makes it easy to run impromptu sorts and filters right at form or browse view. There are more genies that make quick work of complex filters, also called queries. As a database increases in size, these tools, in turn, increase in value.

We'll start with the one-time use methods. Most are built-in, but one, the Drop Down Browse supercontrol, is defined by the developer be placed on a form. Then we'll move to queries. These are more sophisticated, but still easy to define and may be saved for future use to place on buttons, in reports, etc.

The chart on the opposite page gives the breakdown of how they are used.

Some have similar names. Be sure to choose the right one as you work!



NOTE

Sorting and filtering with sets

The single use sort and filter features may be used for the primary tables of the set (parent table and one-to-one links). There are two queries that also search and filter on one-to-many links. They are called Cross-Level Queries.

CROSS-LEVEL QUERIES

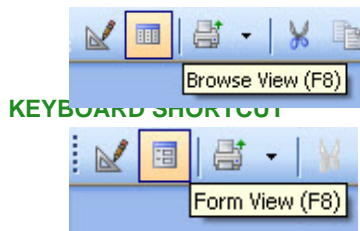
“Cross-Level Queries let you run queries on all the tables in a set that have a one-to-many link. To perform a Cross-Level Query, you must use either the *Query Genie* or *Query By Expression* dialog boxes.

“It is important to understand the types of questions Cross-Level Queries can answer. Using the Invoice form in the sample AlphaSports application, you can use a Cross-Level Query to answer the question: Show me all invoices that include “UnoFold Quick Dry Socks” as a line item. For each invoice found, Alpha Five will show all of the line items on that invoice, not just the “UnoFold Quick Dry Socks” line item. In other words, the Cross-Level Query only filters out records at the parent level of the set, even though the filter references fields in a one-to-many child table.”*

Testing the results

It will be easier to see the results of the following exercises in browse view, but some can be defined only in form view. You can easily switch back and forth.

*. *Alpha Five Help > Wiki Search Assistant > Cross-level query* as of 21 December, 2011.



- In form view, click the Browse View button on the left of the toolbar.
- In browse view, click the Form View button in the same place.

Press **F8** to toggle between the views.

Finding Records

When finding records in a browse or a form, the search ends at the first record that matches the criteria. Finding is different than filtering because all the records remain visible.

BROWSES

Even though the search ends at the first record found, it is usually easy to spot other occurrences because the group is visible on the screen.

- Find by Key sorts the records and then searches on a single field. For example, if Harry Brown was the first record entered, a search for last name = Brown would stop at his record, but Richard and Alice would be next in line and visible on the screen.

FORMS

Seeing additional records at Form View can be a bit more difficult because you have only one record on the screen at a time.

- Find by Key behaves the same way for forms as it does for browses, although only one record is visible at a time.
- Find by Form can search on multiple fields. The more criteria you enter, the more defined your search will become. It also accepts wild cards.
- Query by Form is similar, but it has a helper so you don't need to know wildcards and queries can be saved for future use. Records are filtered at the same time, so it's easy to find other records that match the criteria.
- The Drop Down Browse supercontrol uses a drop down box to present records based on a value in the current sort order – a list of companies, for example. To find the contacts at that company, you can connect a second (cascading) drop down box.

Find by Key

Key is a shortened way of saying key value. It is the value in the field for which you are looking, based on the current sort order. For example, if you are looking for a person with the last name of Smith, the key value is last_name = Smith.

HOW IT WORKS

Find by key is very basic. It finds records and sorts them automatically, based on a single value in a field. It works in both browse and form views, but we like it best for browses. Stops at the first record entered.

- Browses: The found record is indicated by an orange block in the margin of the browse (arrow in screen shot below).
- Forms: To find next and previous records, see “Find by Form” on page 149.

BEHAVIOR IN SETS

In sets, it finds records for the parent table and one-to-one children.

KEYBOARD SHORTCUT

CTRL + K opens the *Find by Key* dialog box.

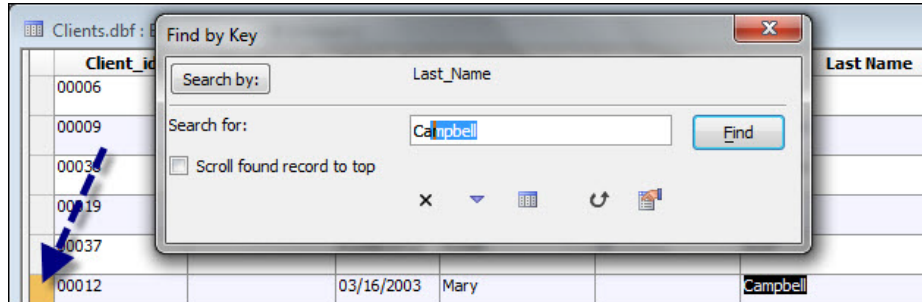


1. *Control Panel* > *Tables/Sets* tab: Double-click on the **Clients** table to

open the default browse.



2. Click the *Find by Key* button on the toolbar (or press CTRL + K).



•To begin, we will change the key (sort order) from record number to last name.

3. Click the **Search by** button.

4. *Fields* tab: Choose **Description**. (Click OK)

SCROLL RECORD TO TOP

By default, the record pointer will go directly to the record. If you wish to force the record to the top of the browse instead, check the *Scroll found record to top* option.

- The records are sorted in last name / record number order.

5. Type **cam**

- Alpha Five finds the closest match and fills in the rest of the first name it comes to: Campbell.
- To find other entries that begin with the same letters, keep typing until you get a proper match.

6. Click **Find** (or press ENTER).

- The record selector (orange block) goes to the first Campbell record that was entered.
- The dialog box remains open (unless you have changed the default preferences as below).

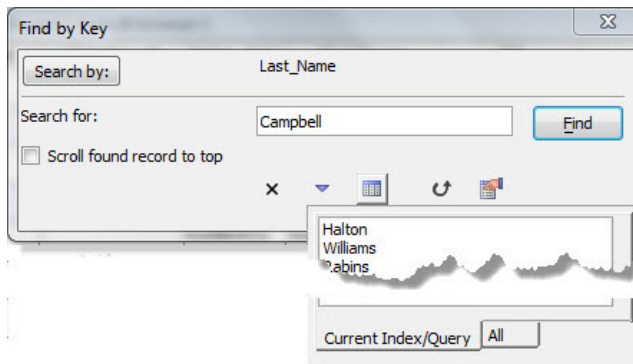
TOOLBAR



- The first button closes the dialog box. You can also press ESC.
- The second button, **History of previously searched for values**, opens a history of key values you have found during the current session.
- The third button, **Display list of key values**, opens a list of the values in the current active sort field. (Currently, the active sort is Last Name.)
- The fourth button, **Contract size of window**, rolls up the window to a smaller size. See Roll Ups below.
- The last button is **Set preferences for this dialog box**.

7. *History*: Click the **Down Arrow** icon.

- You can select from this list to find a record.



8. Press ESC to close the *History* list.

- If the Find by Key box also closes, press CTRL + K to reopen.

9. Click the **Browse Key Values** icon.

- A list of the last names in this table appear.

10. Click checkbox: *Unique keys only*.

- The duplicates, if any, are removed from the list.

11. Click a name or to close the list.

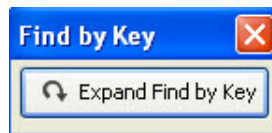
- The selected name is placed in the search box. and the record selector moves to the record.

ROLL-UPS

Several dialog boxes have a feature that allows them to be contracted in size so that they may be placed out of the way. The circular arrow indicates this feature is active.



12. Click **Contract size of window**.



- The dialog box is reduced in size.

13. Click **Expand Find by Key**.

- The box returns to its original size.

PREFERENCES

The **Set Preferences for this dialog box** button allows you to decide whether you want the Find by Key dialog to always remain open or to close after each find. This is a personal decision. You may change from one to the other at any time.

Keeping it open may cause additional steps for the end user because it might need to be moved in order to see the record for which he/she is looking. Unless another search is imminent, the user will probably need to close the dialog manually.

You can also elect to show the index/query name rather than the expression.

QUICK CLOSE

We prefer to have the dialog close automatically after the search has been initiated.

14. Click the **Preferences** button.

15. Click the checkbox to close the dialog after each find. (Click Close)

16. Type “**ste**” to find last name = Steele and press ENTER.

- This time, the record is found and the dialog box closes.

Find Text

Useful for memo fields and also finds text in other fields. You may want to test it first. Speed depends on the number of records and the computer processor.

HOW IT WORKS

Finds all or part of a word or string of words, like *United States* (not case sensitive). Use the dialog to go to next or previous occurrence (see below). May search on all fields or be limited to the current field.

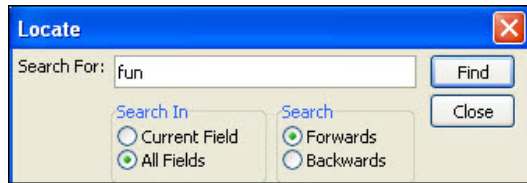
BEHAVIOR IN SETS

In sets, it finds records for the parent table and one-to-one children.

KEYBOARD SHORTCUT

CTRL + L (for Locate) opens *Find Text*.

- The Clients default browse should be open.



17. *Top Menu > Find > Find by Text* or press CTRL + L.

18. *Search for: fun.*

19. *Search In: All fields.*

20. Click **Find**.

•The first occurrence is found.

21. Click **Find** again.

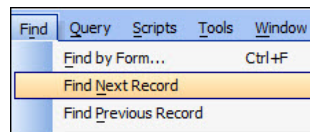
•Only one record contains the search value, so you are notified that the search is complete.

22. Close the Locate dialog.

Find by Form

This one has been around a long time and is designed for finding more than one field value. You can enter partial data and/or use wildcards. See also “Query by Form” on page 164.

HOW IT WORKS



Forms only. Finds record based on criteria entered in one or more fields. Good for simple searches.

To go to the next or previous record, go to Top Menu > Find > Next or Previous record.

BEHAVIOR IN SETS

In sets, it finds records for the parent table and one-to-one children.

KEYBOARD SHORTCUTS

CTRL + F opens *Find by Form*.

F9 runs the query.

23. *Control Panel > Forms* tab: Double click on **ClientForm** to open at Form View.

24. *Top Menu > Find by Form* or press CTRL + F.

25. Put your cursor in the first name field and enter **joan**

26. Put your cursor in the last name field and enter **and**

27. Click *Run Query* on the toolbar or press F9.

•Joan Anderson’s record is found.

28. Close the form.

Drop Down Browse search

One of the reasons it takes so long to get each new edition out is that I try to explore every reasonable aspect of the new features to come up with applications that you will find useful. It’s one thing to watch the videos (see page 154)— it looks so easy, but as you dig in, the layers of the onion peel away and sometimes your eyes begin to water in frustration.* Hopefully, I can save you time by outlining how things work and what can and cannot be done by the average user.

This search method is best when you have a way to go to the specific record because there isn’t a way to page through the records. Let’s say you find all the records for the

*. You may want to watch it first and then come back here to learn how to keep from crying.

state of New Jersey. The only way to find more than the first record entered is to put the cursor in the State record and do a Quick Filter (page 157).

You can, however link drop down searches together. For instance, you can create one for company and link it to another for contacts as we will do here.

These are very simple to set up and can be employed for the most common searches the end user will be making, it is worth the few minutes it takes to put it on the form and the space it occupies. (BTW satisfying user needs is job one for the developer!)

- We will make two controls that do the following:
 - The first will find companies.
 - Then second will find contacts within the company.

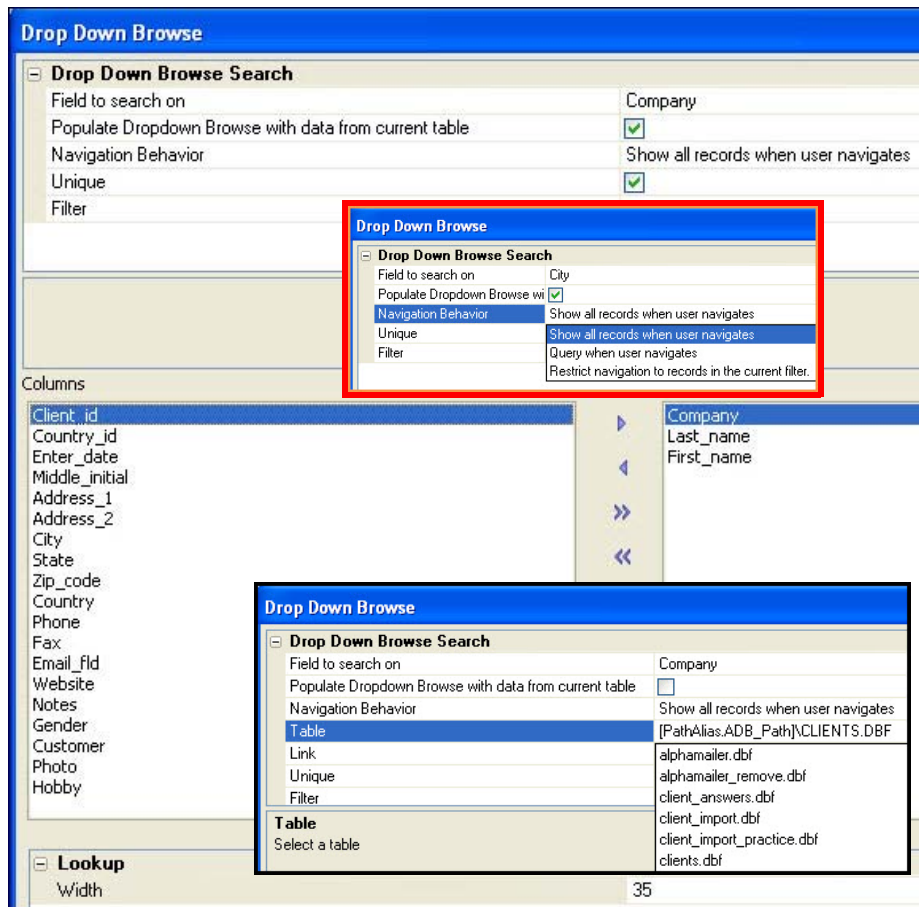
HOW IT WORKS

Forms only. Creates a drop down box that finds the first record, based user selection. No way to go to next or previous records, so it best to define search that goes to a specific record.

BEHAVIOR IN SETS

Works for parent table. Access to other tables in the database is permitted (see “Advanced” on page 151).

- First we’ll take a look at how it works.
 29. *Control Panel > Forms* tab: Double click on ClientInfo to open at Form View.
 30. *Find company*: Click the drop down arrow and choose Anderson Associates.
 31. *Find contacts*: Click the drop down arrow and choose Roberts, Harold.
 - The Record Selector goes to his record in the embedded browse.
- Now we’ll use the Drop Down Browse Supercontrol to set it up.
 32. Open the *ClientInfo_Practice* form in design mode.
 33. *Toolbox > Supercontrols > Drop Down Browse*: Drag a box to match the top left blue box on the above.



NAVIGATION BEHAVIOR

There are three options (red border insert). We'll use the first. The others are yours to play with.

- Show all records when user navigates: Removes the current search order, if any, and finds the record. It does **not** reorder the records.
- Query when user navigates: Performs a query rather than a find by key. Active Link Tables* automatically use this option.
- Restrict navigation to the current filter. Dropdown browse shows records only in the current filter, if any.

UNIQUE Unique = yes is the default. That means only one value will come up in the DD Browse for each occurrence in the table.

FILTER Clicking the button opens another builder that is used when you want to base one drop down search on another that has already been set up, such as cities within a state or contacts within a company. We'll work with it shortly ("Cascading DD Browse" on page 153.)

COLUMNS (Upper screen shot) lists available fields and those that are selected for the browse.

LOOKUP Width: Field width can be adjusted if necessary. Select field first.

34. Enter the following parameters.

• The supercontrol dialog opens.

• The top section designates the field or expression on which to search (in a set, this means the parent table) and identifies the search parameters.

• Advanced: Unchecking *Populate Dropdown Browse with data from current table* opens access to fields in all tables in the database (see lower inset). Before you get all excited about this, I have to tell you that it doesn't behave like a set. For example, when we tried to link the hobby field in the hobby table with the hobby field in the customer table, the browse came up ok, but did not go to one of the pertinent records. We even tried adding the field to the form, but no luck. So we mark this advanced and leave it to those of you more determined than I—and send me an email if you find something you think would be of interest to the average user. —SHB

*. Active Link Tables are used with data from remote databases. "Getting more info" on page 180

- *Field to search on:* Company
- *Unique* = yes
- *Columns:* Transfer the following to the selected box: Company, First Name, Last Name.

35. Click OK.

Anderson & Associates			
COMPANY	First Name	Last Name	
Alpha Software, Inc.	Richard	Rabins	
✓ Anderson & Associates	Joan	Anderson	
Baker, Baker And Campbell Ltd.	John	Williams	
Black Horse Corp	John	Steele	
Brown Chair Co.	Harry	Gleason	
Eco Equipment Rental	Walter	Rathbun	
Frome Book Supplies	Alice	Frome	
Halton Enterprises	Geoff	Halton	

36. Save and go to form view.

- Very important to save each time because supercontrol settings don't always hold otherwise.

37. Click the down arrow in the drop down browse to see the listing and notice the following:

- There is only one record for Anderson & Associates even though it has are three contacts because we checked Unique.

- The drop down browse expands beyond the limits of the box drawn on the form. Also, you can make it even larger by dragging on the three small dots at the lower right indicated by the arrow.

38. Type L (case doesn't matter) to go to Liberty Food Marketers.


39. Press ENTER to close the drop down browse and go to the record.

- Next, we'll see what happens when we uncheck Unique. Here's one place we hope to save you some time, so it's worth reviewing the following.

40. Go back to Design mode, double click on the supercontrol to open its editor and uncheck Unique.

Anderson & Associates			
COMPANY	First Name	Last Name	
Alpha Software, Inc.	Richard	Rabins	
Alpha Software, Inc.	Selwyn	Rabins	
✓ Anderson & Associates	Joan	Anderson	
Anderson & Associates	William	Anderson	
Anderson & Associates	Harold	Roberts	
Anderson & Associates	John	Anderson	
Baker, Baker And Campbell Ltd.	John	Williams	

41. Save and return to Form view.

42.  Click on the **Clients** tab and then click on the DD Browse down arrow. (Doesn't work for the Index.)

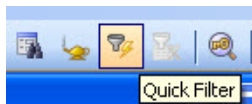
- Now all three contacts are displayed for Anderson & Associates.

43. Click on Harold Roberts.

- The browse closes and you are taken to the record for *Joan Anderson* because Joan's record was the first entered into the database and the search goes to the first COMPANY record it finds.

44. Page through the records. Where is poor Harold?

QUICK FILTER



There are a couple of ways we can track him down. Here's the first.

45. Return to one of the **Anderson** company records.

46. Put your cursor in the **Company** field and click **Quick Filter** on the toolbar.

- The status bar in the lower right corner of your screen shows 4 records found.

47. PAGE DN to find Harold.

CASCADING DD BROWSE

But I want to see him right away, you say. Not to worry—that's coming up next. First, we will create another supercontrol that connects to the first (called "cascading"). then we'll edit the first to show Company, City and State.

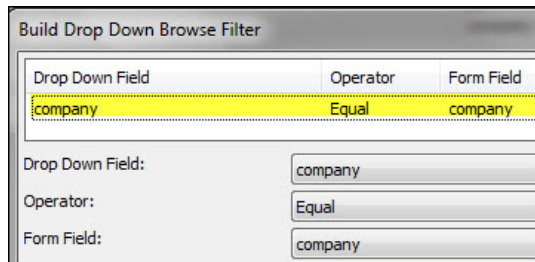
48. Return to design view and draw another DD Browse supercontrol next to the first.

49. Enter the following parameters:

- *Field to search on:* Type the following expression or click the button to use the Expression Builder. (Click F2 to get the fields.)
- First field that is named will be sort order for the DD Browse.

`alltrim(last_name)+", "+alltrim(first_name)`

- *Unique* = Yes.
- *Filter:* Click the button.



50. Enter the following to connect the *Contacts* DD Browse to the one for *Company*:

- *Drop Down Field:* Company
- *Operator:* Equal
- *Form Field:* Company

51. Click OK.

- The expression is entered in the top of the dialog (yellow).

- *Columns:* Accept the default that repeats the expression. Add city & state.
- *Lookup > Width:*
 - a. Last_name + First_name: Change to 25.
 - b. City: Change to 15.



VERY IMPORTANT!

Here's where I hope to save you some more time. In order to get to Harold's record, you must use the expression as a column field. You can add any other fields you like for reference, but be careful. If the expression field is changed or deleted, the best way to get it back is just to create a new supercontrol.

And another word of caution. Don't plan on doing a lot of editing when you use an expression. Gets cranky. Better to redesign from the start.

52. Click OK.

EDIT DD BROWSE

We'll edit the Company DD Browse to set it back to unique and show the city and state instead of last and first names. Remember, this will show the first COMPANY record that was entered. If you want to indicate a company headquarters, you will need to adjust the table. Of course, you could just leave city and state off the DD Browse.

53. Double click on the first (Company) supercontrol. Change as follows:

- *Unique* = Yes.
- *Column fields:*
 - a. Remove Last and First names.
 - b. Add City and State.

54. Save and go to Form view and click the down arrow to see the result.

55. Click the *Clients* tab.

a. Company: Choose Anderson & Associates.

b. Contacts: Choose our friend, Harold.

• There he is — finally! :-)

• Now all you have to do is add some labels and you're done.

BROWSE TIPS

We've already seen that you can jump to the next record by pressing its first letter and then pressing enter for the selection. You can also ARROW DOWN in the list, click on the desired entry or begin to type the name in the drop down box and it will quick find the closest entry.

56. Type Alpha in the search box to see Alpha Software come up.

57. Close the form.

We recommend you watch the following videos now that you understand how the settings work.

• Help > Videos > V10 Desktop Features > Drop Down Search & Drop Down Search-Cascading.

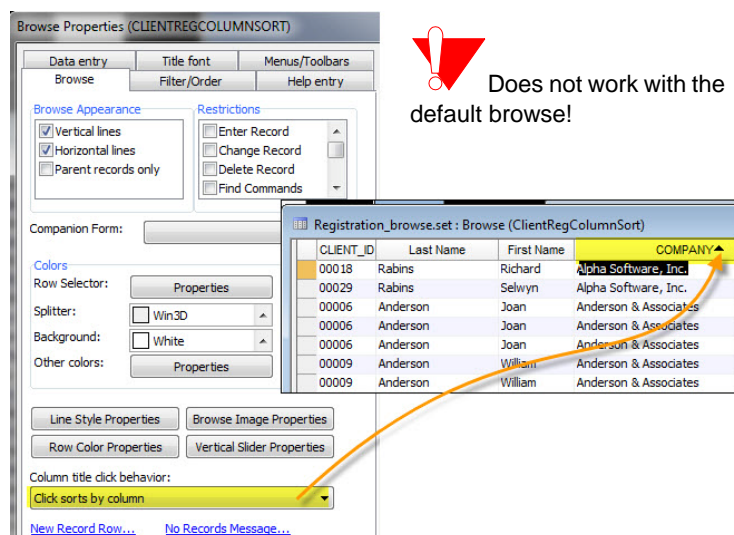
• **For more on finding records**, see "Using Sorts, Indexes, Filters and Queries" on page 169.

Sorting Records

These are easy and flexible. You can sort on a single or multiple fields.

Sort by column title

This method is quick and very direct. It works in both embedded and stand-alone browses.



Does not work with the default browse!

CLIENT_ID	Last Name	First Name	COMPANY
00018	Rabins	Richard	Alpha Software, Inc.
00029	Rabins	Selwyn	Alpha Software, Inc.
00006	Anderson	Joan	Anderson & Associates
00006	Anderson	Joan	Anderson & Associates
00006	Anderson	Joan	Anderson & Associates
00009	Anderson	William	Anderson & Associates
00009	Anderson	William	Anderson & Associates

BEHAVIOR IN SETS

Works on parent and one-to-one links.

1. Control Panel > Browses tab: Double click **ClientRegColumnSort** to open in Browse View.

2. Click any column title to change the sort.

• An arrow on the column indicates direction of sort.

3. Go to Design Mode.

4. Choose *Top Menu > Browse > Browse Properties*.

5. *Tab: Browse: Column click title behavior: Click sorts by column.*

Sort by Key

HOW IT WORKS

Sorts on a single key value, such as date or last name. Works for all browses, including the default browse. Also works for those set up with column sort above.

BEHAVIOR IN SETS

May be used for parent table and one-to-one links.

KEYBOARD SHORTCUT

Click anywhere in the column. Press **CTRL + A** for ascending and **CTRL + Z** for descending.



6. Go to Browse View for the **ClientRegColumnSort** browse.
7. Click anywhere in the **Last Name** column.
 - There are 2 quick sort buttons on the toolbar. The first sorts in ascending order and the other in descending.
8. Click the *Ascending Sort* button or press CTRL + A.
9. To reverse the order, Click *Descending Sort* or press CTRL+Z.

Multi-field Sort

HOW IT WORKS

Sorts on multiple fields. Can be used in both browses and forms.

BEHAVIOR IN SETS

Parent and one-to-one links. Our testing was not successful with one-to-many links, even though all the tables and fields are listed.



10. Continue at Browse View for the **ClientRegColumnSort** browse.

11. Choose *Top Menu > Query > Multi-field Sort*.

a. *Sort on:* Choose **Company**.

• As soon as each field is filled, an additional entry box opens.

b. *then sort on:* Choose **Last Name**.

c. *then sort on:* Choose **First Name**.

d. Click OK to execute the sort.



PLEASE TAKE A MOMENT TO
READ THIS

Understanding Indexes

There is another type of sorting that occurs in the background. Most of the time you will not even be aware it is happening. An Alpha Five Index is “an orderly listing of records that is automatically updated whenever you add, move or change records.”*

You may define indexes, but it is rarely necessary to do so because Alpha Five creates them automatically when it needs them. For example, when you sort by column title, an index is created. In most cases, they are temporary and are used as needed for the current session.



TROUBLE SHOOTING

It is **IMPORTANT TO KNOW** that Indexes may need attention from time to time. If you **EVER** have trouble with Alpha Five sorting improperly — that is, you **KNOW** the order is just doesn't make sense or a record is missing from view, doesn't show up on a report, etc., you may need to update the indexes as follows:

- a. Close all layouts based on the table.

*. 1998-1999 Alpha Software, Inc.

CHAPTER 6. FIND IT! SORT IT! FILTER IT!

Sorting Records

- b. Control Panel > Tables/Sets tab: Right click on the table and choose Update Indexes.

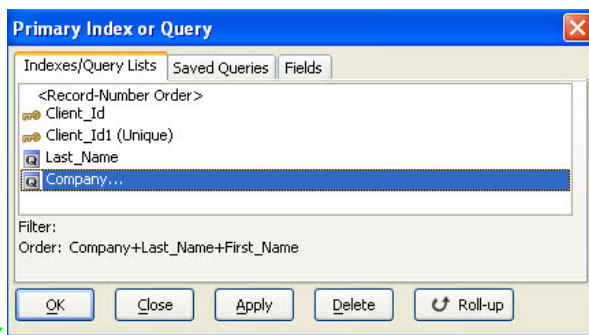
INCREASING PERFORMANCE

In some cases, you may want to create an index in order to take advantage of the built-in feature called *Lightening Query Optimization*, or LQO that speeds record ordering. If you have a large database and plan to sort, find or filter on a field frequently, create an index on that field. Alpha Five can then use the index instead of examining and processing each record.

CREATING INDEXES

Indexes may be created:

- a. When the table is initially structured.
- a. By right clicking on the table and choosing Define Indexes.



OPENING INDEXES

Active indexes are available for browses and forms:

- Top Menu > Query > Select Index/Query.
- Find by Key > Search by button.
- Keyboard shortcut, **CTRL + I**.

12. Press CTRL + I or use one of the other methods above.

• Depending on the work you've done during this session, your list may be different than this one. If you did the last exercises, Last_Name and Company should be there.



GO TO A5 HELP

For more details about using LQO, refer to

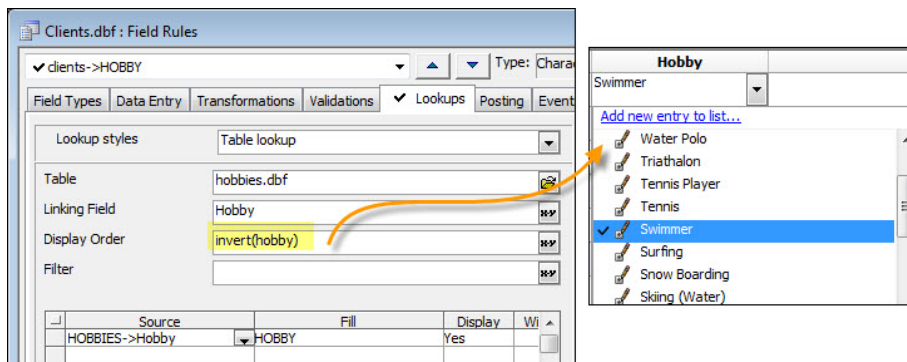
- Help > Tutorials > User Guide Desktop > Finding, Selecting and Ordering Records > Indexing and Querying Records.

Sorting in reverse order

All sorts, filters and queries have methods for sorting in reverse order.

FIND BY KEY

Even when records are sorted in reverse order, you may use *Find by Key* (page 146) in the normal fashion.



INVERT FUNCTION

There is also a Function, called INVERT, that can be used at the Expression Builder for reports, lookups, etc.

- To order the Hobby field in reverse order, create the following expression:

invert(hobby)