

IBBOTSON ACADEMIC SOFTWARE MANUAL

INVESTMENTS *A Global Perspective*



Jack C. Francis and Roger Ibbotson

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PREFACE

At the present time, we are confronting a tidal wave of information thanks to the electronic highway we call the Internet. The wave of information that continues to be generated in the investment industry was formally available in the not-too-distant past to only the wealthiest investors, giant pension funds, or the largest brokerage houses. Unlike the physical destruction from an ocean tidal wave, the information tidal wave can leave the small investor immobilized and confused. Today, one of the greatest challenges for any small investor is the challenge to collect and process the seemingly unlimited data available from the markets in such a way that he or she makes an informed investment decision with the same expertise as the broker from the largest firm supported by a backroom of specialized software and multiple analysts.

The purpose of this book is to give the reader information about the EnCorr software and to provide applications drawn from the field of modern portfolio theory. You will find in the following chapters a step-by-step description of how to research, analyze and find an optimal portfolio and to manipulate the software to illustrate many of the concepts found in the text *Investments A Global Perspective* by Jack Clark Francis and Roger Ibbotson. The prepackaged software is the same software used by the largest investment houses and the most sophisticated investors. The exercises provided in the chapters are just an introduction for those who wish to make practical use of this valuable software. The most rewarding part will come when you learn to integrate the software and its techniques in the capital markets in order to make an informed investment choice and to assist you in developing your optimal portfolio.

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TABLE OF CONTENTS

Preface	
Part I The Ibbotson Associates Software	1
Chapter 1 Getting Started	2
Introduction to Ibbotson Associates, The Allocation Company	3
Getting Started	3
System Requirements	4
Software Overview	5
How The Products Interact	5
Software Installation Instructions	6
EnCorr Analyzer	14
Create Inputs	24
Data Help	27
Date Settings	28
Creating a Combined Series	29
Creating an Inputs File for Optimization	31
Main Folder Window	32
Chapter 2 Summary Statistics and Graphing	66
Introduction	67
Statistics Menu: Summary Statistics	67
Graphing	73
Exercises	76
Part II Investment Analysis	78
Chapter 3 Investment Indexes	79
Introduction to Investment Indexes	80
The Ibbotson Indexes	81
Combined Indexes	85
How To Graph the Ibbotson Wealth Indexes (SBBi)	86
Exercises	92
Chapter 4 Statistical Measures	93
Using Statistical Measures When Investing	94
Exercises	98
The Correlation Coefficient	99
Exercises	103
Chapter 5 Equity Shares	104
Introduction to Equity Analysis	105
Risk Analysis	108
Exercises	115
Chapter 6 Bond Performance	116
Introduction	117
Risk and Return	117
Exercises	120
Fixed-Income Securities: Holding Periods	121
Exercises	124
Part III Portfolio Analysis	116
Chapter 7 Portfolio Analysis	126
Introduction	127
Creating a Portfolio	127
Choosing a Weighting Scheme	131
How To Find the Optimal Portfolio	133
Exercises	144

Part I

The Ibbotson Associates Software

1

Getting Started

INTRODUCTION

Ibbotson Associates, the Allocation Company

Ibbotson Associates was founded by Professor Roger Ibbotson in 1976, and the Company has become one of the leading authorities in the world on asset allocation. The software provides services to help investment professionals make the best asset allocation decisions for their clients. With the purchase of the text *Investments, A Global Perspective*, you have at your fingertips the same software used by these professionals.

Professor Ibbotson was the first to collect the requisite data to quantify the benefits of diversification and model the concepts underlying asset allocation. He published his findings in a landmark study, *Stocks, Bonds, Bills, and Inflation*, which has become an indispensable annual reference tool for investment and finance professionals.

Getting Started

The Ibbotson Investment Analysis software combines the latest in financial theory and practice with innovative software development and robust performance. Just as money managers, plan sponsors, consultants, and mutual fund product developers find the tools they need to meet the challenges associated with the investment analysis process, you will have many of the same tools and be able to conduct much of the same type of analysis.

The two components of the software that we will use most often are found in the EnCorr Analyzer and EnCorr Optimizer. Chapter 1 will provide information about the tools and commands found in the two components that you will be using in later chapters. This chapter includes:

- System Requirements
- Software Overview
- Installation Instructions

The examples and exercises presented here give just a small fraction of the scope and flexibility of the Ibbotson Associates software package. Although you will be shown a wide variety of uses for the software that correlate to concepts developed in the Ibbotson and Francis text, keep in mind that there are many more applications that you can develop on your own.

System Requirements

Minimum Requirements

Hardware

- Microsoft Windows compatible PC
- At least a Pentium 75 processor with 16MB of RAM for Windows 98
- At least a Pentium 90 processor with 32 MB of RAM for Windows NT
- 100 MB of available disk space
- Windows-compatible mouse
- VGA or SVGA graphics card compatible with Windows
- Access to a local or network CD-ROM drive

Software

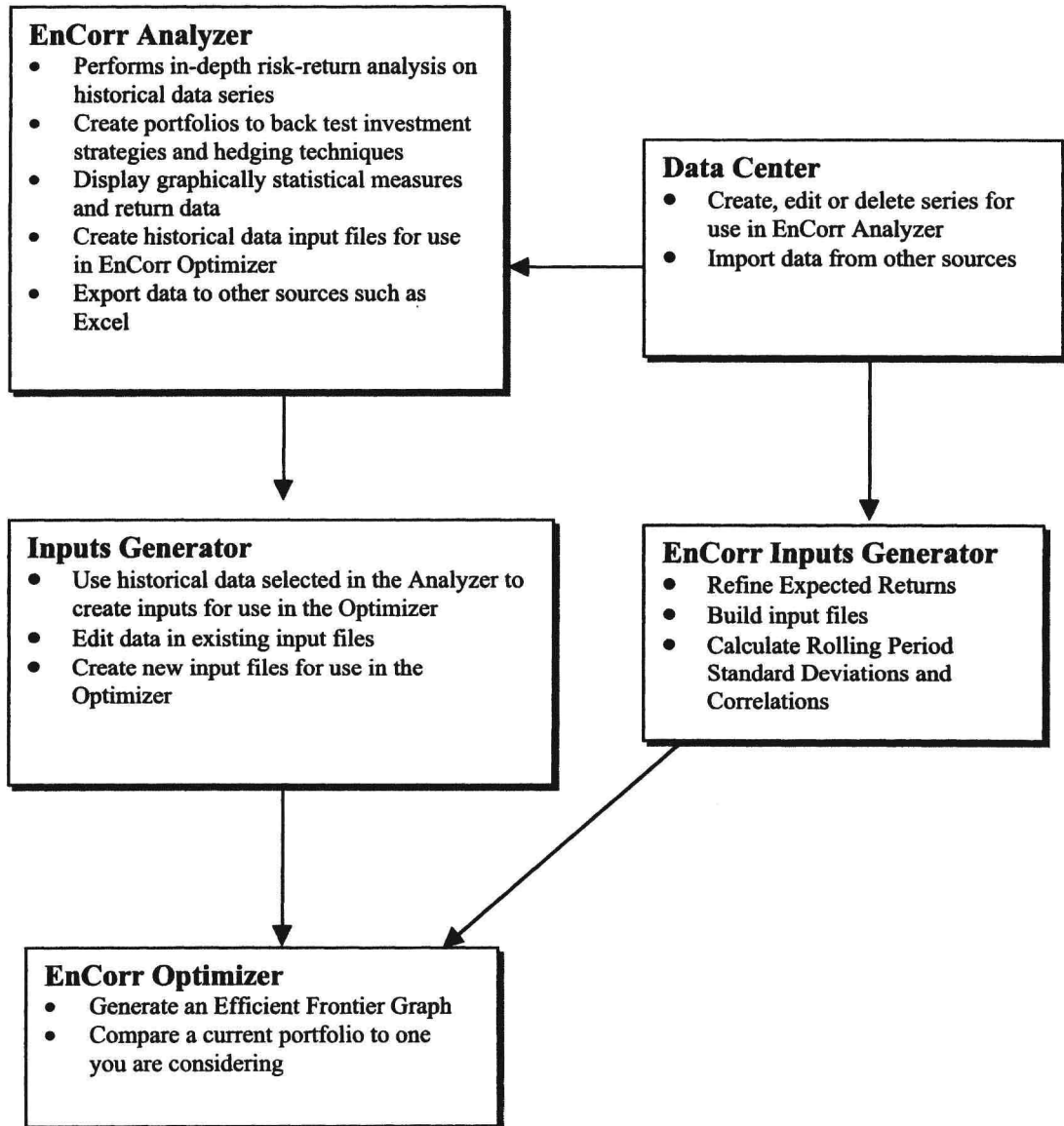
- Windows 95
- Windows 98 or Windows NT 4.0 or 3.51 (with Service Pack 3 or 4)

Preferred Configurations

- Pentium 166 processor with 32 MB of RAM for Windows 98
- Pentium 166 processor with 64 MB of RAM for Windows NT
- Office 97 Service Release 2 (SR-2)

Software Overview

How The Products Interact



Software Installation Instructions

Follow these steps for installing Ibbotson Software version 8.1 Software. It is best to close any open applications before you begin the installation process. During the installation process you will be prompted to install the Borland Database Engine. This program must be installed in order to view data in the Ibbotson software and run other programs.

1. Insert the Ibbotson Software version 8.1 CD into your CD-ROM drive. The installation program automatically begins. (Or insert the CD, select **Start, Run**, type **D:\setup.exe**, where **D** denotes your CD-ROM drive, and click **OK**.)
2. The Welcome box appears (**Figure 1.1**, below). Click **Next**.

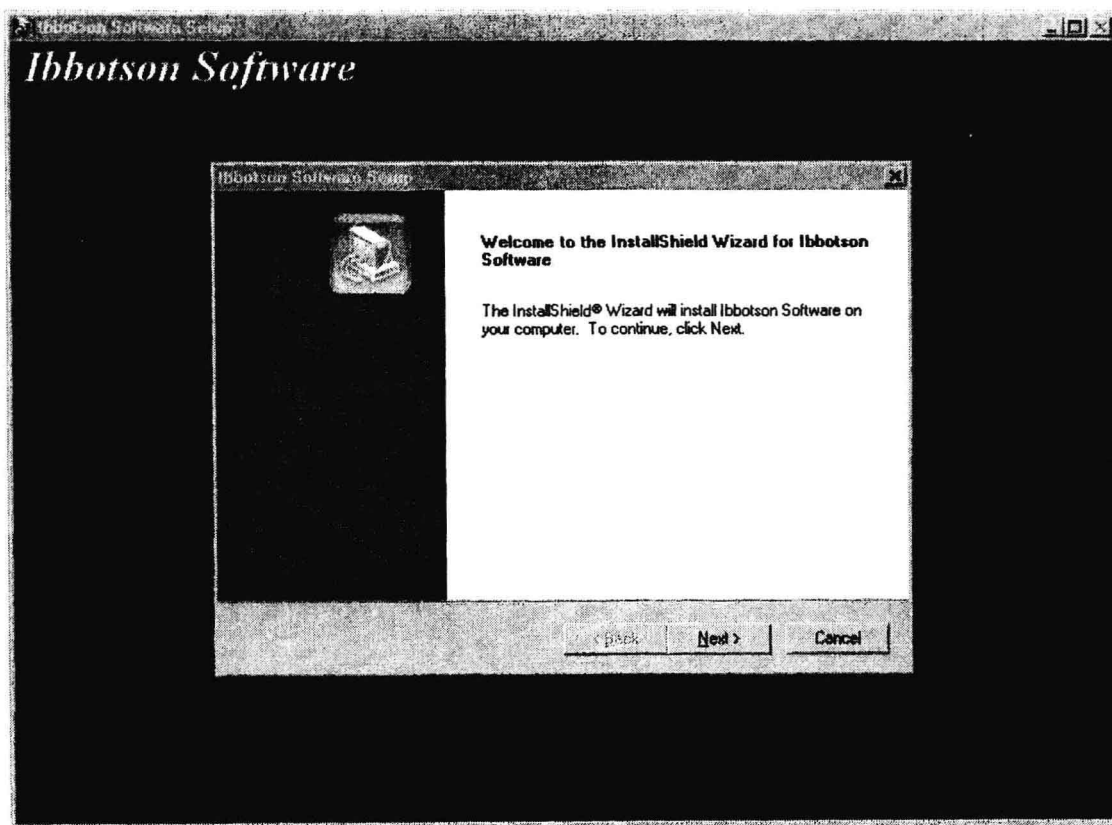


Figure 1.1 Welcome Dialog

3. The License File Location dialog box (Figure 1.2, below) appears. Select the location of your Ibbotson License File.

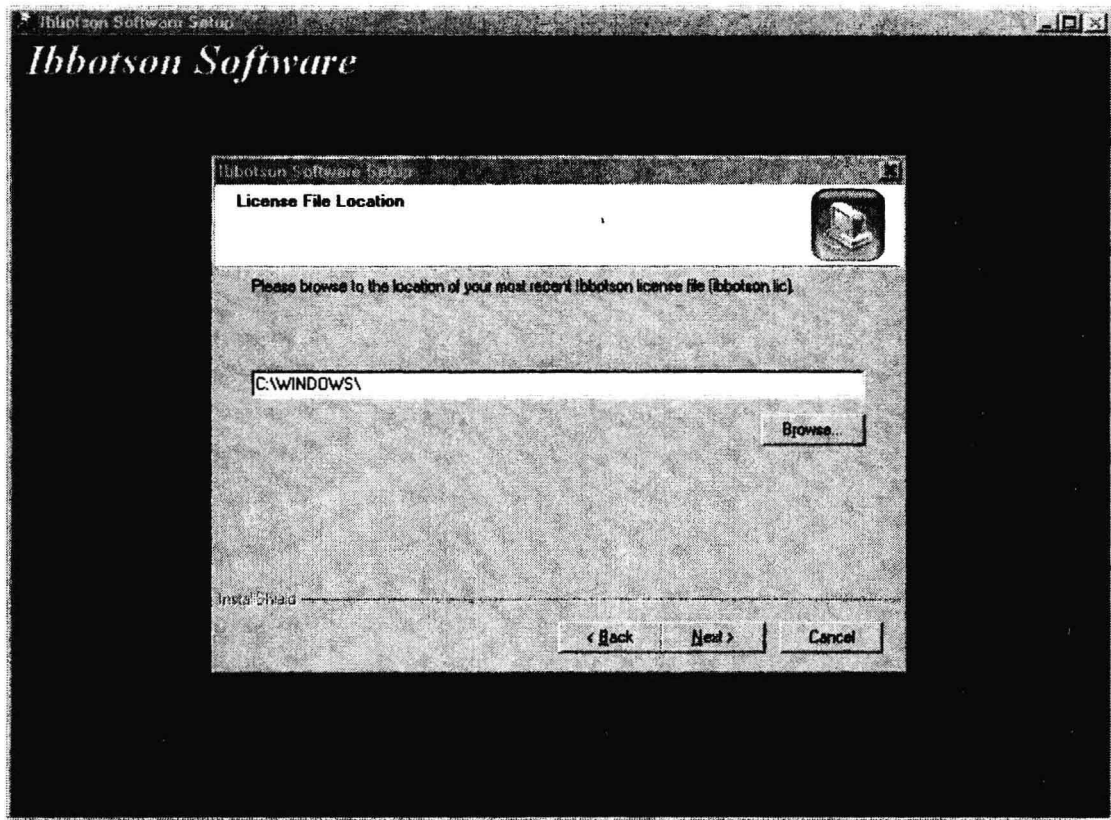


Figure 1.2 License File Location Dialog

- Your License File is located in a directory
 1. Select **Other directories**.
 2. **Browse** to the appropriate location of the License File.
 3. **Select** the file Ibbotson.lic, then click **Next**.

4. The Ibbotson Install dialog box appears (Figure 1.3). Check each component that you wish to install. **Please remember that the Borland Database Engine must be installed to view the data in the Ibbotson software.**

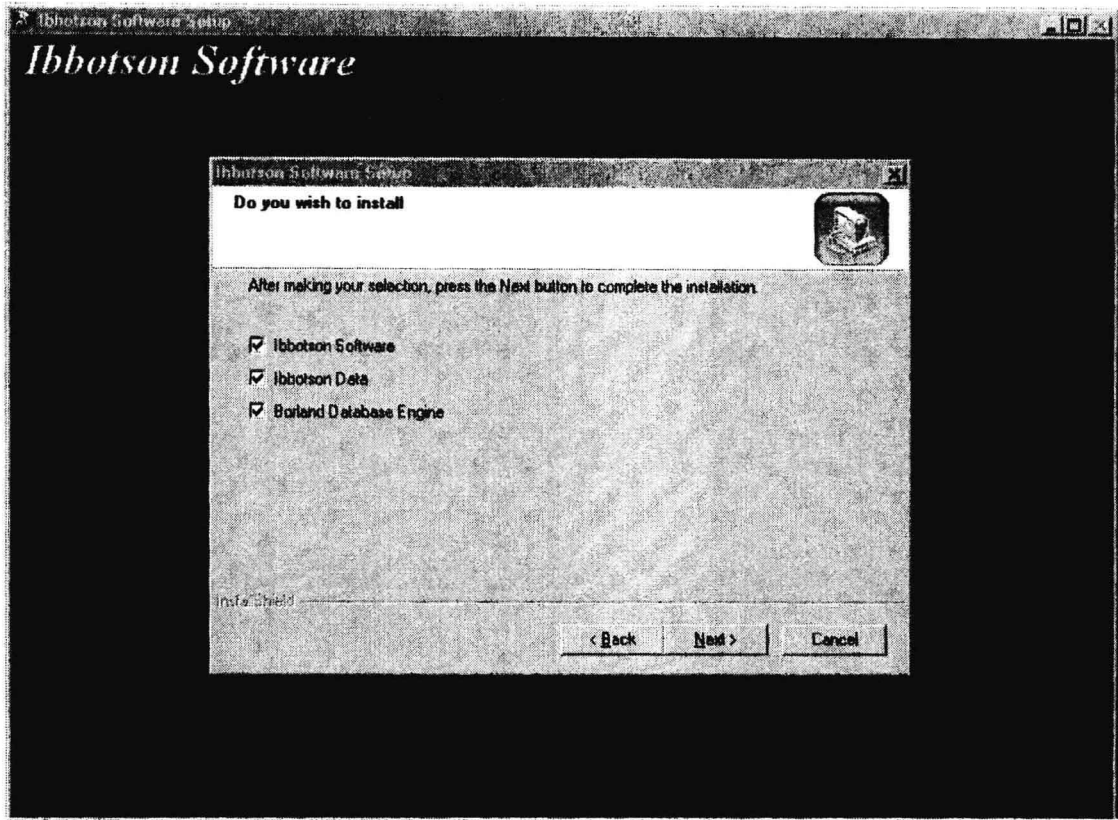


Figure 1.3 Ibbotson Install Dialog

- **Ibbotson Software:** Check the box to install Ibbotson software components.
 - **Ibbotson Data:** Check the box to install data included in CD package.
 - **Borland Database Engine (BDE):** Check this box to install BDE onto a system.
 - Click **Next**.
5. The Software Destination Location box is displayed (Figure 1.4). Select a location for the software to reside on your system. For first-time installations, the default directory is . . . \program\ibbotson; for consecutive installations, the

default directory is the same as the directory of the existing software. You can create a different directory by clicking the **Browse** button. When you have finished creating the directory, click **Next**.

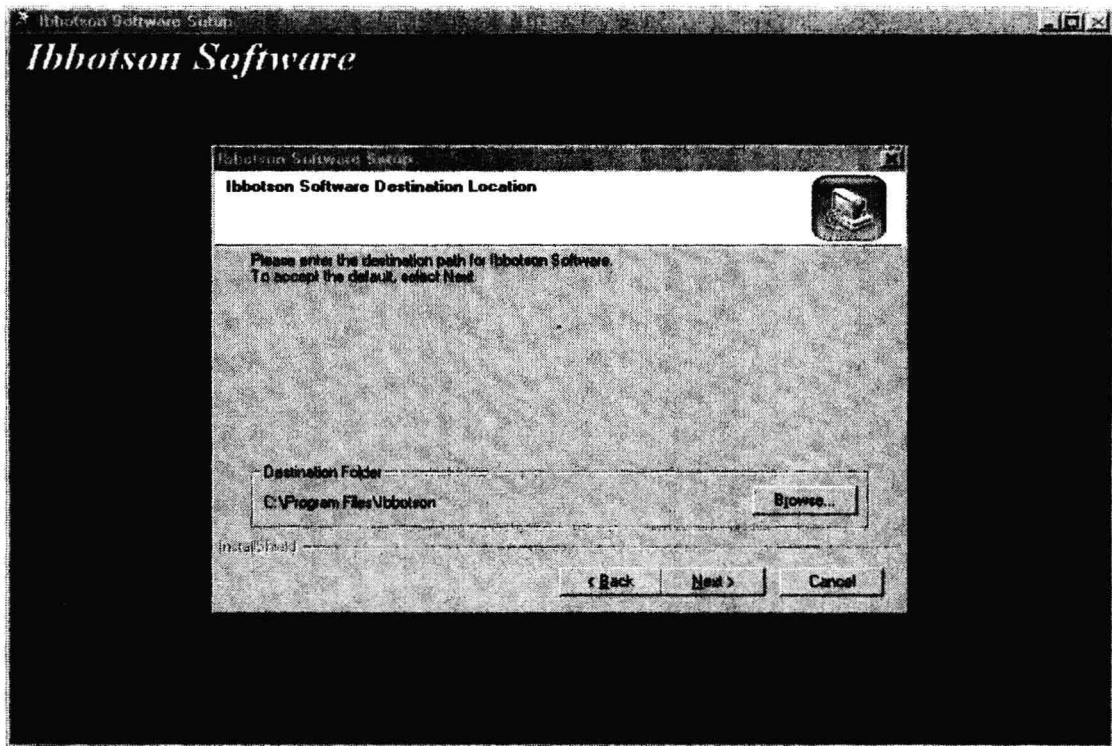


Figure 1.4 Software Destination Location Dialog

6. The Ibbotson Software 8.0 dialog box appears (Figure 1.5) with a list of the software components that you are licensed to use. Click **Next**.

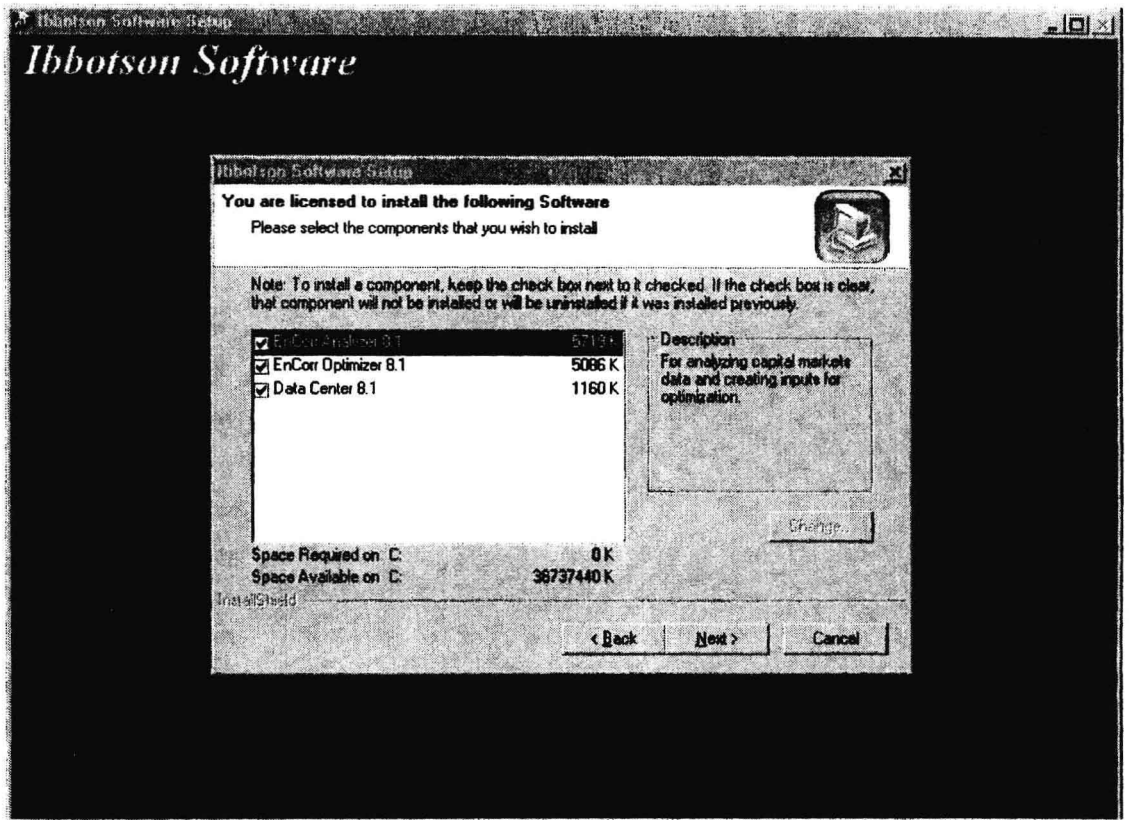


Figure 1.5 Ibbotson Software Components Dialog

7. The Ibbotson Software 8.0 Data Modules dialog box is displayed with a list of the data modules that you are licensed to use. (Figure 1.6). Click **Next**.

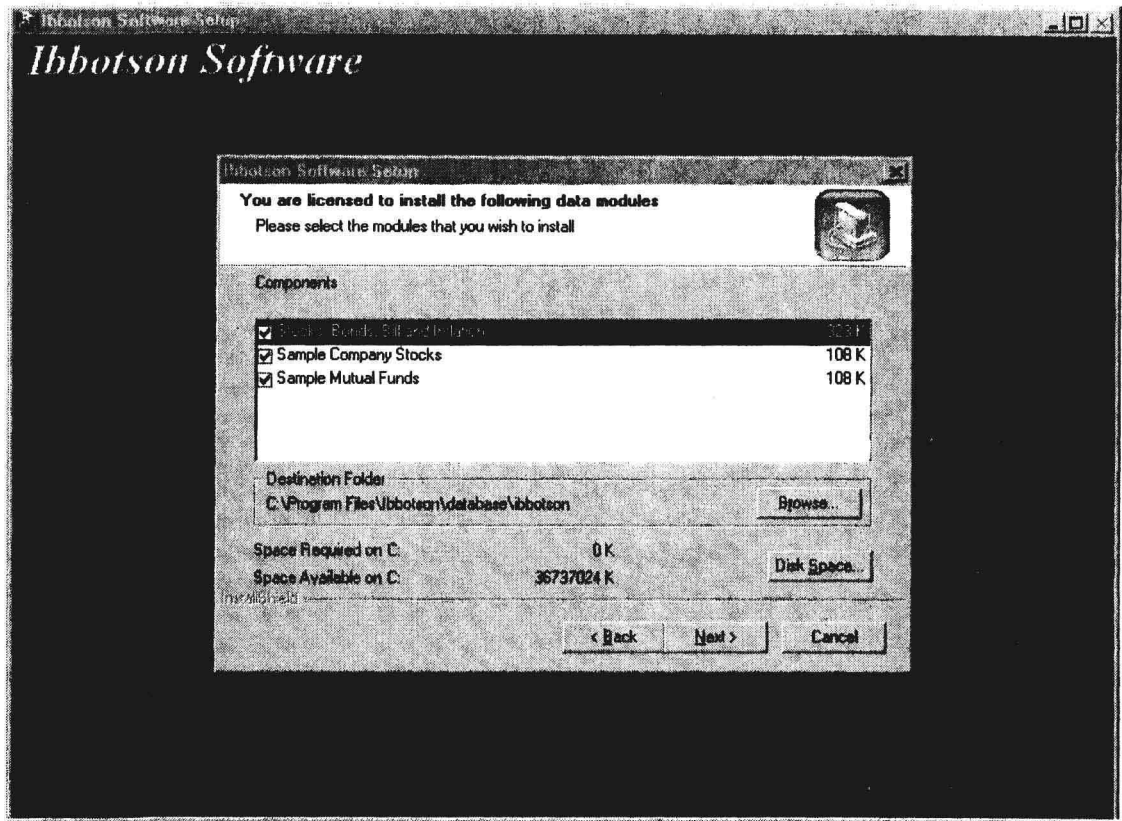


Figure 1.6 Ibbotson Data Modules Dialog

8. The Ibbotson Software 8.1 Icons dialog box is displayed (Figure 1.7). Setup will create Icons in a Program Folder. The default folder is Ibbotson Software 8.1, but you can select a different folder from the **Existing Folders** list. Click **Next**.

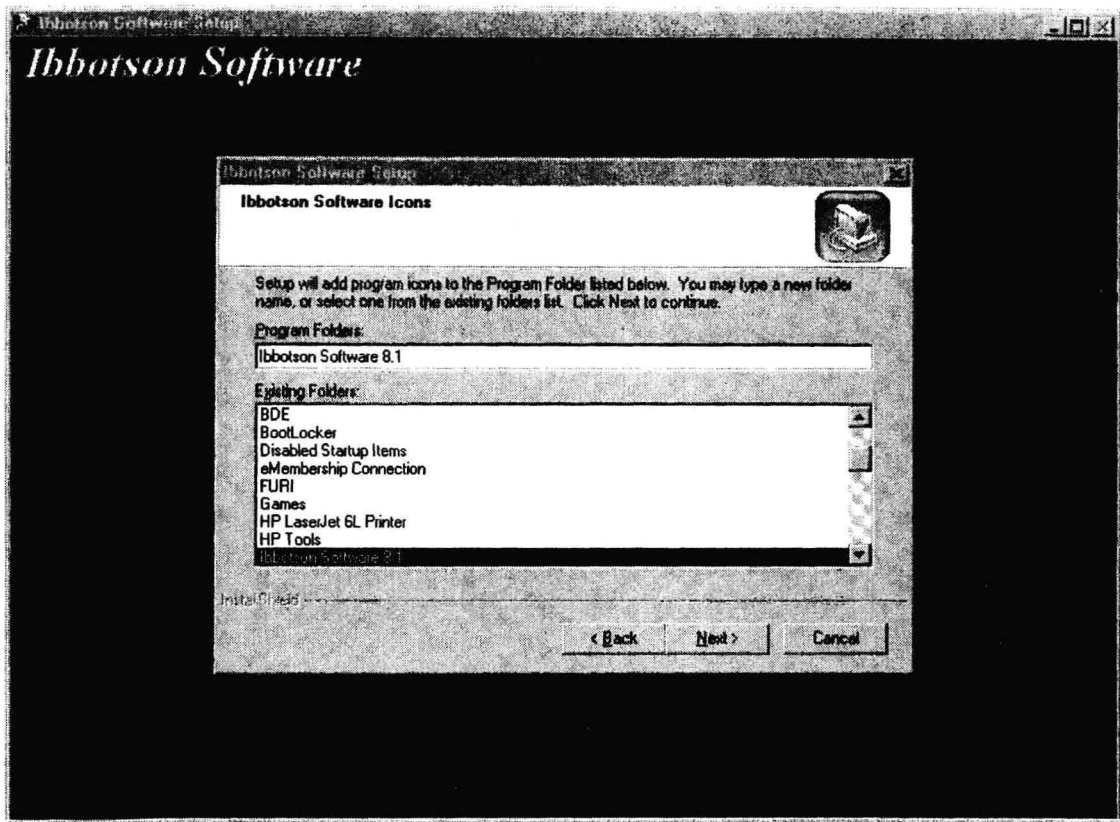


Figure 1.7 Ibbotson Software Icons Dialog

9. When the setup is complete, the Setup Complete box appears (Figure 1.8). Click **Finish**.