



F9 FINANCIAL INTELLIGENCE

Version 4 Manual

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1 – Introduction

F9 brings your accounting data into your spreadsheet for analysis and reporting. Instant access to your financial data is available to users of Excel, and Lotus 1-2-3 for Windows.

This manual is generic; it is not specific to any one accounting system, spreadsheet or operating system. Most examples in this manual use a four-segment account code belonging to a hypothetical accounting system. When you use F9 with *your accounting system*, you will need to use account codes that are appropriate for that system. For more information on using F9 with *your particular spreadsheet*, see the appendices. We have chapters on Microsoft Excel, and Lotus 1-2-3.

F9 VERSION 4

Version 4 has several key additions in functionality that make F9 an even more powerful business solution:

- A full **32-bit** implementation which updates a variety of controls and functionality.
- Enhanced **Drilldown** capabilities — among other improvements, fields are displayed with sizeable, sortable columns.
- **Lotus 1-2-3 for SmartSuite '97** — spreadsheet component with SmartIcons is now available.
- A new **Account Enquiry/GL Wizard** — for a quick balance query from any GL account and the production of a properly-formatted GL formula with appropriate cell references ready for copying.
- **Financial entities** work in your terms, not the GL's. Queries can now refer to "Vancouver-Revenue-All_Dept" instead of "A-3*-*".
- A **smarter BSPEC function** that makes the *Text Substitution Operator* (TSO) optional.
- A new **Export to E-mail and Viewer** command to remove F9 formulas from sheets.
- A new **F9 Viewer** option — Users without a full F9 implementation can now view and drill F9 reports.
- A new **F9 Edit** spreadsheet component simplifies all DataMart editing tasks.
- Improved **Silent Running** for more stable scripted operation and automation in Executive Information Systems (EIS) applications.
- New write-back functions **WGL()** and **WDESC()** functions — Directly update from a spreadsheet to your GL to store information such as Budgets or consolidated books. Some capabilities depend on your accounting system.

WHAT I SHOULD READ?

This manual assumes that you are familiar with Excel or Lotus 1-2-3 for Windows.

- If you are a new F9 user, read *F9 - An Overview*, especially the section entitled *F9 - The Concept*. Then read either *Using F9 with Excel* or *Using F9 with Lotus 1-2-3*.
- If you are a seasoned F9 user, read one of *Using F9 with Excel*, or *Using F9 with Lotus 1-2-3*. Also read the section, *The BSPEC Function* — an important F9 function!

Your F9 CD includes an up-to-date, Adobe Acrobat .pdf version of the manual — which requires installing the Acrobat viewer. Both the index and the table of contents are hyperlinked to the document text.

Finally, browse through the online help for information about using F9 with your accounting system. To do this, double click on the F9 Server icon, select a topic*, then select **Help|DLL Help**.

Note:

Most users will not need to “select a topic.” Selecting a topic simply tells F9 which accounting system is the default and is required only if you have F9 for more than one accounting system installed.

WHERE CAN I GET HELP?

Our home on the electronic frontier is a Web site at www.F9.com. Please visit the site for the latest versions of all our software. Upgrades for F9 components are available on our web site and the passwords for the upgrade packages are available from our Technical Support Desk.

Technical Support

The F9 Technical Support desk can be reached via:

- the Web: <http://www.f9.com/support.html>
- phone: (604) 688-8271, ext. 320
- E-mail: Support@F9.com

F9 has some aspects which are particular to the accounting system you are using; these are documented in a help file associated with each accounting system. For example, the OD (Other Data) function is always specific to your accounting system and is documented in the specific help file.

2 – Installation and Setup

SYSTEM REQUIREMENTS

Any computer that runs your Windows-based spreadsheet on a Win32 platform — Windows 95, 98 or NT4 or later — can run F9.

F9 Version 4 does not support Windows NT3.x due to ODBC implementation issues on these platforms.

INSTALLING F9

To install F9, follow the procedure outlined below:

- 1 Exit all Windows programs.
- 2 Place the F9 CD in the CD-ROM drive. If autoplay is enabled, an installation Splash screen appears.



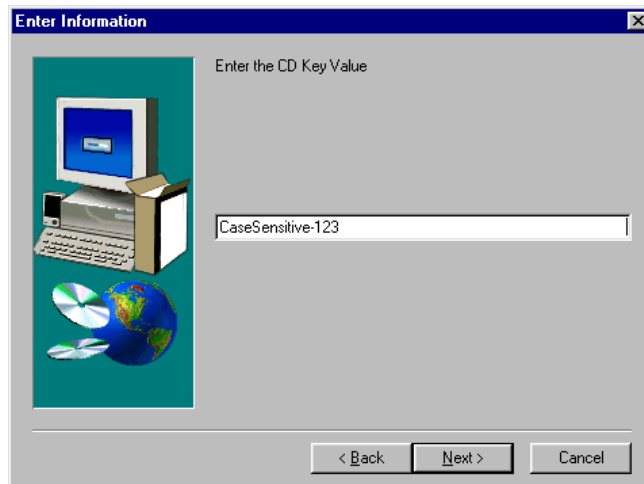
and then the F9 Setup screen.



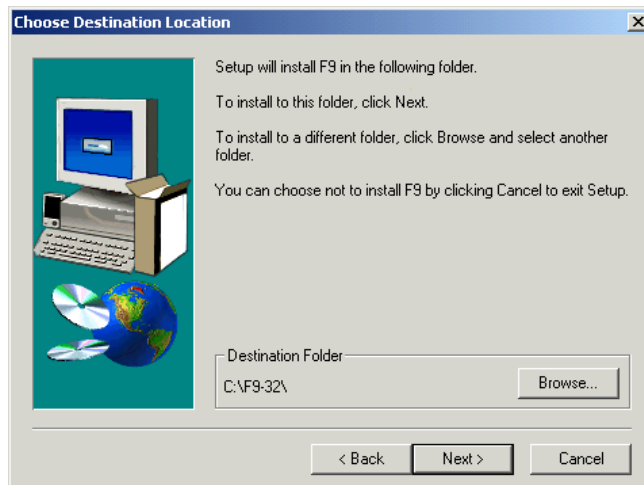
If these screens do not appear, use one of the following methods to start the installation program:

- Open the Control Panel and double-click the **Add/Remove Programs** icon. Click **Add New Programs|CD or Floppy** and follow the instructions in each dialog box.
 - Click **Start|Run|Browse** to find the CD-ROM drive. Then, double-click **Setup.exe**.
 - Open Windows Explorer and click on the CD-ROM drive. Then, double-click **Setup.exe**.
- 3 Once you have read the Welcome dialog box, click **Next**.
 - 4 Read the F9 License Agreement. If you agree to the terms, click **Yes**.

- 5 In the Enter Information dialog box, type in your CD Key Value. You will find this number — or F9 Key Code — on a label on the CD case. Type this case sensitive number exactly as you see it on the CD case.



- 6 Select a location to install F9. Either accept the default location, C:\F9-32, or click **Browse** to choose another directory and folder. Click **Next**.

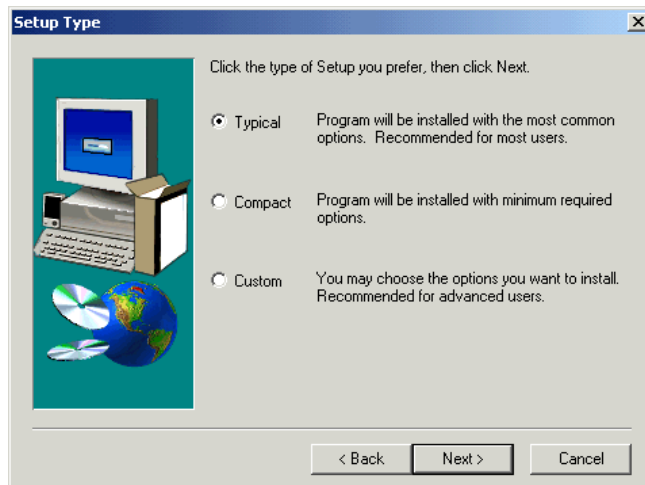


F9 Multi-User:

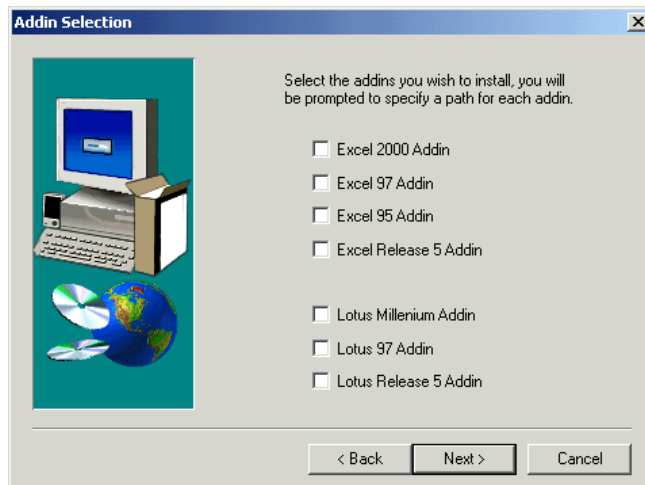
If you have an F9 multi-user license and you are in a networked environment, install F9 to a directory on the network.

If the spreadsheet software is also on the network, install the spreadsheet component files to the shared copy which then only needs to be done once. If each user has a local copy of the spreadsheet software, the spreadsheet component files must be installed to each machine.

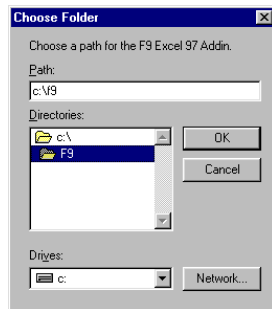
- 7 Choose a Setup Type: Typical, Compact or Custom and click **Next**.



- 8 Click the checkbox beside the version of the spreadsheet program you are planning to use with F9. This installs the appropriate F9 component for your specific spreadsheet. Click **Next**.

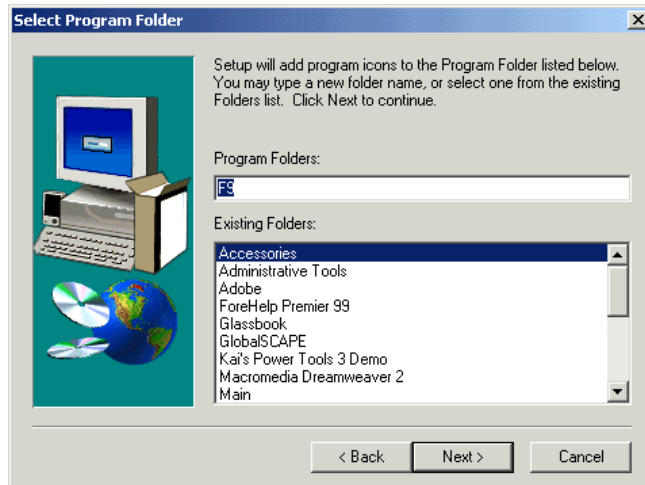


- 9 Select the default F9 folder as the path for the F9 Spreadsheet component.

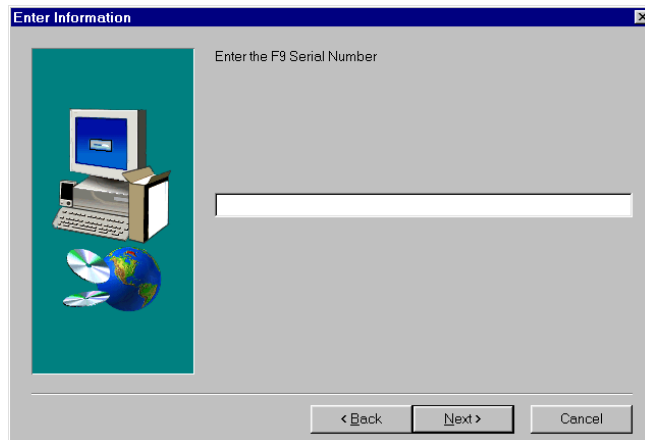


- 10 Repeat **Steps 8** and **9** for any other spreadsheet programs you plan to use with F9 and click **Next**.

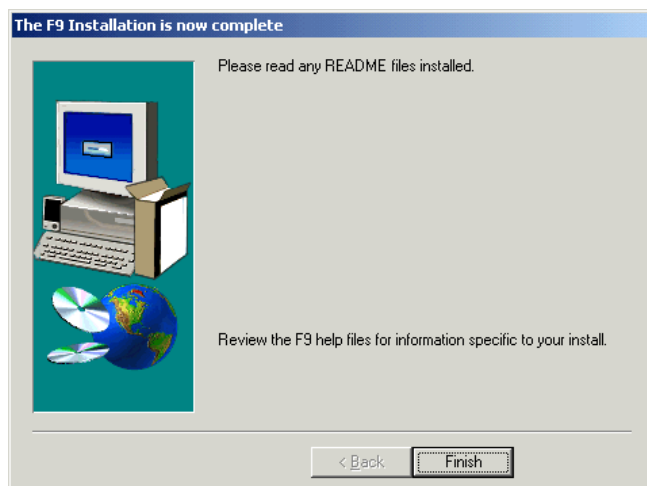
- 11 Select a program folder for the installation of F9 icons. To accept the F9 program folder default, click **Next**.



- 12 Type in the F9 Serial Number located on the label of the F9 CD case and click **Next**.



- 13 The installation process — including a PDF version of the *F9 User's Manual* and the Acrobat Reader — begins. A meter and status bar monitor the progression of the install and upon successful installation, the following dialog appears. Click **Finish**.



Acrobat Reader

The Adobe Acrobat Reader will suggest a preferred location which you should accept.

GETTING STARTED

Check the Readme For Your Components

After installing your software, the F9 directory may contain a file named README.TXT. This file contains information about changes made to your software after this manual was printed. Be sure to read these file(s) before using the software. Open and print the README.TXT file using Microsoft Notepad or Wordpad.

Make F9 Visible to Your Spreadsheet

After the installation, your spreadsheet still can't "see" F9. Neither can you. Use one of the following procedures to make F9 visible to your Excel (Versions 5 and later) or Lotus 1-2-3 for Windows (all versions) spreadsheet program.

Network Consideration:

After installing the software, each user may need to complete the procedures described below.

Excel Users

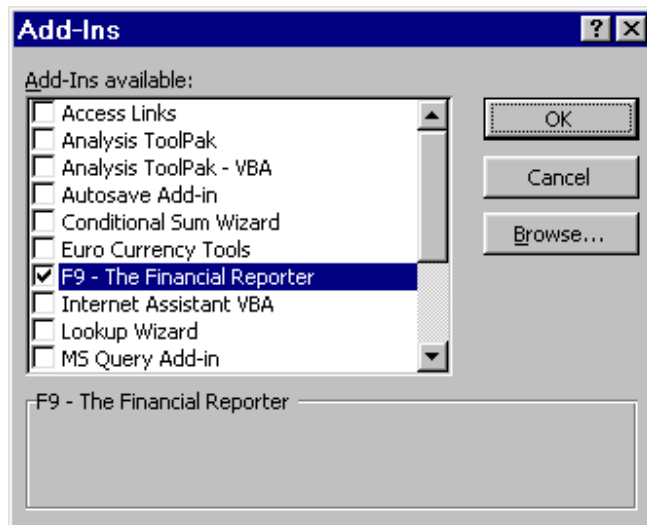
To load the Excel add-in:

- 1 Open Excel and select **File|Open**.
- 2 From the F9-32 folder, select **F9.xll** and click **Open**. A new toolbar appears.



- 3 Select **File|Close** to close the F9 Toolbar spreadsheet.

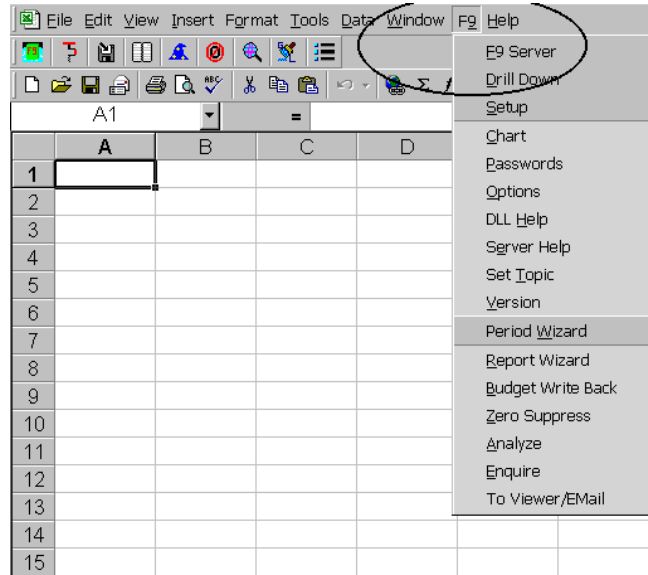
- 8 To make F9 appear every time you open Excel, select **Tools|Add-Ins** from the Excel menu. An Add-Ins dialog box opens.



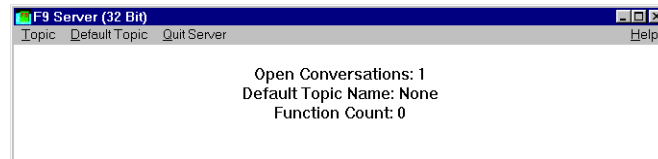
- Click the **F9 - The Financial Reporter** checkbox.
- If **F9 - The Financial Reporter** does not appear in the list as an available Add-In, click **Browse** to locate the C:\F9-32 directory. Select F9.XLL and click **OK**. Click **OK** on the next message box. **F9 - The Financial Reporter** appears already checked in the Add-Ins list.

Each time you open Excel, F9 will now be visible.

- 9 Check whether Excel attached F9 as an Add-In. Look across the Excel Menu bar. If the F9 menu appears between Window and Help, F9 has been successfully attached as an Add-In.



- 10 Notice when you attached F9 to the spreadsheet, another window opens on your taskbar: this is the F9 Program.



- Do not close this F9 Server window; it will close automatically when you close the spreadsheet.
- To minimize the F9 program, click anywhere on your spreadsheet.

Lotus 1-2-3 Users

Lotus 1-2-3 '97

- 1 From the Lotus 1-2-3 menu, select **File|Add-ins|Manage Add-ins**. From the **Lotus|123** directory, select **F9.12A**.
- 2 In the left margin of the dialog box, click the check box. Autoloading is enabled.

Lotus 1-2-3 v.5

- 1 Open Lotus 1-2-3 and do one of the following:
 - From the Lotus 1-2-3 menu, select **Tools|Add-ins**. Then select **F9.ADW**.
 - Press **Alt+F10** to open the 1-2-3 Classic menu. Select **Options|Load** and then select **F9.ADW**.
- 2 To make F9 appear every time you open Lotus 1-2-3, press **Alt+F10** to open the 1-2-3 Classic menu again. Click **Settings|System|Set** to open the add-in manager. From the menu, select **Add**. From the file list, select **F9.ADW**.

More Info:

Spreadsheet-specific and version issues are addressed in more detail in the Appendices at the back of the manual.

See our Frequently Asked Questions on the web for even more spreadsheet-specific issues as well as issues that are common to all the spreadsheets.

ACCESSING YOUR DATA

To access your GL data, you need to change some settings within F9 which are appropriate for your site:

- 1 Open Excel or Lotus 1-2-3.
- 2 Open the F9 Setup window by doing one of the following:
 - From the F9 menu, **F9|Setup**; or,
 - Click the **Setup** toolbar button.



A Setup window similar to the one below opens.

- 3 Link F9 to your accounting data — F9 needs a path to this data. Usually, all you have to do is enter the directory where your accounting system is installed and select a default company.
- 4 Select the rest of your Setup options. For more information on choosing Setup options, refer to the F9 online accounting-system specific help.
- 5 Confirm that F9 is successfully linked to the Company GL. Click **Profile**. If you are correctly configured, a window appears, displaying basic data about the default company.
- 6 Once F9 is successfully linked to your Company GL, begin creating spreadsheets.

3 – F9 Overview

There are a number of basic ways of developing reports using F9:

- Start from a blank spreadsheet and build reports “by hand.” This is the most basic and the most powerful way to exploit F9’s features. This technique is described briefly in this section.
- Use the GL Wizard to quickly build the first GL function and control block. Just add an account list and you have an F9 spreadsheet with all the power of a “by hand” sheet with less struggle.
- Use the Report Wizard. The Report Wizard can create many relatively simple reports and can be a good way to get started. It always creates well-formulated GL functions.
- Open one of the several sample spreadsheets (*e.g.*, Income or Balance) and modify them to match your chart of accounts.
- Finally, use F9 supplied templates. You should be familiar with the GL function before using F9’s templates.

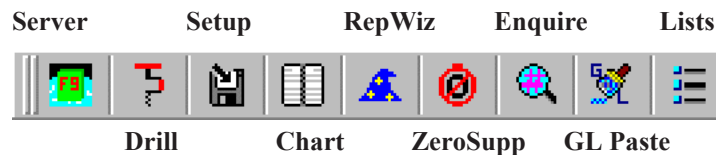
Which method you use depends on how complex or unusual your requirements are. The more complex the requirements, the less likely you will be satisfied with the results of the templates, samples or report wizard. These tools have been designed with new users and standard reports in mind. Even in the most demanding applications, you will find that using either a pure “by hand” report or one started by the GL Wizard will prove to be fast easy, and not nearly as labor-intensive as they look.

F9 - The Concept

To use F9 effectively, you need to understand what it is and how it brings data to your spreadsheet. The power of F9 is built on two concepts:

- F9 extends the functionality of your spreadsheet by providing several new formulas and commands which retrieve numbers directly from your GL.
- F9 works with your spreadsheet to let you build reports from these numbers. All your spreadsheet skills can be utilized on F9 reports.

Once installed and directed to your general ledger data, F9 is able to access the necessary files to retrieve any requested financial information. You will be unaware of F9's presence except for a menu item — F9 — and a few new toolbar buttons!



Tip:

If you are upgrading from F9 Version 3 and all the toolbar buttons did not appear, go to [Frequently Asked Questions on the web](#) for the steps on how to update the toolbar.

F9 brings live accounting data to the spreadsheet using F9 specific functions, the most important of which is the GL function. They are the same as any other spreadsheet function, such as SUM, in that they take a number of parameters which are separated by commas and enclosed in parentheses.

To get started with F9 you should become familiar with three functions: GL, BSPEC, and SDESC.

- GL returns amounts from your GL database,
- BSPEC makes account specifiers from cell references, and
- SDESC returns account descriptions from the segments.

If you use F9 to develop reports for several companies, you will need to know CODATA, a function that returns company details. These topics are covered in more details in *Chapter 5 — F9 Functions: The Absolute Minimum*.

The GL function parameters include the account number, the period and the company — in this order. The syntax is as follows:

```
=GL("1000-100-A", "Month 2", "ABC")
```

Tip:

The above syntax is written for illustration purposes only and is considered correct if you are entering parameters right into the formula instead of using cell references. Also, this is an Excel formula: Lotus 1-2-3 uses @GL rather than =GL.

Enter this formula into a spreadsheet cell when you want the account balance for 1000-100-A for Month 2 for company ABC. For every cell in your report where you want a balance to appear, you will use a similar formula.

To build the most intelligent F9 reports, use cell references with the appropriate absolute reference tags (\$) to provide the various parameters. By doing so, you build in maximum report flexibility.

Building a Profit and Loss Report By Hand

Here is the typical process for building a multiple period P&L using the GL function with cell references.

- 1 In Column A, type in the account numbers down the column — one on each row. F9 Lists (described later) can create a list of these codes for you.
- 2 In row 1, type the periods of interest across the row as column headers. F9 allows fiscal periods like “month 1”, “month 2”, “month 3”, *etc.*, or month names like “January”, “February”, “March”, *etc.*
- 3 In the top left corner of the spreadsheet, type in the company identifier for your accounting system.
- 4 Build a GL Formula. In the cell that intersects the first account number row and the first column header, type in the GL formula and reference (in order) the cells containing the row header, the column header and the company identifier. Finish the formula by setting absolute and relative cell references. The finished formula should look something like this:

GL(\$A3,C\$1,\$A\$1)

	A	B	C	D
1	Company 1		Month 1	
2				
3	1000-100-3		=GL(\$A3,C\$1,\$A\$1)	
4				

- 5 Press **F9** on your keyboard (the recalculation key for all three spreadsheets, and hence, the name of our product). A number appears. This number is retrieved from the accounting system, and each time you press F9, your report is updated with the current value from the general ledger.
- 6 Once the GL formula is returning the correct value, copy that formula to every other line adjacent to an account number. Press **F9** and the cells fill with the appropriate balances.
- 7 Now, insert totals, lines, *etc.* When you are satisfied with the format, copy that column to the remaining columns. Press **F9** again and you have a multiple period P&L.

8 Dress up the report by changing fonts, inserting titles, adding color and graphs.

That's it! If you are using departments, budgets or multiple years of data, creating F9 reports is only slightly more involved. To get a better understanding of the various GL formula parameter options, refer to *The GL Function - One Step at a Time*.

For an interactive view, open the spreadsheet called ONESTEP located in the F9 directory. Once you have a clear understanding of the GL formula, open the sheets called INCOME and BALANCE and refer to the section called *Creating Great Spreadsheets* later in this chapter. Each of these will illustrate effective techniques for building your own spreadsheet reports.

Building a Profit and Loss Report With the GL Wizard

The second method of getting a spreadsheet started is with the GL Wizard. The GL Wizard requires just one step: **GL Paste**.



GL Paste is the GL Wizard at work. Pressing the **GL Paste** toolbar button (a glue brush) on the F9 toolbar interprets the result of the last Account Enquiry dialog and makes an F9 formula from it. **GL Paste** should not be confused with **Edit|Paste** which simply drops the clipboard onto your sheet.

GL Wizard tries to place the GL formula in the same cell your cursor was in *when the GL Paste toolbar button was pressed*. F9 moves the cursor when it needs to make space for the parameters. After pasting, your spreadsheet will look like:

	A	B	C	D	E	F	G	H
1	Location	All Locations		All Departments				
2								
3								
4	Period	Month						
5	Company	Demo						
6	Year	1997						
7	Type	ACTUAL						
8	Currency	Home						
9								
10								
11	10005			-2010.96				
12								



Optional. Perform an Account Enquiry before the GL Paste. Select **F9|Enquire** from the menu or click the Enquire toolbar button to open the Account Enquiry dialog. Set each of the options to a parameter value. The main setting for a good report is the **Create GL function by:** option. This controls whether the headers will be a company, an account number segment or a period. Once you have selected a setting for each option, click **Quit** and return to your spreadsheet. Now click the **GL Paste** toolbar button to use the settings just configured to make the GL formula.

Next Up: GL Function

The preceding text describes — in overview — the “core” of using the F9 GL function to create financial reports. While all F9 spreadsheets use the GL function, you can create reports without starting from a blank sheet or typing formulas. You can use either the GL Wizard to start a report or the Report Wizard to create a broad range of simple reports. The Wizards create formulas for you. The next topic demonstrates that once a GL formula works, all you need to do is copy it to get the remaining GL balances!

F9 also provides templates that can quickly be populated with codes from your chart of accounts using facilities such as the Lists window to reduce the amount of typing involved.

The GL Function

F9 ships with an example spreadsheet called ONESTEP that closely parallels the text of this section. If you are unfamiliar with the GL function, read this section, open the ONESTEP sheet and work through it. The examples below are generic and will probably not match your accounting system. The examples in ONESTEP will match your accounting system.

Remember, to enter a formula in Lotus 1-2-3, start the formula with an “@” sign. In Excel, start it with an equal sign (“=”). For the following discussion, neither is used.

A SPREADSHEET-BASED TUTORIAL

The GL function is the heart of F9. Almost all of the important results that F9 produces are produced by the GL function. Although you can use Report Wizard or Excel Smart Templates to automatically create your GL Functions, to get the most out of F9, it is important you understand how the GL function works.

The simplest GL function consists of an account specifier only:

GL(“0-0-1000-0”)

This function produces the balances for one account for the default company and year (as per the Setup window) for the current period. A slightly more complex function might return the sum of two account balances:

GL(“0-0-1000-0,0-0-1050-0”)

Listing accounts this way is inefficient, so F9 provides a number of methods for specifying multiple accounts in an easier way. One way is the asterisk wildcard character:

GL(“0-0-105*-0”)

This would return all balances for any account that starts with 105. Similarly, if the first part of the account code is the “location,” this function returns all locations for the same accounts:

GL(“*-0-105*-0”)

Depending on your GL, this function could be summing hundreds of accounts to return a balance. Ranges of accounts are possible using the Lotus-style range notation:

GL(“*-0-1000..1050-0”)

You may not want data for the current period. To access other periods, add a period specifier:

GL(“*-0-105*-0,”Month 12”)

The meaning of this parameter should be clear. The “month” specifier is based on the fiscal year. Month names can be used for calendar year reports, too. Other common variations are:

This Month

Month 12 Last Year

Month 12 Budget

Running Quarter Month 10

This last example is the total transactions for months 8, 9, and 10.

Budgets are also accessible from F9. A function that returns the total year's budget would be:

Budget Year to Date Month 12

Note:

“Budget Year” will return the budget up to the current period. “Budget Last Year” will not work since budgets are not actually related to years (See Frequently Asked Questions).

GL functions can be more complex still. If you use more than one company, your GL function should include a company parameter:

GL(“*-0-105*-0”, “Month 12”, “Lesson”)

Here, “Lesson” is the name of the company. To consolidate two companies, just list them out:

GL(“*-0-105*-0”, “Month 12”, “Lesson, Sample”)

When doing consolidations like this, the two companies should share nearly identical charts of accounts and the same fiscal years. If they don't share the same fiscal years, use Period Specifiers such as “January.” Current versions of F9 can correctly report calendar months regardless of the fiscal years of the companies in question (prior to version 3 of F9, January always meant “month 1”).

If your companies don't share a chart of accounts, avoid “no matching account found” errors while consolidating by setting the “Return Zero for Account not Found” option in the Setup window.

Two more parameters can be used: the Year and the Type. The meaning of the Year is obvious; the meaning of Type varies from accounting system to accounting system but is usually “ACTUAL” or a budget type.

GL(“*-0-105*-0”, “Month 12 budget”, “Lesson”, “1999”, “Pessimistic”)

This function returns data from month 12 of 1999 for the “pessimistic” budget.

This function is getting pretty big! A typical sheet might contain hundreds of formulas like this . . . a lot of typing! And if you wanted to run the same report *versus* a different company, it could take hours to edit each cell. Cell references solve this problem.

Tip:

As we have emphasized, always use cell references; avoid entering parameters directly into your formulas as we have here.

The example below shows how a formula typically uses cell references. The dollar signs indicate absolute *versus* relative cell references:

`GL($A12,C$3,B2)`

Using cell references correctly means normally typing in only one GL formula and using your spreadsheet's Copy command to duplicate it all over the sheet. Here, of course, cell A12 contains an account specifier, C3 a period specifier and B2 the company specifier; to create a report for a different company, you only have to edit cell B2 and recalculate the sheet!

Using BSPEC

To maximize the power of the GL Formula, only one stumbling block remains: the Account Specifier. Two obstacles exist:

- The GL Function only allows one parameter for the account — but an account has multiple segments.
- It is very desirable to build reports which compare different values of an account specifier, *e.g.*, comparing departments or locations.

The BSPEC Function is designed to overcome these issues by **B**uilding account **S**PECifiers from cell references. Using BSPEC, you make each part of the account code a separate parameter. This means that not only is there just one formula for a report, but *each aspect* of that report appears only once. For example, the company name or the current year appears only once.

F9's solution? Cell references. When each segment value is a cell reference in BSPEC, your spreadsheets become significantly more flexible: you construct spreadsheets where each value appears only once.

Take the following scenario: You create a report for one department where the department is the second part of the account code. You then decide to report on a different department. You have a problem: every place that the department number was used needs to be changed *without changing* uses of the same number in other segments. For example, location number 100 and department number 100 both appear on the report. A search and replace must change one, but not the other. These changes may be needed in hundreds of cells. Each time you want another version for another department, the same changes must be done yet again.

BSPEC does one thing and does it well; it converts a list into an usable account specifier for F9. The formula:

`BSPEC("0","0","1000,1050","100,200")`

simply manipulates these numbers and returns the text:

`(0)(0)(1000,1050)(100,200)`

All F9 functions which utilize account specifiers recognize this format. And, while it's possible to create the same text using the spreadsheet's built-in functions, BSPEC is much simpler to use.

Use BSPEC in conjunction with the GL Function to create queries such as:

GL(BSPEC("0","0","1000,1050","100,200"),"This month")

Even better — with cell references:

GL(BSPEC(\$B\$3,\$B\$4,\$A10,C\$4),\$B\$6)

This last formula lets you create reports using the fourth segment of the account code in columns. This way, a department store could evaluate a sales report comparing Menswear, Womenswear and Kitchen appliances or a hardware store could compare plumbing, lumber and masonry products.

Remember:

Lotus 1-2-3 users: both the GL and the BSPEC functions must be preceded by an "@" character when used together like this.

Excel users: only the GL function must be preceded by an "=" sign.

Version 4:

Prior versions of F9 required an Account Mask. This parameter is now optional and, for most uses, we recommend you leave it out. This parameter is discussed in Chapter 5: F9 Functions.

The key concept behind BSPEC is that *no account segment value should appear more than once in a report*. BSPEC can use the value hundreds of times, but it only appears once. This way, any change to any segment value needs to happen only once per sheet: "search and replace and hope its right" becomes a thing of the past.

Next Up: The Core F9 Features

The GL Function, BSPEC and the rest of the F9 functions are detailed in *Chapter 5: The F9 Functions*. The remainder of this chapter is dedicated to *Creating Great Spreadsheets*.

Creating Great Spreadsheets

The best F9 spreadsheets use features that greatly improve your productivity now and in the future. Become familiar with these techniques and use them in all your spreadsheets.

Design for Simplicity

Plan your reports. In particular, know the horizontal and vertical aspects. Most F9 reports use the natural account on the vertical axis. The Horizontal axis is periods, companies, another account segment (e.g., department, location, *etc.*), years, or “types” such as budgets or actual.

Consistently use control areas. Put all the F9 parameters that aren’t on an axis of the report into a control block in one area of the report: this makes it very easy to reuse the report. For example, when a manager asks for a report by department for his location, you will often need to use a similar report for other locations later. Control areas let you build flexibility into your reports.

If you do consolidations or reports for several different companies, then **always** use cell references for the company as well. Just place the company label off in the Control Area of your sheet and reference the cell absolutely (e.g., \$A\$6).

Always use your spreadsheet’s Copy|Paste function to create new rows or columns in your sheet. This is especially powerful when used in conjunction with the relative and absolute cell referencing techniques described below. Remember: reports only need one GL formula — the rest are simple copies.

Lotus 1-2-3:

*Lotus 1-2-3 for Windows users: use the Lotus 1-2-3 classic menu **Copy** command rather than the **Copy|Paste** menu. Both will work, but the Copy command is faster.*

Use Cell References

In real estate, property value is determined by “location, location, location.” F9 power reporting is determined by “cell references, cell references, and cell references.” Absolutely nothing will give you as much control and power.

Always use cell references rather than explicit values in your formulas; that is, instead of a formula like GL(“1000..1050”, “Month 2”), use a formula such as GL(\$A5,C\$3).

Here, cell A5 would be labeled ‘1000..1050 and cell C3 would be labeled ‘Month 2. This same approach is used for DESC functions as well. Use this technique to build a report template by listing the accounts and account ranges you are interested in down the left-hand side of your sheet and the periods across the top of the sheet, and then reference these cells in your functions.

To create *really* flexible spreadsheets, use BSPEC to take any “slice” out of your GL that you like. Using BSPEC to build your account makes your reports work harder than you do — you never need to edit more than a few cells in any single report.

Remember: use relative and absolute row and column references (absolute references are indicated by the dollar sign) to take full advantage of copying cell formulas.

Performance Techniques

Avoid asking for more results than you need. If you want to add two departments into a single result, use a single GL function with a list of segment values rather than adding together multiple GL formulas. For example, rather than adding:

```
GL(BSPEC("100", "10100", "231"), "This Month") +
GL(BSPEC("100", "10200", "231"), "This Month")
```

you get the same result faster with:

```
GL(BSPEC("100", "10100,10200", "231"), "This Month")
```

Avoid asking for numbers twice. Whenever the values you want are already in the spreadsheet, **always** use the SUM function to generate totals rather than re-specifying the range in a GL function. SUM is **much** more efficient in this circumstance.

EXAMPLE SPREADSHEETS

F9 comes with a multi-tabbed Excel spreadsheet or two spreadsheets — income.wk? and balance.wk? — for Lotus 1-2-3 that show you how to design and produce powerful F9 reports. Open and review each sheet. Each is designed to recalculate “out of the box” against the sample data for your accounting system. Remember, your spreadsheet should be in manual recalculation mode before you open these samples.

These are relatively simple examples of F9 spreadsheets. Also included are more complex reports and templates that show how you to use F9 to build any type of report imaginable. See *Appendix E — Sample Reports* for more information.

Note how the functions are formulated. Double-click in cells containing GL and DESC functions. These functions and most other F9 functions:

- use cell references extensively; and,
- incorporate a special F9 function called BSPEC (for **B**uild **S**PECifier) to construct account specifiers.

These three functions — GL Function, DESC Function and BSPEC — are all that is required to create almost any financial report.

Use these sheets as a model for your own sheets.

E-MAILING OR DISTRIBUTING F9 SPREADSHEETS

F9 spreadsheets are just Excel or Lotus 1-2-3 files. The only problem with sharing spreadsheet files that use F9 functions is that the spreadsheet can't recalculate without F9. Net result: the spreadsheet fills with errors and all F9 figures are destroyed the moment the sheet recalculates. In Excel, this often happens when the sheet is opened. To prevent this, convert formulas to values.

Smart Conversions

The Spreadsheet component for Excel and Lotus 1-2-3 provide a means of automatically converting F9 formulas to values.

Excel Users

F9 offers a **To Viewer/E-Mail** menu option. This option processes all F9 formulas in the sheet and converts them to values while saving the formula as a comment in the cell for E-Mail distribution. This process eliminates errors for users who open the sheet but who don't have F9.

Users who have the F9 viewer add-in can drill the formulas in the comments to see where the numbers came from. Users who have the regular F9 *will not* be able to drill the values in a converted report.

Note:

The F9 Excel spreadsheet component only converts formulas which have an F9 function as their first argument. If you include other calculations, they must follow an F9 function. Also notice the entire formula is reduced to a value — not just the F9 functions. Finally, only one F9 function will be preserved in the cell's comment.

Lotus 1-2-3 Users

F9 offers a **Value** menu option. This option removes all F9 formulas in the spreadsheet and replaces them with explicit values. Lotus 1-2-3 does not save the parameters of the formula; neither are they made available to an F9Viewer add-in.

Manual Conversions

Another way to prepare a spreadsheet for E-Mail is to use **Paste as Values** to eliminate formulas. The major difference between **Paste as Values** and **To Viewer/E-Mail** is that the latter converts *every* formula in the copied area or worksheet. If you want to preserve formulas that don't require F9, *do not* use **Paste as Values**.

Excel Users

- 1 Select the entire sheet or an area.
- 2 First select **Edit|Copy** and then **Edit|Paste Special**.
- 3 Select **Values** and click **OK**.
- 4 Choose **File|Save As** and save the workbook to a new file. Send this file to your associate.

In Excel, the **Edit** menu has an option to **Move or Copy Sheets** from one workbook to another. This can also be useful in distributing reports.

Lotus 1-2-3 Users

- 1 Select the entire sheet or an area.
- 2 First select **Edit|Copy** and then select **Edit|Paste Special|Formulae as Values**.
- 4 Choose **File|Save As** and save the workbook to a new file. Send this file to your associate.

THE F9 VIEWER

The F9 viewer is a less expensive and simplified method for viewing F9 spreadsheets. Once a spreadsheet has been prepared for the viewer — *required by Excel only* — a user can view an F9 report anywhere. If the user has access to the source GL, the Viewer can be used to drill the original formula just as if they were using a regular F9 spreadsheet component.

What the viewer *cannot* do is update an F9 report from the source GL — the F9 functions are no longer “live.” The Viewer is advantageous if you:

- have users that should only have a limited view of the GL;
- need a portable report; or,
- require reports which reflect balances as of “close of business on” specific dates.

Our clients have expressed an interest in having a small group of employees design and distribute reports, and a wider audience being able to view them with stronger limitations than the full viewer. These reports make excellent *executive information system* (EIS) reports.

Installing the Viewer

Install the F9 Viewer add-in the same way you installed other F9 components — by typing in both an ID and Password in the install dialog box. Install the F9 Viewer either in the Excel or Lotus 1-2-3 spreadsheet add-in directory of each user or on the network. Separate versions of the viewer exist for Excel and Lotus 1-2-3.

In your spreadsheet, open the F9Viewer the same way you opened F9 earlier.

Financial Entities

Financial Entities are names of items included in your accounting system *or business*. Financial Entities are a new application of *subaccount descriptions* which allow you to refer to your *cash* account as “Cash” rather than 100010. Subaccount descriptions are still available with the SDESC function described later.

There are two kinds of financial entities: natural and user-defined.

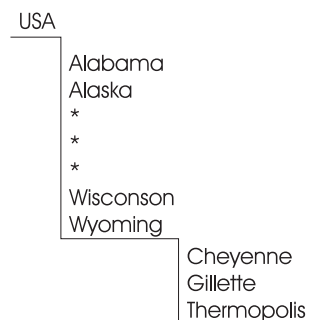
- Natural Entities are normally imported from your accounting system and may be added to or edited. The SDESC function can return any natural financial entity. Now, F9 will recognize the account specifier 101* as “Cash in Banks.”
- User-defined financial entities are more flexible and can be significantly larger than a natural entity. User-defined entities are not accessible to the SDESC function.

Financial Entities also extend subaccount descriptions in several ways.

- Use a financial entity anywhere a segment value can be used. A financial entity is a named value of a segment specifier. For instance: if segment 2 is “location” in your chart of accounts, and an entity for “Los Angeles” exists in that segment, then “Los Angeles” can be used anywhere you might provide the segment value. Your GL function reads much more intuitively:

GL(BSPEC(“Los Angeles”, “All Cash”, “All Departments”), “this month”, “ACompany”)

- Define new Financial Entities for any account segment. If you have a range of accounts which includes all your sales income, you can define an entity “Sales-Gross” for the specifier 3002*. Use this entity anywhere a segment value “3002*” is used. Financial Entities allow “shorthand” for segments. For example, if you have a segment value and description for “Los Angeles” — an imported natural financial entity — Financial Entities let you create another entity for “LA,” too.
- Financial Entities can use other Financial Entities; that is, a Financial Entity can consist of a collection of other financial entities. For example, in an accounting system where each location has a special value for a segment, you can also create a user-defined entity for the state which includes all the locations in that state. Go one step further and define a series of sales regions where each is a group of states. Now, when a new location is opened, it is added to the state entity’s list, and the sales region immediately sees it too. The example below shows how a set of Financial Entities could model your geographic distribution:



Using this model, to add a location in Rawlins, Wyoming, do the following:

- 1 Create or import a natural Financial Entity of Rawlins, which is a specific value of the “location” segment.
- 2 Edit the Wyoming Financial Entity so it now specifies: Cheyenne, Gillette, *Rawlins* and Thermopolis.
- 3 The Financial Entity USA automatically inherits the members of Wyoming.

For some accounting systems or charts of accounts, it may be even simpler. If your chart of accounts uses two digits of a segment to encode the states (*e.g.*, 01-50), and the other two digits to encode the city (*e.g.*, 01-99), then Wyoming could simply be 50*. All you need to do is create a Financial Entity called “Rawlins.”

Tip:

For information on how to edit Financial Entities, see Chapter 8: Editing Support Files.

Advantages of Financial Entities

- Natural and user-defined Financial Entities both can have up to 50-character descriptions, but natural Financial Entities may only use 30 characters in the segment value. A user-defined Financial Entity may use up to 130 characters.
- Natural Financial Entities should be simple segment values without ranges, lists or wildcards. User-defined Financial Entities may use *any form* of specifier including ranges, lists, wildcards — or other financial entities.
- User-defined Entities are listed first in the **Lists**, **Report Wizard** and **GL Enquire** windows.

Entities are simply easier to use.

Multiple Segment Descriptions

SDESC provides descriptions for multiple segments: some accounting systems use subaccount codes which are completely dependent on the account number. Now F9 can return descriptions for them.

In most accounting systems, each subaccount value always has the same meaning such as, location or department, and the individual values have exactly one meaning: 100 = Vancouver. This is not true for companies which require multiple segment descriptions.

Consider the following accounts:

Account	Description
10000-100	Cash - Credit Union
10000-200	Cash - Petty Cash
10000-300	Cash - Treasury Bills
⊕	⊕
⊕	⊕
20000-100	Mortgage - Los Angeles Office
20000-200	Mortgage - Atlanta Office
20000-300	Mortgage - Montreal Office

In the previous example, subaccount 100 means either Credit Union or Los Angeles, depending on whether the account is Cash or Mortgage. A similar problem occurs with subaccounts 200 and 300. With multiple segment entities, the account specifier 10000-100 can be treated as an entity. 20000-100 is another entity.

SDESC recognizes these multiple segment descriptions and correctly returns a fully qualified description for them (do not use SDESC in either of the previously supported ways). The following rules apply:

- the account specifier parameter has more than one segment *and* is not a complete account specifier.
- multiple segment descriptions *cannot* use lists, ranges or wildcards; they must have a one-to-one match.

When creating multiple segment descriptions, create a Financial Entity for the *first segment* which the entity represents. For example, in a four-segment account code, the account entity may be segments three and four, so a two-segment entity could be created in segment three. In this way:

SDESC("20000-200", 3, "ACompany")

would return Mortgage - Atlanta Office. Cell referenced, the SDESC formula will look something like:

SDESC(BSPEC("^-^", \$D5, \$D6), 3, "ACompany")

Note:

The parameter “^-^” in the BSPEC function is an Account Mask. Multiple Segment Descriptions is one instance where BSPEC needs an account mask because the company’s Text Substitution Operator (TSO) has four segments and you only want two segments.

When multiple segment descriptions meet the following criteria, you can use them as Financial Entities:

- The segments used must be in consecutive positions within the account number.
- The multiple segment descriptions must use the segments in the same order as the accounting system.
- The multiple-segmented Financial Entity is not going to (and cannot) be used as an element in a segment list or range.

Given an account in the order A-B-C-D, you can use a description of B-C as a Financial Entity, but not B-D. While it is possible to create a description for C-B, the resulting description is not a valid Financial Entity.

4 – Reporting Wizards

A wizard is a tool that automates any process into simpler, ordered steps. F9 has two wizards for reporting: the Report Wizard — which builds complete reports including numerous formatting styles and the GL Wizard.

The Report Wizard is a comprehensive tool that you can use to build almost any report — complete with extensive formatting. After using this five-step wizard, you will have a complete, formatted report. F9 comes with a number of report formats — from conservative layouts to more embellished layouts suitable for on-screen or colour printing.

The GL Wizard provides all the basics of a powerful F9 report without all the “bells and whistles” of the Report Wizard. The GL Wizard provides just enough information to build one GL formula. Remember, you only need one formula copied everywhere else!

The Report and GL Wizards have one goal: to let you write a report with as little typing as possible. If you can build a report with *no typing*, F9 is the software for you.

The GL Wizard

The GL Wizard uses two steps to build a minimal F9 Worksheet with a single GL function.

Account Enquiry

1 Open Account Enquiry. Either:



- From the F9 menu, select **Enquire**; or,
- Click the Enquire toolbar button.

2 Select the parameter values that will make up the control area and GL Function. The main setting for a good report is the “Create GL function by” option. This controls whether the headers will be a company, an account number segment or a period.

3 Click **Get Balance**. Your Account Enquiry window should look something like this:

2,010.96

4 The above example demonstrates a simple request for a balance totalling All Locations — a financial entity — an account, totalling All Departments.

5 Click **Quit** and return to your spreadsheet.

For any report, decide in advance the parameters you want to put on the vertical and horizontal axis. To make the GL Wizard report as simple as possible, query on the first account number, and set the “Create GL function by” option to be the horizontal axis.

GL Paste

- 1 On your spreadsheet, click in the cell where you want to start your report. The GL Wizard tries to place the GL formula in the same cell your cursor was in when GL Paste was activated. F9 automatically moves the cursor when it needs to make space for parameters. If you expect to add row descriptions or section headers, move the cursor to another cell before using GL Paste.



- 2 Click the **GL Paste** toolbar button. **GL Paste** interprets the result of the last Account Enquiry and makes an F9 formula from it. (Do not confuse **GL Paste** with **Edit|Paste**. **Edit|Paste** simply drops the clipboard onto your sheet. F9 and GL Paste change the sheet to something like this:

The screenshot shows a Microsoft Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H
1	Location	All Locations		All Departments				
2								
3								
4	Period	Month						
5	Company	Demo						
6	Year	1997						
7	Type	ACTUAL						
8	Currency	Home						
9								
10								
11	10005			-2010.96				
12								

After GL Paste

One number is hardly a report and, so far, you haven't typed anything into your spreadsheet. Keep it like that.

- 1 Create the vertical axis of your report. From the F9 menu, select **Lists** or click the Lists toolbar button. The Lists dialog box opens. Set it to return a list of segment values for the natural account code.



The screenshot shows the Lists [Univ] dialog box with the following settings:

- Available Lists:
 - Segments
 - Companies
 - Budgets
 - BWB Headers
 - TWB Headers
 - Lists
 - Periods
 - Years
 - Currencies
 - Accounts
- List Segment: Account
- Where: Account
- Is: 10000..10299
- Transpose List?
- Generate Descriptions?
- Use the Financial Entities File for Segments?
- Buttons: Send to Clipboard, Quit, Help

- 2 Click **Send to Clipboard** and return to your spreadsheet.

- 3 Click on the first account number in column A and select **Edit|Paste** or press **Ctrl-V**. The list is pasted into the column under the current cell and your sheet now contains something like this:

	A	B	C	D	E
1	Location	All Locations	All Departments		
2					
3					
4	Period	Month			
5	Company	Demo			
6	Year	1997			
7	Type	ACTUAL			
8	Currency	Home			
9					
10					
11	10005		-2010.96		
12	10010				
13	10015				
14	10020				
15	10030				
16	10040				
17	10045				
18	10050				
19	10060				
20	10070				
21	10080				
22	10100				

- 4 Create a horizontal list of departments. From the F9 menu, select **Lists** or click the Lists toolbar button. The Lists dialog box opens. Set it to return a list of segment values for, in this example, department names.
- 5 Check the **Transpose List?** checkbox. Transposing the list creates a horizontal result list.

Lists [Univ]

Available Lists

Segments
 Companies
 Budgets
 BWB Headers
 TWB Headers
 Lists
 Periods
 Years
 Currencies
 Accounts

List Segment:
 Department

Where: Department Is: *

Transpose List?
 Generate Descriptions?
 Use the Financial Entities File for Segments?

- 6 Back on your spreadsheet, click in the cell with the first item, in this case cell D1, labelled, All Departments. Select **Edit|Paste** or press **Ctrl-V** to paste the clipboard contents to your spreadsheet. The list is pasted into the row beginning with the current cell and your sheet now looks something like this:

	A	B	C	D	E	F	G
1	Location	All Locations		**	100	100	
2				All Departments	Sales	Shipping	
3							
4	Period	Month					
5	Company	Demo					
6	Year	1997					
7	Type	ACTUAL					
8	Currency	Home					
9							
10							
11	'10005			-2010.96			
12	'10010						
13	'10015						
14	'10020						
15	'10030						
16	'10040						
17	'10045						
18	'10050						
19	'10060						
20	'10070						
21	'10080						
22	'10100						

- 7 Fill in the body of the report and copy the GL function everywhere. Click in the cell where the GL formula resides and autocopy the formula.

Excel Users:

- Drag the small handle in the bottom right corner of the currently-selected cell either horizontally or vertically. Once you've dragged in one direction, release the handle. The contents of the cell is copied.
- Click in the cell again and drag it the other way.

The screenshot shows a Microsoft Excel window with the following data in the spreadsheet:

A	B	C	D	E	F
1	Location	All Locations	"	000	'100
2			All Departments	Sales	Shipping
3					
4	Period	Month			
5	Company	Demo			
6	Year	1997			
7	Type	ACTUAL			
8	Currency	Home			
9					
10					
11	10005		-2010.96	-1005.48	-1005.48
12	10010		-963121.88	-93518.83	-869603.05
13	10015		-11140.76	-9552.09	-1588.67
14	10020		21486.16	-4021.93	25488.09
15	10030		-6977.93	-549.46	-6428.47
16	10040		-3601508.71	-2403456.51	-1198052.2
17	10045		148811.35	108692.07	40219.28
18	10050		-63023.62	0	-63023.62
19	10060		-44689.94	-27034.68	-17855.06
20	10070		0	0	0
21	10080		-4725.78	-2010.97	-2714.81
22	10100		-146303.16	0	-146303.16

Lotus 1-2-3 Users:

Press and hold the **Ctrl** key while dragging the cell. The cell is copied into adjacent cells. Only one drag is required: Lotus copies to two dimensions at once.

Tip:

If autocopy fails, the most likely cause is a relative cell reference. Ensure your cell references are correctly identified as absolute (\$) or relative.

- 8 Recalculate the spreadsheet: Press **F9**. Your report is almost complete.
- 9 Add account descriptions with the SDESC function:

SDESC(AccountSpec, SegmentNum, Company)

or, using cell references:

SDESC(\$A11,2,\$B\$5)

The account specifier in an SDESC function is usually a complete account code or just one segment value. The segment number determines which segment the value is from. Working within the same example and wanting descriptions of the main account segment — the vertical axis — the spreadsheet then looks like:

A	B	C	D	E
1	Location	All Locations		
2				All Departm...
3				
4	Period	Month		
5	Company	Demo		
6	Year	1997		
7	Type	ACTUAL		
8	Currency	Home		
9				
10				
11	'10005	Petty Cash	-2010.96	-
12	'10010	Cash in Bank - Account #1	-9631.22	-
13	'10015	Cash in Bank - Account #2	-11140.8	-
14	'10020	Cash in Bank - Payroll Account	21466.16	-
15	'10030	Marketable Securities	-6977.93	-
16	'10040	Accounts Receivable - Trade	-3601509	-
17	'10045	Allowance for Bad Debts	148811.4	1
18	'10050	Notes Receivable	-63023.6	-
19	'10060	Interest Receivable	-44689.9	-
20	'10070	Other Receivables	0	-
21	'10080	Accounts Receivable - Employees	-47578	-

In this SDESC function, the segment value is from column \$A, and the Company is always from cell \$B\$5. When cell references are done right, you will make reports where:

- all GL formulas are pasted from the first GL Formula; and,
- all SDESC formulas are pasted from the SDESC Formula.

With GL Wizard, you only need to type a single SDESC function.

The Report Wizard

The Report Wizard has two primary functions.

- It automatically creates a wide variety of reports.
- It acts as an aid to understanding how to create F9 formulas: reports created by the Wizard always make the best use of cell references.



The Report Wizard presents your general ledger to you as if it were a multiple dimensional database. In a multiple dimensional database, a report can be thought of as a two dimensional slice out of the database. The process of creating a report consists of selecting values from two of the dimensions to act as the horizontal and vertical dimensions — or axes — of your report, and providing values for the remaining dimensions. The Report Wizard can take any two-dimensional slice out of your multiple dimensional general ledger database to create a report.

Note:

In much of the following text, we use the phrase “axis” rather than “dimension” but they are generally synonymous.

The dimensions of an accounting system database are companies, budgets, years, periods and the various segments of your account code. Your account code consists of the natural account code, such as 1000 for cash, plus other segments such as subaccount, department, location, etc. Which segments are available depends on the accounting system, and are often configurable within an accounting system. That is, it is possible that company “A” may have a 5-segment account code and company “B” a 6-segment account code.

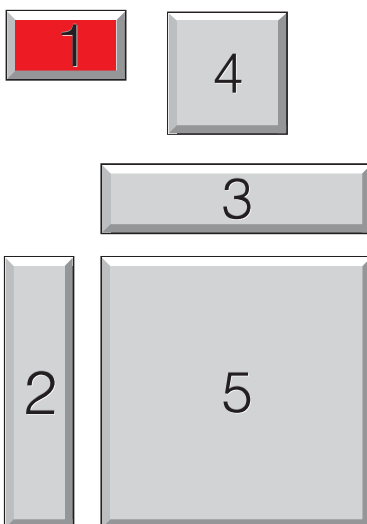
FIVE STEPS TO A REPORT

The five steps to this wizard are the same five steps required to create *any* F9 report. The principal difference is that while many F9 reports evolve from other reports, Report Wizard reports are all generated from the selections you make in the Wizard.

Each of the steps in creating a report are illustrated here and in the Report Wizard Dialog.

① *The Report Wizard will need to know what company you want to act as the Model Company. The Model Company will determine which axes the multi-dimensional database will have and the chart of accounts which will be used for all subsequent steps in the report creation process.*

② *In Step 2, you build the vertical axis, usually Accounts, but not necessarily. If you select Accounts, you must then select which accounts. If you select departments, for example, you must then say which departments.*



③ *In Step 3, you build the horizontal axis, usually periods, but not necessarily. After selecting what data will be on the axis, you select which items are used. If you select periods, you must then select which periods are present. If you want to use departments, you must then select which departments.*

④ *In step 4, you must select a value for the remaining axes... that is, the axes which do not make up either the vertical or the horizontal axes. Where ever possible, F9 will provide a list of available values.*

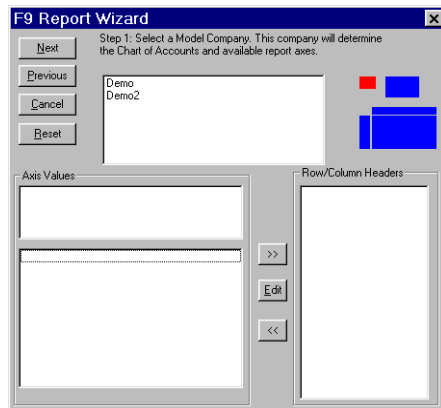
⑤ *In this step, you can provide a report title and set a number of other options. You can request that the report be created at the current cursor position, or on a new sheet. You can request that the report be created at the current position or on a new sheet. You can request that the Zero Suppress function be invoked on the report body after creation. You may also request that the Report Wizard execute a formatting macro*

A REPORT WIZARD EXAMPLE

Creating a report with the Report Wizard is a five-step process. As the Report Wizard walks you through each step of the report creation process, the report diagram changes colors to indicate which step in the process you are performing.

Open Report Wizard

- 1 Before you begin using the Report Wizard, open a blank spreadsheet.
- 2 Click the Report Wizard toolbar button. The Report Wizard dialog opens.

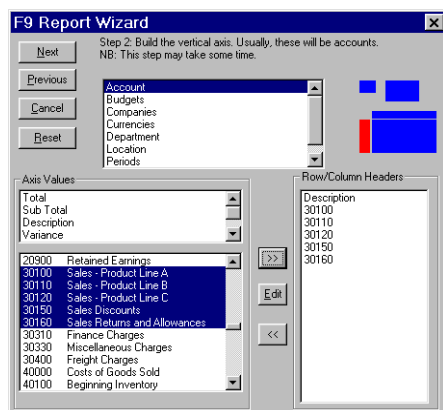


Select a Model Company

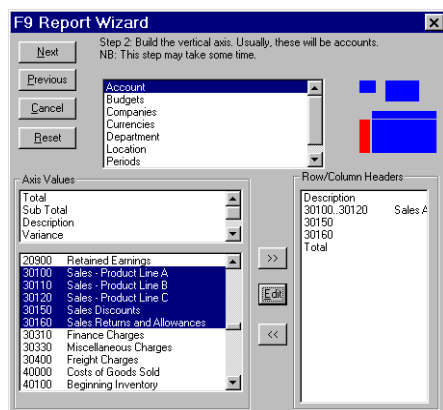
- 1 Read the text at the top of the dialog box.
- 2 Select a Model Company. In this example, the F9 Demo company is selected.
- 3 Click **Next**.

Create the Vertical Report Axis

- 1 Read the text at the top of the dialog box.
- 2 Select a parameter for the vertical axis. The axis list box contains a list of the dimensions available for reporting, such as by: account, period, products within departments (where the product might be a segment of the account code), or just a set of accounts. Most reports will use natural accounts as the vertical axis. For example, if you are preparing a monthly sales analysis, sales accounts would be the vertical axis and periods the horizontal. In this example, account is selected for the vertical axis.



- 3 After a brief pause, the Report Wizard builds a list of accounts for you to select from. The two **Axis Values** list boxes now contains a list of all the unique natural accounts from the Model Company. Select the accounts you are interested in.
- 4 Click the >> arrow button to move the selected accounts to the **Row/Column Headers** list box.
- 5 *Optional.* Add a **Total** line by selecting Total from the first Axis Values list box and clicking the >> arrow button to move it to the **Row/Column Headers** list box). At this point, the Report Wizard dialog box should look something like this:



- 6 Click **Next**.

Copying, Inserting and Removing Lines

- To copy lines, select the desired lines from one of the **Axis Values** list boxes. Click the >> arrow button. These new lines are added to the end of the list in the **Row/Column Headers** list box.
- To insert lines at a specific point in the **Row/Column Headers** list, select the line below in the **Row/Column Headers** list box. Then from the desired **Axis Values** list box, select the line(s) you want to add and click the >> arrow button. These new lines are added directly above the line you originally highlighted in the **Row/Column Headers** list.
- To remove lines, select the desired lines from the **Row/Column Headers** list box. Click the << arrow button. The lines are removed.

Standard Lines

Standard lines are found in the top **Axis Values** list box and include report items, such as: totals, subtotals, descriptions, variance, percentage variance and blank lines. Add and remove standard lines as described in the section above.

Tip:

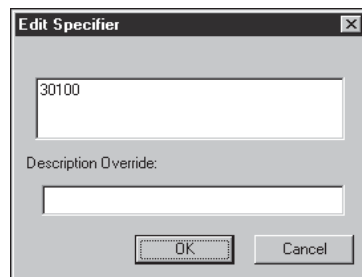
***Description**, as a row or column header, includes SDESC functions for account segments on the report's other axis. So, a Description column creates an SDESC function for the segment on each row. If a segment doesn't exist on the other axis, the cells are blank.*

Collapsing and Editing Lines

Once values have been added to the **Row/Column Headers** list box, they can be edited.

- 1 In the **Row/Column Headers** list box, select the line you wish to edit and do one of the following:
 - double-click on the selected line; or,
 - click **Edit**.

The Edit dialog box opens.



The screenshot shows a dialog box titled "Edit Specifier". It has a close button in the top right corner. The main area contains a text input field with the value "30100". Below this is a label "Description Override:" followed by another empty text input field. At the bottom of the dialog are two buttons: "OK" and "Cancel".

2 Modify the line.

For example, you selected Account 10100, but you want to see *all* accounts beginning with 101. Edit Account 10100 to 101*.

- When the axis is an account code segment, you can use ranges, lists and wildcards (*, ?).
- You can give this line a new description. The new description overrides the description F9 would otherwise return.

3 If:

- two or more consecutive lines are selected;
- the axis is an account code segment; and,
- **Edit** is clicked,

a dialog box opens, giving you the opportunity to turn the selection into a range. Click **Yes** and the Report Wizard automatically turns the selection into the appropriate range. You may also add an override description to grouped accounts.

Expanding Lines

When working with the vertical axis, you can expand a line based on one of the remaining axes. For example: you create a sales report by period; you have a single natural account 4000 for revenue; and the subaccount breaks sales down by product.

- 1 Expand a line — in this example, the sales line. Select the line in the **Row/Column Headers** list box.
- 2 Select Sub-Account in the **Axis Values** list box. All the Sub-Accounts associated with account 4000 appear in the bottom **Axis Values** list box.
- 3 Insert these lines under the Sales line in the **Row/Column Headers** list box.

Construct the Horizontal Axis

- 1 Read the text at the top of the dialog box.
- 2 Select the horizontal axis — in this example, Periods. Many period types appear in the bottom **Axis Values** list box.
- 3 From the top **Axis Values** list box, select Description. Then click the >> arrow button to move Description to the **Row/Column Headers** list box. Description will now be the first column of our report.
- 4 From the bottom **Axis Values** list box, select the periods for your report — in this instance, the first 3 months of the year. Then click the >> arrow button to move the periods to the **Row/Column Headers** list box.
- 5 From the top **Axis Values** list box, select Sub Total as the last column. Then click the >> arrow button to move Sub Total to the **Row/Column Headers** list box.

The Report Wizard dialog box should now look something like this:



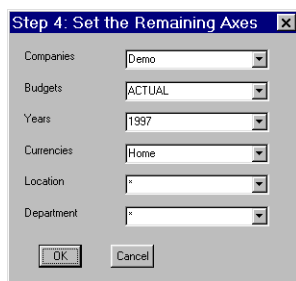
6 Click **Next**.

Determining the Remaining Axes

Still remaining are axes that are not part of the vertical or horizontal part of your report, such as: company, year, budget and other segments of the account code (location, subaccount or department).

- 1 From the Companies drop-down list, select a company. In most cases, this is the Model Company selected at the beginning of the Report Wizard.
- 2 From the Budgets drop-down list, select a budget type (if any).
- 3 From the Year drop-down list, select the year you wish to access.
- 4 From the Currencies drop-down list, select the currency you wish to use.
- 5 From the Location and Department drop-down lists, select the values you wish to use. These account code segments usually default to the "*" wildcard indicating "all values." In this example, the report will be for all locations and departments. In a different example you could select a department value of 100 — the sales report would be for one department only.

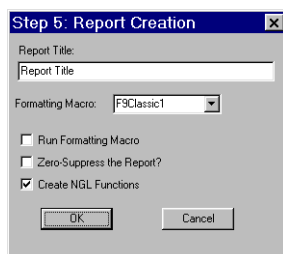
The values set here wind up in a collection of cells outside the main body of your report. The dialog box that appears will be different depending on which axes you selected in the previous two steps. Our example looks like this:



6 Click **OK**.

Completing the Report

Give your report a title, select where the report is built and use a macro you to format the report — F9 supplies a library of formatting macros or build your own.



1 In the Report Title field, type in the name of your report.

2 Use a macro to format your report. Do one of the following:

- From the Formatting Macros drop-down list, select a macro that automatically formats your report. Formatting macros are a collection of macros found in the spreadsheet called REPWIZ in the F9 directory.
- Create your own formatting macro. Open the file, REPWIZ, make a copy of one of the macros and customize it. Any macros you create are available to you in the Report Wizard after you save the spreadsheet.

Then click in the Run Formatting Macro checkbox.

- 3 Create the report at the current cursor position or on a new sheet (Lotus 1-2-3 only).
 - If your spreadsheet is blank, let the Wizard create the report at the current cursor location.
 - If your spreadsheet already contains data, select **Create Report on a New Sheet**; otherwise, the Wizard may destroy part of the current sheet's contents.
- 4 Click the **Zero-Suppress the Report** checkbox if you want F9 to hide rows or columns on the report where a zero value has been returned by the F9 function.
- 5 Click the **Create NGL Functions** checkbox if you want F9 to generate NGL Functions instead of GL Functions. This is particularly useful when working with income statement accounts.
- 6 Click **OK**. The example report looks like this:

Quarterly Sales Report				
Description	January	February	March	Sub Total
Sales, All Products	500,755.23	505,262.93	503,003.45	\$1,511,026.82
Sales Discounts	33,520.00	33,520.00	34,227.00	\$101,770.46
Sales Returns and Allowances	3,510.00	3,541.00	3,571.45	\$10,952.95
	-\$463,626.29	-\$467,797.90	-\$472,008.11	-\$1,403,431.30

The Report Wizard builds a hot-linked report — all the numbers are generated by GL functions created by the Wizard.

EDITING A REPORT WIZARD REPORT

If you want to modify your report, do one of the following:

- *Recommended.* Use your spreadsheet and edit using standard spreadsheet and F9 Functions. That is, if you want to add a new row, use spreadsheet functions to copy and insert another row.
- Use the Report Wizard. When you open the Report Wizard on a spreadsheet containing a Report Wizard report, the Wizard reads all the original settings right from the spreadsheet. Make only the changes you need to. Then select **Create Report on a New Sheet** in the **Step 5: Report Creation** dialog box and click **OK**.

5 – F9 Functions

This section describes F9's functions and how to use them. The spreadsheet component adds these functions *into your spreadsheet*. They can be used just like any other formula or function in your spreadsheet.

Functions are distinct from either commands or an F9 window. A function only returns a result or an error to a cell in your spreadsheet. Functions do not open windows. Commands are available from the F9 menu and they can open a variety of windows (See the next chapter).

F9 is generally used with a Windows spreadsheet, such as Excel or Lotus 1-2-3. Access F9's functions the same way you access your spreadsheet's functions. Functions retrieve data from one or more general ledger companies for a particular accounting system. The rest of this manual documents each F9 function as if it were being accessed using either an Excel function or a Lotus 1-2-3 function.

- In Excel, a formula is preceded by an equal sign (=).
- In Lotus 1-2-3, a formula is preceded by an at-sign (@).

Other than this minor difference, functions in Excel and Lotus 1-2-3 are identical.

F9 supports almost the same set of functions in each accounting system: GL, NGL, DESC and ACCTDATA and CODATA. This chapter documents the "generic" set of F9 functions. *Variations specific to F9 for your accounting system are documented in F9 online help.*

The last parameter to every function is the "topic." The topic is an internal name of accounting system that you wish to access. If you are using only one accounting system, you can ignore this parameter. If a topic isn't provided or only one accounting system is installed, the spreadsheet component automatically uses the default topic, "F9."

Note:

If you are not using a spreadsheet with a spreadsheet component (e.g., F9.XLL or F9.ADW), read Chapter 7: Advanced Features which explains the F9 communication process. If you require more advanced applications or wish to create Executive Information Systems, please contact Synex Systems.

In This Section

This section includes:

- Summary of F9 functions and function syntax
- Specifying accounts in functions
- Specifying periods in functions
- F9 functions used to produce account balances
- F9 functions used to produce account descriptions
- F9 functions used to produce department information
- F9 functions used to produce company information

TYPOGRAPHICAL CONVENTIONS

This section uses the following conventions to describe function parameters:

- italics* Supply the value or set of values for any of the parameters shown in italics. For example, when *acct* appears, specify the account(s) you want or the worksheet cells that contain the account(s).
- [] brackets Parameters within brackets are optional. Specify the parameter only. Do not type the square brackets themselves.
- () parentheses Enclose function parameters within parentheses for the function to work.
- , commas Separate function parameters with commas.
- “ ” quotes Enclose function parameters in double quotation marks unless the parameter is expressed as a reference to a cell or range of cells containing labels.

THE ABSOLUTE MINIMUM

The following four functions will help you produce the vast majority of your reports: GL/NGL, BSPEC, SDESC, and CODATA. These functions are covered in detail later in the chapter.

GL and NGL Functions

The GL and NGL functions bring specific account balances into your worksheet. They use the following parameters:

GL(Acct,[Period],[Company],[Year],[Type],[Currency],[Topic]]]]]]]

NGL(Acct,[Period],[Company],[Year],[Type],[Currency],[Topic]]]]]]]

They produce balances for the accounts, period, and company or companies specified in the formula or the Setup Dialog. The difference between NGL and GL is that the balance is returned with the sign reversed (negative becomes positive and vice versa).

BSPEC

The BSPEC function's sole purpose is to let you construct account specifiers *using cell references* — typically one cell reference for each segment of the account specifier. This is achieved by manipulating strings — specifically account specifier ranges and substitution lists — to add considerable power. For example, you want to create a column that sums two departments: all you have to do is change the contents of a cell from “100” to “100,150.” BSPEC successfully permits lists as a segment value into F9 formulas. BSPEC takes a list of segment values and an optional TSO Mask (explained later in this chapter):

BSPEC([TSO Mask],[Segment 1[, Segment 2 [, ...Segment N]])

BSPEC lets you deal with each account segment independently. Any account segment can be:

- a cell reference
- a financial entity
- a range of values in a segment
- a comma separated list of segment values
- multiple specifiers in a cell range
- wild card characters in any account part
- almost any combination of the above.

SDESC Function

The SDESC function produces the descriptions associated with segment values of the account code. Most account codes consist of at least two segments — and usually more. Often the account segments have specific meanings. For example, a four part account code might consist of the location, profit center, account and subaccount. In this example, each location code and profit center code may have a description associated with it (subaccounts don't usually have descriptions).

SDESC(Account,Section[,Company[,Topic]])

CODATA Function

The CODATA function returns a variety of data about the company. Using CODATA to build report headings, for example, lets you build reports which automatically display the company's name, current period, etc. These results let you maximize the usefulness of your reports.

CODATA(Data[,Company,[Topic]])

The CODATA function normally accepts requests for the following data:

Name	Main
Period	TSO
EndN	StartN
Year	Date
Origin (Accounting system name)	

These requests let you include data which changes for each company. For example, the full company name can be included in the report title.

Summary of Functions

Note:

All functions may not be supported by your accounting system. Some F9 products support additional functions — these are documented in the online help under F9 Functions. Instructions for opening Help files are in Chapter 6: F9 Commands and Windows.

PRODUCING ACCOUNT BALANCES

The GL and NGL functions bring specific account balances into your worksheet.

GL(Acct,[Period],Company[,Year[,Type[,Currency[,Topic]]]]])

NGL(Acct,[Period],Company[,Year[,Type[,Currency[,Topic]]]]])

GLTRAN(Acct,FromDate,ToDate[,Company[,Type[,Currency [,Topic]]]])

These functions produce the balance for accounts, period(s), and company or companies as specified in the formula or the Setup Dialog. NGL differs from GL in that it returns the balance with the sign reversed (negative becomes positive and vice versa). For example:

GL("0-0-1110-0","Current month starting balance","abc")

produces the opening balance for the current month for account number "0-0-1110-0" in the GL of company "abc." The GLTRAN function also produces account balances but it differs from the GL function in two ways:

- rather than using a period specifier, it uses a "From" and "To" date to indicate the period desired; and,
- GLTRAN calculates balances from account transactions, and not period balances.

Do not use the GLTRAN Function to produce net transactions for a fiscal period. The net transactions (or net change in balance) for any *fiscal* period can be obtained from the GL Function by using the word "transactions" or "change" in the period specifier. The GL Function is much faster than the GLTRAN Function for this purpose. Only use the GLTRAN Function when you need data for a period *other than* a fiscal period. By supplying a Type parameter of "Debit" or "Credit", the GLTRAN function can return just debit totals or just credit totals.

The GLTRAN Function is sometimes extremely slow compared to the GL Function, but it lets you create financial reports for *any* period (*e.g.*, you could produce a 1-week income statement).

PRODUCING OTHER ACCOUNT DATA

The functions described below let you bring specific descriptive account information into your spreadsheet. If an account specifier is used for any of these functions that matches more than one account, the descriptive information for the first matching account is returned.

DESC(Acct[,Company[,Year[,Type[,Topic]]]])

The DESC function produces the description of the specified account in the specified company. For example:

DESC("0-0-1110-0","abc")

produces the description of account number "0-0-1110-0" in company "abc" (e.g., "Cash In Banks"). If you specify more than one account, the description for the first account is displayed.

SDESC(Account,Section[,Company[,Topic]])

This function produces the descriptions associated with segment values of the account code. Most account codes consist of at least two segments — and usually more. Often the account segments have specific meanings.

For the following examples, assume a four-part account code that consists of: location, profit center, account and subaccount. Each location code and profit center code have a description associated with it (subaccounts do not usually have a description). To obtain the location description, use one of the three forms of SDESC:

- A complete account code:
SDESC("A-100-1000-0","1")
- A single segment value:
SDESC("A","1")
- A Multiple Segment Financial Entity:
SDESC("A-100","1")

where the "1" indicates that the SDESC Function should return the description for the first segment of the account — in this case, the location. Similarly, to obtain the profit center description, enter:

SDESC("A-100-1000-0","2")

Most accounting systems will not have descriptions for all segments of the account code. F9 Financial Entities help you to create new segment descriptions for your accounting system.

Note:

The DESC and SDESC functions are not the same. The results of DESC("A-100-1000-0") and SDESC("A-100-1000-0","3") are not the same. The DESC Function returns information about all segments (e.g., "Los Angeles - Administration - Cash + Megabank #300") while SDESC only returns one segment's meaning (e.g., "Cash + Megabank #300").

Multiple Segment Descriptions and SDESC

Version 4:

Some accounting systems allow subaccount codes that have a different meaning depending on what the main account segment is. In these systems, a particular account code and its subaccount codes are highly interdependent. In this instance, Financial Entities allow SDESC to recognize multiple-segment descriptions in order to provide accurate descriptions.

When using SDESC with multiple-segment descriptions, the “account specifier” parameter:

- must have more than one segment; and,
- must not include a complete account specifier.

In other words, a multiple-segment value description request must not satisfy either of the other two acceptable uses of SDESC previously described. For example, your accounting system uses two-segment description from a four-segment account number: to retrieve an SDESC description, you must provide at least two segments but you cannot provide all four.

When creating multiple-segment descriptions, create the financial entity for the *first segment* which the combined segment represents. For example, in a four-segment account code, the account entity is segments three and four. A multiple-segment description request is then created in segment three. In this way:

```
SDESC("20000-200", 3, "Demo")
```

returns “Mortgage - Atlanta Office.”

Since a multiple-segment description never uses the company’s default mask, the BSPEC requires a Text Substitution Operator such as:

```
SDESC(BSPEC("^-^", $A4, $B4), 3, "Demo")
```

More Info.

For a complete discussion on multiple-segment descriptions, refer to “Financial Entities” in Chapter 3: F9 — An Overview. For more information on creating multiple-segment entities, see Chapter 8: Editing Support Files.

ACCTDATA(Data, Account[, Company[, Topic]])

The ACCTDATA Function returns other account data. The meaning of the returned data is determined by the “Data” parameter. See the online help for a list of any special values this function might return (See “Getting Help” in Chapter 6: Commands and F9 Windows). The following values for Data are supported for most accounting systems:

Description	Returns the same string as the DESC function.
Type	e.g., Asset
Typical Balance	e.g., DR (Debit) or CR (Credit)
Origin	Balance or P&L

PRODUCING COMPANY INFORMATION

CODATA(Data[,Company,[Topic]])

The CODATA Function is similar to the ACCTDATA Function. Data about the company is returned. “Data” values that are supported by most accounting systems are:

Name	A user-friendly name for the company. Suitable for report titles, etc. E.g.,
The	XYZ Company
Period	This is the current fiscal period
Origin	The name of the accounting system
Date	The current fiscal date
Year	The current fiscal year
Main	The segment number of the main or natural account code segment
TSO	A TSO mask appropriate for the company, e.g., ^-^-^
StartN	The start date of fiscal period N
EndN	The end date of fiscal period N

The CODATA Function lets you include the current company values being used by F9 (e.g., the current period on a report for "this month"). If a company isn't supplied, F9 returns the values associated with the default company.

More Info.

The online help specific to your accounting system has more information about the information which can be returned by this function (See “Getting Help” in Chapter 6: Commands and F9 Windows).

OD(...) or OTHERDATA(...)

This function is always accounting-system specific and is only documented in the online help. (See “Getting Help” in Chapter 6: Commands and F9 Windows). For most accounting systems, this function is not available.

THE WRITE FUNCTIONS

We don't know all the uses you'll find for the GL writing functions. We do know that your spreadsheet can create a set of books — *any set of books* — and you can manipulate and analyse the numbers with the F9 GL Function and your spreadsheet.

Tip:

Before you use the WGL and WDESC functions, read about limitations described below, and about the use of account masks and specifiers which follow.

Write Function Limitations

Both WGL and WDESC share some important restrictions:

- the account specifier cannot include ranges or wildcards.
- the company specifier may be more restricted than when using the GL or DESC functions. See the Online help for your GL for details.
- only the **first** matching account is written to when a list of accounts is provided.
- the Type parameter cannot be "ACTUAL" as this has special status to accounting systems. Type can be any other valid type *for your accounting system*. Thus, if your system supports 1-3 budgets, so do these functions. If your system allows almost any type (*e.g.*, the F9 Datamart), so do these functions.

The WDESC function also has the following restriction:

- The WDESC function is not implemented for accounting systems which have a “global” chart of accounts; in these systems, changing an account description would effectively change an ACTUAL account and the write functions are not permitted to do that.

Note:

*Some F9 Version 4 implementations require additional steps to enable the functions. These steps will be documented in the online help installed with F9. Select **F9|DLL Help** to open the help window. Select **F9 Functions** within the help file and **GL Specific Help** to see information regarding your GL's implementation.*

The WGL Function

The WGL Function can write an amount to a pre-defined or user-defined general ledger. It is identical to an F9 GL function with the addition of an amount reference as the first parameter:

WGL(Amount, Account, Period, Company, Year, Type [, Currency [,Topic]])

The WGL Function looks the same as a GL function except that the “Amount” is normally an “off-sheet” cell reference. Using the sample worksheet, **Write.xls**, the WGL functions all appear on the sheet “WGL” and they refer to values on sheet “*pro forma*.” You can compare the GL and WGL functions by looking at the same cells on the “GL” sheet.

The parameters of the WGL function are intentionally similar to the GL function — with the addition of the "Amount" parameter. Write functions have fewer optional parameters because neither will write to "actual" which is the default type for most users. It is possible to use the default company and year by simply providing blank values. *i.e.*:

WGL(\$A3,A\$2,E\$11,"", "", "Budget")

The WGL Function's Account Specifier is restricted as described below. Financial Entities can be used within existing companies.

Note:

Depending on the accounting system, account descriptions and Financial Entities may not exist for future years. See your F9 online Help.

The most common use of the WGL function is to prepare budgets. Your spreadsheet now allows you to read a budget in, revise the numbers appropriately and write the budget into your GL. *See Chapter 9: Budget Writeback for more information.*

Setting the Account Origin in WGL

The account origin defines whether an account is intended for use on a balance sheet or income statement. It implies either that the account has a balance or that it's net transactions. Accounts default to P&L origin.

Specify a balance sheet account by adding ",B" to the type parameter of the WGL function. Thus, a "Budget" Type is from the P&L, and a "Budget,B" Type is from the balance sheet.

Tip:

Since the most common use of the WGL is expected to be budgeting, the default of P&L as an origin minimizes the need for this parameter. Remember to use a comma and not to use any spaces.

Using BSPEC with WGL

When used with the WGL function, BSPEC Functions may require the Text Substitution Operator (TSO). For instance, when a company is created, it *generally* does not have a default TSO (a WGL requirement; that is, WGL requires either BSPEC or the accounting system to provide a proper TSO). If the company does not exist in advance, BSPEC must provide a TSO.

Period Specifiers with WGL

The WGL Function accepts a comma-separated list of period specifiers. The amount specified is then written to *each* of the periods in the list, allowing you to calculate a quarterly budget and write the amount back to the GL with a function such as:

```
WGL(Round(G12/3),BSPEC($A$3,$A12,$a4$),"Month 1 Budget,Month 2 Budget,Month 3 Budget")
```

The above example takes a quarterly-budgeted figure; divides it by three; rounds off the pennies; and writes the result into each of the three periods. **Note:** the amount provided is written to each period, *not* a portion of it to each period.

The WDESC Function

The WDESC Function writes an account description to a user-defined GL. The syntax is identical to a DESC Function — with the addition of an account description as the first parameter:

WDESC(Description, Account [, Company [, Type [, Year [, Topic]]]])

The sample worksheet, **Write.xls**, includes a column of WDESC functions. It looks the same as a DESC Function except that the description should be an "off-sheet" cell reference. The WDESC Function lets you write a description that applies *only* to the complete account number.

Multiple-segment account codes can be built using BSPEC. Most users will use at least two segments (department and account) and a simplified chart of accounts. The WDESC function respects financial

entities so an account specifier can be created using the standard approach: BSPEC(“^_^”, “OfficeSupplies”, “Production”). F9 provides other methods to maintain and create Financial Entities which apply to discrete segment values.

One method of creating generic account descriptions is to include the financial entities as part of the worksheet, and then append them as qualifiers:

Data!B4 -> “Production”

Data!D4 -> “5072”

Data!D5 -> “OfficeSupplies”

Finally, in cell Write!D7, add the formula:

WDESC(Data!\$D5 & “ - ” & Data!\$B\$4, BSPEC(“^_^”,Data!\$D4,Data!\$B\$4),...)

Note:

While financial entities can be used to create descriptions, the WDESC function cannot be used to create financial entities which are related to the SDESC function.

Account Specifiers

Since Write functions only write to a single account, the Account specifiers for these functions are limited in several significant ways. This means that:

- specifiers which use ranges and/or wildcards return errors.
- specifiers which use one or more lists will write **only** to the first matching account. The first segment value in each list is used. *No other error message is returned.*

These limitations remove the ambiguity of writing data.

Write functions can use Financial Entities which exist for the company they are writing to — when you are creating or revising a budget, for example, all of the Financial Entities for that company can be used. Creating a company, however, Entities don’t exist yet; therefore, account segment values must be used. The Financial Entities used by Write functions must be simple, Natural Entities; they must resolve to simple segment values without wildcards or ranges.

Account specifiers are limited by the source accounting system’s rules for the company you are writing to. For example, the F9 Professional GL allows a company to be created with a great deal of flexibility. Many other accounting systems limit the number of budgets, segments and/or characters per segment. The rules of your system apply.

Account specifiers must always be consistent within a company. It is possible to create account specifiers for a Write function which are not consistent with the company’s account specifier. If a company is being created using Write functions, the first cell calculated by the spreadsheet will determine the account number style — any account numbers which are calculated later and do not conform to the account number style will fail. If a company already exists, the account number style is already defined and non-conforming Write functions will fail.

Function Parameters

The parameters used in F9 functions are as follows:

Parameter	Description
Acct	Account specifier <i>See Specifying Accounts below.</i>
Range	A valid range of cells or the name of a named range of cells. Can also refer to a segment value which uses a range in the form of start..end. <i>See Specifying Accounts below.</i>
List	A comma-separated list of text for substitution into account specifiers. <i>See Specifying Accounts below.</i>
Period	Period specifier. <i>For details, see Specifying Periods below.</i>
Dates	The GLTRAN function takes two dates as parameters: a From date and a To date. These dates may either be labels or cell references to cells containing either a label or an actual spreadsheet date (i.e., a Julian date). If you are using a label, use the format DDMmmYY (or DDMmmYYYY), such as: 21Jan95.
Data	The CODATA and ACCTDATA functions take a string that identifies the data to be returned. The available data depends on which accounting system you use. For companies, Data might be "Name," "Date", etc. For Accounts, Data might be "Type," "Description," "Typical Balance," etc. <i>Refer to the F9 online help for a complete list of supported data items.</i>
Company	Company specifier (this is usually a directory entry, a file name or an company number) — see the F9 online help for your accounting system.
Year	Year to be considered the base year. It determines what "this year" means in a period specifier.
Type	The account type to access — usually a budget identifier that determines what the word "budget" refers to in the period specifier. In GLTRAN, the Type is one of the following: "debit," "credit" or blank (to produce the net of debits and credits).
Text	Either text surrounded by quotation marks, or a reference to a cell containing a label. This is used by the WDESC function.
Currency	An accounting-system specific value to handle multiple currency general ledgers.

Cell values which do *not* begin with a math operator or a number are assumed by your spreadsheet to be text and do not need explicit quotes; if the cell begins with a number or a mathematic operator, add either one single quote or a pair of double quotes to the text. For example, when specifying account number 0-0-4550-0, enter "0-0-4550-0".

Tip:

When using double quotes, always use pairs — your spreadsheet ignores them but F9 expects them to be paired. Use double quotes in the case of financial entities which have hyphen characters within the entity: for example, "Mortgage - Los Angeles."

Refer to the individual function descriptions for the default values and parameters available for each function.

Using Default Parameter Values

Function parameters tell F9 what information you desire. For example, a basic GL formula would be:

	A	B	C	D
1	Company 1		Month 1	
2				
3	1000-100-3		=GL(\$A3,C\$1,\$A\$1)	
4				

Sometimes it's desirable to use default values. To use a parameter's default, do one of the following:

- If you aren't specifying any *following* parameters, leave it out (except Lotus 1-2-3 '97).
- If you are specifying *following* parameters, type in a pair of empty double quotation marks. F9 then uses its default value for the parameter. A single quote will not work in this instance.

Manipulate default values in the F9 Setup window. For example, use the default period of "this period":

GL(\$A3, "", \$A\$1)

Or, compare account balances between this year and last year using the default period and company:

GL(\$A3)

GL(\$A3, "", "", "Last Year")

If you do not specify a parameter, F9 uses an available default or returns an error message.

1-2-3 '97:

F9 Version 4 does not allow variable parameter lists. This means each parameter must be present — even if it is blank (unlike F9 for Excel or previous 1-2-3). To use the default value for a parameter to any function, provide a dummy parameter of "".

ACCOUNTS SPECIFIERS

For each accounting system, F9 uses different account codes. Some accounting systems use a two-part code, some a four-part code. Some are all numeric, others allow a mix of alphabetic and numeric characters. Still other accounting systems allow the account code to be customized on a company by company basis.

This manual uses a four-part code in all of the examples that follow. You should use a code appropriate for the accounting system and company you are referencing.

Specify an account parameter in an F9 function in one of three ways:

- Directly enter one or more account specifiers in double quotes into the formula, *e.g.*, GL(“A-1000-100”,...).
- Enter one or more account specifiers into a cell and reference the cell then reference the cell in your GL formula, *e.g.*, GL(\$A21,...).
- *Recommended.* Build one or more account specifiers from several cells using BSPEC, *e.g.*, GL(BSPEC(\$B\$4, \$A21,\$B\$5),...). This method allows you to easily edit and update a report. Also, use Financial Entities rather than discrete segment values.

Using Single Account Numbers

You can enter single account codes just as in the accounting system. You must supply all parts of the account code. For example, you might enter:

GL(“100-0-1110-0”)

or, enter “100-0-1110-0” into cell A5, and use:

GL(\$A5)

This method is appropriate for reports such as a balance sheet which requires little modification. For other reports, this method is somewhat inflexible and limiting; instead, use BSPEC to reference a different cell for each segment rather than using complete account codes.

Using Multiple Account Specifiers

F9 provides several tools for specifying multiple accounts. These include:

- Lists of account specifiers. Using BSPEC, lists can be applied at the segment level.
- Wildcards which allow selections based on specific characters in a segment.
- Ranges which allow selection of consecutive accounts based on a segment’s start and end values.

Note:

*Lists actually apply to complete specifiers, whereas wildcards and ranges apply to segments. To use lists with segments, you **must** use BSPEC. BSPEC result allows other F9 functions to generate all of the permutations of the account number using the list(s). See The BSPEC Function later in this chapter for more information.*

Using Lists of Accounts

You can also enter combinations of the above types of specifiers, separated by commas in a function. For example, the following is allowed:

```
GL("0-0-110-0,*-*-1210..1299-*,*-*-510*-")
```

The entire combination of account numbers must be enclosed in quotation marks. Once again, cell references are always preferable to entering account specifiers directly into a function. You may enter account specifiers as a comma separated list into one cell, or enter them into a series of cells and refer to the range.

For example, if you entered the following as a label into cell A10:

```
0-0-110-0,*-*-1210..1299-*,*-*-510*-
```

then you would use a function such as:

```
GL(A10,"this month")
```

to access the data desired. Equivalently, enter the following labels into cells A10, A11, and A12:

```
0-0-110-0
*-*-1210..1299-
*-*-510*-
```

and use a function such as the following to access the same balance:

```
GL(A10..A12,"this month")
```

Using Wild Card Characters

Both the asterisk (*) and question mark (?) wild card characters can be used in an account part.

- An asterisk means that any combination of characters — including no characters at all — can occupy that position in the specifier. For example: 2*2 matches 22, 202, 212, 222, 232, *etc.* as well as 2002, 20012, *etc.*
- A question mark means that any single character can occupy that position in the specifier. For example: 1?1 matches 101, 111, 121, 131, 141, *etc.* It does not match 11, 1231, or 12341 as an asterisk would.

For example:

```
"100-*-41*-0"
```

means match all accounts where part 1 equals 100, part 2 can be anything, part 3 must begin with the digits 41, and part 4 must be 0.

Specifying a Range

When you specify a range of accounts, F9 searches through the chart of accounts for matches and totals the balances for the period requested. The final total is returned as the result of the function. Any part of the account code may be a range.

To specify a range, separate the beginning and end of the range with two periods. For example, “1110..1150” means match all accounts where the value of that segment falls between 1110 and 1150. When a range is inserted into a complete account specifier, it is inserted as a segment value. For example:

“0-0-1110..1150-100..200”

This specifies all the accounts where part 1 is zero, part 2 is zero, part 3 falls between 1110 and 1150 and part 4 falls between 100 and 200.

Note:

Do not use wild card characters in any segment that uses a range. That is, the following is disallowed: “0-0-1110..11-0” You can use wildcards and ranges within a specifier, but not within a segment. For example, “0-*-1110..1150-100..200” is allowed because the wildcard is in a different segment than either of the ranges.*

Using Financial Entities

Financial Entities are names for individual and collected segment values in your accounting system. For example, many accounting systems have a segment for “Location” or “Project” which subdivides the chart of accounts. Each value in these “Location” segments is an “entity” which the accounting system accumulates information about. Using F9’s Financial Entities lets you refer to the entities within the accounting system by a name rather than their code.

Tip:

This section only describes how Financial Entities are used. For information on how to create or edit Financial Entities, refer to Chapter 8: Editing Support Files.

There are several types of Financial Entities. The summaries which follow are expanded later in the chapter.

The simplest Financial Entity is a *natural Financial Entity* which generally indicates the entity was imported from the accounting system as a *subaccount description* for a particular segment value. Natural Financial Entities can be manually created for systems which do not support subaccount descriptions.

Second are *user-defined Financial Entities*. These are entities which add new concepts to the system. A user-defined financial entity can define:

- an alternate (or new) description for any segment value so your reports become more legible.
- a list of other entities. *e.g.*, an entity of “Texas” can include all the locations in that state.
- a segment specifier with a range. *e.g.*, an entity of “Shareholder Equity” can be defined as “20700..29999”
- a segment specifier with a wildcard. *e.g.*, an entity of “Cash” can be defined as “101*” or “Assets” can be defined as “1*.”

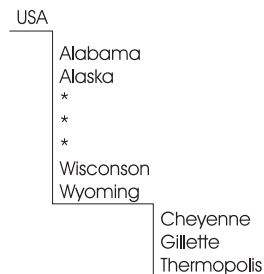
The final type of financial entity is a *multiple segment description*. This is useful for a limited number of accounting systems and should be very useful to the few who need it. Essentially, these systems have subaccount segments which change meaning depending on the main account. The SDESC function allows partial account codes to match several segments to return descriptions.

Natural and User Defined Entities

An “Assets” Entity can be defined for a segment value of 1*. Using this to its logical extent, an entity can be defined for each of the major Balance and P&L sections. A spreadsheet can then perform a trial balance with either of these calculations:

GL(*-Assets-*)	GL(*.1*.)
GL(*-Liabilites-*)	GL(*.2*.)
GL(*-Equity-*)	GL(*.3*.)
GL(*-Income-*)	GL(*.4*.)
+GL(*-Expenses-*)	+GL(*.5*.)
0	0

This simple example shows how Financial entities can improve report quality. Financial entities can contain any abstract collection or group of specifiers; for example, in an accounting system where each location has a special value for a segment, you can then define a state to include all the locations within the state. Going one step further, define a series of sales regions which are each a group of states. Then, when a new location is opened, you can add it to the state entity’s list — and the sales region immediately includes it too. The example below shows how a set of Financial Entities could model your geographic distribution:



Using this model, to add a location in Rawlins, Wyoming, do the following:

- 1 Create a Financial Entity of Rawlins, which is a specific value of the “location” segment.
- 2 Edit the Wyoming Financial Entity so it now specifies: Cheyenne, Gillette, *Rawlins* and Thermopolis.
- 3 The Financial Entity USA automatically inherits the members of Wyoming.

For some accounting systems or charts of accounts, it may be even simpler. If your chart of accounts uses two digits of a segment to encode the states (e.g., 01-50), and the other two digits to encode the city (e.g., 01-99), then Wyoming could simply be 50*. All you need to do is create a Financial Entity called “Rawlins.”

Multiple Segment Descriptions

Multiple Segment Description financial entities are not often used. In some accounting systems, the subaccount has a meaning specific to the account. For example, the subaccount value “100” may mean “Soy beans” for a particular asset account and “Pick-up Trucks” in an expense account. For these systems, F9 now supports multiple segment entities so users can provide the account and subaccount to either GL or SDESC functions and have the segments return useful values.

The following rules apply:

- When using a multiple segment description with SDESC:
 - provide more than one segment *and* less than the complete account number; and,
 - provide the segment number of the *first* segment of the entity.
- To use a multiple segment description as a Financial Entity, the segments of the description must be consecutive segments of the account code, and the segments must be in the same order as the account code. *e.g.*, For account A-B-C-D, the description of B-C would be useful as a financial entity, but B-D or D-C would not.
- when using a multiple segment description as a Financial Entity, BSPEC will often require an adjusted TSO mask since two segments of the accounting system are being provided as one parameter. See *The BSPEC Function* later in this chapter for more information.

Multiple segment entities are user defined. See *Chapter 8: Editing Support Files* for information on editing Financial Entities.

Financial Entity Restrictions

Depending on your accounting system, Financial Entities may contain some of the following restrictions.

- Financial entities are often sensitive to the default Type and Year in the F9 Setup window.
 - If a default Year is selected in F9 Setup, the only entities imported for that accounting system will be those accounts with balances in the current year.
 - If an account Type is specified which has only a few entries (*e.g.*, using the type “Budget A”) where only a few accounts have actually been entered, the list of entities will be much shorter than if you select Actual as the default Type *and* the current or past year is selected as the Year parameter.
- Financial Entities can be natural or user-defined. Natural entities are imported from the accounting system as subaccount descriptions and may be very numerous. Some accounting systems do not store descriptions at this level but do store descriptions for the complete account. There are few, if any, natural Financial Entities in this case. Financial entities *do* allow you to define entities for the missing subaccount descriptions.
- Financial entities *should not* use certain characters — including hyphens. If you define an Entity using one of these characters, F9 tries to interpret the Entity quite differently than it does without these characters. For example, F9 considers “Sales - Electronics” to be *two* segments of data rather than one and generates errors about segments being too long, invalid characters, or too many

segments. If you must use these characters to define an Entity, enclose the strings in double quotation marks — the single quote used to make labels is not enough. For instance, the following will not work in a cell referenced by F9:

'Sales - Electronics

But this Financial Entity will work correctly in a cell referenced by F9:

"Sales - Electronics"

Tip:

When using double quotes, always use pairs — your spreadsheet ignores them but F9 expects them to be paired. Use double quotes in the case of financial entities which have hyphen characters within the entity: for example, "Mortgage - Los Angeles."

Referencing Cells—The Preferred Method

The most efficient way to specify accounts is to reference a cell or range of cells containing account specifiers for a variety of reasons.

- Using a single cell or two to specify accounts allows several columns to contain GL functions and use the account in several ways (*e.g.*, comparative or multiperiod reports). The single list of accounts is less prone to error than repeatedly typing the same specifier onto a spreadsheet.
- As well as providing a visual reference point, referencing existing cells reduces the number of times a worksheet will need to be modified if you want to use the same worksheet for reporting on different accounts, departments and/or companies.
- You can use absolute, relative and mixed cell referencing. As well, you may use the Concatenation Operator to join two cells. This is especially useful for developing period specifiers. See your spreadsheet manual for details of the referencing methods available.

The next level of control for a spreadsheet comes when you use BSPEC and cell references.

The BSPEC Function

The GL function has only one parameter for the account specifier — often, a problem! For example, you want to create a departmental income statement where each column in your report is a separate department but having only one parameter for the account specifier means assembling the specifier *before* an F9 function can use it.

But apply F9's report building logic and build part of the account specifier in one cell — usually the “natural” account code in a cell on the same row and to the left — and build part of the account specifier in another cell — the department number at the top of the column.

This is where the BSPEC function comes in to play. The BSPEC (**B**uild **SPEC**ifier) function has one primary role: **it lets you use cell references for each segment of the account specifier**. Your single parameter account specifier can now be replaced with the more flexible:

GL(BSPEC(\$A10,\$C\$2,\$B10),"This Month")

BSPEC([TSO Mask,]Segment 1[, Segment 2 [, ...Segment N]])

BSPEC lets you:

- use a separate cell for each of the segment values
- specify any single segment value only once on a spreadsheet
- specify a financial entity
- specify a range for any segment
- specify a comma-separated list of segment values (lists of values is a major feature of BSPEC)
- specify multiple specifiers in a cell range
- use wild card characters in any account part
- almost any combination of the above.

BSPEC adds considerable power to your specifiers. BSPEC also manipulates strings — specifically account specifier ranges and substitution lists. Its sole purpose is to allow you to construct account specifiers *using cell references* — typically one cell reference for each segment of the account specifier. For example, if you wish to create a column that summed two departments, all you would have to do is change the contents of a cell from “100” (for example) to “100,150”. BSPEC successfully permits lists as a segment value into F9 formulas.

Another example of how BSPEC makes your reports more efficient is seeing multiple lists in action. Suppose you are using a four-part account code, with the parts divided into location, department, account and subaccount. You want the balance for: Locations A and 7; Departments 100, 225 and 777; Product Accounts 4001 and 4127; and Sales Representative Sub-accounts 202, 305 and 666) — all to appear as a single number in your sheet. Because of the “choppy” nature of the request — accounts, sub-accounts, locations, *etc.* — and because the request is not easily represented using ranges or wildcards, each account would need to be listed. The complete list of $2 \times 3 \times 2 \times 3 = 36$ accounts is as follows:

A-100-4001-202
 A-100-4001-305
 A-100-4001-666
 A-100-4127-202
 A-100-4127-305
 A-100-4127-666
 A-225-4001-202
 A-225-4001-305
 A-225-4001-666
 A-225-4127-202
 A-225-4127-305
 A-225-4127-666
 A-777-4001-202
 A-777-4001-305
 A-777-4001-666
 A-777-4127-202
 A-777-4127-305
 A-777-4127-666
 7-100-4001-202

7-100-4001-305
 7-100-4001-666
 7-100-4127-202
 7-100-4127-305
 7-100-4127-666
 7-225-4001-202
 7-225-4001-305
 7-225-4001-666
 7-225-4127-202
 7-225-4127-305
 7-225-4127-666
 7-777-4001-202
 7-777-4001-305
 7-777-4001-666
 7-777-4127-202
 7-777-4127-305
 7-777-4127-666

This is a difficult list to enter: the risk of overflowing F9's internal buffers and the risk of error is high. The same accounts can be accessed using the following account specifier:

`(A,7)(100,225,777)(4001,4127)(202,305,666)`

which can be returned from BSPEC with:

`BSPEC("A,7","100,225,777","4001,4127","202,305,666")`

or better, from a BSPEC which references four cells with those values.

Tip:

Use the TSO and BSPEC functions together to build any account specifier imaginable. Add Financial Entities to make your formulas faster, more understandable and more powerful.

To use the full power of BSPEC, use the TSO mask. For instance, if your company used a four-segment account mask:

`^_^_^^`

and cells E1 and E2 are a named range called "Locs" and contain:

A
7

and cells F1, F2 and F3 are a named range called "Depts" and contain:

100
225
777

and cells G1 and G2 are a named range called "Accts" and contain:

4001
4127

and finally, cells H1, H2 and H3 are a named range called “SalesPersons” and contain:

202
305
666

then this BSPEC function:

BSPEC(Locs,Depts,Accts,SalesPersons)

would return the string:

“(A,7)(100,225,777)(4001,4127)(202,305,666)”

This string is a valid account specifier consisting of four corresponding substitution lists to be used in a GL function, such as:

GL(BSPEC(Locs,Depts,Accts,SalesPersons),“this month”)

When used this way, the GL function provides the correct (four segment) TSO mask for the company. The result of this GL function is the same as if you had used the same list of 36 account specifiers listed above. And now, if you want to add a salesperson, *edit one cell*. When you consider that F9 reports easily use hundreds of accounts, the power of cell references is very clear.

Note that each segment of the account specifier is now a separate cell reference!

In the example, separate cells for each segment value (*e.g.*, the sales persons requested were in cells H1, H2 and H3) were used and then referred to the cell range: it is more convenient to list the values desired in a single cell (*e.g.*, cell H1 could have contained the string “202,305,666”) and then just refer to that one cell, rather than a range.

The Text Substitution Operator

The combination of the TSO and the BSPEC function makes creating complex account requests easy. To use F9’s text substitution features, supply account specifiers with TSOs inserted at appropriate places, and one or more text substitution lists into the specifier.

Version 4:

The TSO is now an optional parameter of BSPEC and the majority of our users may never need to provide a TSO; however, many users will still benefit by using a TSO — and all users should read the discussion below. See An Illuminating BSPEC Case Study later in this chapter for why you may still want to provide a TSO.

Tip:

Query the TSO by using the keyword “mask” in the CODATA function.

The following account specifiers are valid and equivalent parameters to GL or SDESC:

A-100-4000-200
(A)(100)(4000)(200)
^-^-^-(A)(100)(4000)(200)

The first example is a “normal” account specifier. The second is the result of BSPEC *without* providing a mask parameter, and the last is the result of BSPEC with a mask parameter. The mask in the second example is implied by the company specified. The examples show that account specifiers can consist of a mask (“^_^_^”) and a set of values to be substituted into the mask — one set per TSO. F9 internally resolves the mask and returns useful account specifiers.

The values in each of the lists, known as substitution lists, are substituted into the TSOs — ^ — each, in turn, producing a multiplier effect. The first substitution list “(A,7)” is associated with the first caret; the second list with the second caret, *etc.* Each substitution list is enclosed in parentheses. In this case, the list of lists is enclosed in parentheses as well, although this is not strictly necessary. With this BSPEC/TSO specifier, F9 not only generates the same list of account specifiers shown above also produces the same balance. The number of substitution lists should match the number of TSOs. A list may be only one item long. That is:

```
^_^_^^(A)(100,225,777)(4001,4127)(202,305,666)
```

and

```
A_^_^^(100,225,777)(4001,4127)(202,305,666)
```

are equivalent. In these examples, the carets — ^ — represent full parts of the account code, but that is also not necessary. For instance:

```
A^-4^-^(100,225,777)(001,127)(202,305,666)
```

You can use ranges and/or wildcards in either the specifier or in the substitution lists:

```
A^-4^-^(2*)(001,127)(202..208,305)
```

Using F9’s TSO in conjunction with BSPEC virtually eliminates the need to use the string Concatenation Operator(&) to build account specifiers. BSPEC is used to build account specifiers that use TSOs.

Important!

Ensure that the account specifiers that are created using F9’s TSO functionality are acceptable to the accounting system being accessed.

BSPEC’s first parameter is the optional “mask.” The mask contains TSOs — usually one per segment of the account code. The remaining BSPEC parameters are substitution lists — one per TSO in the mask. As with all F9 functions, BSPEC’s parameters will be cell references. **Use the BSPEC function with all your GL functions** — your spreadsheet reports will be at their most dynamic. See the example sheets shipped with F9 for examples of TSOs and BSPECs in action. The Report Wizard also produces GL functions that use the TSO and the BSPEC function.

Note:

Do not create named ranges or macros with the same names as F9 functions or commands. They may disable the function or command.

An Illuminating BSPEC Case Study

Susan is the marketing manager of Best Way Furniture Corporation. Best Way constructs a full line of office and home furniture with factory/stores in Vancouver and Montreal. Susan and Arthur Dent, her accountant, use a popular PC-based accounting system to manage the business. Years before, they created a chart of accounts for the GL in order to model their company. The chart of accounts had balance sheet accounts for assets and liabilities. The accounts in the profit and loss portion of the chart of accounts defined each furniture product.

Susan and Arthur discussed ways to better their GL. They determined that there were several product variables that would be useful in analyzing product sales:

- Color;
- Covering material (leather or fabric);
- Location (Vancouver or Montreal);
- Construction material (*e.g.*, steel or wood);
- And if the purchase was for home or office use.

Currently, one account existed for each of the thirty products they produced. Her thought was to use the subaccount of their two-segment account code to encode the above information — using one character in the code for each of the items above. This way, Arthur could create a variety of reports, such as a report on color by location for a specific product — or for all products.

Arthur was reluctant. He explained that while he could create the accounts (some 3,800 accounts for every possible combination) and post to them, obtaining the reports would be extremely expensive. The accounting system's report writer didn't have the capabilities and the only other way to create the requested reports would be to: import all the P&L accounts into a spreadsheet; sort the entries; and then use sum functions to create the 20 numbers. But each of those numbers would be the sum of 16 balances. Each report might take hours to create and each would have to be recreated from the ground up whenever a new account or new product was added to the GL, throwing off the cell references.

The proposal was abandoned.

Months later, Best Way purchased F9 in order to develop a suite of financial reports. They understood that F9 reports are developed in the spreadsheet and are essentially “set and forget.” After setting up the usual financial reports, they looked into the TSO (Text Substitution Operator) and how it worked with the BSPEC function. They discovered that using a TSO mask of “^_^” (for a two-segment account code) was not the only option. The mask could be used to, in effect, artificially segment an account code segment. That is, using a TSO of the form:

^_####

would let them treat the second account code segment — the subaccount — as if it consisted of multiple segments. The BSPEC Function could then use a separate cell reference for each character (as in the example above) of the subaccount.

Susan and Arthur realized their earlier reporting and analysis goal was now attainable. Using F9 with a TSO, they could easily construct the Color versus Location report for one or many products — and the report would be “set and forget!” It would automatically integrate every new account as it was added. In fact, any analysis

of sales by color, material, location, *etc.* would be easy. All they had to do was place — either as row or column headers — the individual characters for the attribute they were interested in (just like they would with a Period Specifier). For instance, they could use column headers such as “V” for Vancouver and “M” for Montreal and then reference those cells in their BSPEC Function. Unlike the BSPEC functions they used for their more prosaic F9 reports which had three cell references — one for the mask and one for each segment of the account code — their new BSPEC Functions would use the five-caret TSO mask illustrated above and have six cell references: one for the mask, one for the main account code segment, and one for each character in the segmented subaccount.

With F9, there were many ways they could enhance their chart of accounts to model their company in more detail.

Caution!

In the example above, each character had only a few unique values (e.g., “V” for Vancouver and “M” for Montreal). If the number of characters and the number of unique values for each character is increased—even slightly—the number of possible unique sub-accounts and, therefore, accounts in the chart of accounts, can rise exponentially into the tens or hundreds of thousands.

There is no point in gathering data — in this case, as sales breakdown information in the chart of accounts — if there is no practical way to query that data and improve your business. By using F9 and their favorite spreadsheet, Best Way turned their GL from just a source of financial information into a sales and marketing database as well.

PERIOD SPECIFIERS

Specify periods in F9 functions either by:

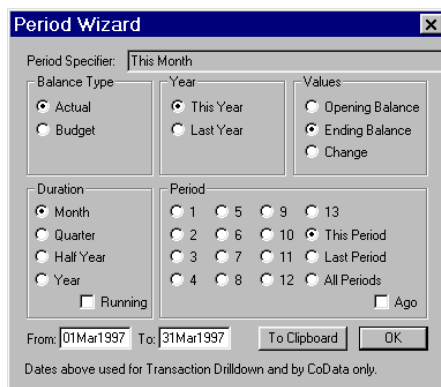
- entering a period specifier directly in the function;
- referencing a label cell or range of label cells that contain the period specifier. *Recommended.*

Using a subset of English, Period specifiers describe a value in the GL.

- Specify the length of the period for which you want a value, the type of value you want and several other parameters — all using standard accounting terms.
- Specify only those parameters which deviate from the default.
- Use capitals or lowercase characters.
- Abbreviate a period specifier keyword to any length so long as it remains unique among the recognized keywords. Thus, abbreviate “budgeted” to “bu,” “bud” or “budget” since no other specifiers start with these sequences of characters but don’t abbreviate it to “b” since “b” might also mean “balance.” This is why keywords like “months” are in the plural form: either the plural or the singular can be used since the singular is just an abbreviation for the plural.
- If a period is not specified, F9 defaults to “balance for the current period of this year.”

The Period Wizard

Explore period specifiers using the Period Wizard. From Chart or Drill, click **Period** to open Period Wizard.



The Period Wizard displays all the possible combinations of period keywords. After selecting your Period options, do one of the following:

- Send the period specifier(s) to the Clipboard. Click **To Clipboard**; or,
- Send the data to the period specifier of the current window. Click **OK**.

Note:

F9 may support special keywords specific to your accounting system. Refer to the F9 online help for additional allowable period keywords.

Periods Quick Start

The following discussion assumes 12 or 13 periods per year.

- F9 is pre-set to produce balances for Balance Sheet accounts and transactions for Income Statement accounts.
- For P&L accounts where an amount for a period other than a month is required, use the keywords “quarter,” “half year” or “ year.” *The word, “balance,” carries no meaning for a P&L account.* Therefore, if you want the total income for the year (up to month 6), use a Period Specifier such as, “year to date month 6.”
- For Income Statement accounts, transactions and balances are equivalent. Thus, the keyword, “transactions,” is useful only in producing changes in balance for Balance Sheet accounts.
- The keyword, “running,” causes F9 to ignore year boundaries. Thus, “running quarter” sums the current month and the preceding two months whereas “quarter” sums up to three months of the current fiscal quarter.
- The keyword, “running,” *always* implies transactions.
- The keyword, “year,” causes F9 to use the entire year up to and including the present period unless another period is used to override.

The following tables provides some examples of period specifiers and their interpretations.

Period Specifier	Description
this month	<i>Balance Sheet Account:</i> balance for this month. <i>P&L Account:</i> transactions for this month.
prior month	Balance or transactions for last month.
month 5 change	Transactions for Month 5.
budget month	Transactions or balance for budgeted account this month (if available).
last year	Balance at the end of -- or total transactions during -- the whole of last year.
last year this month	Balance or transactions for this month last year.
running quarter month 6	Total transactions during the months 4, 5 and 6.
running halfyear month 3	Total transactions for Periods 10, 11 and 12 of last year plus periods 1, 2 and 3 of this year.
year	<i>Balance Sheet Account:</i> the balance for this year, this month. <i>P&L Account:</i> the total transactions for this year to date.
year to date last year	Balance or transactions for all of last year.

In addition to the keywords listed below, F9 recognizes at least the numbers 1 – 13 as referring to Periods 1 – 13. In the tables below, the default keyword is **bolded**. If, for example, you decide not to specify a period type specifier, the Type defaults to **periods**.

Time Specifiers

Use these keywords to indicate which period you want to take data from — if it is not the current period. Note that in the following, *period* is month, period, quarter, halfyear, or year.

Time Specifier	Description
period	The current calendar period of size period.
last period	The period before the current one (i.e., “last year” or “last month”).
n periods ago	<i>n</i> periods before the current one, where <i>n</i> is 1 through 13.
period n	Period number <i>n</i> in the fiscal year, where <i>n</i> is 1 through 13.
January, February	The names of the months may be used to specify periods.
running period	The last period, regardless of calendar boundaries (for example, in month 11, “quarter” would give you months 10 and 11 to date, whereas “running quarter” would give you months 9, 10, and 11 to date).

Tip:

Note the difference between the “month 1” and “1 month” specifiers. “1 month” implies the modifier “ago” and is relative to the current fiscal period. “Month 1” is the first period of the current fiscal year.

Duration Specifiers

Use these keywords to indicate to F9 the size of the period for which you want data.

Duration Specifier	Description
period	The length of time your company uses as its base fiscal period.
months	A period of time one month in length.
quarters or qtrs	A period of time three (or four) months in length.
halfyears or semiannually	A period of time six (or seven) months in length.
year or yrs	A fiscal year, regardless of the number of periods it comprises annually.

Future Specifiers

Many accounting systems allow transactions to be posted to “future periods.” This occurs when transactions are posted to the first (or later) period of the next fiscal year — before the current fiscal year has been closed. F9 handles this by treating these future periods as periods 14, 15, *etc.* These periods can normally only be accessed absolutely and individually. That is, F9 does not support periods specifiers such as “running quarter period 15.” As well, “this month” and other relative period specifiers always refer to periods between 1 and 13. Thus, to access period 14, you must use a simple period specifier such as “month 14.”

Value Type Specifiers

Use these keywords to indicate to F9 whether you want an account balance or the transactions for an account.

Value Type Specifier	Description
balance	Balances at a certain point in time in the period.
transactions or change	Net transactions (change in balance) for the period.

Balance Time Specifiers

If you are requesting an account balance from F9 (see above), use these keywords to indicate whether you want the balance at the start or end of the specified period.

Balance Time Specifier	Description
ending or closing	Balance at the end of the period (current balance if the current period).
starting or opening	Balance at the beginning of the period.
beginning or running	Change over requested period without regard to year end.

Period Lists

The GL function also supports lists of period specifiers. For instance, the period specifier “3,4” returns the sum of periods three and four. Period lists are a convenient way of obtaining data for an unusual duration.

The following rules apply:

- Do not use a period list unless absolutely necessary. For instance, instead of using the period specifier, “1,2,3,” use “year to date month 3” —or “quarter 1.” The latter executes **much** faster.
- If you request Periods 1 and 2 for a Balance Sheet account, F9 will give you the sum of two closing balances — this figure is meaningless. Typically, you will use period lists for transactional values, which means P&L accounts.
- When listing period specifiers, do not combine Actual and Budget amounts in your requests: F9 does not support this functionality.

Budget Specifiers

Use these keywords to indicate whether you want to see an actual account value or a budgeted value.

Budget Specifier	Description
actual	The actual account value for the period.
budgeted	The budgeted account value for the period.
Budget Year	The total budget up to the current period for the current year.
Budget Year to Date Month 12	The total budget for the year.
Budget Last Year	<i>Invalid.</i> Accounting systems don't normally associate “budgets” with years.

Year Specifiers

Use these keywords to take data from last year as well as the current year.

Year Specifier	Description
year	The current fiscal year.
last year	The fiscal year before the current one.
previous year	1 year ago.

Additional Keywords

These keywords, which do not carry any special meaning and are ignored by F9, are useful in creating more natural sounding F9 period specifiers.

Additional Keywords			
at	before	current	date
for	in	net	of
on	present	the	this
to	total		

Example Period Specifiers

Period Specifiers	
net change for the current month	3 running quarters ago
quarter to date	year to date last year
halfyear to date	this quarter last year
transactions this month last year	year to date
month 2	month 3 last year
quarter 1 this year	transactions last month
last year last month	transactions last quarter
last year last halfyear	last quarter balance
running halfyear last year	current balance
current budgeted transactions	current budgeted balance
balance 3 months ago	balance in month 5 last year
budget for year to date	running quarter
budgeted balance end of quarter 3	year to date for month 5
opening balance for the quarter	last running halfyear
running quarter period 5 last year	

COMPANY SPECIFIERS

A company specifier is usually a number, sub-directory name or a file name. The help files detail what acceptable parameters for a company specifiers for your accounting system. You can specify a company in an F9 function in one of three ways:

- specify no company, in which case the default company is used.
- specify a single company.
- specify a list of companies.
- specify a range of cells containing company specifiers.

A given company specifier can be referenced within the F9 function by either placing the company specifier(s) between double quotation marks or by referencing cell addresses. Of the two, referencing cells is by far the best method.

Using Single Company Specifiers

Single company specifiers can be used in all F9 functions. For example, to obtain the account type for account 0-0-1000-0 and company “ABC”, enter:

```
ACCTDATA("Type","0-0-1000-0","ABC").
```

As always, use cell references rather than literal parameters.

Specifying Multiple Companies

This option can only be used within the F9 functions GL and NGL. When you specify more than one company, F9 searches through each chart of accounts for any accounts that match and totals the balances for the period requested. The final consolidated total then appears as the result of the function.

F9's *Return Zero for Account Not Found* option can affect the return value: not all the accounts within a specified list necessarily exist within every company indicated. If this option is not on, and one or more of the account specifiers within the function do not exist for all the companies specified, then F9 returns an error message. If this option is on, F9 returns an accumulated balance for all accounts found within each of the companies listed. Thus, it is not necessary to have identically defined charts of accounts for all companies to generate consolidating reports.

If F9 is unable to locate or access a company's data files within a multiple company specifier, an appropriate error is returned indicating the problem.

Enter company specifiers separated by commas or blanks in GL and NGL formulas. For example, entering:

```
GL("0-0-1100-*","Month 5","comp1,comp2,comp3")
```

would bring into a single cell the sum of the balances for accounts matching 0-0-1100-*, within month 5, for three companies. The entire combination of company specifiers must be enclosed in quotation marks. To specify a cell range, reference the range of cells containing company specifiers within the formula as follows:

```
GL("1110-**","Current Month",B$3..E$3)
```

In this example, cells B3, C3, D3, and E3 contain single company specifiers. By specifying a range of cells, F9 finds all account balances possible in each of the company chart of accounts and returns with the accumulated balance.

Some accounting systems support consolidations and maintain consolidation “trees” of companies that indicate how a consolidating company is calculated from various “leaf” companies. For the accounting systems, F9 can read these trees and do the consolidation automatically. To have F9 calculate consolidation balances, precede the company identifier with an exclamation mark. That is, a company specifier of the form “!DEMO” will pull balances from company Demo, but a specifier of the form “!DEMO” will calculate balances from the GLs of the companies that make up demo. Of course, this is a more expensive operation and may take longer to calculate.

Note:

There are cases where the company specifier is more restricted than in others; for instance, the WGL and WDESC functions. See the online help for your GL for details on these restrictions.

YEAR SPECIFIERS

If you wish to access data from some year other than the default base year as set in the F9 Setup window, enter a four-digit year specifier. The year specifier is only used in GL and NGL functions. The base year determines which two years of data the period specifier will access.

The following function will access month 2 for the year 1995, regardless of the default year in the Setup window. If a period specifier such as “month 2 last year” is used, it refers to the year 1994.

```
GL("1110-**","month 2","Comp1","1995")
```

To default the company to the contents of the Setup window, enter:

```
GL("1110-**","month 2","","1995")
```

TYPE SPECIFIERS AND BUDGETS

The Type provides other data about the accounts you wish to access. The Type field may have different meanings, depending on the accounting system you are using and on which function you are using. Usually, the Type is a budget identifier. If you wish to access budget data from other than the default type as set in the F9 Setup window, you may supply a budget specifier. This specifier is only used by the GL, NGL and DESC functions.

For example, the following obtains budget data for the “Pessimistic” budget for the default company and year:

GL("1110-*", "month 2 Budget", "", "Pessimistic")

When using the GLTRAN function, the Type should be "Credit" (for credit totals only), "Debit" (for debit totals only) or blank for the total of debits and credits.

Tip:

Though all budgets are addressed as "this year," the budget specifier for most accounting systems lets you select the correct budget for any fiscal period. For instance, using the 1998 "23" or "pessimistic" budget specifiers in any other year returns the same numbers.

CURRENCY SPECIFIERS

If your accounting system supports multiple currencies, indicate the desired currency here. Currencies are typically indicated in the same way as in your accounting system (e.g., the F9 Datamart allows a code of up to four characters, such as "USD" for US dollars, or "CAD" for Canadian dollars).

TOPIC SPECIFIERS

Unless you are using more than one accounting system, you need not concern yourself with this parameter.

The last parameter to every function is the topic which is an F9 internal name for the accounting system. If you are only using one accounting system with F9, omit this parameter — the spreadsheet component automatically uses the "F9" default topic, which, in turn, instructs F9 to use your accounting system.

If you have access to more than one accounting system, you may wish to supply the topic explicitly. If you need to retrieve data from more than one accounting system into the same sheet, each function *must* supply an explicit topic.

The following function retrieves data from an F9 Professional database, regardless of the default topic selected:

GL("1110-*", "month 2", "", "", "Univ")

Note:

If you have F9 installed for more than one accounting system, contact our technical support for more information.

6 – F9 Commands and Windows

A command is a well-defined method which does not return a result but is used to perform actions. For example, a command can select a region of a spreadsheet, print a report, or open a dialog.

A function is a well-defined method which returns a result and is used to perform mathematical, financial or statistical calculations. For example, the SUM function adds all the cells in an area together; the AVG function returns the average number in an area; and the GL function returns an amount from your General Ledger.

F9 Functions are the subject of the previous chapter. This chapter focuses on using the windows and tools in F9 to make your spreadsheets better.

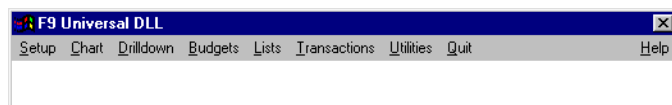
F9 COMMANDS

For each accounting system, F9 has two windows and menus containing a number of commands.

- The F9 Server window is covered later in this chapter.
- The F9 for <your accounting system> window and menu are discussed below.

Each command opens an appropriate window. At a minimum, each the following commands are always available from the menu: Setup, Drill Down, Chart, Lists, Budgets and Help. F9 may have some additional commands for your accounting system to support security or other feature. These are documented in the help files. Access the F9 windows in one of two ways:

- Click on the Server window and select the appropriate menu item;
- From your spreadsheet, select the desired command from the F9 drop-down menu.



THE SETUP WINDOW

Use the Setup window to:

- Specify the location of your accounting data;
- Control how general ledger data is returned to your worksheet;
- Change function defaults.

To open the Setup window, select Setup from the F9 window menu or click the Setup toolbar button on your spreadsheet. The Setup window contains all the site- and system-specific setup information for the selected accounting application. Each field in the Setup window is described below.

System Directory. (*Not illustrated.*) Many accounting systems require a “System Directory.” Usually the System Directory is combined with the Default Company to create a complete path or location for the general ledger data desired. This is usually the first — and often only — field you need to set up in order to configure F9 to your system. Review the help files for specifics about the System Directory.

Company. F9 always require a default company (or set of books). This default takes different forms depending on the accounting system. For example, the F9 Professional GL uses either a fully-qualified file path, name and extension *or* a logical Datamart name; other accounting systems identify companies by an eight character directory name; some use a number such as “12.” If an F9 formula does not specify a company, the default company specified here is used. Most F9 Setup windows use a combo-box to allow you to select from a list of available companies. Review the help files for specifics about the Default Company.

Tip:

*To test the association with the default company, click **Profile**. Basic company information such as: the company description, the number of fiscal periods and the current fiscal year and period are displayed.*

Year. Select the current or default year — the year that is “this year.” Period specifiers in F9 GL functions access “this year” and “last year” data. An incorrect year may result in “no matching accounts found” error messages. In some accounting systems, select zero to set the year to the current year. If the accounting system only supports two years of data, the Year item will not appear.

Type. This is the account type. This parameter contains other qualifying information about a GL or DESC request. Usually this is the budget value desired. Functions that refer to budgets use this budget. If the accounting system only supports one budget, this item will usually not appear.

Period. Override your accounting system’s current period with a different value. The current period determines which period(s) are accessed when period specifiers such as, “This Month” or “Running Quarter” are used. Select “Off” to use the accounting system’s current period.

Value Scaling. Select the scaling level. Precision is not lost using Value Scaling. Select the default **None** to have values returned with the same magnitude they contain in the GL. For example, 19,551.02 is returned as the value 19,551.02.

Select any other value to have returned numbers divided by this value. For instance, select 1,000 to have 9,551.02 returned as 9.55102. Your worksheet doesn’t add up correctly? Check the display options currently in use with your spreadsheet. Values are rounded first (if you are using rounding) and then scaled.

Value Rounding. Select the level of rounding desired. If you select **None** (the default), returned values are not rounded; otherwise, numbers are rounded to the nearest value selected. Values are rounded first and then scaled (if you are using scaling).

Zero Label. F9 defaults to returning the number zero when a zero value is found. You may enter a different zero label to be returned if desired. For example, you may want to have “n/a” or “-” appear in a report instead of the number 0. This command only affects the return of zero values returned by the GL and NGL functions. To return to displaying zero, clear the alternate label and enter the digit zero. Only the special value “0” will return the number zero.

Return Zero for Account Not Found. F9 defaults to returning an error message when no matching accounts are found. Click the **Return Zero for Account Not Found** check box to have F9 return zero when no matching accounts are found. For example, have the number 0 appear instead of an error message when generating the same report for a number of companies with different Charts of Accounts. When possible, clear the **Return Zero for Account Not Found** check box and build your sheets with F9 returning error messages when accounts are not found; otherwise it may be difficult to tell when you have entered an erroneous account specifier.

This option only affects the display of values returned by GL and NGL functions.

DataPreload Enabled. Click the **DataPreload Enabled** check box to enable automatic DataPreload. Clear the **DataPreload Enabled** check box to disable automatic DataPreload. iManual DataPreLoad is *always* available.

Tip:

DataPreload is very memory intensive. Read Chapter 7: Advanced Features before using DataPreload. While DataPreload always improves performance with certain accounting systems — and can improve the performance of others — it can also slow down F9, your spreadsheet and other applications.

Other Setup Options Other Setup Windows options specific to the accounting system you are using will be described in the help files.

THE CHART WINDOW

Use the Chart window to:

- Review your chart of accounts;
- Create a trial balance;
- Examine balances for individual accounts.

To open Chart, select Chart from the F9 menu or click the Chart toolbar button. Although the Chart window is virtually identical from one accounting system to the next, the “generic” Chart window and its functionality are described below. Review the online help for accounting-system specifics about the Chart window.

Tip:

Do not use Chart to create reports: The GL and NGL functions are best for this purpose.

The Chart window lets you specify the accounts and the account information to copy to the Windows clipboard, which can then be pasted into your spreadsheet (or any other Windows application).

- Use Chart to create a trial balance.
- Do not use Chart to dump your GL into a spreadsheet and then create reports by referencing the various cells containing balances; instead, use the GL function.

At a minimum, Chart contains the **Include Account Code** and **Include Description** check box options. Two other check box options are also usually available:

- Select **Prepend the Account Code with a Quote** to have F9 place a leading quote in front of the account code. This is sometimes necessary when your account code is all-numeric and the data is to be pasted into a spreadsheet. For example, it is possible for the spreadsheet to interpret the account code “1000-400” as the number 600. This will not happen if the account code appears in the clipboard as ““1000-400””.
- Select **Skip Accounts Showing all Zeros** to have Chart skip those accounts for which the periods you have specified have zero values.

Chart also contains several edit boxes.

Accounts. Enter a standard F9 account specifier for the account you wish to match and send to the clipboard.

Periods. Enter one or more standard F9 period specifiers to view as well. Separate each specifier with a comma. For example, to view the periods “this month” and “this month last year”, enter the following into the Periods list:

this month,this month last year

Period Wizard. Click **Period** to open the Period Wizard. The Period Wizard is a convenient way of creating period specifiers without having to remember the key words that F9 recognizes. Selecting “All Periods” can be especially handy for dumping budgets to the spreadsheet for editing and subsequent write-back to the accounting system’s budget files. A trial balance can be created in seconds by requesting all accounts for all periods. Select Actual; This Year; Ending Balances; Period; All Periods in Period Wizard to do this.

Company. Enter the name of the company or the path to the company. In some cases you will be presented with a Select button.

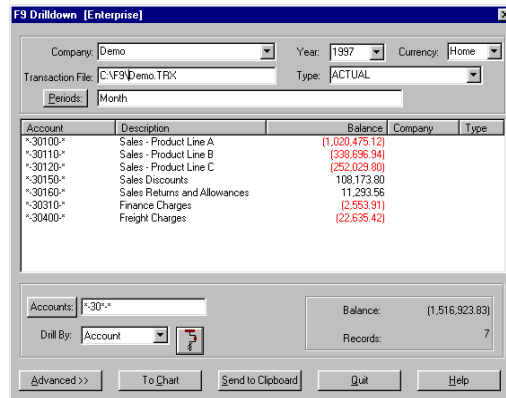
Year. Select a base year if desired.

Type. Select a base Type — usually a budget identifier — if desired.

Version 4:

*F9 can copy lists of accounts and transactions to the clipboard with or without formulas from **Drilldown** using the **Advanced** options. This function is no longer available from Chart.*

THE DRILLDOWN WINDOW



Use the Drilldown window to:

- Examine how a GL result was derived; *E.g.*, breakdown an account balance by segment, company, or type;
- Examine how a balance is built up;
- Access detailed transactions.

Drilldown is similar to Chart in that both functions can be used to explore balances in your chart of accounts. The primary difference is that Chart is “single-tiered” and always displays detailed accounts, whereas Drilldown is “multitiered” and can display balances across one or more companies, types or account specifiers that use wildcards. Drilldown also lets you drill down to individual transactions (**Note:** access to transactions is not available with all accounting systems).

When you point to a cell in your sheet that contains a GL (or NGL) function and click the Drill Down toolbar button, the Drilldown window opens. At a minimum, the Drilldown window contains entries for an account specifier, period specifier and company specifier. The initial specifiers are all taken from the GL function that the cell cursor was pointing at.

Only the first account and company specifiers are used.

Version 4

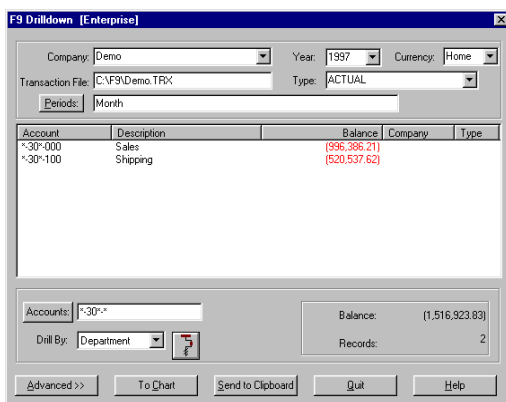
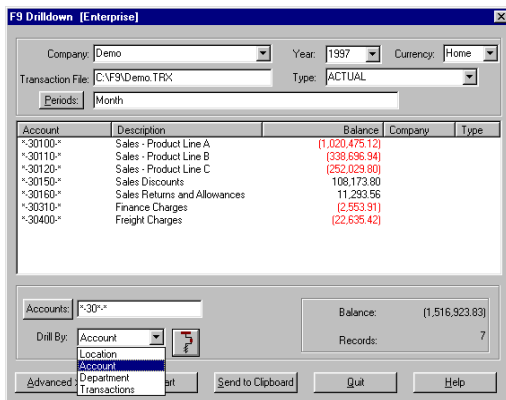
Drill windows now display data using multiple companies, types or accounts. Accounting-system specific: Columns may be sorted on any column by clicking the header button (click again to reverse the order). See the help files.

Click **To Chart** to see **all** detailed accounts that match the current specifiers. The current specifiers are loaded into Chart and the Chart window opens. Click **Find** to locate all matching line items in the Chart of Accounts.

Drilling by Account Segment

The top “tier” in any accounting system is represented by the specifier *-*-*-* (for a four-part account code). In most systems, this specifier will have a zero balance; that is, the sum of every income account — net income for the period plus the sum of the Balance Sheet accounts — should make the Balance Sheet balance and produce a zero result. It is not generally recommended that you use this specifier, however, as it might take a while to calculate.

From this example, drill into any segment of your Chart of Accounts by selecting the segment and clicking the Drill button.



- 1 Click the Drill button. A pause occurs as F9 calculates the balance for the current request. Typically, this is the same balance that appears in your spreadsheet.
- 2 After the balance appears, F9 begins the Drill process. A record count is displayed as each matching segment is found and its associated balance calculated.

3 *Optional.* Interrupt a Drill at any time by pressing a key or mouse button.

Let's assume the first account segment represents the profit center and this Chart of Accounts has six profit centers numbered from 100 to 600. When you drill this specifier on the first segment, Drill display the balances for six specifiers: 100-*-*-* , 200-*-*-* *etc.* The Drill display might show:

100-*-*-*	Office Supplies	0
200-*-*-*	Furniture	0
300-*-*-*	Wrenches	0
400-*-*-*	Widgets 0	
500-*-*-*	Tape	0
600-*-*-*	Piping	0

These results are not particularly meaningful because F9 is summing all accounts for each profit center. A more meaningful result could be obtained by drilling the specifier, *-*-4*-* , where the third segment is the account and accounts beginning with 4 are revenue accounts. In this case, the total that Drill displays will be gross revenue. And by drilling segment one, we are asking, "Show me revenue by profit center." The display might then show:

100-*-*4*-*	Office Supplies	5,000
200-*-*4*-*	Furniture	1,000
300-*-*4*-*	Wrenches	50
400-*-*4*-*	Widgets 10,000	
500-*-*4*-*	Tape	15,000
600-*-*4*-*	Piping	1,200

for a total of \$32,250. Then click on a specifier to select it. If you selected 300-*-*4*-* and drilled on segment three, you would, in effect, be asking, "How is revenue for Wrenches broken down?" The display might now show:

300-*-*4010-*	Big Wrenches	10
300-*-*4020-*	Little Wrenches	15
300-*-*4030-*	Socket Wrenches	25

for a total of \$50.

Alternately, suppose the second segment of the account code is the location and you choose to Drill segment two of the original specifier *-*-4*-* . You are now asking, "Show me revenue by location instead." Your display might show:

-100-4010-	San Francisco	15,000
-200-4010-	Los Angeles	10,000
-300-4010-	New York	7,250

for the same total revenue of \$32,250. In this way, you may drill down through the four tiers (four segments in the account code implies four tiers) until you get to detailed accounts — that is, accounts with no wild cards in them — similar to those that the Chart window generates.

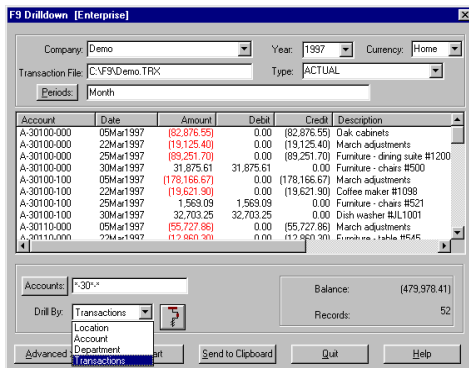
At any time, click **Send to Clipboard** to copy the accounts and balances to the Clipboard. Values or formulas are generated using the settings selected in the **Advanced** dialog. Send multiple sets of data to the Clipboard — the Clipboard is only emptied on entry to the Drilldown window.

The various parameters to the GL function, except the segment that was drilled, are set up as titles over the generated formulas. The drilled segment is created as the first column, the segment title is the second column and the formula is the third. If you are generating formulas in Excel, the created formula uses the BSPEC function to recombine the drilled account segment with the account specifier to create a valid account specifier.

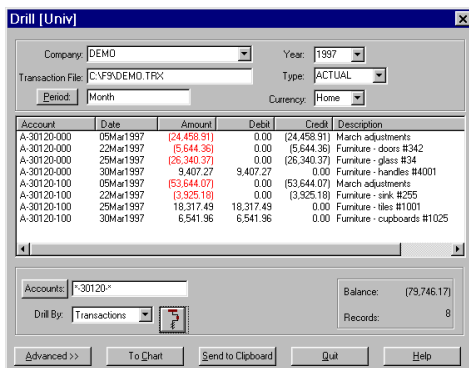
Many accounting systems support the ability to name the various codes that occupy a segment. For example, profit center 100 might be called “Office Supplies.” If your accounting system supports segment names, then the names are also displayed along with the balances. Otherwise, NA is displayed.

Drilling to Transactions

At any time, Drill Down to the transaction level by selecting “Transactions” from the Drill By drop-down list. For those systems supporting access to transactions, the last option listed is “Transactions.” If you do not see this option, F9 for your accounting system does not support transactions.



After selecting Transactions, click the Drill button. F9 begins searching for transactions that match the current account specifier and period. Matching transactions are displayed in the Balances window. The balance displayed is the total of all the matching transactions. In the case of P&L accounts, this is typically the same balance that appears when drilling by segment since F9 defaults to returning the total transactions for a period for P&L accounts. For Balance Sheet accounts, the value returned is typically the change in balance for the period in question.



In most cases, F9 only provides access to transactions for the current year. This means, for example, if your period specifier uses the phrase “last year”, it will be ignored for the purposes of a transaction drill down. In addition, the phrase “budget” in a period specifier is also ignored since budgets do not have transactions.

Once transactions are displayed, click **Send to Clipboard**. Then paste the results into your spreadsheet (or anywhere else, for that matter).

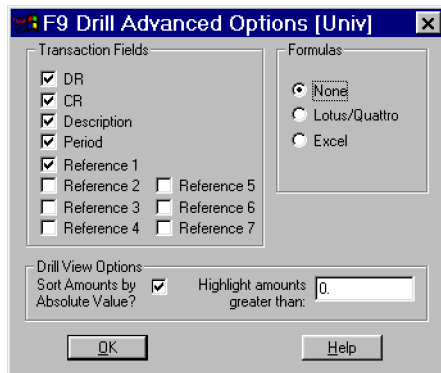
Due to limitations in some Windows controls which F9 uses to store the data you have selected, there is a finite limit to the data which retrieved. If you exceed the limit (technically 64Kb of data), a warning message will be displayed to inform you that some transactions were ignored. You will need to request fewer transactions or fewer fields per transaction. If you are only fetching the account code, date, amount and description, F9 will typically be able to store approximately one thousand transactions.

Tip:

Use the Advanced dialog to configure what style of formulas, if any, should be returned in the clipboard data. See the discussion below for more information.

Transaction Fields

F9 defaults to both fetching and displaying each transaction’s account code, date and amount. By pressing the **Transaction Fields** or **Advanced >>** button, you can manipulate both what data is displayed and what data is fetched.



F9 always fetches the account code, date and amount. Make F9 fetch any other fields that are available by checking the appropriate box.

Win16:

F9 can only display either the date or description (in addition to the account code and amount) in the balances list box but it can fetch any fields you desire. To view the other fields (e.g., journal numbers, source values, etc.) you will have to send the data to the clipboard and paste it into the application (e.g., your spreadsheet).

Options you select here are stored and re-used next time.

The Period Wizard and Transactions

If you are drilling a number on a spreadsheet, when you enter the Drill Down window the account specifier and period specifier will be set to the account and period parameters of the GL function being drilled. If you then select the special Transactions account segment and press the drill button, you will be shown transaction data for the account(s) and period specified. If the number you are drilling was created by a GLTRAN function, the Drill window will be set with the appropriate dates and the drill “segment” will be set to Transactions automatically.

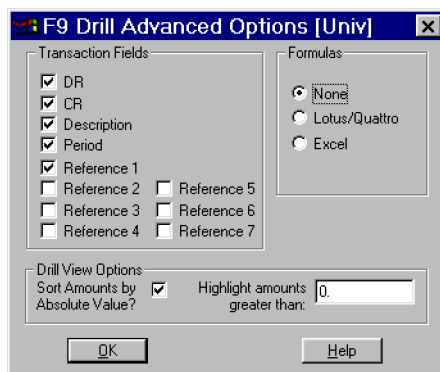
F9 reads the start and end dates for each fiscal period and displays transactions that fall between the dates for the selected period. However, you can request to view transactions for any date period. To do this, press the **Period** button to invoke the Period Wizard. As you select various periods, you will notice the From and To dates displayed at the bottom of the window change. If desired, you may enter any From and To dates you wish. Use the date format DDMmmYYYY. As long as the From and To dates are the last fields you touch in the Period Wizard, then the dates you enter will be respected and used as the From and To dates when you do the next transaction drill down. These dates are ignored for a normal account segment drill. When you exit the Period Wizard, you will notice that the Period edit box is blanked out, indicating that the From and To dates you entered will be used.

F9 Professional:

Drill by period is dependent on the dates in Company Edit. If the dates in this Dialog are incorrect, the results of the drill will also be incorrect.

Generating Formulas

In the Drilldown window, click **Advanced**. The Drill Advanced window opens.



Before pasting simple spreadsheets, configure which spreadsheet is the target and what fields to provide. Paste data into your spreadsheet as fixed numbers or as formulas.

- *Recommended.* Select **None** to generate raw data.
- Select either **Lotus** formulas (begin with @) or **Excel** formulas (begin with =). If you select the Lotus or Excel radio buttons, GL formulas for the periods you request are created. These formulas are evaluated by the spreadsheet when you paste the clipboard data into the spreadsheet.

Tip:

The best ways to generate formulae is through either the GL Wizard or the Report Wizard, and not through the Drilldown window. Please see Chapter 4: Reporting Wizards for more information.

Lotus 1-2-3 formulas are created without using cell references — each parameter is supplied to each formula explicitly. Also, some newer versions of 1-2-3 no longer accept the formulas as produced by the drill down window.

Excel formulas are created using Excel's Row-Column relative cell references. *Before pasting Excel formulas into the spreadsheet, Excel must be in "RC" mode.* To select RC mode, do one of the following:

- Excel 4 — menu **Options|Workspace**
- Excel 5, 7 or '97— select **Tools|Options|General**

After the data is pasted in, return to the "A1" style of cell reference notation.

When you are satisfied with the parameters of your request, click the **Drill** button. A counter will be displayed showing the number of accounts as they are matched.

Interrupt a Drill at any time by pressing a key or mouse button on the window.

When the request is complete, your data will be in the Windows clipboard. Press the Clipboard button to invoke the standard Windows Clipboard Viewer and review the data that was fetched. After reviewing the Clipboard, we recommend that you close it, rather than minimizing it or clicking on the sheet. Your data is now in the clipboard and can be pasted into your application, if desired.

The **Chart** button opens the Chart Window (discussed earlier in this chapter).

THE BUDGET WINDOW

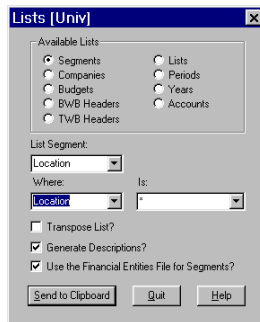
Use the Budget window to write budget data from the Windows Clipboard back to your accounting system. Most F9 products support budget Write Back. Budget Write Back lets you create or edit budgets inside your spreadsheet and then write that budget information back to the accounting system for subsequent reporting.

Note:

Budget Write Back is the only write access to your GL data that F9 supports. All other access is read-only. F9 Professional supports Transaction Write Back but this does not affect the source accounting system.

The Budget window is documented extensively in Chapter 9: Budget Write Back. This section also discusses using either the WGL Function or the WDESC Function as an alternative.

THE LISTS WINDOW



Use the Lists window to create lists in the Clipboard of accounts, department, companies, budgets *etc.*

There are many ways to construct an F9-based financial report. F9 provides a number of templates and sample spreadsheets that can make developing reports easier. However, whether you start from an empty spreadsheet or from one of our templates, you will be always faced with one basic task: entering your account numbers into the spreadsheet. That's where the Lists window can help.

For example, consider the basic problem of creating an Income Statement. An Income Statement consists of a number of sections, such as revenue, cost of goods, expenses, other income, and taxes. Each of these sections consist of a number of line items and each line item will have its associated account code or range of account codes. (When we use the phrase “account code” in this section, we will generally mean the segment of the complete account code that is the “natural” or “main” segment.) Thus, a major part of the work in developing an Income Statement is to get these codes into your spreadsheet. Of course, one way to do it is to simply type them into your sheet, usually as a column of numbers or codes down the left side of the sheet. These codes would then be “cell-referenced” in the usual way.

Alternatively, you can get F9 to do much of this work for you using the Lists window. As the name implies, this window generates lists. The Lists window is another way to access the same functionality in F9 that is used by the Report Wizard. The example of the GL Wizard used in the chapter *Report Wizards* demonstrates how to generate complete and accurate reports using a single GL function and the Lists window.

The actual lists that can be generated by the Lists window vary between accounting systems but, at a minimum, you will be able to generate lists of companies, budgets, periods, years and values for each segment of your account code. The lists you generate are always sent to the Windows Clipboard. Once in the Clipboard, it is a simple matter to paste the list into your spreadsheet at an appropriate place.

The Lists window has many potential applications, especially when used in conjunction with F9's Silent Running feature (see *Chapter 7: Advanced Features*). For example, you could use the Lists window to create a list of departments. You could then paste this list into your spreadsheet and then perhaps use the list to drive the creation of a series of Income Statements using the RunF9Report macro we provide. The simplest use, of course, is to help you construct financial reports without having to type all of your account codes into the spreadsheet manually.

The Lists window can generate lists of values for each segment of your account code — including the main segment, of course — and it can create lists of other values, such as companies, as well. In this latter mode, the bottom three edit boxes (“List Segment”, “Where” and “Is”) will be greyed out. All lists created by the Lists window will, where applicable, reflect the default company in the Setup window. That is, if you ask for a list of budgets, you will get a list of budgets for the current default (*e.g.*, Setup window) company. Creating a list of values for anything other than segment values is trivial. Select the appropriate radio button and click **OK**. A message appears stating that the list was sent to the Clipboard.

Creating Lists of Segment Values

Creating lists of unique segment values is a tiny bit more complex, and more powerful. First, whenever you create lists of segment values, there may be a significant pause when you create the first list. This is because F9 will possibly have to scan your entire chart of accounts to create the list. Generally, F9 will only do this once per company and subsequent requests will execute quickly.

You can create segment lists in one of two ways: all unique values for a particular segment, or all values that meet a certain criteria. To create a list of all main account segments, you would do the following:

- Select the “Segments” radio button;
- Select your main account segment from the “List Segment” drop down list;
- Select “(None)” as the value for the “Where” edit box;
- And click **OK**.

F9 will send the list to the Clipboard. This technique is useful for creating lists of departments or profit centers. If you ask for all segment values, as in this example, the values will be sent to the Clipboard along with appropriate descriptions (if available). When asking for segment lists that use a “Where” clause (as in the following example), values are sent to the Clipboard without descriptions.

In many cases, however, you will only want a subset of the available segment values. The most common example of this is when you are constructing a financial report such as the Income Statement example we started out with. Suppose that your chart of accounts is organized such that all revenue accounts begin with a “4”, all cost of goods accounts begin with a “5”, *etc.* In this case, to build the revenue portion of the report, you want a list of all natural account codes that begin with the digit “4” to appear as a column in your spreadsheet. To do this, think of the three edit boxes as making up the following sentence: “List all (some segment) where the (some segment) is (some value).” (where the three edit boxes are the three phrases in parentheses). To get our revenue accounts we want the sentence to read (assuming that the main segment is called “account”): “List all accounts where the account is 4*.” That is, set the List Segment edit box to “account”, the Where edit box to “account” and the Is edit box to the string “4*”. The Is edit box can use Financial Entities, ranges and wildcards for one segment value according to the normal F9 rules.

The result will be that all unique “account” values that begin with the digit “4” will be sent to the Clipboard and it is now a simple matter to paste them into your spreadsheet using the normal Windows **Paste** commands. Now to create a complete financial report, you just need to repeat the above process for each section of the report. Using the Lists dialog, it is possible to create reports where the data entry chore is dramatically reduced.

Your request can be more complex than this. For example, you could ask “List all accounts where the department is 100.” This would list all the accounts that are used by department 100. While generating lists such as this is possible, the prior example is far more common and useful.

List Options

Turn **Transpose List** on to send the list of values out as a row rather than a column of data.

Turn **Generate Descriptions** off to improve List and Report Wizard performance. This can be especially useful for larger charts of accounts or for account codes with many segments.

FINANCIAL ENTITIES EDITOR

Use the Financial Entity Editor to:

- Edit Sub-Account Descriptions imported from the Accounting System, *i.e.*, “Natural” Financial Entities.
- Edit User-defined Financial Entities.

In the F9 Window, select **Utilities**|**Maintain Financial Entities** to open this window. This editor has two views on the financial entities depending on whether or not **Edit Financial Entities** is checked or not. The labels for two controls change depending on the state of this control.

Controls (Edit Financial Entities not checked)

Maintain Financial Entities File [Univ] x

Segment: Segment 1

Segment Value:

Segment Description:

Edit Financial Entities

Note: Avoid using these characters in entities: !\"?[]^

Update/Create Entities File

Add Record Quit

Delete Record Help

This view of financial entities allows you to see and/or edit the “natural” Financial Entities which are commonly imported directly from your accounting system.

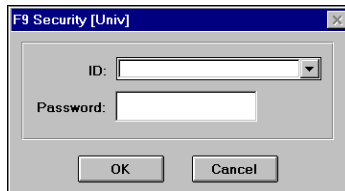
Field	Description
Segment	Which segment will this entity exist in.
Segment Value	Any segment valid specifier such as: "1*" (Assets), "20000..20899" (Liabilities) or "*" (Any Location).
Segment Description	The description of the specifier listed in Segment Value.

Controls (Edit Financial Entities checked)

This view of financial entities allows you to see and/or edit the User Defined Financial Entities.

Field	Description
Segment	Which segment will this entity exist in.
Financial Entity	A financial entity name of up to 30 characters in length, such as: "Assets," "Liabilities" or "Expenses."
Segment Specifier	130 characters of specifier, such as: "1*" (Assets), "20000..20899" (Liabilities) or "032" (Houston). This can also be a list, such as: "LA,Portland,Seattle,Vancouver" (Westcoast).

THE PASSWORD WINDOW



Note:

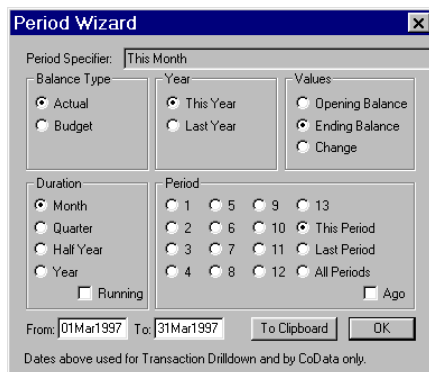
F9 does not support the Security systems of many accounting systems, so this menu item and window frequently will not exist. Security implementations are documented in the help files.

When you select **Password** from an F9 window menu, or from the F9 menu in your spreadsheet, an appropriate window dealing with security for your accounting system will appear. Like the Setup window, the Password window is virtually identical from one accounting system to the next. This section describes the “generic” Password window and its functionality.

For most accounting systems, passwords are associated with each company or set of books. Thus, you will normally have to specify the company you wish to access and then enter the appropriate password for that company or set of books.

If you attempt to access general ledger data and you have not entered the required password information, F9 will return an appropriate error message, rather than the data desired.

THE PERIOD WIZARD WINDOW



When you select **Period Wizard** from the F9 menu of your spreadsheet, or from a **Period** button in another F9 window, the Period Wizard window will appear. When invoked in this way, the normal usage is to create a desired period specifier and then send it to the Clipboard (by pressing the **To Clipboard** button) for pasting into the application (*e.g.*, spreadsheet). Using the Period Wizard initially in this way

is a good way to learn the various period specifiers supported by F9. As you become more familiar with them, you will probably prefer to simply type the desired specifier into the appropriate cell in your spreadsheet.

GETTING HELP



Select **Help|About** from the menu to get the version number and copyright information about the DLL.

Select **Help|DLL Help** from the F9 menu to get help about F9 for your Accounting System. For each accounting system, F9 provides a help file that:

- describes the unique aspects for that implementation, that is, how it differs from the “generic” F9 DLL as described in the manual,
- special information about the accounting system as it relates to F9 that you need to know.

F9 version 4 introduces extensive context sensitive help from dialogs. All dialogs which support help have a **Help** button.

F9 Spreadsheet Commands

For the most part, the purpose of the spreadsheet component is to pass requests to F9. However, Lotus 1-2-3 and Excel both have several features that are independent of F9: these features vary as little as possible between the spreadsheets.

ZERO SUPPRESS

Excel and Lotus 1-2-3 both contain a Zero Suppress command.

- Excel also creates a toolbar button for Zero Suppress.
- Lotus 1-2-3 are supplied with a Zero Suppress Smart Icon.



The buttons and commands do the same thing and work almost identically in Lotus 1-2-3 and Excel. Highlight a range of cells in your spreadsheet and select Zero Suppress (or press the appropriate button). The following occurs:

- 1 All hidden rows in the range are exposed. A hidden row is essentially a row that is 0 (or 1 in 1-2-3 R5) pixels tall. In Excel, a row actually has a hidden attribute and that attribute is turned off. In Lotus 1-2-3 R5, the rows are unhidden by resizing on a best-fit basis.
- 2 Each row in the highlighted range is scanned from left to right. If the row contains at least one number — and all the numbers that the row contains are zero — the row is hidden. Thus, rows that contain only labels or empty cells remain unaffected.

Book2						
	A	B	C	D	E	F
1	Income					
2						
3	Sales - Widgets				\$6,645.69	
4	Sales - Doodads				945.46	
5	Sales - Thingys				5842.06	
6	Sales - Whatchamacallits				6897.80	
7	Sales - Brown Grommets				7458.82	
8	Sales - Red Grommets				5180.59	
9	Sales - Green Grommets				0.00	
10	Sales - Yellow Grommets				0.00	
11	Sales - Purple Grommets				0.00	
12	Sales - Brown Grommets				724.24	
13				Total	\$33,794.66	
14						

Use Zero Suppress to quickly reduce the size of your financial reports to only include non-zero data. Sum rows (e.g., rows that sum up detailed values returned by F9) are also automatically — as long as you include the sum row in the range to Zero Suppress.

It is easy to hide title rows that are associated with all-zero details as well. To hide title rows:

- Create a hidden column in your report or use a column that is outside the printing range of your report.
- In the title row in this column, place a “sum of sums” function that sums either all the detailed values returned by F9 or the sums of those detailed values.

Finally, make sure this column is included in your Zero Suppress range. Because the title row now contains a number, and that number is zero, it too will be hidden.

To un-Zero Suppress data, use the **Format|Row|Unhide** command (Excel), re-size the rows (Excel or Lotus 1-2-3 '97), or click the Zero Suppress toolbar button.

To use Zero Suppress to reveal hidden rows, highlight a range of cells that span the rows that are hidden, but which contain no zeros. Select Zero Suppress. Since the first thing Zero Suppress does is Unhide all rows in the range, this will have the desired effect.

Column-Wise Zero Suppress

Excel and Lotus 1-2-3 can perform column-wise zero suppression.

Column-wise zero suppression means a multiperiod report with columns of future periods (which should always be zero) can be suppressed until amounts are posted to these periods.

Column-wise suppression can be enabled or disabled by a check-box in the Options window. When the option is disabled, columns are not suppressed. Hidden columns are exposed whether column-wise zero suppression is on or not.

The Zero Suppress Macro

Zero Suppress is also available as a macro command called ZeroSuppress (one word). This macro takes one optional parameter: the range of cells to Zero Suppress. In Excel, the command can only function on the currently active sheet. If no parameter is supplied, the macro will Zero Suppress the currently selected cell or range of cells.

The macro formats in Lotus 1-2-3 are {UNSUPPRESS} and {ZEROSUPPRESS} or {ZEROSUPPRESS range}

Zero Suppression and 1-2-3 R5

Zero Suppress

Zero Suppress allows you to hide rows in your spreadsheets that contain only zero values. To use this command you select a range to be processed and select the Zero Suppress menu item, press the command button, or invoke the macro. Rows that have non-zero values and rows that contain no numbers are ignored. Rows that contain one or more numbers that are all exactly zero in value will have the selected cells set to a hidden format and row height set to 1.

Zero Suppress will remove any formatting in the selected cells.

1-2-3 R5 will not hide an entire row as Excel will. Only the area highlighted will be hidden, even though the entire row will be collapsed. Not including all of the numbers and text in a row may result in an area of collapsed but unhidden cells. To use this command you select a range which spans the cells to be exposed, and select the Undo Zero Suppress menu item, press the command button, or invoke the macro.

Undo Zero Suppress

1-2-3 '97 will **Undo Zero Suppress** automatically before attempting a zero suppression. This option is not on the menu for the add-in.

1-2-3 R5 uses the Undo Zero Suppress command to remove the Zero Suppression. Undo Zero Suppress will reset the format of the selected cells to comma punctuated numbers with two decimal places and will restore the row height to a best fit only.

TO E-MAIL/VIEWER (EXCEL ONLY)

F9 Version 4 is introducing a new spreadsheet add-in: the F9 Viewer. Selecting **F9|To E-mail/Viewer** will cause a recalculation which will retrieve the current result of an F9 formula, insert the result into the cell (replacing the formula) and paste the query string into the cell's comment. This has the advantage of allowing users to receive and view the report without requiring full access to the original GL database.

For users who have access to the original GL database, the viewer is able to interpret the query string stored in F9 cells, and perform Drill Down analysis on the result. This allows users to analyze the results while limiting their ability to alter the report.

Note:

F9 will only convert cells to values if an F9 function immediately follows the '='. Normally this is not a problem since most uses of F9 are exclusive of other calculations. The few common exceptions are using CODATA to retrieve a company name for the report title or providing a scaling factor for budgeting. When an F9 function is found immediately following the "=" or "@", the entire cell is changed to a value, not just the function result.

TO VALUE (LOTUS 1-2-3 ONLY)

To email a spreadsheet, select an area and select **F9|To Value** to convert all of the F9 formulas in the selection to values. Due to limitations within 1-2-3, the formula is not preserved in the conversion and future Drill Down is not possible.

GL PASTE

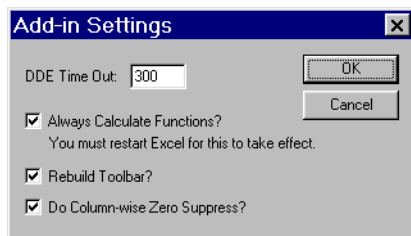


The GL Paste command uses the results of an Account Enquiry to format a basic F9 worksheet and the first GL Formula. If an Account Enquiry isn't available when the command is issued, an Account Enquiry is performed in the background; the result will be the equivalent of the last GL function evaluated.

OPTIONS

The options dialog offers several choices which were previously set by editing INI files. These options have well defined effects and reasons for choosing to turn them either on or off.

The dialog will look like:



Currently four options can be configured.

Note:

*Your spreadsheet is informed about the F9 Functions when the spreadsheet component is loaded. Changing these options will **not** change the operation of your spreadsheet until the next time the spreadsheet component is loaded. You should restart your spreadsheet after changing any of these options.*

Option	Description
DDE Timeout	The DDE Timeout controls how long a client should wait before assuming the server has “failed.” In this case, the client is the Spreadsheet add-in, and the server is F9.EXE. The default of 300 seconds (5 minutes) may seem excessive, but reducing this number may cause other applications to fail. For most accounting systems, F9 can respond considerably faster. In the event the F9 server is shutdown, each F9 formula in the spreadsheet will take this time to fail.
Always Calculate Functions?	This option affects the way F9 functions are registered in your spreadsheet. The default setting (On) instructs the spreadsheet not to attempt to optimize this formula out of recalculations. By turning this setting Off, the spreadsheet will recalculate the formula only if a parameter has been changed. In simple terms, F9 functions are generally considered “dirty” and need recalculation because the results are primarily dependent on the database and not the function parameters. Alternatively, if your GL is not changing frequently, or you don’t care to see every change, turning this option Off will improve your recalculation times by reducing the number of calculations performed.
Rebuild Toolbar?	When your spreadsheet loads F9, the Add-in will normally attempt to create a toolbar. There are several scenarios, such as Executive Information Systems (EIS) or simple user preference, where the toolbar is not desirable. Turning this option off will prevent the toolbar from being recreated.
Do Column-wise Zero Suppress?	Zero Suppress will normally suppress both columns and rows. By turning this option off, columns will not be zero suppressed. This is desirable when including future periods as column in a report, for example.

Always Calculate Functions and Analyze

The Always Calculate option can be used to enhance the operation of the “Analyze for Access” or it may make the results almost meaningless. It is important to understand how these options interact. F9 will display a warning if an analyze is attempted while “Always Calculate Functions” is Off.

The enhancement is from the reduction of calls being analyzed. For example, a multiple period report will access accounts up to twelve times. By turning the recalculation option off, an analysis can process just one column of the report by editing a column heading (*e.g.*, the period) before the analysis.

Tip:

*The simplest way to “edit” a cell and mark it as changed or “dirty” is to place the cursor on the cell using the keyboard or mouse, then pressing the **F2** key and **Enter**.*

The detraction in analysis is that only “dirty” functions are recalculated; that is, your spreadsheet recalculates only functions which depend on a cell that has changed since the last recalculation. For example, if you only edit a cell with a DESC function, your report would report that no accounts were accessed, but by editing the “Company” cell, almost every F9 cell would recalculate making it difficult to find variances. As a general rule, each account should be accessed the same number of times.

Thus, for best results when using analyze while **Always Calculate Functions** is off:

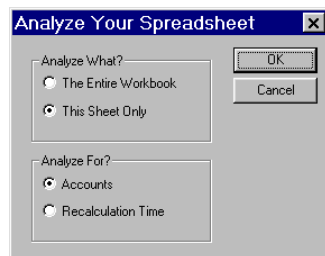
- 1 Press F9 to recalculate.
- 2 Edit a column header (e.g., click on the header, press **F2**, then **Enter** as above).
- 3 Select **F9|Analyze** to perform the **Analyze** command.

This results in the simplest, most usable report.

THE ANALYZE COMMAND

When building a typical F9 financial report, it can be difficult to determine why a Balance Sheet doesn't balance or why an Income Statement doesn't add up to net income. Usually, it's the accidental inclusion or exclusion of one or more accounts. F9's Analyze function makes solving these problems much easier.

There are two significant analysis operations: Account Access and Recalculation Time. Each has its place in resolving problems with an F9 report. In addition, analysis can include a whole workbook or just the current sheet. Select **F9|Analyze** to open the Analyze dialog and choose your options.



Note:

*The results of the Analyze function is heavily influenced by the **Always Calculate Functions** option in the **F9|Options** dialog. See discussion below.*

Analyze For Account

Analyze for Account helps to identify any discrepancies between your F9 report and your accounting system report. It shows which accounts are evaluated and how often they are accessed: the vast majority of reports either shouldn't access an account or should access it a fixed number of times. Analyze for Account identifies when an unexpected account is included or excluded, or when a few accounts are accessed a different number of times.

- 1 After creating a financial report, select **F9|Analyze**. The Analyze Your Spreadsheet dialog box opens.
- 2 Select to analyze either the entire workbook or only the active spreadsheet.
 - Click **The Entire Workbook** radio button to recalculate and analyze all open documents. This can be time consuming.
 - Click **This Sheet Only** to recalculate and analyze the current document only. This is faster but may mean you need to recalculate more sheets.
- 3 Click the **Accounts** radio button.
- 4 Click **OK**. A message indicates a recalculation is about to begin.
- 5 F9 triggers a recalculation of the current spreadsheet or the entire workbook.
- 6 During the recalculation, F9 "takes notes" as to what accounts are being accessed.
- 7 When the recalculation is complete, another message indicates that the Analyze Report should be created and sent to the Clipboard.
- 8 F9 prompts your spreadsheet program.
 - In Excel, an Excel Insert dialog box opens. Select a new object -- usually a spreadsheet — and click **OK**.
 - In Lotus 1-2-3, you may have to paste the report into a spreadsheet manually.
- 9 A new spreadsheet opens and the results are automatically pasted into the cells.

A typical (truncated) F9 Analyze report looks something like this:

My Company Inc.

The current sheet does not use the following accounts:

From 000-1100-00 To 000-3030-00

The current sheet uses the following accounts:

000-4100-00	Sales	4
000-4110-01	US Sales - Retail/Parts	4
000-4110-02	US Sales - Finished Goods	4
000-4111-01	Canadian Sales - Retail/Parts	4
000-4111-02	Canadian Sales - Finished Goods	4
000-4112-01	Australian Sales - Retail/Parts	4
000-4112-02	Australian Sales - Finished Goods	4
000-4114-01	Germany Sales - Retail/Parts	4

The report is broken into two sections: Which accounts did the spreadsheet not access and which accounts the spreadsheet did access along with the number of times they were accessed.

In the preceding P&L example, the report indicated that accounts 000-1100-000 through 000-3030-00 were not accessed at all. These accounts correspond to the balance sheet as expected. The next section shows all the accounts that were accessed and the number of times these were accessed. The following is another Analyze example report, except this time the report indicates a problem, one account has been added to the report twice and another was omitted:

My Company Inc.

The current sheet does not use the following accounts:

From 000-1100-00 To 000-3030-00

From 000-4600-00 To 000-4600-00

The current sheet uses the following accounts:

000-4100-00	Sales	3
000-4110-01	US Sales - Retail/Parts	3
000-4110-02	US Sales - Finished Goods	3
000-4111-01	Canadian Sales - Retail/Parts	3
000-4111-02	Canadian Sales - Finished Goods	3
000-4112-01	Australian Sales - Retail/Parts	3
000-4112-02	Australian Sales - Finished Goods	3
000-4114-01	Germany Sales - Retail/Parts	3
000-4114-02	Germany Sales - Finished Goods	3
.		
000-4510-02	Cost of Goods Sold - Finished Goods	3
000-4601-00	Purchases Trade Discounts	6
000-4700-00	Shrinkage and Waste	3
000-4710-00	Freight and Handling	3
000-4720-00	International Freight and Handling	3
000-5100-00	Salaries and Wages	3
100-5100-00	Salaries and Wages - Administration	3

In this report we see that the account 4600 from the P&L was omitted and account 4601 was accessed twice as many times as any other. The problem is clear... we have accidentally entered account 4601 twice; one of the references is almost certainly a typo of 4600.

Using Analyze makes diagnosing problems with a report a snap.

Tip:

If you are using a GL function to calculate net income in order to make sure that the number you have calculated in your detailed P&L report is correct, we recommend that you disable this function (perhaps by turning it into a label) before running Analyze. Removing validation functions from the analysis improves the results; in particular, the "omitted accounts" section of the Analyze report is more meaningful.

Analyze Re-Calc Time

A recalculation time analysis is most useful in resolving problems with spreadsheets that take a very long time to recalculate.

After creating a financial report in Lotus 1-2-3 or Excel, select **F9|Analyze** from the menu and select the “Recalc Time” option in the Analyze dialog. When you do this, the following happens:

- 1 A message is sent to F9 indicating an analyzed recalculation is about to begin.
- 2 The add-in then triggers a recalculation of the current spreadsheet (in Excel, only the active sheet is recalculated).
- 3 During the recalculation F9 notes the start time, performs the calculation, then calculates the elapsed time *and returns the elapsed time* instead of the calculation result.
- 4 When the recalculation is complete, another message is sent to F9 indicating that the Analysis is complete.

At this point, your spread sheet is filled with recalculation times for every F9 function. By looking at the results it should be evident which calculations are responsible for slowing the spreadsheet down.

Tip:

Be sure to show all columns and rows. It is not uncommon for the error to appear in a row or column that has been zero suppressed or hidden.

If you arrive at a situation where your sheets are taking an excessive amount of time to recalculate and none of the performance suggestions help (see “Performance Enhancing Formulas” in *Appendix A: F9 Tips and Tricks*), contact our technical support staff.

Server Commands

The F9 Server is the part of F9 that interacts between your spreadsheet — either Excel or Lotus 1-2-3 — and one or more of your GL applications.

To open just the F9 server, double-click on the F9 icon.



Do not access the Server directly unless you need:

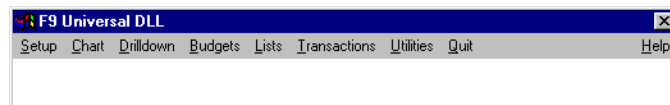
- to perform configuration tasks; or,
- F9 to fill the Clipboard with data for your spreadsheet or some other application.

The F9 Server contains four menu items:

Topic

A Topic is F9's name for an accounting system. It is also the “topic” parameter of an F9 function. When you select Topic from the menu, one of the following occurs:

- If you are only using one accounting system, the toolbar for your accounting system opens.
- If you are using more than one accounting system, a list of accounting systems opens. Select the accounting system you require. The toolbar for the accounting system you have chosen opens.



The toolbar for each accounting system contains the following menu items:

- **Setup** — Opens the configuration dialog to direct F9 to your accounting system and set the defaults.
- **Chart** — Opens a window to work with your Chart of Accounts. (We recommend “lists”).
- **Drill Down** — Opens the Drilldown window to examine the last GL formula.
- **Budgets** — Opens the Budget Write Back window.
- **Lists** — Opens a window that can provide lists of specifiers such as segment values.
- **Transactions** — Some F9 implementations can now prepare transaction batches for submission to data-entry.
- **Utilities** — This menu item collects several commands which are less used, such as:

- **Account Enquiry** — Opens a window which lets you quickly and easily query a GL amount and/or configure the GL Paste command.
- **Passwords** — *If* security is implemented in your accounting system, this window lets you enter passwords and gain access.
- **Maintain Financial Entities** — Opens a dialog to create, edit or delete F9 Financial Entities.
- **Help** — Opens F9’s accounting-system specific Help file. This help file is to be used in conjunction with the common F9 Help file. This help file:
 - describes the unique aspects for this implementation, that is, how it differs from the “generic” F9,
 - special information about the accounting system as it relates to F9.

Default Topic

For users with more than one accounting system installed only. To change what F9 considers the default accounting system to be, select Default Topic. From the list of accounting systems, select the accounting system you require. The toolbar for that accounting system opens.

Quit Server

Forces the Server to quit. **Do not use this command unless you are sure you want to terminate the Server and F9!** If you select Quit Server, F9 stops working and your spreadsheet fills with “DDEML errors.”

One instance when you may need to force the server closed is when your spreadsheet has closed from an application error.

Help

Opens the common help for F9.

7 – Advanced Features

CHANGING THE WAY CELLS ARE RECALCULATED

Note:

This option applies to Excel and Lotus 1-2-3 only.

The default behaviour for Excel and Lotus 1-2-3 is to recalculate every GL function every time a recalculation (*i.e.*, pressing F9) is requested. It is possible to place Excel or Lotus 1-2-3 in a mode where GL functions are only recalculated when the spreadsheet believes they should be. That is, the spreadsheet will only request F9 to calculate a GL function if and when the cells the function refers to change.

To do this, add the following line to the Excel or Lotus 1-2-3 sections of the F9 INI file using a text editor:

```
Functions Dirty=N
```

Alternately, you can use the F9 Options dialog to set this same option. (See *Chapter 6: Commands and F9 Windows* for more information). Be sure to restart your spreadsheet after changing this option.

The next time you bring up F9, the spreadsheet will only recalculate GL functions that are “dirty.” This mode can make spreadsheet construction more pleasant, especially for large Charts of Accounts. When a spreadsheet is initially loaded in Lotus 1-2-3, all functions are tagged as “dirty.” This is not the case in Excel.

Caution: While the functions are marked as “not dirty,” or the INI file reads “Functions Dirty=N,” your spreadsheet will not recalculate F9 functions when changes are made to the Setup window that would change the values that F9 returns (*i.e.*, changing the default company). *To force cells to be recalculated, you need to “change” a dependency.* Usually, the easiest way to do this is to press **F2** and **Enter** on the cell containing the Company Specifier (assuming that there is only one). This will cause the spreadsheet to treat all the F9 functions that refer to this cell as “dirty” and they will be recalculated the next time you press F9.

Note:

“Functions dirty=N” is a concern when using Silent Running where it is common to alter many dialog settings and recalculate the sheet. These operations may return misleading results if “Functions Dirty=N” is not taken into account.

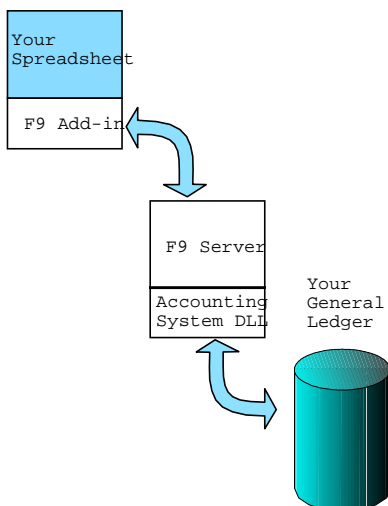
Existing Lotus 1-2-3 Spreadsheets

In Lotus 1-2-3, changing the *Functions Dirty* entry will have no effect on existing spreadsheets. To get the behavior described above in Lotus 1-2-3, you will need to rebuild your spreadsheets. The easiest way to do this is to press F2 and Enter on a model GL function, and then copy that function back through your spreadsheet.

HOW F9 WORKS

F9 consists of three components: a spreadsheet component, the F9 Server program, and an accounting-system specific program file. The spreadsheet component and the Server program are generic: they are not specific to any one accounting system. The accounting system program file is always unique to the accounting package you are using. Each component is discussed briefly below.

For typical F9 installations, you do not need to be aware of the product organization described below. As a user of F9, you will load the spreadsheet component — automatically or manually — right from within your spreadsheet. Everything else is handled automatically by F9. If you are not interested in the details of how F9 works, just read the text on spreadsheet components below and skip the rest of this section.



F9 Spreadsheet Components

If you are using Excel or Lotus 1-2-3, you will use a special spreadsheet component that manages information requests to F9. The spreadsheet component accepts requests in the form of spreadsheet formulas and replies with numbers or text.

Once attached, the F9 spreadsheet component extends the power of your spreadsheet by adding a set of special functions and commands. This makes access to your GL balances as simple as entering a formula into your spreadsheet.

- Excel users use an Excel add-in — a file with the extension .XLL. The F9 add-in for Excel is called F9.XLL.
- Lotus 1-2-3 users use a Lotus add-in — a file with the extension .ADW or .12A. The F9 add-in for Lotus 1-2-3 is called F9.ADW, except 1-2-3 '97 and later which is called F9.12A.

More detailed instructions on attaching your F9 spreadsheet component to your spreadsheet is included in the *Chapter 2: Installation* or in the Appendix about using F9 with your spreadsheet.

The F9 Server Program

All F9's have a Server program. The F9 Server provides access to accounting information to fill any spreadsheet requests. To access the accounting system, the Server uses an accounting system-specific program file. If you have several accounting systems on your computer, they are all accessed through one Server.

Accounting System Program Files (DLL)

F9 includes at least one accounting system-specific program file — or DLL. Each accounting system program file receives requests from the Server (and hence from the spreadsheet) for data specific to its associated accounting system. F9 uses the name of the accounting system program file as the “topic” of each F9 function. For example, the accounting system program file UNIV.DLL returns data contained in an F9 Professional GL. If you provide a “topic” parameter of “univ” to F9, F9 attempts to use UNIV.DLL to retrieve the result.

When only one accounting system program file exists, F9 uses that file name as the topic. If you only have one accounting package on your system, you can largely ignore accounting system DLLs. For example, if you only access data from an F9 Professional Datamart, ignore the issue completely.

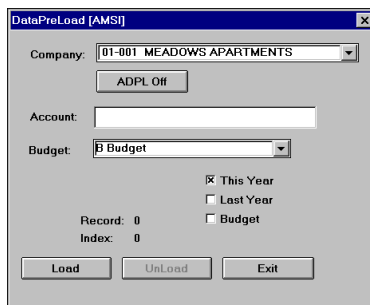
When more than one accounting system program file is present, F9 asks which is the default topic. Most people use only one accounting system, so few will even see the request for a default topic.

For the latest version of the F9 software, visit the F9 website at www.F9.com. The accounting system DLLs require a password which our Technical Support people can give you. Contact Technical Support at (604) 688-8271, ext. 320 or by e-mail at support@f9.com.

DATAPRELOAD

F9 version 3 introduced a feature called DataPreLoad that significantly improved recalculation times. DataPreLoad lets you load all or part of your GL data into Windows memory before you recalculate your spreadsheet. With the data stored in memory, recalculation times decrease by an order of magnitude or more for some databases.

A typical DataPreLoad window looks like the following:



Pre-load data in one of three ways:

- Manually by entering the DataPreLoad window from the Setup window. Once there, select the data desired and press the Load button. Selecting no accounts (*i.e.*, leaving the Accounts field blank) selects all accounts. In the simplest scenario, you could load all data for the current and prior year.
- Automatically by setting up one of more sets of data to be loaded every time you run F9. After loading the data desired, press the button labeled ADPL (Automatic DataPreLoad). This will tell F9 to load the selected data every time you run F9. This is the recommended mode if your data sets are relatively small and/or you are working with only one or two companies or sets of books.
- Using Silent Running Macros from within your spreadsheet. The various values in the DataPreLoad window can be set in the usual Silent Running way. The F9DPL command can then be executed inside your macro to actually load the data. F9 also provides an F9Reset command which resets F9. This has the side effect of unloading all DataPreLoad data. For example, if you had a number of companies, you could create spreadsheets for each; create Silent Running macros to load the data for the particular sheet as a macro that will run automatically every time the sheet is loaded; and then **link the sheets together via macros again to do production reporting.**

Tip:

There is more documentation on Silent Running in the next topic of this manual.

Correct use of the Silent Running feature will allow you to fine tune F9 on a sheet by sheet basis so that the data F9 requires to calculate the spreadsheet is loaded once and only one. Thus F9 can be made to not only run faster, but to run as fast as is theoretically possible!

Note:

Once data has been pre-loaded, it is no longer “hot”, but is frozen as at the time it was loaded. If you wish the data to be refreshed, unload it (by pressing the Unload button) and load it again.

DataPreLoad allows you to load data on a company by company basis for This Year (where “This Year” is determined by the Year field, if present); Last Year and budgets. If the account specifier is left blank, the entire chart of accounts will be loaded. If a specifier is provided, however, only the accounts requested will be pre-loaded. For example, if you were working with a four segment account code where the second segment is the department, and you knew that the spreadsheet you were going to work with was a departmental Income Statement for department 100, you might enter an account specifier that looked something like this:

-100--*

In this way, DataPreLoad will work faster without sacrificing recalculation times. You may load as much data as desired. If you were going to work with two departments, change the account specifier and load the second department as well. The same is true for budgets.

Automating F9 Functionality

As the title of this Section implies, the goal is to tell you how you can automate various aspects of F9's functionality for applications such as Executive Information Systems (EIS). The methods we suggest are:

- Silent Running allows you to use spreadsheet macros to invoke F9 commands.
- Production reporting describes how to use macros to alter and recalculate reports so a single report generates multiple printouts for distribution with a minimum of interaction.
- Dynamic Data Exchange (DDE) requests from any other application.

SILENT RUNNING

If you are using F9 with a spreadsheet, you are aware that you can access various F9 windows by either pressing a toolbar button (*a.k.a.* smart icons) or by selecting an appropriate menu option. For example, you might select Setup from the F9 drop-down menu in Excel. The result is that F9 “wakes up” and opens the F9 Setup window.

There is another way to activate these F9 functions — through a spreadsheet macro. For instance, when you execute the following macro in Excel, the result is the same as selecting Setup from the menu as described above.

```
=Setup()
=Return()
```

With this knowledge in hand, you can now create your own buttons to access the various F9 facilities by associating a button with a macro that contains commands that are recognized by F9.

As described in “How F9 Works” earlier in this chapter, F9 accepts a number of Dynamic Data Exchange commands, each of which has its corresponding macro. The commands and their macros are:

DDE Command	Excel Macro	Lotus Macro
[Setup]	=Setup()	{Setup}
[Budget]	=Budget()	{Budget}
[Chart]	=Chart()	{Chart}
[Drilldown]	=DrillDown()	{DrillDown}
[PeriodW]	=PeriodW()	{PeriodW}
[Passwords]	=Passwords()	{Passwords}
[F9Server]	=F9Server()	{F9Server}
[F9Com1]	=F9Com1()	{F9Com1}
[F9Com2]	=F9Com2()	{F9Com2}
[F9Com3]	=F9Com3()	{F9Com3}
[F9Reset]	=F9Reset()	{F9Reset}
[F9DPL]	=F9DPL()	{F9DPL}
[F9List]	=F9List()	{F9List}

There is, of course, little point in running these macros in this form since, in most cases, there are toolbar buttons or menu items to do the same thing already. Once an F9 window appears, you are free to enter values, press buttons and so on.

The last three F9 commands (F9Reset, F9DPL, and F9List) perform functions that are DLL specific. Their function is documented in each DLL's help.

If you try to run one of the above macros, such as the Excel example using Setup, you will notice that as soon as the macro encounters the F9 Setup command, the macro is suspended and the F9 Setup window appears. When you return to the spreadsheet, the macro picks up where it left off. **So the first problem is how can we invoke F9 functionality through a macro in such a way that F9 does not “wake up”, thereby allowing the macro to continue to run uninterrupted.**

The solution to this problem is to provide a special parameter to the F9 command. The special “silent running” parameter is:

NoShow=1 or NoShow=2

In Lotus 1-2-3 for Windows, the syntax for supplying parameters to an F9 command is as follows:

```
{Chart “NoShow=1”}
```

In Excel macro language, it is as follows:

```
=Chart(“NoShow=1”)
```

In Visual Basic in Excel, use the following syntax:

```
Application.ExecuteExcel4Macro “Chart(““Noshow=1””)”
```

Note:

For the NoShow parameter and all other DDE command parameters, case is not important.

If you were to execute a macro with the above syntax, the result would be that Chart would execute with its current settings and send the result to the Clipboard. While the Chart was running, the hourglass cursor would appear. When the Chart completes, control would return automatically to the macro which could then, for example, paste the results into a spreadsheet somewhere.

A NoShow value of 1 tells F9 not to show any of its windows while serving the command. The only F9 windows that might appear will display error messages if the request failed. A NoShow value of 2 will stop F9 windows from appearing regardless of the success or failure of the request.

The primary distinction between F9 functions such as GL and F9 commands such as Chart is that functions interact directly with cells in the spreadsheet, and commands interact with Excel or Lotus 1-2-3 through the Clipboard.

Not all F9 commands respect the NoShow parameter (such as Password), and for some commands there is little or no point in running them from a macro (such as F9 Server and PeriodW). The commands that are of most interest are:

- **Setup** sets various options in the Setup window and other windows
- **Chart** sends account details to the Clipboard
- **Budget** writes budget data in the Clipboard back to accounting system
- **DrillDown** drills through various account segments or account transactions and sends the results to Clipboard
- **F9List** produces lists of accounts, companies, budgets, *etc.* and sends them to the Clipboard. The F9List command is really a subset of the Report Wizard functionality.
- **F9DPL** invokes a DataPreLoad
- **F9Reset** resets F9, closing all files and re-initializing all data, including any DataPreLoad data

The second problem to be solved with respect to F9 commands is providing a way to set the various options associated with each F9 window. Without a method to do this, F9 macros would not be particularly useful since they could only operate with current window settings — settings that can only be changed by hand.

The solution, once again, is to provide parameters to the F9 commands to set the various options associated with each window in F9.

Most of the options in each F9 window are remembered from run to run in the “INI file” F9.INI. This file is kept in your Windows directory. While every F9 DLL shares certain INI settings (such as rounding and scaling), they all have settings that are unique to the DLL as well. For those options that are stored in the F9 INI file, the option is set through parameters to the F9 commands using almost the exact INI file text and syntax associated with the option.

The following is a fragment of a typical DLL’s F9.INI file:

```
Chart Company=F:\F9U\UTIL\DEMO.BTR
Chart Account=*.~.*
Chart Period=1 Budget,2 Budget,3 Budget
Chart Type=BUDGET
Rounding=0
Scaling=0
Current Year=1992
Current Period=0
Chart Year=1992
Chart Show Account=1
Chart Show Description=1
Chart Show Origin=1
```

For each DLL, we have tried to make it obvious which INI file text line is associated with which setting. If you plan to write F9 macros, we suggest you print your INI file and have it handy as a reference.

An example should make this clear. Suppose you wish to create a button in Excel that, when pressed, will dump all the “1000” accounts for the current period out to the current sheet at the current cell. The macro associated with this button might look like this:

```
=Setup("NoShow=1,Chart Account='1000-*-*',Chart Period='This Month'")
=Chart("NoShow=1")
=Paste()
=Return()
```

The Lotus 1-2-3 equivalent of the above example would be:

```
{Setup"NoShow=1,ChartAccount='1000-*-*',Chart Period='This Month'"}
{Chart"NoShow=1"}
{Edit-Paste}
{Return}
```

Equivalently, this example could be rewritten as:

```
=Setup("NoShow=1,Chart Account='1000-*-*'")
=Setup("NoShow=1,Chart Period='This Month'")
=Chart("NoShow=1")
=Paste()
=Return()
```

or as:

```
=Chart("NoShow=1,Chart Account='1000-*-*',Chart Period='ThisMonth'")
=Paste()
=Return()
```

Of the three Excel forms illustrated above, we recommend the second. We shall explain why in a moment.

Notice the use of single quotes around some of the parameters. These quotes are not absolutely necessary, but are always allowed. The use of single quotes **is required** if the parameter value includes commas. Thus, the quotes in the following example are not required:

Chart Period='This Month'

but **are required** in this example:

Chart Period='1,2,3'

This is the only significant difference between the parameter text and the INI file text.

Tip:

All F9 commands should include the NoShow Parameter as the first parameter in the list unless you want to edit the values in the F9 window controls.

The macros you write can be much more sophisticated than this simple example. For details on creating macros in Lotus 1-2-3 and Excel, refer to the manuals associated with each of these products. Some basic introductory information about macros is documented in the spreadsheet-specific chapters in this document.

For the greatest flexibility in editing and creating macros, set one value per line and use cell references, such as:

```
=Setup("NoShow=1,Chart Period="&Sheet1!A7)
```

This notation lets you change what your macro does without having to edit the macro. Instead, you change the macro's behavior by editing cells in the sheet you are working with.

Your F9 product is supplied with many examples of spreadsheets that use macros for various purposes. Refer to the Button sample spreadsheet for examples of F9 command macros. This sheet includes macros that will (at the push of a button) create a Trial Balance; fetch budget data; write budget data back to the accounting system; drill a number by any segment of the account code; drill a number to fetch transactions, *etc.*, all without interacting directly with F9 at all!

Certain windows values and settings are not saved by F9 from run to run. Therefore, they do not have INI file settings. The most common ones are associated with the Drill window and are documented below. Any others will be documented in the DLL's help file.

Drill Account
 Drill Budget
 Drill Company
 Drill Period
 Drill Segment
 Drill Year
 Drill From
 Drill To

The meanings of most of these values are self-explanatory. The Drill window segments are numbered from **zero**. Thus, supplying the parameter

```
Drill Segment=0
```

will drill by the first segment. To drill by transaction, you may either supply the value of the number of segments in the account code (*e.g.*, if the account code has three segments, then supplying the value three will drill by transactions, once again, because the segments are numbered from 0) or alternatively, you may supply any larger value (*e.g.*, 10) to drill by transactions.

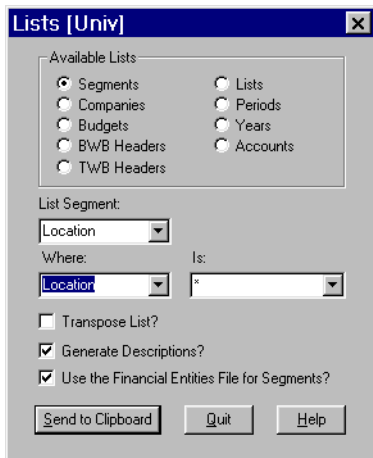
If you wish to automate drilling transactions, you may set the drill From and To dates using the Drill From and Drill To parameters. These dates must use the form DDMmmYY or DDMmmYYYY.

Using the Lists Facility with Silent Running

The Lists window follows the same rules as all F9 dialogs with respect to Silent Running. Silent Running is especially useful when used to drive the Lists window.

As always, you can review your F9.INI file to determine the names of the controls in an F9 window, and the values of those controls can be set using Visual Basic or macros in your spreadsheet and F9's Silent Running feature.

The typical Lists window resembles:



The main four controls (*e.g.*, the radio button group and the three edit boxes) have the following names:

Selected List

Segment Segment

List Segment Where

List Segment Is

You select a particular radio button by number, starting from 0. That is, to select Segments as the type of list desired, you would enter into a Silent Running command the following string:

Selected List=0

Segments can be selected by number or by name. Typically, you would select them by name. For example, if your main or natural account segment was called “account”, you could select it as the list to generate by including the following string in a Silent Running command:

List Segment Segment=account

Thus to create the list in our example, the set of Silent Running commands for Excel would read:

```
=Setup("NoShow=1,Selected List=0")
=Setup("NoShow=1,List Segment Segment=account")
=Setup("NoShow=1,List Segment Where=account")
=Setup("NoShow=1,List Segment Is=4*")
=F9List("NoShow=1")
```

and for Lotus:

```
{Setup "NoShow=1,Selected List=0"}
{Setup "NoShow=1,List Segment Segment=account"}
{Setup "NoShow=1,List Segment Where=account"}
{Setup "NoShow=1,List Segment Is=4*"}
{F9List "NoShow=1"}
```

Again, we comment specially on the Lists window with respect to Silent Running because it is so powerful. Using Silent Running and the Lists window, you can potentially automate many aspects of your spreadsheets. For example, suppose you construct an Income Statement and you wish to allow the user to run the report against a particular department. One option is to instruct the user to edit the appropriate cell in their spreadsheet and enter the appropriate department code before recalculating and printing the report. Alternately, you could create a button on the sheet that, when pressed, would display a dialog box listing available departments. The macro or Visual Basic procedure attached to the button would use Silent Running to create the list and it could, of course do much more, such as recalculate the report, zero suppress it, and then print it. Now you no longer need to remember department codes or which department is which.

Note:

*Refer to your Excel, Lotus 1-2-3 or Visual Basic documentation for information on how to develop macros or Visual Basic procedures. To access F9 commands inside Visual Basic, you need to use the **Application.ExecuteExcel4Macro** function.*

PRODUCTION REPORTING WITH F9

Macros can be used to perform any repetitive reporting task. For example, you may have created an income statement for a specific department, profit center, location or any other segment of the account code. To run the same report for 15 other departments, you have a number of choices:

- Manually edit the cell containing the department (there should be only one!), recalculate the spreadsheet, zero-suppress the report area if desired and then print the report. This, of course, would take some time.
- Create a workbook with 15 pages in it. This will work fine, but adding departments would be a pain, and changing the report would be an even bigger pain because you would have to edit 15 (or more) pages.
- Use a macro. This is definitely the way to go! The Button sample sheet provides a macro called *RunF9Report* to accomplish this task. You may use the macro as is, or modify it for your own purposes. You may want to copy the macro into your personal workbook (in Excel) so that it is always available. Here's how it works.

To use the RunF9Report macro, you will need to define three named ranges in your report spreadsheet. An example of this macro in action can be found in the Button spreadsheet.

The *SegmentValues* named range should indicate the top cell of a column of cells containing segment values (e.g., departments) that should be substituted into the report. This column of segments would typically be on the current sheet, but outside the printed area of the report.

The *SegmentTarget* named range should indicate the cell in your report containing the segment to be used in that particular report.

And finally, the named range called *ReportArea* should include the entire print area of the report.

When you run the report, the macro will start at the top of the list of account segments (*SegmentValues* named range) and, in turn, substitute each one into the cell containing the segment in the actual report (the *SegmentTarget* named range). For each segment value, it will recalculate the spreadsheet, ZeroSuppress the report area, and then print the area.

CREATING F9 DYNAMIC DATA EXCHANGE REQUESTS

If you are using a spreadsheet component, you need not read this section. If, however, you are not using Excel or Lotus 1-2-3, you will have to formulate DDE requests yourself.

Each DDE request consists of a server (in our case, this is always “F9”), a topic string (one of Synex’s DLL names, or the string “F9” which requests the default topic), and an item. The item is a string consisting of either a command (one of [Drilldown], [Setup], [Password], [Chart], [PeriodW], [Budget], [F9Server], or [Close]) or a function. The functions supported vary slightly from DLL to DLL, but all support GL, NGL, CODATA, ACCTDATA, and DESC at a minimum. Each function takes a number of parameters, each separated by a semicolon. For example, a valid item might be:

GL;0-0-1000-0;this month

8 – Editing Support Files

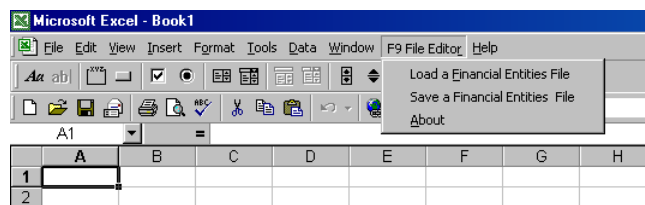
The File Edit Add-in (F9EDIT) is designed to allow extensive editing of several support files for F9's Datamart. With the exception of Financial Entities, most of these features are only supported by F9 Professional. For most editing of Financial Entities, we recommend the Financial Entities Editor window discussed in *Chapter 6: Commands and F9 Windows*.

The F9EDIT add-in can modify the Financial Entities used by Version 4 DLLs. The Financial Entity database (SAD file) contains the “natural” and user defined Financial entities. In addition *if you have F9 Professional* you will be able to edit:

- The MAP file which contains the account associations between companies.
- The TREE file which contains the financial ownership between companies.
- The CURRENCY.F9 file which contains rates of conversion and exchange between currencies for a series of dates. F9 supports a wide variety of systems for currency conversions depending on the date, currency, and account specifier.

These files are Btrieve database files and cannot be edited except with F9 utilities. The MAP, TREE and Currency files are specific to the F9 Professional Datamart system. The SAD file is a new feature with this version of F9.

The add-in is distributed on the CD with other Excel components. It is loaded like all other add-ins. Specific instructions for loading an add-in for your spreadsheet was given in *Chapter 2: Installing F9*. Once installed into your spreadsheet, the File Edit Add-in adds a menu item:



The File Edit Add-in uses a similar process to the Budget Write Back procedure (See “Budget Write Back with the Clipboard” in *Chapter 9: Budget Write Back*). When a file is loaded, the table is imported into your spreadsheet with headings. The table, including headers, is exported by placing the cursor in cell with the first header on the worksheet (normally A1) and selecting the “Save” option for the table.

FINANCIAL ENTITIES

Note:

The use of Financial Entities in F9 Formulas is discussed in Chapter 5: F9 Functions within the discussion of Function Parameters. The rules regarding their sizes and types are discussed as part of Financial Entity Editor in Chapter 6: Commands and F9 Windows. Before using the F9Edit add-in to edit financial entities, you should be familiar with both of these previous topics.

Using the Financial Entity Editor

Use the *Financial Entity Editor* window. To open the Financial Entity Editor, select **F9|Server** from your spreadsheet, then **Utilities|Maintain Financial Entities** in the DLL Window. See *Financial Entity Editor* in Chapter 6: Commands and F9 Windows. At the very least, open this window to initialize your database with all the known entities from your accounting system. To perform the initial import of all the “natural” financial entities, open the Editor window and click **Update/Create Entities File**.

For most accounting systems, financial entities are stored with the Sub-Account Descriptions in a Btrieve database file with the extension SAD.

Tip:

Your accounting system may vary. Please see the accounting system-specific help file.

Financial Entity Edit in a Spreadsheet

Loading the Financial Entities imports data from a file with the extension SAD. This creates several columns of information in the current spreadsheet. The first row is occupied by headings. Since the Financial Entities are stored in a Btrieve database file, **do not** attempt to open it in a text editor. The columns have the following meanings:

Column	Description
Segment Value	The description below will apply to this value of the segment. Must be a valid segment specifier or blank. Blank is a special case where the Description is the Segment Description and not a description of the specifier. E.g., segment two may have: a blank value to describe the segment as “Location” the value “*” described as “All Locations”.
Segment Number	The segment of the account code being described. Must be a number between one and the number of segments.
Description	The actual description text seen by F9. If the Segment Value is blank, this is the Segment description. If the Segment Value is not blank, the description is a financial entity.
Is Financial Entity?	A Yes No option which controls whether this is a Sub-Account Description (i.e., a “natural” financial entity) or a User-Defined Financial Entity. A “Yes” in this column indicates a User-Defined Financial Entity.

When deciding to make a User-Defined Financial Entity, remember to consider each of these side effects. User-Defined Financial Entities:

- are listed before natural entities in most listboxes.
- may be significantly longer than descriptions. See sizes in topic *Financial Entity Editor* in *Chapter 6: Commands and F9 Windows*.
- are **not** accessible using the SDESC function.

Note the special meaning when the “Segment Value” is empty: the description is a Segment Name, not a description of a specifier.

Saving Financial Entities

Saving Financial Entities creates a file with the extension SAD. To do this, place your cursor in the cell containing the first header of the spreadsheet (normally A1) and then select **F9 File Editor|Save Financial Entities**. A standard file save dialog will allow you to replace existing file or create a new one.

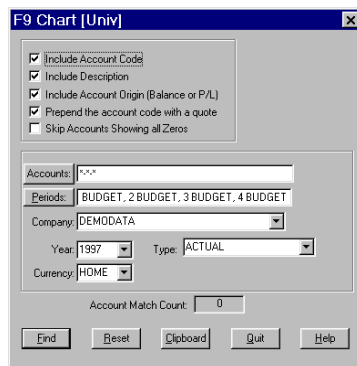
9 – Budget Writeback

In previous versions of F9, Budget Write Back and the Clipboard let you access write budgets for almost every GL that F9 reads. F9 Version 4 introduces something new: WGL and WDESC functions. These two functions, in combination, let you write your entire budget with the same ease that you currently author your financial reports. In fact, the best use of WGL is for budgeting: prepare your budget in a report style, then write it to the GL using a second sheet in the same workbook.

BUDGET WRITEBACK WITH THE CLIPBOARD

The simplest and most effective way to use the budget write-back feature is in conjunction with the Chart window as follows:

- 1 Go to the Chart window. Select appropriate accounts. For example, often P&L revenue accounts will begin with the digit “4” and an appropriate account specifier might then be “4*-*”.
- 2 Enter the periods you wish to budget. Usually you will want to budget all twelve periods and so an appropriate period specifier would be “1 budget,2 budget,3 budget...”. One way to generate all budgets is to use the Period Wizard. Press **Period** to open Period Wizard. Select **Budget** (rather than **Actual**) and **All Periods** for the period entry.



- 3 If your accounting system supports multiple budgets, you will also want to select the appropriate budget.
- 4 When you are ready, select Find and Chart will place the selected budget information into the Clipboard.

- Go back to your spreadsheet and Paste the budget data into the sheet. **Important:** Re-size the columns that contain numbers so that all significant digits display. You may now edit your budget data as desired. Feel free to use the facilities of your spreadsheet for this purpose.

	A	B	C	D	E	F
1	C:\TEMP\DEMO.BTR	1992				
2	Account	Description	1 Budget	2 Budget	3 Budget	4 Budget
3						
4	'A-30100-000	Sales - Product Line A	-156,547.50	-157,956.43	-159,378.04	0
5	'A-30100-100	Sales - Product Line A	-160,612.20	-162,057.71	-163,516.23	0
6	'A-30110-000	Sales - Product Line B	-105,265.70	-106,213.09	-107,169.01	0
7	'A-30110-100	Sales - Product Line B	0	0	0	0
8	'A-30120-000	Sales - Product Line C	-46,201.01	-46,516.82	-47,036.37	0
9	'A-30120-100	Sales - Product Line C	-32,128.88	-32,418.03	-32,709.80	0

- When your budget is complete, highlight it (*i.e.*, select it) and select **Copy** to copy your budget back to the Clipboard. Be sure that you include the column titles as generated by the Chart window.

Warning:

Be sure that all the numbers being copied to the Clipboard display properly in the spreadsheet before the copy operation. Each spreadsheet copies numbers differently depending on how they are displayed. For example, if your columns are too narrow, all three spreadsheets will display “#” signs. If you copy these numbers to the Clipboard in Excel, “#” signs are copied, but in Lotus 1-2-3, the correct numbers are copied.

- Finally, open the Budget window by selecting **F9|Budget Write Back:**

- Click **Write** to store your budget data back to the accounting system.

BUDGET WRITEBACK WITH WGL AND WDESC

Tip:

The syntax and basic use of the WGL and WDESC functions are discussed in “The Write Functions” in Chapter 5: F9 Functions.

The advantages of using WGL for budgeting are:

- Higher level of budgeting [accounting system dependent].
- Simpler method of creating and entering data.
- You can use all the power of a spreadsheet to analyze the budget (e.g., graph, calculate changes, etc.).
- Use the same “presentation report” for data entry and approval.
- Use groupware methods to collect sheets from each department head and enter budgets with diverse inputs. E.g., Send each contributor a spreadsheet workbook with their budget allocation and instructions to allocate their distribution; when the workbooks are collected, the WGL formulas write the budget into the central GL.

The simplest way to use the write functions is using a report based approach. The core steps are:

- 1 Prepare a report with the new budget as contents. This can be derived from the previous years figures (using GL) or a revision of this years budget (if one already exists).
- 2 Adjust the figures to your satisfaction; e.g., adjust forecasts up or down, remove discontinued sales lines, add new expenses, etc.
- 3 Build a “shadow” page which includes all the WGL and WDESC functions.
- 4 Recalculate the worksheet.

Tip:

The text in the following steps refers to the use of the WDESC function. However, the WDESC function is not implemented for all of the accounting systems that F9 can access since many accounting systems use a Chart of Accounts that must be considered a part of actual accounts, and F9 will not write to anything of type actual.

- 1 Prepare a budget for writing. Simply design a report that contains all of the accounts that will be included in the budget. Use GL functions to retrieve last year’s numbers or this year’s budget.
- 2 Adjust the figures to your satisfaction. For the report just created using a GL formula to get last year or the current budget, the first task is to convert all the cells to values. Select **F9|To Email /Viewer** in Excel or **F9|To Value** in Lotus 1-2-3.

- 3 Build the WGL sheet. On a blank sheet of the same workbook, start a new report with one distinction: Almost every *constant* on the write back worksheet should be a reference to the budget report sheet. That is, if the budget worksheet was named “Budget 98,” then the cell A1 on the write back sheet should refer to “Budget 98!A1”. The easiest way to achieve this is with these steps:
 - a On a blank worksheet, place the cursor in cell A1 and press “=”.
 - b Use your mouse to select the report sheet and click in cell A1 on this page.
 - c Press the **Return** or **Enter** key. Your workbook should now be open to the write back page with an off-sheet reference.
 - d Drag the formula across and then down your write back worksheet until the constants on the report worksheet are all included.

The principle exceptions to the write back constants are the YEAR and TYPE parameters. Where the first page will read either last year’s ACTUAL amounts, or this year’s budget, the write back page should always refer to the current year’s budget type. With the formula copied as above, you should be able to see all the constants so should edit the cells containing the Year and Type parameters to make the budget write to the correct year.

Next, you need to make one GL and DESC function on the budget report into a WGL or a WDESC on the write back sheet.

COMMON PROBLEMS WITH BUDGET WRITE BACK

The Most common problems with Budget Write Back using the clipboard are:

- Not selecting the “headers” when copying to the clipboard.
- Non-numeric data in the area (*e.g.*, the “#####” sequences that Excel copies) when copying to the clipboard.

The Most common problems with Budget Write Back using WGL are:

- Not specifying a valid budget as the **Type**.
- Trying to write with an imprecise account code (can’t use lists, wildcards, or ranges).
- Mixing account number formats.

F9 Univ:

Some problems with Budget Write Back can only be corrected by deleting data files. For example, if a company is created with a poorly formatted account number, the only way to correct the number is to delete the files. Fortunately, most accounting systems will prevent these sorts of errors.

Appendix A — F9 Tips and Tricks

This appendix contains some hints for using F9 to produce reports.

CONSOLIDATIONS WITH DIFFERING CHARTS OF ACCOUNTS

To perform consolidations of companies with differing charts of accounts follow these steps:

- 1 Set the **Return Zero for Account not Found** check-box in the Setup window on. This will allow companies to be consolidated even if the account structure is not common to both companies.
- 2 If the companies in question do not share the same fiscal years, use Period Specifiers such as “January” rather than “month 1”. Avoid the use of Period Specifiers such as “month 1” which always means fiscal period 1, and relative Period Specifiers such as “3 months ago” or “this month.”
- 3 If account descriptions vary from ledger to ledger, decide on which ledger’s descriptions to use (the DESC function can retrieve descriptions from the chosen set of general ledger data) or enter the descriptions you want to use directly into cells as labels.
- 4 For each set of general ledger data, list the account numbers in separate columns outside of the area which will contain the actual report. Enter the numbers that correspond to the “generic” account descriptions you’ve entered in the same order as the account descriptions.

When consolidating a ledger’s accounts, reference the account number column for that ledger’s set of data.

If you wish to bring balances from multiple ledgers into one cell you can easily do so by including more than one company in the company specifier. For example, the formula below would place the balance from company Terra and company Prod in a single cell.

```
GL("1030..2100", "", "terra,prod")
```

Using a formula like this assumes the two companies have a similar chart of accounts and are both using the same accounting system (F9 Topic). An alternative which would be marginally slower is to simply use your spreadsheet to add the two companies:

```
GL("1030..2100", "", "terra") + GL("1030..2100", "", "prod")
```

PERFORMANCE ENHANCING FORMULAS

The above suggestions illustrate one performance issue with F9: F9 performance is optimum if using the fewest possible requests to F9. For example, the single request from two companies will be faster than the two requests because *it takes time to communicate the request* and *it takes time to calculate a result*. Seen this way, it should be clear that it takes longer to make two requests than to make one and, for F9, the amount of calculation is virtually identical.

Using Cell References

A second source of request reduction is to use another F9 result in spreadsheet formulas rather than request the numbers again. For example, if you request a balance for accounts 10100, 10200, 10300 and 10500, and then want a subtotal, add the results using SUM or addition rather than:

```
GL("10100,10200,10300,10500","This Month")
```

Optimizing Spreadsheets

The best way to begin optimizing your spreadsheet is to use the **Analyze** command within F9 to “Analyze for Account Access.” In an ideal spreadsheet, you should expect to not access any number more than the number of periods + 1. For example, if your report is for a quarter, you would expect to access each account three times, or possibly four. The four would be the case if you implement control totals (see the next topic).

Analyze also provides a report of the times required to calculate each F9 function. Use this to find time consuming requests and optimize the ones that take too long. For example, if you use a wildcard like 1010? in a chart of accounts where only one account matches (*i.e.*, 10100 exists, but 10101..10109 do not), the request for 1010? will take *considerably longer* than a request for 10100 but return the same amount.

Depending on your reporting needs, you can choose to build “full reports” and then convert some elements to values rather than request them repeatedly. For example, the Chart of Accounts for most companies are quite stable so each company has portions of their reports “fixed.” After building and saving an F9 report “template,” you could convert the requests to SDESC, CODATA, and DESC to values and save a company version. This would be a simple annual task and would save some time.

USING CELL REFERENCES

Use cell references for items such as account numbers and period specifications in order to be able to easily update future reports. By referencing, you are creating a “template” report that can be modified by only changing the referenced cells.

This is a good worksheet creation technique rather than something specific to F9. Therefore, just as it is better to place your assumption in worksheet cells and reference these cells rather than integrating these assumptions into every cell calculation, it is the same with F9.

CONTROL TOTALS

Control totals provide a way of ensuring that the information in your reports is as reliable and accurate as possible. You can include control totals in your reports using F9. A variety of control totals are possible, but three of the most commonly used are:

Assets = Liabilities + Shareholders' Equity

Closing Retained Earnings = Opening Retained Earnings + Net Income for the Year

Net Income for the Year per Income Statement = Net Income for the Year per the Balance Sheet

Another method of ensuring that report amounts are reliable is to use a percentage change threshold for accounts in your income statement. For example, you can use an IF function to display a message if let's say the advertising expense account has increased 50 percent over the previous month.

In addition, use IF functions or macros to display a message if account balances are questionable. For example:

```
IF(Assets=(Liab+SHE),"Balances","Doesn't Balance")
```

where Assets, Liab and SHE are range names for the total assets, total liabilities and total shareholder's equity cells in your worksheet. This function will display either:

Balances

or

Doesn't Balance

Place this function in an appropriately noticeable cell.

Note:

In many cases, due to truncation and rounding errors, two values that appear to be equal may not be. Often, values returned by F9 will be close, but not equal. For example assets may exceed liabilities plus shareholder equity by 1 part in 1,000,000. To correct for this, subtract one value from the other, take the absolute value of the result, and compare it to a very small number. Thus your formula might look like:

```
IF(ABS(Assets-(Liab+SHE))<.00001,"Balances","Doesn't Balance")
```

NAMED RANGES

To make this a little more sophisticated, you can name each of the cells above using "named ranges". Now your formula might look like:

```
GL(Accounts,Period,Company)
```

This makes your formulae that much more readable.

Note:

Do not create named ranges or macros with the same names as any F9 functions or commands. They may have the effect of disabling the function or command.

If we use the range-name trick we learned before, the BSPEC function now looks like:

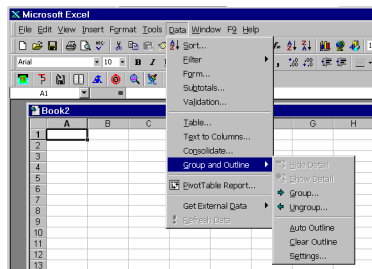
```
BSPEC(Locations,Departments,Accounts,SubAccounts)
```

This BSPEC function does not have to be in a separate cell either. It can be right inside your GL functions. And so, finally, putting it all together, we get the imposing:

```
GL(BSPEC(Locations,Departments,Accounts,SubAccounts),Period,Company,Year,Type)
```

DATA GROUPING AND OUTLINE

This feature of Excel is quite possibly the least know “power feature.” Hidden under the **Data** menu, this option quietly waits for a use... and financial reports can be certainly benefit from this feature.



Data grouping allows you to build a highly generalized report with every account included. Then, you “group” accounts into logical sets such as locations or business functions (*i.e.*, “sales” or “cash”). Each group is collapsible and can contain other data groups (*i.e.*, “Assets” often includes “cash,” “inventory,” “WIP,” and “Real Estate”).

One of the fastest spreadsheets to make with F9 is simply a complete chart of accounts with an amount per period. However, for most uses, this is not the *best* report. Using Data Grouping, you can collect each “group” of accounts and collapse the detail lines. Your one report ends up being a relatively simple overview. Then, when the inevitable request for “more detail” in any area arrives, expand the required groups and print again. Your “fastest” F9 report may become the only one you really need.

Once your “detailed” report is built, complete with sub-totals, rules, and fonts, its time to group the report into an outlined form. Start by selecting all of the lines which add into a subtotal, *but not the actual subtotal*, and select **Tools|Data|Indent** from the Excel menu. A new tool will be created in the margin of your sheet each time. The button on this tool rolls the details up and down for analysis and/or printing.

You are allowed to accumulate levels of information. So Assets can be made up of *current, long term, and Property, Plant, and Machinery*. Each of these levels can contain detail lines of individual lines or other sub-totals. In short, your Balance sheet can be rolled up to three lines; and your income statement to just a few more.

Also handy, are the “level buttons” at the top of the tool area of the outline.

F9 FAQs ON THE WEB

We have assembled a resource page on our website that answers Frequently Asked Questions about using F9. Please go to:

<http://www.f9.com/faq/index.html>

TROUBLESHOOTING BTRIEVE

F9 Version 4 introduces a number of features which rely on the Btrieve database engine. All F9 Version 4 products are shipped with Btrieve component files. These are installed directly into the F9 installation directory. The default location for this directory is C:\F9.

We have assembled a resource page on our website to help you troubleshoot the most common Btrieve errors: http://www.f9.com/support_resources.html

Additional resources are located at the following two websites:

Pervasive Software

<http://www.pervasive-sw.com>

Smithware

<http://www.smithware.com>

Appendix B — Using F9 with Microsoft Excel

INSTALLING THE ADD-IN

An add-in in Excel is loaded just like an Excel spreadsheet. The F9 add-in for Excel is called F9.XLL. To load the add-in, select **File|Open** from the Excel main menu and load F9.XLL. It will usually have been installed in your Excel directory.

Tip:

Always have your F9 sheets in manual recalculation mode.

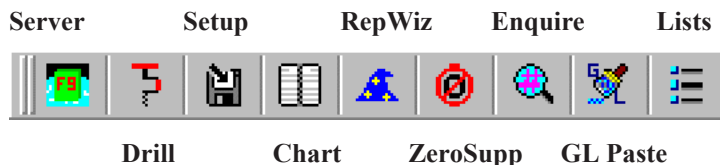
New sheets default to automatic. Use the **Options|Calculation** menu selection to set the calculation mode (**Tools|Options** in Excel 5). Excel has a Calculate Document (Shift-F9) option that only recalculates the active sheet. For larger GLs, this can be a handy feature. It allows you to place all your GL functions in one sheet in a workbook, and access the data the GL functions return in other sheets in your workbook. This gives you complete control over when the sometimes time-consuming F9 GL functions are executed. For more on recalculation modes and how to set them, see the section called *Manual Recalculation in Excel 5* later in this chapter.

Loading F9 Automatically

You can cause Excel to load F9 automatically by selecting **Tools|Add-ins|Browse** from the main menu. Locate the F9 add-in, named F9.XLL, and add it to the list of automatically loaded add-ins.

Customizing the F9 Tool Icons

The default icons used by the F9 Add-in for Excel are:



These may need to be corrected if the F9 Toolbar is “recreated” with this procedure:

- 1 Launch Excel and load F9.XLL (the F9 menu is available).
- 2 Use **File|Open** and load the workbook called F9BMP.XLW (Excel 5) or F9BMP32.XLW (Excel 7 and later) which you will find in the directory where you installed F9.
- 3 Click on each icon object on the sheet to change the appearance of the F9 toolbar.
- 4 Select **File|Close Workbook**

We also recommend that you move the Excel Recalculate tool to the F9 toolbar. This button recalculates your sheets when pressed. The Excel FAQ, later in this chapter, also includes tips on correcting problems with the toolbar.

Excel 97 and “Balloon Help”

The F9 toolbar buttons should now display their function when the mouse pauses over them. If they do not, you should load F9BMP32.XLS and press the “Press Me!” button. This spreadsheet can set the button hint text; F9BMP.XLS will not.

THE ADD-IN MENU

Once the add-in is loaded, you have access to all the functions provided by any F9 DLL you have installed. In addition, you have access to the following commands under the F9 menu item:

F9 Server	Select this option to access the F9 Server.
Drill Down	Position the cell cursor on a GL, NGL or GLTRAN function and select Drilldown to invoke Chart and view the accounts that make up a balance.
Setup	Select Setup to access the window for the default topic.
Chart	Select Chart to run Chart and send account data to the Clipboard.
Passwords	Select Passwords to enter password information for the default topic.
Toolbar	Unlike other commands, this command does not appear on the tool bar nor is it a DDE command to the current default topic or DLL. It is a toggle command to the Excel add-in to stop (or start) creating the F9 tool bar. When you select this command, a message will appear in the Excel status line indicating the tool bar create function status. In general, the tool bar will be created automatically only once. Excel will then “remember” it indefinitely. This command’s only purpose is to allow you to move the F9 tool bar icons to some other tool group if desired. If tool bar creation is on (the default) and the add-in does not detect a tool bar called “F9 Tools”, it will create one automatically. If you do wish to remove or hide the F9 toolbar, toggle tool bar creation off after you have done so.
Options	The Options dialog configures several F9/Excel features and communications parameters. See <i>Client Commands</i> in <i>Chapter 6: Commands and F9 Windows</i> .
DLL Help	Select this option to invoke the default DLL’s help system.

The Add-in Menu

Server Help	Select this option to invoke the Server help system.
Set Topic	Select this command to set or reset the client default conversation to some other DLL.
Version	This command opens an "about" style dialog which reports the versions of the F9 Add-in, Server, and accounting system DLL. This information is useful for Technical Support.
Period Wizard	The Period wizard will leave a correctly formatted period specifier on the clipboard.
Report Wizard	The Report wizard is well documented in <i>Chapter 4: The Reporting Wizards</i> .
Budget	This command invokes a Budget Writeback window to write information from the clipboard to the General Ledger.
Zero Suppress	Highlight a range of cells and select this option to suppress (hide) zero rows in the range selected. F9 also provides a toolbar button for this same function.
Analyze	Analyze completes reports as a result of a recalculation: it verifies that accounts are being accessed properly or provide a report of the amount of time used for each F9 function call.
Enquire	The account enquiry window allows you to make a "snapshot" query of an account in your GL. It also leaves information on the clipboard for the GL Paste command to interpret and begin a report.
To Viewer/E-mail	This option invokes a re-calculation and conversion on the <i>currently selected area of the spreadsheet</i> .

F9 FUNCTIONS

F9 adds a number of functions to those normally available within Excel. The most useful of these are GL, NGL and DESC. These functions can be reviewed using the Function Paste command or the Function Wizard and selecting functions from the F9 function set.

Tip:

Remember, in Excel you precede formulae with an equal sign (=). See the DLL's help for the general ledger you are using and the general remarks in this manual about available functions.

AUTOSUM

Don't use AutoSum (this is the button with the sigma or large 'E' on it) to create Sum functions in Excel. Excel recalculates the AutoSum area and with F9 functions this can take some time. In some versions of Excel, AutoSum triggers a sheet-wide recalculation. Users often mistake the sudden slowdown in response time as Excel freezing. This often leads to attempts to scroll or page around, which in turn often leads to a GPF (General Protection Fault) or some other catastrophic failure.

READING YOUR LOTUS 1-2-3 F9 SPREADSHEETS

Excel will not recognize GL and other F9 functions in a 1-2-3 spreadsheet. When you read the WK? file in, Excel will throw these functions away. Here is a suggestion for making migrating from 1-2-3 to Excel easier. Before you read the sheets with Excel, use 1-2-3 to edit the WK? sheet, and for some, or all, of your F9 functions, turn them into labels by editing the cell and adding a single quote to the front of the formula. For example, use Search and Replace to change @GL(into '@GL).

Then, when you read the sheet into Excel, replace the quote with an equal sign and remove any "@" signs from the formula. DESC and GL functions will work without additional modification.

Another approach is the following: Use the Lotus Range function to change all GL functions into the function MAX, and all NGL functions into the function MIN and save your sheet.

Now read the sheet with Excel and the corresponding feature in Excel to change each MAX function back into a GL function and each MIN function back into an NGL function.

WRITING MACROS IN EXCEL

In Excel, macros exist on separate sheets called: Macro or Module sheets. The following documentation explains in more detail how to write an F9 macro in Excel 4 format.

First, in Excel 5, select: **Insert|Macro**; and **Excel 4 Format** to create a macro sheet. Begin writing the calls to F9 in column B and make sure the last line of the macro ends with the statement:

```
=RETURN( )
```

This enables Excel to complete the macro successfully. To simplify running the macro, your next step is to give the macro a name. A trick in Excel that you can use is to place a logical name for the macro in the left adjacent cell. For example, if the first line of your macro begins at cell B5, then place its name in cell A5 as a label. Assuming the name is “JanSales,” set the cell pointer to the first cell (line) of the macro and then select: **Insert|Define Name**. Excel will automatically guess that the name you want to use is in the left adjacent cell which, in this example, is “JanSales”. Also click on the option **Command macro** in this window so that Excel knows it is a macro. Now, you can run this macro easily from any sheet as it has an identity with Excel.

But, you can go another step further. It is easy to draw buttons on sheets and assign macros to them. This simplifies the entire process of running several macros on the sheet or sheets. The Excel Drawing toolbar contains an icon to draw and size buttons. Once drawn, you can select **Assign Macro to Object** with the right mouse button and since you have already named the F9 macro, it will show up in a list of selections. Formatting the button or changing the macro it is assigned to is easy. Just point your mouse over the button and click on the right mouse button; a menu will then pop up allowing you to make changes.

In summary:

- macros in Excel exist on macro sheets and can access data on worksheets with external cell references;
- each macro is followed by an Excel return statement;
- macros can be given logical names which simplifies running them;
- you can add buttons to your worksheets and assign F9 macros to them;

F9 is supplied with a sample sheet called **F9Buttons.XLS** that contains many examples of F9 functions being run by macros. Many of our template spreadsheets have examples of macros that change the contents of cells for the purposes of creating new reports. This is a common way of implementing Executive Information System (EIS) functionality inside your F9 spreadsheets.

Note:

Do not create named ranges or macros with the same names as F9 functions or commands. They may have the effect of disabling the function or command.

Refer to your Excel manual for more information on creating and running macros.

MANUAL RECALCULATION IN EXCEL 5 AND '95

Note:

Executing the Report Wizard will also place the spreadsheet into manual recalculation mode.

You can create a macro that is always available that will put Excel into manual recalculation mode as follows: Select **Tools|Record Macro|Record New Macro|Options|Store in** in your Personal Macro Workbook. Also assign a key to the macro (for example, Ctrl-E).

Now record your macro by selecting **Tools|Options** and set the recalculation mode to manual and set the “Recalculate before Saving” option off.

Turn OFF the macro recording by selecting **Tools|Record Macro|Stop Recording** (or by hitting the Stop Recording button).

This macro can now be run anytime by hitting the assigned hot-key combination.

You can make the macro you have created run at sheet load time as follows: create a named range (**Insert|Name|Define**) that starts with “Auto_Open” and set the “Refers to” to the macro you have just created. It will have a name like “Personal.xls!Macro1”. This macro will now execute when the spreadsheet is loaded, forcing Excel into manual recalculation mode.

MANUAL RECALCULATION IN EXCEL '97

Note:

Executing the Report Wizard will also place the spreadsheet into manual recalculation mode.

You can create a macro that is always available that will put Excel into manual recalculation mode as follows: Select **Tools|Macro|Record New Macro**. This will open the “Record Macro” dialog in Excel. You should enter a name for the macro, set the **Store Macro in** control to “Personal Macro Workbook.” Also assign a key to the macro (for example, Ctrl-E).

Now record your macro by selecting **Tools|Options|Calculation** and set the recalculation mode to manual and set the “Recalculate before Saving” option off.

Turn OFF the macro recording by selecting **Tools|Macro|Stop Recording** or by hitting the “Stop Recording” tool button.

This macro can now be run anytime by hitting the assigned hot-key combination.

You can make the macro you have created run at sheet load time as follows: create a named range (**Insert|Name|Define**) that starts with “Auto_Open” and set the “Refers to” to the macro you have just created. It will have a name like “Personal.xls!Macro1”. This macro will now execute when the spreadsheet is loaded, forcing Excel into manual recalculation mode.

RANGE RECALCULATIONS

It is handy to be able to only recalculate a range of cells when using F9 (Excel 7 or later only). To do this, create the following Visual Basic module:

```
Sub RecalcRange()  
    Selection.Calculate  
End Sub
```

We recommend that you place this module in your *Personal.xls* spreadsheet so that it is always available. Once created and saved, you can access this module in a number of ways to recalculate only a range of cells:

- You can run it with **Tools|Macro|Run**.
- You can add access to the module to the Excel Tools menu.
- You can create a new button on the F9 Toolbar and assign the module to it (recommended). To do this in Excel 7, select **View|Toolbars|Customize**. Then drag a new button up to the F9 Toolbar. Next, assign the *RecalcRange* module to the button. You may also wish to change the buttons “face” (right-click on the button).

OTHER TIPS

Pressing F9 in Excel will recalculate all open workbooks in the Excel session. To recalculate the active sheet press Shift-F9 instead.

If F9 is not loaded when a spreadsheet using F9 is opened and recalculated, the cells containing F9 formulae will return #VALUE!. To attach F9 go to **Tools|Addins|Browse** and choose F9.XLL. This will load F9 as an add-in to Excel. Having done this, recalculate the spreadsheet.

Loading F9 through the **Tools|Add-ins** menu will put F9 in Excel’s add-in list and F9 will be loaded into memory with Excel without reducing any of Excel’s functionality. F9 takes very little memory, so it’s a good idea to have F9 attaching automatically to Excel regardless of whether or not it will be used.

EXCEL FAQ ON THE WEB

We have assembled a resource page on our website that answers Frequently Asked Questions about using F9 with Excel. Please go to:

<http://www.f9.com/faq/excel.html>

Appendix C — Using F9 with Lotus 1-2-3

INSTALLING THE ADD-IN FOR LOTUS VERSION 4 AND/OR 5

A 1-2-3 for Windows add-in is loaded through the **Tools|Add-ins** menu or by using the ALT-F10 key combination. The F9 add-in for 1-2-3 for Windows is called F9.ADW. To load the add-in with the menu select the F9.ADW file from the list box and click on the load button. Using the old style Add-in ALT-F10 key combination, choose Load from the menu, select F9.ADW from the list and select Load. The F9.ADW add-in file will usually have been installed in your 1-2-3 for Windows Add-ins directory.

INSTALLING THE ADD-IN FOR LOTUS SMARTSUITE '97/MILLENIUM

To install the Add-in, a number of files must be installed in the correct locations:

- The add-in definition file, **F912397.12a**, should be placed in the add-in directory (i.e., Lotus 97\123\addins) for easiest use.
- The library file, **F912397.dll**, should be placed in the windows system directory.
- All of the *.**BMP** and the **F9.SMI** files must be placed in the icons directory (i.e., lotus\123\icons).

Installing and Customizing the Tool Icons for Lotus V. 4 and/or V.5

The current versions of the Add-in for 1-2-3 versions 5 and '97 include an F9.SMI file which installs and configures the icons.

To install any F9 icon in 1-2-3 version 5, follow this procedure:

- 1 Launch 1-2-3 for Windows.
- 2 From the menu, select **Tools|SmartIcons**.
- 3 Use the mouse to press the Customize button.
- 4 Choose icons from the Custom Icons Display and select the Add button to place them into the Current Palette.

- 5 Use the Assign Macro button to add or change the macro the SmartIcon will invoke. The macros used for F9 are:



F9 Server

F9 Setup {SETUP}



F9 Chart



F9 Drilldown

F9 Password {PASSWORD}

F9 Topic {SETTOPIC}

- 6 And, finally, press each OK button until you're back to the spreadsheet.

To create your own customized icon you can use the Windows Paint program to edit an existing icon or create a new one for Lotus 1-2-3 for Windows release 1 or use the new icon editing tool in release 4.0. If using Paint the image attributes have to be changed to a 21 by 21 PELS size. Use the View Zoom Command to do the editing. The image must be saved in windows bitmap (BMP) format.

Activating the Add-in for Lotus Smartsuite '97/Millennium

Follow the itemized instructions below:

- 1 Press the **Register** button and select **F912397.12a** in the browse dialog that is presented. If you did not install the file to the suggested directory, you may need to browse for it.
- 2 When you return to the Addin Manager, the addin should be listed in the manager dialog and it should be checked. Press **Done** to close the dialog. You should now have an F9 menu.

To Activate the Toolbar in Lotus Smartsuite '97 / Millennium

- 1 Select **File|User Setup|SmartIcons Setup...** from the Lotus menu.
- 2 In the SmartIcons setup dialog, use the **Bar Name** list box to select the F9 Toolbar **Bar to Setup** group.
- 3 Select **Always** in the listbox called **Bar can be displayed when context is**. Check the box labeled **Bar is enabled to display during its context**.
- 4 Press **OK** to save the settings.

Loading F9 Automatically for Lotus V.4 and V5

By selecting ALT-F10 and **Settings|System** Lotus 1-2-3 will let you specify up to 15 add-ins that you wish to load automatically every time you run Lotus 1-2-3. Select **Set**, and then select F9.ADW.

Note: Auto-invoke will be set to No. This is normal.

THE ADD-IN MENU FOR LOTUS V.4 AND V.5

Once the add-in is loaded, you have access to all the functions provided by any F9 general ledger DLL you have installed. In addition, you have access to the following commands under the F9 menu item:

F9 Server	Select this option to access the F9 Server.
Setup	Select Setup to access the Setup window for the default topic.
Drilldown	Position the cell cursor on a GL, NGL or GLTRAN function and select Drilldown to invoke the Drilldown View and examine the accounts included by F9.
Chart	Select Chart to run Chart View and send account data to the Clipboard.
Password	Select Passwords to enter password information for the default topic.
Toolbar	Builds the F9 Toolbar by installing the F9.SMI file.
Set Topic	Set the default GL topic for the client add-in.
Version	Select Version to display a dialog with version numbers and dates for troubleshooting.
Recalc All	Recalc All will recalculate all of the F9 functions in the current workbook.
Recalc Range	Recalc range will recalculate all the F9 functions in the current selection.
Period Wizard	The period wizard assists you to build properly formatted period specifiers.
Report Wizard	The Report Wizard is a tool for building well formatted F9 reports with a minimum of typing. See <i>Chapter 4: Reporting Wizards</i> .
Budget	Select Budget to open the Budget Write Back dialog. See <i>Chapter 10: Budget Write Back</i> .

Zero Suppress	Highlight a range of cells and select this option to suppress (hide) zero rows in the range selected. See notes below.
Undo Zero Suppress	This function is re-opens all the rows in the spreadsheet. It is designed to remove the effect of the Zero Suppress command (above).
Analyze	This command performs one of two analysis functions. This command can return a report of account accesses performed during a recalculation <i>or</i> each F9 function can return a processing time for each request.
Value	This function removes F9 formulas from the current selection. That is, cells containing GL and other F9 formulas are “range-valued.” Use this function to prepare a spreadsheet for use by someone who does not have F9.
123 Setup	123 Setup (with 1-2-3 ‘97) allows you to configure column- and row-wise zero suppression.
Lists	The lists dialog is a tool for extracting various lists from your accounting system.
Enquire	Account Enquiry allows you to check a GL balance or configure the result of a GL Paste. See <i>Chapter 4: Reporting Wizards</i> .
GL Paste	Interprets the contents of the clipboard to form a proper GL formula. May execute an Account Enquiry in the background. See <i>Chapter 4: Reporting Wizards</i> .
Help Add-in Help	Opens the generic help file for using F9.
Help GL DLL Help	Opens the help file specific to the current default GL (Topic).

Zero Suppress for Lotus V.4 and V.5

Highlight a range of cells and select this option to suppress (hide) zero rows in the range selected. F9 also provides a toolbar button for this same function.

Please Note: Lotus 1-2-3 — *prior to 1-2-3 '97* — will not hide an entire row. Only the area highlighted will be hidden, even though the entire row will be collapsed. Not including all of the numbers and text in a row may result in an area of collapsed but unhidden cells. All Lotus 1-2-3 versions hide Zero Suppressed columns.

When using 1-2-3 for '97, the menu item **F9|1-2-3 Setup** allows you to configure whether F9 suppresses columns or rows or both. This is a simple selection in a dialog.

Zero Suppress for Lotus Smartsuite '97/Millennium

Zero suppress is now enabled to include suppression of Rows. Changes internal to 1-2-3 now all F9 zero suppression to completely suppress rows. You'll notice that in the previous version of 1-2-3 version 5, this was not possible.

INVOKING F9 COMMANDS

To invoke an F9 command, either select F9 from the 1-2-3 for Windows main menu and then select the desired command; or select the appropriate tool icon. The F9 tool icons either display the first letter of the name of the function they invoke or a symbol such as the drill for drilldown.

F9 FUNCTIONS

F9 adds a number of functions to those normally available within 1-2-3 for Windows. The most useful of these are GL, NGL and DESC.

See the DLL Help for the general ledger you are using and the general remarks in this manual about available functions.

1-2-3 '97:

Under Lotus 1-2-3 '97, all functions must provide all ten parameters. The parameters may be empty, but must be present.

Lotus 1-2-3 *prior to '97* added a tag to functions which indicated the add-in providing the function. *i.e.*,

```
<<F9>>@GL("100010", "This month", "My Company")
```

This has normal behavior and is harmless. With 1-2-3 '97, however, Lotus has discontinued this behaviour.

When importing older spreadsheets, the Lotus 1-2-3 '97 Add-in will edit the F9 formulas to provide all of the parameters correctly and removes the tag, so older worksheets should function without editing.

ALL LOTUS USERS

Lotus 1-2-3 for Windows is unstable during cell edits and copy operations when F9 functions are involved. The errors occur due to the way Lotus 1-2-3 interacts with F9 and Dynamic Data Exchange. To address this instability, we have added two menu items to the Lotus 1-2-3 F9 menu: **Recalculated** and **Toggle Hold Recalculated**.

Recalculated allows you to only recalculate a cell or range of cells on your sheet. This can be very useful as your sheets get larger.

Selecting **Toggle Hold Recalculated** to turn Hold Recalculated ON causes F9 to return the string “[F9] Recalculated” for all functions until either the sheet is recalculated by pressing the F9 key, or until the cell is recalculated using the **Recalculated** range menu item. When this option is ON, the instabilities of Lotus 1-2-3 during cell editing and copying of F9 formulas is addressed. Selecting this option again turns the option OFF. When this option is OFF, F9 recalculates a formula on entry and copying.

Please Note: Make sure that F9 is attached before opening a file which uses F9. Failing to do so will generate errors (@? formulae) in the cells containing F9 formulae. If this occurs, close the file without saving it, attach F9 and reopen the file. It is important that the file is not saved. If the file is saved with the @? functions, all F9 functions (@GL) will be deleted and the spreadsheet will no longer recalculate.

1-2-3 RELEASE 4 USERS

In Release 4 of 1-2-3 for Windows, if you use the Lotus 1-2-3 menu **Edit|Copy** and **Edit|Paste** to copy F9 functions in your sheet, Lotus leaves the cursor as an hourglass after the Paste operation and it will no longer function on the sheet until you: press the Escape key; press any arrow key; or click on the menu bar with the mouse. This does not happen if you use the “Lotus Classic” function /COPY (and this method is also a lot faster)!

WRITING MACROS IN LOTUS 1-2-3 (V.4 OR V.5)

A macro is a series of commands placed in a column of cells in a worksheet. When invoked these command will execute until an empty cell or a {RETURN} macro command is encountered. It is best to have a macro terminate with the {RETURN} command as it makes sure a definite ending point of the macro has been defined.

Typically, if you are defining a frequently used macro, the macro should be named by applying a block\range name to the entire range of cells that the macro occupies, or the first cell in the macro. It is a good idea to place the macro name beside the first cell of the macro for documentation purposes. Naming a macro allows you to call the macro by name from other macros. That is, if you call your macro ABC, another macro can call it with the command {ABC}.

Note:

Macros are not available for Lotus Smartsuite '97/Millennium.

Macros are run in two ways: You can use the Tools menu and select the Macro submenu. Alternatively, the macro can be assigned to a toolbutton or SmartIcon (a symbol that represents spreadsheet information or function(s)). When you click on the icon, the macro will be run.

To assign a macro to an icon you can use the SmartIcon dialog found under the Tools menu to assign the macro to an icon. See the 1-2-3 manual for instructions on creating smart icons and assigning macro commands to them.

In summary:

- macros are groups of commands that execute sequentially in a column of cells from top to bottom;
- each macro ends with a {RETURN} statement or an empty cell;
- macros can be given logical names which simplifies running them;
- you can add icons to your setup and assign F9 and other macros to them;

Refer to your spreadsheet manual for more information on creating and running macros.

SETTING THE DDE TIME OUT

By default, Dynamic Data Exchange requests sent by the client add-in to the Server will time out after approximately 300 seconds if no response is received. For large charts of accounts, this value may be too low.

When using 1-2-3 '97, the DDE timeout can be configured easily by selecting **F9|1-2-3 Setup** and editing the amount in the edit control. This number is then saved in the correct location.

You can set the DDE Time Out by adding the following line to the Lotus 1-2-3 section of the F9.INI file:

```
DDE Time Out=nnn
```

where nnn is the time value in seconds.

CHANGED FEATURES FOR LOTUS SMARTSUITE '97/MILLENIUM

The following items are changes as compared to Version 5 Add-in or other documentation about F9 for Lotus 1-2-3.

Report Wizard pastes to a new sheet at cell A1

Report Wizard creates a new sheet and pastes the formulas into it from cell A1. This behavior is different from the documentation which says the Report Wizard will paste to the current sheet.

F9 Eases the Upgrade From Lotus 1-2-3 Version 5

There are a number of significant changes to Lotus 1-2-3 and we have tried to accommodate those changes and provided automatic revision. Whenever a version 5 or older workbook is opened, F9 makes numerous changes to F9 formulas to meet the requirements of 1-2-3 '97.

Note:

Due to the nature of the revisions required when loading an older version workbook, you must ensure that all of the F9 functions were working and recalculated when the workbook was saved. Errors in F9 formulas discovered during the import process can have unpredictable results.

All F9 formulas must have all 10 parameters

Due to changes to 1-2-3, F9 formulas cannot have a variable number of arguments. Lotus '97 has introduced a new scripting language which is more like Visual Basic, but doesn't support "optional" parameters. When you are creating a new F9 formula, all 10 parameters must be provided. To access "default" values, simply provide an empty string: "". In version 5, 1-2-3 automatically provided these empty strings to F9 functions.

To simplify upgrading existing spreadsheets, F9 recognizes when Lotus is loading a workbook with a *.WK? extension and modifies the file to insert the complete value list. When you load a Version 5 spreadsheet, the upgrade should be transparent.

Embedded library names not allowed

Previous version of 1-2-3 embedded library names into cells with custom formulas. These names took the format of "<<F9>>" in cells with any F9 formula (this is documented in the "Using F9 with Lotus" FAQ). Lotus 1-2-3 '97 no longer supports this style. To resolve the problem, F9 recognizes when Lotus is loading a workbook with a *.WK? extension and modifies the file to remove the "<<F9>>" strings. Using the F9 Add-in forces Manual Recalculation ON.

This change is intentional and is enforced repeatedly while F9 is active. This means that calculating F9 formulas will force the sheet into manual recalculation mode.

KNOWN PROBLEMS

We are pursuing solutions to the following problems:

"Recalculate" does not properly handle F9 formulas

Due to conflicts between 1-2-3 and Microsoft's system libraries, recalculating F9 formulas has been disabled. The spreadsheet will now report ("[F9 Addin] Recalc" from F9 formulas as a reminder. F9 can recalculate its own formulas (and all of 1-2-3's at the same time) by pressing the R/A button on the toolbar or select F9|Recalculate All. A similar function calculates ranges by pressing the R/R button or selecting F9|Recalculate Range from the menu.

A better solution to this problem is pending. We are trying to confirm the problem's exact dependencies and conditions.

Pasting quoted strings collect extra quotes

Normally in an F9 spreadsheet, many numbers require a quote to retain leading zeros and are treated by 1-2-3 as strings. Due to changes to 1-2-3, strings with leading quotes confuse it and an additional quote is prepended to the cell when pasting.

This problem is most evident to users when pasting text from sources such as chart. The only solution in this case is to perform a Find and Replace from the Lotus Edit menu and change all the pairs of single quotes to singletons ('O').

“Chart” cannot paste formulas

Formulas produced by the 16-bit F9 Server do not use the Lotus 1-2-3 '97 syntax. 32-bit implementations of the server will not produce formulas since they are introducing several superior tools for achieving the same results.

Save As... *.WK3 will not work


As was mentioned in the changes discussion, 1-2-3 '97 no longer embeds the source of custom functions in cells (i.e., any F9 formula). While we can “correct” a version 5 workbook while loading, we have not resolved problems using Save As... to a *.WK3 file. All of our experience suggests that any workbook saved in this way will be corrupted and unusable.

Toolbar SMI file included


THE TOOLBAR


The F9 add-in includes a new SMI file to configure the toolbar. See installation instructions for details of adding the toolbar.



 F9 Server — Moves the Server to the front of the windows so you can access more functions.

 Drill down — Allows you to view which accounts contribute to the GL formula in the current cell.

 Chart — Allows you to view/collect lists for use in your sheets. Most of chart's functions will be replaced with improved functions in the next version of F9.

 Zero Suppress — suppresses rows that have a zero balance. This, where all any F9 formulas is apt to show a zero balance, that particular row or rows will not show.

RR — Recalculate Range — **See the “Known Problems” topic in this section for further information on this button.

RA — Recalculate All — **See the “Known Problems” topic in this section for further information on this button.

TOOLBAR SMI FILE INCLUDED

This Add-in includes a Smart Menu Icon (SMI) file for easier toolbar management. The F9 toolbars icons are (as you know): Server, Chart, Setup, Zero Suppress, Report Wizard, Recalculate Range and Recalculate All. Toolbar installation is currently a manual task. (See installation instructions).

LOTUS 1-2-3 FAQs ON THE WEB

We have assembled a resource page on our website that answers Frequently Asked Questions about using F9 with Lotus 1-2-3. Please go to:

<http://www.f9.com/faq/lotus.html>

Appendix D — Glossary

Absolute Cell Reference	Returns the contents of a cell identified by row and column coordinates. For example, an absolute cell reference appearance might be \$A\$1 or \$D\$18. Absolute cell references do not change when the formula is copied.
Acrobat Reader	Adobe Acrobat is a type of graphics-rich electronic document. F9 ships with the latest copy of the manual on CD in Acrobat format (with the extension of PDF). By installing the Acrobat Reader from the CD, this document can be read, searched or printed. The latest Acrobat reader can be found at http://www.adobe.com/acrobat .
Ampersand operator (&)	This operator is used to dynamically recalculate a company using a chart of accounts from the MAP file. The name to the left must be a parent company in the Map file and the operator is followed by a list of the parent's subsidiaries
Analyze Command	Lets you evaluate errors and omissions in the accounts accessed by a report. Produces a report of how many times each account was used and a list of unused accounts.
Block	A group of data with a beginning and an end and usually occurring within a larger, sorted amount of data – an area of columns and rows in a spreadsheet, for example.
Budget Write-Back	Lets you create and/or edit budgets in the spreadsheet and then write that budget data back to your accounting system.
Cell	The intersection of a column and a row in a spreadsheet. For example, the intersection of column C and row 15 is referred to as C15. Each cell is a box that can hold text, a numerical value or a formula.
Cell Reference	A cell reference is using the name of a cell in place of the value in the referenced cell. The advantage, within F9, is that any value needs to exist once and many cells can refer to that cell; this allows the single cell to control the entire sheet. <i>See BSPEC in Chapter 5: F9 Functions.</i>
Character String	Also called a String, Text String or a Label. A series of characters treated as text. Character strings <i>can</i> contain numbers as well as letters but you don't generally perform math with them.

Chart Window	Lets you view your chart of accounts. Lets you send all or part of your chart of accounts to the Clipboard for subsequent pasting into your spreadsheet. Useful for diagnosing problems.
Client Add-Ins	Referred to as a spreadsheet component. The add-in is a special file which attaches to your spreadsheet program and extends the power of that spreadsheet by adding a set of special functions and commands. The F9 client add-in manages the DDE conversations with your Server while it works in the background.
Clipboard	Temporary storage in Windows which accepts data that may be moved or copied to an active document, another document or other Windows applications. Very useful when transferring information within a document or between documents; however, the clipboard only holds one item (<i>e.g.</i> , block of text) at a time.
Command	Well-defined methods which do not return a result but are used to perform actions. For example, a command can select a region of a spreadsheet, print a report or open a dialog. <i>See also Function.</i>
Consolidate	To combine amounts from the Chart of Accounts of two or more companies for financial statements.
Conversion Rate	<i>See Rate of Conversion</i>
Data Manipulation	The processing of information. The retrieval, sorting, modifying, filtering and querying of data are a few examples. Data must be present within a file or database for data manipulation to occur; it does not involve entering new data. The creation or deletion of new files, however, is considered part of data manipulation.
DataPreLoad	Improves recalculation speed by pre-loading extended portions of the G/L data into your computer's memory. It gives you the option to fine tune recalculation to take advantage of your hardware configuration.
DDE	Stands for <i>Dynamic Data Exchange</i> . It is the way in which Windows applications talk to each other. The information linked using this feature will update the destination document any time the information changes in the source document. Allows you to use one program to manipulate data in another program.
Default Topic	Required when you have more than one accounting system program file – or DLL. When a DDE request is sent to the Server and no topic is specified, the Server uses the client default topic.

DLL	Referred to as an accounting system program file. Stands for <i>Dynamic Link Library</i> . This is your topic or accounting system. Each DLL receives requests from the F9 Server program (and hence from the client) for data specific to its associated accounting system.
Drill Down	This F9 window lets you “slice and dice” any F9 GL/NGL result in your spreadsheet. You can determine the origin of any number by segments of the account code (<i>i.e.</i> , department, product, or location) or transaction.
Exchange Rate	See <i>Rate of Exchange</i>
Explorer	The Windows ‘95 and later tool for managing files. This tool unifies the Program Manager and File Manager from Windows 3.x.
exclamation operator (!)	This operator is used to dynamically recalculate from a company in the Tree file. The company name following the operator must be a master in the Tree file.
Executive Information System (EIS)	A tool which automates a great deal of the process of viewing, analyzing, or printing reports. F9 supports EIS applications through spreadsheet macros.
F9	The Key which activates recalculation in Excel and Lotus 1-2-3. It’s also the name of our product.
F9 CD	The compact disc that contains all the files needed to install F9 and run F9 with your spreadsheet and accounting applications.
Function	<p>A well-defined method which returns a result and is used to perform mathematical, financial or statistical calculations. For example, the SUM function adds all the cells in an area together, the AVG function returns the average number in an area, and the GL function returns an amount from your General Ledger. <i>See also Command.</i></p> <p>F9 functions never cause a window to appear or open any type of dialog box.</p>
FAQ	Frequently Asked Questions. A variety of FAQs are located on our website at: http://www.f9.com/support.html
GL Function	Lets you hot-link any cell in your spreadsheet to any balance in your General Ledger.

Label	This is a spreadsheet value which is evaluated as text rather than a number. The text may <i>be</i> numeric, but is treated as text. <i>e.g.</i> , an account number must be text.
Leaf Company	A leaf company is any company which has a parent(s). It is permissible for a company to have multiple parents in a Tree. Leaf companies without subsidiaries must exist.
Lists Window	This F9 window produces lists of accounts, companies, budgets, <i>etc.</i> and sends them to the Clipboard.
Logical database name	Commonly called an “alias,” this is a simplified name for a company database within the F9 security system. F9 looks up a logical database name to find a path to the actual company database.
Macros	A series of F9 and/or spreadsheet commands grouped together as a single command to make repetitive reporting tasks easier.
Main Account Segment	See the <i>Natural Account Code</i> .
Manual	F9 manual(s) are installed – in .PDF format – into the F9 folder and are also available on the F9 CD. <i>See also Acrobat Reader</i> .
Natural Account Code	That segment of the “full” account code that is the financial accounting entity (<i>e.g.</i> , 1000 for Cash).
Operator	A “symbol” for a mathematic function, <i>e.g.</i> , “+” for ADD or “*” for MULTIPLY.
Parameter	A parameter is a value sent to the GL. Each GL function takes one or more parameters (<i>e.g.</i> , accounts, periods, companies).
Password	A password is a secret word or character sequence that is needed to gain access to a computer or to files and programs within your system. Passwords ensure that only authorized users can reach particular information. The best passwords are: memorable (<i>i.e.</i> , something you know well) and unpredictable (<i>i.e.</i> , other people wouldn't know it). Passwords are improved if they use a mixture of languages (<i>i.e.</i> , “ <i>beuno frits</i> ” is “good fries” and a decent password) or numbers and letters (<i>i.e.</i> , not2common).
Paste	To insert from the Clipboard the last text/value/graphic that was Cut or Copied. The pasted information appears in the active cell.

PDF	Acronym for “Portable Document Format” and the extension used by files prepared for the Adobe Acrobat Reader. This includes all F9 Manuals.
Period Wizard	When this is activated, a dialog box opens where you create a desired period specifier and send it to the Clipboard. This is a good way, initially, to learn the various period specifiers supported by F9.
Pre-calculate	To build a database for a mapped or tree company from its constituent parts (subsidiaries). Increases the speed of calculations considerably.
Range	A selection of cells in a spreadsheet that are manipulated as a group – the selected cells must be adjacent to one another. A group consists of a row, a column or a block made up of both.
Rate of Conversion	A factor used to compute the value of one currency in terms of another. The same factor is used for conversions in both directions so the value is never depleted by conversion.
Rate of Exchange	A factor used when exchanging one currency for another. This rate generally favors one of the participants so they profit from each exchange.
Reader	The Adobe Acrobat Reader. The Reader has its own install procedure and is used to read the on-line F9 manual. Find the Reader on the F9 CD. <i>See also Acrobat Reader.</i>
Relative Cell Reference	A cell identification based upon how it is located relative to a predetermined starting point on a spreadsheet. In a formula, a relative cell reference identifies the address of a different cell in relation to the cell containing the formula. For example, a relative cell reference might look like A1 or D18. Relative cell references change when the formula is copied. <i>See Cell Reference, Absolute Cell Reference.</i>
Report Wizard	Creates reports for you based on a series of choices made by you.
Roll-up	To remove account segment information from a chart of accounts. For example, a chart of accounts with seventy natural accounts for each of the fifty states has 35,000 accounts. By rolling-up the account segment which indicates the <i>State</i> , only the seventy GL accounts would remain and each would be the sum all of the states.
Server	The F9 Server provides accounting information to any DDE client.

Setup Window	This dialog box is used to specify the location of your accounting data, control how your General Ledger data is returned to a worksheet and/or used to change function defaults.
Smart Templates	<p>Smart Templates are a collection of special workbooks which combine Visual Basic or Macros to allow you to create a broad range of standard financial reports without requiring any knowledge of your Chart of Accounts.</p> <p>A way of invoking F9 functionality from within a macro. Implies the Use of the NoShow=1 parameter to prevent F9 from displaying dialogs.</p>
Text Substitution Operator	See <i>TSO</i> .
Templates	A blueprint for the data, graphics and formatting in a worksheet.
Topic Command	When selected, the toolbar for the appropriate accounting system will appear (if you use more than one accounting system, a list is displayed).
TSO	The <i>Text Substitution Operator</i> is the caret (^) and is used to build account specifier masks. A TSO is an optional parameter for the BSPEC function.
Wildcard	Both the asterisk (*) and the question mark (?) are wild card characters that can be used in an account segment specifier. An asterisk means that any combination of characters (including no characters at all) can occupy that position in the specifier. A question mark means that any single character can occupy that position in the specifier. Very useful when you want to apply one command to several account segments or where you do not remember the full account codes.
Y2K	Acronym for Year 2000.
Year 2000 Compliant	These refers to an application's ability to correctly manage the transition between the years 1999 and 2000. <i>F9 is as compliant as the source accounting system.</i> If the accounting system uses four digit years internally, it is Y2K compliant and so is F9 for that system. For more detailed information, please read the FAQs on our website at: http://www.f9.com/support.html .
Zero Suppress	This F9 command hides rows that contain only zero balances and un-hides them just as easily.

Appendix E — Sample Reports

The following appendix contains a small sampling of the reports that F9 can construct. Because F9 works inside your favorite spreadsheet, the actual number of reports you can produce is limited only by your imagination and the amount of information contained inside your general ledger.

There simply is no financial report you cannot create using F9 that is based on the information contained in your general ledger.

Not only does the combination of F9 and your favorite spreadsheet let you create financial reports, but you can create a complete EIS and/or a production reporting system if you desire. Many of the sample spreadsheets (in F9, a report and a spreadsheet are the same thing) give hints of the automation and customization possible in Microsoft Excel and Lotus 1-2-3.

Most of the reports in this book were created using Microsoft Excel. All of the automation examples (e.g.: buttons, drop-down lists, and dialog boxes) are taken from Excel. Most of this functionality is also available in the other spreadsheets as well.

Statement of Changes in Financial Position

The Statement of Changes in Financial Position is a common report produced with many financial statements (Balance Sheet and Income Statement). This statement “removes” all aspects of accrual accounting and gives an accurate picture of a company’s cashflow during the year. If there is a problem with cashflow it can be used to pinpoint specific problem areas.

Because the Statement of Changes is essentially calculated from operating income and the changes between Balance Sheet items from period to period, F9 can easily be used to create this report.

Statement of Changes in Financial Position
Vancouver Life Insurance Co.

August-95

Operating Activities

<i>Operating Income (Loss)</i>	28,916.79
Depreciation and amortization	1,388.85
Gain (Loss) on sale of Capital Assets	0.00
(Increase)Decrease in Investment	0.00
(Increase)Decrease in A/R	142.00
(Increase)Decrease in Prepaids	0.00
Increase(Decrease) in Bonus Payable	(10,000.00)
Increase(Decrease) in A/P	(1,240.57)
Increase(Decrease) in Dividends	0.00
Changes in non-cash working capital balances	<u>(11,098.57)</u>

Changes in Cash from Operations

19,207.07

Financing Activities

Repayments of Long-Term Debt	(1,218.74)
Repayments on Shareholder Loans	(4,181.08)
Redemption of Common Shares	0.00

Changes in Cash from Financing Activities

(5,399.82)

Investing Activities

Purchases of Capital Assets	0.00
Proceeds on disposal of Capital Assets	0.00

Changes in Cash from Investing Activities

0.00

Increase (Decrease) in Cash

13,807.25

Cash, beginning of period

26,402.02

Cash, end of period

40,209.27

Budget Variance Analysis

In this report, we have a standard income statement that compares this year's actuals for a specified month and Year to Date, to the budget and last year's figures. The columns shaded show variances.

This type of report also allows you to pick which specific period you wish to report on. This is done through a series of macros that are provided with F9's "Smart Templates". These macros are very simple. All they do is show a list of choices, allow you to pick a value, and they shove that value into a cell in the spreadsheet's control area. The list of values the macro displays can be dynamic (i.e.: generated by F9 on the fly) or static.

This report also contains different views of the same spreadsheet. The views created are an Excel feature that allows you to see a spreadsheet in different ways.

Remember, using views, one spreadsheet can be many reports.

Bob's Sample Company
Actual vs Budget
Comparative
Profit and Loss Statement

Pick a Department

Pick a Company

Print Report

	Current Month Actual	Current Month Budget	Variance	Year to Date Actual	Year to Date Budget	Variance
Income						
Sales						
Sales	89,820.52	67,900.00	32%	1,181,131.77	814,800.00	45%
Sales Returns and Allowances	1,536.38	2,000.00	-23%	33,437.94	24,000.00	39%
Sales Discounts	998.63	1,000.00	0%	26,447.19	12,000.00	120%
Net Sales	92,355.53	70,900.00	30%	1,241,016.90	850,800.00	46%
Cost of Goods						
Cost of Goods Sold	5,527.42	5,100.00	8%	71,856.42	61,200.00	17%
Cost Variance	359.28	200.00	80%	4,670.67	2,400.00	95%
Total Costs Of Goods Sold	5,886.70	5,300.00	11%	76,527.08	63,600.00	20%
Gross Profit	86,468.83	65,600.00	32%	1,164,489.82	787,200.00	48%
Expenses						
Operating Expenses						
Accounting and legal fees	133.25	150.00	-11%	2,819.71	1,840.00	53%
Advertising	208.20	250.00	-17%	3,644.18	2,875.00	27%
Amortization of leasehold	124.92	150.00	-17%	2,728.11	1,725.00	58%
Amortization of org. costs	208.20	380.00	39%	3,644.18	2,875.00	27%
Automotive	333.12	200.00	-12%	5,018.28	4,600.00	9%
Bad debts	166.56	200.00	-17%	3,186.14	2,300.00	39%
Commissions	333.12	380.00	-12%	5,018.28	4,600.00	9%
Depreciation	166.56	190.00	-12%	3,186.14	2,300.00	39%
Dues and subscriptions	99.94	115.00	-13%	2,453.29	1,380.00	78%
Moving	208.20	250.00	-17%	3,644.18	2,875.00	27%
Office supplies	274.82	315.00	-13%	4,377.03	3,795.00	15%
Postage	291.48	340.00	-14%	4,560.25	4,025.00	13%
Promotion and entertainment	83.28	95.00	-12%	2,270.07	1,150.00	97%
Rent, office	2,914.77	3,500.00	-17%	33,416.48	40,250.00	-17%
Repairs and maintenance	333.12	385.00	-13%	5,018.28	4,600.00	9%
Shipping supplies	374.76	450.00	-17%	5,476.32	5,175.00	7%
Shop supplies	166.56	190.00	-12%	3,186.14	2,300.00	39%
Telephone	374.76	450.00	-17%	5,476.32	5,175.00	7%
Telephone, tele, fax	224.85	250.00	-10%	3,827.39	3,105.00	23%
Utilities	166.56	250.00	-33%	3,186.14	2,300.00	39%
Insurance		250.00			2,300.00	
Total Operating Expenses	7,395.19	8,690.00	-15%	109,781.09	102,120.00	8%
Payroll Expenses						
Employee benefit plan	666.23	750.00	-11%	8,882.57	9,200.00	-6%
Employee benefits, direct	416.40	470.00	-11%	5,894.35	5,750.00	3%
Wages & benefits, direct	17,488.63	20,000.00	-13%	193,728.88	241,500.00	-20%
Wages & benefits, indirect	12,491.88	14,000.00	-11%	138,764.63	172,500.00	-20%
Wages casual, direct	206.20	250.00	-17%	3,644.18	2,875.00	27%
Subcontract costs	2,416.77	3,500.00	-17%	35,484.35	46,500.00	-14%
Commissions	416.40	500.00	-17%	5,894.35	5,750.00	3%
Total Payroll Expenses	34,602.49	39,470.00	-12%	390,105.43	477,825.00	-18%
Total Expenses	41,997.68	48,160.00	-13%	499,886.52	579,945.00	-14%
Other Income						
Delivery revenue	541.31	650.00	-17%	7,908.46	7,475.00	2%
Interest income	666.23	750.00	-11%	8,882.57	9,200.00	-6%
Miscellaneous income	74.95	90.00	-17%	2,178.46	1,035.00	110%
Total Other Income	1,282.50	1,490.00	-14%	18,169.49	17,710.00	3%
Net Income Before Taxes	45,753.65	18,930.00	142%	682,772.79	224,965.00	204%
Corporate income taxes	83.28	100.00	-17%	2,270.07	1,150.00	97%
Corp. income taxes - deferred	41.64	50.00	-17%	1,812.04	575.00	215%
Net Income	45,628.73	18,780.00	143%	678,690.68	223,240.00	204%

Proforma Profit and Loss Statement

In this statement, we have 12 columns of data. Note that the headings in the columns go from specifying actuals for a period to specifying budgets. This is done by using a simple formula in the spreadsheet that will return the correct heading based on the current period in the GL system. For example, if the current period in the GL is month 5, then this report will change the column headings to Month 1 through to Month 5 and Budget 6 through to Budget 12 or if the current period is 7, then it will change the column headings to Month 1 through Month 7 and Budget 8 through to Budget 12. So as the current period changes inside your GL, this report will change the headings to reflect actual or budget information accordingly.

In this report we have also created different views of the same spreadsheet.

We have also included macros to print the report and view the bar graph attached to the report. The buttons in the report run these macros.

Proforma Profit and Loss Statement

Bob's Sample Company
Proforma Report
for Period Ending May 31/96

	Month 1	Month 2	Month 3	Month 4	Month 5	Budget 6	Budget 7	Budget 8	Budget 9	Budget 10	Budget 11	Budget 12
Income												
Sales												
Sales	531,149.29	469,748.93	448,343.49	426,627.25	469,626.63	451,650.63	451,650.63	451,650.63	451,650.63	451,650.63	451,650.63	451,650.63
Sales Returns and Allowances	64,983.35	49,783.53	49,783.53	49,783.53	4,232.26	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00
Sales Discounts	2,700.86	2,536.69	2,302.57	2,032.75	1,791.75	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00
Net Sales	542,226.23	477,232.56	450,611.22	433,559.07	408,720.00	457,000.00	457,000.00	457,000.00	457,000.00	457,000.00	457,000.00	457,000.00
Cost of Goods												
Cost of Goods Sold	38,798.47	38,654.84	39,148.91	39,627.03	45,626.68	39,650.63	39,650.63	39,650.63	39,650.63	39,650.63	39,650.63	39,650.63
Cost of Services Sold	3,345.69	3,366.05	3,233.35	3,189.66	3,422.11	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
Total Costs Of Goods Sold	37,072.16	37,030.88	35,352.26	32,116.59	29,234.69	33,000.00	33,000.00	33,000.00	33,000.00	33,000.00	33,000.00	33,000.00
Gross Profit	505,154.07	440,201.67	415,258.96	401,442.48	379,485.31	424,000.00	424,000.00	424,000.00	424,000.00	424,000.00	424,000.00	424,000.00
Expenses												
Operating Expenses												
Accounting and legal fees	17.69	130.92	152.73	104.99	89.10	200.00	200.00	200.00	200.00	200.00	200.00	200.00
Amortization of leasehold	294.92	234.62	212.41	176.83	134.45	150.00	150.00	150.00	150.00	150.00	150.00	150.00
Amortization of org. costs	177.29	125.79	84.21	67.20	58.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bad debt expense	122.86	108.43	105.43	105.43	105.43	300.00	300.00	300.00	300.00	300.00	300.00	300.00
Commissions	226.33	162.15	141.46	127.33	110.46	250.00	250.00	250.00	250.00	250.00	250.00	250.00
Depreciation	115.44	153.71	116.83	95.24	70.36	125.00	125.00	125.00	125.00	125.00	125.00	125.00
Freight and subcontractors	144.10	118.77	83.76	61.94	48.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Office supplies	233.65	163.74	161.63	191.73	157.54	150.00	150.00	150.00	150.00	150.00	150.00	150.00
Postage	225.32	144.99	118.26	153.49	123.82	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Repairs and maintenance	1,241.32	1,069.32	772.81	606.01	473.39	250.00	250.00	250.00	250.00	250.00	250.00	250.00
Shipping supplies	328.90	301.32	231.74	217.75	205.12	400.00	400.00	400.00	400.00	400.00	400.00	400.00
Travel	150.00	131.42	92.93	72.58	74.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Telephone, tele. fax	333.65	290.25	271.86	221.63	251.74	350.00	350.00	350.00	350.00	350.00	350.00	350.00
Insurance	112.20	76.25	53.63	38.96	30.96	150.00	150.00	150.00	150.00	150.00	150.00	150.00
Total Operating Expenses	7,141.60	5,825.90	4,733.82	3,909.95	3,465.20	5,575.00	5,575.00	5,575.00	5,575.00	5,575.00	5,575.00	5,575.00
Payroll Expenses												
Employee benefit plan	1379.46	688.24	843.33	712.35	699.51	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Wages & salaries	107,655.40	63,379.15	63,379.15	47,599.07	3,200.78	9,000.00	9,000.00	9,000.00	9,000.00	9,000.00	9,000.00	9,000.00
Wages & benefits, indirect	6,176.94	4,705.78	3,531.05	2,818.76	2,111.48	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Wages casual, direct	515.63	386.88	305.65	247.40	187.84	600.00	600.00	600.00	600.00	600.00	600.00	600.00
Wages contract, direct	3,123.8	2,123.8	1,623.8	1,123.8	823.8	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
Commissions	1,223.8	918.91	724.59	637.89	500.02	900.00	900.00	900.00	900.00	900.00	900.00	900.00
Total Payroll Expenses	26,334.56	20,285.50	15,495.94	11,851.40	8,551.40	21,000.00	21,000.00	21,000.00	21,000.00	21,000.00	21,000.00	21,000.00
Total Expenses	33,476.16	26,111.40	20,229.77	15,761.34	12,016.61	26,575.00	26,575.00	26,575.00	26,575.00	26,575.00	26,575.00	26,575.00
Other Income												
Interest income	36,945.99	9,656.84	2,016.29	1,709.64	1,562.39	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00
Miscellaneous income	4427.78	3,055.09	2,524.23	1,721.79	1,449.26	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00
Total Other Income	15,480.85	11,270.98	9,006.05	6,343.14	4,924.93	9,000.00	9,000.00	9,000.00	9,000.00	9,000.00	9,000.00	9,000.00
Net Income Before Taxes	487,158.76	425,361.26	404,035.24	392,024.28	372,383.63	406,425.00	406,425.00	406,425.00	406,425.00	406,425.00	406,425.00	406,425.00
Corporate income taxes	130.00	148.18	170.41	136.80	152.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
State income taxes - deferred	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Income	487,008.76	425,212.08	403,789.32	391,804.30	372,226.71	406,425.00	406,425.00	406,425.00	406,425.00	406,425.00	406,425.00	406,425.00

Multi Currency Reporting

Creating reports in multiple currencies is trivial with F9. Consolidating companies in different currencies can be as simple as having F9 generate balances in the foreign currency and multiplying them by the appropriate currency conversion factor in the spreadsheet.

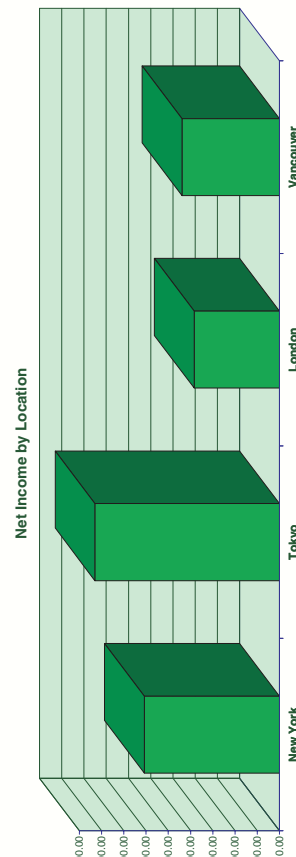
If you are using a true multi-currency accounting system where transactions can be processed in different currencies, then F9 can create reports in both home and foreign currencies. F9 can drill down to transactions in both home and foreign currencies.

As always, if the data is in your GL, F9 can get to it.

Conversion Rates	
\$ US	1.363
£ UK	2.332
¥ Yen	0.0115

WorldWide MegaProducts
Multi Currency Income Statement
For 1st Quarter Ending July 31, 1996

	New York			Tokyo			London			Vancouver			Total (HOME)
	\$ US	HOME (\$CDN)	¥ Yen	HOME (\$CDN)	£ UK	HOME (\$CDN)	\$ CDN	HOME (\$CDN)	\$ CDN	HOME (\$CDN)	\$ CDN	Total (HOME)	
Income													
Sales													
Sales	4,892,590.33	6,698,559.73	866,906,421.73	9,102,517.43	1,851,634.99	4,286,793.19	4,801,812.90	4,286,793.19	4,801,812.90	4,286,793.19	4,801,812.90	24,889,855.24	
Sales Returns and Allowances	(33,325.51)	(46,378.02)	(5,971,110.64)	(23,216.66)	(4,655.04)	(10,720.25)	(12,720.25)	(10,720.25)	(12,720.25)	(10,720.25)	(12,720.25)	(65,897.40)	
Net Sales	4,938,614.94	6,731,332.16	875,089,250.32	9,188,437.13	1,875,776.74	4,351,802.04	4,850,060.34	4,351,802.04	4,850,060.34	4,351,802.04	4,850,060.34	25,121,651.66	
Cost of Goods													
Cost of Goods Sold	3,399.04	4,632.89	602,283.01	6,323.76	1,703.52	3,952.16	3,285.91	3,952.16	3,285.91	3,952.16	3,285.91	18,194.72	
Cost Variance	204.68	278.98	51,242.06	538.04	123.08	285.54	241.75	285.54	241.75	285.54	241.75	1,344.31	
Total Costs Of Goods Sold	3,603.72	4,911.87	653,505.07	6,861.80	1,826.60	4,237.71	3,527.65	4,237.71	3,527.65	4,237.71	3,527.65	19,539.03	
Total Costs Of Goods Sold	4,935,011.22	6,726,420.29	874,435,745.25	9,181,575.33	1,873,950.14	4,347,564.33	4,846,552.69	4,347,564.33	4,846,552.69	4,347,564.33	4,846,552.69	25,102,112.64	
Expenses													
Operating Expenses													
Accounting and legal fees	1,654.22	2,254.70	308,111.53	3,235.17	637.22	1,478.36	1,528.66	1,478.36	1,528.66	1,478.36	1,528.66	8,496.89	
Advertising	2,693.56	3,521.39	459,206.20	4,811.17	1,576.14	3,656.66	2,373.23	3,656.66	2,373.23	3,656.66	14,362.44		
Amortization of leasehold	1,688.99	2,167.16	286,803.45	3,008.34	755.06	1,751.74	1,508.21	1,751.74	1,508.21	1,751.74	8,436.44		
Automotive	3,899.98	5,451.97	716,977.72	7,528.27	2,278.27	5,285.60	3,729.03	5,285.60	3,729.03	5,285.60	21,994.44		
Depreciation	2,153.25	2,894.88	381,793.61	4,008.83	719.23	1,688.61	1,941.04	1,688.61	1,941.04	1,688.61	10,553.37		
Finance charges	35,459.77	48,339.30	6,283,536.41	65,972.01	19,442.97	45,106.06	31,151.14	45,106.06	31,151.14	45,106.06	192,652.53		
Repairs and maintenance	3,995.23	5,404.61	704,653.38	7,402.01	1,651.09	3,830.53	2,030.21	3,830.53	2,030.21	3,830.53	20,300.21		
Shipping supplies	2,698.70	3,678.33	482,599.84	5,067.30	1,386.61	3,240.13	2,921.33	3,240.13	2,921.33	3,240.13	14,907.09		
Travel	2,097.45	2,845.19	370,042.07	3,885.44	1,097.32	2,545.79	2,180.80	2,545.79	2,180.80	2,545.79	11,457.22		
Utilities	2,756.66	3,796.95	500,653.45	5,255.92	1,511.10	3,505.75	2,692.29	3,505.75	2,692.29	3,505.75	15,240.90		
Insurance	1,985.52	2,680.37	350,537.53	3,680.65	921.89	2,138.58	1,912.97	2,138.58	1,912.97	2,138.58	10,412.77		
Total Operating Expenses	67,485.74	91,983.06	12,011,105.38	126,116.61	34,807.02	80,752.29	63,516.23	80,752.29	63,516.23	80,752.29	63,516.23	362,368.19	
Payroll Expenses													
Employer's contributions	8,768.33	11,899.40	1,559,371.39	16,373.40	5,005.31	11,612.32	9,282.41	11,612.32	9,282.41	11,612.32	49,257.53		
Employee benefits, direct	5,002.70	6,816.68	886,906.81	9,312.52	2,968.13	5,953.43	4,720.25	5,953.43	4,720.25	5,953.43	26,804.88		
Wages & benefits, direct	210,000.54	286,230.74	37,249,194.48	391,116.54	98,213.59	227,895.52	206,805.81	227,895.52	206,805.81	227,895.52	1,112,008.61		
Wages & benefits, indirect	156,800.00	213,718.40	27,804,577.95	291,948.07	70,863.10	164,402.39	149,438.14	164,402.39	149,438.14	164,402.39	819,506.99		
Subcontract costs	35,089.63	47,827.17	6,239,656.89	65,515.44	14,434.92	33,489.01	34,979.52	33,489.01	34,979.52	33,489.01	181,811.14		
Commissions	5,749.50	7,831.12	1,017,605.05	10,686.95	2,430.10	5,637.84	5,066.26	5,637.84	5,066.26	5,637.84	30,202.17		
Total Payroll Expenses	421,434.70	574,415.50	74,757,421.57	784,952.93	193,513.15	448,950.51	411,272.39	448,950.51	411,272.39	448,950.51	2,219,591.32		
Total Expenses	488,920.44	666,398.56	86,768,526.96	911,069.53	228,320.17	523,702.80	474,788.62	523,702.80	474,788.62	523,702.80	2,581,959.51		
Other Income													
Delivery revenue	6,698.87	8,953.37	1,172,267.56	12,308.81	2,914.15	6,760.83	6,528.74	6,760.83	6,528.74	6,760.83	34,551.76		
Interest income	8,874.56	12,096.01	1,583,090.79	16,622.45	3,865.60	9,200.19	8,848.12	9,200.19	8,848.12	9,200.19	46,766.78		
Miscellaneous income	801.36	1,298.55	159,769.09	1,677.56	390.55	996.07	909.83	996.07	909.83	996.07	4,722.02		
Total Other Income	16,344.78	22,277.94	2,915,126.44	30,608.83	7,270.30	16,867.10	16,286.70	16,867.10	16,286.70	16,867.10	86,040.56		
Net Income Before Taxes	4,462,435.56	6,082,299.67	790,562,344.73	8,301,114.62	1,652,900.27	3,834,728.63	4,388,050.77	3,834,728.63	4,388,050.77	3,834,728.63	22,606,193.69		
Corporate income taxes - deferred	(1,000,000.00)	(1,350,000.00)	(175,000,000.00)	(1,850,000.00)	(487,500.00)	(1,050,000.00)	(1,250,000.00)	(1,050,000.00)	(1,250,000.00)	(1,050,000.00)	(6,875,000.00)		
Comp. income taxes - deferred	(800,000.00)	(1,080,000.00)	(140,000,000.00)	(1,850,000.00)	(462,500.00)	(1,010,000.00)	(1,212,500.00)	(1,010,000.00)	(1,212,500.00)	(1,010,000.00)	(6,437,500.00)		
Net Income	\$4,460,935.56	\$6,080,255.17	¥790,299,522.98	\$8,298,144.99	£1,652,186.79	\$3,833,073.34	\$4,386,595.99	\$3,833,073.34	\$4,386,595.99	\$3,833,073.34	\$4,386,595.99	\$22,598,069.49	



Weekly Income Statement

In this report, we have a standard income statement that compares This Year vs. Last Year Net Income *on a weekly basis*. This illustrates the F9 GLTRAN function which allows you to report on any “slice” of time you wish.

By simply specifying the starting date and the ending date of a slice of time, the GLTRAN function will return the net total for all the transactions that occurred during that specified time.

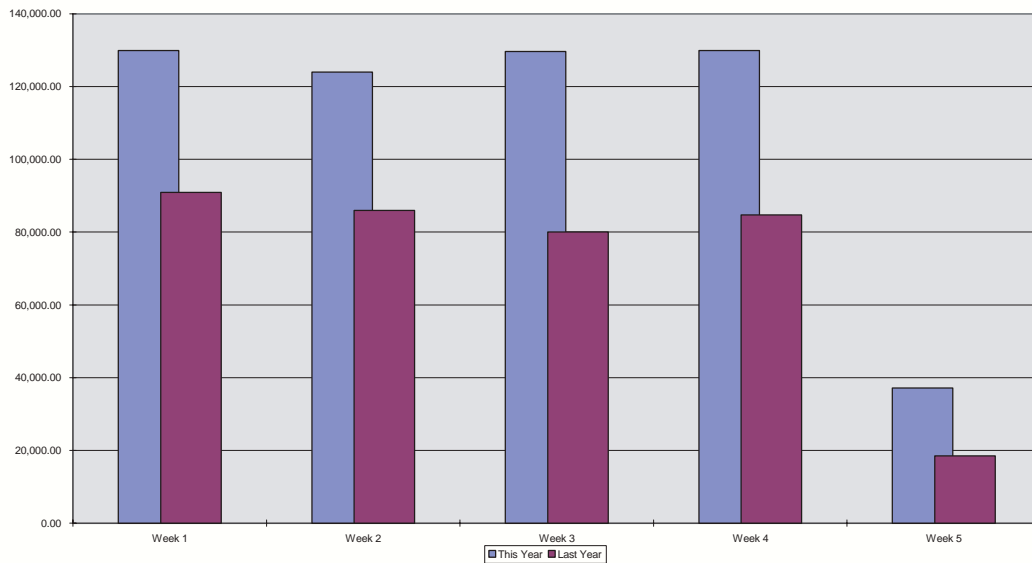
Bob's Snowcap Ski Resort, December

This Year

	From:	1-Dec	8-Dec	15-Dec	22-Dec	29-Dec	Dec - 96
	To:	7-Dec	14-Dec	21-Dec	28-Dec	31-Dec	Total
		Week 1	Week 2	Week 3	Week 4	Week 5	
Income							
Net Sales		160,687.79	146,913.77	148,445.51	145,937.97	45,910.80	647,895.83
Gross Profit		155,765.05	142,148.02	143,945.82	141,230.30	44,504.30	627,593.48
Expenses		26,546.22	18,679.88	14,705.47	11,649.52	7,584.63	79,165.72
Total Other Income		823.86	736.83	576.69	484.07	235.39	2,856.84
Net Income Before Taxes		130,042.69	124,204.97	129,817.04	130,064.85	37,155.05	551,284.60
Net Income This Year		129,892.69	124,023.54	129,662.06	129,931.55	37,112.20	550,622.02

Last Year

	From:	1-Dec	8-Dec	15-Dec	22-Dec	29-Dec	Dec - 95
	To:	7-Dec	14-Dec	21-Dec	28-Dec	31-Dec	Total
		Week 1	Week 2	Week 3	Week 4	Week 5	
Income							
Net Sales		112,481.45	103,163.29	94,703.00	96,611.58	22,906.04	462,002.92
Gross Profit		109,035.53	100,208.70	91,995.62	94,167.37	22,204.31	448,764.54
Expenses		18,582.35	14,502.37	12,334.39	9,720.38	3,784.16	64,232.90
Total Other Income		576.70	434.13	473.42	420.69	117.44	2,187.15
Net Income Before Taxes		91,029.88	86,140.46	80,134.66	84,867.67	18,537.58	386,718.79
Net Income Last Year		90,924.88	85,967.31	79,995.07	84,744.84	18,516.20	386,126.83



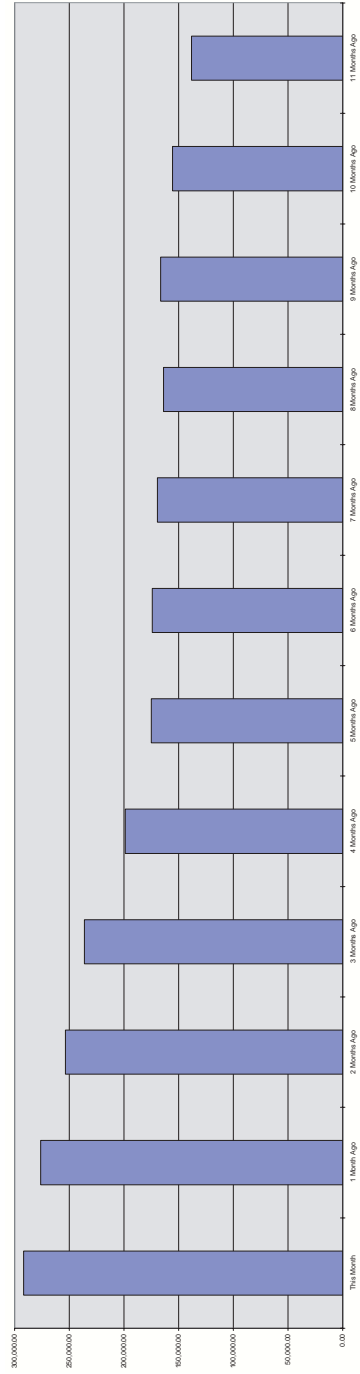
Running Year P&L

In this report, we have Running Year P&L.

This type of report also allows you to pick which period you wish to define as your current period and report on all prior months accordingly. This is done through a series of macros that are provided with F9's "Smart Templates".

Macros can also be written to show charts and graphs that are dynamically linked to the report, so as the report changes, so do the graphs.

	This Month May-99	1 Month Ago Apr-99	2 Months Ago Mar-99	3 Months Ago Feb-99	4 Months Ago Jan-99	5 Months Ago Dec-98	6 Months Ago Nov-98	7 Months Ago Oct-98	8 Months Ago Sep-98	9 Months Ago Aug-98	10 Months Ago Jul-98	11 Months Ago Jun-98
Income												
Sales	339,119.10	315,343.90	287,037.97	268,042.87	225,970.84	201,237.23	196,944.11	188,612.04	181,927.14	182,080.00	170,337.57	150,634.66
Sales Returns and Allowances	0.00	0.00	0.00	0.00	0.00	0.00	-544.00	-496.00	0.00	-653.00	-677.00	483.00
Sales Discounts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Sales	339,119.10	315,343.90	287,037.97	268,042.87	225,970.84	200,699.23	196,400.11	188,116.04	181,332.14	181,427.00	169,660.57	150,151.66
Cost of Goods												
Cost of Goods Sold	21,727.41	19,543.45	18,029.50	19,016.62	17,536.41	17,907.75	15,666.70	13,195.44	12,881.76	11,277.86	10,589.71	9,178.74
Cost Variance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Costs Of Goods Sold	21,727.41	19,543.45	18,029.50	19,016.62	17,536.41	17,907.75	15,666.70	13,195.44	12,881.76	11,277.86	10,589.71	9,178.74
Gross Profit	317,391.69	295,800.45	269,008.47	249,026.25	208,434.43	182,791.48	180,733.41	174,920.61	168,450.38	170,149.13	159,070.86	140,972.92
Operating Expenses												
Advertising	190.00	141.98	127.66	110.93	128.89	107.96	140.70	168.42	139.97	92.69	72.69	64.87
Business registration fees	142.38	104.75	126.12	98.33	115.28	84.37	78.19	67.40	57.83	37.83	43.50	35.91
Commissions	94.52	68.77	90.41	114.87	60.96	114.87	118.70	111.31	118.12	135.17	111.31	124.55
Depreciation	229.36	197.94	158.33	150.87	168.36	147.12	128.63	96.77	86.65	73.40	63.99	34.47
Bad debts	122.58	93.53	74.28	51.45	37.89	88.93	60.55	47.68	35.60	23.67	18.43	12.71
Commissions	226.33	189.90	157.09	129.09	95.41	95.60	114.11	74.91	74.91	53.19	110.00	83.40
Discounts	144.10	116.75	143.20	133.47	104.91	97.07	84.05	107.68	113.13	113.13	116.06	101.53
Dues and subscriptions	14.10	99.19	143.20	99.19	77.88	60.98	56.26	72.55	47.76	47.76	71.01	87.91
Freight	225.92	186.64	207.08	207.08	237.81	207.64	152.42	154.46	115.59	82.69	84.98	64.25
Postage	62.60	41.69	58.78	81.79	61.34	44.12	33.09	58.82	64.72	58.82	54.93	41.97
Promotion and entertainment	2,100.00	1,601.89	1,264.50	953.34	610.82	432.94	357.12	348.25	256.74	184.05	135.40	106.65
Rent, office	177.50	138.33	100.84	72.92	65.21	110.92	80.07	59.72	77.71	66.55	52.27	41.64
Shipping supplies	326.89	256.27	207.30	133.47	85.86	66.95	50.83	38.07	31.81	31.81	24.40	17.27
Supplies	333.65	270.26	213.49	170.26	146.60	136.35	128.95	96.96	62.32	62.32	65.72	49.34
Telephone, bank, fax	188.70	223.26	194.24	166.77	147.42	97.43	68.90	81.94	128.63	86.55	122.56	103.15
Utilities	172.50	162.47	109.44	80.07	72.48	58.69	48.25	38.07	38.07	38.07	38.07	38.07
Insurance	5,580.66	4,617.37	4,014.11	3,360.39	2,923.80	2,562.56	2,184.04	2,104.71	1,934.94	1,707.91	1,741.27	1,418.32
Total Operating Expenses	379.46	244.68	235.08	168.10	175.57	186.98	219.69	172.69	121.09	97.66	72.76	61.11
Payroll Expenses												
Employee benefit plan	252.97	181.75	138.17	99.37	315.40	1,294.41	1,114.41	87.39	62.47	48.89	83.31	121.92
Employee benefits, direct	1,156.63	1,119.16	89.96	109.42	80.41	55.70	44.74	60.96	60.96	60.96	60.96	51.01
Wages & benefits, indirect	1,156.63	1,119.16	89.96	109.42	80.41	55.70	44.74	60.96	60.96	60.96	60.96	51.01
Wages casual, direct	1,156.63	1,119.16	89.96	109.42	80.41	55.70	44.74	60.96	60.96	60.96	60.96	51.01
Wages casual, indirect	1,156.63	1,119.16	89.96	109.42	80.41	55.70	44.74	60.96	60.96	60.96	60.96	51.01
Commissions	204.46	204.46	188.00	150.44	124.66	114.26	152.79	113.83	143.52	113.83	98.52	124.98
Total Payroll Expenses	20,665.56	15,511.72	11,907.17	9,874.37	6,951.65	5,313.26	4,518.73	3,006.93	2,823.11	2,286.55	1,826.15	1,536.04
Total Expenses	26,246.22	20,129.09	15,921.28	13,234.77	9,887.45	7,875.84	6,702.77	5,711.64	4,758.05	3,994.46	3,567.42	2,954.36
Other Income												
Interest income	369.20	326.52	273.93	211.73	149.25	88.69	137.37	187.73	131.46	171.00	121.02	84.04
Miscellaneous income	427.78	321.91	232.76	184.66	164.66	127.26	88.05	74.74	54.31	96.38	111.55	88.52
Total Other Income	824.08	679.81	551.18	460.47	347.67	238.15	264.98	295.01	265.04	378.22	370.67	356.92
Net Income Before Taxes	291,969.55	276,351.17	253,638.36	236,251.95	198,894.65	175,153.79	174,295.62	169,303.97	163,957.37	166,532.89	165,874.11	138,375.48
Income taxes - deferred	0.00	59.45	40.19	29.22	50.32	40.56	76.51	58.32	37.10	37.10	38.04	76.85
Corp. income taxes - deferred	0.00	59.45	40.19	29.22	50.32	40.56	76.51	58.32	37.10	37.10	38.04	76.85
Net Income	291,819.55	276,179.85	253,509.51	236,154.72	198,736.79	174,941.05	174,042.45	169,310.26	163,801.84	166,418.92	155,710.84	138,181.24





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