

# FastTrack

# Version

# 4

*Version 4.13 January 1997*

The information that FastTrack™ provides is only part of the information needed for a good investment program. Consult your mutual fund representative before buying or selling any fund. Read the prospectus to determine whether an investment meets your objectives.

FastTrack™ is a product of Investors FastTrack. Investors FastTrack retains all rights to the software and database. Investors FastTrack does not assume liability for error or omissions in reports or other information.

Investors FastTrack  
P.O. Box 77577 (Zip 70879)  
11754F South Harrell's Ferry  
Baton Rouge LA 70816  
Phone: 504-291-4413 or 800-749-1348

FastTrack™ software, manuals, and database information are protected under US and international copyright laws. Copying, modifying, or redistributing such materials without express written permission of Investors FastTrack is strictly prohibited except under the following conditions. All other rights are reserved. FastTrack™ software and manuals may be freely copied and redistributed to

others in their entirety only for internal mutual fund analysis as long as: (1) No fee is charged for using, copying, or distributing; (2) Neither the software nor the manuals are modified in any way; (3) The programs are used only in conjunction with original FastTrack™ information.

The FastTrack™ database information may not be used for any commercial purpose other than for internal mutual fund analysis by individuals for personal investment analysis or by investment professionals in rendering investment advice.

FastTrack™ database information may not be redistributed either in original or modified form, and it may not be made available for electronic access through any service other than Investors FastTrack. However, a single complete database may be redistributed in its unmodified form for evaluation purposes with FastTrack™ programs.

Copyright 1990-1996 Investors FastTrack FastTrack™, AccuTrack™, and Online Integrity Check™ are trademarks of Investors FastTrack. BLAST™ is a trademark of BLAST Corporation. Quicken and Quicken Financial Planner are trademarks of Intuit, Inc.

# Table of Contents

---

<b>2</b>	<b>Table of Contents</b>	35	Retire at Age 59?
		35	Retire at Age 60?
<b>5</b>	<b>Introduction</b>	35	More Good News
5	Improving Over Buy-and-hold	36	More Broad Domestic Trading
6	What Is FastTrack?	36	Trading Growth to Value
7	What Does FastTrack Do?	36	Use Family Averages
<b>8</b>	<b>Organization</b>	37	Energy Sector Funds
8	Understanding this Manual	38	Conservative Investing
9	A Special Note to Computer Support People	39	Buy or Sell Junk Bond Funds
<b>10</b>	<b>Installation</b>	40	Aggressive Investing
10	System Requirements	42	Moderate Investing Style
10	Starting the Install Process	43	The Trendless Market of 1994
12	Backing Up	43	The Trendy Funds of 1994
13	Making the System Run Faster	43	But Timing Can be a Big Mistake
14	Start at the DOS Prompt, C:\>	43	The Future, the Past, and the Present
14	The FastTrack Initial Menu	44	Follow FastTrack's Commentary
<b>14</b>	<b>Quick Start</b>	45	Funds & Families - Important Concepts
18	Your Favorite Investment Advisors	<b>45</b>	<b>Ground Work</b>
19	Your Favorite Daily Paper	45	FastTrack Families of Funds
20	Your Favorite Mutual Fund Directory	46	Why Use Families?
22	Understanding Ads - Part I	47	What is a "Good" Family?
26	Understanding Advertisements- Part II	49	What is Technical Analysis and What Does It Do?
28	Financial Planning	50	How Much Risk Can I Stand? - Part I
<b>28</b>	<b>Investing Strategies</b>	50	Diversify Investing Strategies
29	Is 2.5% Extra Return Important?	51	Selection: How Much Risk Can I Stand? - Part II
29	The Results	52	Selection: Average Risk Funds
30	Trading Growth Funds	53	Selection: High Risk Funds
31	Why Is Getting Another 5% Trading Domestic Funds Important	54	Selection: Low Risk Funds
32	The Thrill of Sector Funds	55	Selection vs. Timing
32	Comparison to Stocks	56	Distributions
33	Why Would I Want to Trade Sector Funds?	57	Tax Consequences of Trading
34	Trading Bonds	58	The AVG Fund
34	Risk Level?	60	What about Bear Markets?
34	Improving Return After Retirement	<b>61</b>	<b>Using FastTrack</b>
34	What Do I Get? \$27,000,000	61	The First Time You Start Up
35	How Can I Retire Early?	62	The Big Picture
		64	Date Scale and Miscellaneous Information
		65	Command Menu

- 66 Using the Menu System
- 67 Online Help - **F1**
- 68 Fund Information - **F3**
- 68 Exporting Data - **A**
- 69 Reading FastTrack Commentary - **C**
- 71 Drawing the Charts - **D**
- 71 Changing the pEriod Charted - **E**
- 72 Displaying the Red Line - **F**
- 74 Displaying the Green Line - **I**
- 74 Changing Colors to Black & White - **L**
- 75 Displaying Funds by Rank Numbr - **N**
- 75 Selecting Families - **M**
- 76 Turning Off Fund Names - **O**
- 76 Choosing whichCharts Display - **P**
- 78 User-defined Buy/Sell Signals - **S**
- 81 Getting Details from the Chart - **T**
- 81 Changing Indicator Parameters - **U**
- 82 Parameter Editor - **U**
- 84 Set Delay Between Getting a Signal and Making the Trade - **Q**
- 85 Drawing Trendlines on Charts - **R**
- 87 Choosing a Time Period - **W**
- 87 Shifting the Period with Arrow Keys
- 88 Shell Out to DOS - **Y**
- 88 AutoLoading Parameter Sets - **Z**
- 89 Reversing the Fund and Index - **X**
- 89 Moving Yellow Values to T Chart - **I**
- 90 Viewing Funds in Ranked Order (Arrow, Home, End Keys)
- 90 Ending the Session - **Esc** (Esc)

## 91 Charts and Indicators

- 91 Total Return Chart (T Chart)
- 93 T Chart's Unique Performance Values
- 98 Correlation Tricks
- 100 Relative Strength Chart-R Chart
- 101 The P Chart
- 103 Indicators
- 104 Performance Values
- 104 Trading Delays
- 104 Parameters
- 105 AccuTrack Indicator (A Chart)
- 105 AccuTrack for Selection
- 106 AccuTrack for Contrary Funds
- 107 AccuTrack Selecting Between Similar Funds
- 108 AccuTrack Limitations
- 109 AccuTrack for Timing
- 110 Other AccuTrack Uses
- 111 Trendlines

- 111 A Downtrend
- 112Trendlines - Not So Easy to Draw
- 114 Moving Average Indicator (V Chart)
- 116 MACD Indicator (M Chart)
- 117 Trading-Range Indicators (RSI and Stochastics)
- 118 Trading-Range Indicators & Trendlines
- 119 Interpreting Trendline Divergences
- 120 Other Trading-Range Patterns
- 121 Stochastics Chart (S Chart)
- 122 Stochastics Histogram (H Chart)
- 122 RSI (I Chart)
- 123 Adjusted Return (J and 2 Charts)
- 125 Counter-Relationships - Another Use of Adjusted Return
- 126 Risk-Adjusted Return (The Concept)
- 128 Poor Risk-Adjusted Return

## 130 The Statistics Commands

- 131 Pole Movement Keys
- 131 Leaving the Statistics Screen (Esc)
- 132 Ranking the Funds in a Family (R & N)
- 133 Ranking Strategies
- 134 When to Rank and What to Expect
- 136 Tracking Gains and Losses - **Esc**

## 137 Trading Patterns

- 137 Defining a Channel
- 138 Channels for Conservative Funds
- 139 Sector Fund Channels
- 140 Support and Resistance
- 141 Head and Shoulders
- 142 Double Tops
- 142 Double Bottoms
- 143 Pennants

## 144 The Family Editor

- 144 Why Create My Own Families?
- 144 Starting the Family Editor
- 145 Family Editor Buttons
- 146 Editing an Existing Family - **Alt+E**
- 148 Creating a New Family - **Alt+J+E**
- 148 Creating a Family of Equity Funds

## 150 Printing FastTrack Charts

- 150 Capturing and Printing FastTrack Screens Under Windows

151 Capturing and Printing Screens Under DOS

## **152 Importing Funds Not in the Database**

### **153 Telecommunication**

153 Updating the Database by Phone  
 155 Communication Screen at Completion of Successful Session  
 155 Subsequent Processing after Phone is Hung Up  
 156 The First Update  
 156 Error-Free Communication  
 156 Modems  
 158 If You Hear an Operator, Always Get a Busy Signal, or Never Get an Answer  
 158 Delayed Daily Updates  
 158 Ending Communication Sessions  
 159 Lots of Connect Problems  
 159 Upgrading FastTrack to the Latest Version  
 160 Expiration Date  
 161 You Can Take It With You  
 163 Telecommunication Errors  
 163 Online Integrity Check  
 163 Messages  
 163 Before Communications Begins  
 164 During the Communication Process

### **165 Exporting Data to Other Programs**

165 Why Would Anyone Want to Export to Another Program?  
 165 Strategy Trading Packages  
 165 Why Doesn't FastTrack Have All the Same Tools?  
 165 Summary  
 166 FastTrack's FNU Format  
 166 First Export Menu  
 167 M - MetaStock, Super Charts, and Other MetaStock Compatibles  
 168 MetaStock Export Steps  
 170 N - MetaStock PRN Format  
 170 P - ChartPro and Megatech  
 170 S - Spreadsheet Export  
 170 FundMaster

171 The Second Export Command Menu  
 172 Setting up Paths for Exporting and Other Purposes

## **173 Appendix A - Recommended Reading**

### **174 Appendix B - Mathematical Computations**

174 Moving Averages in General and the V Chart  
 175 Adjusted Fund Prices  
 175 Adjusted NAV and Total Return Worksheet  
 176 Indicator and Chart Computations  
 176 Total Return (T Chart)  
 176 AccuTrack Indicator (A Chart)  
 176 Relative Strength Chart (R Chart)  
 177 Stochastics Calculation (both S and H Charts)  
 178 MACD Indicator (M Chart)  
 178 Welles Wilder RSI (I Chart)  
 178 Standard Deviation (SD=)  
 178 Correlation (Cor=)  
 179 Beta (Bet=)  
 179 Annualized Return (Ann=)  
 180 P Chart  
 180 Weird Numbers

### **182 Appendix C - Setting Up Menus**

182 Normal Mode of Operation  
 182 Running Short of Memory  
 182 Running Short of Environment Space  
 182 Have a Bootable Diskette at Hand  
 183 Menu Choices Not Covered Extensively Elsewhere  
 183 Print the Online Help File  
 183 Display a Basic Check of the FT System  
 183 Online Integrity Check and Repair of the FT Database

### **184 Appendix D - Operating Under Windows '95**

184 Adding FT to Start Button  
 185 Optimizing

# Introduction

Everyone wants to make money in the securities markets and everyone can! The stock market is not like a game of chance where the amount of money in play remains fixed and where profits are made only by the winner of the pot. Owners of stocks derive a continuous stream of income and capital gains over long periods. The money in play gradually increases. Those who buy-and-hold a diversified portfolio of securities over the long-term can expect to profit.

## Improving Over Buy-and-hold

Since there is little risk that buying and holding will lose money in the long-term, the reward for holding long-term is commensurately low. Therefore, some stock and mutual fund investors try to "beat the market." There are two ways to execute this strategy: Timing and Selection.

### Timing: Buy Low, Sell High

The attractive aspect of *perfect* timing is that it eliminates risks of owning broad growth fund investments while improving return. Perfect timing would assure excellent returns by virtually any fund and would eliminate the need to practice selection.

Unfortunately, while timing is a simple concept, it is not an easy discipline to follow over many years and is not the best way to beat the market. Imperfect timing usually does reduce risk, but also reduces return. FastTrack does provide market timing tools; and these tools are useful . . . but this manual focuses on selecting the best funds and not timing the market.

Perhaps the worst aspect of timing is its interaction with uncertainty. If your mathematical timing model gives a trade, then you **MUST** take that trade immediately. But new technicians are always uncertain and seldom work at the analysis with the frequency required. If the timing model is of value, then the target stock or fund will immediately begin to shoot up after the signal . . . waiting means you will be buying near highs and selling near lows. Delays mean you "Buy High, Sell Low."

### Selection: Picking the Best Funds

Every issue of most financial magazines has a whole new set of funds that you should have invested in. They tell you to buy-and-hold and to avoid timing. Then they pump you full of ever-changing lists of the "best funds", most of which you don't own . . . No one can actively manage their money with such input.

In contrast, FastTrack is a sensible system for picking the right families of funds, choosing the funds within that family that are suitable, setting diversified investing strategies, and then moving from fund to fund (within the same family) perhaps 2-4 times a year.

Picking the *right* mutual funds is a multipart discipline that depends on:

- 1) the risk level appropriate for you.
- 2) your performance objectives with regard to total return.
- 3) the amount of time you have to work over the selections.

We will be exploring these topics in this manual plus telling you what computer buttons to push to use FastTrack.

## What Is FastTrack?

On the simplest level, FastTrack is a color picture book of mutual funds and major market indices.

"A Picture is Worth a Thousand Words."

FastTrack's pictures on your display give an immediate view of risk, reward, and historical record. While the mathematical tools and selection features of FastTrack are helpful, **nothing** will make as much of an impression as *seeing* charts of alternate investments. There is great variety in mutual fund investments that are easy to switch among for increased profits. FastTrack will make you aware of these.

### But There Is More

FastTrack is an investing system with an informed point of view. Not all timing and selection systems work well for everyone in all circumstances. If subscribing to a newsletter, buying mutual fund directories, and listening to lectures was working for you, then you would be not reading this *Investors Guide*.

While there are no special secrets embodied in FastTrack mathematical algorithms, FastTrack has special qualities:

- \* The way the data, technical tools, and commentary direct you toward profitable trading. FastTrack is not just a sophisticated math box . . . it's a complete trading system directed toward profit objectives.
- \* The way FastTrack makes using your computer easy even for investors who are not computer experts.
- \* The way FastTrack presents charts and commentary to explain the current market conditions for people who are not mathematicians.
- \* The way nationwide FastTrack seminars help improve your skills.

FastTrack's technical selection methods are widely understood, but no other selection software is designed for the specific benefit of mutual fund investors.

### Who Benefits from Using FastTrack?

FastTrack was designed for investors who actively manage their money. With practice and time, FastTrack will improve returns and reduce the risks of investing.

For growth-oriented investors, FastTrack has common stock mutual funds.

For income-oriented investors, FastTrack includes many bond funds which respond to technical analysis amazingly well.

For more aggressive investors, FastTrack follows all the sector, international, and aggressive funds.

### Why Mutual Funds?

Good investing requires a combination of fundamental analysis and technical analysis. Mutual fund managers do the fundamental analysis, but technical analysis is harder for them to execute. They have so much money in the market that they cannot move in and out of positions quickly. Large positions must be processed slowly or the fund will lose money just because its own trading changes the market price of a security.

Individuals have an advantage: You can move your assets in/out of a mutual fund instantly. Most mutual fund companies have "telephone switching" to move between different funds and money market at little or no cost.

Telephone switching among funds is easier and less expensive than buying and selling individual stocks. You can switch most funds without paying a commission.

Select the right funds and time buys and sells using FastTrack. Most of the technical analysis tools which apply to stocks *work even better* when applied to mutual funds. While fundamentals affect the share price of an individual stock,

## What Does FastTrack Do?

FastTrack follows the best mutual funds and major market indices with daily data since 1988. It presents this information in colorful charts designed for investment decision making.

FastTrack communications calls the Investors' database on an 800 number. The database sends a high-speed, compressed transmission to update prices, distributions, family memberships, commentary, and prospectus abstracts already on your PC's hard disk.

Updates do not require users to have a separate contract with other online services at extra cost. You don't have to be a communications guru either. FastTrack includes its own automated communications.

FastTrack maintains an accurate database on your personal computer. Investors' database transmits current price, dividend data and corrected data which originally was reported incorrectly by the wire services.

You will never have to edit your database manually. Even if your hard disk fails, Investors' database will restore the exactly accurate data on your computer at no extra charge.

## How Does FastTrack Do Its Job?

FastTrack includes many elements:

- 1) A database of daily data on your PC of funds that will continue to grow. The funds and indices are organized into investment company and objective families. FastTrack records and adjusts for fund distributions including cash dividends, splits, long- and short-term capital gains, and other types of distributions.
- 2) Technical analysis programs that draw color charts on your PC's screen.
- 3) A communications utility that uses an ordinary telephone line to download data and commentary from Investors' database with a toll-free phone call.
- 4) Fund company information and fund prospectus abstracts.
- 5) Comprehensive technical support 65 hours per week via 800 number. FastTrack technical support will assist you in all aspects of using FastTrack. This includes using DOS and other related programs which are incidental to FastTrack use.
- 6) Commentary transmitted regularly with the data. These commentaries suggest ways of using the indicators that are appropriate to current market conditions.
- 7) Access to supplementary online features including commentary and timing signals by independent investment advisors.
- 8) Data export: FastTrack can export data from its own internal format to a format suitable for other popular technical analysis programs. The formats exported are discussed in this manual in the *Using FastTrack* chapter's *Exporting Data* section. See the index under *Exporting Data*.
- 9) Data import: FastTrack can import prices and dividends from text files created by a text editor or another program. Imported funds can be members of FastTrack families and handled in every respect just like FastTrack's native data. See the *Importing Funds Not in the Database* chapter.
- 10) Online Integrity Check: Your data can always be checked and corrected at no charge. Even if your hard disk has developed a bad sector in the middle of the data, the Online Integrity Check will fix it.
- 11) Screening: FastTrack can combine families of funds based on criteria that you select. The end result being a family of funds whose characteristics meet your screening criteria.

# Organization

The following sections of the manual describe the essentials of getting started and learning FastTrack.

"**Installation**" explains how to install FastTrack and complete your first data update.

"**Ground Work**" helps you focus on your own investment goals and those non-FastTrack things you must do to actively manage your money.

"**Using FastTrack**" explains the menu options and how to use them to change and modify the charts that you wish to analyze. Here you learn the meaning and use of the keystrokes and what to expect when you use them.

"**The Charts and Indicators**" describes the meaning and function of the charts.












"**Telecommunications**" tells how to use FastTrack's communication package to update your database and commentary.

"**Trading Patterns**" puts together several indicators and describes how they work together.

"**Appendices**" describes using FastTrack with other programs, gives detailed mathematics for the technical indicators, and lists a short bibliography of resource material.

## Understanding this Manual

This manual has plenty of examples of the actual commands used to perform the functions. Review this section to understand the meaning of the special symbols used.

- The letters that you type are in a **DIFFERENT TYPE FACE**.
- When spaces are required, we show an \_ (underscore).
-  means strike the Enter key. It's that big key on the right center edge of the main part of the keyboard.
-  + letter key,  + letter key, and  + letter key mean hold down the , , or , tap the letter key once, then release the , , or .
- We refer to the hard disk as C:, the diskette as A:, and the directory in which FastTrack is installed as C:\FT. *If you do not use these particular drives and directories, substitute the appropriate drive or directory names in the examples.*
- The  marks concepts. The short text following this mark tells why you would want to read the section.



## Important Information Not Covered in the Manual

The READ.ME file is several pages of ASCII text. This file is copied to your FastTrack directory during installation. This file contains information that is not a part of this manual: the installation procedures, program features that have been modified since the manual was printed, and other important changes.

## Customer Technical Support

The manual should answer nearly all your questions concerning the use of FastTrack. If you cannot find the answer in the manual, please call 800-749-1348 from 9:00 A.M. - 9:00 P.M. Eastern time on

market days and 9:00 A.M. - 2:00 P.M. Eastern on Saturdays. Please be at your computer, have the power on, and be prepared to spend a few minutes trying the steps we may suggest.

The worst time to call is at 6:30 P.M. to 7:30 P.M. Eastern on market days while the database is updated. The entire staff participates in the update process and may not take your call immediately. After lunch, calls slow. This is the best time to call.

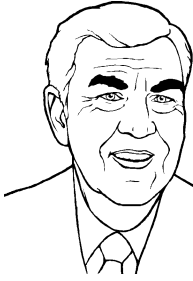
We pride ourselves on the quality of our technical support. If you find that you are having to call back more than twice about the same problem, please ask that your call be escalated to technical management.

## A Special Note to Computer Support People

pleased to work with you to assist you installing this product for our mutual benefit. Here are a few suggestions that will help:

- 1) Install FastTrack in a directory named \FT. If you must install it elsewhere, write the following in the back of the FastTrack manual.  
"FastTrack is on drive \_\_\_\_ in directory \_\_\_\_\_."
- 2) If you are maintaining a DOS Shell menu, you MUST set up multiple menu items or icons. FastTrack contains several independent components that run from the DOS Prompt. OR FastTrack has its own small menu system you may wish to use. See Appendix C.
- 3) Please check to be sure that there are at least 20 bytes of environment space and 450KB memory available for FastTrack. See Appendix C.
- 4) Please show your user how to "drop to DOS", or write instructions in the back of this manual as to how to do it.
- 5) In the back of this manual, please write the name of the COM port used with the modem. Also write the IRQ and base address if you had to enter them during installation. See the "Telecommunications" chapter regarding IRQ conflicts.
- 6) FastTrack will operate under Windows although it is not a Windows application. You will have to create multiple icons and PIF files for the various functions, OR one icon for the FTMENU.
- 7) Invoke functions through their BAT files. Because we sometimes change BAT files during the download, DO NOT modify FT-supplied BAT files with your own changes. These changes will be LOST. Create a new BAT file and call our BAT files.
- 8) Please DO NOT put the \FT directory in the PATH. FastTrack operates from the default directory. Putting \FT in the path invites programs to execute in another directory, in which case FT won't find its files.
- 9) Call for help. We will work with you. We are open 65 hours/week from 9-9:00 P.M. Eastern time market days and 9:00-2:00 P.M. Saturdays. Tell us that you are working with a customer and we will prioritize a return call, if necessary.
- 10) Installing FastTrack shouldn't require heroic efforts. If it is taking more than 30 minutes, call and let us help.

# Installation



You don't have to be a computer expert to install FastTrack.

☞ This chapter give you a general idea of how the features fit together.

## System Requirements

FastTrack operates on any IBM personal computer or true compatible with,

- IBM 286 or 386 with math processor, 486DX, or Pentium is preferable.
- Operates well using Apple's Power PC. Will operate on a regular MAC with Soft-PC, but not recommended.
- 640 KB of memory. 2MB or more is preferable.
- VGA monochrome or color graphics display.
- A hard disk with at least 12 MB of free space.
- A 2400 or faster baud Hayes compatible modem. FastTrack does not support 300 baud modems.
- MS-DOS 3.0 or higher. FastTrack will operate in a DOS partition in Windows. For information regarding running under Windows, see Appendix D.
- Strongly recommend the use of SMARTDRV or other disk cache.
- A printer and a math processor are optional. The math processor will make chart drawing and ranking functions 3-7 times faster. The printer should be a graphics printer, preferably Epson or HP Laser or Laser Jet compatible.

## Starting the Install Process

The installation instructions are located on a separate sheet of paper, entitled "FastTrack Guide." Please read the installation instructions carefully. The installation instructions are also in the READ.ME file.

### Read Me

After installation, there will be a file in the FT directory named "READ.ME". It contains information about FastTrack that is not in this manual. Please read this file to find:

- Notes about errors or omissions in this manual.
- A list of the funds and indices in your database.
- A list of the files placed on your disk during installation.

This file can be viewed or printed with DOS commands as follows,

`COPY_READ.ME_LPT1:` 

(This copies the READ.ME text file to the printer.)

`TYPE_READ.ME | MORE` 

(Page through the READ.ME file.)

## Cleaning up your Disk

Among other valuable information is a list of files that are essential to your version of FastTrack that will enable you to delete unneeded disk files that accumulate over time.

## Changing the Personal and Communication Information

The FastTrack installation program will ask for account number, password, phone number, and communication port information. In the future, this information may be revised to reflect changes in the communication port, phone numbers, etc.

To change the initial setup use the following DOS commands:

- C:↵ (Change to the proper drive assuming installation on C:)
- CD\FT↵ (Change to FastTrack directory assuming \FT used.)
- FTMENU↵ (Display the FastTrack main menu shown below.)
- 5↵ (Choose the "Change" item. It may NOT be item #5.)

```

FastTrack System
1 > Run the FT charting, ranking, and analysis program.
2 > GO get the data: The data update process.
3 > UPGRADE programs online. If a new version is available, it will be sent.
4 > Print the On-Line Help file
5 > Change Account and Communication information
6 > Backup FastTrack Data to Drive.
7 > Restore FastTrack Data to Drive.
8 > Backup ALL of FastTrack to Drive.
9 > Restore ALL of FastTrack to Drive.
10 > Display a basic check of the FT system
11 > Change the colors displayed in the FTTRACK charting program.
12 > Create a FT installation disk for a friend to Drive.
13 > Online integrity check and repair for the FT Database.
14 > Reset 16-bit Com Ports to look like old unbuffered 8-bit ports.
15 > Help screen
16 > Exit menu system.

```

Please select the function by item number.?

The CHANGE program dialog is identical to the installation dialog except that the initial diskettes won't be needed. The CHANGE program lets you change the name, address, phone number, account, and password originally entered.

## Software Upgrades

A truly unique feature of FastTrack is that you need never work with an obsolete program. FastTrack includes an Online Upgrade process that will download the latest versions of software via your modem. There is no charge for this service, but you do pay for the long-distance telephone call (the service is not available via the FastTrack's 800 number). See discussion in the *Telecommunications* chapter.

From time to time you may wish to get the latest manual or the latest installation diskettes. *There is a nominal charge when we ship these items to you.*

## Reinstallation

When you initially installed FastTrack, you did a lengthy update at your own long distance expense. This lengthy NEWUSER update got data updates and the latest versions of FastTrack programs.

You may do the NEWUSER update again if you reinstall FastTrack on a new computer or disk drive or because your disk became corrupted by hardware failure, power failure, or user error. However, the NEWUSER update gets longer with time as more data must be downloaded. Therefore we highly recommend that you BACKUP your hard disk at regular intervals.

## Backing Up

After installing FastTrack, do a full backup of the \FT directory, including subdirectories, using your favorite backup utility. If you don't have a favorite backup utility, FastTrack has backup capability.

Backing up is important. One day your hard disk will fail or you will experience a power glitch and lose a sector of data. Glitches happen 1-2 times/year for typical users. You are unlikely to use FastTrack for more than a year without having to resort to a backup copy.

If you don't have a backup, you will be facing a reinstallation from your original disks and you will have a very long phone call at your expense to restore months or years of data.

FastTrack includes \*.BAT commands to backup and restore all or parts of the FastTrack system on diskette. There are more sophisticated backup programs faster and more flexible, but the backup programs we have included are effective.

### Backup & Restore of Everything

Start with 5-6 high density formatted, empty diskettes. At the FTMENU, choose the option reading "Backup All..." Or, type the following commands at the DOS Prompt, C:\FT>

```
BKUPTOT_A or B
```

This saves the entire \FT directory and subordinate directories. A or B means use the letter A or the letter B to indicate which diskette drive. You can also use other letters for other lettered drives.

If C:\FT does not exist create it with the command

```
MD \FT
```

To restore, at the FTMENU, choose the option which reads "Restore All...", or type the following command at the C\FT prompt.

```
A or B:RESTTOT_A or B
```

Do a full backup at least quarterly to save your entire FT directory. If you rarely backup, you will have to order fresh diskettes. There will be a handling fee charged for the new diskettes.

### Backup and Restoring Just the Stuff that Changes Daily

For backing up/restoring JUST the FT database (FTRACK4.DAT), commentary, and signal files; at the FTMENU, choose the option which reads, "Backup FastTrack Data...". Or, type the following at the DOS Prompt, C:\FT>

```
BKUPDAT_A or B / RESTDAT_A or B
```

This command is helpful in transferring the updated database, commentary, and signal files between different computers (like your home computer and office computer). This is important because you are NOT allowed to update both machines on the 800# phone link.

### Creating Install Diskettes for Others

This is a special form of backup that creates a set of diskettes that a friend can install on his own machine. The diskettes will install as described in the original installation instructions. To create these disks, choose the option from the FTMENU which reads, "Create ... for a friend to Drive." Or, do the following at the DOS Prompt, C:\FT>

```
BKUPFRD_A or B
```

This creates diskettes that are identical to FT installation diskettes except that the data and programs reflect the up-to-date condition of the FT directory.

To install these diskettes,

- 1) Contact FT (800-749-1348) to get an account for a free 30-day trial period.
- 2) Do an installation as described in the FastTrack Guide and READ.ME file.

## Making the System Run Faster

FastTrack is highly graphics oriented. The speed at which your computer draws the charts is critical to your satisfaction. Chart drawing speed is a combination of factors:

### Computer's Speed and Memory Size

The difference in speed between an original PC and a 486 or Pentium-based computer is enormous. FastTrack will make good use of up to 4MB of memory as SMARTDRV cache. DOS 5.0 (and later) has a utility called SMARTDRV.EXE that buffers disk operation. Read your DOS manual or call Microsoft for information on SMARTDRV. Windows '95 has its own drive caching mechanism that provides support for DOS sessions.

### A Math Processor

This is a chip that fits into the empty socket on the computer's motherboard. The chip can be inserted by any dealer for \$50-\$150 depending on model of computer. Computers based on the 486-DX and Pentium chip will have an integral math processors. 386, 486-SX, 486-SL systems DO NOT have integral math processors.

A MATH PROCESSOR MAKES DRAWING & RANKING 3-7 TIMES FASTER

### The Number of Days Drawn

FastTrack can draw charts with lower resolution than the default point per day resolution. Use the pUt command to bring up the Parameter Editor. Change the Days Between Points field to a value greater than 1—typically 5 or 10.

Changing the Days Between Points can make charts draw 1-2 times faster. The indicator signals are still computed daily. This means that the return figures, BUY/SELL points, sTat net asset values, etc. are still on a daily basis. The ONLY change is the appearance of chart lines.



### The Charts Displayed

Every section of the screen requires time to chart. Hit **P** from the main menu to select only the needed charts. The Stochastics "S" and "H" charts take a long time to compute and draw. Don't draw these charts unnecessarily.

### The Size of Families

It is rare that most users will really need to review families with more than 20-30 funds regularly. If ranking is taking too long, eliminate some funds in the family being ranked from the family using the Family Editor.

### The Graphics Card Speed

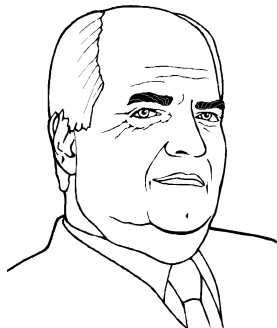
There are slow and fast graphics cards. A 386/486 computer with a math processor is a waste without a high speed graphics card. The computer can compute to points faster than the card can draw them. It is hard to generalize about the effect. It could vary from (1) no improvement for 386 16MHz computers; (2) to double speed for 486-66MHz systems.

### Parameter Length

Charting a 200-day Stochastic takes MUCH longer than charting a 14-day Stochastic. Don't use longer parameter values than needed.

### Mastery of the Spacebar

The <Spacebar> will stop chart drawing and let you give another command. This can greatly speed the process of entering several commands.



Time is money. Let's get on with it.

---

## Quick Start

This chapter is a step by step introduction to FastTrack basics. The basics are blended in with simple investing concepts. This chapter doesn't give a lot of the details of each command. For command details, you'll have to read the *Using FastTrack* chapter.

### Start at the DOS Prompt, C:\>

The standard for IBM PC computers is to display the DOS Prompt within a minute or less after turning the power on. If your system doesn't start at the DOS Prompt, call the expert who set your system up and ask him how to get to the DOS Prompt. FastTrack tech support will be able to help you once you know how to get to the DOS Prompt.

### The FastTrack Initial Menu

Type the following:

```
CDFT ↵
FTMENU ↵
```

This displays a list of options. Hit the following keys:

```
1 ↵
```

```
FastTrack System
1 > Run the FT charting, ranking, and analysis program.
2 > GO get the data: The data update process.
3 > UPGRADE programs online. If a new version is available, it will be sent.
4 > Print the On-Line Help file
5 > Change Account and Communication information
6 > Backup FastTrack Data to Drive.
7 > Restore FastTrack Data to Drive.
8 > Backup ALL of FastTrack to Drive.
9 > Restore ALL of FastTrack to Drive.
10 > Display a basic check of the FT system
11 > Change the colors displayed in the FTTRACK charting program.
12 > Create a FT installation disk for a friend to Drive.
13 > Online integrity check and repair for the FT Database.
14 > Reset 16-bit Com Ports to look like old unbuffered 8-bit ports.
15 > Help screen
16 > Exit menu system.
```

Please select the function by item number.?

This will select option #1 to start FastTrack charting. The screen will blank briefly and FastTrack will begin reading its database. This will take a few seconds. If it takes longer than 20 seconds read the *Installation* chapter *Making the System Run Faster* section.

## Controlling the Charts

```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W V Z ~ ? ← → ▶ ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

FastTrack displays a menu at the bottom of the screen. Each capitalized letter or symbol shown in the menu is a command. If you want to know exactly what each command does, then read the *Using FastTrack* chapter. The commands are covered in that chapter in alphabetical order.

In this chapter, we'll tell you what commands to use to display simple investing concepts without dwelling on the details of the commands. Let's bring up a starting chart. Hit the following keys:

**W**

(Prompts at screen bottom for a starting date.)

```
f1=Help or Enter new end date. Current=09/01/93. <enter> for [09/01/93]
9/1/93
```

9/1/88 ↵

(Type the starting date.)

5/31/94 ↵

(Type the ending date.)

**P**

(Prompts at the screen bottom for 5 letters.)

```
f1=Help, Esc aborts, or enter 5 chars(TPRNVAISHJ2) to define charts. [TTI22]
ttttt
```

TTTTT ↵

(Displays the T Chart on the whole screen.)

**F**

(Prompts at the screen bottom for a fund symbol.)

```
f1=Help, f2=List funds in family, <Enter>=Abort, or T
fmagx
```

FMAGX ↵

(Selects Fidelity Magellan as the red line charted.)

**I**

(Prompts at screen bottom for another symbol.)

```
f1=Help, f2=Index family, Esc or <Enter>=Abort. Or Tj
dj-30
```

DJ-30 ↵

(Selects the Dow 30 Industrials as the green line charted.)

The chart produced by this exercise is shown on the next page. As you go through the rest of this manual, you will find that you cannot always reproduce exactly the same numbers as you see on these printed charts. Sometimes this is because we revised the data after the chart was printed. Also, yellow and purple numbers are based on certain internal conditions that may not be apparent from inspecting the chart.



What you see on this chart is the comparison of a well-known mutual fund to the Dow Jones 30 Industrials. Clearly Magellan has outperformed the Dow by a wide margin for the 5.75 years charted.

Note: Both the red and green line start at a zero percentage gain line (dotted blue) at the lower left corner. This chart is a chart of percentage gained. It is NOT a chart plotted by the dollar value of a share of the fund or by the points of the Dow. By plotting percentage gain we can put different funds and indices on the same scale.

The fund names at the top of the chart are color coordinated with the lines. The date span is at the bottom of the chart in light blue. The dates at the ends are the dates of the leftmost and rightmost points plotted. The information in purple will not be covered in this chapter. See the detailed explanations in the beginning of the *Using FastTrack* chapter for more information.

### What Are All These Numbers?

There are a host of numbers all over the chart, but for now we'll focus on just the numbers to the right of the chart. Numbers are computed for the period displayed and change when the period changes. Each number has 2-3 letter identifier:

**Ann=** This red value is the annualized return rate of the red line. For Magellan this value is an excellent 17.8% .

**Bet=** Beta is a popular measure of volatility, risk, and performance. For a detailed explanation of how FastTrack calculates Beta, see Appendix B.

**Cor=** This is a measure of the correlation of the red and green lines. A value of 1.0 means that the lines are perfectly related going up and down in perfect synchronization. A value of -1.0 means that the lines are perfectly inversely related. When one is up, the other is down. A value of 0.0 means the lines have no relationship. This calculation is also covered in *Appendix B*.



Max = Shows the highest percentage gain that either the red or green line achieved.

Min = (down near the bottom of the chart) shows the lowest percentage lost by either the red or green lines. In this case, neither ever dropped below its starting point.

Ru = The red value is the percent gain of the red line for the period charted. The green value is the percent gain of the green line for the period. While Magellan has more than doubled with a 157.1% gain, the Dow has a mere 109.9% gain.

### So What Does the Chart Tell Me?

If this is your first FastTrack chart, it probably doesn't mean much to you. After all, the Dow is a stodgy measure and you would expect any decent fund to outperform it! Let's look at Magellan (FMAGX) in the context of an average growth fund instead of the Dow.



VFINX

(Change the green line.)

(Display Vanguard Index Trust 500.)



VFINX is an index fund that buys only the stocks that are components of the S&P 500, a stock index of the largest 500 publicly traded companies. It is the best of all such index funds. Most growth mutual funds trade primarily the stocks of the S&P 500. Some do it poorly, others do well. The result is that the average growth fund looks like VFINX.

With this context in mind, Magellan looks particularly impressive since it has

greatly outperformed the average growth fund over the last several years.

### Listing All the Funds

The procedure is to load the "ALL" family. Sort by Fund Name and print the results. This is described in detail later in the manual. Look up "Funds, list of " in the index in the back of this book for an exact page number of this description.

# Your Favorite Investment Advisors

In this example, Eric Kobren takes a stand on Fidelity Magellan. His point is understandable. It is tough to manage the world's largest fund (\$30 billion) for above average returns.

Immediately after this "Fall 1993" advertisement was mailed to prospects, Magellan did exactly the opposite of Mr. Kobren's prediction.

We can't fault Mr. Kobren for not knowing the future. You can fault yourself by not knowing the present. To produce this chart try:

W 12/6/91 [arrow] 11/28/94 [arrow]  
(Set the chart dates.)

T (Display a new set of menus at the bottom of the screen for computing sStatistics.)

Hit the [Tab], [Shift] + [Tab], [right arrow], [left arrow] keys to move a blue vertical pole across the chart. Tab keys move the pole quickly. The arrow keys move a single day at a time. Adjust the pole until the date above it is 3/17/94.

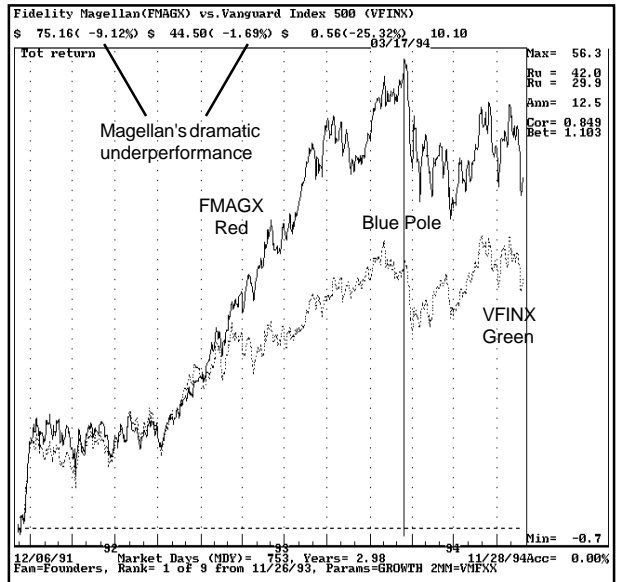
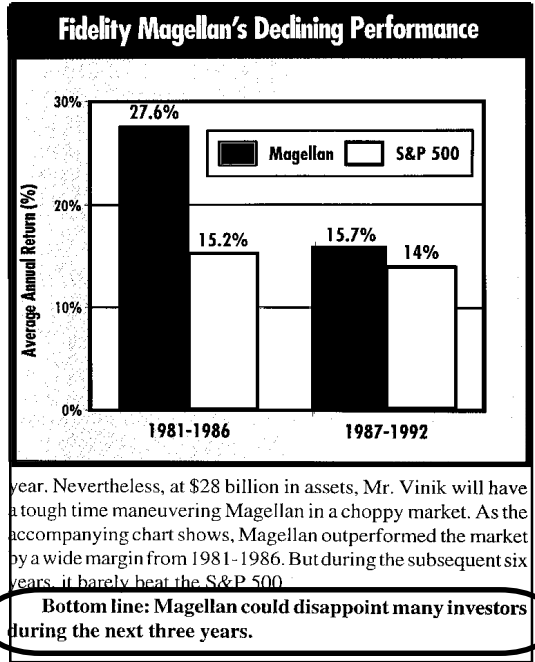
## FastTrack's View

Shortly after the ad was written, Magellan made an impressive move as compared to the Vanguard 500 fund. It was not until March of 1994 that Magellan began disappointing investors. Magellan lost much more in the early 1994 bear cycle than the S&P 500 index fund.

## Kobren Is Right!

Kobren successfully predicted that Magellan would at some time in the next 3 years perform worse than an S&P index fund. Truth is, most funds will disappoint investors in any given 3-year period.

Kobren's Advertisement






## Kobren Is Wrong!

He would have missed both the 1993 gain and the 1994 loss. Bought-and-held Magellan has thus far handily beaten a good S&P 500 index fund . . . but given a bit more time . . . and that's the point: Timing is important.

## Your Favorite Daily Paper

Certain indices quoted by FastTrack are hard to find in *The Wall Street Journal*. Worse, WSJ moves the section containing the values around in the paper from time to time. FastTrack's Online Help tells you where to find these values in The WSJ.

Try the following:

-  (Esc) (Exit the sTatistics mode left on screen in the prior exercise.)
-  (Make DXY-Z the red fund line.)
-  (Display the prospectus abstract.)

**INDEXFAM US Dollar Index**

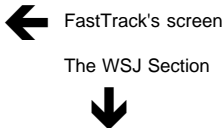
COMPANY: INDEXFAM      PROSPECTUS DATE:  
 FAMILIES: INDEXFAM INDEX LOWRISK  
 OBJECTIVE: Index

The US Dollar Index. This is a market basket of currencies referenced to the dollar. The index is quoted by the Commodities Exchange Center under the symbol DXYD. It can be found under the "Futures Prices" title in the Commodities section of the Wall Street Journal.

NOTE: This index is frequently posted to the database on a one day delay basis because the price is not always available by system update time.

Initial Minimum Purchase \$  
 Front end load  
 1261 fee X (if any)  
 Date fund 1st offered      UNKNOWN

THE INFORMATION ON THIS PAGE



<b>AUSTRALIAN DOLLAR (CME) - 100,000 dlrs.; \$ per A.\$</b>									
Mar	.7212	.7212	.7181	.7189	-	.0045	.7365	.6380	7,631
June	.7180	.7187	.7169	.7170	-	.0045	.7269	.6395	232
Est vol 756; vol Thur 1,043; open int 7,884, +459.									
<b>U.S. DOLLAR INDEX (FINEX) - 1,000 times USD\$</b>									
Mar	95.12	95.65	94.53	94.86	-	.33	98.00	91.78	4,214
June	95.64	95.65	95.20	95.46	-	.34	99.04	92.70	1,737
Est vol 2,200; vol Thur 2,110; open int 5,988, +13.									
The Index: High 95.17; Low 94.53; <b>Close 94.70 -31</b>									

### The WSJ Mutual Fund Section

The Mutual Fund section lists funds by their "popular" family name. FastTrack fund family names are 8-letter abbreviations of the popular name. Unfortunately, publications often disagree on popular names.

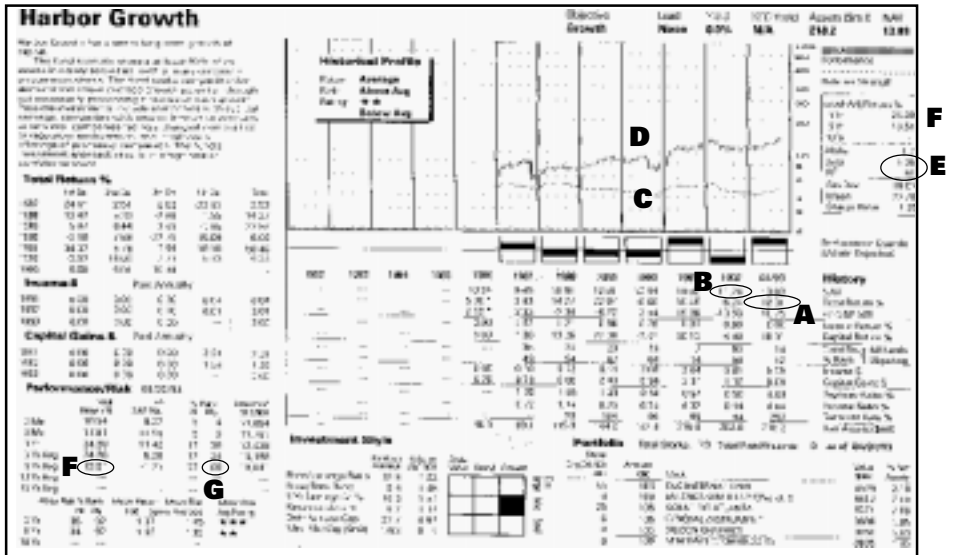
Also, many family names are similar. Here we show the 2/28/94 listing for 3 of the 5 Fidelity families listed in *The WSJ*. FastTrack Fidelity families are FidAdvis; Fidelity (includes Fidelity Invest, Fidelity Spartan and Fidelity Select); and SELECT (only the Fidelity Selects). Fidelity Instl is not covered.

FastTrack charts the NAV value, not the Offer Price. The Inv.Obj column often can be directly translated into a FastTrack Objective family name. (See the *Ground Work* chapter. Note FT has more families than the WSJ lists.)

	Inv. Obj.	NAV	Offer Price	NAV Chg.	%Ret YTD	Max Infil Chrg.	Total Exp Ratio
<b>Fidelity Advisor:</b>							
EqPGR	GRO	29.52	30.99	+0.05	+2.1	4.750	NA ..
EqPIR	EQI	15.46	16.23	+0.02	+1.5	4.750	NA ..
GblNat	SEC	17.32	18.18	+0.06	+2.2	4.750	2.620 ..
Gov In p	BND	9.63	10.11	-0.01	-1.0	4.750	0.680 ..
GrOpp p	GRO	25.99	27.29	+0.09	+3.5	4.750	1.640 ..
HI Mu p	HYM	12.39	13.01	-0.01	-1.6	4.750	0.920 ..
HIYld p	BHI	11.98	12.58	-0.01	+2.3	4.750	1.110 ..
IncGt p	S&B	15.55	16.33	-0.02	+0.5	4.750	1.510 ..
LtdTBR	BIN	10.90	11.44	-0.01	-1.2	4.750	NA ..
Ltd TER p	IDM	10.32	10.83	-0.02	-1.8	4.750	NA ..
Overseas p	ITL	13.74	14.43	...	+4.3	4.750	2.380 ..
ST FI p	BST	9.98	10.13	-0.01	-0.4	1.500	0.950 ..
StrOpp p	CAP	20.15	21.15	+0.04	-3.1	4.750	1.570 ..
<b>Fidelity Instl:</b>							
EqPGI	GRO	29.72	NL	+0.04	+2.2	0.000	0.980 ..
EqPII	EQI	15.56	NL	+0.02	+1.7	0.000	0.710 ..
Lt BI	BIN	10.91	NL	-0.01	-1.1	0.000	0.570 ..
LtdTEI	IDM	10.33	NL	-0.01	-1.8	0.000	0.660 ..
IShGv	BST	9.79	NL	+0.01	-0.1	0.000	0.450 ..
<b>Fidelity Invest:</b>							
AqTF r	HYM	12.00	NL	...	-1.4	0.000	0.640 ..
AMgrIn	S&B	11.00	NL	-0.01	-0.3	0.000	NA ..
A Mgr	S&B	15.37	NL	-0.01	-0.2	0.000	1.090 ..
AMgrGr	S&B	14.31	NL	...	+0.4	0.000	1.190 ..
CA In	ISM	10.75	NL	...	-2.1	0.000	0.630 ..
CA TF <sub>1</sub>	MCA	12.10	NL	-0.01	-1.7	0.000	0.600 ..

## Your Favorite Mutual Fund Directory

The Morningstar mutual fund directory is a high quality source of fundamental information. FastTrack offers some of the same information plus many extras like daily charts and technical indicators.



The numbers in the chart may be hard to read. The circled values are listed in the text below.

## Now Display the Comparable FastTrack Chart

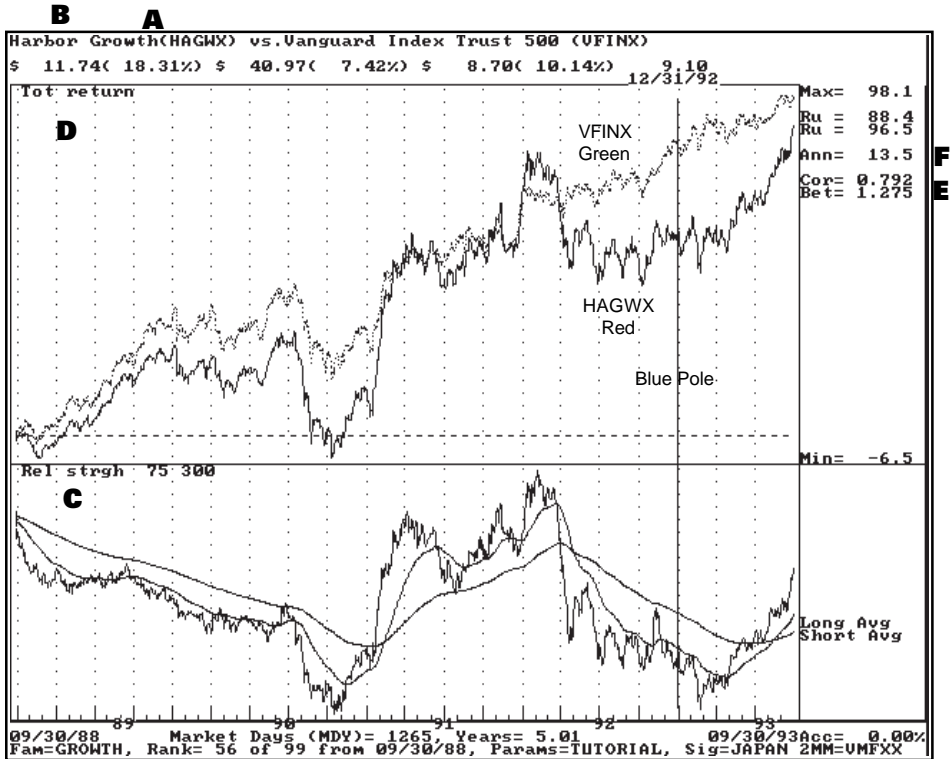
Make sure a chart is showing and the frame around the charts is blue. If the prospectus abstract from the previous exercise is still showing, then hit **[Esc]** (Esc) before continuing.

- [W]** (Change the chart dates.)
- 9/30/88** **[↓]** **9/30/93** **[↓]** (Set a 5-year period.)
- [P]** (Change the charts on the screen.)
- TTRRR** **[↓]** (Display the T and R Charts.)
- [F]** then **HAGWX** (Display Harbor Growth as the red fund line.)
- [T]** (Enter sStatistics mode. The frame will turn red.)
- [↑]** (Ensures that the red pole is not planted.)

Hit the **[Tab]**, **[Shift]** + **[Tab]**, **[→]**, **[←]** keys to move a blue vertical pole across the chart. Tab keys move the pole quickly. The arrow keys move the pole a single day at a time. Adjust the pole until the date above it is 12/31/92.

## Morningstar vs. FastTrack

- A** 18.31% - This is the total return for the year 1992 including capital gains and dividends. Sometimes there are slight differences between Morningstar and FastTrack values. Usually these are due to handling of dividends.
- B** 11.74 - This is the Net Asset Value (NAV) on 12/31/92. This is the day marked by the blue pole.



**C-D** Both FastTrack and Morningstar display a price and relative strength chart. FastTrack charts contain daily data and are scaled to fit the size of the screen. Morningstar charts have a relatively inflexible format that leaves most of the chart unused and the lines virtually straight without detail. FastTrack's relative strength chart has two moving average lines which show trends. See *The Charts* chapter, *Relative Strength* section, for details.

**E** 1.275 and .792 - FastTrack and Morningstar calculate beta and correlation for funds. Morningstar titles correlation as  $R^2$ . Usually, value differences are due to different starting/ending dates used the calculations. See Appendix B for a discussion of the mathematics used within FastTrack.

**F** 13.5 - This is the annualized return for the period displayed. The period is 5 years which is one of the figures (reported in 2 places) in Morningstar.

**G** 56- Before displaying the screen, we ranked the GROWTH funds from 9/30/88 to 9/30/93. Har-

bor Growth ranked 56th out of 99 funds that existed for the period in the FT database. This is close to Morningstar's 60 percentile ranking for its group of over 100 growth funds.

NOTE: Since the GROWTH family will have grown and changed since this manual was written, a ranking done today will be different. Undoubtedly, Morningstar's ranking would also have changed since their universe changed like ours.

### Some Numbers Are Comparable but Computed Differently




FastTrack computes a monthly standard deviation. The FastTrack formula is similar to the one Morningstar used through mid-1993. Morningstar now uses a proprietary formula that is not fully disclosed. FastTrack has stayed with the original formulation.

Morningstar produces a Sharpe Ratio and a star rating system. FastTrack has its own method of charting a visual risk-adjusted return. See *The Charts* chapter, *Risk-adjusted Return* section.




## Understanding Ads - Part I

One of the most frustrating exercises we all go through is picking funds from advertisements. Most advertisements, including this one, are quite accurate in what they say . . . but is the information useful?



This ad ran in the February 1994 *Smart Money* magazine. It shows a complex investing strategy that makes Founders Growth look like a rocket. There's no way to make a decision using this chart. Let's display a more useful chart.



Make sure the main FastTrack menu is displayed. Do this by hitting  (Esc) until the message "Do you really want to exit? [N]" is displayed at the bottom of the screen. The "[N]" is the default response. If you hit only the , then you will be making a "NO" response. You could hit  to shut down the FastTrack charting program.

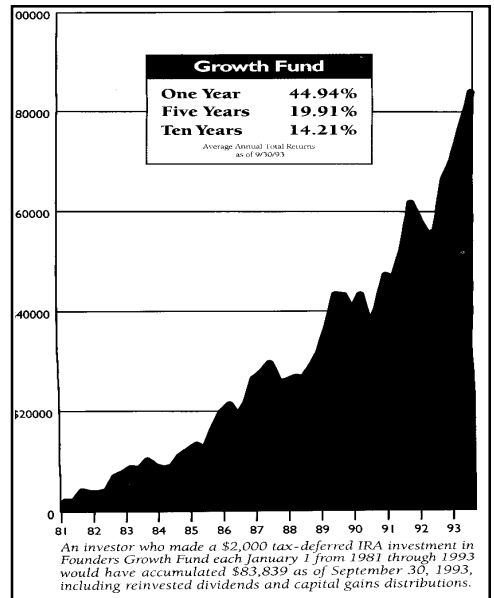
### Try the Following

- W (Enter display date range.)
- 9/30/88  (Type in the starting date.)
- 9/30/93  (Type in the ending date.)
- M (Load a Family of funds.)
- FOUNDERS  (Type the family name.)

If you've never looked at the Founders family before, the funds will be ranked. Wait until ranking finishes, then hit,

  (Hit the function 2 key to show funds in the Founders family.)

The screen blanks then displays a list of funds in the Founders family. Use the  to highlight the Growth fund and hit .



[ List A Family: Founders ]

<ul style="list-style-type: none"> <li>Founders Balanced &lt;FRINX&gt;</li> <li>Founders Blue Chip &lt;FRMUK&gt;</li> <li>Founders Discovery &lt;FDISK&gt;</li> <li>Founders Frontier &lt;FOUNX&gt;</li> <li>Founders Government Securities &lt;FGUSX&gt;</li> <li style="background-color: #e0e0e0;">Founders Growth &lt;FRGRX&gt;</li> <li>Founders Passport &lt;FPSSX&gt;</li> <li>Founders Special &lt;FRSPX&gt;</li> <li>Founders Worldwide Growth &lt;FWGKX&gt;</li> </ul>	<p>Current Family = Founders Number of Funds = 9</p> <p>Mouse users: Double click with left button on any fund or Index.</p> <p>Press Alt-P or click on Print button to print funds.</p> <p>Keyboard users: Press &lt;ENTER&gt; on any fund or Index.</p> <p style="text-align: center; border: 1px solid black; display: inline-block; padding: 2px 10px;">Print Funds</p>
--	---

This will display the Founders Growth fund for the 5-year period on the facing page. The fund was more volatile than the typical growth fund, VFINX, without producing more gain for the first 4 years. However, the most recent 2 years have been dynamite. Founders Growth shows a clear departure from the average fund's performance.



### Stay in the Right Fund

Unfortunately, Founders Growth's terrific performance began in late 1992 and the ad promoting the fund is 2 years too late. In fact, as of late 1993, Growth wasn't the best Founders fund (although that will change again as rotation occurs). Try the following:

- [~] (Tilde (~) reverses the red and green lines.)
- [F] (Pick a different fund.)
- FWWGX [↓] (Founders Worldwide Growth, an international fund.)
- [P] (Change the charts displayed.)
- TTAJJ [↓] (Display 3 different sections.)
- [U] (Display the Parameter Editor Screen shown below.)
- [Alt] + [D] [Alt] + [L] (Turn off default parameters then load a predefined parameter set called TUTORIAL.)
- [↓] [↑] (Highlight the TUTORIAL parameter set.)

[ TUTORIAL - The parameters for the manual's Tutorial chapter. ]

moVing Average	[ 30 ]	rsI	[ 14 ]
moVing Average Smoothing	[ .005 ]		
Macd Long Average	[ 60 ]	Stochastic Range	[ 14 ]
Macd Short Average	[ 40 ]	Stochastic Smoothing	[ 4 ]
		Stochastic Trigger	[ 5 ]

Ma [ Parameter Files on Disk Press ESC for No Selection ]

Ac AGGRESS -These parameters are broadly applicable to AGGRESS f

Ac GROWTH -These parameters are broadly applicable to GROWTH fa

TUTORIAL-The parameters for the manual's Tutorial chapter.

The  
<U

[H]

Pr  
bu  
of

[OK]      [Delete]

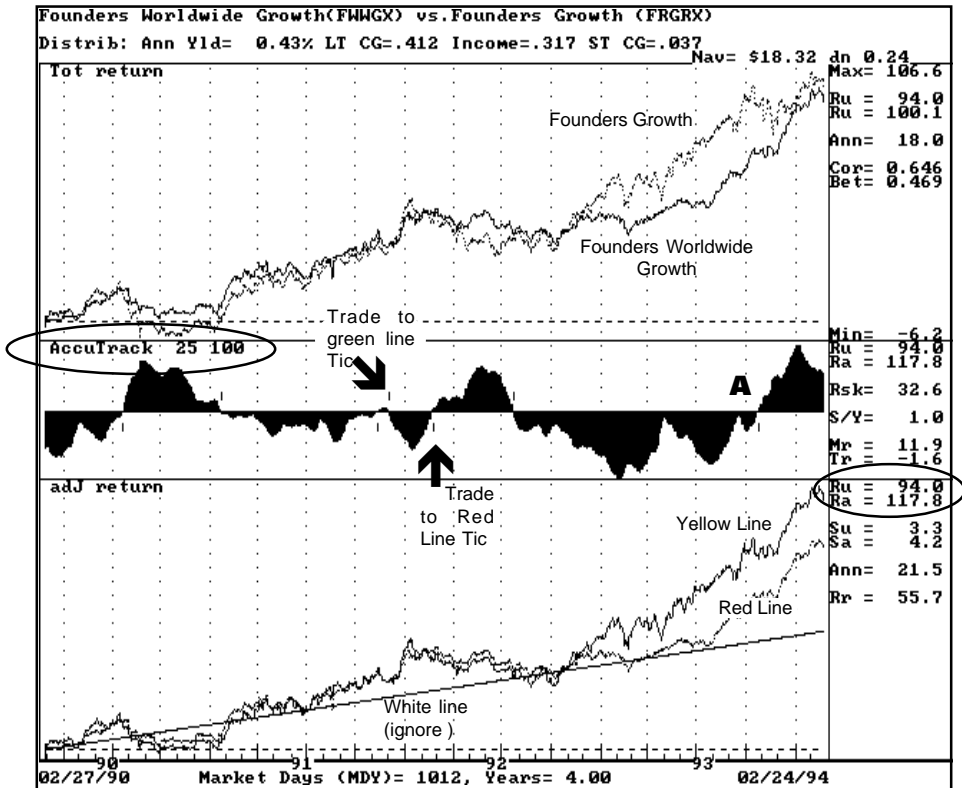
↓ meters

[>] On

Now exit the Parameter Editor with the following commands:

+      +     (Say OK twice to get back to the charts.)  
 W    (Set the starting date.)  
 2/27/90  2/27/94     (Set the dates.)

You'll see the chart below if you successfully followed all those steps. Remember the instructions above assume that you started out looking at the chart on the top of the previous page. If you are just skipping through parts of the tutorial, then you may have missed some steps to produce exactly the chart we show below.



### What Am I Seeing in this Chart?

There may be up to 5 sections on screen at the same time. This chart shows 3 sections.

Sections are stacked vertically. This makes it easy to line up buy/sell signals from technical indicators with the chart. Control which charts are displayed with the P command described in the *Using FastTrack* chapter.

The top section of the above chart shows total return of the red and green

lines. This chart is known as the T Chart . . . T is for Total return.

The center part is an indicator, AccuTrack. It tells when to be in the red fund and when to be in the green fund.

The lowest chart is an adJusted return chart which shows the impact of switching an investment between the red and green lines.

AccuTrack may not always work as well. Review your strategies with your traditional sources of investment advice.



## Introducing Indicators

So far all we've talked about is the Total return chart (T Chart). The facing chart introduces the AccuTrack indicator. The indicator name and parameters are circled.

AccuTrack is a relative strength indicator. When AccuTrack is below its centerline, then it is time to be invested in the green fund line. When AccuTrack is above its centerline, then the red line fund is favored.

## Parameters

The numbers beside the word "AccuTrack" are parameters. These control the average and smoothing of the indicators.

You can set these values and it will change your investing results. This topic is covered in considerable detail in the rest of the manual.

## The White Tic Marks on AccuTrack

These mark the days on which the signal occurs. You would see the tic on your computer screen at the extreme rightmost position of the indicator on the day that the signal occurs. Buy tics are below the line. Sell tics are above the line.

## The J Chart

The lowest section of the display is the adjusted return chart (J Chart). When the yellow indicator (in this case AccuTrack) is above the centerline, then the J Chart's yellow line plots the return of the red line of the T Chart. When the indicator is below the centerline, then the J Chart's yellow line plots the return of the T Chart's green line. The J Chart shows the effects of trading using the indicator switches above the J Chart.

The red line of the J Chart is a reproduction of the red line on the T Chart. It looks a bit flatter than the T Chart's red line since the scale is wider on the J Chart to display the return of the J Chart's yellow

line. For the time being ignore the straight white line in the J Chart.

## Can AccuTrack Beat Buy-and-hold?

Yes! The yellow line of the J Chart ends up above the red line. The advantage of being in the right fund is apparent.

At Point A (10/26/93), and at several other places, AccuTrack signaled a switch from the green line to the red line.

The Return adjusted of AccuTrack's trading strategy is the circled  $R_a =$  value of 117.8% gain for the entire period. Compare this to the circled Return unadjusted ( $R_u = 94.0\%$ ) for Founders Worldwide.

## Why Does AccuTrack Produce Superior Returns?

Trends in *relative strength* between funds depend on the investing philosophies of the managers. Successful managers have long runs during which their strategies are in favor.

Trends in *price* are dependent on market action . . . *not the fund manager's philosophy*. Relative Strength trends are usually longer, therefore more tradable, than price trends.

FastTrack investing techniques emphasize being in the right fund based on relative strength. Because prices move back and forth rapidly, it is difficult to always buy low, sell high. Trading to the strongest fund is much easier and does not depend on precise timing.

## How Are Return Numbers Figured?

Most FastTrackers update in the evenings at home. After the update, you can see a tic, then you trade at the market close the next day. Some funds like the Fidelity Selects allow hourly trading, but FastTrack does not deal with hourly pricing.

The returns expressed in the  $R_a =$ ,  $M_r =$ , and  $T_r =$  performance values to the right of the chart are computed taking the trading delay into account.

## Understanding Advertisements- Part II

In the February 1994 issue of *Smart Money*, an excellent article highlighted progress the Strong family of funds had made in 1993 in restructuring its fund management. Also in the same issue, Strong ran the advertisement below:

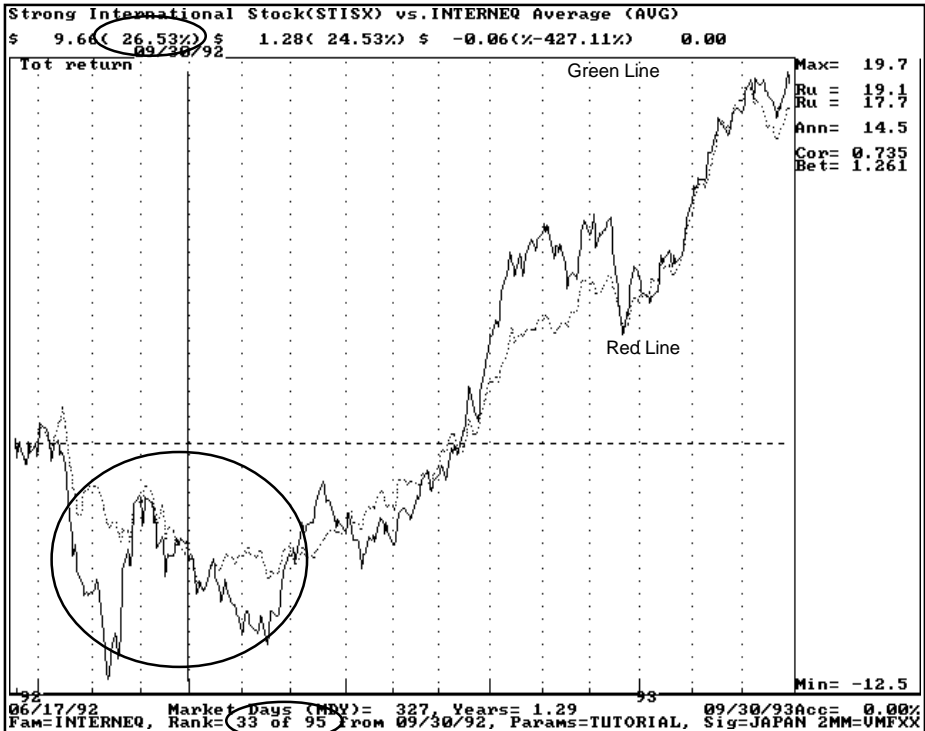


The ad and the article working together might lead readers to consider purchase of the Strong International Stock Fund. Would that be a good decision? Try the following:

- P** (Change the charts displayed.)
- T** (Display only the T Chart.)
- W** (Change the dates of the chart.)
- 6/17/92** **9/30/93** (Set the dates.)
- M** (Pick a new fund family.)
- INTERNEQ** (Make the International Equities family the current family. If this is the first time you have looked at this family FastTrack will automatically rank the family.)
- T** (Display a new set on menus at the bottom of the screen for computing sStatistics.)

Hit the **Tab**, **Shift** + **Tab**, **→**, **←** keys to move a blue vertical pole across the chart. The Tab keys move the pole quickly. The arrow keys move the pole a single day at a time. Adjust the pole until the date above it is 9/30/92.

- R** (Rank the funds from the blue pole to the end of the chart.)
- Esc** (Esc) (Return to the main menu leaving the sStatistics menu.)
- F** (Select a fund to display as the red line.)
- STISX** (Make Strong International Stock the red line of the T Chart.)
- I** (Select a fund to display as the green line.)
- AVG** (Load the average of the entire INTERNEQ family.)
- T** (Return to the sStatistics mode.)




### STISX Takes Too Much Risk

The Strong International fund is, in fact, a very average performing international fund that has a history of taking greater than average risks. Note the circled area on the chart where STISX falls much more sharply than the average international fund.

At the top of the chart note the circled red value. This is the gain from the date of the blue pole to the end of the chart. The gain is 26.53% for the year, the same as quoted in the advertisement.

As the ad says, "the results speak for themselves" . . . and the results say that Strong International is an average performer that takes above average risks.

### STISX Ranked 33 of 95

The fund was ranked number 33 of 95 INTERNEQ funds for the period. (Note: the small lowest circle.) This suggests that you might page though the higher ranked fund by hitting the  key. The green line family AVG will remain constant as a

point of reference. What you'll find is excellent, well-known funds from families like Fidelity, Janus, and Oakmark that have much better records than Strong International.

### So Many Funds . . . I'm Swamped

FastTrack emphasizes *selection*, not *timing*. You can't pick the best fund if you don't have many funds. But you're right . . . FastTrack does contain a lot more funds than anyone can manage.

These "extra" funds are useful in computing group averages and providing context for the few funds that you will be considering. Read the *Ground Work* chapter for a discussion on picking the right families of funds.

### Wait! My Chart Has Different Numbers

It is normal that not all numbers on this printed page will match what you see on

# Investing Strategies

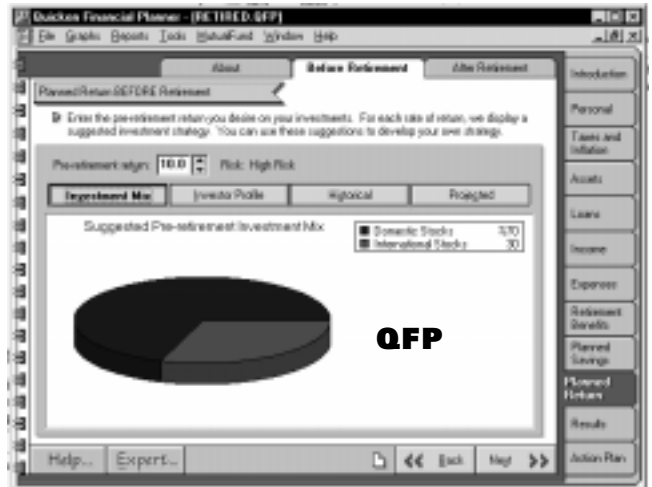


Most of us have never taken a course in choosing mutual funds. This chapter shows you techniques used with different types of funds, and shows that over the years **very slight differences in return make big differences in your retirement income and estate value.** Ultimately, you must develop your own investing strategies encompassing return, risk tolerance, time available, family selection, and diversification.

## Financial Planning

In this chapter we'll be using a supplemental tool to FastTrack, the Quicken Financial Planner (QFP) introduced in early 1995.

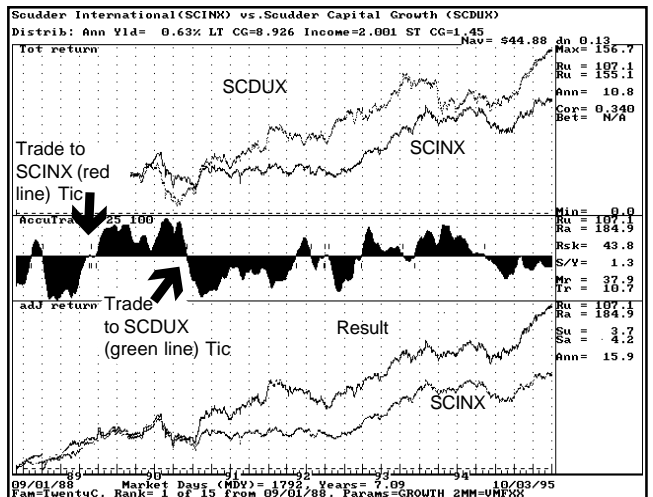
QFP provides an assessment of the return needed to achieve your goals, but stops short of suggesting active management strategies to get there. This is where FastTrack becomes valuable.



## 70% Domestic - 30% International

The QFP chart shows the highest risk, highest yielding strategy in the Quicken list of buy-and-hold passive investment suggestions. QFP suggests a portfolio that is 70% domestic mutual funds and 30% international funds.

The FastTrack Chart shows a trading strategy that has held Scudder International 43.9% of the last 7 years and held domestic 56.1% of the period. This active strategy has produced a far superior annualized gain of 16% compared to the 13.5% return that would have been achieved by the 70/30 passive strategy suggested by



## Is 2.5% Extra Return Important?

The QFP examples in this chapter are based on the typical FastTracker, a profile based on many conversations.

A 55 year-old man making \$100,000 in 1995. He has a 401K plan with his company and contributes the maximum to it. The company contributes 1 dollar for every 2 dollars he elects to contribute. New retirement contributions go into this account.

His 53 year-old wife earns \$30,000/year but has no retirement plan.

They have \$50,000 in taxable savings. This amount in the model was creatively derived from portfolios that include stocks, bonds, realty, business assets, etc. No new contributions are made to this account.

Over the years this couple built a \$350,000 tax-deferred nest egg as of 1995.

They own a \$250,000 house with a 30-year mortgage which will be paid out in the year 2004 (10 years to go).

They live on \$75,000 per year with the remainder of their total income of \$130,000 devoted to savings, taxes, and mortgage payments.

They will both retire together in 2005 and begin drawing social security (at age 65). They wish to continue a \$75,000/year living expense life-style.

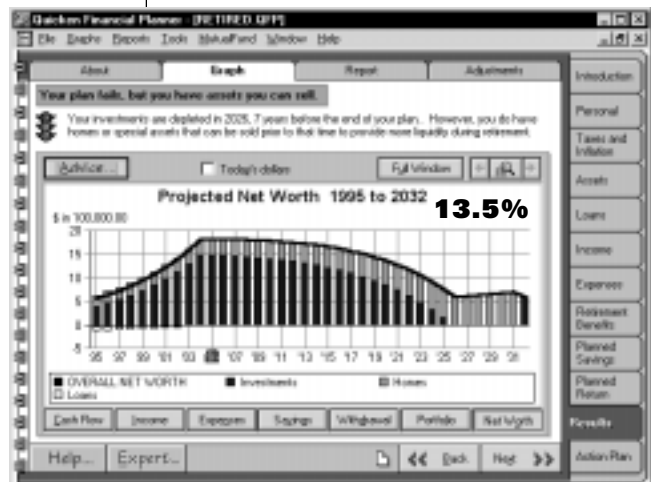
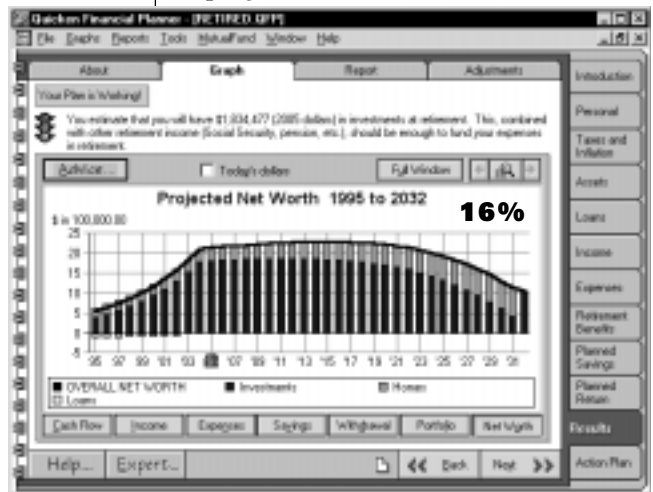
Inflation is 3.0% annually which is the same rate at which their salary, living expenses, and home value increase.

## The Results

With a 13.5% return pre-retirement (10 years 1995-2005) and a post-retirement (26 years, 2006-2032) low-risk return of 6.5%, the plan runs out of money 7 years before the end.

There is a 50% chance that one of the couple (typically the wife) will live 7 years beyond this plan ... she will have 14 years of *only* Social Security income + the value of the home.

In sharp contrast, with 16% pre-retirement return and the same low-risk 6.5% post-retirement, the plan ends with \$438,000 in assets, easily covering 7 more years at a \$75,000 living expense and staying at home.



## Trading Growth Funds

Many investors are most comfortable with traditional US Growth funds. These funds invest in the broad market and follow the pattern of the S&P 500.

Some better known funds in this group are Fidelity Magellan (FMAGX), Vanguard Index Trust 500 (VFINX), and Invesco Industrial Income (FIIX).

Growth funds come in many flavors. The most easily distinguished are the Small Cap vs. Large Cap funds. These invest in smaller companies or larger companies. These funds will be found in the FastTrack CAP-BIG and CAP-SMAL families.

### A Picture of Market Rotation

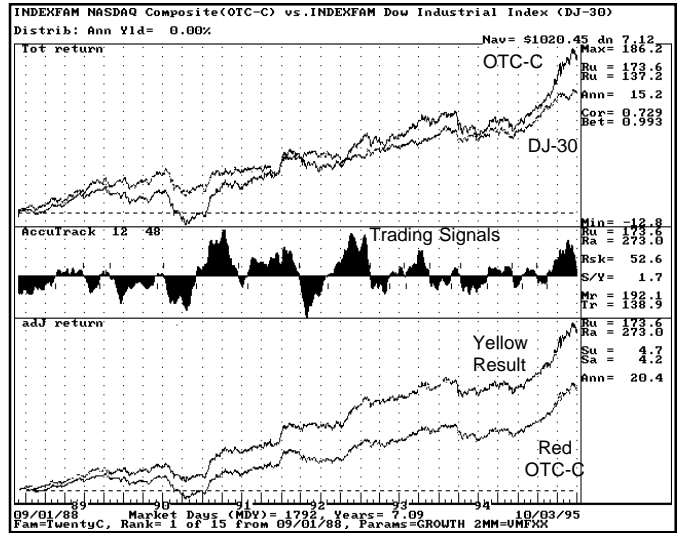
When the red OTC-C index is up more strongly than the green DJ-30, then AccuTrack's yellow line moves above the center. In this environment CAP-SMAL funds likely outperform CAP-BIG funds.

When AccuTrack is below the centerline, the green line is outperforming the red line and the environment is favorable for CAP-BIG stocks. This works because OTC-C is mostly composed of companies that are gaining value because of growth.

The companies included in DJ-30 are mature companies that gain by generating higher income due to changes in the economic cycles. Investing interest rotates between these sectors as the US economy changes.

### How Can the T Chart Show Both These Indices?

For most of this period OTC-C has been priced about 500-800 while the Dow has been priced between 2500-3300. If we tried to plot these two indices on a price chart it would be impossible because of



the wide price spread. However, the T Chart is **NOT** a price chart. It is a percentage gain chart. This makes it possible to compare these on the T Chart.

### How do I Know When to Trade?

The center chart is an indicator that gives trading signals. This particular indicator is called AccuTrack (A Chart). There BUY and SELL tic marks (trading signals) on AccuTrack that are discussed earlier in this manual. You see these tic marks at home on your computer screen.

### So Should I be Holding Large Cap or Small Cap Funds Today?

To answer that question, you'll have to do your initial online updates. Read the *Telecommunications* chapter, do your first update, then display this chart again.

- \* If AccuTrack has just moved above the centerline, then trade to funds from the CAP-SMAL family.
- \* If AccuTrack has been above the line for a week you can still switch to do well. More precise timing is not necessary although any delay hurts ultimate return.
- \* If AccuTrack just moved below the line, then trade to CAP-BIG funds. The delay comments also apply here.

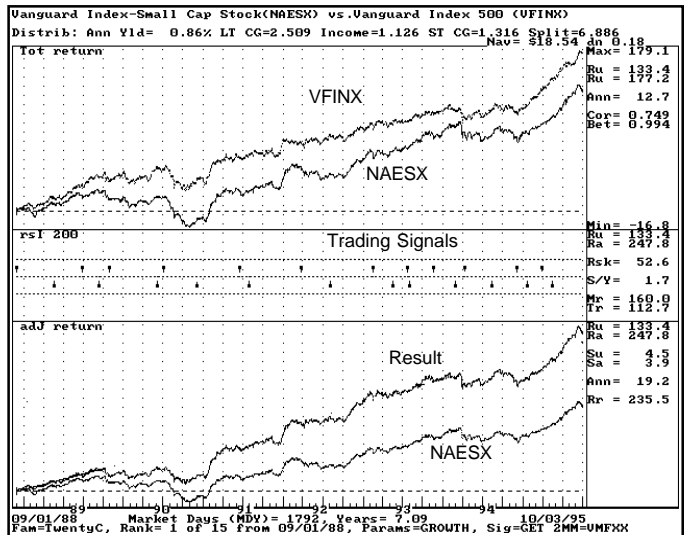
## Why Is Getting Another 5% Trading Domestic Funds Important?

Diversification is always important. In our first example QFP suggested a 70% allocation to "Domestic" funds without suggesting what type of domestic funds. The following example trades a 50% allocation to Domestic/International and 50% CAP-SMAL/CAP-BIG. We will be trading among four funds: Scudder International/Scudder Capital Growth and Vanguard Small Cap/Vanguard Index 500 Trust.

### Trading Domestic

The chart to the right has trading signals from the OTC-C/DJ-30 chart (previous example).

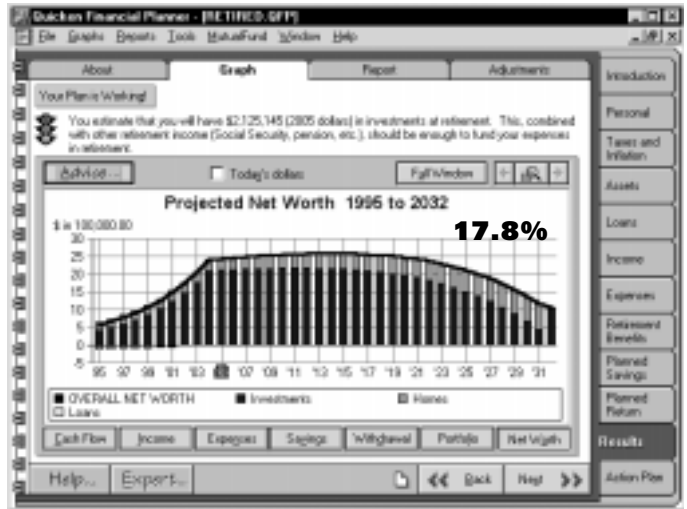
When these trades are applied to small cap/large cap funds, the result is a 19.5% annualized return (Ann =) . . . the expected 5% improvement over the buy-and-hold average for the two funds (14.2%).



### What Do I Get for the Effort?

Making 19.5% on half the portfolio and 16% on the other half (remember the domestic/international) yields an overall return rate of 17.8% assuming that the portfolio is rebalanced to 50/50 regularly.

That extra return lets you slide up your annual retirement withdrawal to \$85,000/year. Your disposable income will be even greater in retirement than when working. The plan ends with a net worth of \$463,000. . . enough to fund an extra 7 years of retirement at the same level.



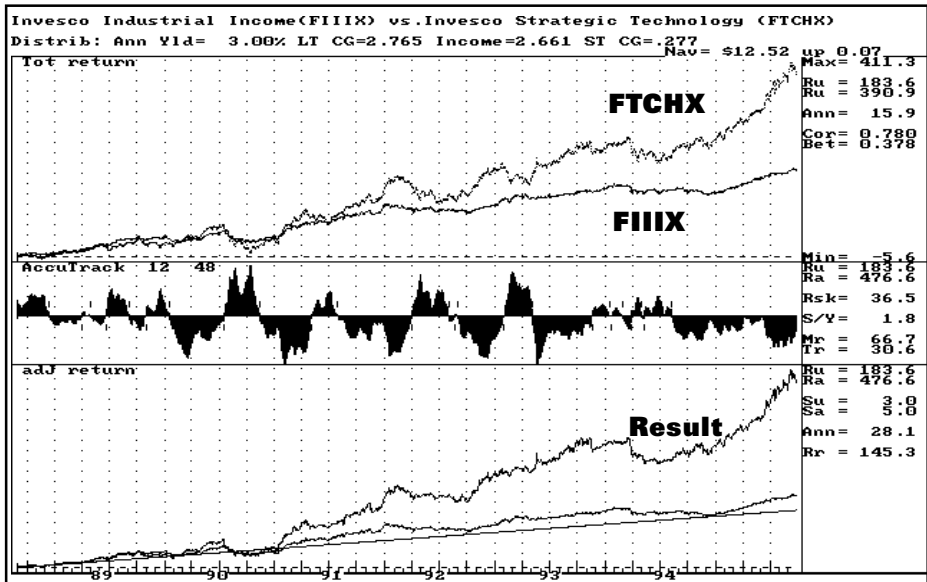
### Sounds Great! Which Funds?

Fidelity has two new funds, Large Cap (FLCSZ) and Small Cap (FDSCX). In their brief history, these two look like ideal funds for trading rotation. NOTE: Large Cap will likely have a real trading symbol by the time you read this. FLCSZ is just a temporary symbol we assigned until Fidelity completes the requirements for NASDAQ registra-

## The Thrill of Sector Funds

Whenever you check the mutual fund tables in the paper, you'll almost always find a few sector funds at the top and at the bottom of the rankings.

Yet investment advisors tell you to stay away from these funds . . . they know that sector funds DO NOT always do well and invite unsophisticated investors to make killer mistakes.



## Comparison to Stocks

Sector Funds are not buy-and-hold investments. *Worth* magazine characterized them as "stocks with training wheels". The article did not continue the analogy, but we can.

### Sector Funds Are Steadier

Because funds are diversified and professionally managed, they "trend" more readily than individual issues of stocks. This means that sector funds do not experience as much day-to-day volatility as stocks. It is easier to endure the ups and downs of sector funds than the wilder swings of stocks. Trend-following indicators work better on sector funds than stocks.

### Sector Funds Are Slower

Sector fund charts show the price movements of an industry rather than a compa-

ny. While a new invention might cause a single stock issue to double in a day, sector funds never double in a day.

Over the subsequent days and weeks the opportunities due to the invention are gradually adopted by the industry and, if this is really a significant innovation, the whole industry sector benefits and stock prices in the sector fund will rise broadly. FastTrackers should expect to capitalize on this slower, broader price increase.

### Sector Funds Trade Cheaper

While many sector funds have a load (primarily the Fidelity Selects), the cost of trading is minimal. For positions held over 30 days, Fidelity Selects can be traded for a \$15.00 paperwork fee. Even for short-term traders, the .75% fee is less



## Why Would I Want to Trade Sector Funds?

Diversification is always important. In our second example we suggested trading between types of growth funds. This example shows the effect of a 33% allocation to Domestic/International, 33% CAP-SMAL/CAP-BIG, and a 34% allocation to trading between conservative growth-and-income and aggressive sector funds. We will be trading among six funds: Scudder International/Scudder Capital Growth, Vanguard Small Cap/Vanguard Index 500, and Invesco Industrial Income/Invesco Technology.

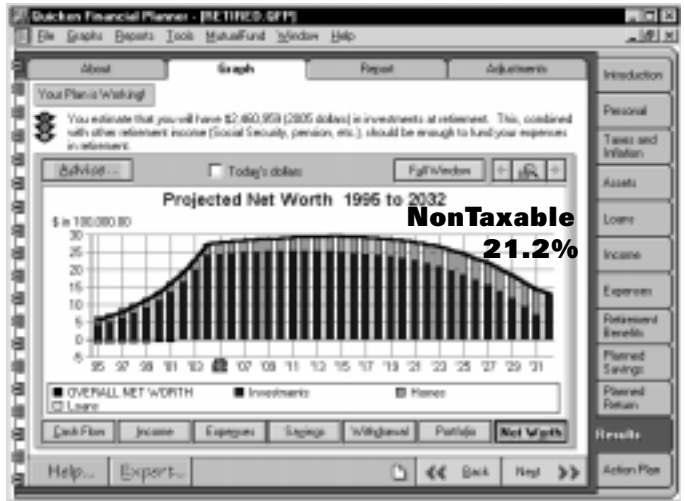
### ← Trading Domestic

The chart on the previous page shows trades between Industrial Income, a good, no-load growth and income funds and Invesco Technology, a good no-load sector fund. The result is a 28.1% annualized return (Ann = ).

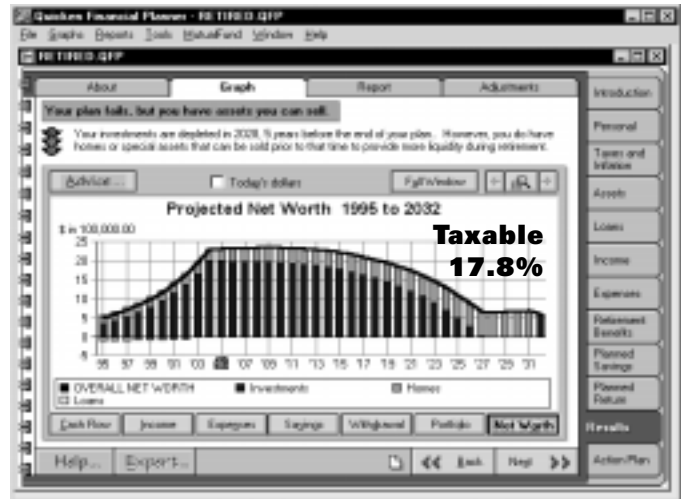
### What Do I Get →

Making 19.5% on a third of your portfolio, 16% on a third, and 28.1% on a third yields an overall rate 21.2%, assuming that the portfolio is rebalanced regularly. QPF maxes out at 20% return so the result would be better than shown on the chart.

That extra return lets you slide up your annual retirement withdrawal to \$95,000/year. Disposable income would be greater in retirement than while working. Your plan ends with a portfolio of \$750,000 . . . ample funding for an extra 7 years of retirement at the same level.



1/3 Domestic/International, 1/3 Small/Big Cap, 1/3 Growth Inc/Sector Funds



Same Portfolio as Above, but Half Taxable

### But Half My Assets Are Taxable! ↑

Taxes will eat your portfolio alive, and there is no avoiding taxable gains. Mutual funds are required to pay you their internal income and capital gains at least once a year meaning you will have a tax bill even if you reinvest all dividends and never see a penny of the gains. The lower chart shows that if \$175,000 of your \$350,000 total assets is taxable, then the plan falls way short.

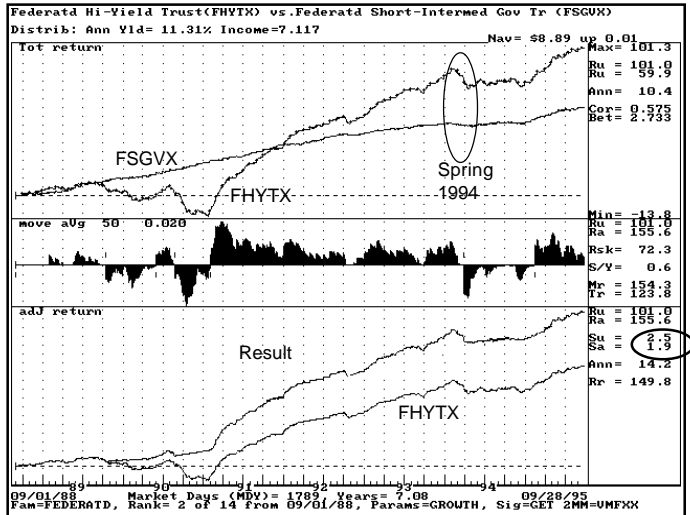
## Improving Return After Retirement

There is ample reason for cautious investing after retirement, but being cautious does not mean that you have to stop actively managing your money . . . Quite to the contrary, post-retirement active investing is just a shift to preservation of capital and generation of income trading strategies.

### Trading Bonds

This chart shows a volatile junk bond fund, Federated High Yield (FHYTX), and a conservative bond fund, Federated Short-Intermediate Bond Fund (FSGVX).

The 7-year annualized return of FSGVX is 6.9% ... This is near the 6.5% low risk investment that we have used in all prior charts. This type of fund is most often recommended to passively invested retirees.



The technical indicator is a 50-day moving average. When conditions are favorable for FHYTX, then the moving average is above the centerline. When the moving average is below the centerline, then trade to FSGVX.

### Risk Level?

The spring of 1994 was described on Wall Street Week TV show as "the worse bond decline in 30-years". This circled area contains a 7.46% loss for FHYTX, but the trade to FSGVX short-stopped the loss at 4.72%. This type of active management limits the risk of investing in junk bonds while increasing the overall return.

The trading strategy over the past 7 years produced a 14.2% return with minimal risk whereas Buy-and-Hold produced only 10.4% and an unacceptable level of risk. Note the volatility measurement (Sa =) of the yellow line of the J

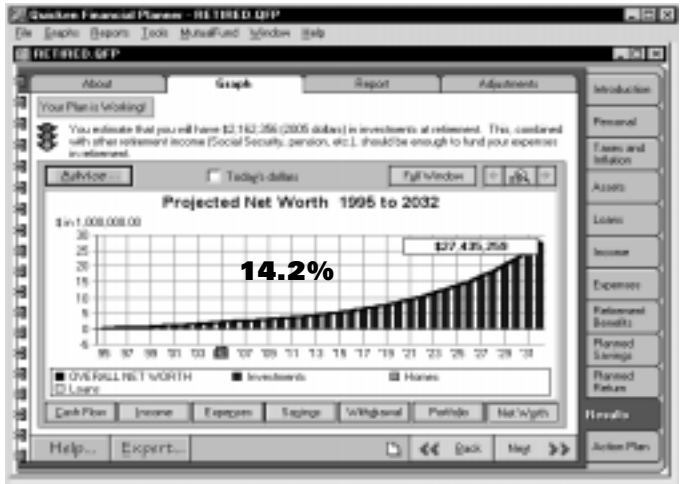


Chart is less than the Buy-and-Hold volatility (Su =) of the red line.

### What Do I Get? **\$27,000,000**

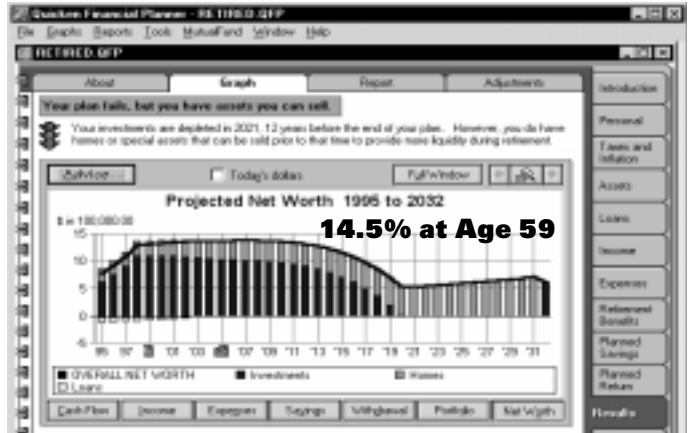
The incremental post-retirement return boosts income so high that even starting with half taxable assets, the plan ends with a net worth over \$27 million. Likely after a few years at the 14.5, you would move to the low-risk, passive 6% return.

## How Can I Retire Early?

There is good news and bad news. The good news is that you can. The bad news is that you have to start early. It will be virtually impossible to retire before your mid-sixties starting with a portfolio of \$350,000 at age 55. The following examples are based on a \$600,000 portfolio (half taxable) at age 55. All other assumptions remain the same. Returns are at the high rates of the last two pages of 20% pre-retirement and 14.5% post-retirement.

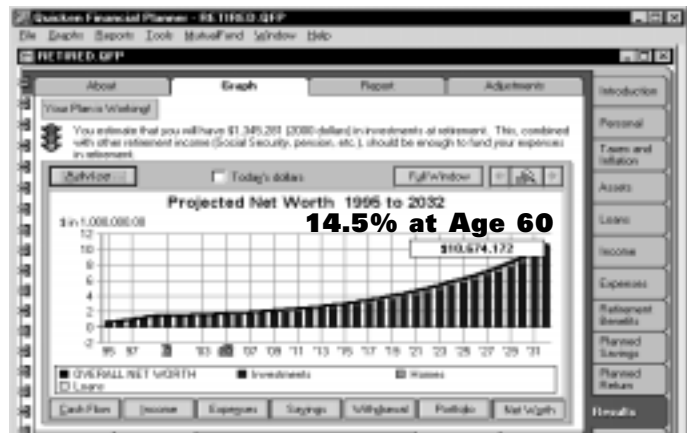
### Retire at Age 59?

Hardly! The portfolio is depleted 12 years before the end of the plan.



### Retire at Age 60?

Indeed, yes! That single year difference is critical. It makes the difference between a retirement that erodes capital or continues to build wealth.



## More Good News

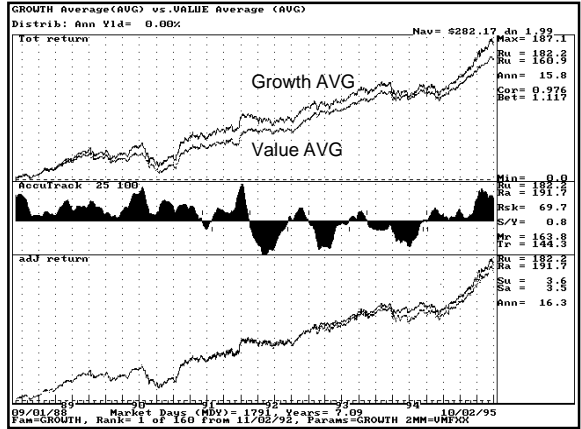
While many will find that they did not invest wisely soon enough to retire early, the good news is that most of us enjoy working and will be encouraged to continue working past traditional age 65 retirement as baby-boomers become "senior-boomers".

Studies have found that working beyond age 65 will likely increase your life span, not shorten it. Take care of yourself physically, and plan to live a few years longer than your parents.

During these few extra years, we have the opportunity to correct the omissions of our youth and can look forward to long, happy, well-funded retirements.

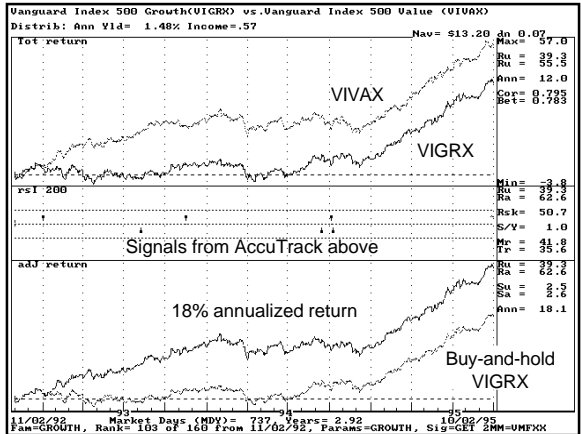
## More Broad Domestic Trading

FastTrackers aren't, generally, big fans of broad US Domestic funds in which sector movements are disguised or muted in a very diversified portfolio, but this is a large segment of the mutual fund market. Its assets of \$662 billion as of August 1995 make it too large to ignore. In contrast, the sector funds featured prominently throughout FastTrack commentary and this manual hold a mere \$45 billion.



## Trading Growth to Value

Diversified funds vary in their composition, making it difficult to distinguish broad characteristics. Earlier in this chapter we discussed trading between small cap and large cap funds of the CAP-SMAL and CAP-BIG FastTrack families. The following example trades between growth and value funds.



## Use Family Averages

In the chart we've used the AVG function to display the average VALUE fund vs. the AVG GROWTH fund. The differences are subtle. Note the high Cor = value of 0.97. These average funds are almost identical, but there are subtle differences . . . differences that are trendy enough to be measured using a relatively long AccuTrack setting of 25 100.

Review the Signal Get command in this manual to learn how to capture the trading signals between funds on the I Chart, then use the signals, derived for the average funds, on individual funds like Vanguard Index Growth (VIGRX) vs. Vanguard Index Value (VIVAX).

These Vanguard funds are more disciplined in their growth vs. value investing styles and their correlation is a much

lower Cor = .79 than the Cor = of the upper AVG charts.

Long-term it is not clear that signals from AccuTrack on the averages will outperform direct AccuTrack comparison of these two funds. However, for other funds where the Cor = of the funds is higher, then you should expect the AVG signals to work better.

Much of the success of this strategy will depend on your picking fund managers who are solidly, long-term committed to their growth or value strategies.

## Energy Sector Funds

Many investors do not understand why there are so many energy sector funds in the FastTrack database ... the answer is apparent if you try AccuTrack 12 48 trading between AGGRESS or CAP-SMAL funds vs. the family's energy fund.

With few exceptions, energy funds are good alternatives to volatile broad funds. Therefore they are important to traders.

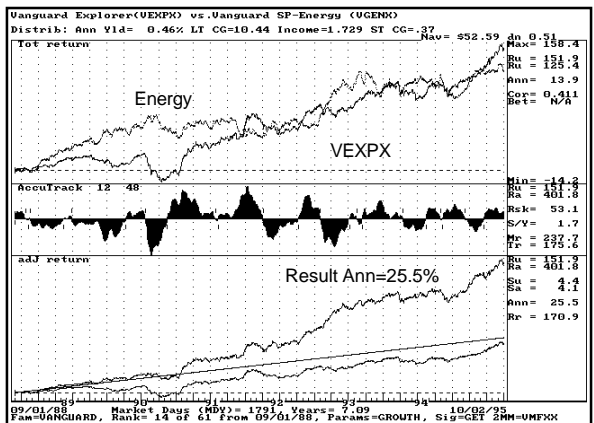
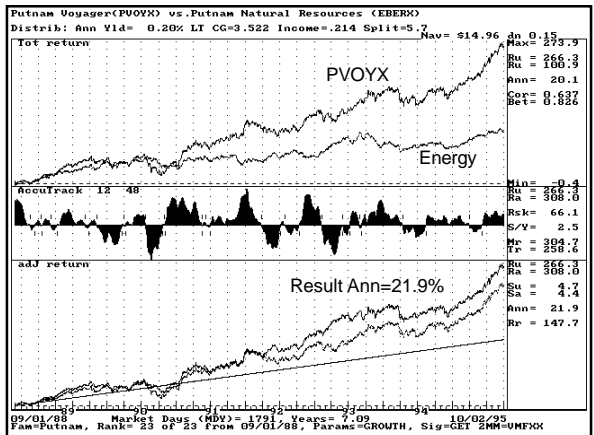
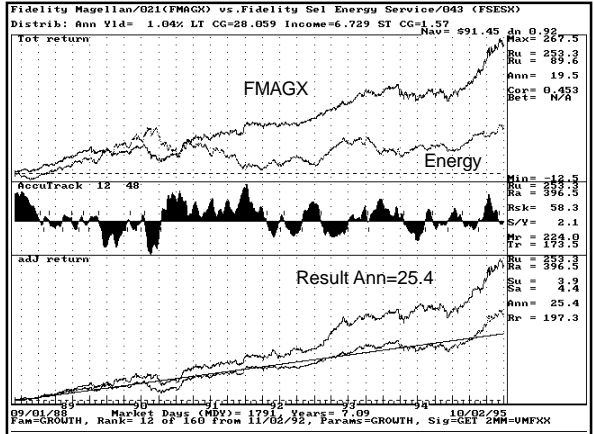
### Energy Is Influenced by...

Inflation, international politics, value of the dollar, coldness of the winter, and worldwide economics are the tangible influences on the value of energy reserves. These are NOT the same influences that move the broad market.

Energy funds have a low correlation to most other funds. This means there may be opportunities in these funds when there are no opportunities elsewhere.

### Not All Growth and Energy Funds Are Created Equal

While these techniques work well, use the more aggressive growth funds that are committed to growth as a strategy. Use Energy funds that have a .60 or higher Cor= compared to the AMEX XO-I index of oil stocks.



## Conservative Investing

Conservative investors often invest in bonds, but no one wants to be locked into the wrong class of assets. Use FastTrack to build strategies that move among funds of different types based on relative strength. Such strategies work well with many combinations of funds. Try the following:

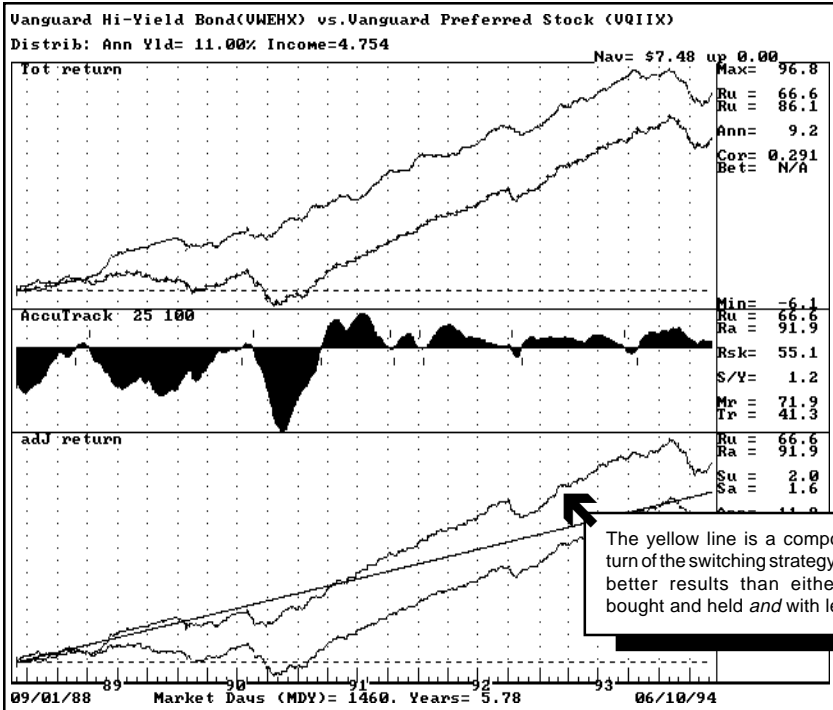
**M** then Vanguard **J** (Select the Vanguard family of funds.)

Every family will be ranked the first time you load it after installation. The delay won't be repeated in later sessions except when revised families are transmitted online.

**F** then VWEHX **J** (Select a junk bond fund as the red fund line.)

**I** then VQIIX **J** (Select a conservative stock fund as the green line.)

**P** then TTAJJ **J** (Set the charts that display on the screen.)



Now hit **J** again and again. The screen will move through the family of funds performing the same strategy on each fund.

### Wait! My Chart Has Different Numbers

It is normal that not all numbers on this printed page will match what you see on your display. See *Appendix B*, Weir Num-

### Hey! This Always Works! Right?

There are no guarantees. This is a strategy that will do well while interest rates are stable or declining.

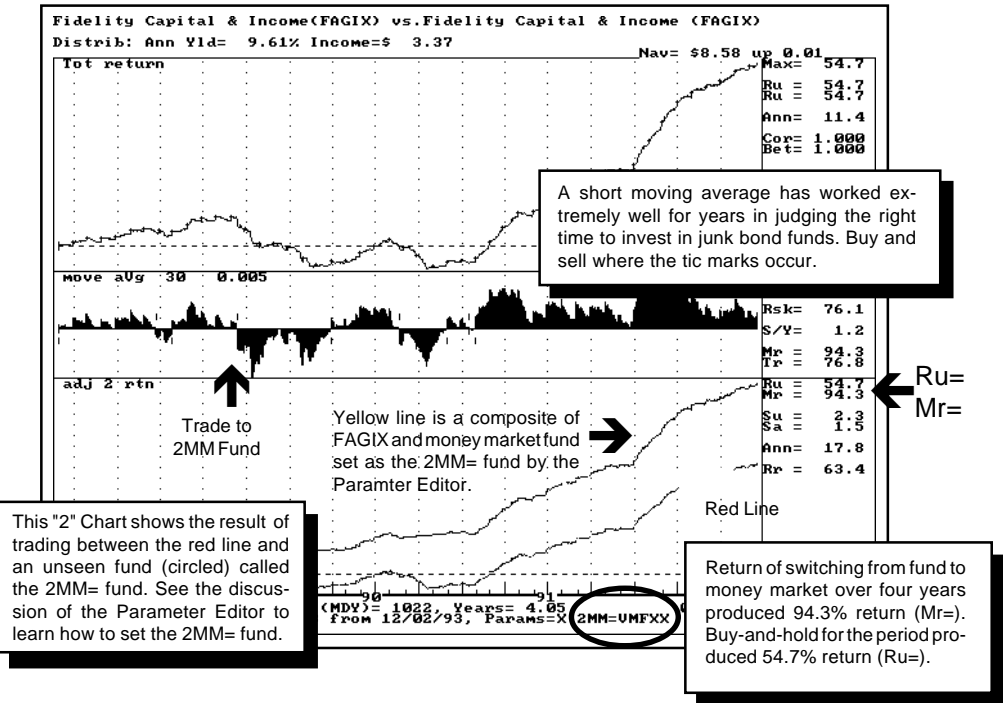
When interest rates rise, trading this pair may not protect against a decline, but will likely continue to beat buy-and-hold.

## Buy or Sell Junk Bond Funds

Assuming that you have already started FastTrack and you are already looking at a FastTrack chart, type the following:

- M then BD-JUNK ↵ (Change to the family of junk bond funds.)
- <Spacebar> (Stops drawing so you can enter next command.)
- P then TTV22 ↵ (P command puts different indicators on the screen.)
- EA (Display the full range of the data.)

The fund you see on your screen may not be the fund illustrated in this chart. There will be a second line (green) on the Total Return Chart (top section of the screen). Do not let this green line disturb you. It has no impact on the return. Step through the funds in the BD-JUNK family by hitting ↵.



### Hey! This Works Great. Why?

This chart shows timing rather than selection and is NOT the way we suggest that you typically invest.

Because it works so well, in recent years fund managers have put short-term trading restrictions on these funds limiting their usefulness with moving averages. Instead of timing, review "selection" as shown on the next page.

### Is This Too Risky for Me?

Read *Ground Work* chapter paying particular attention to the concepts of risk. While junk bonds are risky when bought and held, they have not been risky when timed with a moving average. For more detail, read *The Charts* chapter's *Moving Average* section.

## Aggressive Investing

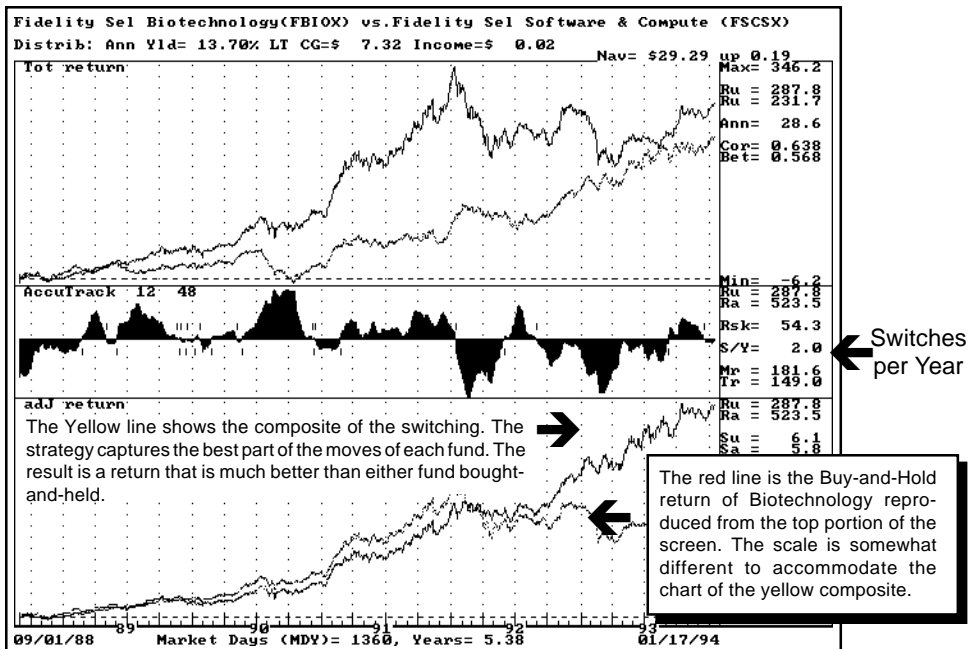
During almost every period there are hot funds. These funds will likely be sector funds. The most popular sector funds are the 37+ Fidelity Select funds. Virtually every listing of the "Top Ten Funds" includes several Selects. Over half of all FastTrackers have an account with Fidelity and own at least one Select.

Sector funds are trading vehicles. Don't buy-and-hold these funds for years at a time. They have higher operating costs and switching fees. In the Select family, there are no limits on the number of trades/year, but positions held for less

than 30 days incur a 0.75% redemption fee. There is also a 3% load *paid once* on new money. You *do not* pay additional load on profits or the original investment when switching to another Fidelity fund.

While you can see the pattern of the broad market in the pattern of most sector funds, there are tradable trends in fund relative strength as aggressively managed money rotates into and out of different market segments. In recent years technology and health funds have participated in this market rotation.

Try the following:



**F** then FBIOX

(Select a fund to display as the red line.)

**I** then FSCSX

(Select a fund to display as the green index line.)

**P** then TTAJJ

(Set the charts that display on the screen.)

**Alt** + **L** GROWTH

(Load a more aggressive set of parameters.)

**E** **A**

(Display the full width of the database.)

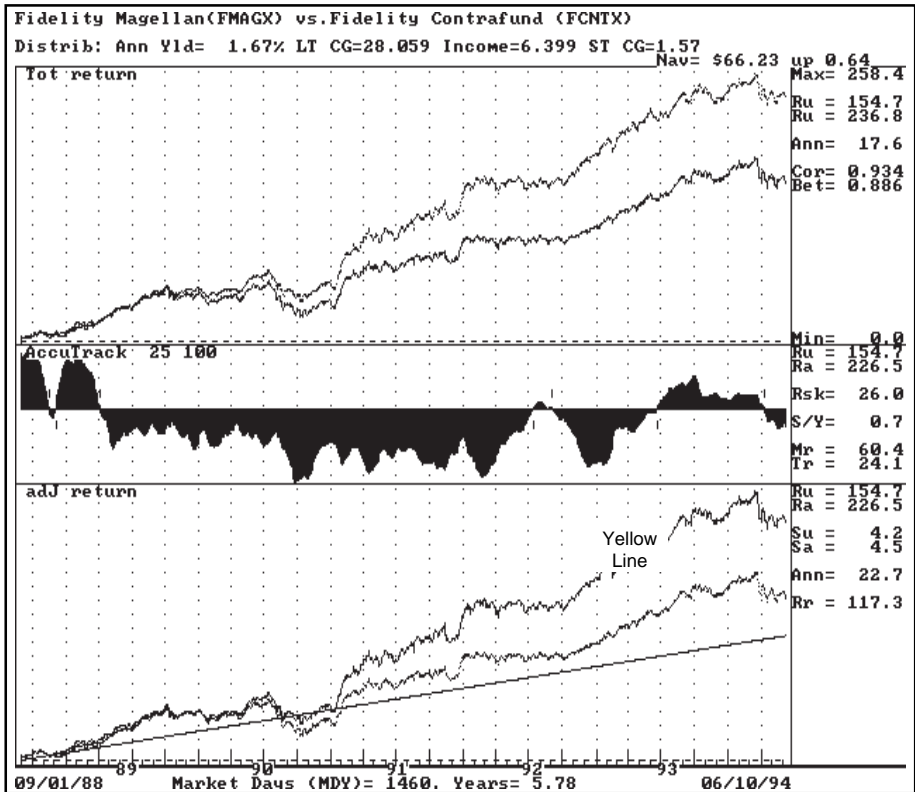
What you see above is the record of AccuTrack judging which of these two volatile sector funds is better. There have been about 3.0 switches/year. A few were shorter than 30 days incurring the 0.75% redemption fee. However, the returns have been so great as to overwhelm the cost of

trading. FastTrack *does not* take switching costs into consideration when computing total return. AccuTrack's parameters are arbitrarily set to 12 48 for consistency in this manual, however, almost any setting will produce excellent results. See the U command in the *Using FastTrack Chapter*



## Then I Have to Invest in Sector Funds to Get Great Returns?

Yes and No - To successfully invest in sector funds you must be an active manager of your money. Few sector funds can be counted on to profit if you are simply buying-and-holding. If you plan to trade several times/year using FastTrack, then part of your portfolio should be in sector funds.



### Just Be in the *Best* Broad Fund

In the case above, the switching strategy simply picks the stronger of the two broad-based funds and signals switches between them. In this case, it is the philosophy of the fund manager which is being judged by the indicator. Fund management strategies get hot for 6-12 months and then cool and underperform the market.

The return achieved shows that switching between these two similar funds produces a return that is about the same as the better of the two funds. There was no way to tell back in 1988 which of the two funds was going to be a winner.

That decision was made day-by-day by AccuTrack.






Given any two actively managed growth funds this strategy will likely outperform an average, that is, putting 1/2 your money in each fund.

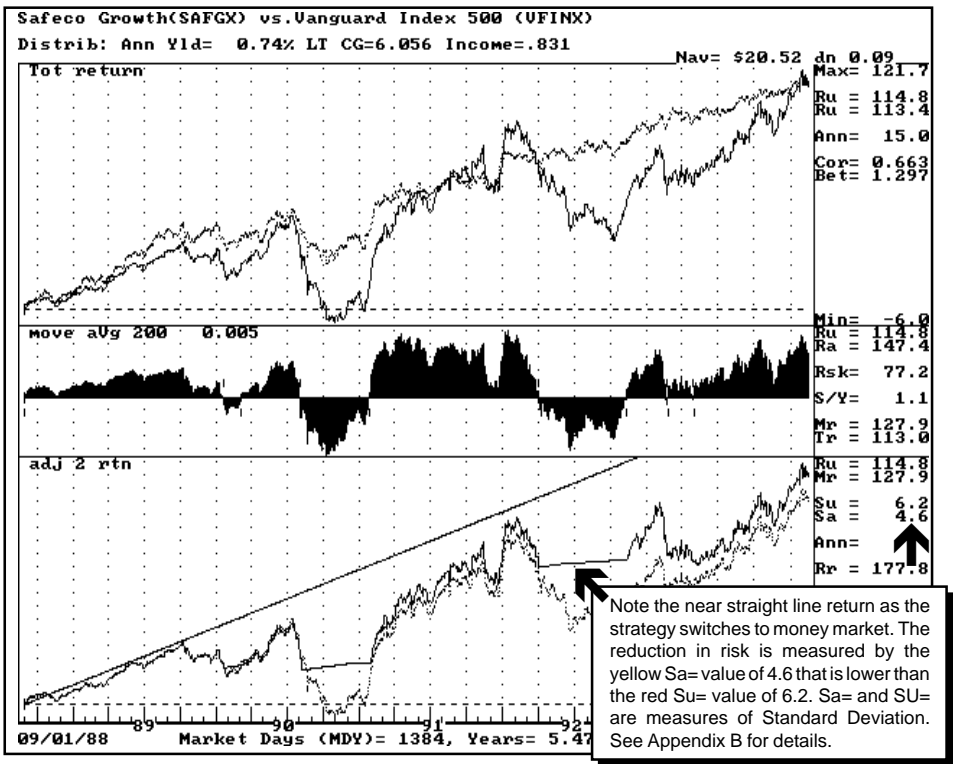
### My Chart Doesn't Agree

It is normal that not all numbers on this printed page will match what you see on your display. See *Appendix B*, *Weird Numbers* section.

## Moderate Investing Style

Many investors have followed simple systems for years. One of the most popular is Dick Fabian's 39-week moving average. There's nothing magic about 39 weeks. That is a relatively long average with about the same performance as a FastTrack 200-day moving average. Try the following commands:

- F** then SAFGX  (Select a fund to display as the red line.)  
**I** then VFINX  (Make the green line an average growth fund.)  
**P** then TTV22  (Set the charts that display on the screen.)  
**U** (Set Moving Average parameters to 200 and .005.)  
**W** then 9/1/88  2/18/94  (Set the date span to match the chart below.)



## Timing Limits Risk

What you see is traditional timing at work. The long moving average exits a serious decline before hitting bottom and reenters before hitting top. This simple strategy usually does not get the full return of buying-and-holding a good fund, but it will often get a better return than buying-and-holding a bad fund.

But return is not really the issue. Timing is a risk-limiting tactic. Timing avoids

killer mistakes. A killer mistake is buying at the very top and selling at the very bottom of a bear move. The most recent such period in the broad market was in the summer of 1990, but aggressive funds like Safeco Growth also took a 30%+ correction in early 1992 as their health stocks plunged.

## But Timing Can be a Big Mistake

The simple timing of a moving average will erode wealth when you are trying to "trend-follow" a trendless market. Do NOT use moving averages in trendless markets.

### The Trendless Market of 1994

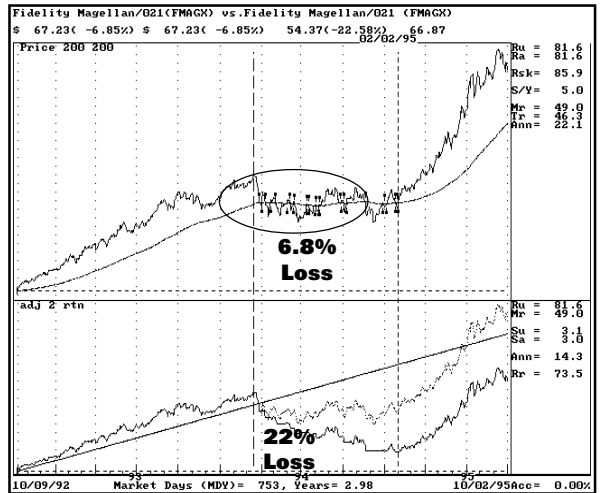
1994 was not a good year for the broad US market. Broad funds like Fidelity Magellan moved in a narrow trading-range.

Note the dozen+ trades within the circle. The fund move just high enough to break its 200-day moving average (a BUY), then immediately reverses moving just low enough to SELL.

This technical indicator guarantees that you will BUY high and SELL low during trendless periods.

Don't use a trend-following indicator, especially moving averages, when there are no trends.

The yellow line of the 2 Chart shows that trading lost 22% while buy-and-hold lost 6%.

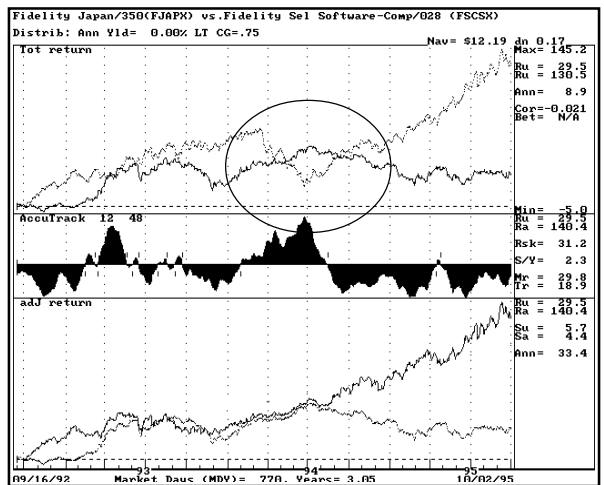


### The Trendy Funds of 1994

While many investors tried to market time in 1994, FastTrackers were busy being in the right funds. Japan and Software were anything but trendless in 1994.

Both these funds had one up-trend and one downtrend in 1994. Both turned abruptly and had essentially no trendless period.

A trading strategy between these two funds produced a 37% return with two trades in 1994. It didn't take incredible mathematics or luck . . . it just took active management and awareness of the Present.



## The Future, the Past, and the Present

The Future is unknown and unreliable. The Past has been chewed and digested by investors. The only real opportunity is in the Present. The Present is where we live and make investment decisions. By using FastTrack you can react to the Present faster than most investors, and that is profitable.

## Follow FastTrack's Commentary

FastTrack provides broad commentary on a regular basis. The commentary discusses conservative, moderate, and aggressive investing strategies. Commentary is organized in a library of current topics. All online commentary is relevant to the current and recent circumstances. The library is *not* a historical listing of articles.

Commentary is addressed to a general audience and any given section may be too conservative or too aggressive for you personally. Therefore, be sure to consult your traditional sources of investment information and read the prospectus before investing in any fund.

You **won't have commentary to display** unless the first online update has been done. See the *Telecommunications* chapter.

To get to this commentary library just hit **C**. This invokes the C command from the main FastTrack menu at the bottom of the screen.

You'll see something similar to the screen below which is an index of the commentary library. See the Commentary command in the *Using FastTrack* chapter for more details.

Commentaries on disk: 134 Commentaries listed: 18

1000 - Commentary has a New Look - Read this topic

**1100 - General Topics**

1116 07/24/95 Revision FT 3.58 dated 07/22/95 UPGRADE

1117 \*07/21/95 - FastTrack 4.0 for DOS

1120 10/01/94 How to Report Data Problems

1121 10/03/94 Technical Support

1122 A Review of Data Collection Procedures (10/1/94)

1200 + \*04/19/95 Listing of FastTrack Objective Families

1400 + \*04/10/95 - BUYING FUNDS THROUGH BROKERAGES

1500 + \*07/27/95 - FastTrack Version 4 Notes for Programmer's ONLY

2000 + MARKET OVERVIEWS

3000 + BROADLY DIVERSIFIED US EQUITY FUNDS

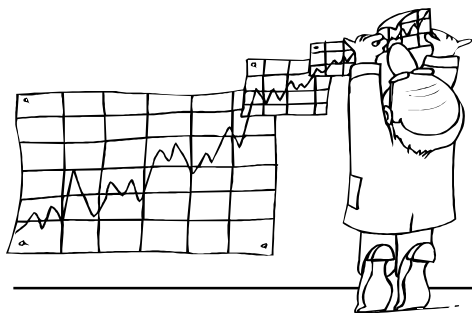
4000 + INTERNATIONAL FUND TRADING (defined)

5000 + SECTOR FUNDS INCLUDING THE FIDELITY SELECTS (Defined)

Press <ALT> and highlighted key to activate buttons, or click on them with the left button of your mouse.

<b>View</b>	Print	New Topics	Section	Clear *	Help
Expand	Collapse	Expand All	Collapse All	Quit	

Commentary is an essential part of FastTrack. Investing strategies rotate in/out of favor such that this manual cannot show every investing strategy that will be successful in the future. Commentary is updated regularly. Commentary shifts positions gradually as market cycles mature and fade. Suggestions remain in the commentary so long as they continue to be relevant to current conditions.



## Ground Work

### Funds & Families - Important Concepts

The funds in the FastTrack database are classified into families of related funds. There are three types of families:

- 1) A predefined "Buying" family contains funds managed by an investment company. Examples are Fidelity and Vanguard. The name of the Buying family is the name of the company you buy the fund from.
- 2) A predefined "Objective" family is a collection of funds with similar investment objectives. Examples are AGGRESS (aggressive growth equity funds) and UTILITY (utility sector funds).
- 3) A "Personal" family is a family that you create. It is not predefined.

You cannot change the predefined buying and objective families. They are maintained by FastTrack through the online update process.

However, predefined families can be loaded into a personal family, then the personal family changed or deleted.

### Printing a List of All Families

The *sStatistics Menu* chapter explains the L command; go there to learn how to list all the funds and families.

The Commentary Library contains a list of the various Objective families. Review the 1200 section for this list and other basic information about families.

### FastTrack Families of Funds

Straight out of the box, FastTrack includes many buying and objective families. For example, Fidelity is the name of the largest mutual fund company. "FIDELITY" is also the name of a FastTrack **buying** family that includes all the Fidelity funds.

Within Fidelity, there is a buying family of sector funds called the Select funds. Correspondingly, FastTrack has a "SELECT" family that is a subset of the Fidelity family. Two of the SELECT funds invest in precious metals, primarily gold. These funds are also members of the PRECIOUS objective family.

The funds are also available in the Fidelity Funds Network program along with Janus and a variety of nonFidelity funds. Therefore, these funds also appear in another buying family, B-FIDNET. There are several B- families described in the 1200 section of the commentary.

The multitude of predefined families can be overwhelming. Don't deal with them all at once. Confine initial activities to a few buying and objective families.

### We Keep the Families Straight for You

As fund companies update their offerings, FastTrack transmits the buying and objective family changes to your computer.

If you have a question about FastTrack families, call us. If a change is warranted, we will do it for you and transmit it to all FastTrackers in the next data download on the toll-free line.

The *Using FastTrack* chapter explains the M command. Read it to learn to

## Why Use Families?

Selecting a family limits the working set of funds. You and your computer would be overwhelmed if every operation required sorting through all the funds in the database. When using FastTrack to rank, only the funds in the current family are ranked. When using the arrow keys to move from fund to fund, only the funds in the current family are displayed.

The makeup of buying families named after mutual fund companies is obvious: Fidelity, Vanguard, TRPrice, etc.

Objective families are different. Here's how they are constructed. First, we review the prospectus. Then we assign each fund to a family like GROWTH, BALANCED, AGGRESS[ive growth]. Next, we examine historical performance. This leads to assignment of objective families like RISK-HI, RISK-LOW. Finally, we

group the funds into various industry-standard objective categories such as, HEALTH, HITECH, UTILITY, etc.

FastTrack has a list of objective families in the Commentary Library. See the *Using FastTrack* chapter under the C command for more details about viewing and printing the list of objective families.

## Examples of FastTrack Families

The following screen is taken from the family editor. Funds are listed alphabetically. Buying, Personal, and Objective families are mixed together.

Organizing the funds into sensible families is important. Investing strategies become unmanageable unless you follow a much smaller subset of funds than the entire FastTrack fund universe.

ALL- families include all the funds in a few very broad classes.

AmerFund is the American Funds Group: A **buying** family of several well-diversified funds.

Asset Allocation funds: The funds of this family have a method of investing that differs significantly from other fund **objectives**.

The B- series of funds are **buying** families. They include funds with many different objectives. These funds are in the "mutual fund" trading programs of the major brokers.

[ Family Editor ]

ALL	All funds and indices.
ALL-EQ	All equity funds(Objective)
ALL-INC	All income-oriented funds(Objective)
ALL-MIX	All funds have a mix of more than 30% stocks and 30% bo
ALL-OTH	All securities & indices not classifiable in other ALL
ALLIANCE	Alliance Fund Distributor(Buying)
AMERFUND	American Funds Group (The(Buying)
AMHERTGE	American Heritage Mgmt(Buying)
ASM	First Fund Distributors(Buying)
ASSTALLC	Asset Allocation(Objective)
B-FIDNET	Fidelity Funds Network(Buying)
B-JACKW	Jack White's Funds(Buying)
B-MLYNCH	Merrill Lynch Funds(Buying)
B-SBARNY	Smith Barney Funds(Buying)

Help Quit Create Family Delete Family Edit Family

Print Family View Family

Press <ALT> and highlighted key to activate buttons, or click on them with the left button of your mouse. 205 Families Present

## FastTrack's Not a Magic Math Box

FastTrack is not a magic math box like MetaStock and Smart Charts. Those programs are for active options and stock traders. They run intense calculations on a relatively small amount of data with the expectation of producing a greater number of profitable trades than losing trades.

## Pick the Best Funds from the Best Families

Rather than time the market jumping in and out, FastTrackers pick the right funds and remain fully invested most of the time. These are fundamentally different approaches to investing.

## What Is a "Good" Family?

Focus on buying families. A good family should have many different funds. There should be a range of conservative income funds, growth funds, aggressive growth funds, money market funds, foreign funds, utility funds, and sector funds. A good good family should not impose significant switching fees to move between funds.

While most fund companies limit switching between funds, good companies allow you to make at least 4 buy/sell round-trips for each of their funds each year. Sometimes the fund companies dictate a minimum holding period. Short holding periods of 30 days are usually not a problem, but longer holding periods put artificial pressures on your trading decisions. It is tough enough to make good buy/sell decisions without having to also deal with arbitrary holding periods.

## Where Do I Start with Families?

If you own many mutual funds, start with the buying families of the funds you already own. You may find that some families do not have many attractive funds. Since the point of using FastTrack is to profit by timely moves between funds, **having investments in buying families with a diverse set of funds is required.**

## Use One of these Families

Most individual investors need only consider the **Fidelity**, **Vanguard**, and **Invesco** buying families for their investments. These three are "good" buying families.

## The Families for Professionals

Charles Schwab, Fidelity Funds Network, Jack White, and host of brokerages have a group of no-load funds that can be traded without transaction fees or loads. However, these programs have limitations which make them attractive primarily to professional money managers.

These programs are improving and maturing and are covered in the commentary.

## Interesting Families

There are many interesting families in the FastTrack database. Several are worth noting here for their special qualities.

The **Benham** family includes zero-coupon bond funds. These funds are sensitive to interest rates and offer good opportunities when rates are expected to decline. Of course, timing interest rates is basically a timing exercise. If you plan to buy and hold bond funds, don't do it with zeros.

Until recently, the **Berger** family had only two funds, one conservative and one aggressive. These two funds are well managed and appropriate for a wide range of investors. Switching between these funds as market conditions change is a good strategy. Berger added the Small Company Growth fund and may offer more funds in the future.

Twentieth Century (**TwentyC** family) has a small range of aggressive funds. This family would be a favorite except that most of the funds follow the same general pattern of the broad US market giving no opportunities to switch between funds of differing objectives.

**Aim** has a few excellent funds suitable for many investors, but Aim has a 4.5% load. There are other families of no-load funds with comparable qualities.

**TRPrice** family has variety, but performance is erratic. The Science and Technology has been a winner, but few other TRPrice funds shine among their peers. The erratic performance makes them hard to time using technical analysis. Also, TRPrice is stickier than most fund companies about fund switching. They sometimes enforce a 4-switches/year per account rule unlike most companies that have a 4-switches/year per fund rule.

**Janus** equity funds are good performers, and with recent new additions have a decent variety of funds variety. Previously, all you could do is practice market timing and not more powerful techniques of selection. Avoid families where all the funds look alike.

The **Wright** funds invest in single countries like Japan, Italy, Belgium, etc. These funds offer a world of opportunities in different markets. These markets do not necessarily stay in synchronization with the broad US markets. They may move up sharply for months while the US market declines.

There are single fund families like **Kaufmann**. If you buy these funds direct from the fund company, DO NOT market time. Timing is the least effective way to invest. If you plan to actively manage your money, buy these funds through **Fidelity Funds Network**, **Schwab One Source**, **Jack White**, etc. so that you can move your money easily.

### **You Do Need Many Objective Families**

During the course of several years using FastTrack, you are likely to invest in many different type of funds: growth, income, sector, international, bond, gold, etc.

Within each of these objectives, not all funds are created equal. For example, Fidelity has at least 8 broad-based US growth funds. Which is better? Where do these funds fall with regard to risk-adjusted return of the family of growth funds? Equating funds within an objective family gives you a much better idea of fund management quality.

Also, there are times when your favorite may be giving a weak, ambivalent buy/sell signal. Try looking at the average fund for its objective and look at the

other funds for that objective family. Their signals may be more obvious.

### **Scaling the Effort**

Every part of an investing strategy has to be coordinated to be successful. If you spend only an hour/month picking the right investments, then it doesn't matter what family you use. Berger and Twentieth Century (TwentyC) are good choices. Buy several funds in different families and cull the weakest fund every year replacing it with a new fund recommended in *Money Magazine's* end-of-year issue. This won't do much to improve your returns, but it's what most people do.

### **Pick a Diverse Fund Company**

If you have several hours per week to review your investments, picking a good *diverse* fund company is important. You invest with a company that has many different types of funds. You will want to own a European fund when these funds get hot. You will want to own a health fund when that sector resumes its dramatic gains. **Invesco** and **Vanguard** families are good choices.

### **Fidelity Is Best for Active Investors**

If you have an hour per day to review your investments, open an account with **Fidelity** for the money that you plan to manage aggressively. Pay the 3% load and forget about it.

Fidelity has 100+ funds, far more alternatives than any other fund company. Using these switching opportunities effectively will more than compensate for the load.

Also, Fidelity has liberal switching policies. It is unlikely that you will ever encounter trading limitations. If you put a lot of effort into picking the right funds, you will be wasting your time if your





## What Is Technical Analysis and What Does It Do?

- 1) Selection: Picking the right investments.
- 2) Timing: Buying and Selling at the best times.

Of these two, the more important is SELECTION. Invest in the right funds. Don't zip in and out of funds based on chart dips and wiggles. SELECTION is the easier to do. TIMING requires constant vigilance and complex mathematical modeling. Most FastTrackers are NOT constantly vigilant and do not like math. Nonetheless, what most new FastTrackers try first is market timing.

### How do I Do Timing?

Try the examples used in this manual using the trend-following indicators to time trades. Changing parameters in the trend-following indicators produces a wide range of good and bad results. You will experience frustration because you don't know the "best" parameters.

There is an independent product called FastWays that does parameter optimization plus several other interesting, useful functions. See 9000 commentary series for compatible products.

No single indicator always works. Timing is a complex discipline using a consensus of many indicators. The weighting of each depends on the fund and market conditions.

A variety of timing strategies are recommended in the Online Library in the Timing commentary. Review these.

Read Books. There is a wealth of information at the public library. See *Appendix A - Recommended Reading*.

### What Do Most FastTrackers Do?

The majority of FastTrackers DO NOT use FastTrack for timing . . . but most of new users first efforts are attempting timing.

Many fallen away FastTrack users are devoted timers who have gotten little value for their efforts. If you acquired FastTrack for the purpose of making 5-10 trades to money market a year, and if there is NOTHING we can do to change your mind, then close the manual now and return it for a full refund. You aren't going to be happy timing the market with FastTrack.

### Selection Is Better

Become familiar with the funds. Build a family from funds that are suitable for you. Experiment with selection techniques discussed throughout this manual.

**Do not spend all the time playing with the technical indicator parameters. There is no optimum set of parameters that always works.**

### Timing Has its Place

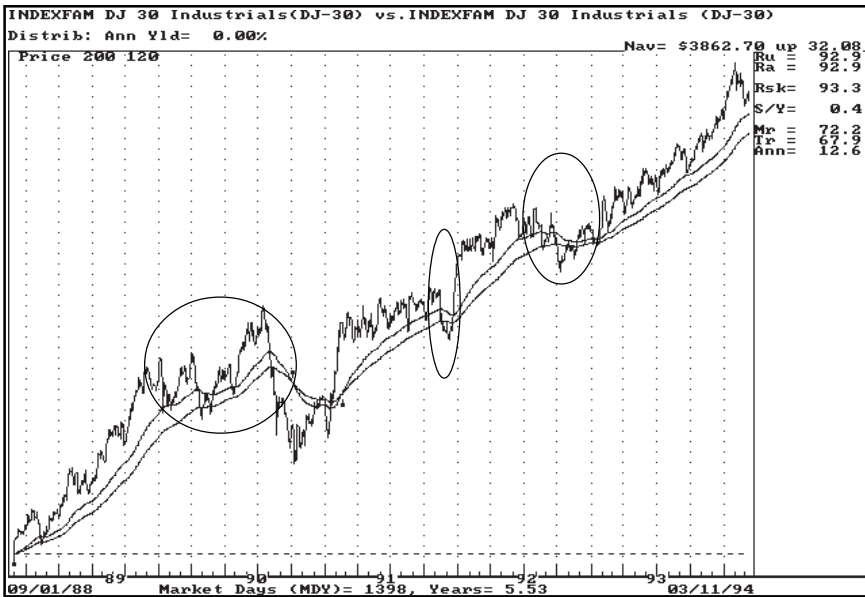
The market has bull and bear cycles that last for years. Feel free to practice timing to avoid the bear cycles. Don't try timing the corrections in bull markets. Stay fully invested in the right funds.

The circles on the following page show periods during which the Dow 30 Industrials dipped between its 200 and 120-day moving averages. These are the periods where you should have been looking at broad market timing. The rest of the time (82.3% of the display) DJ-30 was above its 120-day moving average. During these periods, focus on being in the right fund.

### Alternate Plan

Not everyone can be successful managing his own money. If you cannot bring yourself to move between sector funds, gold funds, international funds, small cap funds, and growth funds, then get a money manager who will.

**Do not actively manage your money by market timing broad-based US growth funds as your sole tactic.**



## Selection: How Much Risk Can I Stand? - Part I

Statement of Problem: Nobody only buys and holds. Everybody has purchased securities and then later sold them. Sometimes you sell the securities because you feel nervous about the security, markets, or economy. Sometimes you sell because of health problems, unemployment, a natural disaster, or other unpredictable events. Sometimes you sell to acquire "better" securities.

### Have Adequate Insurance!

The unexpected often picks the worst time to occur. If you are pursuing a moderate-to-aggressive investing strategy with most of your assets, then insure against events which would force you to sell at exactly the wrong time.

Don't buy insurance as an investment. You can do much better managing your own money. Do buy insurance as protection: term-life, home and auto liability and catastrophic loss, malpractice, disability, and major medical. Once adequately insured, you can begin to pursue aggressive investment strategies.

### Diversify Investing Strategies

Investment advisors often suggest holding a portfolio of bonds, US securities, and international securities, etc.

This is a good idea, but take it a step further. Use a different, appropriate, trading strategy to manage diversified investments. Follow several different investing strategies. Change the mix of strategies with the tone of the market.

The commentary always has a variety of suggested investing strategies. Pick several and follow them. Devise some of your own. Read newsletters and follow a recommended strategy.

As your confidence builds, actively manage a larger and larger part of your own assets.

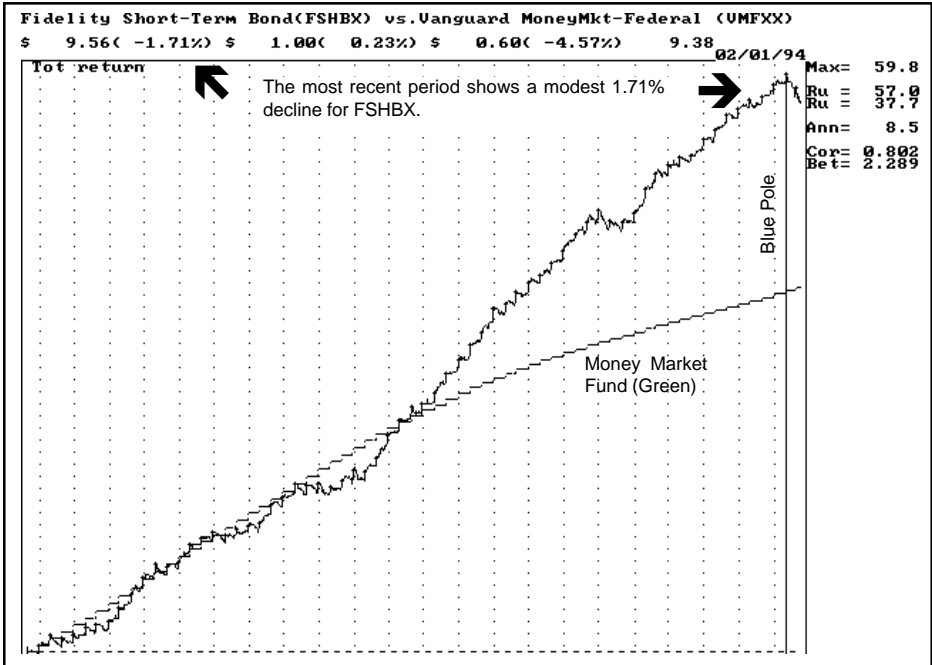
### Wait! My Chart Has Different Numbers

It is normal that not all numbers on this printed page will match what you see on your display. See *Appendix B, Weird Numbers* section.

## Selection: How Much Risk Can I Stand? - Part II

Risky funds have the best potential for gains in the future. Risky funds also give you the most opportunity to make the BIG mistake.

Carefully assess your tolerance for risk. Adopt strategies that match that tolerance level.



### The BIG Mistake

Once every 5-10 years you get caught in a sharp correction. You hold your stocks and funds as long as you dare, but finally capitulate and sell near the bottom.

Because you've been burned, you stay in money market or CDs for a year or more since the interest rates are pretty high.

As the market recovers its losses, it appears safer to reenter . . . Moreover, you feel compelled to reenter the stock market because your money market and CD interest rates have declined.

### The Consequences

Your portfolio is decimated over the long-term. You participate in the stock market only during the riskiest of times and miss all the best times

### The Solution: Buy Conservative Investments

Conservative investments give you less opportunity to make the BIG mistake.

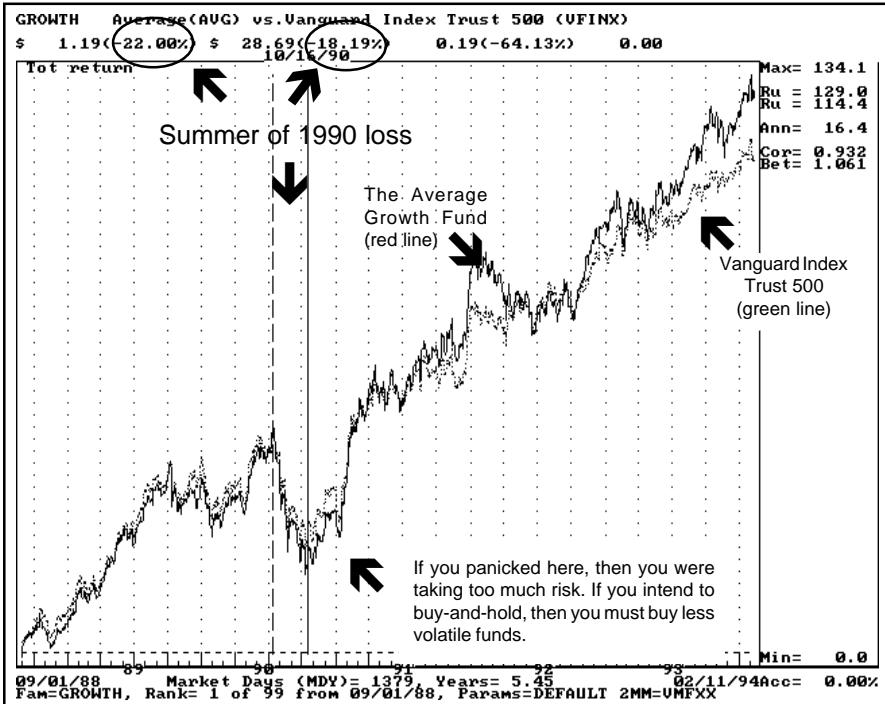
In the chart, the green line is a money market fund. It is always a good time to buy and always a good time to sell. You cannot make a mistake.

Pretty much the same is true for the red line, the Fidelity Short-term Bond Fund. It's not as stable as money market, but even the worst mistakes have modest consequences.

Of course, these two funds won't make you rich. In the following pages we'll examine the alternatives.

## Selection: Average Risk Funds

The most popular funds are growth funds that invest in a spectrum of US stocks, primarily stocks that are in the S&P 500 (SP-CP). The typical objective of these funds is to beat the dividend-adjusted return of SP-CP. Buying several growth funds and holding for a long period ensures that your portfolio will have average performance, but still have a fair amount of risk.



The red line above is the average of all the GROWTH funds in FastTrack as of 2/94. The green line is the Vanguard Index Trust 500 (VFINX) fund that matches the dividends-adjusted performance of SP-CP. The average growth fund has performed about the same as VFINX over the past 5 years.

VFINX suffered nearly an 18% loss in a bear market in the summer of 1990 (chart area between the dashed & solid vertical lines). The average growth fund

was riskier losing 22%. This type of loss when following a buy-and-hold strategy is common every few years. Diversifying by holding several similar funds does not help.

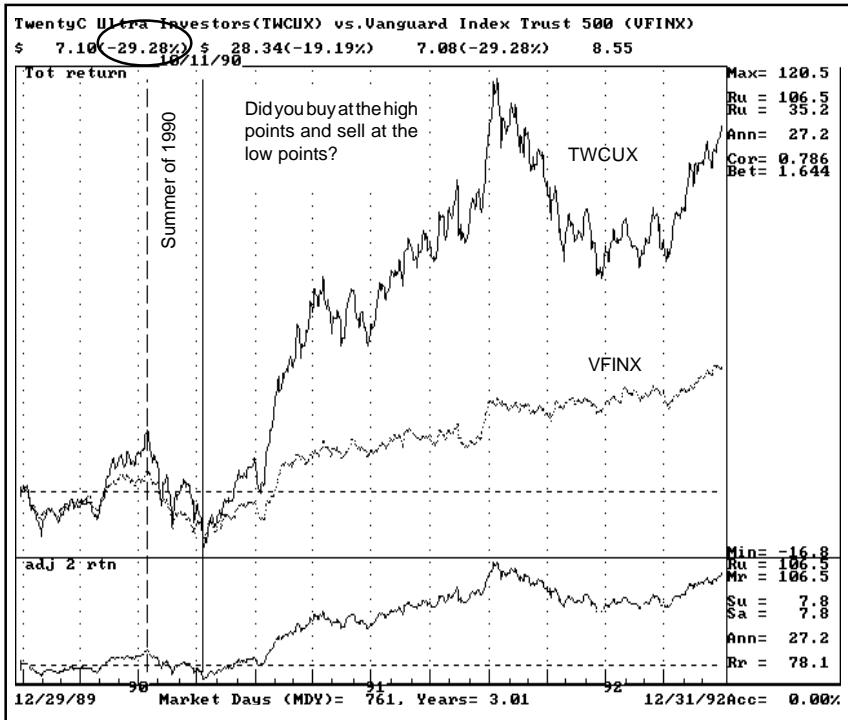
What you will see through the rest of the manual is that there are ways to achieve your investment goals with much less risk than a buy-and-hold strategy details. Technical analysis, used properly, can create a portfolio that has modest risk with much better than modest returns.



The following charts in this chapter show funds with more and less risk than the VFINX. Even if you decide that just buying and holding is best for you, use FastTrack to determine what type of funds you should be buying and holding.

## Selection: High Risk Funds

High risk funds invest in stocks of smaller and/or riskier companies. Often these funds are not highly diversified. This means that these funds have the potential for doing much better, or much worse, than the average fund.



### Big Time Loss in 1990

Twentieth Century Ultra lost over 29% of its value in the summer of 1990. Many Ultra shareholders sold near the bottom.

While the fund subsequently went on to greater glory, some of these same investors suffered by getting back in just in time to catch the 1992 decline in the health industry that was overweighted in Ultra's portfolio.

While the 1990 Ultra story has a happy ending (so far) for those who have bought and held for the last four years, many high risk funds did not pull back up like Ultra.

Just riding through bear cycles is no guarantee of making money. FastTrack will help you decide when to sell and then which funds to buy when the market hits bottom.

### Be Wary of High Standard Deviations

Ultra's Standard Deviation is a very high 7.8 for the period. Its Beta is a very high 1.6. Both are good measures of volatility, but neither really predicts the dimension of the fund's movement vs. the broad US market.

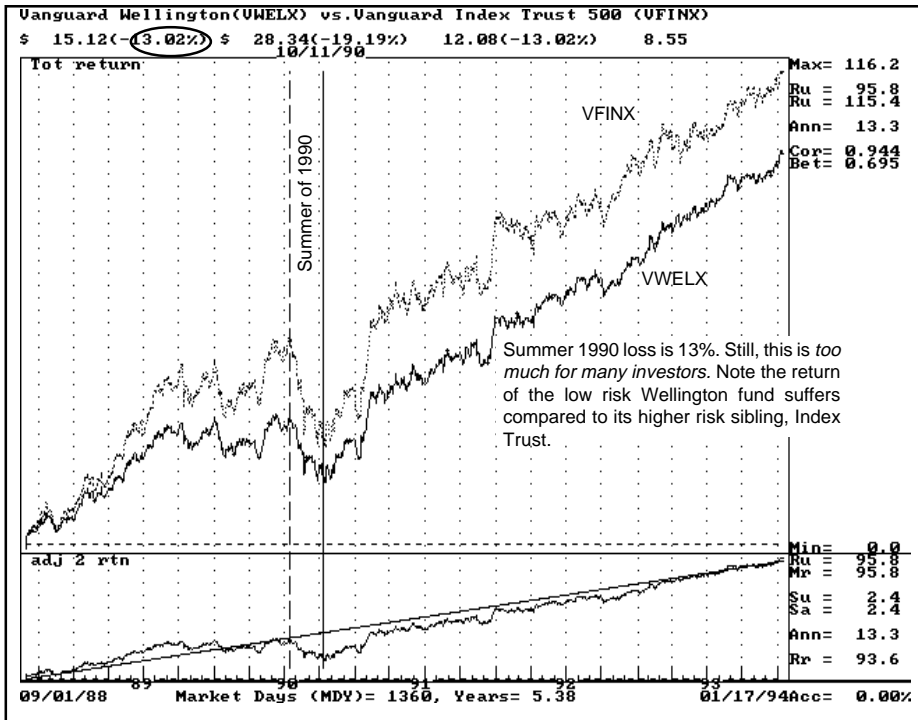
### NOT a Safe Haven

Ultra and VFINX often move in the same direction. The Correlation function (Cor =) shows a moderately strong relationship measured at .786.

This means that Ultra is very likely to move with the market. The fund does not offer an alternative to the broad market. Holding Ultra plus another growth fund would not be considered a well diversified strategy.

## Selection: Low Risk Funds

Low risk funds typically invest in the securities of large, well-established companies. These companies, and the funds that own their stock, pay a significant part of total return in dividends. Low-risk funds have an SD that is less than VFINX.



### Conservative Funds Still Have Risk

The picture may leave you less than enthusiastic about conservative funds. They still have a lot of risk and the returns are modest. Yet, this type of fund is the best bet for the typical buy-and-hold investor.

The Standard Deviation measured by Su= is a low 2.4 and the Beta is a low .69. The correlation (Cor=) is very high at .94 giving a high confidence level for the Beta *except* that Wellington produces

most of its return in the form of dividends. For the period shown, VWELX has produced 29% capital gains + 65% dividend income. Both types of gains are treated as reinvested. The figures total to the red Ru = value of 95% total return.

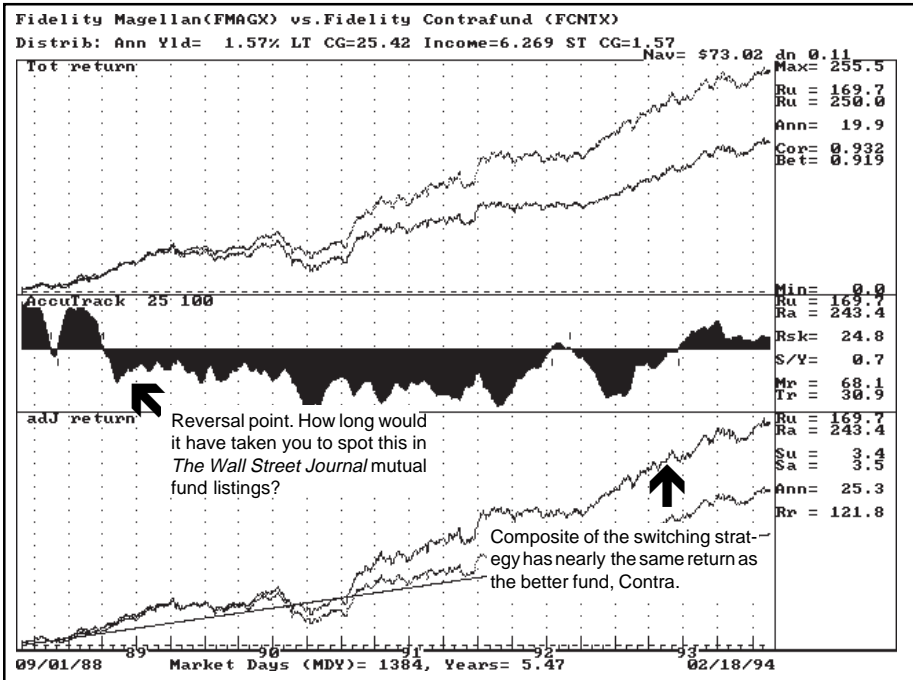
Dividends don't have much effect on Beta. VWELX charted without dividends would have the same Su= and Beta as the chart above, but with 70% less return.

### Risk Summary - This Says It All

If you ever get into the position that you feel that you *must* sell everything today, then your investment strategy has failed you. You will likely find yourself making SELL decisions just at the point that smart investors are making BUY decisions. (The reverse is also true.)

## Selection vs. Timing

No one really knows which fund is the best fund. In the ten years before the chart below, Fidelity Magellan had beaten Fidelity Contra by a very wide margin. Magellan was the flagship and Contra a respectable, but undistinguished, second cousin. In late 1988, leadership reversed.



### AccuTrack

FastTrack's AccuTrack indicator selects the best fund based on *relative strength*, a measure of the returns of one line compared to the other line. When the indicator is above the line, then the red line is stronger. When below the line, then the green line is stronger.

Making the AccuTrack's parameters longer or shorter determines the number of switches/year.

But the parameter numbers aren't terribly critical. Long or short, AccuTrack often produce a composite return that beats the average return (i.e. the return that would be made by having your money divided equally between two funds.)

Setting long parameters in this example avoids needless switches between two funds of similar objective.

### Timing Is Not Critical When Choosing Between Similar Funds

You can often wait a few days to a few weeks to make the switch between funds and still do well. This is NOT true of pure *market timing* where you switch from fund to money market. When using moving averages to do market timing, then you must make switches immediately or the results may be worse than buy-and-hold.

### Relative Strength Trends Are Long

The relative strength trends are longer-lasting than trends in price direction. Switches made based on relative strength are more likely to profit than switches based on price direction. This is particu-

## Distributions



Fidelity Magellan(FMAGX) vs. Fidelity Contrafund (FCNTX)  
 Distrib: Ann Yld= 1.57% LT CG=25.42 Income=6.269 \$T CG=1.57

### Distribution Totals & Yield Calculation

The Distribution summary is at the top of the chart. The numbers are accurate for the chart's width *except* that distributions on the very first day of the chart are NOT included in the computations.

Yield is computed by totaling all the income distributions, adjusting for splits, and dividing by the last NAV on the chart. Ann Yld= is the annualized yield.

FastTrack's yield *may not be* the same as the SEC-mandated yield figure given by fund companies in their advertising. Contact your fund company for details. FastTrack's yield for any entire year should agree with the historical yield published in the prospectus.

### What Is a Distribution?

Distributions is a general term applied to several different types of transactions. Dividends are the most common form of distribution. All types of distributions change the NAV of the fund.

Distributions are put on the T and P Chart as big white dots on the red line. When you move the sTatistic pole to a dot, the total of dividends for that day appears above the pole.

### FastTrack Reinvests Dividends

FastTrack treats all distributions as reinvested. This means that most distributions have no effect on the total return. True, the NAV decreases on the X-Date, but the purchase of additional shares means that you hold more shares and that your total worth is unaffected except for tax consequences of distributions.

### Distributions Affect NAV

Most distributions are cash removed from the portfolio and paid to you. Since the

fund is no longer worth as much, then the NAV of shares decreases by the dividend.

The decrease occurs on the "X-Dividend Date" designated by the fund. Usually this is the same day that the fund pays the dividend to you, but in some cases, the fund may hold that dividend in their own account for a few days before paying you.

All funds allow dividend reinvestment. The fund uses the dividend to buy more shares of the fund instead of paying out cash.

### Types of Distributions

Dividends (Income) - This is cash that comes from dividends paid by the shares of stock in the mutual fund's portfolio.

Short-term Capital Gains (ST-CG)- This is some of the cash that the fund has accrued from the profitable sales of securities within the portfolio.

Long-term Capital Gains (LT-CG)- This is some of the cash that the fund has accrued from the profitable sales of securities within the portfolio.

Split - This is a distribution of new fund shares. Splits are denominated as 2-1, 3-2, etc. In a 2-1 split for every fund share you own, you get another share. FastTrack posts these as a BIG dividend. The total return is unaffected.

Rights - This is most common for closed-end funds. For the shares you own, you get rights to buy additional shares at a fixed price. Alternately, you may sell the rights, typically on a stock exchange. *If you do not exercise or sell your rights, you will usually lose money.* Rights are complex transactions. Consult a financial advisor. FastTrack treats rights as if you had exercised the rights and purchased new shares.



## Tax Consequences of Trading

New FastTrackers are often concerned that switching will increase the taxes they must pay. This issue needs some perspective. Tax strategies are different depending on the type of funds you hold. If you have questions about taxes, please review the concepts with your tax advisor and not FastTrack technical support.

### Income-Producing Funds

These funds produce most of their return from dividends paid monthly or quarterly and taxed in the current year. The per-share price of these funds is relatively stable. Since the end-of-year dividend is usually the largest, you might consider selling an income fund you've held for more than a year before it makes its end-of-year distribution such that the dividend could be treated as a capital gain.

Income-producing funds are, generally, conservative and usually can be bought and held over the long-term without excessive risk. However, the act of holding these funds may not reduce the taxable consequences since *most* of the gains will be paid and taxed each year as income and relatively little return will be tax deferred as capital gains. Even if your fund company reinvests the income in more shares, the income is still taxable.

### Growth-Oriented Funds

These funds increase in value primarily through growth in share value of the stocks in the portfolio. Capital gains in the portfolio from the mutual fund's profit-taking are distributed at least once a year. These gains are taxed in the current year along with any dividends that have been paid by the portfolio. *Unrealized*

capital gains are carried forward on a tax-deferred basis, but when these assets are eventually sold, some holders may receive an unfairly high portion of the gain creating extra taxes.

Unlike most income funds, the per-share price of growth funds can change dramatically. Selling the shares may be a significant tax event . . . However, growth funds are volatile. They should not usually be bought and held. The risks and losses incurred by holding funds through market downturns *greatly overshadow* tax consequences.

### Common Tax Error: Paying Twice

If you have been reinvesting dividends don't forget that these may have been included in taxable income in prior years. **DO NOT** just pay taxes on the total gain in value of the portfolio. Subtract the dividends on which tax is already paid.



### Capital Gains Preference

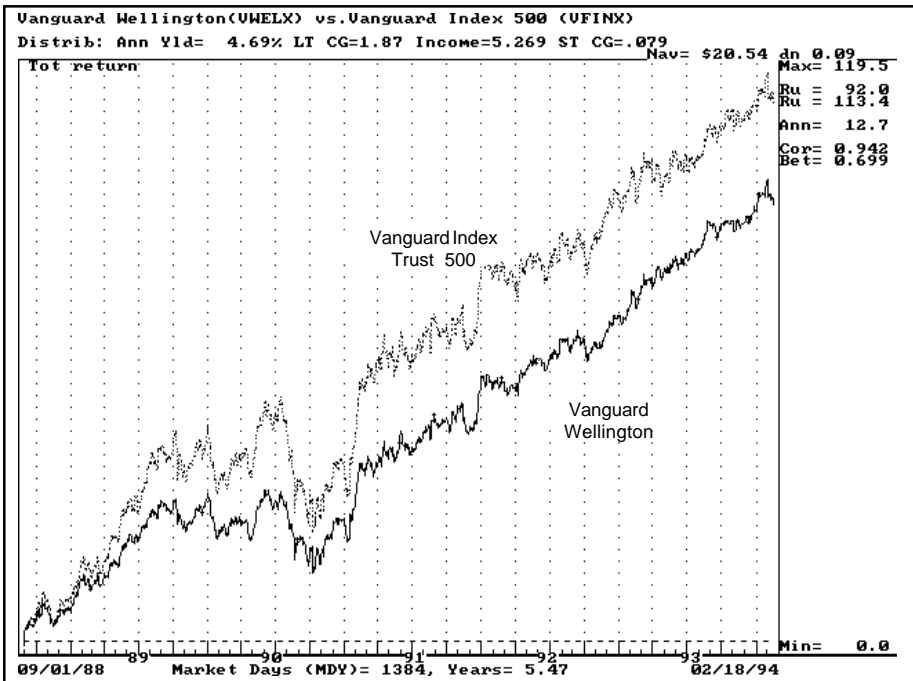
As of this writing the US tax code treats capital gains at a lower rate. This will have the effect of favoring growth-oriented funds. Fund managers will be pressured away from income portfolios to those which have a higher growth component. This means increased volatility and even more reason to use FastTrack to find suitable funds for your portfolio. The characteristics of funds may change dramatically from their patterns of recent years.

Growth funds generally pay lower dividends than other equities but offer greater potential for long-term capital gain. Under the current tax law, long-term capital gains are taxed at a maximum rate of 28%, while dividend income is taxed at rates as high as 39.6%.

## Conservative Fund Example

Vanguard Wellington is an equity income fund that is much less volatile than the S&P 500. While the share price over the most recent 4 years went from \$15.03 to \$20.54, almost two-thirds of the gain came from reinvestment of taxable distributions.

If you just buy-and-hold this fund, then you will pay tax at the highest rate (for income) on virtually all of the gains. Trading this fund using broad market timing suggested in the FastTrack Online Commentary TIMING section could improve returns and may convert some income gains into long-term capital gains.



## The AVG Fund

Every fund family has a special family member, AVG. This is the average fund of the family. The daily changes are averaged and plotted.

**F**

(Choose a fund. Look at the screen bottom.)

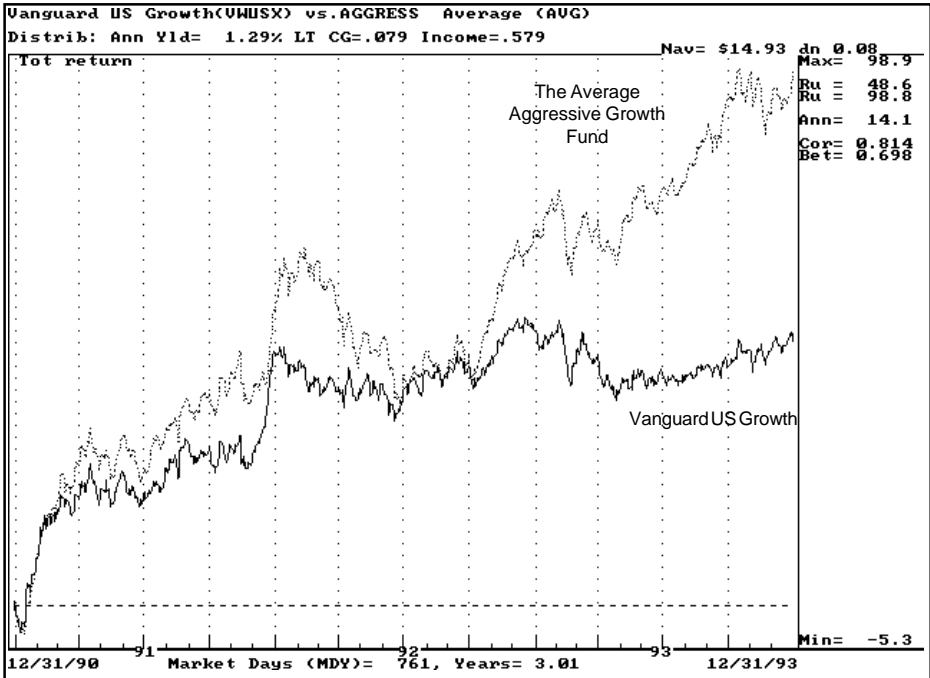
AVG 

(Display average fund for the current family.)

The AVG is only available after a family has been ranked. The AVG is computed for all funds in the family regardless of the length of their existence. Each day's point is computed based on the funds that existed on that day. This means that the AVG of a family composed of stodgy older funds and young go-go funds will become much more volatile over time.

## Aggressive Fund Example

In contrast to Wellington on the facing page, US Growth is Vanguard's most aggressive growth fund. Its share price rose by nearly 40% from \$10.49 to \$14.93 accounting for almost the entire gain. Very little has been paid out in dividends.



## Vanguard's Conservative Philosophy

Vanguard highly promotes the concept that investors should buy-and-hold. They do permit switching, but discourage active traders. The prime advantage, they suggest, is tax avoidance.

Vanguard's aggressive US Growth fund unfortunately seems affected by that same buy and hold philosophy. VWUSX's managers are very slow to trade this fund's portfolio.

The table shows the percent of stocks in the portfolio traded for three recent years.

Year	Turn%	Expense Ratio
1991	30%	0.56%
1992	24%	0.49%
1993	37%	0.49%

During this period the Average aggressive growth fund had a turnover exceeding 100%, a 1.7% expense ratio, and a return double that of the Vanguard fund.

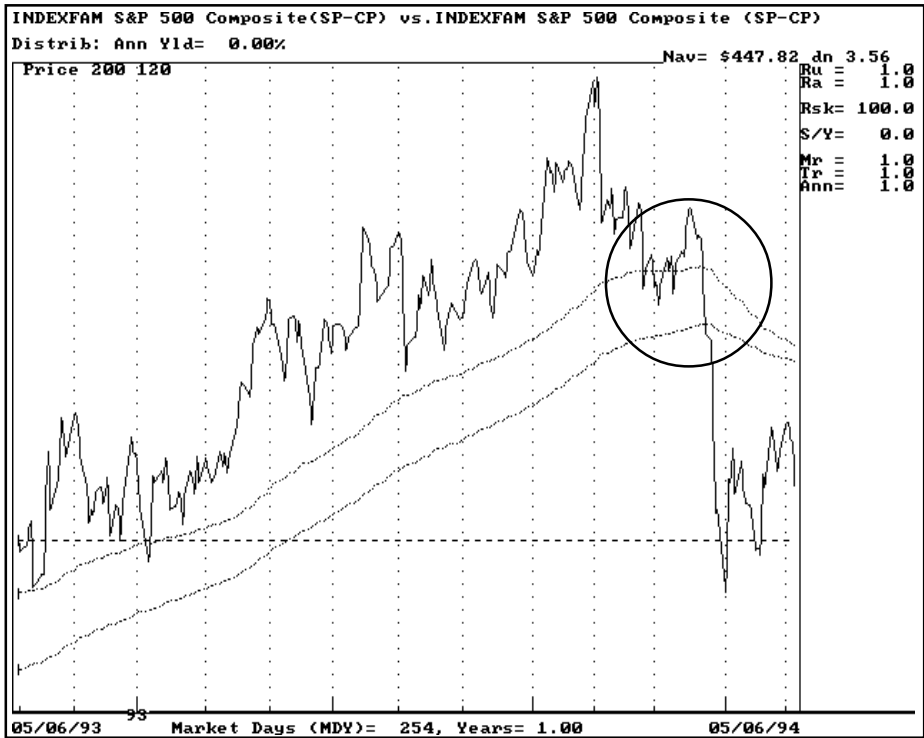
Those holding the Vanguard fund through this period should take little comfort from not having to pay taxes on gains which did not occur.

Over the longer-term, VWUSX will likely catch up to the average aggressive fund to produce average return *despite* periods of underperformance. From 1993-1996 the fund is nearly identical to its sister fund, VFINX, an S&P 500 Index fund.

There are periods where VWUSX, like all funds, will do well and periods where it will do poorly. Use FastTrack to be in VWUSX and enjoy its tax advantages in the good times.

## What about Bear Markets?

Inevitably, bull markets falter. Extreme optimism yields to pessimism. This is the period during which professional traders take money out of the pockets of amateurs. While it is not always possible to pick exact tops and bottoms, it is possible to limit risk.



### Timing Has its Place

The chart shows the P Chart with two moving averages. FastTrack commentary for that period stated, "If the S&P 500 moves between these averages, then the US market is in extreme danger." Further, for well over a year, FastTrack commentary had suggested international markets as much more attractive than US markets.

### FastTrack Said Sell

The S&P 500 did indeed move sharply into the danger area triggering a SELL for just about every US-based mutual fund. While the damage was not great from the 3/25/94 sell, the US market remains in danger of further decline at this section of the manual was written.

### Prepare for Reentry

Because of the huge variety of investments available through funds, there is almost always something to be holding on the long side.

DO NOT play with shorts and other market hedges. Move back into consolidating segments of the markets at the earliest opportunity. You should be in cash as briefly as practical.




See commentary for suggestions. Look for the go-go sectors to make the first moves. Since 1991 this has included the HEALTH and HITECH funds . . . but be prepared for new leadership to emerge especially in the international sector.

# Using FastTrack



This chapter describes the basics of FastTrack much as your car owner's manual tells about the basics of your car. There is a lot of detail about the switches and knobs but very little about how to get to the grocery store.

To use FastTrack, type the following DOS commands:

- C:  (Get to the right disk drive.)  
 CD\FT  (Change to the directory where FastTrack is installed.)  
 FTMENU  (Display the menu below.)

```
FastTrack System
1 > Run the FT charting, ranking, and analysis program.
2 > GO get the data: The data update process.
3 > UPGRADE programs online. If a new version is available, it will be sent.
4 > Print the On-Line Help file
5 > Change Account and Communication information
6 > Backup FastTrack Data to Drive.
7 > Restore FastTrack Data to Drive.
8 > Backup ALL of FastTrack to Drive.
9 > Restore ALL of FastTrack to Drive.
10 > Display a basic check of the FT system
11 > Change the colors displayed in the FTRACK charting program.
12 > Create a FT installation disk for a friend to Drive.
13 > Online integrity check and repair for the FT Database.
14 > Reset 16-bit Com Ports to look like old unbuffered 8-bit ports.
15 > Help screen
16 > Exit menu system.
```

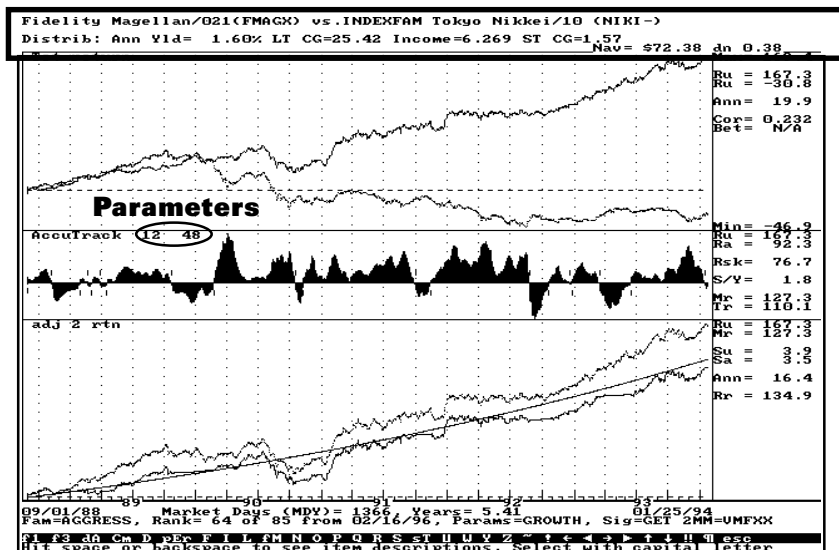
Please select the function by item number.?

This menu shows all the available FastTrack options. The options may vary over time as features are added or removed. Type the number of the function you wish to perform.

## The First Time You Start Up

What you will see is Fidelity Select Electronics as the red line of the top chart and the Dow Jones 30 Industrials as the green line. The display is similar to the illustration on the following page. The display will show a greater date span.

## The Big Picture



- 1 Fidelity Magellan(FMAGX) vs. INDEXFAM Tokyo Nikkei/10 (NIKI-)
- 2 Distrib: Ann Yld= 1.60% LT CG=25.42 Income=6.269 ST CG=1.57
- 3 Nav= \$

### Line 1: Red and Green fund names

NASDAQ Trading Symbol in parentheses. In some cases the symbol is from another exchange or is fabricated by FastTrack.

### Line 2: Distribution information

Ann Yld= The annualized rate of return of income distributions divided by the chart's last NAV.

LT CG= Long-term capital gains from investments held for more than 1 year. Taxed at capital gains rate.

Income = Income dividends paid by stocks in the fund's portfolio. Taxed as ordinary income.

ST CG = Short-term capital gains from the fund's trading of its portfolio. Taxed at the same rate as income.

### Line 3: NAV=

The Net Asset Value of the fund on the last day displayed. Also shows the dollar value up or down since the previous day.

## The Learning Curve

One of the comments we most often get from folks who try FastTrack, but find it too hard is, "I never did my free online updates because I wanted to learn the program first."

The problem with this concept is that out-of-date charts are about as exciting as kissing your grandma. In order to generate the interest level required to learn FT, your data MUST BE current so that you can begin making

at least small investment decisions every time you run the program.

There is no perfect strategy that will always work. Hunting such strategies in historical data is a waste of time. The current FT downloaded commentary tells you what to look for in the current charts and why it works.

We DON'T discourage independent work, but commentary will certainly start you in the right direction.

## Performance Values

These numbers all measure characteristics of the lines on the chart. The values are color-coordinated with the lines that they measure. The values are computed for the period displayed. This means they change when the period changes. Each value has an abbreviated name. The abbreviations are described below.

### Abbreviations

**Ann** = The annualized rate of return for the period on the screen. Color coded to match the line whose return is being measured.

**Bet** = This is a Beta, a measure of the relative volatility of the red line relative to the green line.

The Beta for the red line is computed, providing that the red and green lines are sufficiently correlated (Cor = 0.5 or greater). When the green line is the S&P 500 (SP-CP), then the Beta computed is the classic Beta described in literature.

When the index is not SP-CP, then Beta expresses the relationship between the red fund and the green index. When Beta = 1.5, then the red line would be expected to produce 50% more return than the green line given its greater risk.

**Cor** = The correlation of the red and green lines displayed on the T Chart. When Cor = 1.0, then correlation is perfect. When Cor = -1.0, the correlation is perfectly opposite. When Cor = 0.0, then there is no correlation at all.

**Max** = The maximum percentage gain for either the red line or the green line of the T Chart whichever has been the highest during the period charted.

**Min** = The lowest percentage gain (or the most lost) for either the red line or the green line of the T Chart whichever has been lowest.

**Mr** = Money market return: The total return of the BUY/SELL signals when switching from the fund to a money market. Default money market fund is VMFXX.

**Ra** = The total return affected by the switches of the indicator. When the indicator has a BUY in place, then the return computed is for the red line. When a SELL is in effect, then the return computed is for the green line.

**Rsk** = A computation of risk: The percentage of days during which the indicator is in BUY condition.

**Ru** = The total Return unaffected by timing or switching. Also called the Buy-and-Hold Return. Color coded to match the line. Ru = treats dividends as reinvested and compounded.

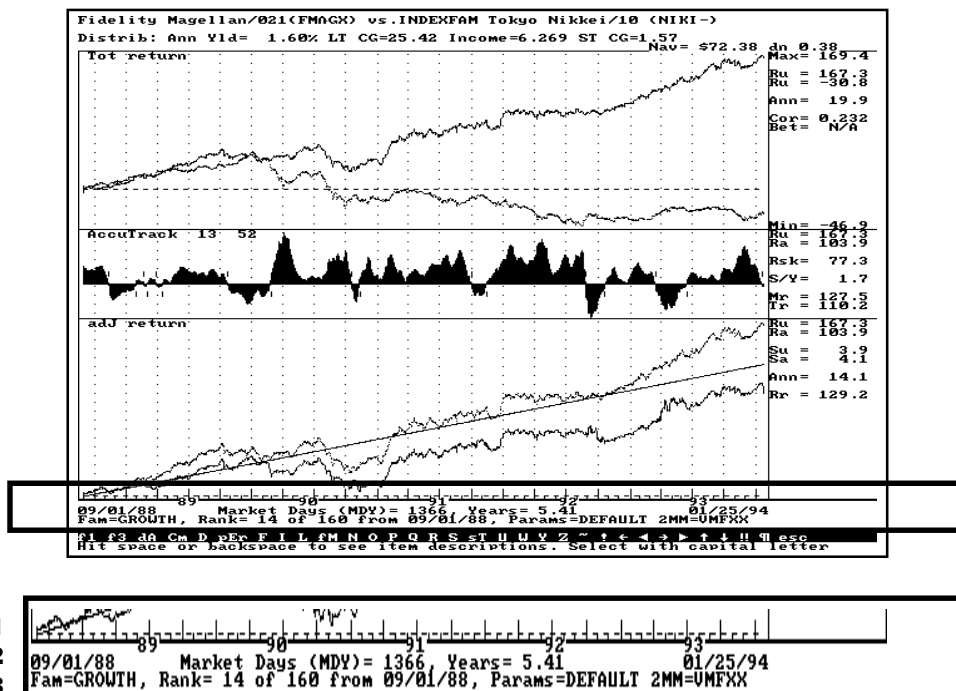
**Rr** = Risk-adjusted return as portrayed by the white line of the J or 2 Chart. Rr = is always computed in the context of the last ranking done. Its value is dependent on the family and the period charted. Generally, funds with high Su = values have high Rr = values and vice-versa for low values.

**Sa** = Standard Deviation affected by BUY/SELLs. This measures the volatility of the J or 2 Chart's yellow line.

**Su** = Standard Deviation unaffected by BUY/SELLs. This is a measurement of the volatility of the J or 2 Chart's red line.

**S/Y** = The number of BUY signals/year annualized for the period of the chart.

## Date Scale and Miscellaneous Information



### Line 1: The date scale

The chart is sectioned by month or quarter depending on the width of the chart. Long-term charts are sectioned by quarter. The year digits are placed in the **middle** of year. The first day of the year is flagged with a tall red dash and red dots. Quarters are flagged with tall blue dashes. Months are flagged with short blue dashes.

### Line 2: Further date information

The beginning and ending dates for the period are in blue. The number of market days (MDY =) displayed is listed. The number of years displayed is listed. MDY = value changes to measure the days between the red and blue poles when displaying the sTatistics menu. When the red pole has not been planted, then MDY = shows the days between the blue pole and the right margin of the chart.

### Line 3:

Fam = The current family.

Rank = The position of the red fund from the last ranking or sorting of the current family. The starting date of the last ranking is displayed but not the ending date. Do a sTat List to see the last ranked date.

Params = The name of the parameter file currently being used. "Default" means that the computer is picking the parameter values, but you can set and save the parameter values yourself.

2MM = The 5-letter symbol of the fund that is currently being used as the money market fund on the 2 Chart. You can change to a different fund or index with the U command.

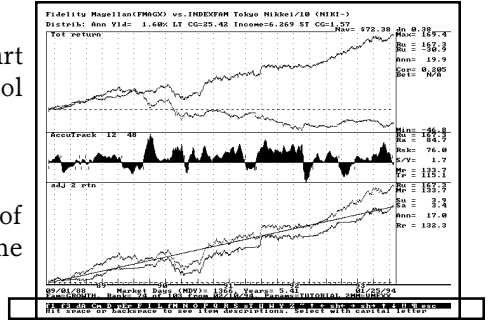
Sig = (Not shown) The signal set currently being used.





☞ Review this section to learn how to chart your favorite funds and how to control FastTrack.

☞ The following pages describe the use of the command menu at the bottom of the screen.

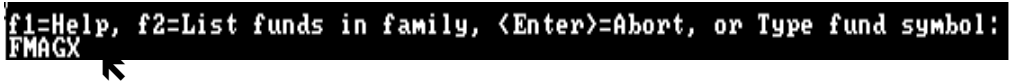


## Using the Menu System

The menu at the bottom of the screen contains an abbreviated list of available commands. To select a command hit the capitalized letter in the command. Some commands execute immediately. For example, the D command redraws the screen.



Some commands require additional information. For example, hitting **F** immediately prompts for the name of a fund at the screen bottom.



You type in the 5-letter symbol that stock brokers use to identify the fund.

Some commands bring up new menus. For example, the main menu **T** brings up this new sTatistics menu. Hit **Esc** (Esc) to return to the original menu.



Some commands bring up new menus or totally different screens (not charts). These include the commands below.



Finally, some commands change the charts from fund to fund and shift the date ranges displayed on the charts. The commands are described in detail later in this section.



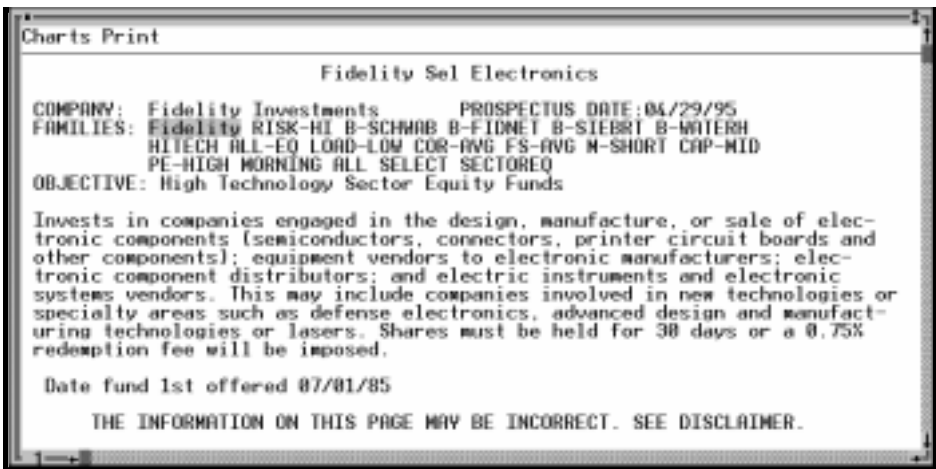


## Fund Information - F3



```
F1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! < - > + ↑ ↓ || ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

FastTrack contains an abstract of each fund's prospectus. The information includes the fund's objective and the offering company's address and phone number. Strike the F3 from the main command menu. This will display the fund abstract for the current fund. The charts disappear and the following screen is displayed for the current fund.



If you hit the return key ↵ with Fidelity highlighted, the screen will switch to an investment company information screen, in this case Fidelity, that includes the address and telephone number of the investment company. You may get additional information on the definition of terms (those highlighted in yellow) by hitting Tab to move from term to term. For more information on the highlighted term, hit ↵.

See the description of Online Help to learn more about controlling this screen. The same program displays these screens and the Online Help screens. Esc (Esc) returns to the FastTrack chart.

## Exporting Data - A



```
F1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! < - > + ↑ ↓ || ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

The A command exports data from the FastTrack database. The export is done for the fund currently displayed or for an entire family. The output includes date, closing prices, and dividends in formats that can be used by popular spreadsheet programs without further processing. There are multiple levels of menus. The topic of exporting is too complex to be discussed in this section. See the chapter, *Exporting Data to Other Programs*.

## Reading FastTrack Commentary - [C]



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! ← → ▶ ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

COMMENTARY IS AN ESSENTIAL PART OF FASTTRACK. READ THIS SECTION CAREFULLY.

When you receive a data update, you also receive the latest market commentaries. To read or print the commentary, type:

[C]

(Select the C command.)

### Viewing the Commentary Library

Commentary number. Primary use is to present the commentaries in sorted, logical order.

New, unread commentaries. Denoted by a "\*" ✱

Indicates there are hidden subheadings

Comments are dated as written

Commentaries on disk: 129 Commentaries listed: 34

4376	06/30/95 SELL JAPAN
4378	*06/28/95 BUY JAPAN
4379	*06/16/95 WATCH JAPAN
4381	*03/31/95 WATCH JAPAN
4382	*03/15/95 WATCH JAPAN
4383	*02/24/95 WATCH - JAPAN Continues into the Abyss
4384	*01/19/95 SELL - JAPAN breaks below 12/14/94 Close
4400 +	Emerging Country Funds (Defined)
4500 +	Fidelity Latin America - LATIN family funds
4600 +	International Junk Bonds, The INTLJUNK family
4700 +	NEW-ASIA funds (What are they?)
4800	*05/26/95 - EUROPE BUY
5000 -	SECTOR FUNDS INCLUDING THE FIDELITY SELECTS (Defined)
5100 +	HEALTH FUNDS

Press <ALT> and highlighted key to activate buttons, or click on them with the left button of your mouse.

View

Print

New Topics

Section

Clear \*

Help

Expand

Collapse

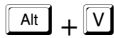






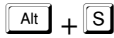










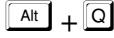
Expand All

Collapse All

Quit

Screen Buttons

The commentary screen buttons perform the following functions:

-  Displays the contents of the commentary. Use the     keys to move through the commentary.
-  Prints the whole commentary to the printer in 55-line pages.
-  Displays all new commentaries. New topics are marked by a " \* " .
-  Displays the commentary section by section.
-  Clears all " \* "s, removing all new commentary markers.
-  Expands the highlighted section of commentary, revealing the related topics.
-  Collapses the highlighted section of commentary hiding the related topics.
-  Expands all sections of commentary, revealing the related topics.
-  Collapses all sections of commentary, hiding the related topics.
-  Displays the online help for the commentary function. In help use     to move around in the text.
-  Exits the commentary functions and returns to FastTrack charts.

### What's in the Commentary Library?

1000 Series - General Topics

2000 Series - Market Overview

3000 Series - Broadly Diversified US Equity Funds

4000 Series - International Fund Trading

5000 Series - Sector Funds Including The Fidelity Selects

This series of 5-10 strategies are currently producing good trading results. While some strategies are short-lived, some have been working well for years and will likely continue to work in the future.

Strategies are updated regularly as market conditions change. The strategies are dated and continue to appear in the commentary so long as they are relevant.

6000 Series -To be Defined

7000 Series - To be Defined.

8000 Series - Complementary Products For FastTrackers

9000 Series - User Group and Miscellaneous Topics

This commentary list the cities, leaders, phone numbers, and next meeting dates of FastTrack user groups worldwide. It is updated every Friday. It also describes the use of Prodigy and other popular online forums that have FastTrack discussion groups.

## Drawing the Charts - **D**



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! ← ◀ ▶ ▶ ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

The D Command redraws the charts. Normally, this isn't necessary. FastTrack will automatically redraw the charts when needed. However, there are two particular circumstances where this command is necessary:

- 1) If you hit the <Spacebar> when the charts are drawing, then the drawing will terminate when the current chart is completely drawn.
- 2) When running under Windows or some shell programs, the screen may not be restored perfectly after switching between programs.

## Changing the pEriod Charted - **E**



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! ← ◀ ▶ ▶ ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

The E Command provides a quick, 2 keystroke way to display a period on the screen. It brings up a second menu of period options at the bottom of the display.

```
1m 2m 3m 6m 9m Year One-yr Two-yr tHree-yr Prev-yr Next-yr All Start esc
Choose the period you want to see on the screen.
```

- |          |  |
|----------|--|
| 1m       | Chart one month (30 calendar days) of data.  |
| 2m       | Chart two months (60 calendar days).   |
| 3m       | Chart three months (90 calendar days).   |
| 6m       | Chart six months.  |
| 9m       | Chart nine months.   |
| Year     | Chart from the last day of the database back to the start of the year.   |
| One-yr   | Chart the most recent 365 calendar days.   |
| Two-yr   | Chart the most recent two years.   |
| tHree-yr | Chart the most recent three years.   |
| fiVe-yr  | Chart the most recent five years.  |
| Next-yr  | Chart forward 1 calendar year after the year currently charted.  |
| Prev-yr  | Chart back 1 calendar year before the year currently charted.  |
| All      | Chart all the data in the database.  |
| Start    | Chart the data from the inception of the red line. If the red fund line only has 122 days of data, then start the chart at the beginning of that 122 days. |

## Displaying the Red Line -



There are four ways to choose the red fund line that you want to display from the main command menu:

- 1 Display the charts of the funds in the current family one at a time.



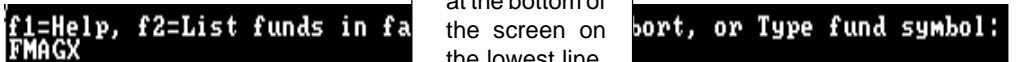
(Select the fund with the next smaller rank number.)

(Select the fund with the next larger rank number.)

(Select top-ranked fund with smallest rank number.)

(Select lowest-ranked fund with largest rank number.)

- 2 Enter a 5-letter fund symbol.



(Hit F. Look at the prompt on the bottom of the screen.)

FMAGX 

(Enter the 5-letter symbol for a fund.)

**YOU MAY ALSO USE AN INDEX, LIKE DJ-30, AS THE RED FUND LINE BY TYPING ITS SYMBOL.**

- 3 Use the N command.

FastTrack prompts for the ranked sequence number of the fund in the current family. Using this command you could display the 5th, 10th, etc. ranked fund. See references under "Ranking funds" in the index.



Type a number here.

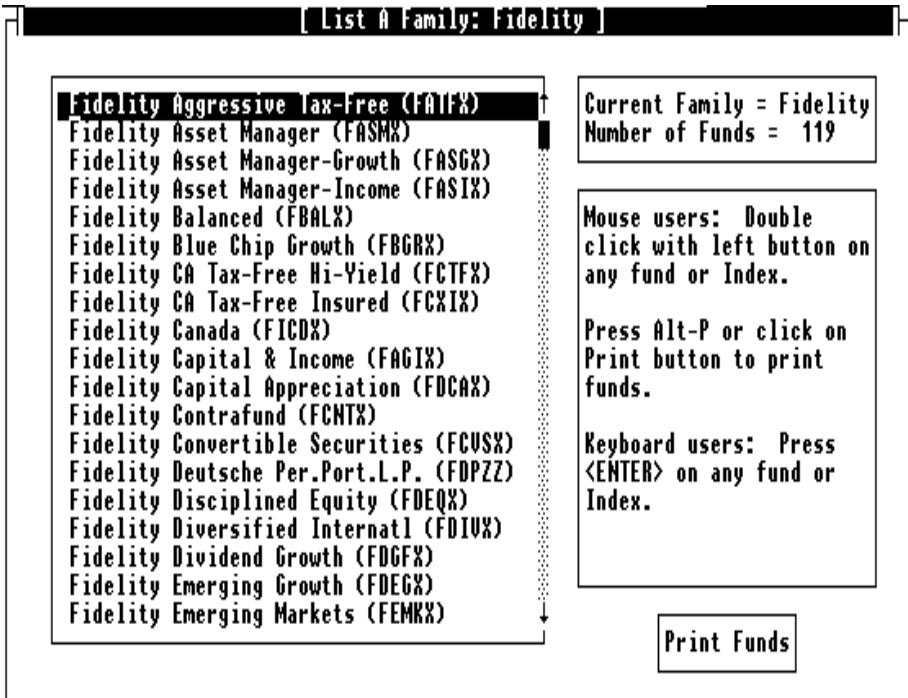
- 4 If you don't know the symbol for the fund, display the family's funds. Choose the fund from a list of all the funds in a family.



(Picks the F command to change funds.)

(Display the list of funds in the family.)





## Display the Funds in a Family

What you will see is a display similar to the above screen. The funds are members of the current family. You may see different fund names if you are not in Fidelity.

Use the keys below to display the full list.



Moves from fund to fund. The highlighted (darkened) area moves.



PgUp/PgDn shows the previous/next pages of funds since there may be too many to be viewed on a single screen.



End moves to the beginning/end of the fund list.




Selects the highlighted fund. Returns to the charts and displays the chosen fund as the red line.



Esc returns to the previously displayed chart (no changes).

## Not Often Used

You won't be using this screen much after a few sessions because:

- 1) You will begin to know your funds' 5-letter symbols.
- 2) You will have created a "personal" family of the funds that are your frequently viewed funds. Just use the  keys to move from fund to fund within this family without having to go to this selection screen.

## Displaying the Green Line -



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! < < > > ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

FastTrack uses indices to put the charts of funds in context. In the Total Return Chart both the red fund and the green index display on the same scale, making meaningful comparison possible.

The two most popular indices are Dow Jones 30 Industrials (DJ-30) and Standard and Poor 500 (SP-CP). Type:

(Selects the I command. Look at the bottom of the screen.)

(The Standard and Poor 500 Index symbol.)

**YOU MAY ALSO USE A FUND AS AN INDEX BY TYPING ITS 5-LETTER SYMBOL.**

If you do not know the symbol for an index, print a sorted listing of the ALL family as described in the sTatistics Chapter. If this printout is not handy, type,

(Selects the I command.)

(Displays a list of market indices.)

Use arrow keys to move from choice to choice for the index. When the index you want to use is highlighted, hit,



(Selects the highlighted index, then FastTrack draws a new chart using the selected index.)



## Changing Colors to Black and White -



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! < < > > ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

There are two reasons to change the chart to black and white.

- 1) You may be using a black and white display temporarily, for example, if you have a laptop that you use on trips. Often FastTrack's colors look muddy and unclear on laptop screens. Using  will make the charts crisper.
- 2) You are using a screen printing program. Most screen print programs have problems rendering colors to a clear black and white print image. Using  may help.

If you hit  accidentally and lose the colors, then hit  again to restore colors.

## Selecting Families - **[M]**

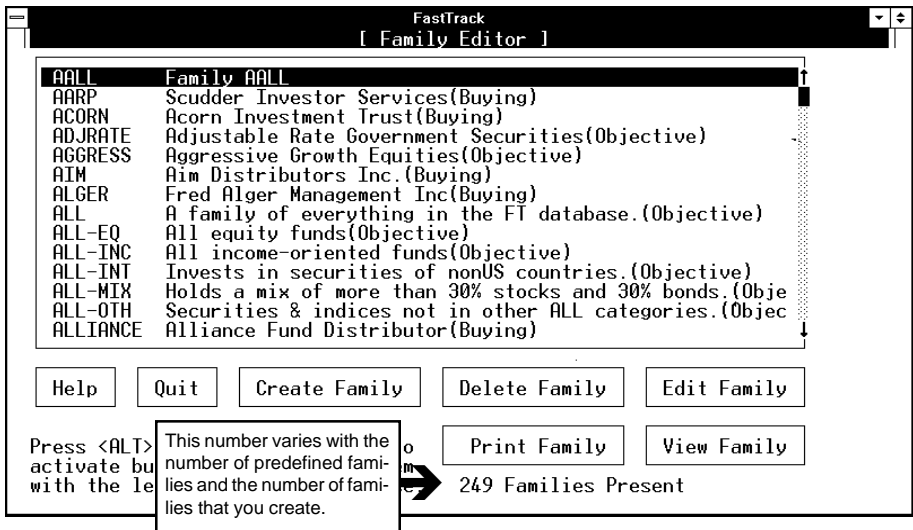


```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! < < > > > > !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

Go back and read the *Ground Work* chapter if you don't know why you need families of funds. To view the funds in a family or create new families see the *Family Editor* chapter.

There are two ways to select a family:

- 1 Hit **[M]**. FastTrack prompts for a family name at the bottom of the screen. For example, type "Fidelity", then hit **[↵]**.
- 2 If you don't know the family name or its FastTrack abbreviation, hit **[F2]** for a list of families. This brings up a new screen.



Move the highlight up and down in the family with **[↑]** **[↓]** **[Page Up]** **[Page Down]**. Hit any alphabetic character and the list will skip to the families that begin with that letter. Hit **[↵]** to select the highlighted family, or select by double-clicking on a family with the mouse. After selecting a family, the Family Editor terminates and returns to the charting program. FastTrack will rank the new family if it has never been ranked before.

## Displaying Funds by Rank Number - **[N]**





```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! < < > > > > !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

This command is covered in the F command a few pages earlier in this manual.

## Turning Off Fund Names -



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! ← ← → ► ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

Hit  to turn off the fund names at the top of the chart. Another  turns the names back on.

While you are learning how to interpret chart patterns, it is sometimes helpful to turn off the fund names when training yourself on chart interpretation. After a while you will know by name which funds did well and which did poorly.

## Choosing which Charts Display -



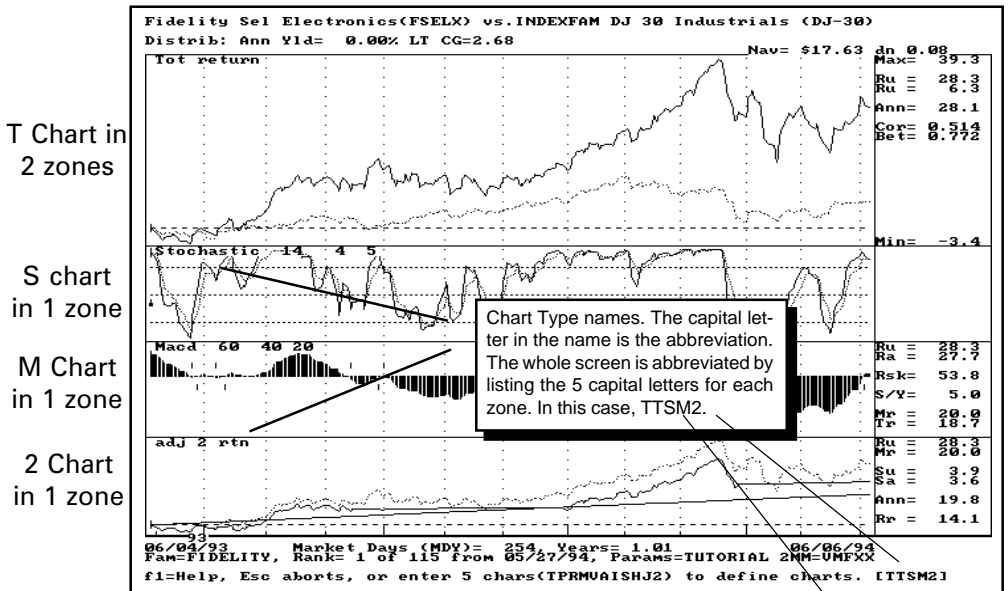
```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! ← ← → ► ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

Read this section to learn how to change the size and number of charts and indicators on the screen.

FastTrack Version 4.0 supports eleven different charts and indicator types. There may be additional types available in later versions of FastTrack. The charts are discussed individually later in this manual. Current types include:

- **A**ccuTrack indicator
- Ad**J**usted Return
- Adjusted Return **2**
- **P**rice
- **M**oving Average Convergence/Divergence (MACD) indicator
- mo**V**ing Average indicator
- **R**elative Strength indicator
- Stochastics **H**istogram indicator
- **S**tochastics line indicator
- **T**otal Return Chart
- Welles Wilder **R**SI indicator

The screen is divided into five zones. A chart may occupy one or all these zones. Use the **P** command, then enter a letter for each zone to place charts on the screen and control chart size. The chart below is a TTSM2 chart. Note, the T chart is double height compared to the other charts because of the double T in "TTSM2".



When you select **Put**, the bottom line of the screen asks for 5 characters. These letters control type types of charts displayed and how many of 5 zones each chart occupies.

**f1=Help, Esc aborts, or enter 5 chars(TPRMVAISHJ2) to define charts. [TTSM2]**

↖ Letters typed appear at the bottom of the screen.

Examples of what you might enter at this point are,

TTTTT	(The Total Return Chart displays full screen.)
T	(Implies TTTTT . The last character is extended.)
TTTTTTTTT	(Implies TTTTT . The extra characters are truncated.)
TTTTA	(Total Return Chart takes 4 zones of the screen and AccuTrack indicator takes 1 zone.)
TTTAM	(Total Return Chart takes 3 zones of screen, AccuTrack and MACD split the remaining 2 zones.)
TAM	(Implies TAMMM. The last character is extended.)
TRVMA	(Five chart types are displayed simultaneously.)

Examples of incorrect entries are,


TTATT	(Total Return Chart is split.)
GK*FG	(Invalid characters.)

## User Defined Buy/Sell Signals -



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! ← → ▶ ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```


You can devise your own systems using the various indicators in combination. You might use timing signals given to you by your favorite newsletter writer. FastTrack will chart the total return of these signal sets just like it does for its own indicators. Signals display on the S or I chart, therefore, at least one of these charts **MUST** be displayed before the S command will work.


After hitting  a Signal menu appears with new options.


```
f1 Buy Sell Delete Edit Reset sAVE Get Load sh← ← sh→ → ▶ ← esc
Exit signal menu and return to the main menu.
```


These are all commands to create, save, and load signal sets that contain buys and sells. The signals in this chart can be created/loaded five ways.


### 1 Creating New Signals


Hit the arrow keys to **move** a blue pole across the screen. The  + numeric-pad-arrow keys move the pole fast. When the pole rests on the desired date, hit one of the command keys shown on the Signal menu. These include:

 for BUY. This places a tic mark below the S Chart's centerline at the blue pole location.

 for SELL. This places a tic mark above the centerline of the S chart at the pole location.

 to delete an existing signal. This removes the tic at the pole location.


 to reset (clear) all signals. This removes all tics from the chart.


 Esc when finished. This returns to the main menu, recomputes the performance values, and redraws the J or 2 chart that are below the S or I chart on which the signals are recorded.

### 2 Load Predefined Signal Sets



Hit the <Spacebar> to step through the available signals. Look at the bottom line of the screen for the signal names and descriptions.

Some signal sets are installed with FastTrack. When the signals you want are shown on the bottom of the screen, then .

Alternately, you may key the name of the signal set, then . The signals will then display on the S or I chart and will affect the performance of the yellow line of the J or 2 chart below the signals.


### 3 Create Your Signal Text File

Start your favorite text editor. Follow the file format shown in method #4 on the next page. Save the file as a text file in the \FT directory. Name the file ANYNAME.SIG. (Replace ANYNAME with any valid file name you care to use.)

#### 4 Create a signal file by using the E command from the Signal command menu to start the signal editor. This brings up a prompt.







```
F1=help. What signal file to edit? Enter name, <Esc>, <Enter> [FSELX.SIG]
fmagx
```


Name in brackets is the current signal set being used.

You key in a name here, or hit  to use the name in brackets, if any. This puts you into FastTrack's text editor. Key in the signal type and date in the format below. Leading zeros are not necessary. Two digits for MM and DD are not necessary. Date may also be in the format 10-Jan-1992, or January 10, 1992 (space after comma required).

"314Set Description"                      This line required. Must start with 314  
 B, MM/DD/YY  
 S, MM/DD/YY

```
ED Version 2.10 MS-C                      Current directory: C:\FT
... FMAGX.SIG
... Press F1 for Help.
=Mon Aug 14 1995=                      Line=0010=Col=0011=Ins=                      57863=10:04:02=
"314Sean Rowan's Signals"
B,09/01/93
S,11/03/93
B,11/23/93
S,02/03/94
B,02/24/94
S,03/14/94
B,03/28/94
S,06/26/94
B,07/03/94_
```



 displays a full list of the editing commands.  
 Hint:      are about all anyone needs.

Hit  (Esc) when you are done and want to save the signal set to disk.

```
ED Version 2.10 MS-C                      Current directory: C:\FT
Save modified file? Y
... strike Y to save, N to discard changes, or Esc to keep editing
=Mon Aug 14 1995=                      Line=0010=Col=0011=Ins=                      57863=10:31:49=
```

Hit , , or  (Esc) as indicated.

```
ED Version 2.10 MS-C                      Current directory: C:\FT
Edit Another file(E) or exit back to FastTrack (esc)E
=Mon Aug 14 1995=                      Line=0010=Col=0011=Ins=                      57863=10:42:43=
```

Hit  or  (Esc) as indicated to return to the charts.

**5 "Get" gets the signals from the last computed indicator** and places them in the S or I chart. A common use of Get is to save AccuTrack signals and then change the fund or index, but still retaining the signals from the previous fund and index. Try the following:

Step a

- W** 9/1/88 **J** 8/7/92 (Display dates shown in the chart on the next page.)
- F** FMAGX (Select the Fidelity Magellan fund.)
- I** DJ-30 (Make the Dow 30 as the index.)
- P** TTASS (Display Total Return, AccuTrack, and Stochastics.)
- U** then move cursor (Start the parameter editor.)
- 12 **J** 48 **J** (Set AccuTrack parameters to 12 48 then return to the main menu.)
- S** **G** (Display the Signal menu and do the Get command.)

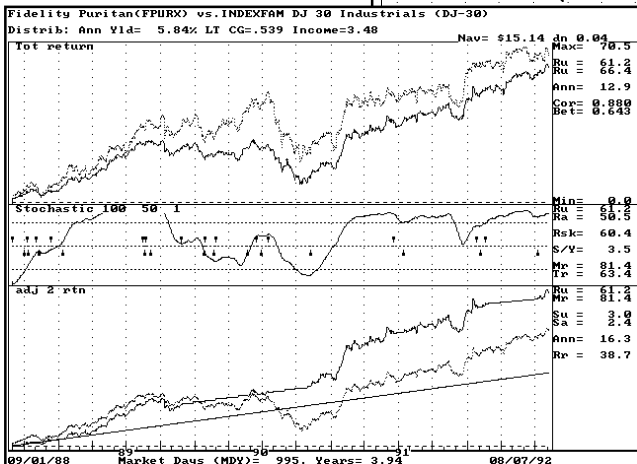
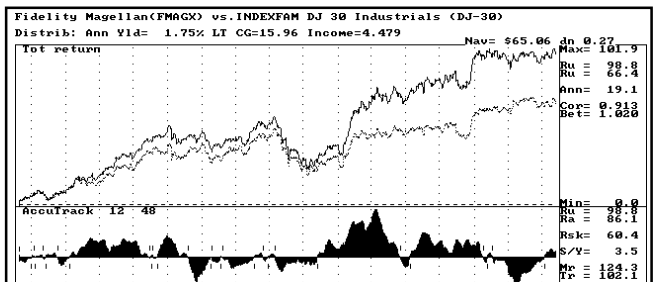
Step b

- F** then FPURX (Change fund to the conservative Puritan Fund.)
- P** then TTS22 (Display Total Return, Stochastic, and 2 Charts.)

The steps on the previous page produce the charts below. The resulting timing strategy produced better gain (Mr =) versus a buy-and-hold. The extra return was achieved on top of reduced risk. (Note that Sa = is lower than Su =.)

**Step a:**

Get the volatile Fidelity Magellan fund's AccuTrack signals on the S Chart. Use signals preserved in the S Chart to time Fidelity Puritan. Both funds follow the movements of the broad market. →



**Step b:**

Change the fund to the more conservative Fidelity Puritan fund. Its price movements produce signals that are too late for optimum profits. Magellan's generated and saved signals provide superior timing for Puritan. ←



### Getting Details from the Chart - **T**



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W V Z ~ ! < - > + - > !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

Once a chart is displayed, you can get detailed information from it by using the sTatistics menu. **This menu has a whole chapter with illustrations devoted to it** later in this manual. The sTatistics menu has a different set of options, but otherwise works just like the Main Command Menu. Get the sTatistics menu by selecting the T command from the Main Command Menu.



(Enters the sTatistics menu.)

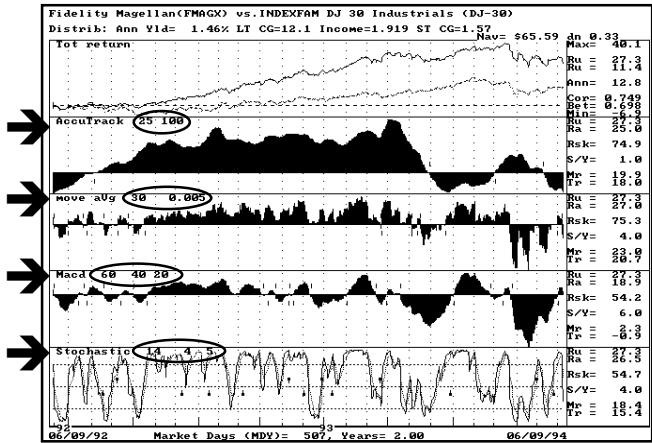
The sTatistics display tells the price of the charted fund and index on a particular day and computes the total return for any given period.

### Changing Indicator Parameters - **U**



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W V Z ~ ! < - > + - > !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

The numbers next to the chart names are the parameters that were used to draw the chart.



Parameters specify the length of the averages used to compute the indicators. Each indicator shows the current parameter settings to the right of the indicator name. Some indicators have one parameter, others two or three parameters.

Parameters are specified in market days. A parameter of 50 means averaging over 50 market days. This is equivalent to averaging for 10 calendar weeks.

In general, increasing parameter values decreases the switches/year. Decreasing

parameter values increases the switches/year. The optimum parameter value yields the greatest total return with an acceptable number of switches/year.

Parameter values may be user-set or default. Default values are computed internally by FastTrack depending on the volatility of the fund. User-set parameters stay set to the values you enter. They do not change as you move from fund to fund. The calculation of the default values is discussed in Appendix B.

## Parameter Editor

Hit **U** to invoke the Parameter Editor. Once the Editor's screen appears, use:



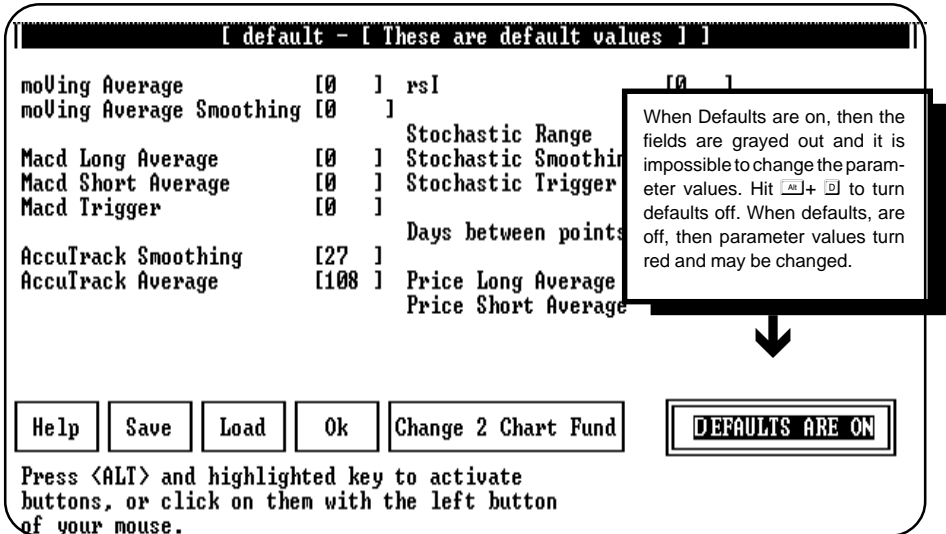
(To move from field to field and button to button.)



(To clear the numbers in a field.)



(To type over numbers in a field.)



### What Are All These Fields?

The proper parameter settings are discussed through out this book and the online commentary. There is one field that needs discussion here: Days between Points. This is the number of days between points plotted on the screen.

If you have a slow computer this parameter will speed screen drawing. The technical indicator tic marks are still computed using daily data. Changing this parameter doesn't affect performance values or the positioning of signals.

### "Change 2 Chart Fund" Button

The 2 Chart shows the return of a switching strategy when trading between the red fund line and another fund. This other fund is the fund set by pushing this button. By default this value is set to a typical money market fund, VMFXX. However, you may set this to any fund or index.

Many of the examples in this book and in the online commentaries assume that the 2 Chart fund is VMFXX. If you change the 2 Chart fund, then the screen will not match these examples.

### Help Button

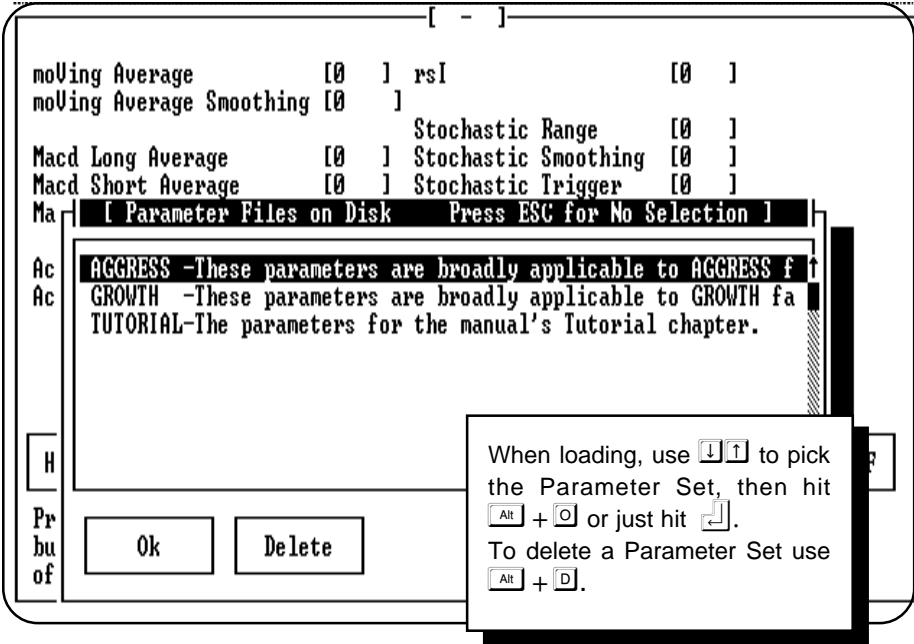
This button displays text that describes the functions of the buttons and the fields.

### Default On/Off

The button turns off/on when pushed. When "ON", FastTrack computes default values based on the volatility of the red line. The parameters will change with each fund displayed. When "OFF", you choose the parameter values. The parameters will stay the same until you change them or turn the button "ON". **Default values are in no sense optimal or recommended.**

**Load/Save Buttons**

These buttons let you load or save Parameter Sets. Once you have changed the parameters to values that you like for a particular purpose, then **Alt** + **S** to save the settings to disk. Once saved, these parameters may be loaded using **Alt** + **L**.



**Why Would you Change Parameters?**

Longer parameters produce fewer signals, but make the indicator less responsive. Shorter signals may whipsaw unnecessarily. However, picking the "best" parameters for future profits is better left for soothsayers and crystal ball gazers.

FastTrack's Online Commentary will suggest appropriate parameter settings for some type of funds, but not for most types.

FastTrack's emphasis is picking the best funds that are experiencing the strongest trends. If you are successful at selection, then parameter settings will not be terribly important.

**How about the Default Parameters?**

Sorry, there is nothing magical about the default parameters. They are based on the volatility of the fund and do a decent job in many situations.

AccuTrack defaults are pretty good, but MACD defaults are often totally inappropriate.

**Default parameters are NOT recommendations of Investors FastTrack. No investing strategy based on following the default signals will be successful over the long term.**

# Set Delay between Getting a Signal and Making the Trade - Q



```
F1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W V Z ~ * ! < - > + - / \ | _ { } ~ ~ ~
Hit space or backspace to see item descriptions. Select with capital letter
```

By default, the performance of the indicator is computed by using the closing prices on the following day.

- 1) In the evening you get a sell signal.
- 2) The next morning you call the fund's 800 number.
- 3) At the market close, the fund company executes the trade at the closing price.

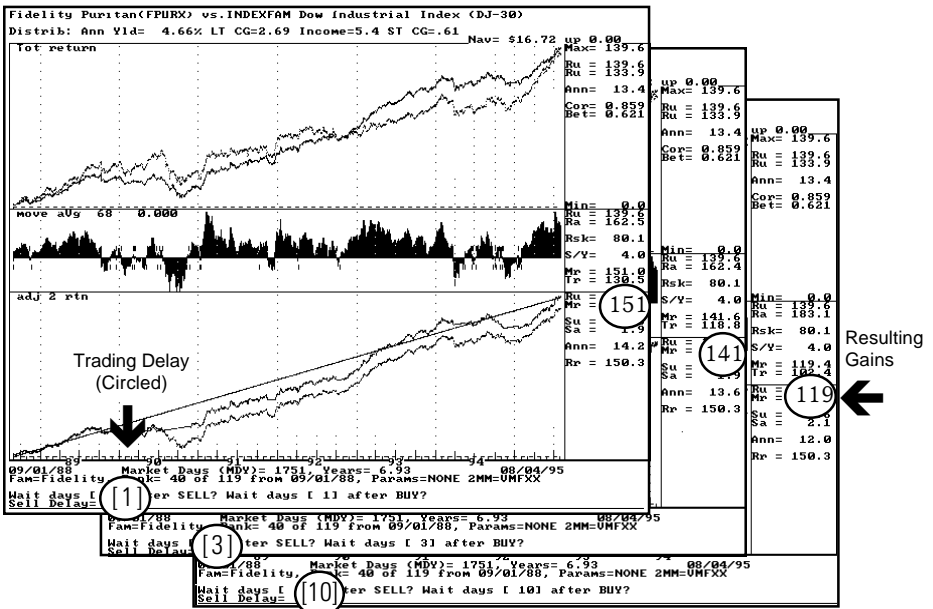
But you can change this trading delay to suit your trading style.

## Change the Trading Delay Factor

Use the Q command. Q sets the days between the signal and the execution of the trade for performance computations.

If you typically make decisions based on today's trading and can call in your trade before the market closes, then set both BUY and SELL delay to 0.

If you believe that your special insight will lead to a decision a day sooner than the signal, then set Q to -1 (yes, a negative number).

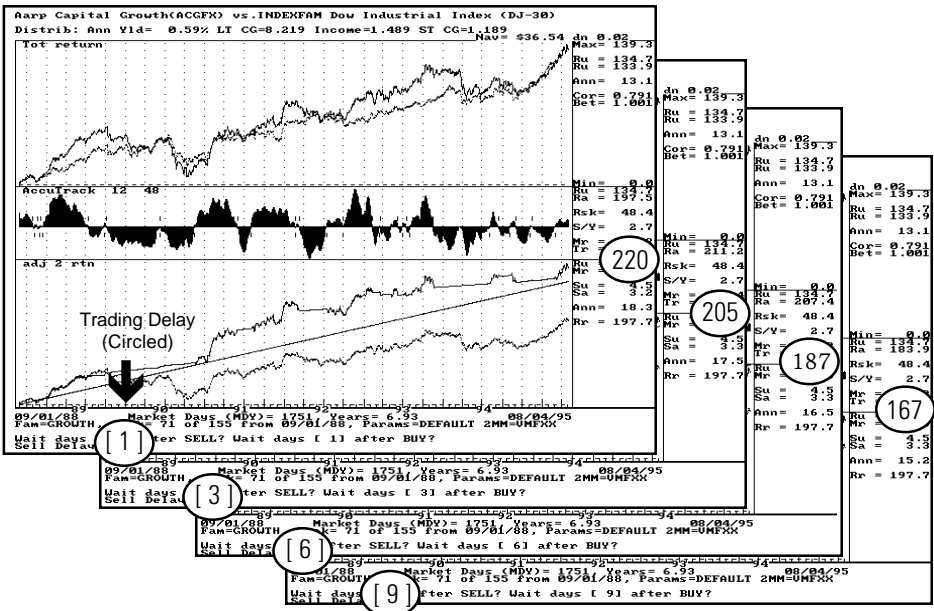


## Can I wait a while to see if it is a good signal?

Not every investor will make his decision to trade immediately. This can have a dramatic impact on the success of your trading strategy.

Puritan is a conservative fund. Conservative funds are forgiving of delays. Since they move more slowly, you can take more time to make your decision. In

the charts above, Puritan's return fades with increased delay using a moving average indicator. Moving average is particularly sensitive to trading delays because its signals are generated by breaking a trend. Usually half the move will happen very quickly after a moving average's signal.



AARP Capital Growth is a more aggressive fund. Growth funds don't do well with a moving average, so this example uses AccuTrack.

AccuTrack is much more forgiving of delays than moving average. The relative strength trends charted by AccuTrack are longer lasting than the price direction trends charted by moving averages. This means that AccuTrack gives more time to make decision.

In the example above, delays from 1-9 days still had timed returns above buy-and-hold. In fact, no AccuTrack setting we tested from 1-30 produced a worse than buy and hold return.

AccuTrack is not always so wonderful for timing such as shown in this example. Fully invested selection strategies as highlighted elsewhere in the manual are better. In such strategies, the impact of delays is even less than shown above.

## Drawing Trendlines on Charts - R



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! < - > + * / \ | _ ` ~ ~ ~
hit space or backspace to see item descriptions. Select with capital letter
```

This command draws one or more trendlines at any location on the chart. There is a whole chapter, *Trading Patterns*, in this manual devoted to interpretation of trendlines.

Trendlines are a useful, traditional method of technical analysis. Where a trend is "broken" (the NAV line crosses the trendline), then examine other indicators for buy/sell signals.

When drawing trendlines, there is a dedicated menu of commands just for controlling the movement of a small X-shaped cursor. The X initially appears in the middle of the screen.

FastTrack does not remember trendlines from screen to screen. This means that if you draw trendlines and then perform a command that redraws the screen, then the trendlines will be lost.



- \* Hit **[R]** to execute the "tRnd" command. An "X" marker appears at the center of the screen. The center of the X marks the location of one end of the trendline.
  - \* Hit the **[↑]**, **[↓]**, **[→]** and **[←]** keys to move the marker horizontally and vertically. **[Home]** and **[End]** move the marker diagonally. Holding down **[Shift]** + numeric-pad movement key moves the marker faster. Note that this key combination actually generates numbers 1-9 . . . you could just hit the number keys to get the same effect.
  - \* Move the marker to the point where you want to start a trendline, then hit **[S]**. This anchors the start of the line.
  - \* Use the movement keys to move the marker toward the trendline end. As you move the marker, the trendline stretches like a rubber band. When the trendline is properly located, hit **[E]** to anchor the end. The trendline is locked in place. You may now move the marker anywhere else you like to start a new trend.
  - \* After starting a line, hit **[C]** to erase the line and return the marker to its start.
  - \* Hit **[Esc]** to exit the trendline submenu and return to the Main Command Menu. Trendlines remain on the charts until the screen is redrawn. NOTE: The Set command, does not redraw trendlines in the Stochastics or RSI chart. These will be lost.
- Wait! My Chart Has Different Numbers**
- It is normal that not all numbers on this printed page will match what you see on your display. See *Appendix B, Weird Num-*

## Choosing a Time Period - **W**



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! < - > + ↑ ↓ || 9| esc
hit space or backspace to see item descriptions. Select with capital letter
```

It is helpful to view funds for both long, medium, and short periods. The chart's beginning and ending dates can be set. Using the W command brings up a submenu.

```
1=Help or Enter new start date. Current=09/01/88. <enter> for [09/01/88]
```

The form of dates can vary. Leading zeros are not required. Type the date, then **↵**:

MM/DD/YYYY	(For example, 12/25/1989 or 01/03/1991)
M/D/YY	(For example, 1/1/90 or 1/01/90)
M/D	(4/1, 04/01, 04/1, 4/01. Assumes the current year.)

If the date is out of the beginning or ending range of the data, FastTrack gives you a chance to reenter. If the date falls on a market holiday, FastTrack uses the market day before the holiday.

## Shifting the Period with Arrow Keys



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W Y Z ~ ! < - > + ↑ ↓ || 9| esc
hit space or backspace to see item descriptions. Select with capital letter
```

Hitting the **←** **→** causes FastTrack to shift periods displayed. This is more convenient than using the W command and retyping two dates.

<b>←</b>	(Back a week)
<b>Shift</b> + <b>Tab</b>	(Back a month)
<b>→</b>	(Forward a week)
<b>Tab</b>	(Forward a month)

The **←** **→** move the left/right end dates of the chart backward/forward by one week. The chart is redrawn automatically. The **Shift** + **Tab** or **Tab** move the chart end dates backward and forward 30 days.

Note: **↑** **↓** move up to higher ranked funds in the current fund family and down to lower ranked funds. The end dates of the chart remain unchanged.

## Shell Out to DOS - **[Y]**



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W V Z ~ ! ← ← → → ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

The **[Y]** command shells out to DOS. This means you get a C:\FT prompt. At the prompt you can do DOS functions or run other programs. You must type "exit" at the DOS Prompt to return to the FastTrack charts.

FastTrack remains in memory reducing the amount of memory available for

other use. Therefore, you cannot run your largest programs in this environment. If this becomes a problem, consider upgrading to MS-DOS 6 if you have not already done so. DOS 6 provides more program space than prior versions of DOS.

**Do not** update, delete, or change the file FTRACK4.DAT while running DOS commands. **Do not** do a GO process (which changes FTRACK4.DAT). **Do not** delete files that end with .GRA in the FT directory while running in the shell. Before typing exit, return to the C:\FT directory if you left it by doing some other CD\ command.

## AutoLoading Parameter Sets - **[Z]**



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W V Z ~ ! ← ← → → ↑ ↓ !! ¶ esc
Hit space or backspace to see item descriptions. Select with capital letter
```

**[Z]** toggles the AutoLoad operation between Y and N. Y means that AutoLoad is occurring. N means AutoLoading is disabled. AutoLoading is ALWAYS disabled when FastTrack starts. You must explicitly turn it on if you wish to use it.

### Use AutoLoad Sparingly

AutoLoad can be disorienting since it changes things that you usually expect to change yourself. Therefore, we recommend that you generally NOT USE AutoLoad.

### The Function of AutoLoading

Some users like to set a different set of parameters for every specific fund or type of fund (fund objective). However, this is not a strategy that we recommend.

When AutoLoad is set to Y, then FastTrack automatically loads a new Parameter set under the following conditions,

- 1) When changing to a new fund AND there is a Parameter Set with the 5-letter symbol name of the fund, then that Parameter Set will be loaded.
- 2) When changing to a new family AND there is a Parameter Set with the same name as the family, then that Parameter Set will be loaded.

If there are two Parameter Sets, one named for the fund and one for the family, then FastTrack loads the fund parameter set.

Parameter sets are stored in DOS files, name.PRM. Sets are discussed in more detail under the U command earlier in this chapter.



## Reversing the Fund and Index - [~]



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W V Z ~ ! < > <- >- > <- >- <- >- esc
! !t space or backspace to see item descriptions. Select with capital letter
```

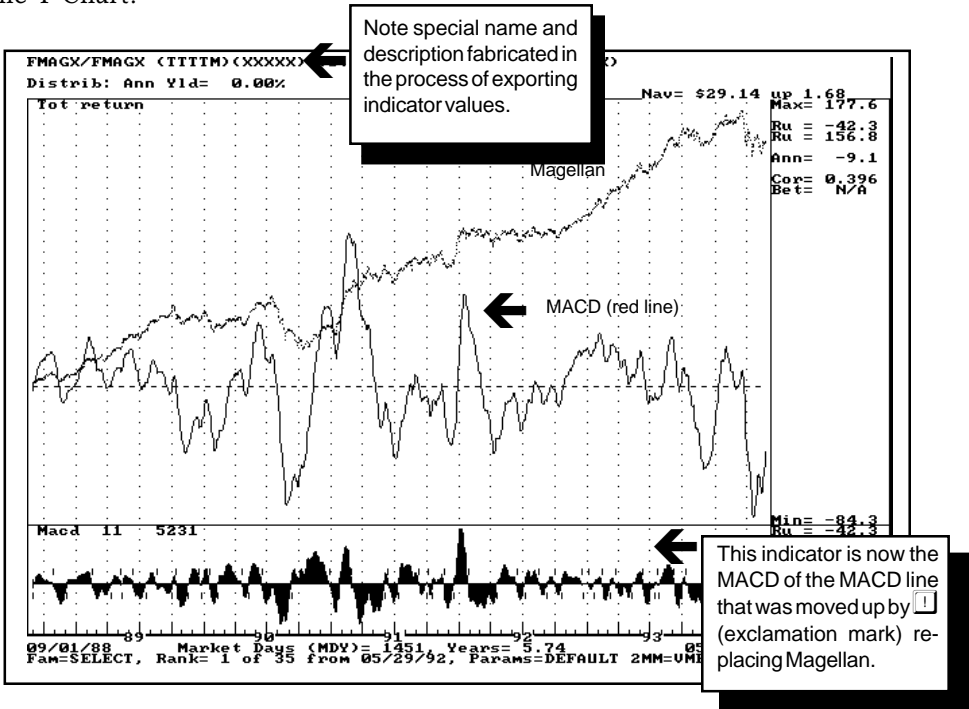
Striking the tilde key reverses the position of the fund and index. It has no other effect. The screen redraws automatically.

## Moving Yellow Values to the T Chart - [!]



```
f1 f3 dA Cm D pEr F I L fM N O P Q R S sT U W V Z ~ ! < > <- >- > <- >- <- >- esc
! !t space or backspace to see item descriptions. Select with capital letter
```

This is a powerful command. Hitting [!] (exclamation mark) causes the last yellow line drawn to be brought into the fund position of the T chart. This means that it can be displayed along with the index or further analyzed using the technical tools. This capability is similar to exporting the yellow line to an FNU disk file (see the A command regarding exporting data) except that no intermediate FNU file is made. The yellow values are simply brought to the T Chart directly. For example, put a moving average on the T Chart:



This chart was created by using these commands:

- [F] FMAGX [↓] (Make Magellan the T Chart red fund line.)
- [I] FMAGX [↓] (Make Magellan the T Chart green index line.)
- [P] TTTM [↓] (Put the T and M Charts on the screen.)
- [!] (["!"]) Move the MACD to the red line position.)

## Viewing Funds in Ranked Order (Arrow, Home, End Keys)



Immediately after installing FastTrack, the funds in each family are in alphabetical order. Display the charts from the first to last using and . It is more helpful, however, to view the funds in the order of performance.

FastTrack ranks funds in the current family by total return. You can rank any period using the R command in the sTatistics command menu. For more on ranking, look up references in the index.

After ranking a family of funds, the charts in the family display in ranked order. Use the following command keys to change funds within the current family.



(Displays the next lower ranked fund.)

(Displays the next higher ranked fund.)

(Home key displays the highest ranked fund.)

(End key displays the least highly ranked fund.)

## Ending the Session - (Esc)



To leave FastTrack and return to the FTMENU, type (Esc). FastTrack will prompt:

Do you really want to leave FastTrack?

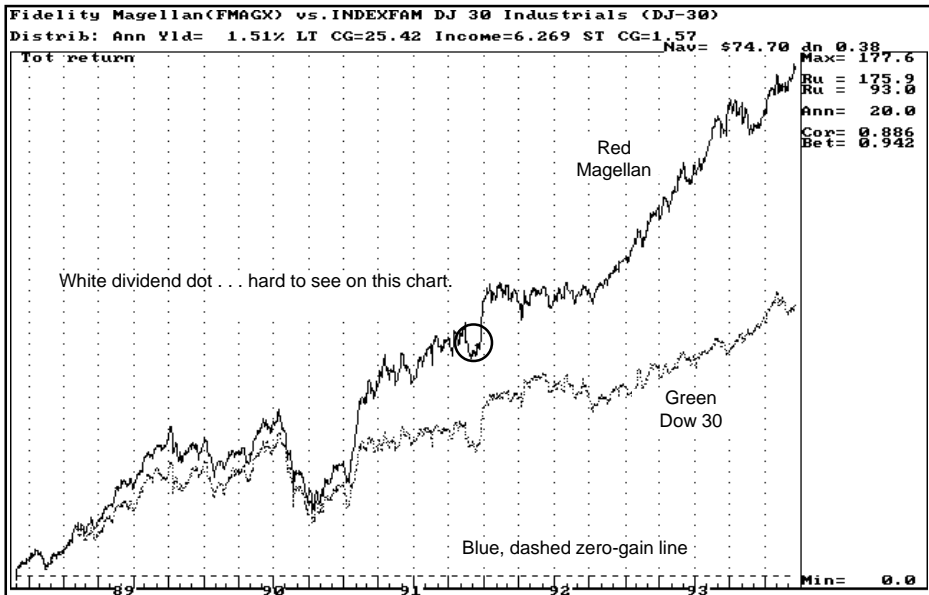
or

(Answer Y to quit FastTrack.)

The next time that you start FastTrack, it will pick up where you left off. You will be viewing the same family of funds, same fund, same period as at the end of the last session. In other words, you will be viewing the same screen as when you last exited FastTrack.

# Charts and Indicators

FastTrack presents easy-to-understand, colorful charts of mutual funds on any suitably equipped personal computer. In the following sections, we will explain the meaning of the charts and the values that accompany the charts. The conclusions you may reach from analyzing the charts are not recommendations by Investors to buy or sell funds. Favorable and unfavorable indications can only be interpreted in the context of your personal investment objectives and other available investment information.



## Total Return Chart (T Chart)

In the following sections we refer to each chart by its name and by the letter used to display the chart. See the Put Command in the *Using FastTrack* chapter to learn how to display each chart.

This chart shows total return. The red and green lines are drawn on a percent gain basis so they can be displayed on the same scale even if their NAVs are different. Fund name color at the top match the color of the line.

The red line has large white dots that show where a fund goes x-dividend. See

the *Ground Work* chapter for a discussion of dividends.

A blue, horizontal, dashed line is drawn through the chart at the point of zero gain (i.e. at the starting level). Total return reflects the effect of dividends as well as the price changes of the Net Asset Value (NAV).

The red line is dotted with small, daily, white dots when the red line spans less than 100 market days. This chart does not have these dots since there are more than 100 days displayed.

## Performance Measures

These values measure the lines on the chart. The values are color-coordinated with the lines that they measure. The values are computed for the period displayed. This means they change when the period changes. Each value has an abbreviation that defines what is measured. The abbreviations are described below.

### Abbreviations

**Ann** = The annualized rate of return for the period on the screen. Color coded to match the line whose return is being measured.

**Bet** = This is a Beta, a measure of the relative volatility of the red line relative to the green line.

The Beta for the red line is computed providing that the red and green lines are sufficiently correlated (Cor = 0.5 or greater). When the green line is the S&P 500 (SP-CP), then the Beta computed is the classical Beta described in literature.

When the index is not SP-CP, then Beta expresses the relationship between the fund and the index. When Beta = 1.5, then the fund would be expected to produce 50% greater returns than the index.

**Cor** = The correlation of the red and green lines displayed on the T Chart. When Cor = 1.0, then correlation is perfect. When Cor = -1.0, the correlation is perfectly opposite. When Cor = 0.0, then there is no correlation at all.

**Max** = The maximum percentage gain for either the red line or the green line of the T Chart, whichever has been the highest during the period charted.

**Min** = The lowest percentage gain (or the most lost) for either the red line or the green line of the T Chart, whichever has been lowest.

**Mr** = Money market return: The total return of the BUY/SELL signals when switching from the fund to a money market. Default money market fund

**Ra** = The total return affected by the switches of the indicator. When the indicator has a BUY in place, then the return computed is for the red line. When a SELL is in effect, then the return computed is for the green line.

**Rsk** = A computation of risk: The percentage of days during which the indicator is in BUY condition.

**Ru** = The total Return including reinvested distributions unaffected by timing or switching. Also called the Buy-and-Hold Return. Color coded to match the line.

**Rr** = Risk-adjusted return as portrayed by the white line of the J or 2 Chart. Rr = is always computed in the context of the last ranking done. Its value is dependent on the family and the period charted. Generally, funds with high Su = values have high Rr = values and vice-versa for low values.

**Sa** = Standard Deviation affected by BUY/SELLS. This measures the volatility of the J or 2 Chart's yellow line.

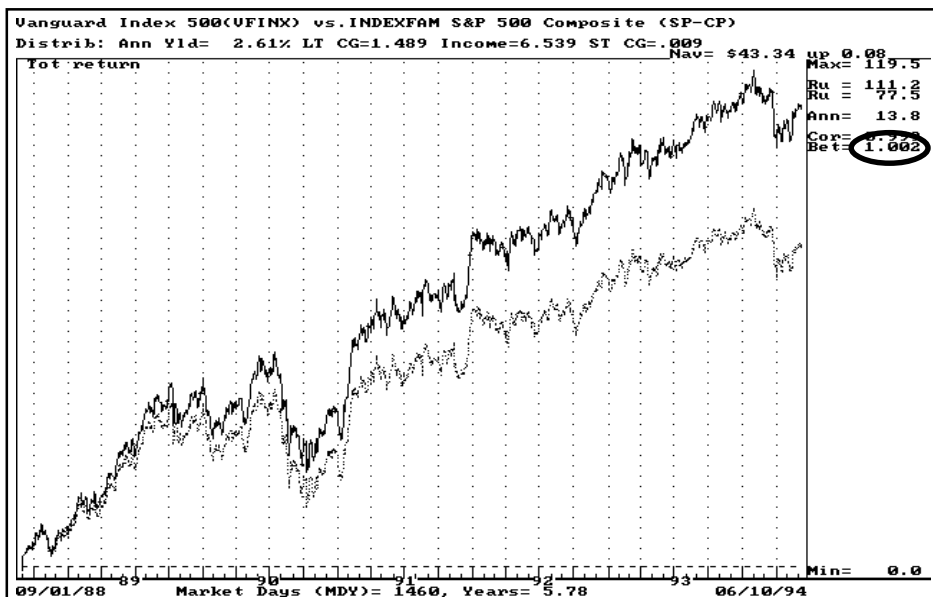
**Su** = Standard Deviation unaffected by BUY/SELLS. This measures the volatility of the J or 2 Chart's red line.

**S/Y** = The number of BUY signals/year annualized for the period of the chart.

**Tr** = The total return of the fund during the period that a BUY signal is in effect. Does not include any return from money market or the index. Dividends are treated as reinvested if the dividend occurs when in a BUY.

## T Chart's Unique Performance Values

The blue numbers (Max = Min =) show the highest and lowest percent gained/lost since the chart's starting date for either the fund or index. The highest gain is 119.5%. The lowest loss is 0% at the beginning of the chart. By definition both the fund and index start with 0% gain on the first day. The chart is drawn on a percent return scale with the red and green Ru = numbers showing total return.



### Bet=

The circled value is Beta, a classical measurement of the volatility of a security with respect to the S&P 500 (SP-CP).

For Vanguard Index 500 Trust (VFINDX) vs. SP-CP, Bet= is very nearly 1.00, since the daily movements of the red and green lines are identical. *For a few days each year, dividends make VFINDX outperform SP-CP, but these few days have little effect on Beta despite the fact that dividends strongly affect total return.*

A fund with a Beta of 1.10 is expected to have *day-to-day* price fluctuations that are 10% greater than the fluctuations of the S&P 500. Note: This is **not the same as** expecting a 10% greater *long-term capital gain or loss*. When properly used, Beta is useful for comparing volatility, but **not predicting future return**.

### Proper Use of Beta

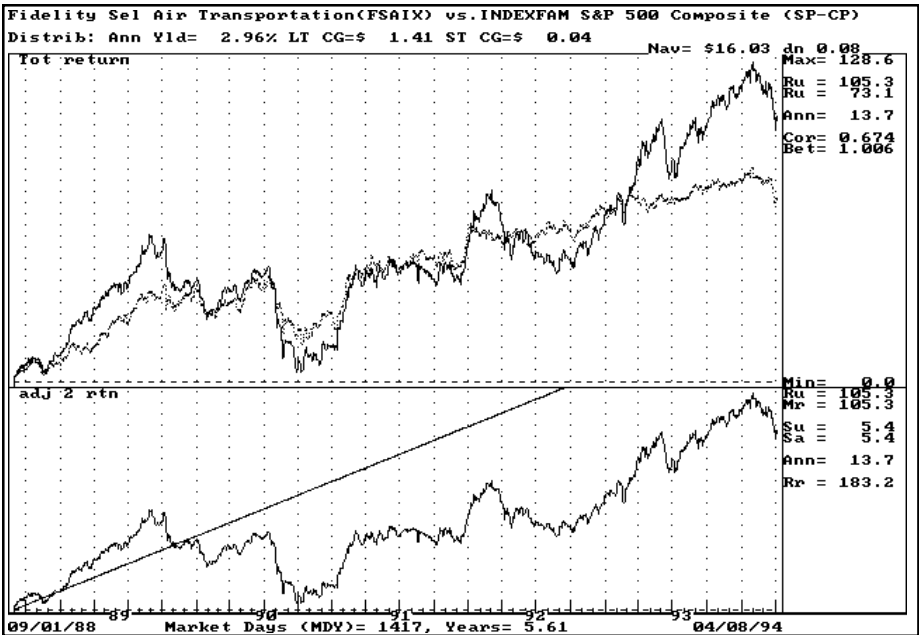
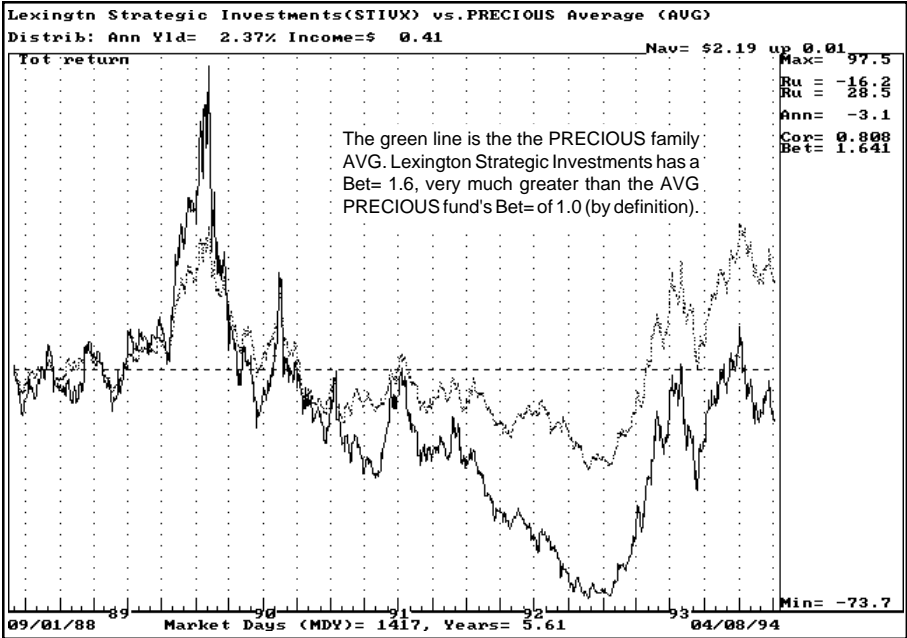
Classical Beta is valid only when there is a reasonable correlation between the fund and the S&P 500.

Funds that hold high proportions of gold stocks, international securities, or other sector investments often will not be sufficiently similar to the S&P 500 to have a valid classical Beta.

FastTrack does not compute Bet= when Cor= (next page) is less than 0.5.

### FastTrack Has a Flexible Beta

FastTrack computes Beta with respect to the red and green line. This makes it possible to compute a meaningful Beta for virtually all funds by making the green line an objective family AVG or by using a more appropriate index than the S&P 500.



**Beta Abuse**

Fidelity Select Air Transportation (FSAIX) has a Beta about 1.0 . . . sounds like a good way to diversify while taking only moderate risks. Right? . . . **WRONG!**

FSAIX's low Cor= and a high Su= compute a deceptive Beta. In this case, Beta does not provide any useful information at all. Be warned! The usefulness of Beta decreases rapidly as Cor= decreases.

## Cor =

Correlation is a measurement of the strength of the relationship between the fund and index (red and green lines of the T Chart). Correlation measures the extent to which the movements of the fund and index are similar. FastTrack's correlation is computed according to an algorithm published in "Biometry", Robert Sokal and F. James Rohlf, W. H. Freeman, 1969, Page 509.



## High Correlation Funds

If Cor = is 1.0, then fund and index have perfect correlation. This is always true when the fund and the index are the same. While the fund and the index are not the same in the chart above, they are so nearly identical that the circled Cor = is virtually a perfect 0.99.

## No Point Trading

When funds are highly correlated and have about the same historical total returns, there is no point trying to devise short-term switching strategies. There is not enough differential in the short-term fund movements to make a difference.

But they can be traded long-term. Use AccuTrack with long parameters settings (like 25 100) to trade between high Cor = growth funds.

## Why Do the Lines Look So Different?

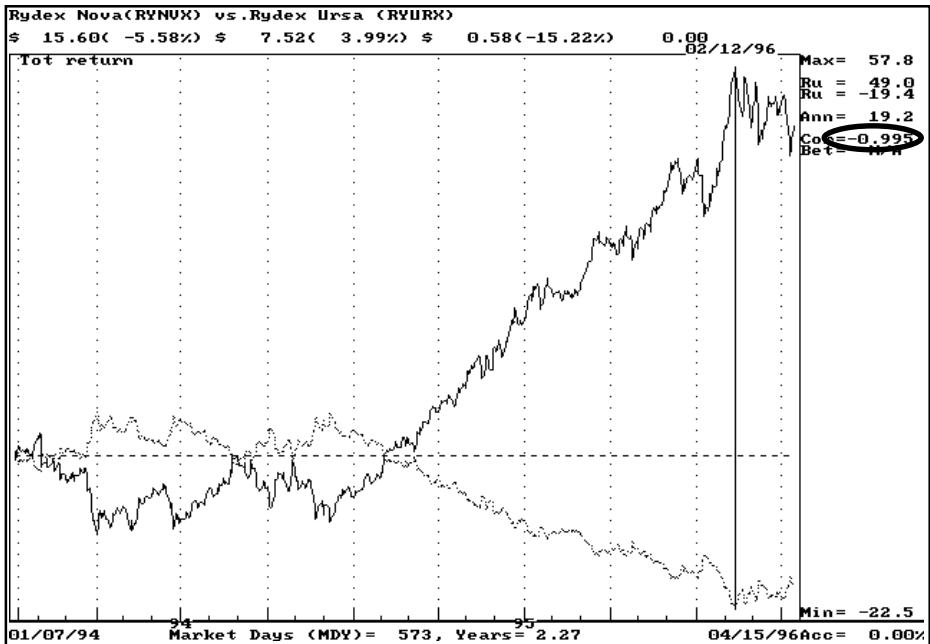
On almost every day, the change of the red and green lines is virtually identical. VFINX is the best and truest of S&P index funds. On a few days, the fund pays a dividend which dramatically changes the relative return for the day. Remember that the S&P 500 does not include dividends in the index.

Also, no index fund can match the performance perfectly. There will always be a few days where the match between the fund and index is imperfect.

In early 1994, S&P announced that Microsoft would replace one of the S&P 500 members. Index funds began buying small volumes of Microsoft immediately to realign the portfolio. It may take several months before Microsoft is properly represented in index fund portfolios.

## Negative Correlation - the Perfect Pair

If  $Cor =$  has the value of  $-1.0$ , then the fund and index are perfectly negatively correlated. The best examples of negative correlation in the database are two relatively new Rydex funds. These funds are intended by the manager to run a highly negative  $Cor =$ . They are designed for professional market timers, and not the average investor.



### How Could I Lose with These Funds!!

Not only can you lose, you can lose big time. It is guaranteed that when one fund is up the other is down. You will be depending on pure market timing.

This is NOT a strategy where you can use FastTrack tools to pick the better fund. When we recommend switching between fund pairs, it is always involves two funds with good long-term fundamentals.

### But Isn't This AccuTrack Heaven?

NO! AccuTrack does well picking the stronger of two independent funds, but we are only dealing with ONE set of data for these Rydex funds . . . Nova always runs with the S&P 500 and Ursa runs against it. AccuTrack has no advantage over moving averages in this situation.

### Other Negatively Correlated Pairs

Some of the stronger negative correlations over the past 5 years include pair bond and stock funds with gold funds: BTTNX vs. XAU-I and DJ-30 vs. XAU-I. However, gold stocks are volatile and fraught with risk.

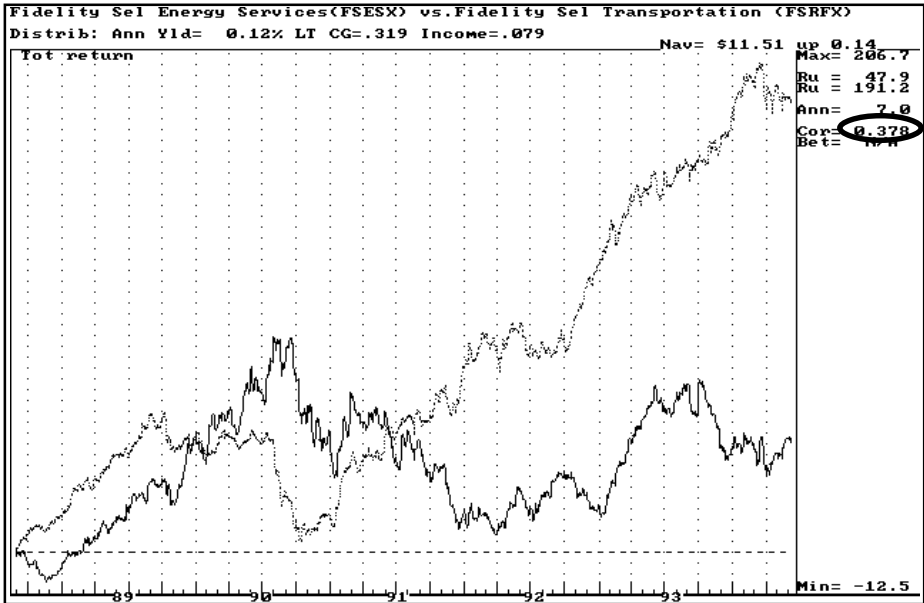
Gold most often has the strongest negative correlation vs. common stock funds. This means that strength in gold stocks often is accompanied by weakness in the broad markets.

However, profits from trading to gold funds are difficult to achieve. The opposite movement between gold and stocks often does not occur in trends that are long enough to trade using mutual funds. FT commentary explores trading between GROWTH and GOLD funds in the current market.



## Low Correlation Opportunities

Funds with low correlation between .70 and 0.0 are of interest. Funds are weakly correlated because they move under the influence of different factors. There can be substantial opportunities to trade these low correlation fund pairs.



### Energy vs. Transportation

One of the better examples include FSESX vs. FSRFX. Not only do these funds have low correlation, but also there have been long periods where they actually have negative correlation. This produces excellent trading results using AccuTrack which is covered later in this chapter.

Energy funds are poorly correlated with most other types of funds. Also, unlike gold funds, energy funds have trending patterns that are long enough to trade.

### Health vs. HITECH Funds

These sector funds are moved by strong forces of innovation, government regulation, and cyclical population and economic factors. Huge international forces shape the profitability of companies that own energy reserves and that service the energy industry.

For the near future, these forces are NOT going to have the same impact on both types of funds. Correlation between the families is low and it will likely remain that way for some years.

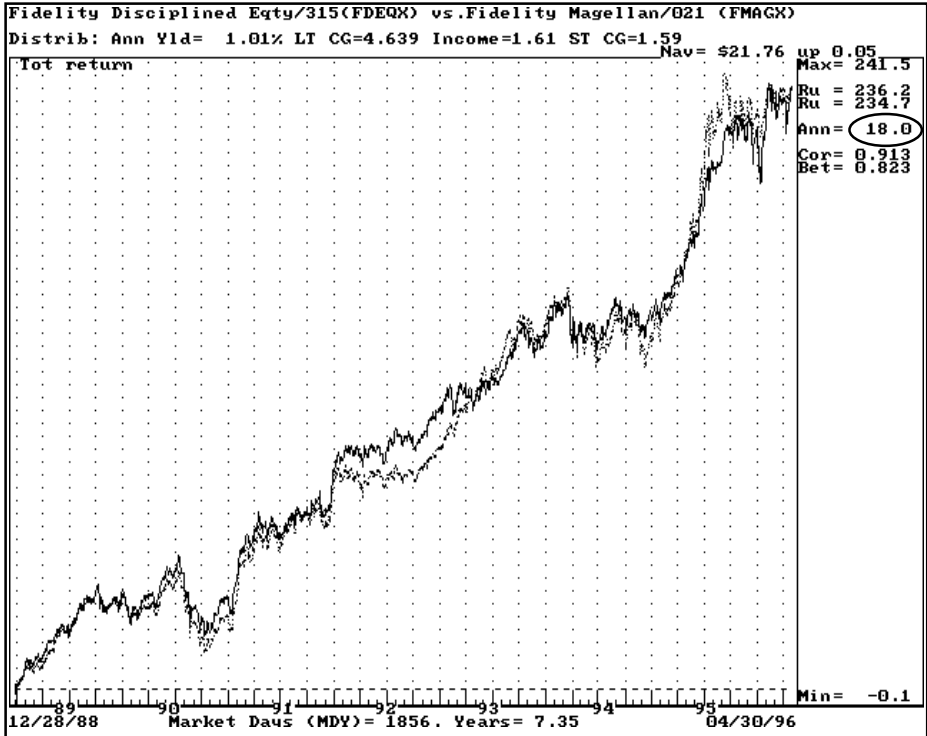
There are opportunities for trading the high risk portion of your portfolio between these types of funds.

### Wait! My Chart Has Different Numbers

Not all numbers on this printed page will match what you see on your display. See *Appendix B*, *Weird Numbers* section.

## Correlation Tricks

The prospectus for Magellan and Disciplined Equity describe very different goals . . . in theory . . . but, the charts don't lie. In 1990, one of our first publications, "Winning Strategies", now out of print, noted the striking resemblance between these two funds. The "coincidence" has persisted for the 5 years since then, indeed for the 7-year life of Disciplined Equity . . . Now what did I pay that 3% load for with Magellan?



### High Cor= .91 . . . Near Perfect

The funds have virtually identical performance for the life of Disciplined Equity. Yet they have different fund managers and totally different stated philosophies.

Fidelity has made some recent dramatic changes, but then Disciplined Equity's management has always been quite rigid whereas Magellan's management has always been free to invest anywhere.

### One Fund Has a 3% Load ... The Other Has No Load

Magellan is the granddaddy of the industry with a 3% load and \$50 BILLION in assets as of early 1996.

Disciplined Equity is the poor stepchild with 0% load with a mere \$2 billion in assets in early 1996.

### One Fund Is Heavily Advertised . . . The Other a Virtual Unknown

It might not surprise you that Fidelity advertises Magellan BIG TIME, but never advertises Disciplined Equity.

**Ann=**

This is an annualized rate of return. It is calculated on the same basis as the Morningstar OnDisc annualized return.

FIDELITY DISCIPLINED EQUITY											
As of 03/31/94											
TOTAL	+/-	TOTAL	MSTAR RISK		MSTAR	MSTAR	MSTAR				
RETURN	S&P	RETURN	PCT RANK		RETURN	RISK	RISK-ADJ				
%	%	(ALL)	(OBJ)	ALL	OBJ	1=Equity	Avg.	RATING			
3 MONTH	-1.54	2.24	21	18							
6 MONTH	-1.29	0.26	40	49							
1 YEAR	7.46	6.00	24	31							
3 YR AVG.	13.85	4.75	17	23	65	21	1.52	0.74		4	
5 YR AVG.	15.84	3.72	8	14	66	20	1.88	0.79		5	
10 YR AVG.			--	--	--	--				--	
WEIGHTED AVG ->					1.74	0.77	5				

**Annualized Return Circled**

On the facing page the Ann= value is circled for comparison with the Morningstar value.

They are the same, but FastTrack's annual return can be computed for any period, not just the fixed periods allowed in OnDisc.

**Comparison to the S&P**

OnDisc's +/- comparison of the fund to a theoretical dividend-adjusted S&P 500 is an interesting academic exercise, but we suggest doing the comparison to alternative funds (like Magellan) or at least to an S&P Index fund (like the Vanguard Index 500 - VFINX) instead of comparing to a theoretical return.

**Commonly Asked Questions**

**Why is Ann = usually lower than Ru = on a 1-year chart?**

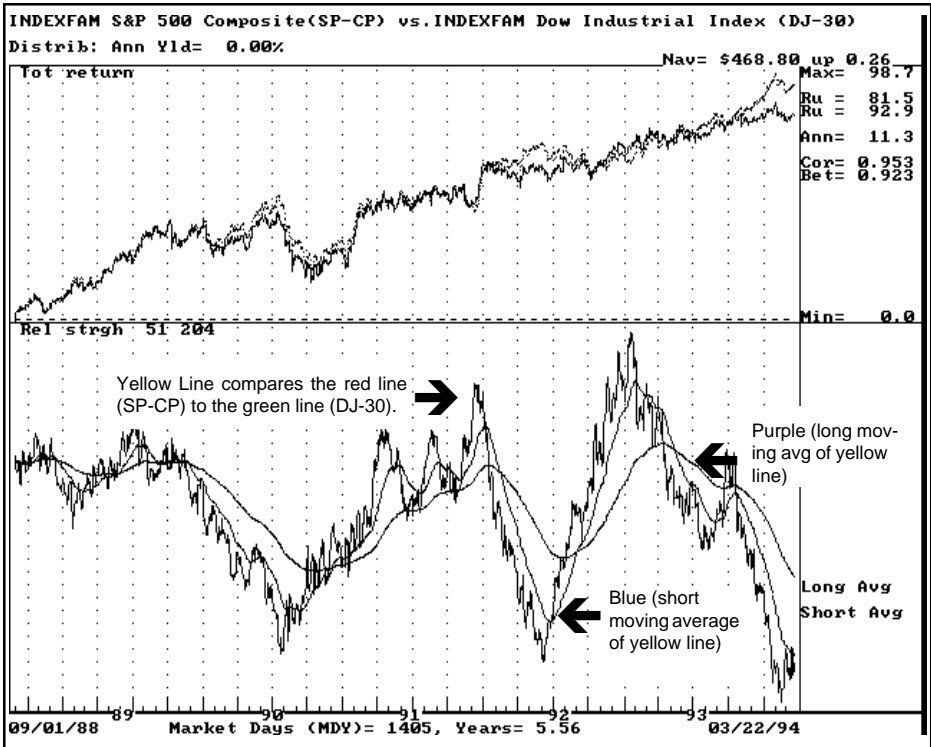
When charting one year or more and Ru = is positive, then the Ann= value will always be less than Ru =. This is caused by the compounding of the early returns.

**Why is Ann = always Higher than Ru = on short charts?**

Remember that Ann = expresses an annualized return, but if you display less than one year, Ann = is increased to reflect the same rate of return over a full year.

## Relative Strength Chart-R Chart

This chart compares the performance of the red and green lines. The yellow line is the raw relative strength line of the red line calculated as the ratio between the percent return of the fund and the percent return of the index. When the yellow line upturns, the fund is outperforming the index. Conversely, if the yellow line moves down, the fund is underperforming. If the yellow line is flat or horizontal, the fund and index performance is the same.



Although the R Chart shows two parameters on screen, you cannot adjust these parameters directly using the Parameter Editor.

### The Average Lines - Blue and Purple

The Short Average line (light blue) is a short moving average of the yellow line. It is calculated based on 3 x the first AccuTrack parameter.

The Long Average line (purple) is 3 x the second AccuTrack parameter. The Short Average line follows the yellow line more closely. The Long Average lags further behind.

### Market Rotation

The chart is a classic depiction of market rotation between the growth-oriented S&P 500 Index and the more income-oriented stocks of the Dow 30 Industrials.

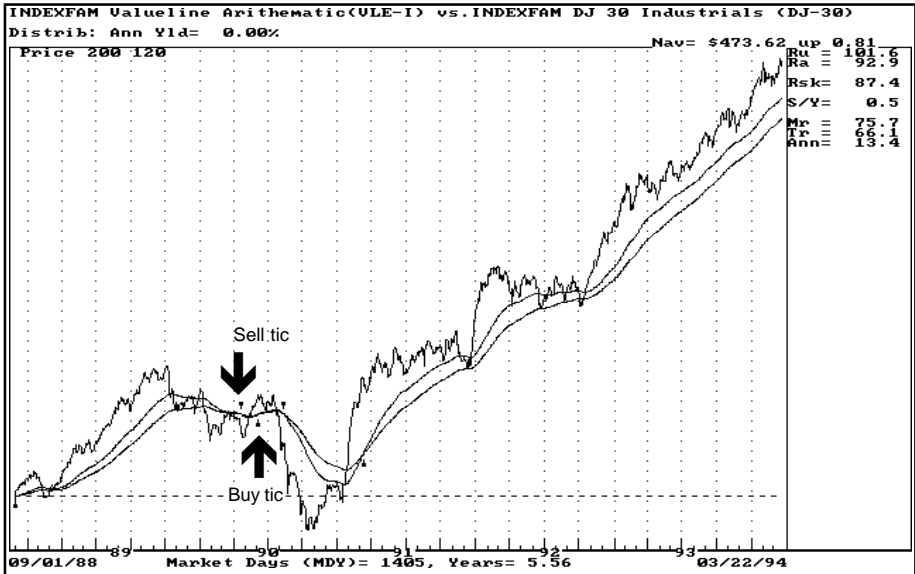
It is amazing how closely these two indices have followed each other in recent years considering the radical differences in the stocks that comprise them.

### Blue and Purple Values

Yellow and Purple values start at 10 and are scaled in proportion to the relative strength. The relationship these values have to T Chart values is not further explained in this manual.

## The P Chart

The P Chart draws a red adjusted NAV line, a long purple moving average, and a short yellow moving average on the chart. The green index line does not appear, but its values are used in calculating  $Ra =$  .



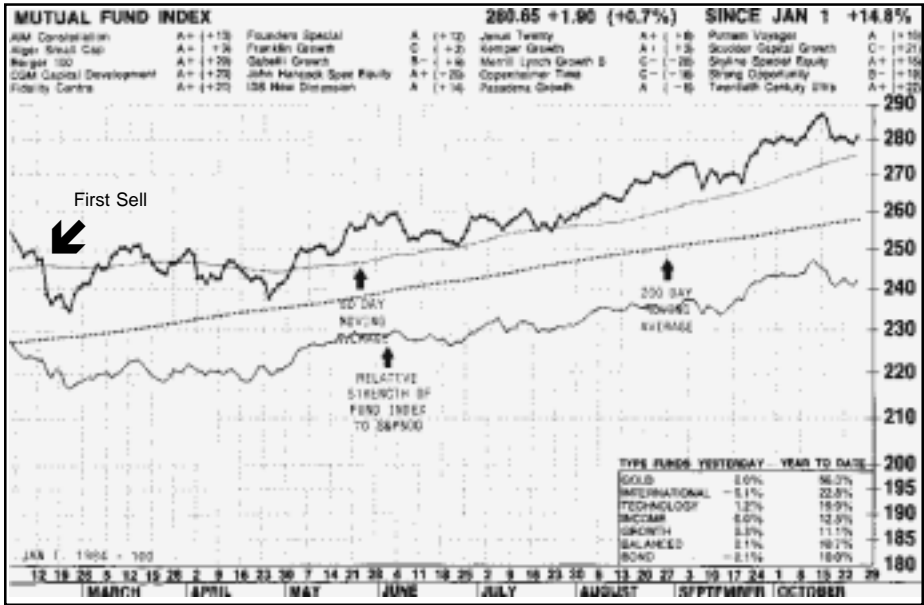
The P Chart has two parameters. Parameter 1 is the length of the short yellow moving average. Parameter 2 is the length of the longer purple moving average. The yellow line crossing the purple line moving upward, creates a BUY tic. The yellow line crossing the purple line moving downward, creates a SELL tic.

If the parameter values are identical, then only the red line and purple line are charted. In this case, the BUY/SELL signals occur when the red line crosses the purple line. See Appendix B for a description of the yellow and purple values.

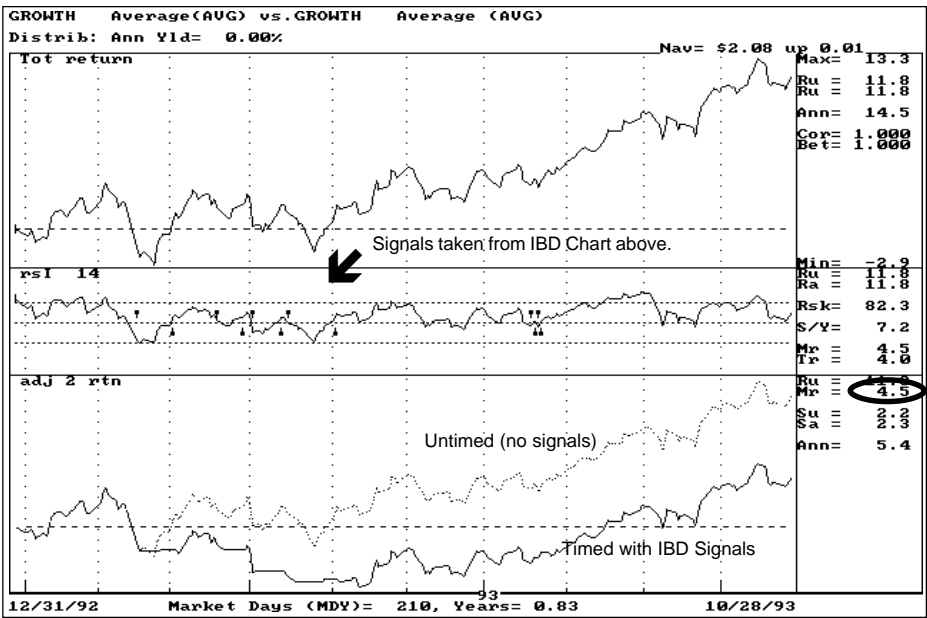


### Comparing the P Chart to Published Charts

Moving Averages are valuable in finding the beginning and ends of trends. But they can be severely misused. *Investors Business Daily* publishes a 50-day moving average chart in its mutual funds section. They don't represent it as having any particular value, which is good, because it doesn't have much.



The chart below has signals on the center I Chart that were taken by hand from the IBD chart above. The 2 Chart shows the effect of these signals timing the GROWTH AVG fund. The signals do poorly cutting the buy-and-hold 8.6% gain in half. This performance reduction occurred for most funds in the GROWTH family.



## Indicators

Indicators help the mutual fund investor make timing and fund selection decisions. Indicators included with FastTrack are:

- AccuTrack (AT)
- Moving Average (MA)
- Moving Average Convergence/Divergence (MACD)
- Stochastics Histogram (SH)
- Stochastics Line (SL)
- Welles Wilder RSI (RSI)

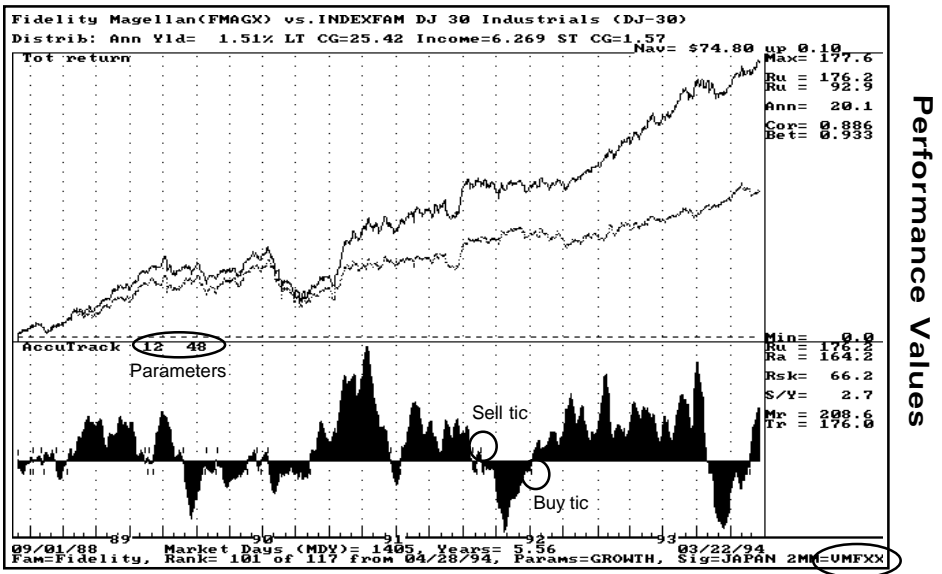
There is also a price chart that contains buy and sell signals.

## Trend-Following Indicators

AT, MA, and MACD are trend-following indicators. They are charted in a histogram format. These indicators are plotted as vertical bars above or below the zero line. Buy/sell signals occur when the indicator passes through zero.

## Trading-range Indicators

SL, SH, and RSI are trading-range indicators. These charts are divided into overbought/oversold areas. FastTrack does not compute buy/sell signals for trading-range indicators, but you may place signals manually or from saved Signal Sets.



### Indicator parts

The illustration shows a typical trend-following indicator, AccuTrack, charted for the Fidelity Magellan fund and the Dow Jones 30.

### Buy Tic Marks

When the indicator passes from negative to positive value, a white tic mark appears below the zero line at the day the crossover occurs. This is a buy signal for the fund. Normally you would BUY at the close of the *next* market day. A tic is circled above.

### Sell Tic Marks

The tic is above the zero line when the crossing is from positive to negative. This is a sell signal for the fund. Normally you would SELL at the close of the next market day.

Trend-following indicators are easy to interpret and are suitable for timing price movements when the fund has been in a sustained trend.

Trend-following indicators are worthless when there is no apparent trend. They will whipsaw meaninglessly in sideways markets.

## Performance Values

These values are boxed to the right of the charts. They show the performance of the indicator. The values are computed for the period displayed. This means they change when the period changes.

**Mr =** is a composite of the fund and a money market fund. It compounds the red line's return when the indicator is positive and the 2MM= fund return when the indicator is negative. The 2MM= fund is shown on the lowest purple line of the display (circled on the previous page).

Usually the 2MM= fund is a money market fund, but you can change this fund in the Parameter Editor.

By default FastTrack will use VMFXX as the 2MM= fund unless you specifically change it.

**Ra =** is a composite of the T Chart's red fund and the green index. It compounds the red line's return when the indicator is positive and the green line's return when the indicator is negative.

**Rsk =** is the fraction of the time that the indicator was up. A Rsk= value of 66.2 means that the money was "at risk" by being invested in the fund for 66.2% of the days in a period.

Often 80% of a fund's gain can be gotten by holding the fund as little as 20% of the time.

**S/Y =** is the number of buys that the indicator made, normalized for a 12 month period. Compute this figure by counting the BUY tics and divide by the number of years displayed.

**Tr =** is the total return when the fund is in the buy condition. No gains are computed when the indicator is in the sell condition.

Tr = differs from Mr = in that MR= includes money market gains. Tr = differs from Ra = in that Ra = includes the gains from the index fund.

## Trading Delays

By default, performance values are calculated assuming that, after getting a FastTrack buy/sell tic, an investor could not switch until the *next* day's closing price.

If the market drops 200 points in a single day causing an indicator to go from positive to negative, then the loss is *included* in the performance values. This considers that most funds allow same day switching only if you call before the close of the market. Therefore, an indicator change signaled at Monday's close creates a trade at Tuesday's closing price.

Trading Delays are under your control. See the Q command description and a detailed example in the *Using FastTrack* chapter. The Q command sets the number of days of delay after a signal.

## Parameters

Parameters control the performance values' internal calculations. Each indicator shows its parameter settings to the right of the indicator name. Some indicators have one parameter, others have two or three.

Parameters are specified in market days. A parameter of 50 means calculating over 50 market days. A 50-day parameter is equivalent to 10 calendar weeks.

### Long vs. Short Parameter Values

In general, increasing parameter values decreases the switches/year. Decreasing parameter values increases the switches/year. The *optimum* parameter value yields the greatest total return with an acceptable number of switches/year.

### User-Set vs. Default Parameters

Parameter values may be user-set or default. Default values are computed internally by FastTrack depending on the volatility of the fund. User-set parameters stay set to the values you enter. They do not change as you move from fund to fund. The calculation of the default val-



## AccuTrack Indicator (A Chart)

AccuTrack is a technical indicator that is especially tuned for mutual fund switching. AccuTrack has two modes of operation: timing and selection. These are discussed separately below.

### How AccuTrack Is Drawn

When AccuTrack is positive and rising (bars increasing in height above zero with time), the fund is showing strength and is likely to continue to do so for some time.

The converse applies when AccuTrack is negative and falling. There are times when AccuTrack is neutral. These periods have no bars. Generally, you neither buy nor sell in neutral periods.

### AccuTrack Shows Relative Strength

AccuTrack shows the relative fund performance versus the index performance. This means AccuTrack can be negative when other indicators are positive. This can occur when the red fund is gaining value, but not performing as well as the green fund.

Other indicators may be positive just because the fund is gaining. Only the AccuTrack indicator suggests that a climbing fund may not be a good selection because it is not keeping up with the market as expressed in the index.

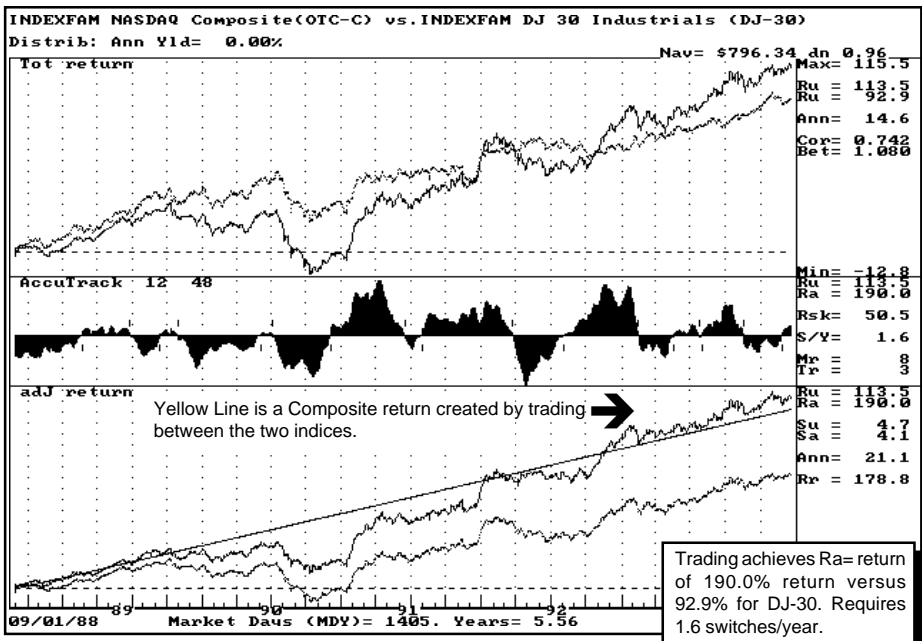
## AccuTrack for Selection

The chart shows the NASDAQ Composite of small capitalization stocks vs. the Dow Jones 30 Industrials.

AccuTrack selects between the two indices. When the indicator is positive (OTC-C is favored), then be invested in CAP-SMAL family funds. When the indicator is negative (DJ-30 is favored), then be invested in funds specializing in large capitalization stocks.

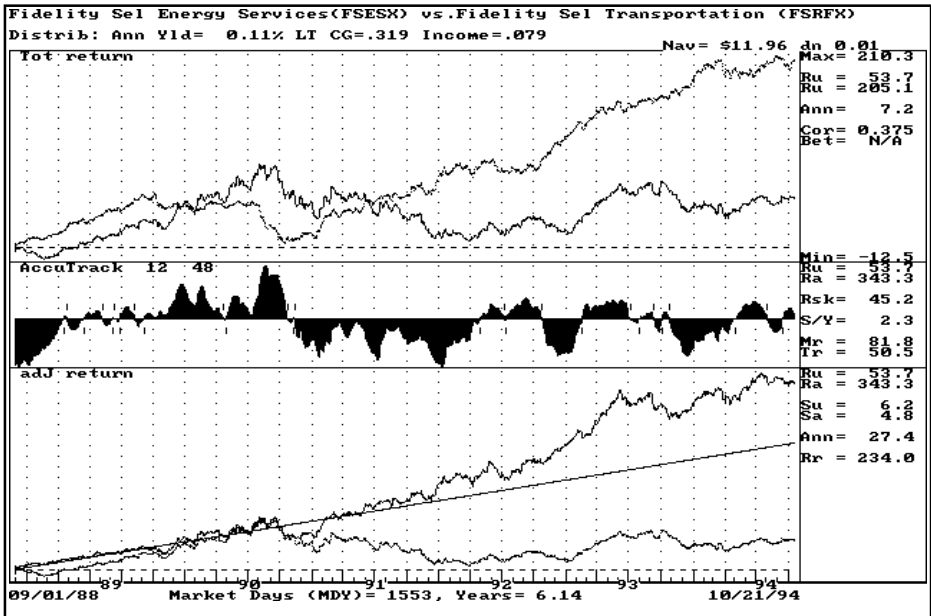
The trading strategy nets a higher gain than the buy-and-hold of either index. AccuTrack accomplishes this result without market timing. . .The investment is always in one fund or the other.

AccuTrack is particularly effective with volatile funds that rise and fall more sharply than the market indices.

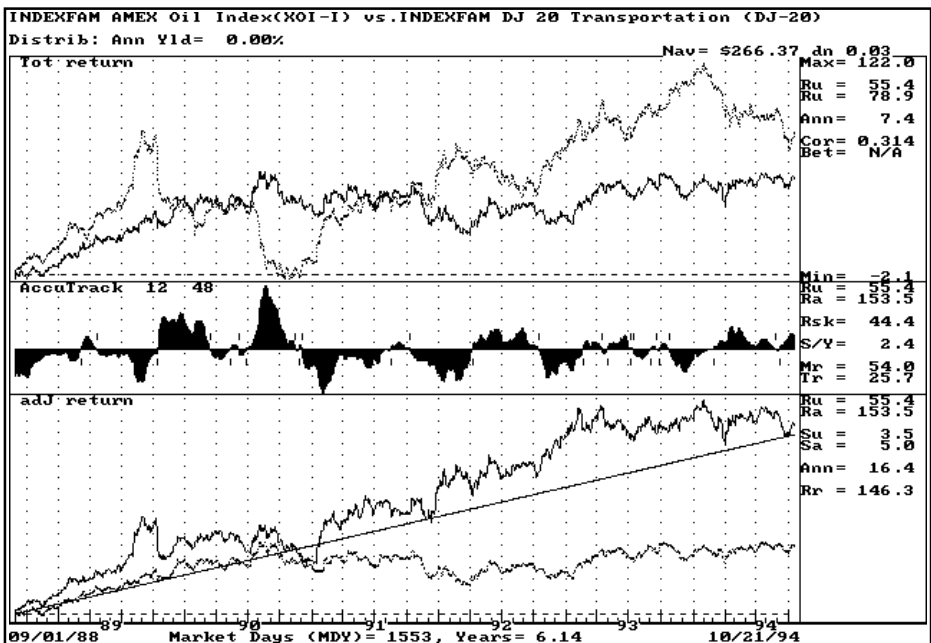


## AccuTrack for Selecting Contrary Funds

Some funds move in different directions influenced by a single variable. In the case of the chart below, the major variable is the cost of fuel. Energy funds do well when the price of energy rises. Transportation funds do well when the price of energy drops. This fact can be translated into a long-term signal for trading between funds.



Similar characteristics can be found just generating trading signals using the AMEX OIL index and the Dow 20 Transports.

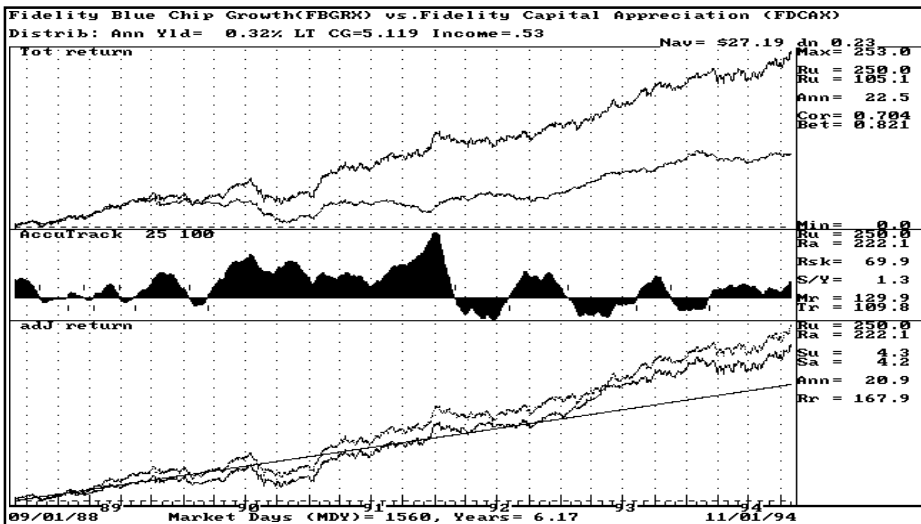


## AccuTrack Selecting Between Similar Funds

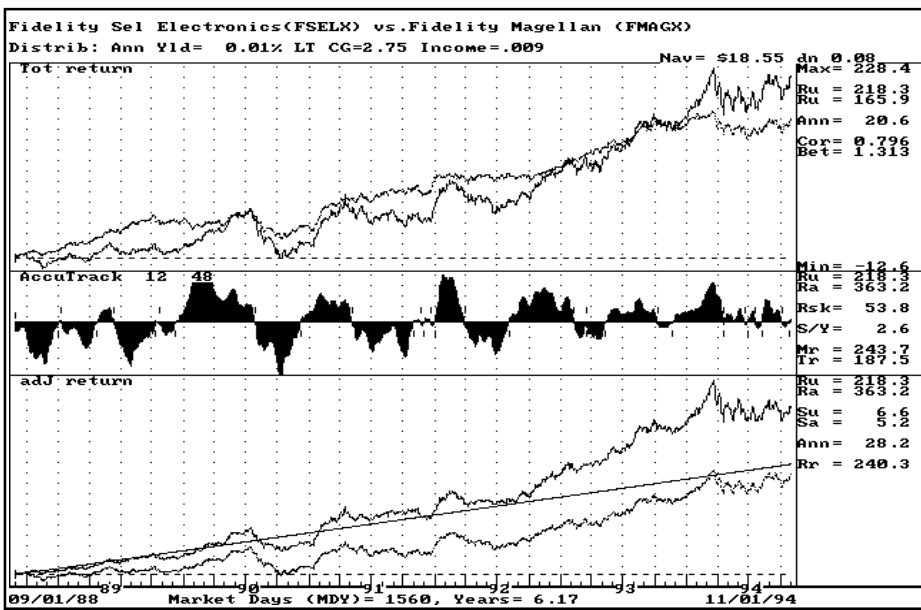
No one can be sure which of two good funds will do the best. Fidelity Capital Appreciation began its history in the mid-1980's with stunning gains only to follow that act with stunning underperformance.

The objective in using AccuTrack in this manner is to always be in the better of the two funds.

Using AccuTrack with relatively long parameters (25 100) ensures that minor blips in relative performance are ignored, but that long-term differences in success are recognized early enough to profit.

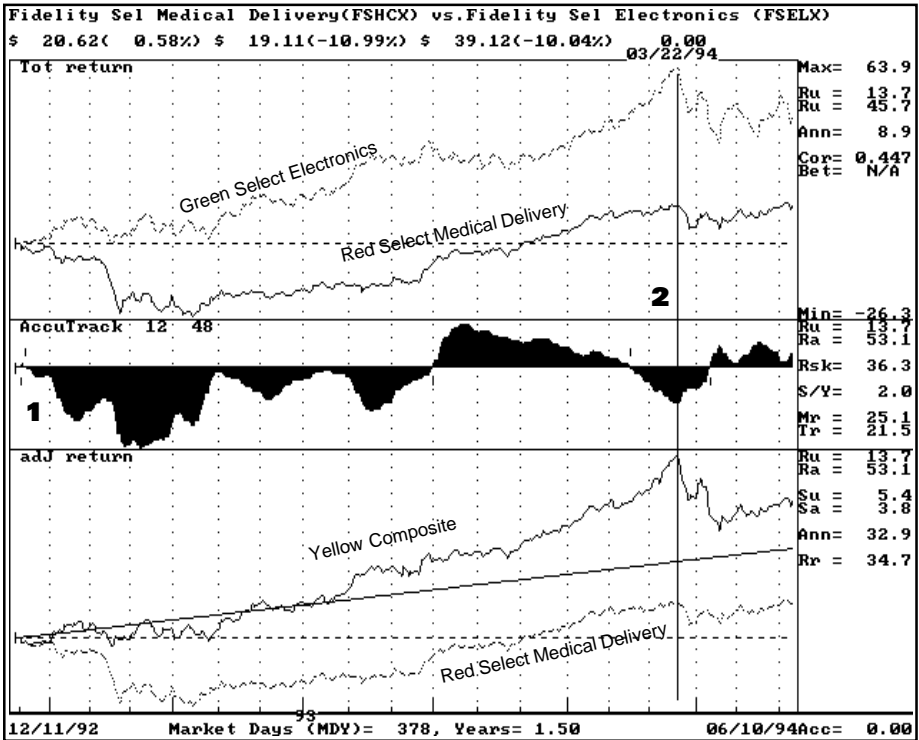


This trading strategy would be considered successful if it beats the average of the two funds, but in most cases it actually does even better achieving nearly the same return or more than the better of the two funds. This particular example (Magellan vs. Electronics) has been part of our advertising since 1990.



## AccuTrack Limitations

No one indicator is perfect for all situations. When broad market corrections occur, AccuTrack has no special loss limiting capabilities. The long-term track record of moving between funds based on AccuTrack's relative strength signals is good, but that doesn't mean that there is no risk. Steep drawdowns will occur. Use other indicators to limit losses.



### Point 1

Sector rotation occurs. Health funds react to political rumor. Technology is unaffected.

The funds begin to follow their own tracks. Select Electronics is clearly favored. AccuTrack switches to the better performer. The yellow line of the J Chart picks up the Select Electronics return.

Other technical indicators like moving average and trendline violation are much more effective in limiting risk.

Although this manual and the Fast-Track commentary are filled with great performing examples of AccuTrack fully invested strategies, there is no assurance that AccuTrack will avoid losses during broad corrections.

### Point 2

Broad market correction occurs. Both Health and Technology decline. The AccuTrack strategy suffers the decline regardless of the which fund is affected.

## AccuTrack for Timing

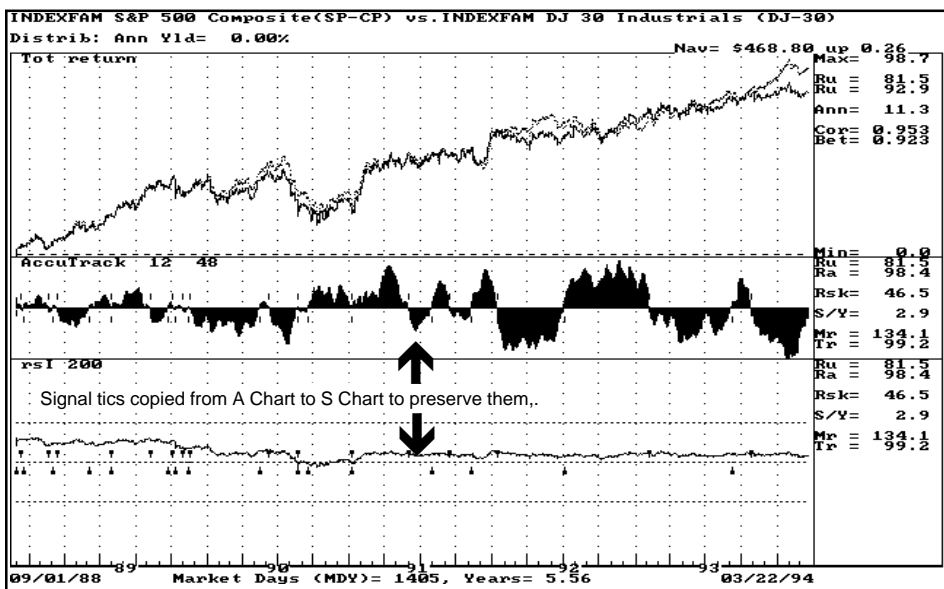
Money moves from one market sector to another. This rotation can be measured using AccuTrack to compare the Dow Jones 30 Industrials Index (DJ-30) and S&P 500 Index (SP-CP). Capture these rotation signals as follows:

**P** then **TTAI**

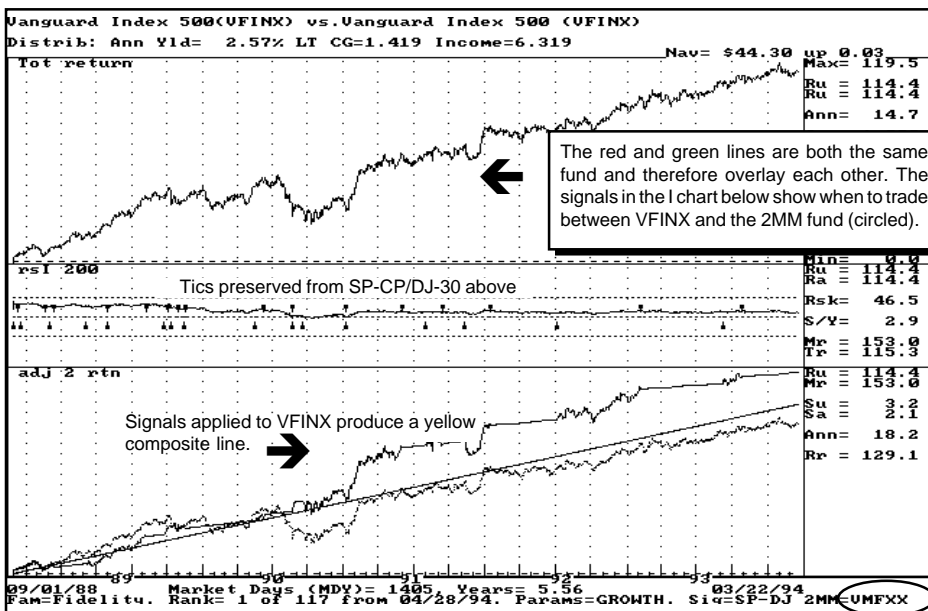
(Display the charts below. Be sure AccuTrack parameters are set to 12 48.)

**S** then **G**

(Get the AT signals on the I Chart.)

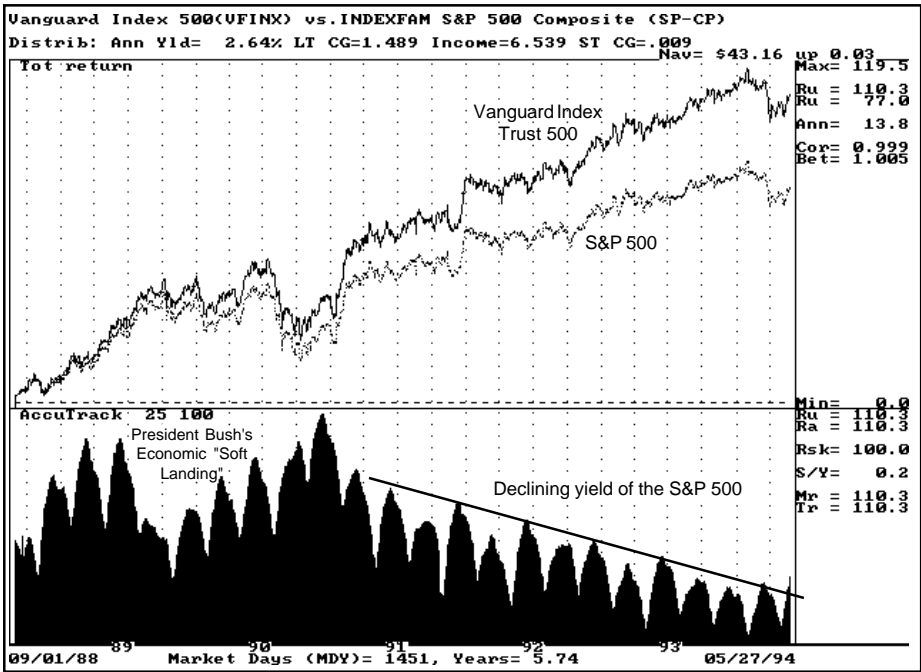


Change the red and green lines to VFINX and display the TTI22 charts.



## Other AccuTrack Uses

There are a variety of other uses for AccuTrack.



### Declining Yield of the S&P 500

The descending peaks of AccuTrack reflect changes in the relationship between the Vanguard Index Trust 500 Fund (VFINX) and the real S&P 500. VFINX includes dividends whereas the S&P 500 does not include dividends.

The higher peaks indicate periods during which the dividends being paid were relatively high compared to dividends currently being paid.

AccuTrack will have to return to 1990 heights before the market can be considered fairly valued by historical standards of yield.

### Yellow Values

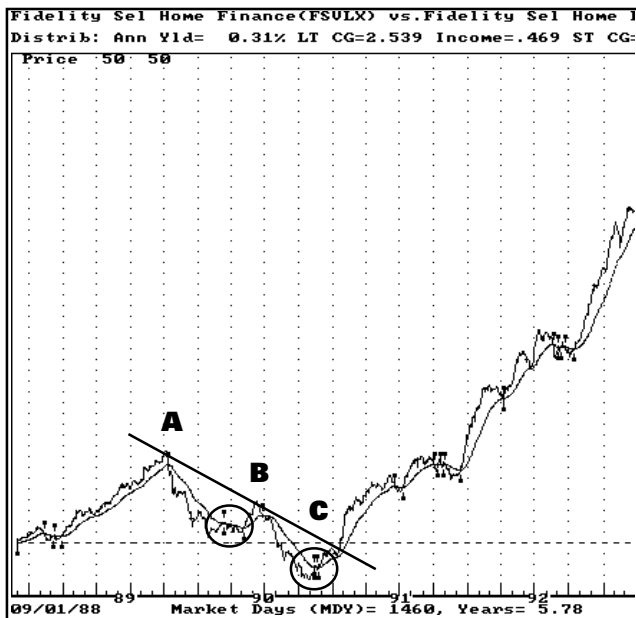
The yellow values for AccuTrack are set to a value range from 1 to 100. A value of 50 occurs where the A chart crosses the centerline.

### Wait! My Chart Has Different Numbers

It is normal that not all numbers on this printed page will match what you see on your display. See *Appendix B, Weird Numbers* section.

## Trendlines

Trendlines are important tools for use with all charts and indicators. The remaining sections of this chapter give many examples of trendline usage. This section tells how to draw trendlines.

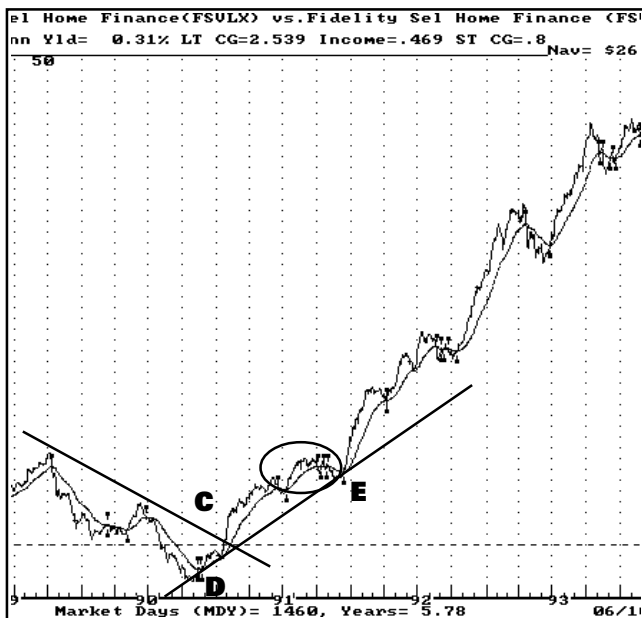


### A Downtrend

Downtrends are drawn across peaks. A and B are peaks and the downtrend is easy to draw.

At C the downtrend has been broken. Whether this constitutes a BUY signal is best addressed in later sections.

There are two circled areas under the trendline where the P Chart's signals whipsaw uselessly. However, since these signals were in the context of a downtrend they would have been ignored.



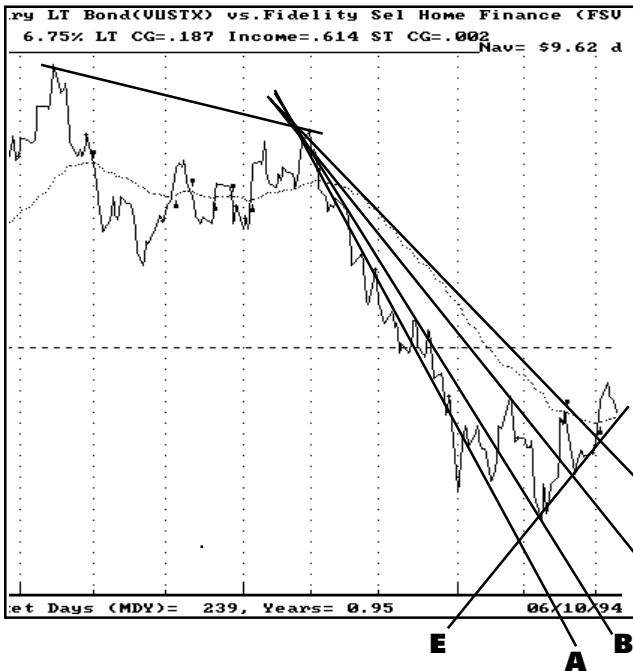
### An Uptrend

Uptrends are drawn under troughs. There are two troughs near D and a later trough at E confirming the trend.

It is not always possible to draw an uptrend the moment that the downtrend breaks. In this case, there were successively rising bottoms that made it possible to draw an uptrend.

The circled area contains several whipsaws. These would have been ignored in the context of the uptrend.

## But Trendlines Are Not Always So Easy to Draw

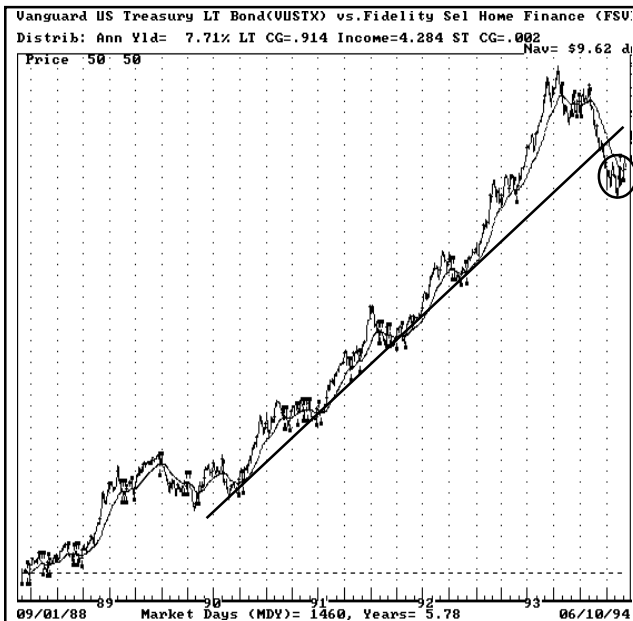


When interest rates reversed in early 1994, US Long-bonds plunged after years of steady uptrend. The chart formed a series of steep downtrends as the fund moved sideways.

At A, B, and C's trend break it was impossible to construct an uptrend. At D, there now are two troughs that make it possible to draw the uptrend, E.

In general, although a downtrend may be broken, there is no BUY until an uptrend is present.

After strong trends break, usually there is a period of consolidation. Note that trends A, B, C, and D all are broken at nearly the same level. Little was lost by waiting about 6 weeks until uptrend E could be drawn.



### Does "E" Mean BUY?

Looking at the long-term picture of this fund, it is hard to put a lot of faith in uptrend E. The trend is so short that it's entirely confined within the circled area . . . actually filling only half of the circle.

When a long, strong, multi-year trend has been broken, it only makes sense to look for more confirmation than shown.

### OK Where's the BUY?

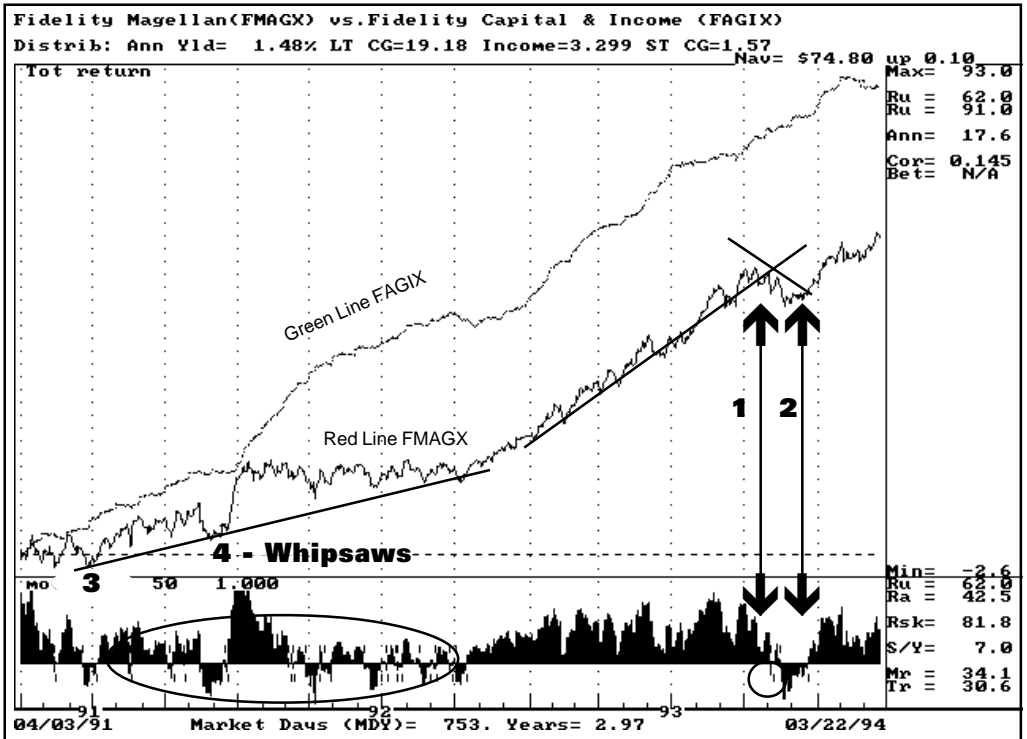
There's an easy answer, "Buy some other type of fund."

There is NO reason to time this fund. It will likely be several months before a consolidation produces a believable buy.



## Moving Averages and Trendlines

Moving averages and trendlines measure the same thing, direction of prices. As such they often give simultaneous signals. They can be used together to avoid some of the whipsaws (rapid, pointless trading) that are typical of moving averages.



### Points 1 and 2

The chart above shows an unfiltered moving average with many whipsaws. There are two trendlines drawn. The fund breaks the uptrend drawn under the troughs of the chart at point 1 about the same time as the moving average gives a SELL. When the uptrend is broken, immediately draw a downtrend, if possible, across the peaks of the chart. DO NOT take moving average BUY signals until the downtrend is broken as at point 2. This technique would have avoided the unnecessary circled whipsaws.

### Points 3 and 4

These are significant troughs that define a general uptrend line. You would have held through the trendless 1992 market. **But more importantly**, no FastTracker had to deal with the dozens of circled whipsaws because there were many funds, for example the green line, FAGIX, that had long, strong trends that were fully intact. There was no need to be invested in Magellan during this period as it zig-zagged through BUY/SELL signals.

## Moving Average Indicator (V Chart)

Moving Average (MA) is a trend-following indicator. When price direction trend changes, MA changes. MA works well when the fund price is in a strong uptrend or a downtrend, but trend-following indicators are **useless when the market moves sideways trendlessly**.

### Exponential Averages Used

All moving averages used in FastTrack are exponential averages of the adjusted NAV. See *Appendix B* for more computational details.

The indicator is plotted as the series of vertical lines. When more than 1.5 years is displayed, then these vertical lines visually merge into a solid form.

The height and direction of the lines is the difference between the fund price and its moving average. When the price is higher than its moving average, the indicator bars are above the centerline. When the price is lower than its moving average, the indicator bars are below the centerline.

### Buy and Sell Tics

Buy tics occur when the moving average's dividends-adjusted NAV becomes lower than the fund's dividends-adjusted NAV. This cause the bars to switch above the centerline.

Sell tics occur when the moving average's dividend-adjusted NAV becomes greater than the fund's dividend-adjusted NAV. This causes the bars to drop below the centerline.

### Parameters

The V Chart has two parameters. The first parameter is the length of the average. Longer moving averages are good at judging long-term trends of equity funds. Short moving averages are good for judging trends in certain types of funds with good day-to-day serial correlation like BD-JUNK and REALTY family funds.

The second parameter has three modes of operation. These three modes are shown on the facing page is stitched together from several FastTrack screens. (You cannot reproduce this chart on your system.)

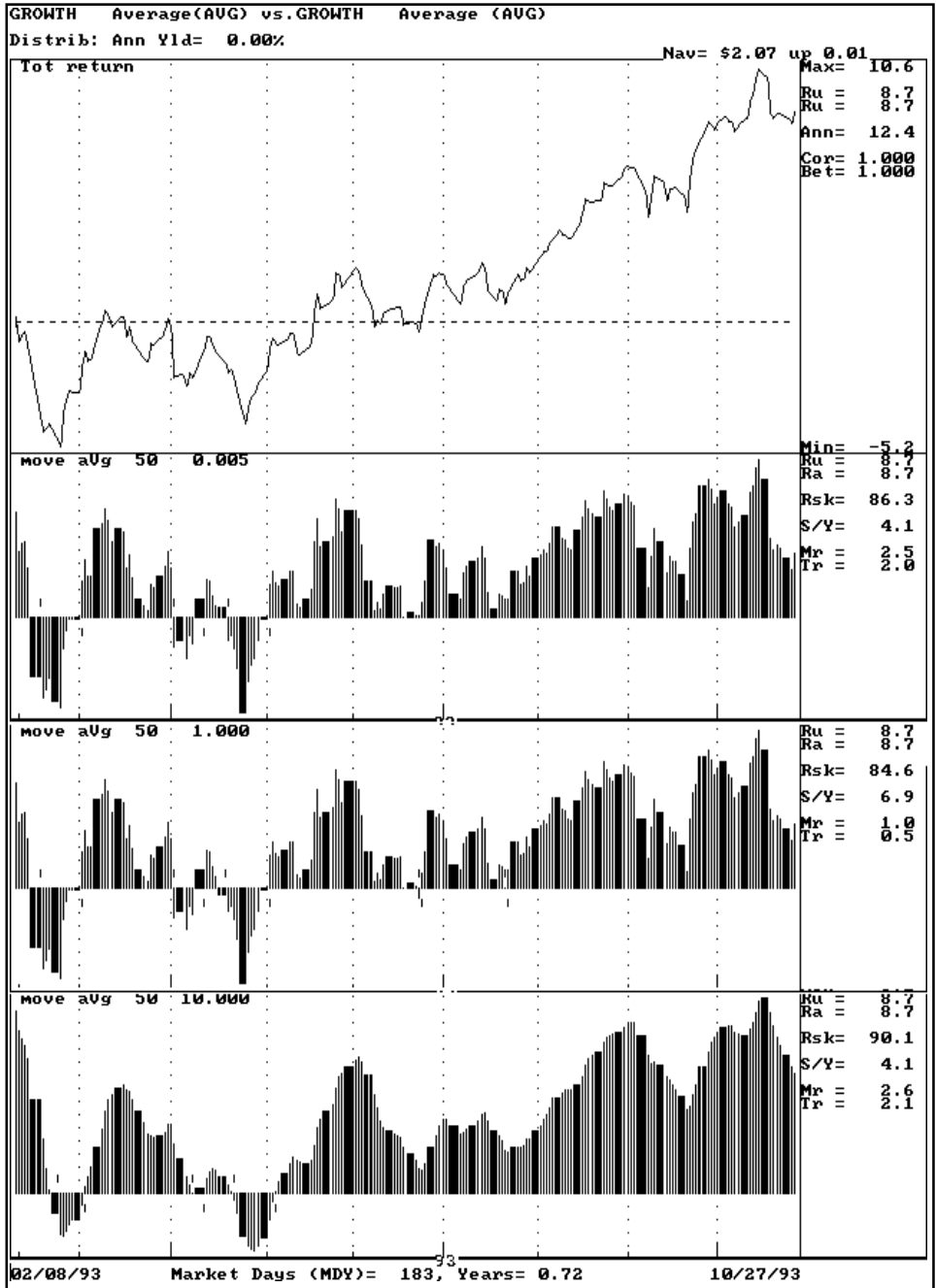
- (1) If the second parameter is less than 1, then it is used as a filter. A filter reduces the number of signals. The difference between the fund and its average must exceed the value of the filter before a signal will be given. When filtering is in effect, a bar which would normally cross the centerline is replaced (visually) by the last bar which does NOT cross the center line. At the point that the V Chart's bar finally exceeds the filter, the new bars on the opposite side of the centerline are displayed.

In the example on the facing page, the .005 filter means that the fund and average must differ by at least .5% before a signal occurs. This prevents unproductive whipsaws. In general, **filtered moving averages outperform** other forms of moving average when applied to mutual funds.

- (2) If the second parameter is set to 1, then NO smoothing and NO filtering is performed. The number of switches/year can often be higher than fund companies permit. Many of the switches are unproductive.
- (3) When the second parameter is set to a value  $> 1$  then that value is used as a second moving average by which the 1st average is smoothed. The resulting chart is much less jagged and has only 2.6 switches/year.

### Yellow Values

The V Chart's yellow value is an average of the Adjusted NAV. When the moving average is higher than the Adjusted NAV, then the V Chart has yellow bars below the center. When the moving average is lower than the Adjusted NAV, then the



This chart was stitched together in the editing process for this manual. You cannot create this chart using FastTrack directly.

## MACD Indicator (M Chart)

Moving Average Convergence/Divergence (MACD) is favorable when the bars are above or approaching the centerline. MACD is unfavorable when bars are dropping or below the centerline. See Appendix B for the MACD math algorithm.

MACD is computed using the price movement of the fund. The index does not affect the indicator. MACD shows when the momentum of upturn or downturn is accelerating or faltering.

### Follow the Bouncing Ball

The MACD works when prices bounce like a ball. As the ball rises, it gradually slows till it reaches its peak, and then it accelerates as it falls. MACD follows that motion. The switches occur as the ball becomes motionless at tops and bottoms. The indicator moves above/below the center as the fund reaches tops and bottoms.

## Parameters

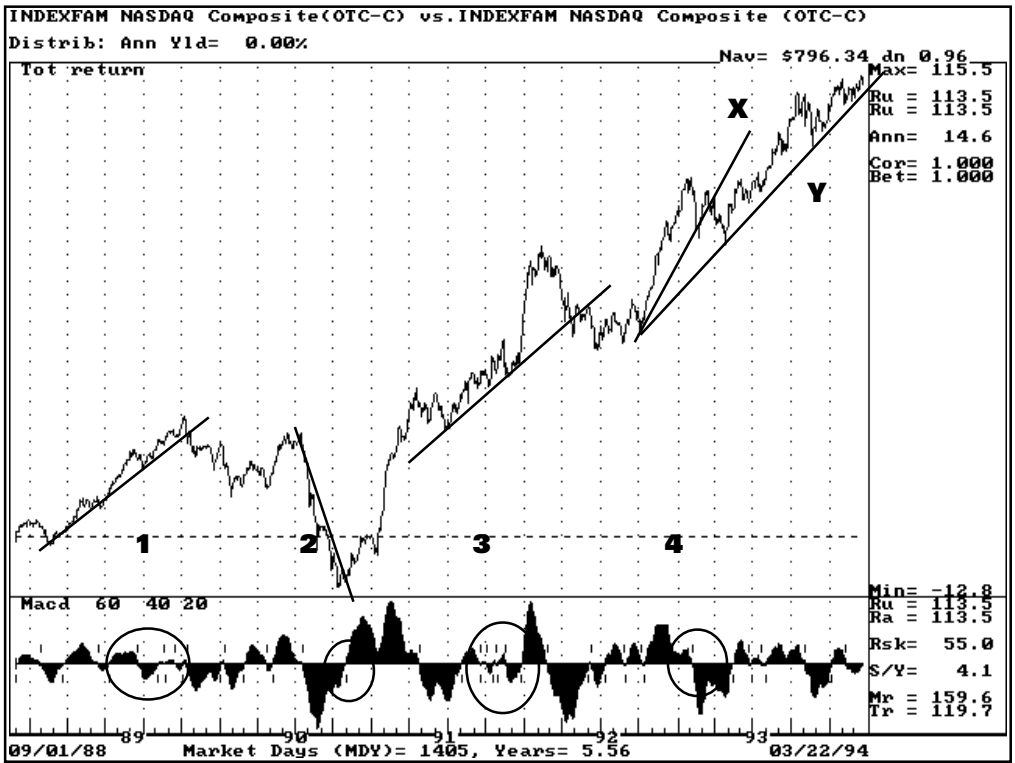
MACD has three adjustable parameters that are displayed in the upper left-hand corner of the MACD Chart. These parameters are (1) The slow (long) moving average; (2) The fast (short) moving average; (3) The trigger average.

## Trendlines with MACD

Trendlines and MACD work well together since they measure different aspects of change: direction and momentum.

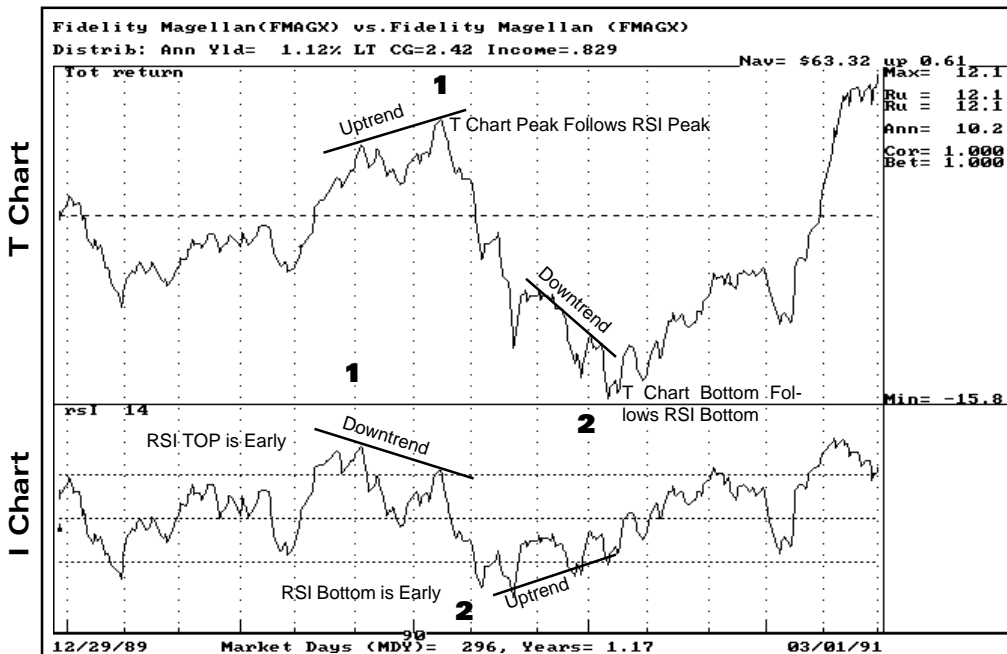
MACD will give a SELL as a sharp uptrend fades to a modest uptrend, but this is often a premature signal. Also, MACD will whipsaw as an uptrend-follows a steady course.

Whipsaws in periods 1 and 3 were easy to avoid since a strong trendline remained intact. There was a strong BUY in Period 2 as the trendline broke. Period 4's SELL was a tough call. The only available trendline was a steep, short-term uptrend (X). When X failed, we redrew Y to construct a more sustainable uptrend.



## Trading-range Indicators (RSI and Stochastics)

Trading-range indicators operate differently from trend-following indicators and are more difficult to interpret. Trading-range indicators do not automatically plot buy/sell ticks, but you can place signals on them automatically.



### Charta Es Divisa in Tres Partes

The chart of a trading-range indicator is divided horizontally into three regions. The top region is the "overbought" zone. The lowest region is the "oversold" zone. The middle region is the neutral zone.

Major advances usually begin from a point where the indicator is oversold. Major declines usually begin from a point where the indicator is overbought.

### Characteristics of a Good Indicator

A good indicator must reach its highest peak before the fund being measured tops. It must reach its lowest point before the fund bottoms. RSI (I Chart) is just such an indicator.

Although not evident in this chart, the biggest problem RSI has is giving signals that are so early that profits are lost. Use other indicators to confirm RSI to avoid early trades.

### Point 1

In the chart above, RSI flagged the 1990 peak and bottom with a signal well before the actual turn in Magellan's prices.

The T Chart's highest peak was well after the RSI's highest peak. As the T Chart peaked, the I Chart had already formed a downtrend.

RSI crossed the centerline moving in the right direction at the best trading point.

### Point 2

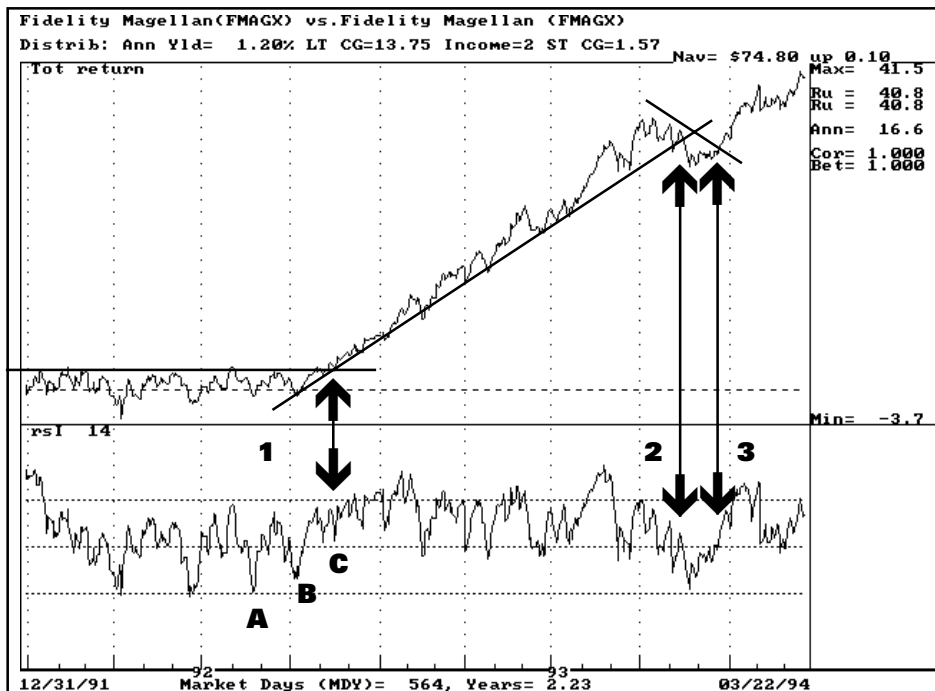
The T Chart's lowest point was well after the RSI lowest point. As the T Chart bottomed, the I Chart had already formed an uptrend.

RSI crossed the centerline moving in the right direction at the best trading point.

## Trading-range Indicators and Trendlines

Trendlines are powerful tools. You can draw these on the FastTrack screen using the R command or print the charts and draw trendlines with a pencil.

To avoid taking false early signals from momentum indicators like RSI use trendlines that measure price direction. Momentum indicators will give a SELL signal when the rate of gain slows, but trendlines are usually not violated until the direction of prices changes.



### Point 1 - Buy

Red fund line breaks through a sideways trend (resistance). Price direction has changed from sideways to up. At the same time, RSI has a series of rising troughs: A, B, C. The rising troughs are much more pronounced than in previous challenges to the resistance line.

### Point 2 - Sell

The red fund line breaks the uptrend at a point that RSI has shown a series of falling peaks that drop through the centerline.

### Point 3 - Buy

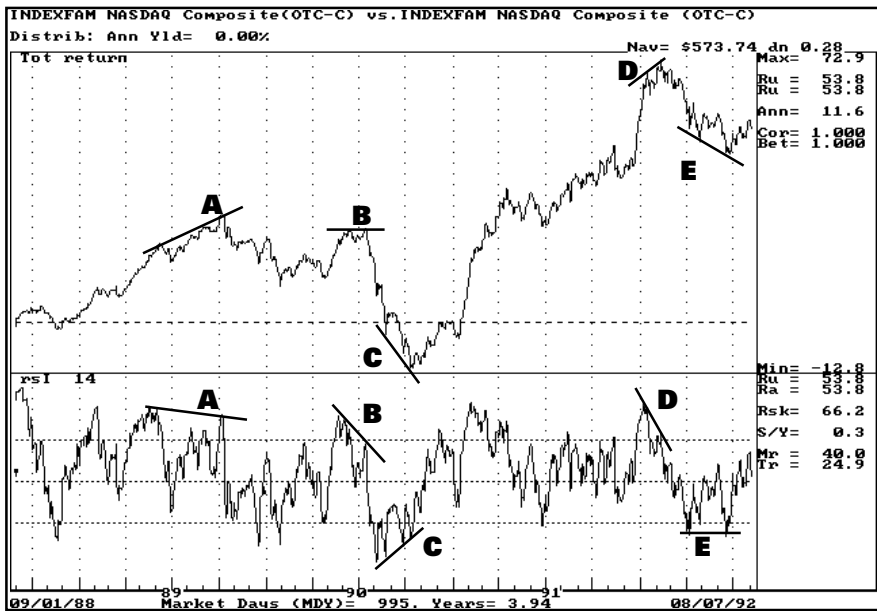
The brief downtrend is broken in the T Chart at the same point that RSI again has a series of rising troughs that move above the RSI centerline.

### Yellow Values

RSI yellow values measure the position of the indicator in the 1-100 range. RSI (I Chart) is considered overbought when it reaches 70. It is oversold at 30.

## Interpreting Trendline Divergences

Drawing trendlines of trading-range indicators leads to another form of analysis called divergence. Divergence occurs when the patterns of two different charts give opposite signals. For example, the Total Return Chart shows positive trends and the RSI chart shows negative trends.



### Line by Line

In the chart above, the trendlines have been drawn across the peaks of new highs and the troughs of new lows.

- A) The chart shows that the new highs on the T chart were not confirmed by new highs on the I chart. This divergence gave early warning of an impending decline.
- B) The double top looked dramatically different on the I chart strongly suggesting a top.
- C) The lowest point of the T chart was NOT the lowest point on the I chart suggesting a bottom. This bottom begins in the extreme oversold area making major gains and a long up-trend likely.

- D) Divergence again marks a significant top. The divergence is very strong showing a strong sell signal.
- E) Divergence again marks a bottom. Time will tell if this is a true bottom. Note that the RSI bottom is merely horizontal. Divergence C would have been a stronger BUY signal since its direction is up.

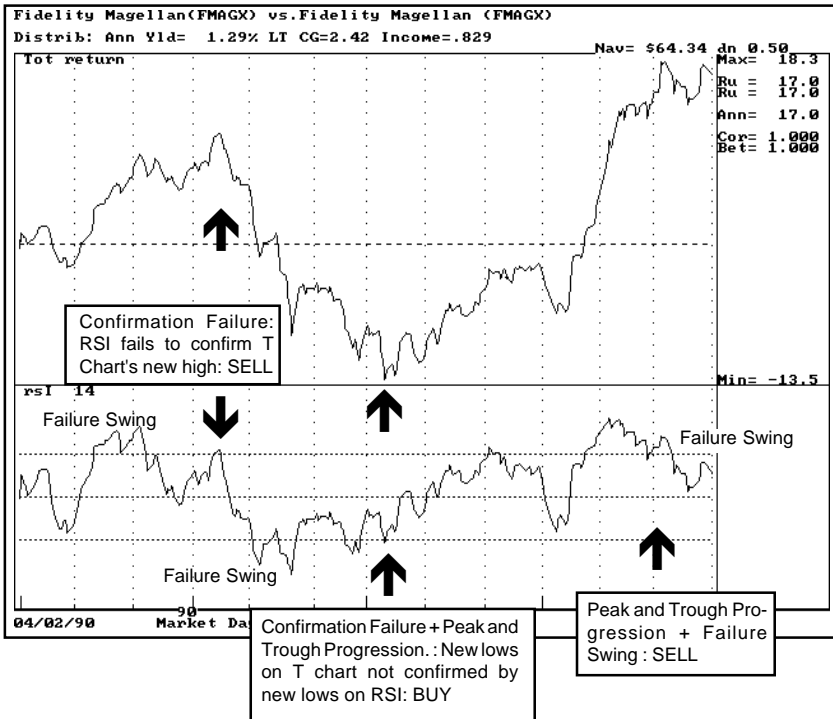
Trading-range indicators can give many false indications. Therefore, it is important that you use trading-range indicators in combination with other analysis.

In general, ignore divergences that start in the indicator's middle zone. These are true divergences but may be predicting market moves that are too small to trade successfully. All above divergences start in the overbought/sold regions.

## Other Trading-range Patterns

Signals given by RSI include: Extreme readings in the overbought/sold regions, Failure Swings, Peak-and-Trough Progression, Divergences, Confirmation Failures.

RSI produces a better Peak and Trough Progression and divergence characteristics than Stochastics in a trendless market. In trending markets use trend-following techniques to avoid making premature trades based on RSI.



### Failure swings

Multiple crossings of either the overbought or oversold dotted lines. Every crossing further suggests that the momentum is failing and that price is about to change direction.

### Progression Of Peaks and Troughs

These patterns are formed by a series of rising or falling peaks or troughs in the yellow lines of the I or S Chart.

### Confirmation

A new high/low of the red line on the P or T Charts is confirmed when RSI and Stochastics also move to new highs/lows. Confirmations suggest that the move will continue.

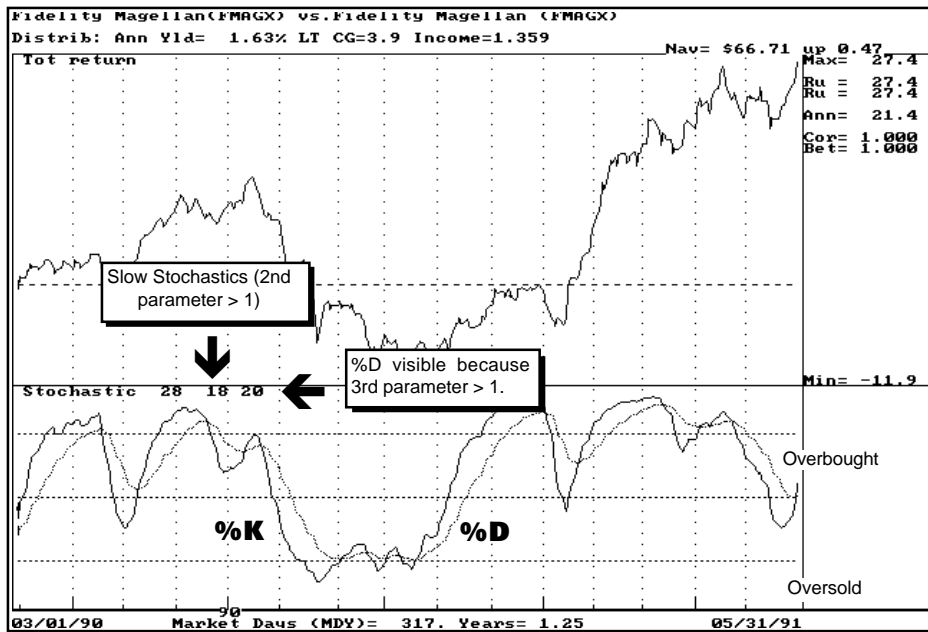
### Wait! My Chart Has Different Numbers

It is normal that not all numbers on this printed page will match what you see on this screen. See *Appendix B, Weird Numbers* section.



## Stochastics Chart (S Chart)

Stochastics is a technical indicator developed by George Lane. Its primary application has been in the timing of quick moves in the futures markets. This section simply defines FastTrack's Stochastics in "standard" terms so as to relate FastTrack to other technical analysis texts.



### Mechanics of Stochastics

Stochastics in futures applications works on the principle that prices close near the top of the trading-range during uptrends and close near the bottom of the range during downtrends.

Mutual funds, however, do not have a daily trading-range and they trade in much less volatile patterns. FastTrack offers a formulation of Slow Stochastics that is appropriate for these characteristics.

Stochastics measures current prices compared to recent prices. Major rallies usually occur from the oversold level. Major declines usually occur from the overbought level.

FastTrack Stochastics has three parameters. The first is the range of days over which %K is computed. The second parameter is set to 1 unless using Slow Stochastics (see below). The third param-

eter is used to smooth %K to reduce the data's point-to-point differences.

### Traditional Stochastics Terms

The Stochastics Chart lines are named:

- %K The solid yellow line
- %D The dotted green line

These abbreviations are sometimes preceded by a number. The abbreviation 14%K stands for %K computed over a 14-day period. The % sign notation is somewhat obnoxious since it denotes a percentage computation. Suffice to say the 14%K has NOTHING to do with multiplication by 0.14.

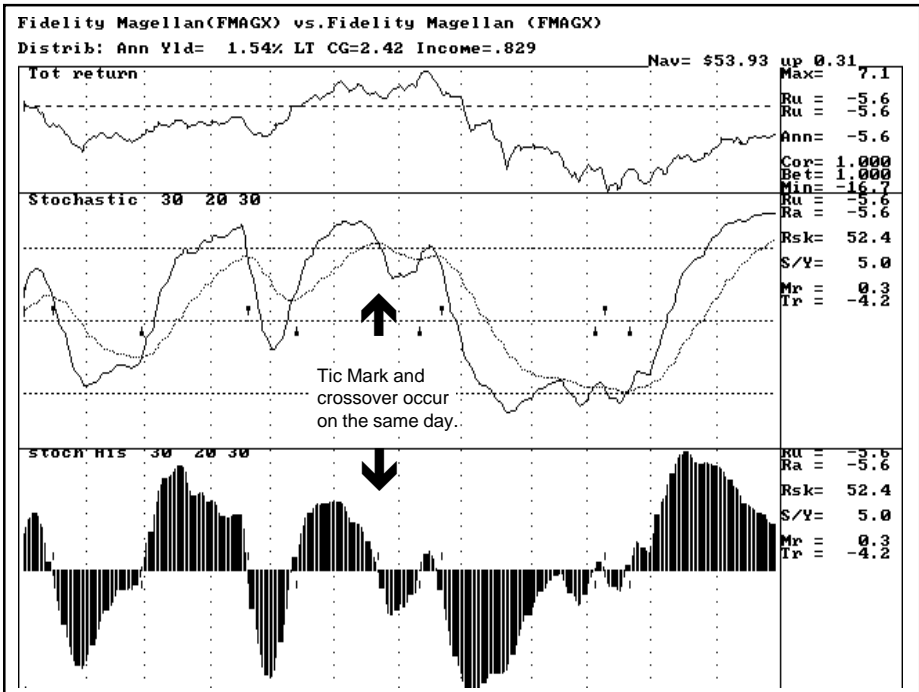
The yellow %K line oscillates between 0 and 100 as the price of the fund moves from the bottom to the top of its range. A green dotted %D trails %K.

The white dotted lines divide the chart at 20, 50 and 80%. When the yellow %K line is below 20% the indicator

## Stochastics Histogram (H Chart)

The difference between the %K and %D lines of the Stochastics S Chart is plotted as a histogram in the H Chart. This graphically illustrates the value of the signals generated by crossovers. The histogram switches from positive to negative as %K moves downward through %D.

This indicator is not a classic technical analysis indicator but is included to help judge the effectiveness of Stochastics crossover signals. See the computational discussion in Appendix A.



There are no recommendations as to what conditions constitute BUY/SELL signals. Nor are there recommended default parameter settings. The S Chart and H Chart are both controlled by the U command's Stochastics parameter settings.

## RSI (I Chart)

RSI is a trading-range momentum indicator developed by Wells Wilder. RSI is also popularly known as Relative Strength Index. FastTrack does not use that term to avoid confusion with FastTrack's Relative Strength, R Chart.

RSI measures the fund's price momentum. Changing the index will not affect the I chart.

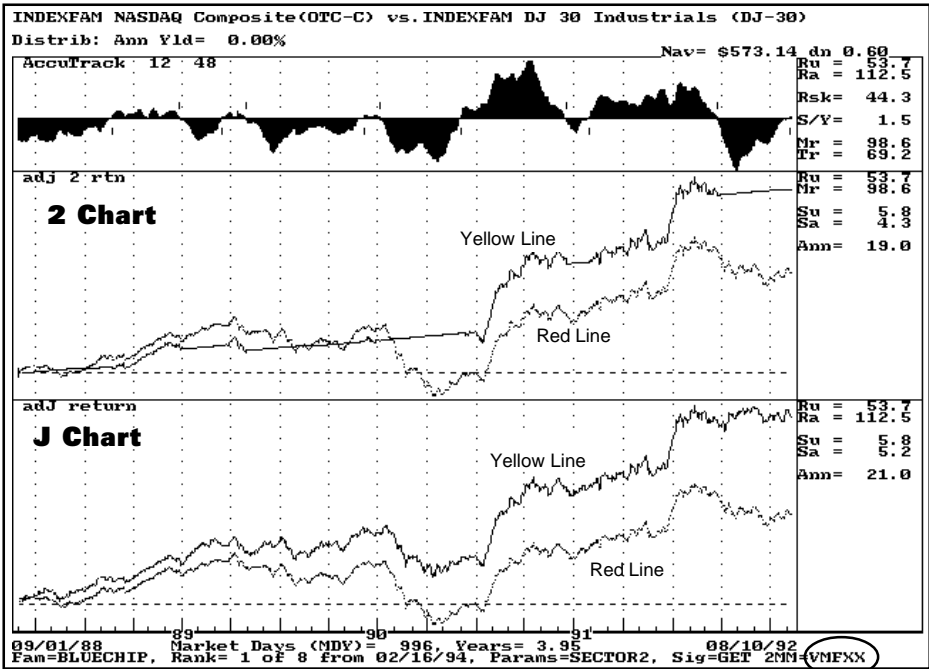
RSI oscillates in a range of 1 to 100. The overbought line is drawn at 70 and the oversold level is drawn at 30.

Wilder recommended 14 days as a parameter. Some books on the subject have suggested that a 22-day parameter may be more accurate. Martin Pring suggests a 9-day RSI for very short movements.

The parameter may be changed manually with the U command. The default is 14 and does not change regardless of the fund displayed.

## Adjusted Return Chart (J and 2 Charts)

Adjusted Return Charts are NOT indicators. They do not give buy/sell signals and there are no parameters to set. These charts show the results of switching between two funds based on signals of the indicator immediately above the chart. The word *adjusted* refers the yellow line which is a *return-adjusted* for trading.



**2MM**

### Small Cap to Large Cap

The screen shows using AccuTrack to signal switches based on the strength of the NASDAQ Composite (OTC-C) and the Dow 30 Industrials (DJ-30).

You cannot invest in the Dow or the NASDAQ Indices directly, but these signals are appropriate for switching between funds in the CAP-SMAL and CAP-BIG families which include funds that invest in small cap and large cap issues, respectively.

### The Lines

The **Red Line** in the J and 2 Charts reproduces the T Chart's red line.

The J Chart's **Yellow Line** is a composite of the returns of the red and green lines of the T Chart. The composite is

formed using the buy/sell signals of the indicator ABOVE the Adjusted Return Charts. The 2 Chart's **Yellow Line** is a composite of the returns of the red and the 2MM = fund.

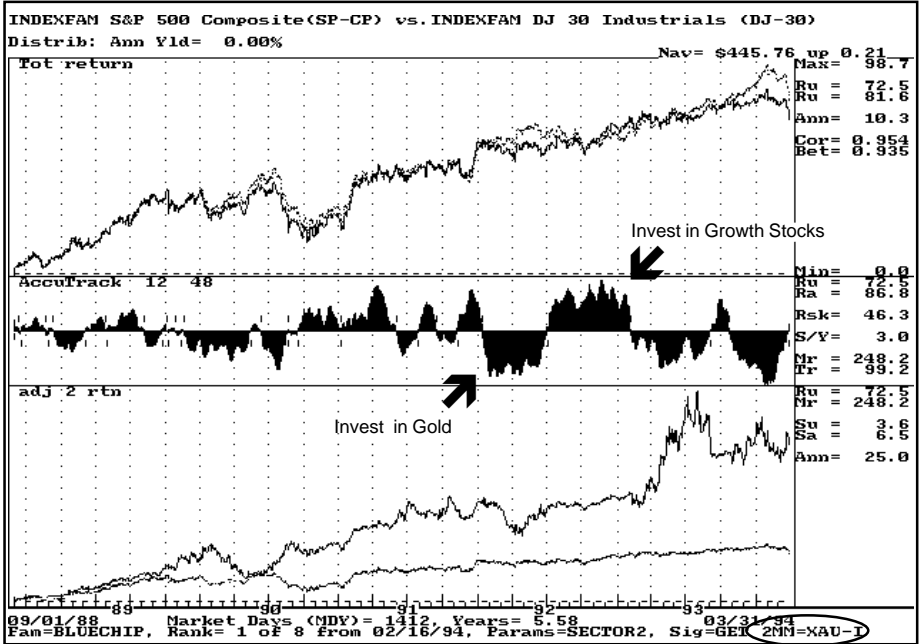
The yellow values for **Adjusted Return** are composite NAV but hard to relate to real NAVs. Ignore the value and concentrate on the percentage gain/loss in the yellow parentheses.

### Where Is the White Line?

J and 2 Charts have a **white line** that do not appear on this page. It was artificially removed from the chart above for clarity. The white line expresses a *risk-adjusted* concept. Don't confuse return-adjusted and risk-adjusted.

## The 2MM Fund Need Not Be a Money Market Fund

In the example below, we illustrate using the 2 Chart to trade between SP-CP and the Philadelphia Gold Index, XAU-I. We used the "Change 2 Fund" button of the parameter editor to have the 2 Chart trade to gold based on AccuTrack's signals on the chart below.



## Trading to Gold Funds

In this example, the underlying philosophy is, "When market sentiment is negative and investors favor big, conservative stocks, then it is a good time to buy gold stocks (PRECIOUS family funds)."

The yellow Composite line of the 2 Chart is formed by switches to the 2MM fund (circled), XAU-I. The switches are produced by AccuTrack's broad market rotation signals between the growth stocks of the S&P 500 (SP-CP) and the income stocks of the Dow 30 Industrials (DJ-30).

## Success Using the J and 2 Charts

There has to be fundamental logic underlying the use of indicators before you can expect consistent success.

Using the 2 Chart, it is hard to beat buy-and-hold results by using pure mechanical timing. If your use of FastTrack is limited to timing switches between a

single fund and money market, then you will not likely beat buy-and-hold over the long-term (but you will decrease risk).

In contrast, the simple logic of "be in the best fund" will produce excellent results in the J Chart without a great deal of effort.


## Limitations of the J Chart

This type of trading between market segments works best when the segments have different price movement characteristics (relatively low correlation as measured by Cor =).


Standard Deviation of the red and green lines should be about the same. If one of the lines is much more volatile than the other, then the action of AccuTrack will be governed almost entirely by the movement of the most volatile line. AccuTrack will be reduced to working much like a smoothed moving average.

## Counter-Relationships - Another Use of Adjusted Return


The counter-relationship between gold and equities has often been noted: When gold is up, stocks downturn. When gold is down, stocks upturn. Try this relationship:

**F** then OTC-C 

(Make the Over-the-Counter Index the fund.)

**I** then XAU-I 

(Use the gold stock index, XAU-I, as the green line.)

**P** then TTA22 

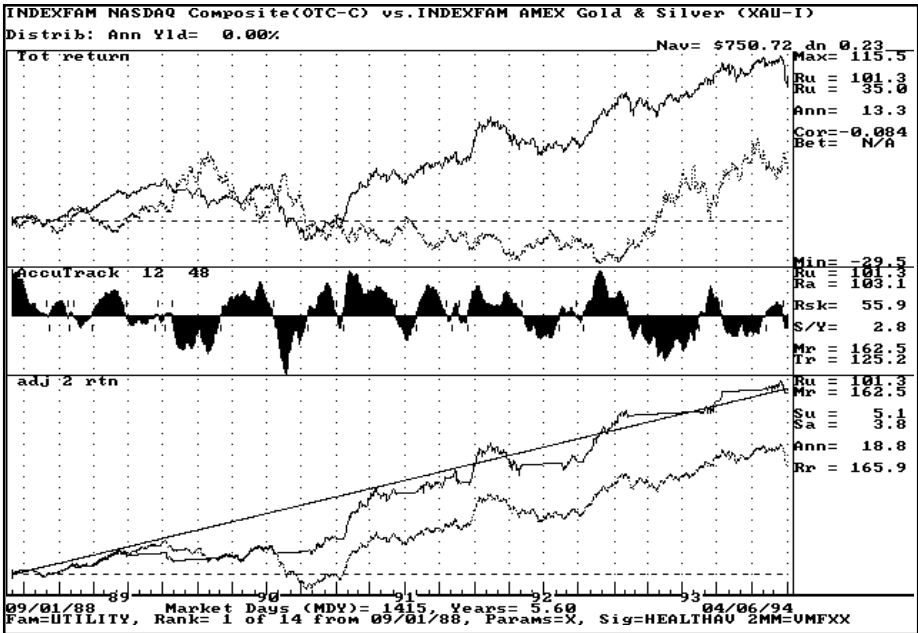
(Time switches to money market using AccuTrack.)

**E** **A**

(Set chart to full date span.)

**U**

(Change the AccuTrack parameters to 12 48.)



The Adjusted Return 2 Chart picks up the red line gains following a buy signal. During sell period, the chart picks up the 2MM fund's gains, in this case VMFXX.

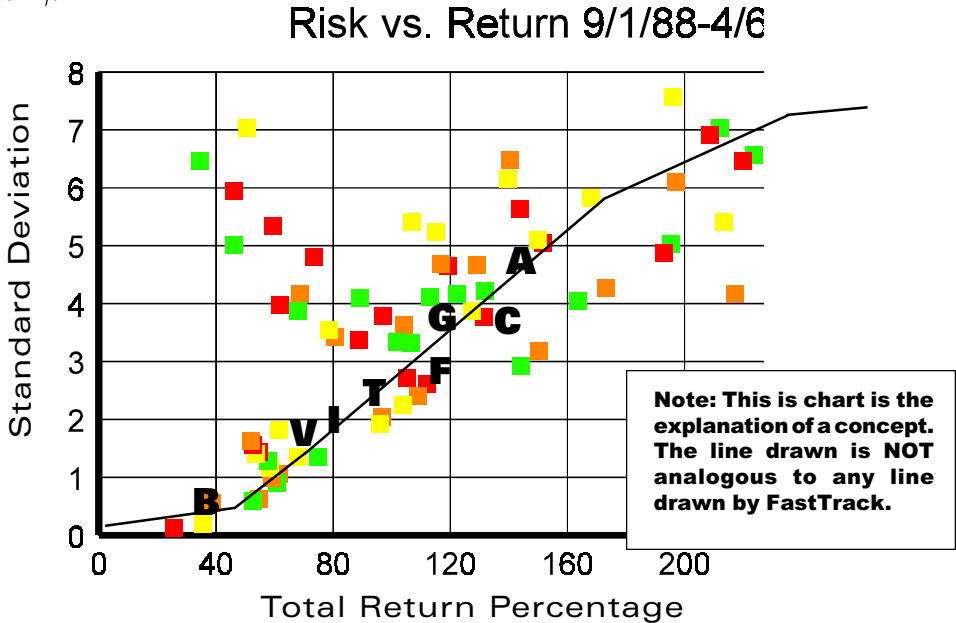
The performance of the switching strategy is good. Risk is reduced as measured by both time invested (Rsk = 55.9) and by the Standard Deviation of the yellow line adjusted by the switching (Sa = 3.8). Sa = is substantially lower than the Standard Deviation of the red line, Su = 5.1.

NOTE: There is no guarantee that this counter-relationship will continue to exist, or if it does, that you will make money using its timing signals. Consult your traditional investment advisors and invest only in funds that are suitable for you.

## Risk-Adjusted Return (The Concept)

The concept is simple: For every unit of additional risk you get a unit of additional return. Unfortunately, this is true only in the broadest sense. There are plenty of opportunities in the investment world to take enormous risk for very little return.

The graph shows return as a function of risk. Each square is a single Fidelity fund plotted vertically by Standard Deviation ( $S_u$ ) and horizontally by total return ( $R_u$ ).



The letters show the location of other risk/return points for various fund averages:

B	- The average risk/return of BD-ALL family funds.	( $S_u=0.3$ , $R_u= 39.3$ )
I	- The average risk/return of INCOMEQ family funds.	( $S_u=2.2$ , $R_u= 78.9$ )
G	- The average risk/return of GROWTH family funds.	( $S_u=4.0$ , $R_u=120.1$ )
A	- The average risk/return of AGGRESS family funds.	( $S_u=4.6$ , $R_u=138.0$ )
F	- The average risk/return of Fidelity family funds.	( $S_u=2.9$ , $R_u=114.1$ )
V	- The average risk/return of Vanguard family funds.	( $S_u=2.1$ , $R_u= 77.2$ )
T	- The average risk/return of TRPrice family funds.	( $S_u=2.5$ , $R_u= 90.9$ )
C	- The average risk/return of TwentiethC family funds.	( $S_u=3.8$ , $R_u=130.5$ )

The black line is the mean of the data. Funds below the line take less risk in proportion to their returns. Those above the line take more risk in proportion to their returns.

If risk and return are truly related, then we would expect that the average of most fund objectives would fall along a line. Indeed, the average aggressive growth (A), growth (G), income-equity (I), and bond fund (B) do fall along the same line as expected.

Families with a conservative reputation should fall toward the lower left of the graph as does Vanguard (V). The average of more aggressive families would fall above and to the right of other families as does Twentieth Century (C).

### Go To the Next Page

On the next page we explain how risk-adjusted return is displayed within FastTrack.

## FT's Risk-Adjusted Return White Line

Risk-adjusted return of the red fund line is drawn as a white line on both the 2 and J Charts. To draw the white line, Fast-Track computes a ratio of risk/return using the Standard Deviation, total return of the current family's AVG, and the fund named by the 2mm = (circled). You can change 2mm = with the U command.

On installation, the default 2mm = fund is VFINX. If you choose a different 2mm =, consider these suggestions.

- 1) The 2mm = fund chosen should be a fund that is at the low end of volatility and return of the range of funds you consider suitable.
- 2) A conservative investor might set 2mm = to a money market fund, like VMFXX, or to a short-term bond fund, like FSHBX.
- 3) An aggressive investor might set 2mm = to an index fund, like VFINX.
- 4) Oddball funds, like members of the MAVERICK family, are not good choices for 2mm =. Market indices are good choices when the index has a high Cor = (.75 or higher) compared to the family's AVG.

### Drawing the White Line

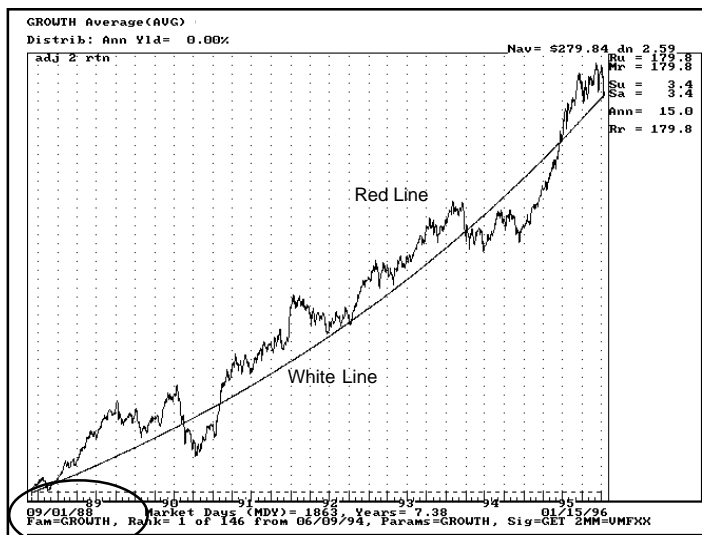
The white line is a constant rate of return producing the expected percentage total return of  $Rr =$ . Over long periods a constant rate of return appears curved.

A fund with good risk-adjusted return should track the white line.

### When to Buy. When to Sell.

Best buys come when the J or 2 Chart's red line has dipped below the white line.

When the red line runs above the white, then the danger of correction is highest. Every fund has a different  $Rr =$  value because  $Rr =$  depends on the fund's  $Su =$  value. (Note: Inside the program,  $Su =$  is carried to several more places than the screen shows. This means that two funds showing the same  $Su =$  value may have slightly different  $Rr =$  values.)



### The Family is Important

Funds that fall below the white line have poor risk-adjusted return *within the context of the current family of funds*. Funds that fall above the white line have a good risk-adjusted return *within the context of the current family of funds*.

The circled family name tells which family average sets the risk/return ratio.

This means that,

- 1) if you change the family, but
- 2) leave the red line unchanged,

then

- 1) the  $Rr =$  value will change, and
- 2) the white line will shift

because a different family has a different risk/return ratio. Surprisingly, however, broadly diversified US market-based families like BALANCED, GROWTH, AGGRESS, and VALUE have nearly identical ratios. Dissimilar families like, PRECIOUS, EUROPE, and EMERGE have wildly dissimilar ratios

## Other Measures of Risk/Return

FastTrack has a sensitive, refined method of calculating risk-adjusted performance. The method is an application of the "Sharpe Ratio" although arrived at independently from Sharpe's work.

FastTrack's calculation is different from Morningstar's risk/return calculation. Morningstar uses the same basis for evaluating all funds.

## The Chart on Page 126 is S-Shaped

Note that the "Risk vs. Return" chart with little squares has a S-shaped line because,

- \* money market and short bond funds provide significant return with no risk.
- \* the most volatile funds can produce no extra return with much higher volatility . . . essentially limited by the law of diminishing returns. When volatility is large, predicting return over "investable" periods is impossible.

By "investable" we mean periods which coincide with life cycles. Over periods as long as 50-75 years, gold funds and short-term bond funds may prove to have comparable risk/return . . . the trick is living long enough to see it happen. An investor could easily live out his adult life waiting

for gold stocks and short-term bonds to develop the same risk/return ratio.

## Morningstar Uses One Ratio

The line drawn on page 125 is an S-shape with a flattened lower and upper portion.












Morningstar's risk/return calculations all use the same ratio, but the ratio is not constant for all types of fund with conservative funds having very low risk/return ratios and aggressive funds having very high risk/return ratios. Morningstar's method is valid only in the middle of the volatility scale.

For example, it is reasonable to use a single risk/return ratio on funds that fall along the essentially straight center segment of the risk/return curve on page 125. This includes most funds that hold a diversified portfolio of US common stocks. It is not reasonable to compare the most conservative to the most aggressive funds using the same risk/return ratio.

By setting a family average as a standard, FastTrack does a much better job calculating expected returns for the most conservative and aggressive ends of the spectrum. This includes calculations for junk bond, option income, growth, sector, gold, short-term bond, Japan, international, and utility funds.

### How to Get an Accurate Risk-Adjusted White Line

FastTrack's white line is based on the risk and return of the AVG fund of the current family and risk and return of the 2MM = fund (usually VMFXX). To draw an exactly correct white line of expected return do the following:

- |   |   |
|---|---|
|  then <b>UTILITY</b>  | (Load an objective family like UTILITY, not a Buying Family like Vanguard.)                 |
|    | (Enter the sTatistics menu.)  |
|                       | (Move the blue pole to any day except the last day.)  |
|    | (Rank the funds which also builds the average.)   |
|  (Esc)   | (Escape back to the main menu.)   |
|  <b>22222</b>         | (Change to the 2 Chart so you can see the white line.)                                      |
|                       | (Look through the funds comparing each to its expected return portrayed by the white line.) |

Also be sure that the 2MM = value is set to a money market fund like VMFXX.



**Poor Risk-adjusted Return**

This UTILITY fund is far too volatile to have produced so little return. Perhaps telephone utility funds are not the best type of utility funds. It should have produced 198% (Rr=) with such volatility, but it never came close.



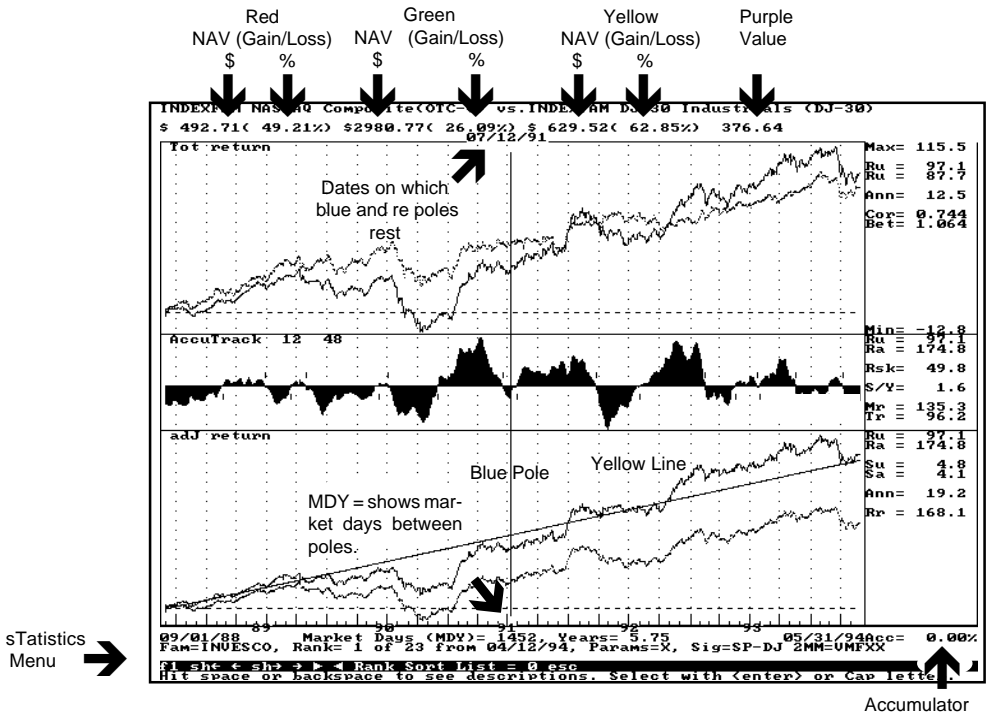
**Good Risk-adjusted Return**

Here is another telephone utility fund that performed far better. It has less volatility and more return than the Smith-Barney fund. We expected only 168.9% return but got 197.6%. This is graphically illustrated by the fund being above the white line.



# The Statistics Commands

The sStatistics menu is a new set of commands at the bottom of the screen that display when you hit T from the main menu. These commands display detailed information about the fund and index.



## The Poles

The sStatistics screen has vertical, dashed, red and blue lines that are drawn vertically through the charts. Think of the lines as surveyor poles that mark a particular day. The poles measure gains and losses between the poles or between the blue pole and the right chart edge. Move the poles to any market day with arrow keys.

## Reading Pole Values

The second line shows the gain/loss statistics. The colors of the values are coordinated with the chart lines measured, red

values for the fund and green for the index. Yellow and purple values for each chart are described in *The Charts* chapter and in mathematical detail in Appendix B.

## The sStatistics Menu

Look at the second line from the bottom of the screen. It lists commands that are different from the main menu commands. The <Spacebar> and backspace keys work as they do on the main command menu, but the other keys perform different functions. The sStatistics menu also includes keys for moving the poles around.

## Pole Movement Keys



```
f1 sh← sh→ ▶ ◀ Rank raNk Sort List = 0 esc
Hit space or backspace to see descriptions. Select with <enter> or Cap let
```

Use the following keys:



(Moves the blue pole one day back.)



(Moves the blue pole one day forward.)

To speed the pole movement use shift keys on the numeric pad:



(Moves the blue pole back more than one day.)



(Moves the blue pole forward more than one day.)

Note: The Tab keys move the pole 5% of the screen width OR to the next signal in the lowest indicator chart within 5% of the current position.

To control the red pole type:






(Pulls up the red pole, removing it from the screen.)



(Plants the red pole at the current location of the blue pole.)

Note: The blue pole will hide the red pole until the blue pole is moved.

The blue pole will change to a dashed pattern when it rests on a BUY/SELL tic mark in the last indicator chart toward the bottom of your screen. This helps determine the exact day that the signal was generated.


Also note: Laptop keyboards may not generate Shift + arrow keys exactly like full size keyboards. Check your laptop manual to determine the proper keys to get shifted key codes. Use the  and  +  keys to move fast.

When changing the chart period, if you left a red pole planted the last time you were in sTatistics, then FastTrack will beep, display a message, and extend the length of the chart IF the date change will move the red pole off the edge of the chart. The number of days on the chart will increase. If you do not want this to happen, reenter sTatistics and pull up the red pole.

## Leaving the Statistics Screen (Esc)



```
f1 sh← sh→ ▶ ◀ Rank raNk Sort List = 0 esc
Hit space or backspace to see descriptions. Select with <enter> or Cap let
```

When finished with the sTatistics screen, type  (Esc). The chart border turns blue. The poles disappear. On entering sTatistics again, the poles will reappear on the same dates as they were before leaving statistics.

## Ranking the Funds in a Family (R and N)



```
f1 sh← ← sh→ → ▶ ◀ Rank raNk Sort List = 0 esc
Hit space or backspace to see descriptions. Select with <enter> or Cap let
```

Ranking is an important investment tool. Hit **[R]** to rank the funds in the family. The fund with the greatest gain will be at the top of the list. If only one pole (the blue pole) is showing, FastTrack ranks the total return from the date on which the blue pole rests to the last day of the chart. If both the red and blue poles are showing, the ranking is based on the total return between the poles. This will be the same value as is shown on the 2nd line of the sStat chart in the red parentheses. The raNk option ranks in reverse order. Hit **[N]**. The fund with the least gain is ranked at the top of the list.

DO NOT USE THE RED POLE IF YOU WISH TO RANK FROM THE BLUE POLE TO THE END OF THE CHART. JUST PUT THE BLUE POLE ON THE STARTING DAY THEN HIT **[R]**.

After ranking, display the ranked list by choosing the L command.



```
f1 sh← ← sh→ → ▶ ◀ Rank raNk Sort List = 0 esc
Hit space or backspace to see descriptions. Select with <enter> or Cap let
```

This produces the screen below.

```

There are 91 funds in FIDELITY.

If you are going to print to the printer, then set the printer
top of page and turn it on.

How many funds to list? [ 91 ] ←
91 funds will be printed.

Select where the report will be directed or Esc or X to abort.

P - Print report to LPT1 (normal for most users)
S - Print report to screen (SCRN:)

2 - Print report to LPT2
3 - Print report to PRN (See your DOS manual regarding use of PRN)
5 - Export comma-delimited rows and columns to a text file
D - Print to a disk file in re
Esc - ABORT
Choose one of the above [ ] ←
```

The great majority of users hit **[ ]** here.

The great majority of users hit **[S]** here.

### Exporting to Spreadsheets

Some users may want to load ranking information into spreadsheets. Option #5 exports ranking results in a form suitable for import to spreadsheets.

The columns in report table are in the same order as shown in the example on the next page.

### Exporting to Word Processors

Option #D can be used when you wish to incorporate ranked lists into documents. The disk file written is in text format suitable for all word processors. Each field in the text file is followed by a Tab character. This permits you to set a format for the list in a proportionally spaced document so that the columns line up easily.

SELECT Family Ranked from 05/26/94 to 05/27/94 ending 05/27/94									
No	Symbol	Fund Name	Gain	SD	%ile	SubR	SubAvg	FT-RNK	
1	FSLBX	Fidelity Sel Brokerage & Inves	1.3	5.7	1	0.0	0.0	1	
2	FDPMX	Fidelity Sel Prec Met & Minera	1.2	7.3	6	0.0	0.0	6	
3	FSAGX	Fidelity Sel American Gold	0.8	6.6	27	0.0	0.0	27	
4	FSCPX	Fidelity Sel Consumer Products	0.8	3.5	27	0.0	0.0	27	
5	FSDAX	Fidelity Sel Defense & Aerospa	0.7	3.2	32	0.0	0.0	32	
6	FBIOX	Fidelity Sel Biotechnology	0.5	6.7	43	0.0	0.0	43	
7	FSRFX	Fidelity Sel Transportation	0.4	3.7	48	0.0	0.0	48	
8	FSVLX	Fidelity Sel Home Finance	0.4	5.0	48	0.0	0.0	48	
9	FBMPX	Fidelity Sel Broadcast Media	0.4	4.0	48	0.0	0.0	48	
10	FIDSX	Fidelity Sel Financial Service	0.3	4.3	53	0.0	0.0	53	

ESC(quit),PgUp(prior page),PgDn(next),Home(1st pg),End(last pg),P(print)

**Gain:** The total return between the poles adjusted for dividends.

**SD:** Standard Deviation for the width of the chart. SD varies over time so do not expect the SD of different periods to be the same.

**%ile:** This figure is a scaled version of the Gain column. The highest gain is arbitrarily set to 1. The lowest gain is set to 100. The remaining %ile figures fall proportionately within that range. The percentile ranking better quantifies the ranked relationship of the funds. Note the large percentile gap between the #1-ranked fund and the #2-ranked fund. Note that funds #7 and #9 have the same percentile ranking reflecting their extremely close values.

**SubR:** Subsequent return is the % return that occurred from the last date ranked (you must have used the red pole in the ranking) to the end of the chart. If ranking really works, then the values in this column should be descending. In other words, the higher the rank, the higher the subsequent performance.

**SubAvg:** SubAvg calculates a 5-line moving average. Five fund lines are averaged and the result is placed on the first line. If ranking really works, then the SubAvg field should start at a high value and decline gradually.

**FT-RNK:** This is an average percentile ranking. After ranking once, the FT-RNK column is the same as the %ile column. After ranking two or more times the FT-RNK column becomes an average %ile. This is computed by summing the %ile column on N number of rankings then dividing by N when displaying this report.

### Multi-Period Ranking

The FT-RNK column provides a way to rank multiple periods and to produce a composite ranking that incorporates the performance for several periods.

This could be valuable, for example, finding funds that have a consistent history of strength in bull or bear legs of a market.

To reset FT-RNK hit  (zero key).

### Ranking Strategies

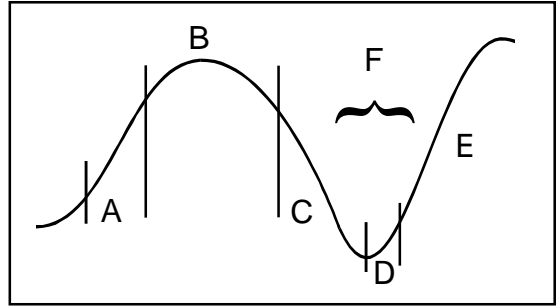
Long-term historical rankings are found in printed directories of mutual funds. These ranking are of no help whatsoever to active investors whose objective is to increase return by making a few strategic switches/year.

Long-term rankings do offer slight advantage to buy-and-holders since they eliminate poorly managed funds that are kept afloat by the strong selling efforts of a well-commissioned sales force.

## When to Rank and What to Expect

### A: Upside Ranking

Period A is the major part of an upturn. The funds that rank the highest during period A will outperform the lower ranked funds during the *next* upturn, period E.



### B: High Point Ranking

When there is a change of leadership at this point, beware! If the formerly leading funds drop to the bottom of period B rankings, the broader market is likely topping. A correction may be imminent, particularly if the rally went above support levels.

### C: Downside Ranking

Highest ranked funds in this period are positioned most defensively. This means their portfolios contain cash, bonds, utility stocks, and other conservative investments. These funds are least likely to move up quickly at the market turning point.

This rule does not hold true for funds that were highly ranked in period A and that continue to be highly ranked in period C. These funds are potential big winners in the next upturn, period E.

### D: Low Point Ranking

Funds ranked the highest in period D will do the best in period E. The ranking should be considered in the context of the other periods.

Funds that did poorly in period A are likely to do poorly in period E. This is particularly true if these same funds did well in period C.

Top ranked funds that showed good relative strength vs. the broad market in periods A, B, & C are likely to do well again in period E.

### E: Extended Upside Ranking

The strongest part of any move is the early part. Jumping into funds after they have been at the top of the list for a long period is a high risk strategy.

However, if the upturn is very broad with all types of funds participating, then the funds at the top of the list may continue to do quite well.

### F: V-Shaped periods

Funds which lose the least in a market downturn and gain the most in a market upturn are likely to continue to do well.

Rank for a V-shaped period in broad market indices like the S&P 500 during which the return is 0.0 or very slightly positive. This ranking strategy is the **most powerful** of all the strategies.

### The Period Ranked Is Important

The order of a ranked list depends on the movement of the broad market during the period ranked. When the market is broadly down, then money-market, short-term bonds, and other conservative investments will be at the top of the list. When the market is broadly up, then aggressive stock funds will be at the top.

### Rank at Turning Points

The most important periods to rank are "turning points". When aggressive funds fail at market tops, then the subsequent movement of the market is likely down. When aggressive funds rise sharply at market bottoms, then the subsequent market movement is likely up.

## Sorting the Ranking Report



```
f1 sh← sh→ → ▶ ◀ Rank raNk Sort List = 0 esc
Hit space or backspace to see descriptions. Select with <enter> or Cap Let
```

The Ranking report can be sorted in the order of any of the columns. There are a variety of uses for sorted reports. Hitting **[S]** bring up a new menu at the screen bottom.

```
f1 standard-Deviation Gain Name ftRank $ymbol subsequent-gain esc
Choose the column of the Ranking Report that you want to sort by
```

### Assessing Risk

Sort by Standard Deviation. In general, the high SD funds should be at the top of the chart. When they *begin* to fall, then it is not a good time to be aggressively invested. When the high risk, high SD funds begin to climb to the top of a ranked list, then shift investments to more aggressive funds.

### Printing All the Funds Alphabetically

Sorting the ALL family by "Name" will produce a complete alphabetical list except that certain indices are not included. Sort the INDEXFAM family and print it to get a complete listing of everything.

### Other Sorts

You may sort by the other columns. The results should be fairly obvious, therefore, there is no further explanation of these functions. Try them and see what you get. You may sort and resort to your heart's content.

### Some Rankings Don't Work

Pick up most any financial magazine and you will see ranked fund lists. The ranking algorithm varies, but they have one thing in common . . . they don't work. Here are some of the ranking-based strategies that really don't work:

- 1) Ranking a calendar year. What you'll find is that last year's top-ranked funds are slightly less likely to be winners this year than the bottom-ranked funds.
- 2) Doing a weighted composite ranking for 1 - 3 - 12 month periods.
- 3) Ranking every day/week/month. This is just a variant form of #2 above. Excellent market patterns on which to rank do not occur more than 2-4 times/year.
- 4) Ranking for 3 - 5 - 10 year periods. Another variant of the above . . . but in this case the ranking seems to have some modest validity.

However, long-term rankings don't consider that poorest performers are liquidated, merged, or removed from the database.

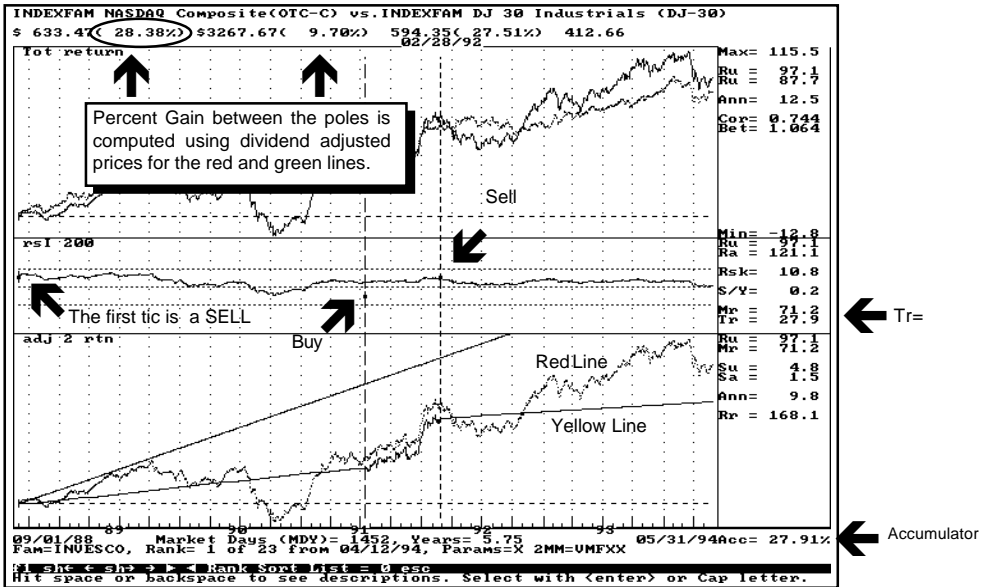
About the best that can be said of long-term top-ranked funds is that the management (if unchanged) is experienced, capable, and lucky. There is no guarantee of future results.

## Tracking Gains and Losses (=)



```
f1 sh ← sh → ▶ ◀ Rank raNk Sort List = 0 esc
Hit space or backspace to see descriptions. Select with <enter> or Cap let
```

The white Acc= in the lower right corner of the sTatistics screen is an accumulator. The gain/loss between the poles is added to the accumulator whenever you hit [=]. To clear the accumulator hit [0] (zero key.)



### Percent Gain Between the Poles

The poles are set on 7/17/91 and 2/28/92. There is a Buy and a Sell tic on the I chart under each pole.

The percent gain between the poles is based on the dividend adjusted NAVs for the red and green lines without a Trading Delay Factor.

### Trading Delay Factor

Tr= is a percentage gain when the signals show BUY. In the chart above, you would expect the Tr= value to be 28.38, the same as the figure in the red parentheses on the second line of the screen, but Tr = 27.90 .

The difference is that the Tr= computation is delayed a specified number of days using the Q command from the main menu. See the *Using FastTrack*

### Compounded Gains/Losses

It is tempting to think of the accumulator like a calculator . . . but it's a bit more complex.

Each period measured with the poles is added to the accumulator by hitting [=]. The process compounds the gain previously in the accumulator. The accumulator does not sum the gains. The compounding formula is,

$$\text{Previous Gain} \times (1.0 + \text{Gain Between Poles})$$

When the chart has many tics, set the pole on the buy tic mark of the 1st up period and hit [J]. Move to the sell tic and hit [=]. Continue for every successive up period. The resulting accumulator value will be the same as Tr='s compounded gains.



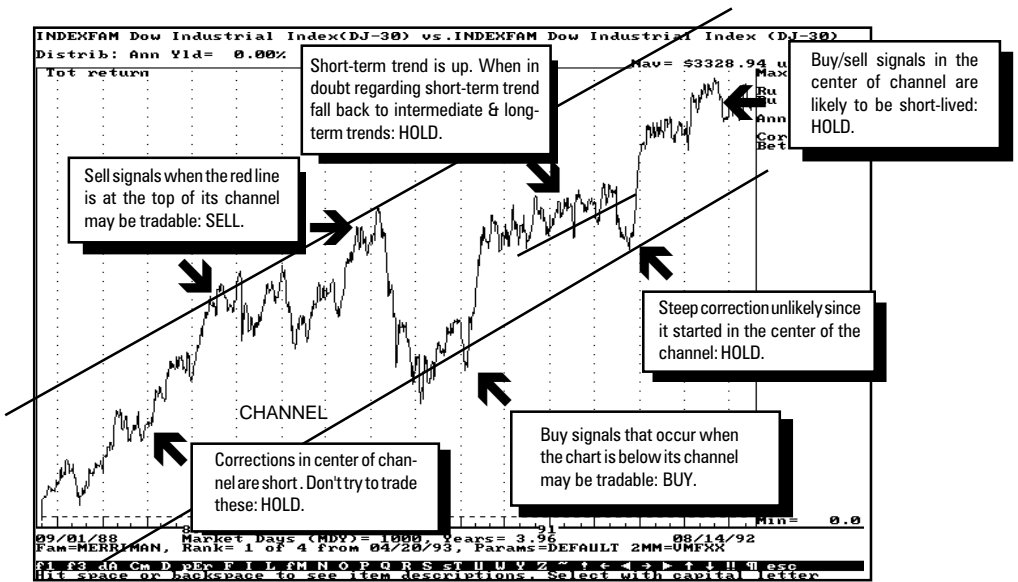


# Trading Patterns

☞ Trendlines were the first form of technical analysis. Before the advent of the personal computer, trendlines were the major, if not only, tool used by the armchair technician. In these days of Stochastics and other heavy-duty computer techniques, it is important not to overlook trendlines.

## Defining a Channel

Markets and funds run in trends. The trend has tops and bottoms. Trendlines across these extremes define the channel.



## Obey Traffic Signals

Channels are stripes on the highway. It ALWAYS is best not to ignore these stripes. Controlling your investments is like driving your car, decisions are easier to make if you know where you are.

## Funds Are Different

Conservative funds often run in channels for long periods affected only by major shifts in fundamentals. Aggressive funds

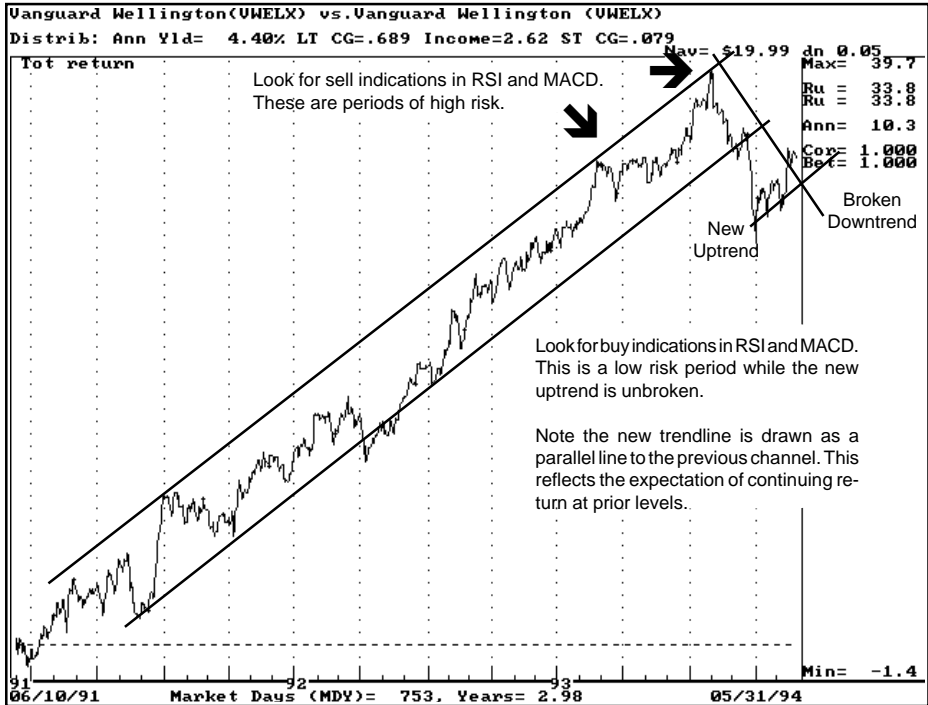
and sector funds often run in channels for long periods reflecting investor sentiment.

## High Risk and Low Risk Periods

Buying when a fund is above the top of its channel is more risky than buying when a fund is below its channel. Sell a fund when it is above its channel and showing failure signs, then move to a fund that is below its channel and showing recovery signs.

## Channels for Conservative Funds

Return is expected to be steady, but capital value is affected by extreme market conditions. In this case, the Fed began to raise interest rates in early 1994. This caused a correction in the capital value fixed income investments.



### Forming a New Channel

The New Uptrend is redrawn at the same slope as the lines of the previous channel.

We would expect a continuing, long-term stream of gains about equal to the previous level. Hence, the uptrend is drawn parallel to the prior uptrends.

If the uptrend were drawn too steep, the trend would reflect a 20%+ annualized return which is NOT realistic for this fund. The trend would be broken too quickly for no good reason.

### Conservative Funds Form Channels

The definition of a conservative fund is that it will produce a continual stream of returns without dramatic, sudden losses.

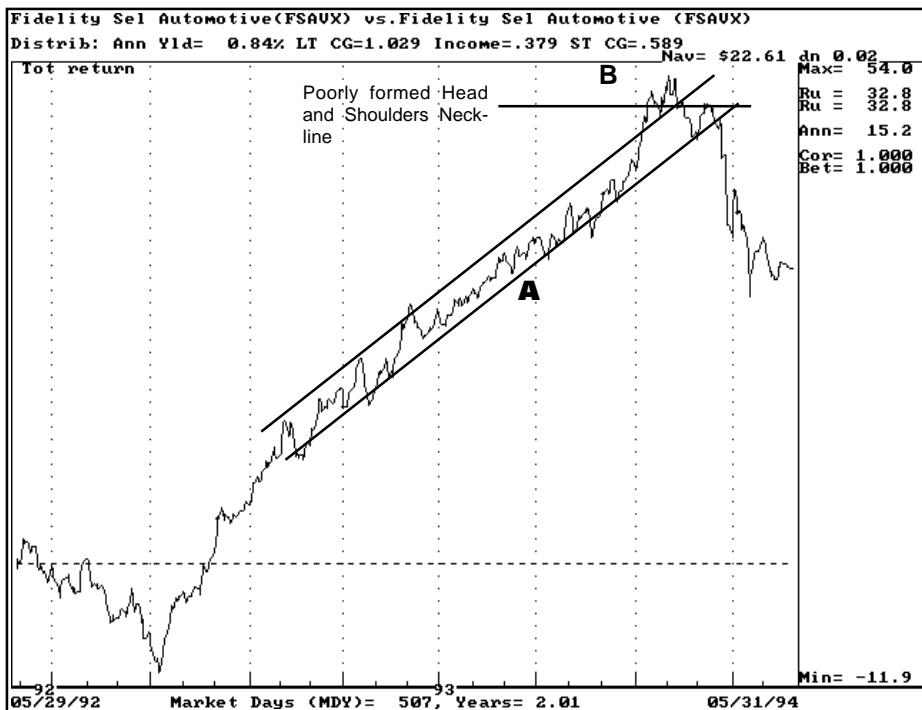
By definition, a conservative fund will fall pretty much within a channel. If your conservative fund does not form apparent channels, then question its classification as conservative.

### Wait! My Chart Has Different Numbers

It is normal that not all numbers on this printed page will match what you see on this screen. See *Appendix B*, Weird Numbers section.

## Sector Fund Channels

Sector Funds get hot, then sector funds get cold. They often form channels which reflect extreme rates of return which are unsustainable.



### A - Unsustainable Rate of Return

From mid-January 1993 through mid-January 1994, this channel ran at the rate of 37% annualized return (Ann = ). Obviously, this rate would be hard to sustain in a mature industry like automobiles.

The longer the unsustainable run, the sharper the likely correction. In sector funds the manager will often take profits and shift to less well known players within the group. As the move becomes increasingly mature, the holdings become more and more speculative resulting in the ultimate blow-off top.

### B - Speculative Spurt

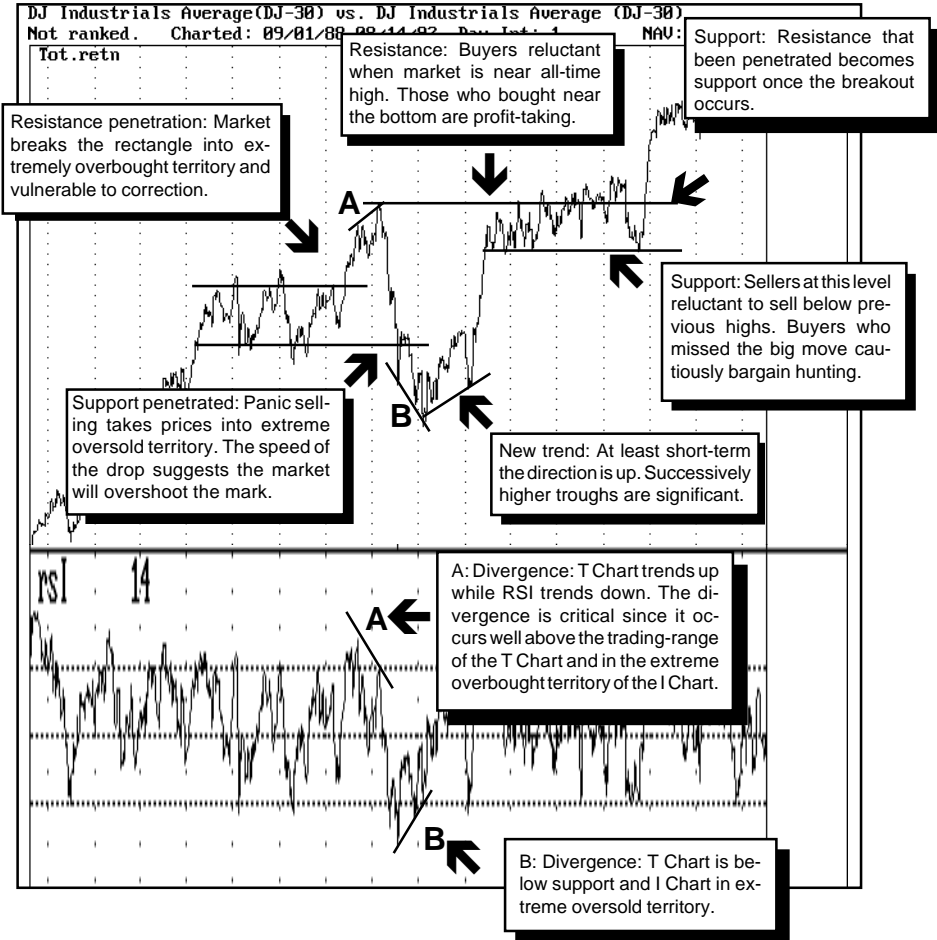
As often occurs, the rally ended following a burst of speculation that took the trading pattern well above the channel. From 12/15/93-1/14/94, the Ann = ran at the rate of 141%.

### Classical Topping Formation

A head and shoulders pattern formed within a few percent of the top followed by a steep decline. See the Head and Shoulders topic a few pages further on in this chapter for a full explanation.

## Support and Resistance

Growth, sector, and aggressive growth mutual funds usually move within trading-ranges bounded by support and resistance. A substantial portion of gains and losses occurs quickly when the fund breaks out of its bounded pattern. Combining momentum and direction indicators can be a powerful tool for distinguishing tradable breakouts.



## Confirmations

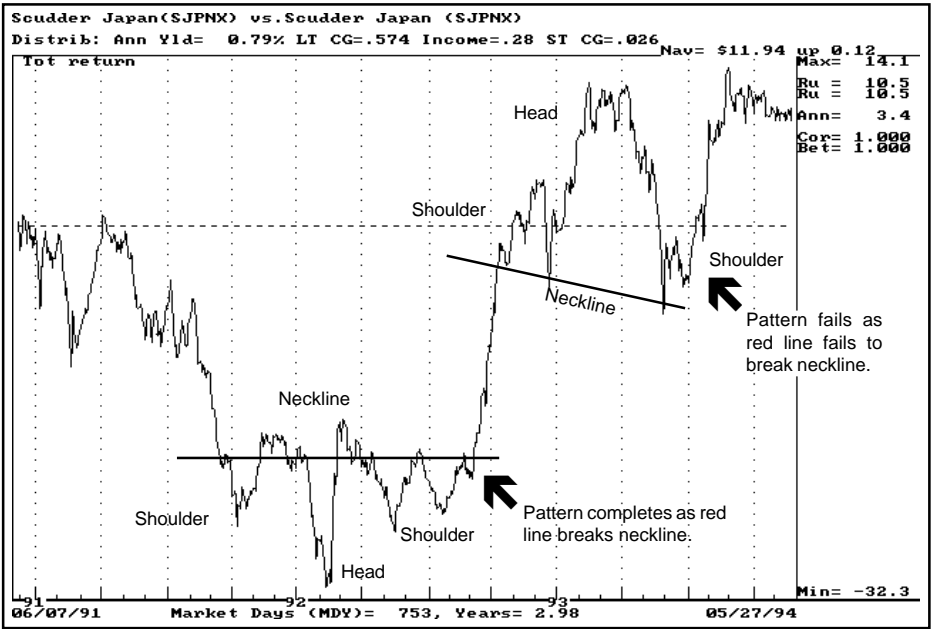
By using trendline and indicators in combination, the probability of making the right trading decision increases.

RSI is the best confirming indicator when a trendline is broken. RSI measures momentum range. Stochastics not as useful in confirming trendlines since both measure price direction.

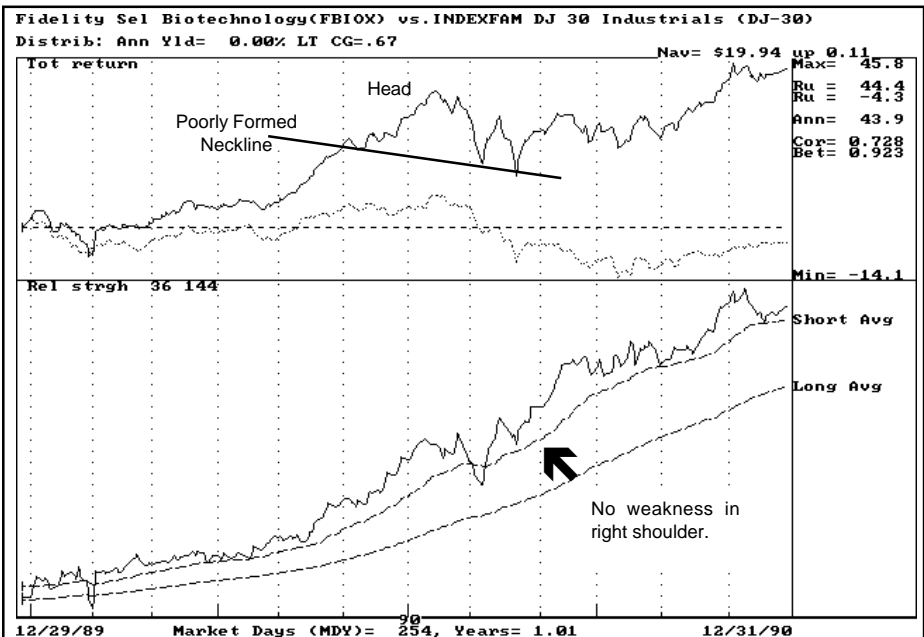
When long and strong trends are weakening, the trend-following indicators like Moving Average and AccuTrack provide the better confirmations than RSI.

## Head and Shoulders

Head and shoulder formations are among the most reliable chart formations. The chart shows two complete head and shoulder formations: The upper pattern is a sell warning, the lower upside down pattern is a buy warning. Note: The necklines need not be horizontal, nor do the shoulders have to be level.

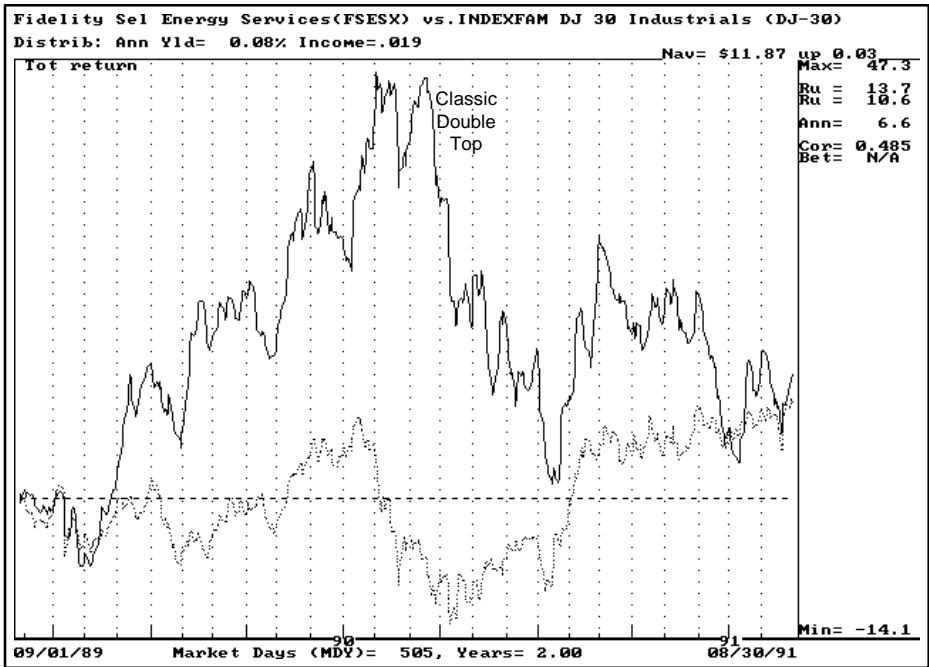


Relative Strength can reinforce a pattern. The chart below leaves little doubt about the likelihood of the ultimate failure of this head and shoulder pattern. Relative strength is extremely positive through the pattern.



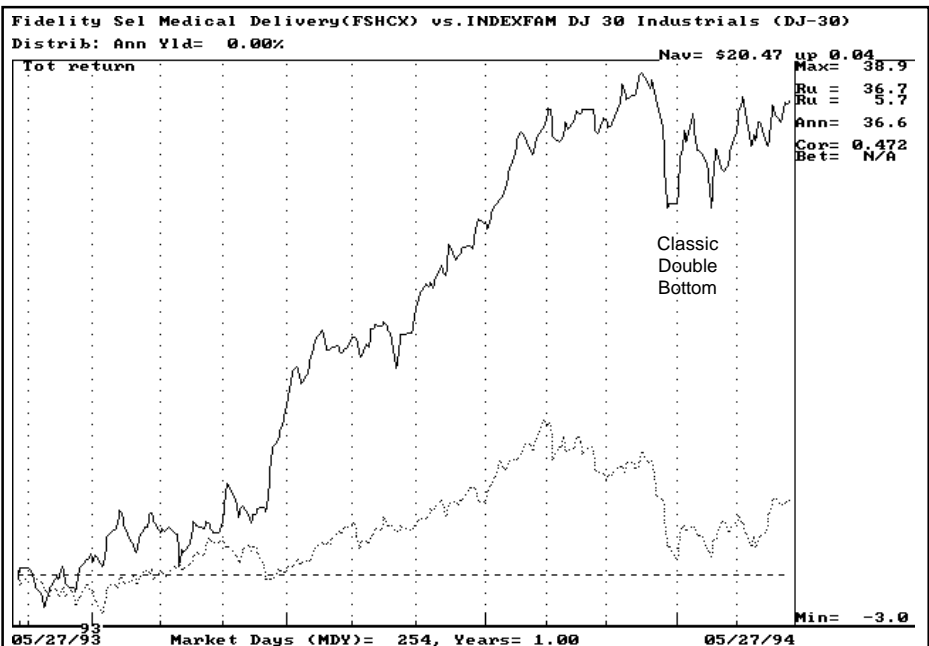
## Double Tops

Volatility combined with failure to move to new highs is a strong topping formation.



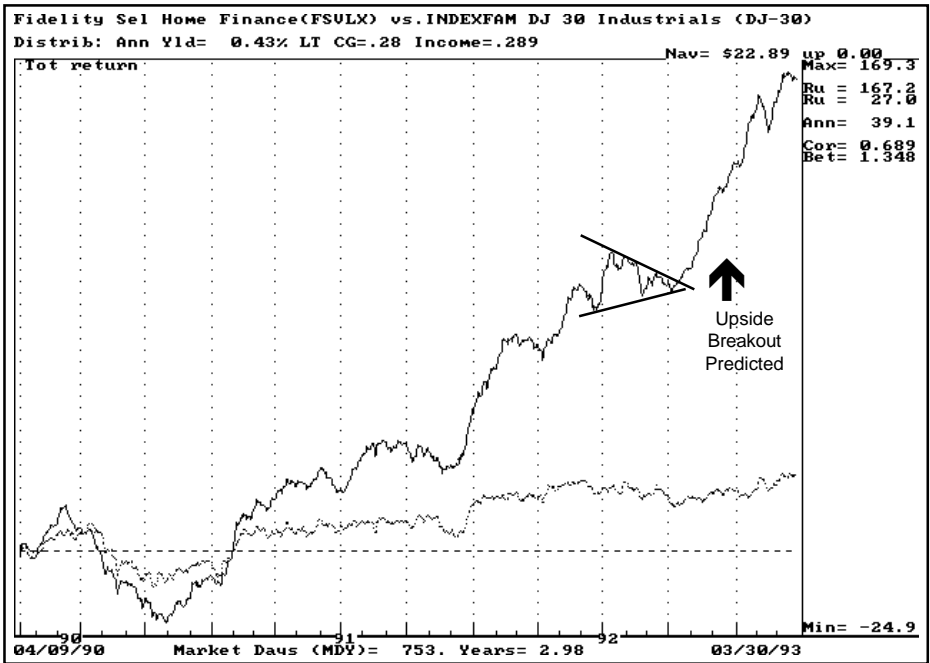
## Double Bottoms

Volatility combined with failure to move to new lows is a bottoming formation. 1995 Revision: Review this chart now that we know the future. What you will see is that a third bottom formed in late 1994 followed by a major rally.

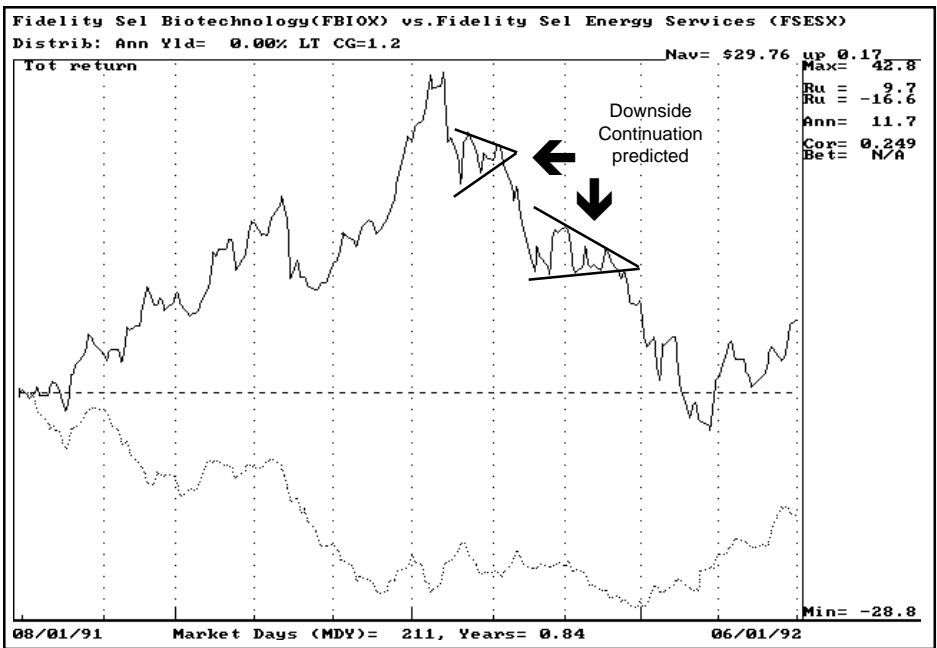


# Pennants

Pennant formations are often a sign of continuation of the previous move.

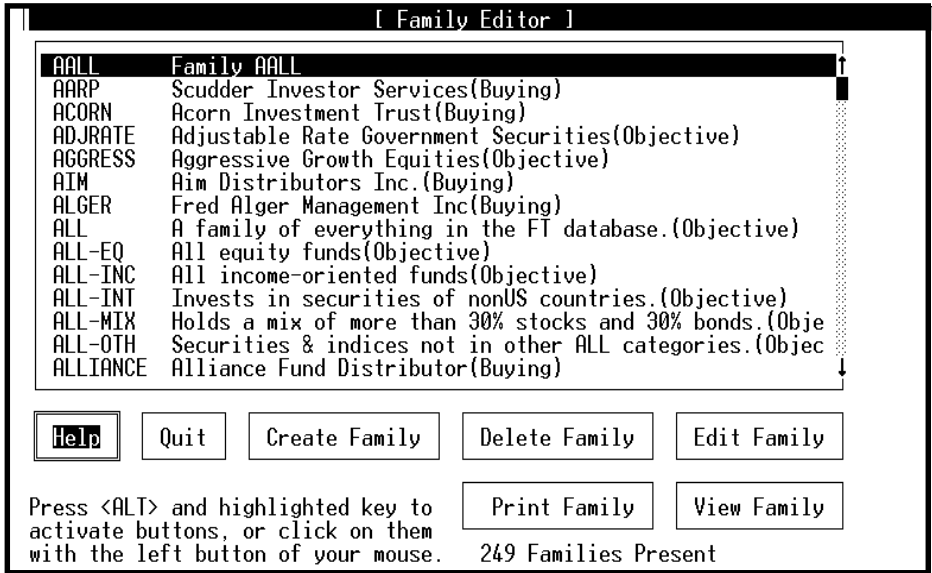


Pennants work on the downside as well.













## The Mouse Works

You can use your mouse to pick funds and push buttons to control the editor functions.

## Family Editor Buttons

### Help Button - +

Pushing this button displays a help screen that discusses the same functions discussed on this page. Move the highlight up and down in the help with    .

### Quit Button - +

Returns to the charts.

### Create Family Button - +

Creates a new family of funds. If you don't know what a family is then read the *Ground Work* chapter. This button will pop open new windows which are described later in this chapter.

### Print Button - +

Prints a list of the funds in the highlighted family.

### Delete Family Button - +

Delete the family that is currently highlighted in the list box. In the example, the ALL family is highlighted.





You cannot delete FastTrack's pre-defined families, but you can delete your own families.

### Edit Button - +

When this button is available (not grayed out), you can add and delete funds in the family.

You cannot edit FastTrack's pre-defined families, but you can create your own family, pull in the funds from a pre-defined family, then add or delete at will. The Edit screen has another set of buttons that are described in the following pages.

### View Button - +

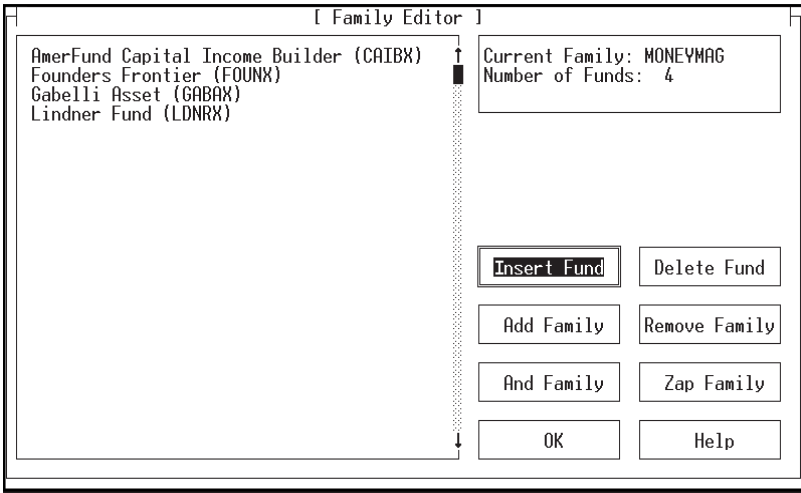
This displays a list of the funds in the highlighted family. This button will pop open a View window. Move the highlight up and down in the family with    . There are no selection or change options when viewing a family.




## Editing an Existing Family - +

You cannot change buying and objective families that are included with FastTrack. Changes to these families are downloaded with FastTrack daily data during the GO process. These families are refreshed whenever you do an Online Upgrade.

You can only change your personal families. To create a personal family review the next section *Creating a New Family*. The major functions of the creation process and the editing process are identical. Follow these steps:

- 1 Choose a family as described on the previous page. You will see a similar screen to the one below.








- 2 Press one of the buttons to add or delete funds in the family.
- 3 Press the OK button to pop-up a "Save" window.
- 4 Hit  or  + . The Family editor will save the family and return to the charts. The modified family will be reranked automatically.



### Insert Funds Button

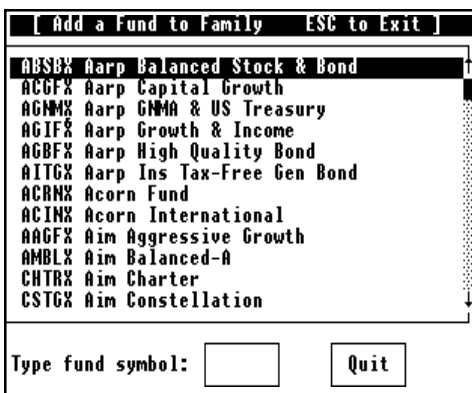
What you see is a pop-up window that lists all the funds available in the database. FNU files are not listed.

The funds are alphabetical by buying family and name. Hit a letter and the highlight will jump down the list to the first symbol that starts with that letter.

Use     to move the highlight.

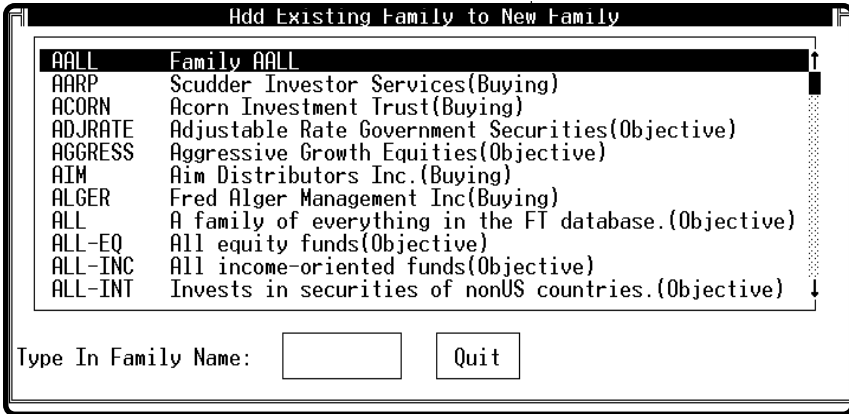
When the fund you want to insert into family is highlighted, then hit .

Alternately,  to the small gray box and type in the fund symbol + . If FastTrack cannot find the symbol you type in the data, then it displays an error message.










## Add Family Button - +

The most convenient way to add a large number of funds to a new family is to start with the funds in an already existing family. The Add Family button lets you add another family to the family being edited.



## Selecting the Family to Edit

Hit a letter and the highlight will jump down the list to the first family abbreviation that starts with that letter. Use     to move the highlight. When the family to insert is highlighted, hit .

Alternately, you can hit  to the small gray box and type in the family name and .



The family added may be any type of family: buying, objective, or personal.

Once the funds are added, then you can remove the few unwanted funds with the Delete Fund button or the Remove Family button.

## And Family Button - +

This button asks you to pick a family to compare with the family being edited. Only the funds that appear in BOTH families will remain in the family being edited. No funds are added.

## Delete Funds Button - +

Highlight the fund in the family that you want to delete then hit  +  or click the Delete Funds button.

## Remove Family Button - +





This button performs exactly opposite the Add Family button. Highlight a family or type in its name to remove family's funds from the family being edited.

## Zap Button - +









Pushing this button removes ALL the funds in the family.

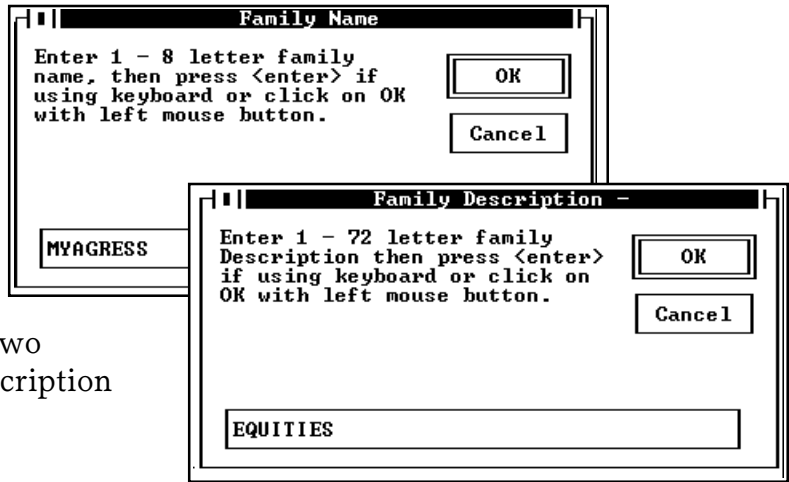
## OK Button - +

This button signals the Family Editor that modifications are done. Before exiting the editor you get the chance to confirm that you want to save the changes to hard disk.

When finished selecting funds, type  + . This returns to the main family editor screen where you can push more buttons or  +  and save the family to disk.

## Creating a New Family - +








You may create as many personal families as you need. After pressing the  +  keys or using the mouse to select the Create button, the Family Name screen should pop up. The family name must be a valid DOS name, with the usual 8 and three naming character limit. Use only letters A-Z and digits 0-9. After the family name has been typed, hit , or  +  to move to the Family Description screen. The family description can be any text you care to type. Only the first 72 characters of the description will be used. Again, hit , or  +  to complete this screen. Once past these two screens, the process is identical to editing a family as described in the prior section. The list of funds will initially be blank until you add some funds.



Step Two  
Family Description

### Example: Creating a Family of Equity Funds

Aggressive FastTrackers often choose to open two accounts: one with Fidelity and a second with Invesco. Being aggressive these FastTrackers are not interested in traditional bond funds. The following exercise creates a family of funds for this purpose.

-  then  (Enter the Family Editor from the main menu.)
-  +  (Create a new family.)
- MYAGGRESS (Give the new family the name MYAGGRESS.)
- Equities  (Describe the new family as "Equities".)
-  +  (Add a family to the currently empty new family.)

At this point, select the Fidelity family by tabbing to the small gray box and keying "Fidelity", or choosing Fidelity with the mouse or arrow keys as previously described.

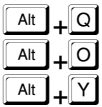
Next, add the Invesco family the same way, then continue the exercise hitting the following keys:



(Quit adding families.)

(Remove a family to the funds selected.)


At this point, select the following families one at a time and remove them from the current family: BD-ALL, MONEYMKT, BD-MORT, RISK-LOW. These types of funds are not usually volatile and unsuitable for an aggressive family. If you don't know the type of funds that are in these families, then use the C command from the main menu to review the 1200 Commentary in the library.

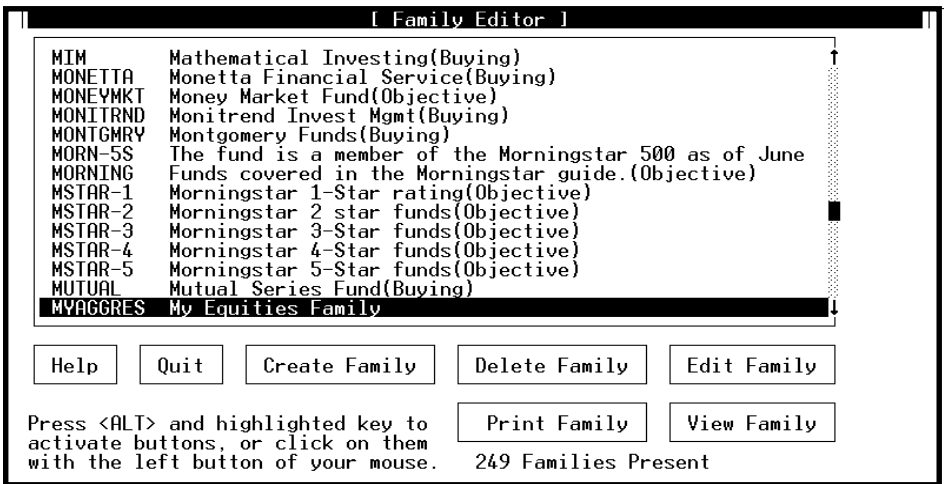


(Quit adding families.)

(Done modifying the family.)

(Yes, save the new family.)

Finally, highlight the new family and  to select the new family and return to charts.



# Printing FastTrack Charts



## Capturing and Printing FastTrack Screens Under Windows

Windows word-processors, page-layout, and presentation programs often need to integrate FastTrack charts with documents. This is easy to do. This section gives a general overview, but consult your software's documentation under the "import" topic. All the following apply only to users running Windows 95 in 386 enhanced mode.

### Start FastTrack from within Windows.

If you are creating a black and white finished product, hit **L** to make FastTrack redraw the charts as black and white. Hit **Print Screen** (print screen) to place the screen image in Windows' clipboard.

### Paste to Paint

Paint is a Windows '95 application supplied as part of Windows '95. . . everyone with Windows '95 has it. After capturing black and white images from FT. Start Paint. Select File/New then Edit/Paste. This will place the black and white screen image on screen. To reverse the black and white use Paint's Image/Invert Colors. Black will become white, and white will be black.

Save the modified image in a BMP file (virtually all applications will accept BMP files). Use a monochrome BMP file if the finished product will be black and white. Use a 16-color BMP for color FT images. Note: If you save 24-bit or 256-color BMP files their size will be MUCH larger and take MUCH longer to print without any compensating benefit.

There are certain aspects of the Windows 3.1 version of Paint that are better than Windows '95 Paint. In Windows 3.1 the program was named PBRUSH.EXE . Its most important advantage was the ability of the color eraser to convert one color to another with a double click. Windows '95 Paint does not have that feature



although it does have a color eraser. PBrush 3.1 will run under Windows '95, but you have to copy it over yourself and install an icon for it.

### Color Discrepancies

In some cases the colors you see in a captured screen are not the same colors that you see when viewing a FastTrack screen directly. This is a function of the video display drivers and Windows and has **NOTHING** to do with FastTrack. **We use the standard colors of a 16-color palette as defined within Microsoft Professional Basic for FT displays. Start by calling Microsoft, then call the manufacturer of the video card who supplied the Windows drivers to you.**

## Capturing and Printing Screens Under DOS

Microsoft produces a utility called GRAPHICS. It is a normal part of what is supplied to you with your computer. GRAPHICS is not an extra cost program. It is documented in the MS-DOS manual.

Prior to DOS version 5.0, GRAPHICS was a relatively primitive, awkward utility. The current version is a much better package although still somewhat awkward. The following are quick examples. They should work on most computers and printers.

### Using GRAPHICS with Epson Compatible Printers

Do the following at the C:\FT prompt:

```
C:\DOS\GRAPHICS GRAPHICS C:\DOS\GRAPHICS.PRO
```

### To Print on Most Hewlett-Packard Printers

```
C:\DOS\GRAPHICS HPDEFAULT C:\DOS\GRAPHICS.PRO
```

There are also DESKJET, LASERJET, and LASERJETII types that you might try instead of using the HPDEFAULT printer type.

### After Loading GRAPHICS

Start FastTrack using the regular FT command or start FTMENU. See the *Using FastTrack* chapter for details on how to start FastTrack.

### Controlling How Charts Are Printed

There is a MS-DOS utility named GRAPHICS that describes the printers and the method used for printing on these printers. You may text edit a control file GRAPHICS.PRO (having carefully saved the original) to change the size and orientation of the printed images.

Call Microsoft for technical support of this feature if needed. FastTrack technical support will NOT support modified GRAPHICS.PRO files.

### Warning: Computer Support People

Do not modify FT.BAT to include the GRAPHICS command line. We may replace FT.BAT online which will replace the old FT.BAT. This will cause the user's Print Screen key to stop functioning. Load GRAPHICS in the AUTOEXEC.BAT or create another BAT file that calls FT.BAT.

We regret that we cannot support your use of all of the hundreds of ways to capture a screen. FastTrack support is limited to the details provided in this manual. This manual was prepared using these techniques with PageMaker 5.0, Corel Draw, Corel PhotoPaint, Windows 3.1 PBrush, and Windows 95 Paint.

DON'T EVEN THINK ABOUT CALLING FASTTRACK TECH SUPPORT ABOUT THE USE OF GRAPHICS UNLESS (1) YOU HAVE YOUR DOS 5.0 (OR HIGHER) MANUAL IN HAND AND (2) YOU HAVE TURNED TO THE PAGE IN THE MANUAL THAT DESCRIBES GRAPHICS AND (3) YOU HAVE READ THE SECTION.

# Importing Funds Not in the Database

---

FastTrack may use data that you provide which is not a standard part of the FastTrack database. FastTrack Version 4 reads data that you maintain in an ASCII text file. When FNU files are properly formatted and placed in the proper directory, FastTrack will analyze them just like funds in the regular database. You may add the FNU symbols to a family, rank, chart, and in all respects use the information normally.

## File Name:

The file name can be any name or symbol from 1 to 5 characters PLUS the FNU extension. DO NOT use a symbol that is already in the FastTrack database. For example, you might have data on Abbott Labs (a stock) with a file name ABT.FNU.

## Location:

The file must be in your FastTrack directory.

## File Format:

The file must be in ASCII text format, i.e., lines of text with carriage returns at the end of each line.

Line 1 should be the symbol (usually the file name without extension). Five characters maximum.

Line 2 should be the name of the fund, stock, etc. Forty characters maximum.

Lines 3 through the end of the file must have the date, price and dividend, if any, on that date. For example, if on Mar 4, 1991 the price was 35 5/8 and the equity went x-dividend with a dividend of \$0.30. The corresponding line in the ASCII file would be:

03/04/91, 35.625, .3

The date may or may not be surrounded by quote. Both ways work.

## Miscellaneous Requirements

- \* Spaces are insignificant.
- \* Commas are required.
- \* Decimal points are required.
- \* If you have no dividend data, insert 0 for the dividend on each line.
- \* FastTrack will give line number error messages when invalid formats are encountered. These messages usually are not fatal.
- \* FastTrack resynchronizes itself to the next valid line of data when a format problem has been detected. This means that your chart may appear to be perfect except that data discarded due to format problems will appear as a short (perhaps undetectable) horizontal line on the chart.

## Updating the Data

You **must** keep this data in the FNU file current yourself. The FastTrack update process will not change the ASCII text files. If you are missing data from these files, then FastTrack will display a flat line on the chart for the periods missing.

## Limitations

The one thing you can't do is display data outside the data range in the main FastTrack database. Dates before the beginning of the database or after the date of the last online update will be ignored.



# Telecommunication

---

FastTrack is available 7 days/week. The down hours are 6:30 P.M. to 7:30 P.M. Eastern time on market days. During this period we are preparing the current update and loading the database. FastTrack makes your PC dial the Investors database via an 800 number from every state in the US and Canada. There are no long distance charges for the update.

## Updating Your PC by Phone

Getting the update is not a command accessible from the FastTrack charting and ranking program. Run the FastTrack communication process from the FT-MENU. Once the FTMENU is running choose option #2 : Go get the Data: The Data Update Process" this choice will perform the data download.

### What You See Happen

The sequence of events you'll see FastTrack doing on your screen is:

- 1) Checking the status of your PC's database (about 20 seconds.)
- 2) Dialing your modem. Takes about 40 seconds unless redial is necessary.
- 3) Retrieving the information needed to update your computer's database (takes about 20 seconds + 7 seconds for every day's worth of data at 2400 baud). FastTrack automatically sends the data needed to update your PC's database. No missing data or duplication will occur.
- 4) Disconnects when all information has been received.
- 5) Adds the new information to your PC's database (about 2 minutes.)
- 6) Starts the charting program and displays the updated charts.

### Multiple Devices on the Telephone Line

Most modem and fax machines have two phone jacks. Wire from the telephone wall outlet to the modem jack #1, then wire from the modem jack #2 to the fax jack #1, then wire from the fax jack #2, to your telephone handset.

DO NOT use "splitters" or "Duplex" plugs. These devices cause a great many problems. If you use surge suppressors and experience communication problems, remove the suppressor and retest the line.

### Controlling the Modem

While the communication process is active, you'll see the dialog between the PC and the modem. There are messages about the progress of the communication session displayed in the top part of the screen.

When FastTrack dials the modem, it initially leaves the modem speaker on. This lets you hear the dial-tone, ring, and connection signals.

## Busy Signals

Once started, the communication process is fully automated. It may get a busy signal initially, but this should not be a problem. The typical update takes 40 seconds, so the lines free up very quickly. It should be rare that it does not connect by the fourth try.

When busy signals occur, FastTrack redials up to 20 times. If FastTrack is unable to connect within 20 tries, call technical support.

If you get the after-hours voice mail, LEAVE A MESSAGE. We check these machines over weekends and in late evenings to see if there are line problems.


While the message may not be returned until regular working hours, the problem, if any at our end, will be fixed. If you don't leave a message, then we may not know that there are problems.

## Getting Disconnected

If the connection is lost during the FastTrack session, FastTrack redials ten times to complete the update. DO NOT manu-

ally interrupt the GO process if it has connected but had to redial. Each failure tunes the modem to be more tolerant of poor line quality. If you interrupt the GO, the tuning process starts over. You will note that redials use different numbers that connect you to different long distance carriers, different modems, and different online computers.

## What about Voice Calls

When FastTrack takes control of your modem, it sets the modem so it will not answer the phone. This prevents it from answering calls between dialing retries. If you try to use the phone between retries, FastTrack may pick up the phone and dial on top of conversations. Use the  to halt the processor. Hit the <Spacebar> when ready to continue.

## Multiple Updates May Be Required

If you don't do an update at least once a month, you may have to do the GO process more than once in a single day. Each call will pick up about a month's worth of data.

```

BLAST                FT                C:\FT                SCRIPT

... Receiving information
===== local ===== opt = % xfer = file size = byte cnt = ln qual =
S: <idle>
R: 07-10-92.LZH      o    10%      20214      2048      good
                                     good (00)
                                     F1-help = ESC-exit =

OK
ATS0=0
OK
ATX4
OK
ATS7=45
OK
ATDT2913053
CONNECT 2400

-----<< Entering BLAST
**** PC BLAST II 9.0.2 on remote system

Line Quality
File size
Percent completion
Progress Message
Name of file being received (names vary)
Commands to modem
FT Database modem has answered the call
FT Database computer is working
Session duration

08/01/92  SC0-RC0  00:00:50  NUM  04:04 pm
    
```

## Communication Screen at Completion of Successful Session

```

BLAST                FT                C:\FT                SCRIPT
... Disconnecting from Investor's Database
===== F1-help = ESC-exit =

OK
ATS0=0
OK
ATX4
OK
ATS7=45
OK
ATDT2913053
CONNECT 2400

-----<< Entering BLAST Transfer Mode >>-----
**** PC BLAST II 9.0.2 on remote system [uov] ****
07-10-92.LZH/OUW ... receive completed
-----<< Exiting Transfer Mode >>-----

08/01/92  CTS  08:02:29  NUM  04:05 pm
    
```

No Help Available Ignore

Abort by hitting Esc five times

Current action in progress

Indicates successful communications session

## Subsequent Processing after Phone Is Hung Up

```

Applying changes to FTRACK3.DAT for 07-10-92
Applying changes to FTRACK3.DAT for 07-13-92
Applying changes to FTRACK3.DAT for 07-14-92
Applying changes to FTRACK3.DAT for 07-15-92
Applying changes to FTRACK3.DAT for 07-16-92
    
```

Change old data + Add dividends + Change fund names + Add/remove funds from database.

Updating the NAVs. If the update process fails before this completes, then the whole communication session must be restarted.

Updating the fund charts with new closing prices...please wait

```

DOING FROM 07/31/92 FOR 15 DAYS
ABALX ABNDX ABUSX ACGFX ACRNX ACRXX AEPGX AFGPX AFTEX AGBFX AGEFX AGIFX AGNMX
AGTHX AHERX AHITX AIGX AIBX AITGX AIUSX ALCPX ALIFX ALSGX ALIFX AMCPX AMECKX
AMRMX AMUSX ANCFX ANEAX ANEFX ANWPX AR-MS ARGFX ASE-I ASTIX ATGRX ATINX AWSHX
BABEX BABIX BABSX BBCGX XOI-1 BBFNX BBGIX BBHYX BBOSX BBSEX BBUSX BCCAX BCHYX
BCINX BEGRX BEONX BEOOX BEQGX BGAXX BGEIX BGMFX BGNMX BIGRX BNCXX BNTIX BNTXX
BOSGX BOSSX BRWIX BTFIX BTFLX BTFTX BTMPX BTMX BTINX BITTX BUALX CAAPX CABCX
CABDX CAMX CABNX CAIBX CAPXX CBALX CBBLX CBNCX CBQPX CENSX CFEQX CGUSX CHCLX
CHTRX CLMBX CLSPX CLUSX CMSTX COGUX COLFX COLGX COLHX CONUX CPTNX CRFXX CSHPX
CSIFX CSTGX CUCAX CUEGX CUFIX CUGGX CUIEX CUIGX CUSGX CUBFX DEDIX DEGGX DELDX
DELFX DELTX DETWX DEVLX DFCIX DFCSX DFFGX DFIHX DFJSX DFCX DFUXX DGAGX DGUPX
    
```

## The First Update

The first update will be the longest. After installation, the database and programs may be out of date by several months. The first update gets both revised programs and data updates. This first update is done on a toll number (you pay for the call). All subsequent updates are done on the Investors toll-free 800 number.

If the initial update is disconnected before completion, let your computer redial automatically. The update will restart from the point of interruption (perhaps the *middle* of a long file). The process will not resend information already received.

If you interrupt the redial process and then restart later, the system will restart from the *beginning* of the file that was being transmitted, but will not resend files which were completed before the interruption.

## Error-Free Communication

If you pick up the phone during the FastTrack communication session, the connection may be lost or bad data (noise) placed on the line. This is not a problem. FastTrack reconnects itself if necessary. This type of interruption and phone line noise never causes FastTrack to record bad data on your database.

## Modems

A modem is a device that connects your computer to your regular telephone line. There are a variety of types and manufacturers. Modem features can vary, but most conform to the Hayes AT command set. Any computer store or mail order company selling modems can advise if their modems are Hayes compatible.

### Don't Change the Settings

Install new modems without changing any software settings or hardware switches. FastTrack works with the factory settings of nearly every modem. Satisfacto-

ry internal modems (built on a card to go inside your PC) are available for as little as \$49. We do recommend more expensive brand name external modems which range in price from \$50-\$200. Whichever modem selected, it should have the following minimum features.

### Buy a Brand Name Modem

It should come with a manual that contains the name, address, and technical support number of the modem manufacturer. The warranty card should have a return address. If you buy a modem that is part of a whole computer package, the distributor will likely stick in the cheapest modem he can find. Worse, his tech support people aren't modem experts. They will be of little help with problems.

### The Modem Should Have a Speaker

Many internal modems have small internal speakers that are not loud enough for you to hear busy signals, rings, etc.

### Get an External Modem

Modems can fail intermittently. It is easy to swap modems with a friend to see if the modem is the problem. External modem installation does not require opening the computer case.

### Error-Correcting Modems Unnecessary

FastTrack does all its own error correcting, but is compatible with those modems that do have error-correction.

### Modems Should Detect Busy Signals

If your modem does not do this properly, then the connection process will be appreciably slowed when the FastTrack central database computer's lines are busy and redialing is required. If you hear a busy signal in the speaker, but the screen does not have the word BUSY on it, then the modem is not sensing busy.

FastTrack handles all aspects of communication from dialing, transferring information, and hanging up. Do not be concerned about operating the modem. FastTrack technical support personnel are familiar with many different types of modems and will help with any problem.

### Living with Complicated Modems

Although FastTrack works well with simple, inexpensive modems, it may have problems with an ultra-sophisticated modem. The following discussion is intended for modem gurus.

Once the FastTrack database detects a ring, only 30 seconds are allowed for the modems to establish carrier (and give the CONNECT message). If your modem can talk MNP, LAPB, V.32, etc. and tests the connection using several of these methods, then time may run out before connection is established.

The solution is to have FastTrack issue special modem control commands that disable all the special handshaking. This means the modem goes right to a direct connection. Don't worry about error-control. FastTrack includes its own error-detection and correction capabilities.

To do this, put one or several modem commands into a text file named MODEM.STR. Each command must be terminated by a carriage return character. After sending each command, FastTrack will pause briefly looking for an OK. Even if the OK is not received, FastTrack will continue through all the lines in MODEM.STR until reaching the end.

FastTrack issues these commands before the ATD dialing command. Be sure to type the AT + the rest of the command.

Note: The FastTrack database computers that operate on the toll number do support V.32 LAPB communications at 14,400 baud. If you have a V.32 or V.42

modem that support baud rates above 2400, then you may use it.

### Internal Modems

Internal modems are cards that go inside your computer. They simulate the standard serial communication ports of your computer.

In MS-DOS Microsoft defined two serial ports known as COM1: and COM2:. In addition, the computer industry has defined a standard for COM3: and COM4:. If installing an internal modem yourself, please choose COM3: or COM4: to avoid possible IRQ conflict with serial ports.

The most common problem with an internal modem is that it may be configured to look like an existing communication port.

Most new computers already have a COM1: and COM2: built in. If you add a modem and set its hardware switches/jumpers as COM1: or COM2:, then the modem may work erratically, if at all. It may work with some communication software, but not others. It may drop 1 out of every 5-50 characters.

The hardware jumpers cannot be changed by software, therefore, this type of problem cannot be solved by changing the software. To test for duplicate communication ports follow these steps:

- 1) Run the program ISCOM (supplied with FastTrack) from the MS-DOS Prompt. Write down the names of the ports in use.
- 2) Remove the internal modem.
- 3) Run ISCOM again.

If the number of ports used is unchanged with the modem removed, this means the modem duplicates an existing port.

Check your computer or modem manual to change the jumpers. There are hundreds of types of modems. FastTrack technical support cannot tell you what to do.

Also, a mouse may conflict with internal modems and COM ports. If you have a bus mouse, make sure that the IRQ jumper is not set for an IRQ used by a COM port. If you have a serial mouse AND you unplug the mouse to use the modem (i.e. sharing the serial port), then you must make sure that the mouse driver software is not loaded. This software may conflict with communication programs trying to access the same port.

There are several ways that mouse drivers get loaded. Check with your mouse vendor regarding how to unload the mouse software, if necessary.

When you buy a new computer or modem, be sure the store tells you the modem set up (what COM number) and tests to be sure that there are no conflicts.

### If You Hear an Operator, Always Get a Busy Signal, or Never Get an Answer

Attach a phone handset to the line that the modem is using and dial *exactly* the same digits that the modem is dialing *including* any call waiting-disable numbers, the 1 before the long distance number, the 9 to get an outside line, and all \* or # characters.

If the modem dials an operator, so should dialing on the handset. Listen to the operator's message and correct the problem. Call your local phone company if you don't understand the message. The most common causes for this problem are as follows:

- \* You forgot to put a 1 in front of the phone number during installation.
- \* You put #70, in the number to disable call-waiting, but don't have call-waiting.
- \* You must dial 9 to get an outside line.

In the above cases, run the CHANGE program from the DOS Prompt in the FastTrack directory to fix the phone number. See the *Installation* chapter.

### Delayed Daily Updates

You may set the GO process to start at any given time. This command is not in the menu, please go to the DOS prompt and use the following command,


```
GO HH:MM
```

HH:MM means hour:minute. Use a 24-hour clock form. This means that


```
GO 23:59
```

starts the communication process at 11:59 P.M. (at night) your local time. **Your computer's clock must be set properly.** (Use the DOS TIME command to set the time.) NOTE: If the time is earlier than the present moment, then the process will delay until that time tomorrow.

### Ending Communication Sessions

If it is necessary to exit the communication program before the normal ending, type the  (Esc) several times. Eventually, you will see the message

"Do you really want to leave?"

Answer . The GO.BAT process will report that the file which was to be received during the session is missing. Under this circumstance, this is an expected error and is not a real problem.

### Upgrading to the Latest Version

You may get the latest upgrade of all FastTrack programs any time via modem. The Upgrade process is on a TOLL NUMBER. You pay for the call.

During the upgrade, programs and control files that are of a later version than those on your disk will be transmitted. The transmit time varies according to the number of revised programs. The time at 9600 baud can be 10-30 minutes.

## Unattended, Late Night Upgrade

To keep costs low, set a late night or holiday starting time for the process to begin. The time may be only a minute or two from present or up to 23 hours away.

The upgrade process will wait till that time to begin, and then will dial and redial up to 20 times to get through.

During an unattended, delayed upgrade, there is a 5-minute pause between dialing attempts. During non-delayed upgrading, the redial has no pause. The unattended upgrade process is not in the FTMENU, so please type the following command at the DOS Prompt,

```
UPGRADE HH:MM QUIET
```

HH:MM means hour:minute. Use a 24-hour clock form. QUIET means that the modem speaker will be turned off so that dialing sounds do not disturb your household. QUIET and HH:MM are optional.

The command,

```
UPGRADE 23:59 QUIET
```

will start the upgrade communication process at 11:59 P.M. (at night) your local time. You will not hear dialing sounds. The command,

```
UPGRADE
```

will start the dialing process and will redial up to 20 times to connect. When using the HH:MM option, the redialing process waits 5 minutes between calls when it detects a phone line with no dial tone (i.e. someone in your household is using the phone.)

During the UPGRADE process, the central FastTrack computer checks your FastTrack disk directory to be sure that you have the latest versions of the programs. Obsolete programs, families, and prospectus abstracts are downloaded.

Once the download of each program is successful, then the old program is deleted and the newly downloaded pro-

gram replaces it. If the communication link fails during the upgrade, then the UPGRADE process redials and picks up right where it left off. Upgraded programs which were previously received are not retransmitted.

## Upgrading Several Times a Year Is an Essential Part of Being a FastTracker

We remove bugs from the product immediately when users report them. We introduce new features and improve algorithms. Upgrades can fix some problems you may have caused accidentally and replace files that have been lost or corrupted on your hard disk.

## You Pay for the Upgrade Phone Call

For most users the long distance cost of upgrading is no more than \$20/year. This is cheaper, faster, and better than upgrade methods offered by other software companies. If your modem is too old, slow, or unreliable to complete upgrades economically, then replace it.

It is common for a cheap modem to become unreliable within 6-18 months of purchase. No amount of software tweaking can fix your hardware.

## Expiration Date

Investors does not send renewal notices by mail. Instead, when your account is within 9 days of expiration, you will receive a single line message that will display on the screen while the update is being performed.

"There are N days left before your account expires."

Each day the number of days left (N) will count down. During the final update, the message says there are 0 days left.

## You Can Take It With You

Many FastTrackers keep up with their portfolios while on the road.

### Buy a Brand Name Computer

Often laptop components are especially designed for your particular laptop and are not widely interchangeable. If you purchase a no name laptop, then when you need a spare part, the distributor who sold you the machine may no longer carry that and the manufacturer (if he can be located) "No speak English". Buy laptops from IBM Direct, Toshiba, Dell, Compaq, Hewlett-Packard, NEC, etc. Avoid names you don't know and dirt-cheap clones like those made by Sager.

### Buy From a Local Computer Store

Laptops are full of unique, unexpected features that you may not find to your liking. Buying from a dealer who has a "30-day, no questions asked" policy is a good idea. This includes big names like Circuit City, ComputerLand, and Wal-Mart.

### PCMCIA Modems Can Be a Challenge

These are credit card sized modems that fit into your laptop. While the hardware is easy to install, the socket services software and memory manager may be quite difficult to configure. Be sure that the store will provide the help you need to be successful with these devices.

### Hooking up in the Hotel Room

Before hooking the computer to the hotel's phone system, find out how to dial an 800# from your room. You may have to dial 9, then pause a few seconds for a dial tone, then dial 1-800.... Practice dial. Listen for the database modem to answer.

Most US hotel rooms now have phones that are compatible with your modem. Unhook the telephone wire from the hotel's handset and snap it into your modem's jack.




If you cannot connect in your room ask to use the hotel's fax connection at the front desk. Fax machines have built-in modems that hook up exactly like yours. Often the fax will have an empty phone jack just for the purpose of hooking up your modem. If so, you will not have to disturb the original fax wiring.

Once plugged into the phone line and you know how to dial an 800 number from your room, then run the CHANGE program. See the *Installation* chapter for detail on how to use CHANGE.

Go to the communications screen and change the phone number to include the extra digits needed to dial the 800#. Inserting a comma into the phone number makes the modem pause for 3 seconds before dialing more digits. Use multiple commas if you need more pauses.

### Lots of Connect Problems

When the connection is being made to the FastTrack database, but the transfer of information fails before completion, let the communication process try several times without interrupting with  (Esc). Each time that a transfer fails, the communication program tunes its transfer parameters to provide better line noise resistance. Interrupting then restarting, restarts tuning from the original settings.

### Reconnecting

Also, when doing an upgrade (see the next section), let the program reconnect itself. When your system reconnects, it



will skip past the programs that were previously upgraded and pick up from the point of interruption. The upgrade session DOES NOT start from the beginning resending things that you have already received. If you get a significant number of disconnects, ask the telephone company to check your phone line.

### **Call Waiting**

If you have the phone company-supplied "Call Waiting" feature, the modem will hang up whenever another call comes in. Call your phone company and ask them how to disable Call Waiting for the duration of a single call (your modem call). This is usually done by dialing \*70 before the long distance number.

Run FastTrack's CHANGE program to change the phone number to include the \*70 digits before the phone number.

### **Compatibility with Other Programs**

If you find you are having trouble running other communication programs after running FastTrack, run the RESET.BAT file located in the FT directory. This is also available from FTMENU.

This batch file resets the com ports from 16 bit to unbuffered 8 bit. FastTrack uses newer 16-bit ports in 16-bit mode. Other software may be unable to address 16-bit ports if it is expecting perform compatibility mode to be set.

### **But I Connect OK to Other Modems**

Perhaps . . . please consider our perspective . . . when there is bad line or modem at our end, the tech support calls start pouring in. Therefore, we have the best quality modems and diagnostics capabilities available to try to prevent that from happening.

You'll notice that when your connection fails that FastTrack will redial on several different numbers. These numbers route to different long-distance carriers (one of which is AT&T) to different phone banks, to different brands of modem, to different independent PCs.

On a typical day we expect 2-3 modem tech support calls per thousand subscribers. The common problems are modems failures, changes in system configurations, and wiring problems. If you are experiencing a problem that our tech support says no one else is experiencing, you may need to replace the modem.

This is not to say that FastTrack is perfect. We will spend a great deal of time working with you . . . We sometimes find that we are at fault.

We will not recommend a modem replacement until your problems have been escalated to the highest level of technical support.

### **Hooking up Internationally**

Don't automatically assume that your modem is compatible with phone systems worldwide. The electrical standards used in other countries may make connecting your modem impossible. You may have to go to a local computer store and buy a modem that is electronically compatible. The V. standards used worldwide govern the sounds that modems make on the line, but not the electrical standards used to connect to the phone company.

### **Windows Modems**

When Windows 95 was introduced, it opened new vistas to modem designers. As such some "Win" modems are NOT DOS compatible and FastTrack's regular communications will not operate. Avoid these modems not just for FastTrack's sake but also your sanity. The older standard modems work fine with Win95. We do have a Windows program that can be used with DOS FastTrack for updates if you have a Win modem.


### **International Calls Are NOT Toll-Free**

FastTrack's 800# works in the 50 US states and Canada. Outside of these areas you will have to dial the TOLL number to get your daily updates. You pay for the call, but you can still get your data.

Run the CHANGE program (a selection on the FastTrack Menu) and change the phone number to the number appropriate for dialing the FastTrack TOLL number.

If you have to speak to an operator to get connected, use a line splitter plug to connect both your modem and a telephone to the same line. Put the following lines in MODEM.STR. (Look up MODEM.STR in the index for more information.)

```
ATS7=120
ATX0
```

Set the phone number for the modem to call to blank (nothing). Do a GO and hit  to pause after the ATS7=120 is displayed on the screen.

Call the operator on the voice phone. When you hear the FastTrack database phone ringing hit the <Spacebar>. When you hear the modem answer on FastTrack end, hang up the handset. It may take several attempts to get the sequence down just right. You must be patient.

### **Making Credit Card Calls**

Credit card calls are fine. Make sure you know all the digits required and where the pauses in dialing have to occur. PLEASE NOTE: The maximum number of digits that FastTrack can use in a dialing string is 39. Do not use spaces or dashes if you are short on digits.

Some credit cards have lots of digits. Consider getting a different card. If you can't dial all the way through, then enter the phone number that connects you to an operator who can then complete the call. Use a line splitter connector (available at Radio Shack and many other places) to connect both the phone and the modem at the same time so you can pick up the handset to talk with the operator.

### **Add Pauses If Needed**

Put one or several commas in the phone number when needed. Each comma is worth a 3-second delay before the next digit is dialed.

Once the modem has dialed, speak with the operator as necessary to complete the call. Hang up the handset once you hear the FastTrack phone ringing. The modem will respond to FastTrack's answering carrier tone.

### **Plug and Play Modems**

There is a new category of modem which does not necessarily adhere to the standards in the good old DOS. Modems used to use standard physical addressing:

```
COM1 = IRQ 4 Base Address 3F8
COM2 = IRQ 3 Base Address 2F8
COM3 = IRQ 3 Base Address 3E8
COM4 = IRQ 4 Base Address 2E8
```

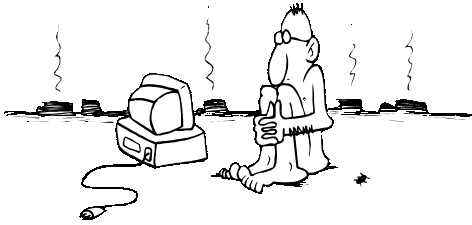
The advent of Windows 95 has changed all that. Now modems may be set to any physical setting. However, if you allow the system to set the modem to non-standard physical setting, then you may be unable to use the modem with FastTrack's (or many other DOS program's) DOS-based communications.

Go to the Control Panel Device Manager and be sure that the modem is set up to use the physical addresses above. If some other device is using IRQ formally reserved for COM ports, then change that device to a different address, and put the COM port at the standard address.

Last resort: set the modem to an unused IRQ from 1 - 7 and any base address you like. Make an entry in the file BLAST OPT defining JCOM3 or JCOM4.

Finally, Windows 95 has a number of options such as fax capabilities that, if you enable the feature, will take control of your modem and wait for it to ring. Under such circumstance, the modem is hidden from other communication programs and is therefore unavailable for data updates. Disable such features.

## Telecommunication Errors



### Online Integrity Check

FastTrack has a super utility that guarantees that your database is correct. From FTMENU, select the "Online Integrity Check". This process will dial FastTrack and conduct a check of the database. Any bytes of data which do not agree with the master database will be replaced.

At the end of the Online Integrity Check your database will be identical to the FastTrack master database.

This capability is ideal for repairing corrupted disk sectors, but is not intended to fix massive corruption or update the data. Your database must be fully updated to the most recent data condition before the integrity check will operate.

### Messages

Sometimes the power company, the phone company, sunspots, and our own mistakes cause the communication process to end with an error message instead of a colorful chart.

The common error messages are described below, but there are many other possible error messages that could occur due to hardware failure, data becoming corrupted on your disk drive, etc.

The message will contain a recommendation to call FastTrack support. Cryptic error messages which do not say to call FastTrack support likely come from MS-DOS and likely refer to physical problems with the hard disk.

While FastTrack technical support will help resolve problems, we cannot substitute for your regular support.

## Before Communication Begins

### FTPREP ERROR #1 - User account information is missing.

Please run the CHANGE program in the FastTrack directory at the FTMENU by choosing option #5 "Change Account..." Fill out all the entries including Account number and Password.

### FTPREP ERROR #4 - Not in FastTrack directory.

You may be trying to run the GO or UPDATE command while not in the FastTrack directory. Change Directories (CD\FT) and type FTMENU. This will bring the FTMENU up. Choose option number #2, "Go get the data. . ." This should correct the problem.

### FTPREP ERROR #5 - FastTrack Database is Corrupted.

Your FastTrack database is messed up. This is an error, which can be caused by a failing hard disk or loss of power to your computer while updating the database.

Try an Online Integrity check, or reinstall the FTRACK4.DAT file from a backup. If you have no backup of your database, you must reinstall the program from your original floppies and type GO to do the initial update again (toll call).

Use a backup utility to copy the entire FT directory at least once a month in order to avoid the hassle and expense of reinstallation from the original disks.

There is no guarantee that you can reinstall old disks. You must pay a handling fee to have us ship you new ones.

### FTPREP ERROR #6 - Initial Update is too large.

Your FastTrack database is too old to update by phone. Trying to download this volume of data would be unreasonable even with a high speed modem. Please contact Investors FastTrack at 1-800-749-1348 to obtain the most recent version of the program.

## During Communication

### Could not communicate with modem

This message occurs when FastTrack isn't getting the responses from the modem that it expects. The possibilities are:

- The communication port selected during the installation process is not the right communication port.

To find out which port FastTrack is using follow these steps: (1) get to the DOS Prompt in the FT directory; (2) type or print the file FT.SU; (3) look at the value of the field labeled COM Port. This is the communication port chosen during installation or chosen in the CHANGE program.

- The modem is not turned on.
- The modem is not cabled to the right communication port.
- The modem is not attached to the phone line.
- The phone line has no dial tone.
- The modem or communication port hardware is defective.
- Various switches are set on the modem which cause it to not respond.

These settings vary by modem manufacturer. If you call FastTrack tech support for help with modems, have your modem manual handy.

### Never connected to the database

The modem never answered at the FastTrack database. This is not normal. More than likely your calls are not going through. This is usually caused by phone problems at your end. For example, you are dialing the wrong number, forgetting to dial 1 before the phone number, dialing using touch-tone when the phone is on a pulse dial line, or using a phone that is restricted and cannot place long-distance calls.

### Your account has already been used to update the latest prices.

The Investors database computer only allows a single, completed update per market day.

If someone uses your account number and password, only the first user to connect will get an update. Call Investors for assistance. We will assign a new password and deactivate the old one.

Note: this limitation does not affect your ability to update several times when updating an antiquated database.

This will also affect you when you have restored an old database from a backup. In this case, you will be required to do a toll call upgrade and then a regular 800 number update.

### After Online Communication Ends

There are a variety of potential problems. These problems are noted as

CKXMIT error #N  
 . . .Text . . .

or

APPLYBC error #N  
 . . . Text . . .

Read the text. It will help you understand what problem has occurred and how to fix it. **Write down the name of the program that is giving the error message and the error number.**

**If you call Technical Support without the program name, the error number, and/or the text of the message we will be unable to help you.**

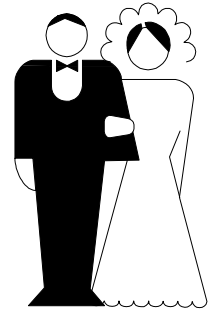
### APPLYBC error #75

This error occurs when the FTRACK4.DAT database has a read-only attribute set. FT protects the database from inadvertant modification by setting the R attribute. To remove the read-only attribute do the command from the C:\FT prompt,

```
ATTRIB -R FTRACK4.DAT
```

This error should NOT occur since the standard GO.BAT file that does the date update has this command in it.

# Exporting Data to Other Programs



## Why Would Anyone Want to Export to Another Program?

Most well-established technical analysis programs have more math-based technical indicators than FastTrack. These were usually designed for stock, option, and futures trading, but some apply them to mutual funds.

All such packages are designed for market timing, not for selection. The authors of the packages assume that users will have relatively little data and will wish to do intensive analysis on it.

## Trading System Packages

These packages run from large databases, such as FastTrack's, and apply several complex trading strategies and technical indicators to produce back-tested systems that use the best features of selection and timing. The following packages run from the native Ft database and do not require exporting.

- \* The best known of such packages is FastWays created by Rodger Holland in 1993.
- \* Rube is a powerful charting and Strategy program created by Roy Ashworth.
- \* FV and FC are relative newcomers (as of 1995) designed by Jim Forgioni.

See FastTrack commentary for phone numbers and product descriptions of these Strategy packages which use the FT database.

## Why Doesn't FastTrack Have All the Same Tools?

FastTrack, is designed for investment selection. FastTrack assumes that investors have a large amount of information upon which they do modest mathematics.

FastTrack has excellent implementations of traditional trend-following indicators. These tools are most appropriate for mutual funds. FastTrack's trend-following indicators are much easier to interpret than complex trading-range and volume weight indicators of option and futures packages.

Advocates of market timing, will find FastTrack exporting a valuable tool. When used in combination with volume, intra-day trading, and sector funds like the Fidelity Selects, it is possible to generate 15-30 trades/year with goals of 40% or greater annual return.

Advocates of selection will find FastTrack itself valuable when trading a given pot of money 2-4 times/year primarily based on relative strength trends with goals of 20-30% per year.

## Summary

If you only have time to learn one packages, make it FastTrack. You will get more return with the least effort.

On the other hand, if you need 25% + returns, are willing to spend more time with your computer, and take higher risks, then try one of the Strategy systems or practice market timing combined with sophisticated selection techniques.

## First Export Menu

The A Command from the main menu displays a new command menu. The following describes the options of the menu.

```
F1 Comma Fixed-length fml MetStck netstck prN chrtPro Sprdsht fndmTr esc
Choose export format. Hit Space or Backsp for descriptions. <Enter> to select.
```



### C - Comma-delimited ASCII Text

The data elements are separated by commas. This is the most efficient way to export single funds in a single file to spreadsheets and databases. Data is exported to a text file named SYMBOL.EXP where SYMBOL is replaced by the funds's 5-letter NASDAQ symbol. The file is placed in the FastTrack directory. Data is exported in the following format:

```
MM/DD/YYYY, JJJJJ, CCCC.CC, DDDD.DDD, N
```

MM/DD/YYYY is the month/day/year.

JJJJJ is the number of calendar days since 1/1/1900.

CCCC.CC is the Net Asset Value.

DDDD.DDD is the sum of all distributions paid on that day.

N is always the letter "N". It has no specific meaning.

The lines of text are only as long as necessary to contain the values. The spacing of the fields and commas will vary according to the data. The lines of data are not all the same length although they always have the same number of fields. Values are rounded to the third decimal place.

```
F1 Comma Fixed-length fml MetStck netstck prN chrtPro Sprdsht fndmTr esc
Choose export format. Hit Space or Backsp for descriptions. <Enter> to select.
```



### F - Fixed Length ASCII


This is an ASCII text format without any carriage returns at the end of each line. The data values occur at fixed length intervals. Short number fields are padded with blanks or zeros. This is often the best way to export data that will subsequently be processed by a mainframe or database program that is unable to accept comma-delimited formats. Data is exported to a text file named SYMBOL.EXP where SYMBOL is replaced by the funds's 5-letter NASDAQ symbol. The file is placed in the FastTrack directory. Data is exported in the following format:

```
MM/DD/YYYY_JJJJJ_CCCC.CC_DDDD.DDD_N
```

```
F1 Comma Fixed-length fml MetStck netstck prN chrtPro Sprdsht fndmTr esc
Choose export format. Hit Space or Backsp for descriptions. <Enter> to select.
```



### FastTrack's FNU Format

This is a special format that FastTrack uses to import data. This command saves the yellow line in the J or 2 Charts so that the composite can be used as a fund in the Total Return Chart for additional analysis. See the *Importing Funds Not in the Database* chapter in this manual, or use the index to find references to "importing". Also, review the main menu  (exclamation mark) that puts the yellow line directly on the Total Return Chart without creating an FNU file.



Windows on Wall Street reads MetaStock data files as one of its native formats. The chart shown is Fidelity Magellan using exported FT data.

Note that WOW advertises "200 years of fund data", and sure enough the diskette has 2 years data for 100 funds. This is 36 times less than the FastTrack as of 10/1995 and includes no families, dividends, or prospectus abstracts.

WOW primary strength is that it "can use almost any theory known to determine whether a security is moving up or heading down." . . . Pure timing.

**F1 Comma Fixed-length fml MetStck netstck prnl chrtPro \$prdsht fndmTr esc**  
**Choose export format. Hit Space or Backsp for descriptions.<Enter> to select.**



## M - MetaStock, Super Charts, and Other MetaStock Compatibles

FastTrack can export directly to MetaStock or compatible programs like SuperCharts and Windows on Wall Street.

### Finding the Path

FastTrack will check the disk drive that contains the \FT directory for a MetaStock directory. For Windows-based systems, FastTrack checks for the existence of \EQUIS\MSWIN.EXE. For DOS MetaStock, FastTrack checks for a file named \MSMS.EXE.

MS.EXE and MSWIN.EXE contents are unimportant. If they exist, then FastTrack will automatically find them and export in MetaStock format.

The first time you export to MetaStock, FastTrack creates \MS\FT, or \EQUIS\FT. For every FT family exported, FastTrack a subdirectory within \MS\FT or \EQUIS= equivalent. For example, Fidelity funds are put in C:\MS\FT\FIDELITY.

### 255 Funds per Directory

There is no limit to the number of families that can be exported into separate subdirectories in this fashion. However, *MetaStock Version 5 and earlier limits* (not FT)

the number of funds in each subdirectory to no more than 255.

If you export a family with more than 255 funds, then the export stops after the 255th fund with an error message. The 255 funds will be usable at that point.

### Finding the Data after Export

The fund can be used in MetaStock after changing directories using MetaStock's Load Security SubDir function to choose the \MS\FT\familyname subdirectory, or the \EQUIS\MSWIN\FT\familyname (substitute the family name).

### MetaStock Version 4

When you create new families and use MetaStock Version 4, be sure to hit the SCAN button in the MetaStock SubDir menu box so that MetaStock can find the new subdirectories.

### MetaStock Version 6 and Higher

This 1996 version of MetaStock supports a new data format that allows more than 255 issues per directory. DOS FastTrack will not support this new format. There will be a separate Windows downloader running by the end of 1997.

## MetaStock Export Steps

Start with **A** from the main menu.

```
1  F1 Comma Fixed-length fnU MetStck metstck prN chrtPro Sprdsht fndmslr esc
   MetStck - Export directly to Equis' MetaStock program.
```

Choose MetaStock option or type **M**.

```
2  F1 Yellow Red-line U-red-line No-div-red-line Metastock update esc
   Red-line - Export I chart's red line dividend adjusted. Dividends = 0.
```

Choose the Red-line choice or type **R**.

```
3  F1 Current fund Multiple file family esc
   Multiple_file_family - Export every fund in family creating multiple, an EX
```

Choose the Multiple\_file\_family or type **M**.

```
4  Hit <Esc> to abort the export process.
   Exporting FCNTX to File= 4 of 118
   Adding \MS\FT\FIDELITY\FCNTX to MetaStock MASTER file in \MS\FT\Fidelity\
```

On Step #3, you can export only the fund that is currently being displayed, or you may export the entire family. Be aware: MetaStock data files take about 8 times more space than FastTrack data files. When exporting everything, then be sure to have 30+ MB of disk space available.

### Volume Data is Exported

The volume exported is always that of the NYSE (NYVL-). While this is fine for GROWTH funds, many will want other volume figures for other funds.

### MetaStock's Multi-user Conventions

FastTrack handles MetaStock's multi-user conventions. MetaStock and FastTrack look for and creates \*.usr files showing that the target directory is already in use.

If either MetaStock or FastTrack reports that files are in use, but you know they aren't, then do this from the C: prompt in the affected MS directory:

```
DEL *.USR
```

The \*.usr files may be left over when either FastTrack or MetaStock fails before normal end of program.

### MetaStock Data Format Conventions

MetaStock conventions are followed exactly by FastTrack. You may intermix funds exported by FastTrack with securities you update MS via other means. You may delete and add funds without being concerned that FT will overwrite them. However, we still HIGHLY recommend you let FastTrack create and maintain the data structures under \MS\FT or \EQUIS\FT.

### Data Overwritten

In step #2 choosing **any** of the Red line export options automatically *destroys* the existing \*.DAT, \*.DOP, EMASMASTER, and MASTER files in the \MS\FT\FAMILY\ directory.

The entire structure is recreated for the period displayed on the FT screen.

This is good because it ensures that your data is as clean and fresh as FT can make it. This is bad because it could destroy data stored prior to 9/1/88 or the beginning of your database.



## MetaStock Update Export Option

**2** `f1 Yellow Red-line U-red-line No-div-red-line Metastock update asc`  
`Metastock update - Lack new red-line adjusted data old MS data`

At step #2 choosing `MetaStock_update`, will export either the current family or the current fund chosen in step #3. The export starts at the date of the last update to the MS files. In other words, it doesn't reexport everything.

When the export includes distributions, then the export adjusts back MetaStock data. Please see *Appendix B* for a discussion on dividend adjustment.

### Data Quality

MetaStock data will not stay as perfect as native FastTrack data. FT revises back history of prices and distributions from time to time, but the export has no way of knowing we have done this.

If your data seems to be corrupted in MS, then try reexporting using the R option in step #2 to overwrite current information and make MetaStock data match FT's.

### MetaStock Errors Detected

FastTrack will detect and correct certain mathematical and date order error conditions in MS data files *when they are encountered*. FT does *not* usually read the entire MS data file to update the data and as such may not encounter and correct all potential errors.

### Creating History Before 9/1/88

FT distribution-adjusts data before 9/1/88 when adding new data to the MS data file. This means that data before 9/1/88 will continue to have the proper total return relationship with FT's updates.

You may enter two forms of historical data: (1) The LAST data point entered (like 8/31/88) must be a real unadjusted NAV and the first data point entered (like 1/1/71) must be fully adjusted for distributions from 1/2/71-8/31/88. (2) First, export the FT data and then enter data that is fully adjusted for pre-9/1/88 data. Replace the FT 9/1/88 (or first FT fund date) price with a price your historical source

if the FT and MS first prices disagree. When the first dividend adjustment is made, FT computes a % offset of the correct 9/1/88 (or first FT fund date) price and applies that % adjustment fixing improperly adjusted back data.

Be sure that the symbol used when entering the data matches the symbol FastTrack uses (for example DJ-30 for the Dow Industrials).

Also be sure to place the data in the path `\FT\XX` where XX is the name of the family that will be the current family when you do the `MetaStock_update` command from the FT export menu.

### Backup

As always, back up your MS files you have spent so much time and energy creating by hand.

UNDER NO CIRCUMSTANCES WILL WE BE RESPONSIBLE FOR THE LOSS OF NON-FastTrack DATA! BACKUP OFTEN. CALL Equis OR Microsoft FOR BACKUP ASSISTANCE.

#### Name conventions:

MetaStock allows only a 16 character security name (MSName). FastTrack compresses names making a 9-character name plus symbol. The MSName may have the fund symbol preceding or following the 9-letter name.

\* Put the word "NAME" on line #5 of the FTRACK4.PAR file to make the fund name the 1st part of MSName.

\* Put "SYMBOL" on line #5 to make the 5-letter symbol the 1st part of MSName. "SYMBOL" is the default if no FTRACK4.PAR exists.

\* Put KEEP on line #5 to keep whatever name is already there and NOT replace it. Otherwise, MSName is always replaced thus always reflecting the current

**F1 Comma Fixed-length fml MetStck metstck prN chrtPro Sprdsht fndmsTr esc**  
**Choose export format. Hit Space or Backsp for descriptions.<Enter> to select.**



## N - MetaStock PRN Format

In addition to exporting FastTrack data via the M command, FastTrack supports an N command. The N command exports an ASCII text file that is compatible with MetaStock's MSU data import utility. Other programs like FundMaster can read this file format as well. Contact Equis (801-265-8886) for details on how to use MetaStock.

## P - ChartPro and Megatech

The P item exports to a MegaTech or ChartPro's .PRO file's native format. FastTrack checks for a directory named \CHARTPRO or \MT. The directories **must** contain the CHARTPRO.EXE or MEGATECH.EXE program files. Exporting will overwrite existing data files of the same name as those being exported.

## S - Spreadsheet Export

This format is for importing FastTrack data into spreadsheets. The data is in ASCII, comma delimited, text in columns. The export is to a single text file in \FT named FT.CSV. Use the spreadsheet's text import capability to bring the data in.

Column 1 contains a Date in the form MM/DD/YY

Column 2 and subsequent columns contain dividend-adjusted NAVs.

Row 1 contains the comma-delimited, 5-letter text symbol for each fund.

Since most spreadsheets cannot handle FastTrack's huge quantity of data, consider changing the "Days Between Points" parameter. Setting the parameter to 5 means that every fifth market day will be exported. For help with parameters see the "U" command discussed earlier in this manual

## FundMaster

FundMaster will read the MetaStock ASCII file format that FastTrack exports to when using the N option.

NOTICE: We provide NO technical support for FundMaster exporting. The following discussion is EVERYTHING we know about the subject.

### Prepare Your FundMaster Symbol List

Create a FundMaster symbol list that has the fund symbols you want to import. Call FundMaster if you don't know how to do that.

### Export the Data from FT

From the main menu choose "AT". This will create a file named XXXXX.PRN for every member of the current family. XXXXX is the 5-letter fund symbol.

The files are written to the default FT directory (C:\FT) or to the directory you specified in FTRACK4.PAR (See the discussion under a separate section in this chapter for details on FTRACK4.PAR).

### Import into FundMaster

- Hit **F** to enter FundMaster's file menu.
- Hit **G** to enter FundMaster's General Utility menu.
- Hit **A** to read ASCII.
- Hit **I** to read the data.
- Hit **F8** to pick the symbol list to read.

Always export the ENTIRE data range you wish to view. There is no provision for appending to existing files. Existing files will be DESTROYED. Don't use this method to add data to your existing FundMaster data going back to the dark ages.

The above instructions were given to us by a FastTrack/FundMaster user. They are not intended to be ultimately definitive regarding the proper use of Fund-

## The Second Export Command Menu

```
F1 Yellow Red-line U-red-line No-div-red-line esc
Choose the data to be exported. Hit Space or Backsp to see descriptions.
```

The menu above appears after selecting the format in the first menu. Use this second menu to choose the source of the exported data. For any given type of export you may not see all the options listed below. Only those options are listed in the Second Export Menu which are applicable to the format previously selected in the First Export Menu.

Choose **F1** to get online help regarding exporting.

Choose **R** to export the red line of the Total Return Chart. The data will be exported in *adjusted* form. NAVs dated before the most recent dividend will be less than the actual NAVs reported in the paper each day. Adjusted NAVs reflect the true total return of the fund. The dividend field exported (if any) will always contain 0.

Choose **U** to export the red line of the Total Return Chart unadjusted for dividends. This means that the NAVs exported will be the actual NAV as reported in the paper each day and that the dividend field of FNU files (if that format is chosen) will contain the real dividends.

Choose **N** to export the red line of the T Chart as published in the paper without any adjustment for dividends. Also, the dividend field of the format, if any, is always set to zero. As such, it is not possible to determine the real total return of such exported data. This form of exporting is most useful in exporting bond fund data for the purpose of viewing the movement of the fund's capital value unobscured by dividends.

Choose **Esc** (Esc) to exit exporting mode and return to the main menu.

Choose **Y** to export the lowest yellow line on the display. The following describes the values of the yellow line:

- \* The **AccuTrack** and **MACD Charts** exported yellow values range from 1 to +100. The centerpoint of MACD occurs at 50.
- \* The **J and 2 Charts** yellow exported values are not NAVs in a true sense, rather, they are values that have a true total return basis. Pick any two points. Subtract the earlier value from the later value and divide by the earlier value to get a total return percentage between the points. The NAV is always adjusted for distributions and the distribution amount set to zero.
- \* The **RSI and Stochastics Charts** exported yellow values range 1-100. RSI's (I Chart) upper dotted line is at 70. The RSI lower dotted line is at 30. Stochastics' (S Chart) upper dotted line is at 80 and the lower is at 20.
- \* The **Relative Strength (R) Charts** exported yellow values are scaled between the high and low range of the Total Return Chart's red fund values. This scaling is necessary so that the line falls in roughly the same volatility range as the fund, and can be meaningfully compared with the fund. The Purple line is not exportable.

- \* The **Moving Average (V) Charts** exported yellow values are the unfiltered moving average of the adjusted NAV of the red line of the T or P chart. When the Moving Average indicator is below the center line, then the value of the yellow line is greater than the adjusted NAV value of the red line. The yellow values read using the blue sTat pole on the V Chart **will not match** the exported values of the V Chart since the sTat pole transforms the unadjusted NAV that is actually charted to unadjusted values that can be compared to the red line's unadjusted NAV.
- \* The **Price (P) Charts** exported yellow values are treated just like the V Charts' yellow values. See discussion above. The Purple line is not exportable.

## Setting up Paths for Exporting and Other Purposes

Use a text editor to create the file, FTRACK4.PAR, in the FastTrack directory to direct FT to access certain other disk directories.

### Scrambled screens

Scrambled Screen Images after doing U, Y, or family editor commands are caused by FastTrack unsuccessfully restoring a screen image from disk. Usually, this is caused by disk compression.

To overcome this problem, you must have at least .5 MB of *uncompressed* disk space available. If you compressed everything, then there is no solution other than to hit the D key when the screen is scrambled to redraw the screen.

Edit Line 1 of FTRACK4.PAR as discussed below.

### Path to Other Exports

All Exports can be sent to a specific directory by entering a path on line 4 as discussed below.

### FTRACK4.PAR has the following format:

- Line 1 - Location of the \*.GRA (temp) files that are used in screen save/restore. Put a single letter on this line that is the drive letter for an uncompressed drive. You need this if \FT is on a compressed disk using DriveSpace or Stacker.
- Line 2 - Full path name where the FTRACK4.DAT exists. Use this to put the data file in a different place than the rest of the FastTrack files. If there is no need for LINE 1 then make Line 1 blank.
- Line 3 - The full path for the MetaStock directory. The FastTrack MetaStock export facility will export to this path.
- Line 4 - Full path where EXP exported files will be placed.
- Line 5 - the word "NAME" or "SYMBOL" (don't include " "). This governs the convention used when naming the MetsStock export.

## Appendix A - Recommended Reading

---

FastTrack utilizes technical analysis to evaluate mutual fund investment decisions. We have found the books and publications listed below to be valuable resources.

*Morningstar Mutual Funds*, Morningstar, Inc., 53 West Jackson Boulevard, Chicago, IL 60604. (1-800-878-5005). This is a bimonthly directory of mutual funds that provides excellent coverage of fundamentals for most of the funds covered in FastTrack. The organization of Morningstar is similar to FastTrack's family organization. Publisher is Don Phillips.

"The Visual Investor", John J. Murphy, John Wiley & Sons, 1996. This book's approach to technical analysis is markedly similar to FastTrack's. As often noted in commentary, John has inspired some good market comments and many of his techniques have been adopted for FastTrack use. This book includes FastTrack charts, but this has nothing to do with our recommendation to this fine, easy to understand book.

"Intermarket Technical Analysis", John J. Murphy, Wiley Finance Editions, John Wiley & Sons, New York (1991).

"New Concepts in Technical Trading Systems", J. Welles Wilder, Jr., Trend Research, Greensboro, NC, (1978). The original publication describing the RSI Index.

"Technical Analysis Explained", Martin Pring, McGraw-Hill (1991). This book is highly complementary to FastTrack and strongly recommended for FastTrackers.

"Trading for a Living", Dr. Alexander Elder, John Wiley & Sons, 1993. This book contains some great ideas which seem obvious but are often overlooked. The style is engaging. This is one of the few true technical analysis books that you could enjoy reading cover-to-cover in a single sitting.

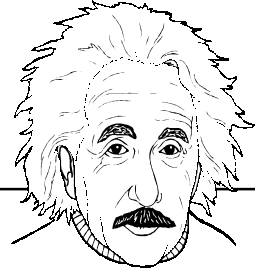
Technical analysis books are available from many sources. One source we have had good luck with recently (January 1997) is,

Financial Trading Seminars  
P.O. Box 20555, Columbus Circle  
New York, NY 10023

1-800-458-0939

# Appendix B - Mathematical Computations

This section is not for everyone.



## Moving Averages in General and the V Chart

The Moving Average indicator has one adjustable parameter. FastTrack uses the exponential moving average. All moving averages within FastTrack are calculated using an exponential average.

1) The calculation uses a smoothing factor derived from the first Moving Average parameter.

$$SFactor = 2 / (1stParameter + 1)$$

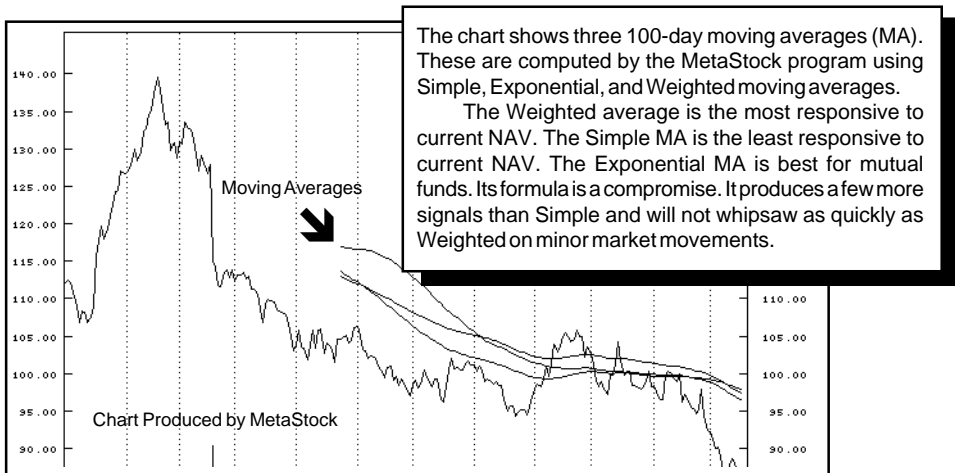
2) Each day's moving average value is computed as follows,

$$MA = (NAV * SFactor) + (MA * (1 - SFactor))$$

3) When the 2nd Moving average parameter is 1 or greater then, the above process is repeated using the 2nd parameter and computed against the already averaged daily values instead of the NAV.

4) When the 2nd Moving Average parameter is  $< 1$  then the fractional value is taken as a percentage (.05 = 5%), signals are only generated when the fund and the average differ by the parameter percentage. Also, the plot of the bars is modified to stay appropriately above or below the centerline as required by the filter. The yellow values reported on the second line using the sStat function still reflect the real moving average and not some filter affected value.

On the first day MA is set to the first day's NAV. The MA is carried forward to the next day to be used as the MA in the formula. FastTrack plots the difference between the MA and the fund as vertical bars originating at the centerline. When the bars are below the centerline, then the moving average is above the fund line.



The default Moving Average varies according to the Standard Deviation of the fund (SD). The formula for computing the default MA parameter is  $60 \times SD / 4.5$ .

## Adjusted Fund Prices

Historical Net Asset Values (NAV) must be adjusted for the dividends to reflect an accurate picture of the fund performance over time. FastTrack computations reinvest dividends at the closing NAV on the x-dividend day. All historical prices from the day before the x-dividend date are reduced backward in time.

When a split occurs, NAVs are reduced by the split ratio. For example, when 3-for-1 split occurs, NAVs before the x-dividend date will be multiplied by 1/3. A 1-for-5 reverse split is handled the same way: NAVs before the x-dividend date will be multiplied by 5.

The worksheet below shows how to compute the adjusted NAVs and compute a total return between any two points with intervening distributions.

### Adjusted NAV and Total Return Worksheet

Fund \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_. Set sTat poles bounding dates. If the "to" date is the last data on the chart, set only the blue pole to the "from" date.

FT Total Return (Red number in parentheses on 2nd line) \_\_\_\_\_ %.

1st Net Asset Value (red NAV on 2nd line) \$ \_\_\_\_\_ .

Last Net Asset Value (move blue pole to last day) \$ \_\_\_\_\_ .

Distributions between the from and to dates (may be gathered from the sTat screen)

X-Date	NAV	DisAmt	AdjFactor
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

To compute the Adjustment Factor (AdjFactor) add all types of dividends for a single day to get the distribution amount (DisAmt). Next do the following:

$$\text{AdjFactor} = \text{NAV} / (\text{NAV} + \text{DisAmt})$$

Record the AdjFactor in the table above. When all AdjFactors have been computed, multiply them all together to get the Product of All Adjustment Factors.

Product of all Adjustment Factors (Product) \_\_\_\_\_

Multiply the 1st NAV and Product to produce the Adjusted 1st NAV.

Adj 1st NAV \_\_\_\_\_

Do the final calculation to get the red number in parentheses on 2nd line of sTat screen.

$$(\text{Last NAV} - \text{Adj 1st NAV}) / \text{Adj 1st NAV} \times 100 = \text{_____} \%$$

## Indicator and Chart Computations

The computations are described in general fashion below. Not all aspects of the computation are described in detail. Default computations for the trend-following indicators (AccuTrack, Moving Average, and MACD) are based on the Standard Deviation of the fund. Defaults are not computed based on any optimization techniques and are not of sufficient importance to be further discussed in this text.

Where the term NAV is used in the discussion, the NAV is actually the Adjusted Net Asset Value as discussed in "Adjusted Fund Prices" preceding this section.

### Total Return (T Chart)

Total Return Chart plots NAVs. Historical net asset values are adjusted for the dividends to reflect an accurate picture of the comparative performance of the fund and the index over time. Each point on the chart is plotted using the formula,

$$\frac{(\text{TodayNAV} - \text{YesterdayNAV})}{\text{FirstNAV}}$$

TodayNAV is the NAV of any given day.

YesterdayNAV is the NAV of the day before TodayNAV day.

FirstNAV is the first NAV displayed on the chart (not 9/1/88 or fund inception)

The chart is a series of percentage change points so that the fund and index can be plotted on the same chart and meaningfully compared.

### AccuTrack Indicator (A Chart)

AccuTrack Parameter 1 is a smoothing factor. Parameter 2 governs the length of the moving averages used internally in

the computation of AccuTrack. To compute each day's AccuTrack bar:

- 1) Compute a daily change for the fund and the index by the formula:  

$$\text{Change} = (\text{TodayNAV} - \text{YesterdayNAV}) / \text{YesterdayNAV}$$
- 2) Exponentially smooth FundChange and IndexChange by Parameter 2 starting from the 1st date in the database.
- 3) Subtract the smoothed FundChange and IndexChange computed above.  

$$\text{Diff} = \text{FundChange} - \text{IndexChange}$$
- 4) Exponentially smooth Diff by Parameter 1.
- 5) Check the data for the maximum and minimum values. Then scale the data to fit in the range 1 to 100.
- 6) Plot each day's value as a vertical bar with 50 falling at the centerline.

The default parameter values are,

$$\text{Param1} = 12 \times 4.5 / \text{SD}$$

$$\text{Param2} = 4 \times \text{Param1}$$

### Relative Strength Chart (R Chart)

Relative strength is the difference between the total return of the fund and the total return of the index. The value of each point is plotted as follows:

$$R = \left( \frac{\text{FundTodayNAV}}{\text{Fund1stNAV}} \right) / \left( \frac{\text{IndexTodayNAV}}{\text{Index1stNAV}} \right) * 10$$

FundTodayNAV = The NAV of the red fund line on any given day.

Fund1stNAV = The NAV of the fund on the first day charted.

IndexTodayNAV = The NAV of the green index line on any given day.

Index1stNAV = The NAV of the index on the first day charted.



## Stochastics Calculation (both S and H Charts)

Stochastics is an oscillating indicator that oscillates between 1 and 100 and is represented by the yellow line on the chart. The chart shows where the current closing NAV falls in a recent range of NAVs. The green line is the trigger line which generates buy and sell points as the yellow line crosses above or below the trigger line.

The chart is also divided by white lines which represent 20, 50, and 80 levels. When the yellow line is below the 20 white-dashed line, the indicator is considered to be in the "oversold" condition. When the yellow line is above 80 white-dashed line, the indicator is considered to be in the "overbought" condition.

The H chart is plotted as a series of bars that originate at the centerline of the chart and extend upward (positive values) or downward (negative values).

Stochastics Yellow Line Calculation when  $P2 = 1$  (known as %K):

$$\%K = 100 \times \left( \frac{\text{Close} - \text{LowP1}}{\text{HighP1} - \text{LowP1}} \right)$$

"Trigger" Green Line Calculation (known as %D):

$$\%D = P3\text{ExpAvg} (\%K)$$

Slow Stochastics Yellow Line Calculation when  $P2 > 1$  ):

$$\%K = 100 \times \left( \frac{P2\text{ExpAvg}(\text{Close} - \text{LowP1})}{P2\text{ExpAvg}(\text{HighP1} - \text{LowP1})} \right)$$

H Chart Stochastics:

$$\%H = \%K - \%D$$

- %K = A point ranging from 1-100 plotted for the current day as a point on the yellow line.
  - Close = The current closing NAV.
  - P1 = The number of days in the range, the 1st Parameter value.
  - LowP1 = The Lowest NAV in the most recent P1 range of NAVs.
  - HighP1 = The Highest NAV in the most recent P1 range of NAVs.
  - %D = A point plotted for the current day as the green line.
  - P3 = The number of days over which %K is averaged to derive %D.
  - ExpAvg = An exponential average.
  - P2 = The number of days over which %K is smoothed. If  $P2 > 1$ , then %K is a Stochastics line. If  $P2 > 1$  then %K is a Slow Stochastics line.
  - %H = The height of the bar drawn for the current day.
- The default values are 14 4 5. These do not change from fund to fund.

## MACD Indicator (M Chart)

The MACD indicator has three adjustable parameters, P1, P2, and P3. The steps in charting the indicator are as follows:

- 1) Compute an exponential moving average of the fund using P1. In general, P1 must be greater than P2.
- 2) Compute an exponential average of the fund using P2.
- 3) Subtract each day's two averages to get a difference.
- 4) Smooth the difference using an exponential average of length P3.
- 5) Subtract the smoothed difference computed in Step 4 from the difference of step 3.
- 6) Plot the new difference as bars originating from the centerline.

MACD's defaults are as follows:

Param1 =  $90 \times 4.5 / SD$   
 Param2 = Param1  $\times 0.5$   
 Param3 =  $30 \times SD / 4.5$

## Standard Deviation (SD=)

FastTrack's Standard Deviation is done for consecutive 21 market day periods when the number of market days displayed  $> 105$  or for consecutive 7 market-day periods when the number of market days is  $\leq 105$ . The computation is always performed for the number of days displayed OR for the number of days that the fund (red line) existed, whichever is shorter.

## Annualized Return (Ann=)

The calculation is performed in the following equation:

$$\text{EXP} \left( \left( \text{LOG}(\text{TotRet}) / \left( (\text{Number of days displayed} + 1) / 365 \right) \right) - 1 \right) * 100$$

EXP calculates the exponential function and returns e (the base of natural logarithm) to the power expressed in the LOG function. No further documentation of this function is available.

## Correlation (Cor=)

Correlation is computed according to an algorithm published in "Biometry", Robert Sokal and F. James Rohlf, W. H. Freeman, 1969, Page 509. The following is the actual code incorporated in FastTrack for computing correlation:

## Welles Wilder RSI (I Chart)

The RSI chart uses one adjustable parameter, P. The calculations are based on day-to-day changes in Adjusted NAV.

Change = TodayNAV - YesterdayNAV

- 1) Compute two exponential moving averages. UpAvg is the number of positive Change values over P days. DnAvg is the number of negative Change values over P days. Ignore Change values = 0.
- 2) Calculate the RSI value of each day as

$$\text{RSI} = 100 - \left( 100 / \left( 1 + \left( \text{UpAvg} / \text{DnAvg} \right) \right) \right)$$

FastTrack sets any value of RSI that is less than 1 to 1. This is unique to FastTrack and has no impact on the practical interpretation of the chart.

The default value is always set to 14. It does not vary from fund to fund.

```

DEFINT I-N
FUNCTION corr (FTab AS SymTab, Fund() AS FUNDS, Index() AS FUNDS, ITab AS SymTab)
'computes correlation as per "Biometry" page 509, Robert Sokal & F. James Rohlf
'W.H. Freeman and company 1969
'NStart is the start day of the data. NEJD is the end day of the data
FOR i = NStart TO NEJD
  c = (Fund(i).cp - Fund(i - n).cp) / Fund(i - n).cp
  x = (Index(i).cp - Index(i - n).cp) / Index(i - n).cp
  sumY1 = c + sumY1 : sumY2 = x + sumY2
  sumY1sq = c * c + sumY1sq : sumY2sq = x * x + sumY2sq
  sumY1Y2 = c * x + sumY1Y2
NEXT i
n = NEJD - NStart + 1 'get a count of market days
sumsqY1 = sumY1sq - (sumY1 ^ 2) / n : sumsqY2 = sumY2sq - (sumY2 ^ 2) / n
sumprod = sumY1Y2 - sumY1 * sumY2 / n : x = sumsqY1 * sumsqY2
corr = sumprod / SQR(x)
END FUNCTION

```

No further documentation of FastTrack's correlation is available.

## Beta (Bet=)

Beta is a classical measurement of the volatility of a security with respect to the S&P 500 (SP-CP) Index. In the case of the Vanguard Index 500 Trust (VFINX) and SP-CP, the Beta is 1.00 since the daily movements are so nearly identical. Dividends do make VFINX outperform SP-CP, but do not contribute significantly to volatility when reinvested and compounded.

Classically, a fund with a beta of 1.10 is expected to outperform the market by 10%. A fund with a beta of 2.0 would be expected to provide double the return of the market. Although beta seldom predicts the future with such precision, it is still useful for comparison purposes.

FastTrack's Beta calculation is flexible. Beta is computed using the T Charts' red and green lines. This means Beta can be computed with regard to ANY index, and not just SP-CP. Note, if you don't use SP-CP as the index, then the Beta computed by FT will not resemble published betas you may see elsewhere. In 1994, commentary will discuss the use of this tool in more detail.

The algorithm used to compute FastTrack's beta was published in "Guide to Portfolio Management", James L. Farrell, Jr., McGraw-Hill - 1983, pages 41-43.

There are a number of different ways to compute Beta so do not expect FastTrack's method to compute exactly the Beta you might see in some publications. This method for computing Beta was chosen since it seemed to produce the results that were more similar to the beta listed in the Morningstar mutual fund directory than two other computations methods tested.

Beta is a volatile number. Expect a Beta computed for 1990, 1991, and 1992 to be quite different for aggressively managed funds. However, Beta should remain nearly 1.0 for index funds like VFINX for periods exceeding a year.

For Beta to have ANY validity, the fund and the index MUST be closely correlated (having a Cor= value of .70 or higher).

## P Chart

The red line is a plot of adjusted NAV. The yellow and purple lines are exponential moving averages of the adjusted NAV.

The values reported by the sTatistic blue pole are based on the reported (i.e. not adjusted) NAV as it appeared in the paper on any given day.

The red value is the NAV as in the paper. The yellow and purple values are,

$$\text{NAV} * ( \text{AdjustedNav} / \text{EXP}(\text{AdjustedNAV}) )$$

where the EXP equation is the exponential moving average using the number of yellow or purple days on the the screen.

As more data accumulates and more dividends are paid, then the Adjusted NAV change BUT because of the formula given above, the reported yellow and purple values are unchanged.

This means that if you plot the red, yellow, and purple values reported by the sTat blue pole the lines would have major discontinuities at each dividend. In the FT chart these discontinuities do not appear because the adjusted values are used in drawing the line.

The advantage of using this method is that it is possible to use back issues of *The Wall Street Journal* to check historical data since the prices shown by the blue pole are computed as they were the day the paper was published *and* the averages are also shown as if computed the day the paper was published.

## Weird Numbers

It is normal that not all chart numbers in this printed manual will match what you see on your screen.

## FastTrack Isn't Perfect

One reason for chart differences is that no known source of mutual fund data is perfect, not even FastTrack. When we discover that our data is incorrect we transmit changes to all users during their

next download. This obviously will change numbers on the screen as compared to this manual.

Here are some other specific reasons why you may notice differences.

## Total Return Chart

Cor = , Bet = , Max = , and Min = are dependent on the data of the red line and the green line. If that data has been changed or if dividends have been added/changed, then these values may change.

Values may differ even when the Ru = and Ann = values remain constant. Ru = and Ann = are dependent on end point NAV and intervening dividends. Changes in Ru = and Ann = often reflect revised dividends.

End points *and* "between" NAVs and dividends may affect Cor = , Bet = , Max = and Min = . These values may change even when R = and Ann = are constant.

## Indicator Charts

Aside from revised data as discussed above, indicators include other factors that can make chart numbers change.

Over the evolution of FastTrack, the algorithms used in the indicators change. AccuTrack was revised to have two parameters instead of one. Stochastics were revised to improve computation speed. MACD and Moving average were revised to remove bogus whipsaws at the start of the data . . . and there have been many other changes between revisions.

All these type of changes can affect all or one of the values including Rsk = , S/Y = , Mr = , and Tr = .

We offer apologies for mistakes, but, for the most part, the changes have been small and usually made for the purpose of increased speed, ease of use, and to better adapt the indicator for use with mutual fund data.

Subtle changes won't ever stop; FastTrack is a living creature. We will try to avoid werewolf-like changes.

## Adjusted Return Charts ( J and 2)

All the things mentioned above affect the numbers of the Adjusted Return charts. Also, the settings of the Q command, the 2MM = fund, the funds in the family, and the last period ranked affect these charts.

When we add funds to a family, obviously the number of family members and the ranked position of a particular fund may change. The white line showing risk-adjusted return may change because it is based on the AVG of a family.

The AVG fund will change due to an addition or deletion of a fund and due to changes in *any* of the funds in the family. AVG may also change because we add data to the front end of a fund. Not all the funds in the database currently have data going back to 9/1/88. When we add this data obviously, the AVG changes.

The computation of AVG includes ALL funds regardless of their starting date and the date range of the screen. The starting value of AVG is 100.00.

Rr = changes when the AVG fund changes and it changes depending on the width of the chart displayed when last ranking the family. Since this last ranked width is not displayed on the screen, it will be often impossible to recreate the exact Rr = value on your display.

Standard Deviation may have surprising changes if you shift the period by as little as a single day . . . remember that we compute SD based on fixed length periods starting at the beginning of the chart. Shifting one day forward means that EVERY data point used in the computation shifts one day forward. If the new data includes a day when the market moved very dramatically, then SD may be significantly different . . . especially over short periods of 2 years or less.

## Yellow and Purple Values

We cover these values as a separate subject. Yellow values occur throughout indicators and various charts. They change a great deal because yellow values are based Adjusted NAVs (P Chart's yellow and purple values are actually readjusted back to a quasi-unadjusted value.)

There is a detailed description of Adjusted NAV earlier in this Appendix including a worksheet that shows how to compute adjusted NAV . . . so we won't go into a lot of detail here.

The most salient aspect of Adjusted NAV is that whenever there is a new dividend posted in the database, previous yellow values change. Therefore, except for the P Chart, do not expect ANY yellow or purple value printed in this manual to agree with what you see on the screen. HOWEVER, you should expect that the percentage change between any two values will stay the same except when actual fund, index, or dividend data has been changed.

## But Changing Numbers Makes Me Uneasy . . . Like I made decisions based on bad information

As we improve and refine FastTrack and its data, BUY and SELL points in the past appear, disappear, or shift. Usually, they shift slightly and improve the profitability of a trading strategy.

Getting the very best result requires using the very best information and methods. **AND Investors FastTrack is committed to supplying the very best service possible.** Perfection is always a goal, but, please, understand we will occasionally fall short.

# Appendix C - Setting Up Menus

---

## Normal Mode of Operation

This manual describes all FastTrack commands as they would be run from the DOS Prompt. We encourage users to use FastTrack this way. However, we recognize the need for some users to use menu systems. There are hundreds of menu systems including PC Tools, Direct Access, X-Tree, GEM, etc. Windows is a super type of menu system.

For each FastTrack function normally run from the DOS Prompt, you must set up a menu item or a Windows icon. In addition, there are operations that must be done from the DOS Prompt while solving technical problems. "Drop to DOS" should also be a menu item.

## Running Short of Memory

Many menu systems remain in memory after they start one of their menu items running. Most of the time this causes no problem. FastTrack does not require absolutely every byte of a machine with a full 640KB of memory.

However, if you load virus detectors, screen printers, pop-up programs, drivers, etc., then there may not be enough memory to run FastTrack. In short-memory situations, try one of the following:

- 1) Get more memory if you have less than 1MB in a machine that has a 286 or better processor chip. Load DOS 5 and run in the High Memory Area.
- 2) DO NOT run DOS 4 (memory hog).
- 3) Get MS-DOS 6.2 or higher and using the MEMMAKER function to move TSR's out of the 640KB conventional memory area.

## Running Short of Environment Space

Many programs use environment space. This subject is discussed in your DOS manual. FastTrack needs 20 bytes of environment space. Although there may be enough space when you install FastTrack. Be aware that FastTrack does not reserve environment space, therefore, installing other programs later (like Word-Perfect, Windows, etc.) may permanently reserve all available environment space. This causes the FastTrack GO process to abort with the DOS message,

"Out of environment space..."

The problem can usually be corrected by adding the following line to CONFIG.SYS:

```
SHELL=COMMAND.COM_/_E:512_/_P
```

**Note:** The underscores ( \_ ) above indicate required spaces. DO NOT use the underscore character, USE spaces.

**Note:** Before modifying CONFIG.SYS be sure that COMMAND.COM exists in the root directory, or modify the SHELL command to use a path that does include COMMAND.COM.

## Have a Bootable Diskette at Hand

If you blow the spelling of this command, then the system will not start up from your hard disk. This makes fixing the spelling error impossible unless you boot from diskette.

If you do not understand this paragraph, discuss it with your regular computer support person. You should always have a boot diskette available for a variety of technical reasons. Make sure your computer support person provides one to you clearly marked and tested.

## Menu Choices Not Covered Extensively Elsewhere

```

FastTrack System
1 ) Run the FT charting, ranking, and analysis program.
2 ) GO get the data: The data update process.
3 ) UPGRADE programs online. If a new version is available, it will be sent.
4 ) Print the On-Line Help file
5 ) Change Account and Communication information
6 ) Backup FastTrack Data to Drive.
7 ) Restore FastTrack Data to Drive.
8 ) Backup ALL of FastTrack to Drive.
9 ) Restore ALL of FastTrack to Drive.
10 ) Display a basic check of the FT system
11 ) Change the colors displayed in the FTTRACK charting program.
12 ) Create a FT installation disk for a friend to Drive.
13 ) Online integrity check and repair for the FT Database.
14 ) Reset 16-bit Com Ports to look like old unbuffered 8-bit ports.
15 ) Help screen
16 ) Exit menu system.

```

Please select the function by item number.?

### Print the Online Help File

If you find reading the help file on screen difficult, this option prints the FastTrack Interactive Help Manual out for you. Be advised, this is not a small document so be prepared to use a lot of paper.

If there are individual subjects you would like printed rather than the whole document, please run the FT Help Manual and print screen as you normally would under DOS or Windows.

### Display a Basic Check of the FT System

This option displays a basic check of your system. The information will be of use to technical support, if necessary.

Information includes, device drivers, memory allocation, the date of your last update, the current version of DOS, and a list of com ports.

### Online Integrity Check and Repair of the FT Database

This option calls the FastTrack database, using the toll number, and compares the database on your hard drive with the one on our network.

If there are any differences between the two, FastTrack automatically updates or repairs the one located on your hard drive.

There is no charge for this service except the cost of the call on your phone bill.

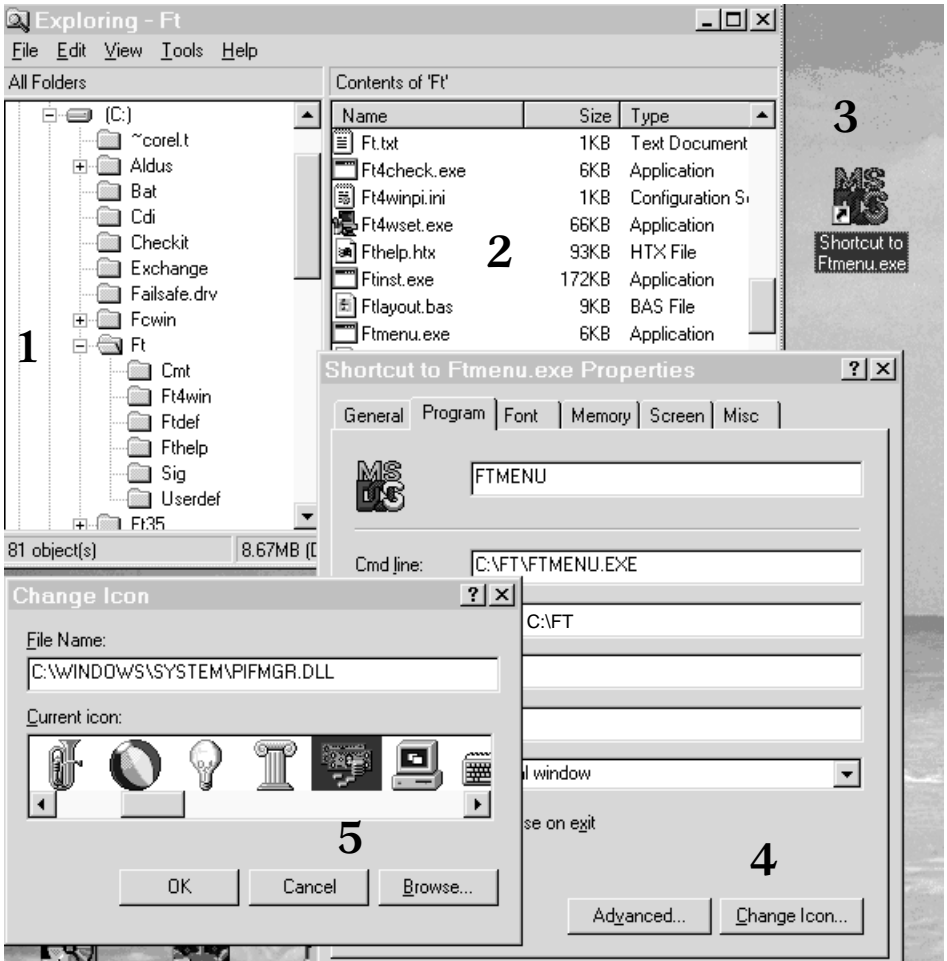
Your data must be current. Data which is too badly corrupted to be updated cannot be repaired by the OnLine Integrity Check.

In some cases, even data which is current may have too many corrupted sectors to be repaired. In this case, the alternative is to restore and only database from a backup, or order new diskettes.

# Appendix D - Operating Under Windows '95

FastTrack for DOS runs well in a DOS environment under Windows '95, or in DOS 3.x-6.x, as well as PC DOS 7. To install, either reboot to DOS or click on the MS DOS ICON.

Install the program as outlined in the FastTrack Installation Guide. After installation, return to the Windows '95 Desktop.





## Putting an Icon on the Desktop for FastTrack

Do the 5 steps below. Find the numbers on the facing graphic. Your screen looks different. We overlapped the windows to make a multilayer graphic.

- 1) Start the Window '95 Explorer. Explorer is the last program listed when you click Start/Programs. Double-click Explorer. This brings up your version of screen #1. Click once on the drive that contains the FT folder.
- 2) Clicking on the drive shows the contents of the drive. Click once on the FT folder to display screen #2.
- 3) Drag the FTMENU.EXE program from the FT folder to the desktop (onto the background). This will create the MS-DOS icon named "Shortcut to FTMENU".
- 4) Right-Click (the right mouse button) on the new icon (#3). This brings up the Properties screen (#4). Be sure the "Working" field contains the path C:\FT or whatever path is appropriate for your system.  
Click the "Change Icon" button shown just below the 4 on the facing page. This displays a row of new icons (Screen #5).
- 5) Select a new Icon by clicking. We like the money icon shown, but hard to discern in black and white on the facing page. You may use any icon you like, even if that icon is already in use by another application.

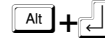
Finally, click the OK or CLOSE boxes on all the various windows. Drag the new FT icon wherever you want it on the background. It will stay there permanently until you delete or move it.

Windows 95 gives you many different ways to install an application, the above is only one of the many ways. Call Microsoft for more information. The last time we checked, the support number for Windows 95 was 800-936-4200.

FT runs well if the MS-DOS memory, video, and other options are all set to their default or "auto" values.

## Optimization Under '95

If you click a MS-DOS icon and then run FT as if you were in standard DOS, then be sure you are running "full-screen". To see what we mean by "full-screen", start FT, let it display a chart, and then hit



Hold down the Alt key while hitting the Enter key. Do this several times pausing about 5 seconds between tries.

Windows '95 gives four options when a user shuts the system down. One of these options is to reboot in MS-DOS mode. If you plan to do this and run FastTrack, then add SMARTDRV to your AUTOEXEC.BAT.

SMARTDRV greatly improves system performance, especially when reading a lot of data. FastTrack makes such demands when doing rankings and displaying the commentary library. Put the two lines below in your AUTOEXEC.BAT

```
LH DOSKEY
SMARTDRV 3192 2048
```

## Video Driver

This is a big issue, Windows '95 does not use the drivers loaded in your Windows 3.x. Instead it has a variety of its own video drivers. If the correct driver for your card is not among these, your performance will suffer.

You can check your video driver by performing the following steps:

- 1) Right click on the Desktop.
- 2) Slide to Properties.
- 3) Choose the Settings tab.
- 4) Click on the Change Display Type button.
- 5) Check to ensure the Display Type and Monitor Type are correct.

If the Display and Monitor are correct, take no further steps. If not, attempt to find the correct video drivers in the list provided by Windows. If you are unable to do so, please contact your video card manufacturer for assistance in acquiring the proper drivers.

# Glossary of Investment Terms

---

## **30-Day Average Yield**

Based on yield to maturity of a fund's investments over a 30-day period and not on the dividends paid by the fund, which may differ.

## **AMEX Major Market Index**

An index of 20 blue chip industrial stocks that closely tracks the changes in the Dow Jones Industrial Average. Fifteen of the stocks in the index are also included in the Dow Jones Industrial Average.

## **Asset Allocation Funds**

Asset allocation funds have the ability to shift assets among asset classes (for example equities, bonds, and short-term instruments). Asset allocation funds take the concept of a private asset manager - a skilled professional who builds and manages a comprehensive portfolio for a client - and apply it to a mutual fund.

## **Asset-backed Securities**

Bonds or notes backed by loan paper or accounts receivable originated by banks, credit card companies, or other providers of credit and often "enhanced" by a bank letter of credit or by insurance coverage provided by an institution other than the issuer.

## **Average Annual Total Return**

Average annual total return is a hypothetical rate of return that, if achieved annually, would have produced the same cumulative total return if performance had been constant over the entire period. Average annual total returns smooth out variation in performance; they are not the same as actual year-by-year results. Within FastTrack this is simply known as "Total Return", and is charted as the red line of the T Chart.

## **Basis Point**

One one-hundredth (1/100 or 0.01) of one percent. Yield differences among fixed income securities are stated in basis points.

## **Beta**

A measurement of a portfolio's sensitivity to market movements. It is a ratio of the portfolio's past price fluctuations compared to the fluctuations of a benchmark index, such as the S&P 500®. The S&P 500 has, as a generally accepted standard, a beta of 1.0. A beta less than 1.0 indicates that the fund's share price has fluctuated less (positively or negatively) than the S&P 500 for any given move in the index. The correlation measure  $R^2$  should always be considered before beta to determine the validity of the comparison; a beta alone will not provide a complete picture of a fund's behavior. Beta can be calculated using the performance figures for any time period. For example, a mutual fund might calculate the beta based on 36 months returns. See Volatility Measures. See also Correlation Measures,  $R^2$ , and S&P 500 Index.

## **Bill (Treasury or T-Bill)**

A government security with a maturity of a year or less.

## **Blue-chip Stocks**

Stocks of well-established companies that have had a history of earnings and dividend payments, as well as a reputation for sound management and quality products and services. Also known as large-cap stocks.

## **Bond**

An interest-bearing promise to pay a specified sum of money -- the principal amount -- due on a specific date.

## **Bond Funds**

Registered investment companies whose assets are invested in diversified portfolios of bonds.

## **Capital Appreciation**

As the value of the securities in a portfolio increases, a fund's share price increases, meaning that the value of your investment rises. If you sell shares at a higher price than you paid for them, you make a profit, or capital gain. If you sell shares at a lower price than you paid for them, you'll have a capital loss. See also Dividends. See also Capital Gains.

## **Capital Gains**

The difference between an asset's purchased price and selling price, when the difference is positive. A capital loss would be when the difference between an asset's purchase price and selling price is negative.

## **Capital Loss**

A loss realized when an instrument or asset is sold at a price below its cost.

## **Capitalization (market)**

The last closing price of a share of stock times the number of shares outstanding.

## **Collateralized Mortgage Obligation (CMO)**

A mortgage-backed bond that separates mortgage pools into different maturity classes called tranches. This is accomplished by applying income (payments of principal and interest) from mortgages in the pool in the order the CMO's pay out.

## **Common Stocks**

Stocks represent a share in the ownership of a particular company. If the company does well, the value of each share generally goes up. Although common stocks have a history of long-term growth, their prices fluctuate based on changes in a company's financial condition and on overall market and economic conditions.

## **Convertible Bond**

A corporate bond, usually a junior subordinated debenture, that can be exchanged for shares of the issuer's common stock.

## **Correlation Measures**

Measures that show the validity of a comparison to a benchmark index based on the historical relationship between portfolio returns and index returns. See  $R^2$ . See also Volatility Measures.

## **Coupon**

The term is used colloquially to refer to a security's interest rate. For bonds, the coupon is actually an attachment to the original bond itself that has a value and can be removed from the bond and redeemed at face value on the coupons due date, or at a lesser value at an earlier date. Coupons still attached to each other, but separated from their bond are known as "strips."

## **Coupon Rate**

The annual rate of interest payable on a debt security expressed as a percentage of the principal amount.

## **Coupon Yield (see Nominal Yield)**

## **Credits**

Loans, bonds, charge-account obligations, and open-account balances with commercial firms.

## **Cumulative Total Return**

Cumulative total return reflects actual performance over a stated period of time. This is the same as the red line of the T or P Charts in FastTrack.

## **Currency Risk**

The risk that shifts in foreign exchange rates may undermine the dollar value of overseas investments.

## **Current Income**

Monies paid during the period an investment is held. Examples include bond interest and stock dividends.

## **Current Market Value**

The amount a willing buyer will pay for a bond today, which may be at a premium (above face value) or a discount below face value).

## **Current Yield**

The ratio of interest to the actual market price of the bond stated as a percentage:

annual interest = current  
yield/current market value

### **CUSIP**

An identification number assigned to each fund by the committee on Uniform Security Identification Procedures.

### **Cyclicals**

Stocks of companies whose business prospects are tied to economic cycles. For example, steel companies often do poorly in a recession, when consumers are buying fewer large items such as cars and refrigerators.

### **DAX 100**

The Deutscher Aktienindex (DAX) 100 is a market capitalization weighted index of the 100 most heavily traded stocks in the German market.

### **Denomination**

The face amount or par value of a security which the issuer promises to pay on the maturity date.

### **Discount**

The difference between a bond's current market price and its face or redemption value.

### **Diversification**

Diversification is the concept of spreading your money across different types of investments and/or issuers to potentially moderate your investment risk.

### **Dividends**

A form of distribution: Mutual fund dividends are paid out of income from the fund's investments. Dividends are usually taxable at the higher tax rate. This contrasts capital gains distributions which may be taxed at lower rates.

### **Dollar Cost Averaging**

With dollar-cost averaging, you invest a fixed amount on a regular basis - regardless of the current market trends. The investor buys more shares when the price is low and fewer shares when the price is high; the overall cost is lower than it would be if a constant number of shares were bought at set intervals. Dollar cost averaging does not assure a profit or pro-

tect against a loss in a declining market. You must continue to purchase shares both in market ups and downs. The goal of dollar cost averaging is to attain a lower average cost per share.

### **Dow Jones Industrial Average (DJ-30)**

The Dow Jones Industrial Average is an unmanaged index of common stocks comprised of major industrial companies and assumes reinvestment of dividends.

### **Duration**

Duration estimates how much a bond's price fluctuates with changes in comparable interest rates. If rates rise 1.00%, for example, a fund with a 5-year duration is likely to lose about 5.00% of its value. Other factors also can influence a bond fund's performance and share price. A bond fund's actual performance may differ.

### **Expense Ratio**

The percentage of the fund's average net assets spent for the operation and management of the fund, includes the Management Fee. See Management Fee.

### **Federal Home Mortgage Corporation (FHLMC or "Freddie Mac")**

A federally created corporation established to facilitate the financing of single-family residential housing by creating and maintaining an active secondary market for conventional home mortgages.

### **Federal National Mortgage Association (FNMA or "Fannie Mae")**

A government-sponsored private corporation authorized to purchase and sell mortgages and to otherwise facilitate the orderly operation of a secondary market for home mortgages.

### **Government National Mortgage Association (GNMA or "Ginnie Mae")**

An agency of the federal Department of Housing and Urban Development empowered to provide special assistance in financing home mortgages which is responsible for management and liquidation of federally owned mortgage portfolios. GNMA guarantees, with the full faith

and credit of the US. Government, full and timely payment on mortgage-backed securities.

### **Growth and Income Funds**

Growth and income funds are designed to pursue long-term growth as well as regular dividend income. Some growth and income funds are weighted more heavily towards growth, other towards income.

### **Growth Funds**

Growth funds are designed to pursue capital appreciation over the long-term. Some growth funds are broad-based, meaning that they have a wide range of stocks and industries in which they can invest. Others have a narrower focus - for example, they may invest in a particular type of stock, such as small-cap or cyclical stocks, or use a specialized approach to stock selection, such as investing only in stocks that are currently underpriced. Growth funds are more volatile than more conservative income or money market funds and generally reflect changes in market conditions and other company, political, and economic news.

### **Growth Stocks**

Stocks of companies that have shown or are expected to show rapid earnings and revenue growth. Growth stocks are riskier investments than most other stocks and usually make little or no dividend payments to shareholders.

### **Hang Seng Index**

The Hang Seng Index is a market capitalization weighted index of the stocks of the 33 largest companies in the Hong Kong market.

### **Income/Distributions**

For tax purposes, a mutual fund generally passes along dividends and interest it receives from securities it owns (income). A fund also passes along your share of the profits it makes when it sells securities for a higher price than it paid for them (capital gains). You may choose to have these distributions sent to you or you may want to reinvest them automatically in more shares of the security that paid the distri-

bution. Distributions are subject to federal tax, and may also be subject to state or local taxes. Distributions are taxable when they are paid, whether you take them in cash or reinvest them.

### **Index Funds**

A passively managed, limited-expense (advisor fee no higher than 0.50%) fund designed to replicate the performance of an unmanaged stock index on a reinvested basis.

### **Inflation Risk**

The chance that the value of assets or income will be diminished as inflation shrinks the value of a currency.

### **Interest**

The amount paid by a borrower as compensation for the use of borrowed money. This amount is generally expressed as an annual percentage of the principal amount.

### **Interest Rate**

The annual rate, expressed as a percentage of principal, payable for use of borrowed money.

### **International Funds**

These funds invest in securities of countries outside the US. International funds can be global in scope or limited to a particular country or region, with the narrower-focused funds subject to increased volatility. Foreign investments, especially those in emerging markets, involve greater risks than those of US investments.

### **Investment Grade**

The broad credit designation given bonds which have a high probability of being paid and minor, if any, speculative features. Bonds rated Baa and higher by Moody's Investors Service or BBB and higher by Standard & Poor's are deemed by those agencies to be "investment grade."

### **Investment Grade Bonds**

Corporate and municipal bonds given one of the top four ratings by independent agencies. Issues rated BBB to AAA are considered investment grade.

## Investment Objective

The identification of attributes associated with an investment or investment strategy, designed to isolate and compare risks, define acceptable levels of risk, and match investments with personal goals.

## Junk Bond

A bond rated lower than Baa/BBB, also called a "high-yield" bond. Junk bonds are speculative compared with investment grade bonds.

## Lipper Flexible Portfolio Funds Average

Lipper Analytical Services, Inc. is a nationally recognized organization that reports on mutual fund total return performance and calculates fund rankings. Peer averages are based on universes of funds with the same investment objective. Peer group averages include reinvested dividends and capital gains, if any, and exclude sales charges. These averages include the following: Emerging Markets Debt Funds, Growth Funds, Short-Term Investment Grade Funds, General US Government Funds, Global Funds, Balanced Funds, Equity-Income Funds, Capital Appreciation Funds, Mid-Cap Funds, US Mortgage Funds, GNMA Funds, International Funds, BBB Rated Corporate Bond Funds, Intermediate Investment Grade Debt Funds, Income Funds, Flexible Portfolio Funds, Emerging Markets Funds, Growth and Income Funds, European Regions Funds, Canadian Funds, Latin American Funds, High Current Yield Funds, General World Income Funds, and Small Company Growth Funds.

## Lipper Ranking

Fund ranking calculated quarterly or annually by Lipper Analytical Services of New York. Each fund is ranked within a universe of funds similar in investment objective. Lipper Analytical Services, Inc. is a nationally recognized organization that reports on mutual fund total return performance and calculates fund rankings.

## Liquidity

The ability to buy or sell an asset quickly or the ability to convert to cash quickly.

## Load

A sales charge added to the price of the fund. Mutual funds that don't have any sales charges are called no-load funds.

## "Long Bond"

The 30-year bond is the longest maturity issued by the US Treasury. It is also the most widely traded bond, not only in the United States but worldwide. Because it is such a key security, the most recently issued 30-year Treasury bond, known as the "long bond," is viewed as the benchmark against which all other bonds are measured.

## Management Fee

Fee paid by a mutual fund to its investment manager or advisor for overseeing the portfolio. A management fee is usually between one-half and one percent of the fund's net asset value.

## Market Risk

The risk that the price of a security will rise or fall due to changing economic, political, or market conditions, or due to a company's individual situation.

## Marketability

The ease or difficulty with which securities can be sold in the market.

## Maturity or Maturity Date

The date upon which the principal of a security becomes due and payable to the security holder.

## Maturity Value

The amount (other than periodic interest payment) that will be received at the time a security is redeemed at its maturity. On most securities the maturity value equals the par value.

## Merrill Lynch High Yield Master Index

The Merrill Lynch High Yield Master Index is a market capitalization weighted index of all domestic and Yankee high-yield bonds. Issues included in the index have maturities of at least one year and

have a credit rating lower than BBB-Baa3, but are not in default.

### **Midcap Stocks**

An investment categorization based on the market capitalization of a company.

### **Mortgage-backed securities**

Securities backed by mortgages. Such securities are issued by the Federal Home Loan Mortgage Association, the Federal National Mortgage Association, and the Government National Mortgage Association. Investors receive payments out of the interest and principal on the underlying mortgages.

### **Moving Averages**

The average price of a mutual fund calculated periodically over some designated period of time. For example, to calculate a 13-week moving average, total the weekly closing prices for 13 weeks and divide by 13. The average price is plotted on a chart against actual prices. The effect of a moving average is to minimize short-term price fluctuations and highlight long-term price fluctuations.

### **Municipal Securities**

A general term referring to securities issued by local governmental subdivisions such as cities, towns, villages, counties or special districts, as well as securities issued by states and political subdivisions or agencies of states. A prime feature of these securities is that interest on them is generally exempt from federal income taxes and, in some cases, state and local taxes too.

### **Mutual Fund**

An investment that pools shareholders money and invests it toward a specified goal. The group's money is invested by a professional investment manager.

### **NASDAQ Composite Index**

An unmanaged index of over-the-counter stock prices that does not assume the reinvestment of dividends.

### **Net Asset Value (NAV)**

The dollar value of one share of a fund determined by taking the total assets of a

fund, subtracting the total liabilities, and dividing by the total number of shares outstanding.

### **Net Yield**

Rate of return on a security net of out-of-pocket costs associated with its purchase, such as commissions or markups.

### **Nikkei Stock Average**

An index of 225 leading stocks traded on the Tokyo stock exchange.

### **Nominal Yield (Coupon Yield)**

The stated interest rate paid on a bond, computed by dividing the amount of annual income by the bond's par value.

### **Note**

A debt obligation similar to a bond, but with a maturity date less than five years from date of issue.

### **Offer Price**

The lowest price that a seller is willing to accept from a prospective buyer. In the case of a mutual fund with a sales charge, this price is the net asset value (NAV) plus the sales charge. In the case of no-load funds, it is the NAV.

### **Offering Date**

The date on which a distribution of stocks or bonds will first be available to the public.

### **Opportunity Risk**

The risk that a better opportunity may present itself after you have already committed your money elsewhere.

### **Paper**

Any short-term debt security.

### **Par**

The nominal or face value of a security as given on the certificate or instrument. The par value is the amount on which interest payments are calculated.

### **Premium**

The amount by which a bond sells above its par (face) value.

### **Present Value**

The value at the current time of a cash payment which is expected to be received in the future, discounted to reflect the fact

that an amount received today could be invested to earn interest for the period to the future date.

### **Primary Market (New Issue Market)**

The market on which newly issued securities are sold, including government security auctions and underwriting purchases of blocks of new issues, which are then resold.

### **Quantitative Funds**

Mutual funds whose portfolio management decisions are based on quantitative analysis, which is usually developed using computerized statistical models of market behavior.

### **R<sup>2</sup> (R-Squared)**

A measurement of how closely the portfolio's performance correlates with the performance of a benchmark index, such as the S&P 500. R<sup>2</sup> is a proportion which ranges between 0.00 and 1.0. An R<sup>2</sup> of 1.00 indicates perfect correlation to the benchmark index, that is, all of the portfolio's fluctuations are explained by performance fluctuations of the index, while an R<sup>2</sup> of 0.00 indicates no correlation. Therefore, the lower the R<sup>2</sup>, the more the fund's performance is affected by factors other than the market as measured by that benchmark index. See Correlation Measures. See also Volatility Measures, Beta, and S&P 500 Index.

### **Ratings**

Designations used by investors' services to give relative indications of credit quality.

### **Redemption**

The paying off or buying back of a bond by the issuer.

### **Refunding**

The replacement of a bond issue by a new bond issue at conditions generally more favorable to the issuer.

### **Revenue Bond**

A municipal bond payable solely from net or gross non-tax revenues derived from tolls, charges or rents paid by users of the

facility constructed with the proceeds of the bond issue.

### **Redemption Fee**

A fee you pay when you redeem, or sell, your shares. Not all funds charge redemption fees.

### **Relative Volatility**

A ratio of a portfolio's standard deviation to the standard deviation of a benchmark index. See Volatility Measures.

### **Russell 1000® Index**

The Russell 1000® Index consists of the largest 1000 companies in the Russell 3000® Index. This index represents the universe of large capitalization stocks from which most active money managers typically select. The Index was developed with a base value of 130.00 as of December 31, 1986.

### **Russell 2000® Index**

The Russell 2000 Index is an unmanaged index of 2,000 small capitalization stocks with market values of \$250 million or less.

### **Sales Charge**

Fee on the purchase of new shares of a mutual fund. A sales charge is similar to paying a premium for a security in that the customer must pay a higher offering price. Sometimes called a load.

### **SBF 250**

The Societe des Bourses Francaises (SBF) 250 is a market capitalization weighted index of the stocks of the 250 largest companies in the French market.

### **Secondary Market**

The market for securities previously offered or sold.

### **Security**

Generally, an instrument evidencing debt of or equity in a common enterprise in which a person invests on the expectation of financial gain. The term includes notes, stocks, bonds, debentures or other forms of negotiable and nonnegotiable evidences of indebtedness or ownership.



## Sector Funds

Sector funds invest in the stocks of one specific sector of the economy, such as health care, chemicals, or retailing. These funds tend to be more volatile than funds holding a diversified portfolio of stocks in many industries.

## Share Price

The value of one share in the fund. With most funds, the share price is calculated every day, because the value of a fund's securities changes every day in response to the movements of the stock, bond and money markets. For some funds, share price is calculated on an hourly basis.

## Shareholder

The owner of one or more shares of stock in a corporation or one or more shares or units of a mutual fund. Shareholder rights can vary according to the articles of incorporation of the bylaws of a particular company.

## Small-cap Stocks

An investment categorization based on the market capitalization of a company.

## Standard & Poor's Midcap 400 Index (S&P 400)

The Standard & Poor's Midcap 400 Index is a widely recognized, unmanaged index of 400 medium-capitalization stocks.

## Standard & Poor's 500 Index (S&P 500)®

The S&P 500 is a widely recognized, unmanaged index of common stocks.

## Standard Deviation

A statistical measure of the historical volatility of a portfolio. Standard deviation measures the dispersion of a fund's periodic returns (often based on 36 months of returns). The wider the dispersions, the larger the standard deviation. This is an independent measure of volatility; it is not relative to an index.

## Taxable Equivalent Yield

The interest rate which must be received on a taxable security to provide the holder the same after-tax return as that earned on a tax-exempt security.

## Technicals

Short-term trends that technical analysts can sometimes identify as significant in the price movement of a security or a commodity. Such trends may be in the demand and supply for securities, options, mutual funds, and commodities based on trading volume and price studies. Technical analysis is generally not concerned with the financial position of a company.

## Term

The time during which interest payments will be made on a bond or certificate of deposit.

## TOPIX

The Tokyo Stock Exchange Index (TOPIX) is a market capitalization weighted index of over 1,100 stocks traded in the Japanese market.

## Total Return

Return on an investment, taking into account capital appreciation, dividends or interest, and individual tax considerations adjusted for present value and expressed on an annual basis.

## Trading Symbol

An abbreviation for fund names for use with Fidelity's automated brokerage trading and quote services. Can also be used by Quotron and other electronic information systems for access to fund performance data.

## TSE 300

The Toronto Stock Exchange (TSE) 300 is a market capitalization weighted index of 300 stocks traded in the Canadian market.

## Turnover Rate

A measure of the fund's trading activity calculated by dividing total purchases or sales of portfolio securities (whichever is lower) by the fund's net assets.

## Value Stocks

Stocks that are considered to be undervalued, either according to their book value or their current or projected earnings. These stocks can be those of smaller less



# Index

## Symbols

%D 121  
 %K 121  
 2 Chart. *See* Adjusted Return Chart  
 2MM= 64  
     example of use 124  
 401K plan 29  
 800 number 153

**A**

A, B, C Fund classes. *See* commentary #1200  
 A Chart. *See* AccuTrack  
 Accumulator 136  
 AccuTrack  
     compared to relative strength 55  
     computation 176  
     defined 105  
     for selection 55, 107  
     for timing purposes 109  
     introduction to 25  
     measuring rotation 109  
     yellow values 110, 171  
 Adding funds to a family 144  
 Adjusted NAV 175  
 Adjusted Return Chart  
     Ra =, Rr =, Ru =, Sa =, SU = 123  
     red line 123  
     Standard Deviation 123  
     white line 123  
     yellow & purple values 123, 181  
 Aggressive Investing  
     Health vs. HiTech 40  
 Aim fund family 47  
 Allocation 28  
 Alphabetical list of funds 135  
 Ann Yld= 62  
 Ann = 16, 63, 92, 99  
     FastTrack compared to Morningstar 99  
 Arrow keys 90  
 Asian Funds. *See* commentary #1200  
 Asset allocation 28, *See* commentary

#1200  
 AT (AccuTrack) 103  
 AutoLoading Parameter Sets 88  
 AVG  
     defined 58  
     NAVs in AVG 181

## B

Backing Up and Restoring 12  
 Baud Rate 156  
 B- families. *See* commentary #1200  
 BD- families. *See* commentary #1200  
 Bear Markets, living with 60  
 Benham fund family 47  
 Berger fund family 47  
 Bet = 16, 63, 92, 93  
 Beta. *See* Bet =  
 Black and White  
     noncolor video displays 74  
     Blend funds. *See* commentary #1200  
 Blue pole 131  
 Bond Families. *See* commentary #1200  
 Bond trading. *See* commentary #7000  
 Broad US Funds. *See* commentary #1200  
 Broad market overview. *See* commentary #2000  
 Brokerage fund programs 47, (*See* commentaries #1200 and #1400)  
 Busy signal 158  
 Buy/Sell Signals 78

## C

CAP- families. *See* commentary #1200  
 Capitalization, screening by market.  
     *See* commentary #1200 and #1210  
 Capital Gains 57  
 CHANGE program 11  
 Changing  
     adding/deleting funds from a family 144  
     communication information 11  
     database phone number 11  
     parameter values 83  
     setup information 11

- the fund and the index 89
- the period displayed 71, 87
- Chart
  - AccuTrack 76, 105, 176
  - channel trendlines 137
  - choosing a time period 87
  - displaying 76
  - head and shoulders pattern 141
  - MACD 76, 178
  - market timing 116
  - moving Average 76, 114
  - Relative Strength 76, 100, 176
  - RSI 178
  - selecting which display 15
  - Stochastic histogram 76
  - Stochastics 177
  - Total Return 76, 91, 176
  - understanding 17
  - Welles Wilder RSI 76, 117
- Chart Patterns
  - confirmation 119
  - defining a channel 137
  - divergences 119
  - double tops and bottoms 142
  - failure swings 120
  - head and shoulders 141
  - pennants 143
  - progression of peaks and troughs 120
  - support/resistance 119, 140
- ChartPro/MegaTech. export to 165
- Color
  - changing to Black and white 74
- COM Ports
  - setting 11
- Commentary 44, 69
- Complementary products. *See* commentary #8100
- Communications 158
- Compressed Drives
  - compatibility with 172
  - garbled screens 172
- Confirmations 120
- Conservative Investing
  - junk bonds vs. stocks 38
- Conventions
  - use of special symbols 8
- Cor= 16, 63, 92, 95
  - low correlation trading 97
  - negative 96
- Correlation. *See* Cor=
  - screening funds by. *See* commentary #1200
- Counter relationships 129
  - Energy vs. Transportation 97
  - gold vs growth 125
- Creating a family 144
- D**
- Data integrity 163. *See* commentary #1122
- Dates 87
  - changing the period displayed 71
- Days Between Points 13
- Default performance values 104, App. B
- Delayed Daily Updates 158
- Delays, trading
- Deleting unnecessary disk files 10
- Dialing the database 154
- Disk compression
  - causing scrambled screens 172
  - compatibility with 172
- Distributions/Dividends 56
  - adjusting for
    - MetaStock export 169
    - worksheet 175
  - effect on total return 91
  - reinvestment 175
  - Rights, Splits, Captial Gains, Income 56
  - tax consequences 57
- Divergence 117
- Diversification 31
- Dividends. *See* *Distributions*
- Dollar index 19
- DOS commands
  - getting a prompt from within FT 88
  - GO<Enter> 158
  - SHELL 9, 182
- DoubleSpace
  - Compatibility with 172
- Drawing charts faster 13
- DriveSpace
  - Compatibility with 172
- E**
- Emerging markets. *See* commentary #1200
- Ending the Session 90
- Energy funds. 37, *See* commentary #1200
- Environment space shortage 182
- Expiration
  - date, notices 158 - 160
- Export data command 68
  - to a directory 172
  - to ASCII 165
  - to ChartPro/Megatech 165
  - to FNU file 166
  - to FundMaster 170
  - to MetaStock 168
  - to Smart Charts, spreadsheets 165
  - to user defined file 166

yellow values 171  
 Expected return 126

## F

Failure Swings 120  
 Fam = 64  
 Families  
   defined 45  
   of indices. *See* commentary #1200  
   by objective. *See* commentary #1200  
   screening by. *See* commentary #1200  
 Family Editor  
   creating your own family 144  
 FastTrack  
   defined 6  
 FastTrack menu system 182  
 FastCalc. *See* commentary #1200  
 FastPort. *See* commentary #8100  
 FastWays 49. *See* commentary #8100  
 Fidelity fund family 47  
 Fidelity Insight newsletter 18  
 Financial planning 28  
 FNU  
   exporting to 166  
   files defined 152

Formulae 174

FTMENU 61

FTRACK4.PAR 169, 172

Fund family

  Aim 47  
   BD-JUNK (Bonds) 34  
   Benham 47  
   Berger 47  
   CAP-BIG 30  
   CAP-SMAL 30  
   Charles Schwab 47  
   displaying funds in a family 73  
   Fidelity 47  
   Fidelity Funds Network 48  
   Founders 22  
   gold vs. growth 124  
   growth fund timing 42  
   growth vs. international 26  
   HITECH (technology) 43  
   information about families 68  
   Invesco 30, 47  
   Jack White 48  
   Janus 47  
   Japan 43  
   junk bond 39  
   Rydex 96  
   Safeco 42  
   Scudder 28  
   sector funds vs. broad funds 41  
   small cap vs. large cap 123

Strong 26

TR Price 47

Twenty Century 47

Vanguard 47

Vanguard conservative philosophy 59

Wright 48

Fund prospectus abstracts 68

FundMaster

  export to 170

Funds

  choosing 72

  information 68

  list of 135

  objectives *See* commentary #1200

  prospectus abstract online 68

  size, total assets. *See* commentary #1200

  screening by, *See* commentary #1200

## G

Gain accumulator 136

Global funds. *See* commentary #1200

Gold funds. *See* commentary #1200

Green Line 18, 74, 91

## H

H Chart. *See* Stochastics

Hard Disk 8

HEALTH funds. *See* commentary #5100

Help

  display funds 72

  online 67

High Risk Funds 53

HITECH funds. *See* commentary #5500

I Chart. *See* RSI

Importing Funds 152

  FNU format 152

  format of a text file 152

Income = 62

Indecision 84

Index

  Dow Jones 30 Industrials 137

  S&P-500 51

Index funds 52

Indicators

  AccuTrack 105

  changing parameters 81

  defined 103

  introduction to 25

  MACD 116

  moving average 114

  moving average computation 174, 176

  performance values 104

  Relative Strength 100

  Stochastics computation 178

  tic marks defined 103

trading-range 117  
     defined 103  
 trend following defined 103  
 Welles Wilder RSI 178  
 Installation 10  
 Integrity, data 163  
 International funds. *See* commentary #1200  
 Invesco fund family 47  
 Investors Business Daily 102  
 IRQ 158  
 ISCOM.EXE program 157

## J

J Chart  
     introduction to 25  
     yellow values 171  
 Janus fund family 47  
 Japan funds. *See* commentary #1200

## K

Keyboard  
     Statistics menu 130  
 Keys  
     <Enter> key 8  
     Alt key 8  
     arrow keys 87, 90, 131  
     End key 90  
     Home/End keys 73, 90  
     PgUp/PgDn keys 73

## L

Large Cap vs. Small Cap 30  
 Latin Amer. funds. *See* commentary #1200  
 Library, commentary 44  
 Life expectancy 29  
 Listing funds by name 135  
 Load- families. *See* commentary #1200  
 Loads. *See* Commentary #1200  
     A, B, C funds. *See* commentary #1200  
 Low Risk Funds 54  
 LT CG = 62

## M

M- families. *See* commentary #1200  
 M Chart. *See* MACD  
 MA. *See* Moving Average  
 MACD  
     computations 178  
     defined 116  
     M Chart 116  
     parameter definition 116  
     uses of 116  
     yellow values 175  
 Making money, how to. 14-60  
 Main menu 65

! command 89  
 ~ command 89  
 A command 68  
 arrow key commands 87  
 C command 69  
 D command 71  
 E command 75  
 end key 90  
 Esc command 90  
 F command 72  
 home key 90  
 I command 74  
 L command 74  
 M command 75  
 N command 75  
 O command 76  
 P command 76  
 Q command 84  
 R command 85  
 S command 78  
 T command 81  
 U command 81  
 W command 87  
 Y command 88  
 Z command 88  
 Manager tenure. *See* commentary #1200  
 Market overview. *See* commentary #2000  
 Market rotation  
     S&P 500 vs. Dow 30 100  
     signals 109  
 Market Timing 43. *See also* Strategy:  
 Math-processor 10  
 Mathematical Computations 174  
 Max = 16, 63, 92  
 MDY = 64, 131 *See Chart*  
 Measuring performance 136  
 Memory , running out of 182  
 Menu  
     list of all FT functions 14  
 Menu systems 182  
 MetaStock exports 169  
 Min = 16, 63, 92  
 Modem 157  
     baud rate 156  
     described 156  
     dialing 153  
     MODEM.STR file 157  
     problems with. *See* Telecommunications  
     requirement 10  
     speed setting 11  
     switches 164  
     V.32 157  
 MODEM.STR file 157  
 Momentum indicators 116, 118  
 Morningstar

- how relates to FastTrack 20
- objectives. *See* commentary #1200
- 5-star performance. *See* commentary #1200
- Mouse
  - using within Online help 67
- Moving Average
  - computation 176
  - displayed on T Chart 172
  - exponential/simple/weighted 174
  - filtered average 114
  - smoothed average 114
  - uses of 114
  - V Chart 114
  - yellow values 172
- Moving poles 131
- Mr = 63, 92, 104
- MS-DOS commands. *See* DOS commands:
  - getting a prompt from within FT
- N**
- NAV
  - in Total Return Chart 171
  - worksheet to compute adjusted NAV 175
- O**
- Objective of Funds 45, (*See* commentary #1200)
- Online commentary 44
- Online Help. *See* Help
- Online Integrity Check 163
- Optimum Parameters 104
- Overbought/Oversold 121
- P**
- P Chart
  - compared to Investors Bus. Daily 102
- Paint 150
- Parameter
  - automatically loading sets 88
  - changing 81
  - days between points 13
  - defined 104
  - editor 81
  - optimums 104
  - saving to a file 81
  - user defined 81
- Params = 64
- PBRUSH.EXE 150
- PE- family of funds. *See* commentary #1200
- P-E ratio. *See* commentary #1200
- Peak-and-Trough Progression 120
- Peaks 118
- Precious metal funds. *See* commentary #1200
- Performance values 104
  - Ann = ,Bet = ,Cor = ,Max = ,Ru = ,Min = 16
  - defined 62
  - Mr = , Ra = , Tr = , Ru = Sa = , Su = , Rsk = 104
- Phone 153
- Phone Number
  - FastTrack's support 9
- Poles 130
  - dashed line 131
  - defined 131
  - moving 131
  - red defined 131
  - use in ranking 132
- Price chart 101
  - yellow and purple values 180
- Printing
  - all the funds 135
  - charts, graphics, with Windows 150
  - commentary 69
  - READ.ME file 10
- PRM files 81
- Q**
- Q command 84, 104
- R**
- R Chart. *See* Relative Strength
- Ra = 63, 92, 104
- Ranking funds
  - how to rank funds 132
  - sorting the ranked list 135
  - viewing in ranked order 90
- READ.ME file 10
- Realty funds. *See* commentary #1200
- Red line 18,27, 91
- References 173
- Relative Strength
  - chart 100
  - computations 176
  - yellow and purple values 100
  - yellow values 171
- Required system configuration 10
- Reports 133, 135
- Resistance levels 118
- Restoring a backup 12
- Retirement 34
  - planning for 31
- Return calculations
  - introduction to 25
- Reversing fund and index 89
- Rights 56
- Rising peaks 118

Rising troughs 118  
 Risk tolerance 50, 104  
   average risk funds defined 52  
   high risk funds defined 53  
   how much can you take 51  
   low risk funds defined 54  
 Risk-Adjusted Return  
   defined 125  
   family context 126  
   the white line 126  
 Risk levels. *See* commentary #1200  
   screening by. *See* commentary #1200  
 Rr = 63, 92, 125  
 RSI  
   computations 178  
   defined 117  
   I Chart 117  
   trading-range indicator 103  
   yellow value computation 171  
   yellow values defined 118  
 Rsk = 63, 92, 104  
 Ru = 16, 63, 92  
**S**  
 S Chart. *See* Stochastics  
 S/Y = 63, 92, 104  
 Sa = 63, 92  
 Schwab Fund Family 47  
 Sector Funds 32. *See* commentary #5000  
 Shell  
   menu system 9  
   out to MS-DOS. *See* DOS commands:  
     SHELL  
 Sig = 64  
 Signal Sets 103  
 Signals 78  
   getting and preserving 80, 109  
   market rotation example 109  
   user defined 78  
 Single country funds. *See* commentary  
   #1200  
 SMARTDRV.EXE 13  
 Socially responsible. *See* commentary  
   #1200  
 Speed, running faster 13  
 Spreadsheets, export to 165  
 ST CG = 62  
 Standard Deviation 123  
   in the ranking list 135  
   role in determining default parameter  
     values 174  
 sTatistics menu  
   arrow keys 131  
   keys 130

  main menu sTat item 81  
 Stochastics Chart 103  
   %D, %K 121  
   computation 177  
   defined 121  
   H Chart 122  
   histogram (H) chart 122  
   parameters 121  
   S Chart 121  
   yellow values 118, 171  
 Strategy  
   Selection  
     by risk-adjusted return 27, 128  
     choosing between similar funds 55  
     diversified vs. sector funds 32  
     energy vs. transportation 97, 106  
     found in commentary 44  
     funds of suitable risk 52  
     gold vs. growth 124  
     growth vs. index funds 22  
     growth vs. international 23  
     growth vs. junk bonds 113  
     highly correlated funds 98  
     HITECH vs. HEALTH 97  
     international vs. domestic 28  
     junk vs. quality Bonds 34  
     low correlation funds 97  
     negatively correlated funds 96  
     ranking 134  
     screening fundamentals 144  
     sector vs. growth 105  
     small-cap vs. large cap 123  
     small-cap vs. large-cap 30  
     trading similar funds 107  
     using Beta 94  
     using corellation 95  
 Timing  
   AccuTrack broad market 109  
   AccuTrack's limitations 108  
   aggressive fund buy and hold 59  
   all about MACD 116  
   all about moving averages 114  
   all about RSI 117  
   all about Stochastics 117  
   all about trendlines 112  
   avoid bear markets 60  
   bond funds 112  
   broad market 50  
   channel formation 139  
   confirmations 120  
   conservative funds 58  
   divergences 119  
   double bottoms 142  
   double tops 142



Failure swings 120  
 found in commentary 44  
 FT vs. Investors Business Daily 102  
 gold vs. small cap 129  
 head and shoulders 141  
 high-risk buy and hold 53  
 Low risk Buy and Hold 54  
 overbought/oversold 120  
 peak/trough progression 120  
 pennants 143  
 price/dividend ratio 110  
 support/resistance 140  
 the impact of indecision 84  
 trading in a channel 137  
 using moving averages 102  
 Su = 63, 92  
 Subscriptions for updates  
     Expiration notices 16  
 SubAvg column 133  
 SubR column 133  
 Support and Resistance 140  
 Switches/year 104  
 Symbol 72  
 System requirements 10

## T

T Chart. *See* Total Return: chart  
 Tax consequences 57  
     of distributions 56  
     with aggressive fund 58  
     with conservative fund 58  
 Technical analysis  
     defined, selection, timing 49  
 Technical support 9. *See* commentary  
     #1121  
     hours of operation 9  
     phone number 9  
 Telecommunications 153  
     busy signals 154  
     error messages 163  
     first update 156  
     from a hotel room 161  
     international connections 161  
     long-distance costs 159  
     MODEM.STR 161  
     modems 156  
     on laptop computers 161  
     PCMCIA modems 161  
     problems connecting 159  
     special commands 161  
     upgrading 159  
 Time period  
     arrow keys 87  
     changing 87  
     W command 87

Timing 43. *See also* Strategy: Timing  
 Total Return 176  
     chart 91  
     computation 176  
 Tr = 63, 92, 104  
 Tracking gains/losses 136  
 Trading delays  
     affect on performance values 104  
     effect of 84  
     Q command 84  
 Trading funds. *See* Strategy: Selection  
 Trendlines 111  
     channel 137  
     drawing on charts 85  
     interpreting 118  
     using with moving averages 113  
     where to draw 111  
     with MACD 116  
     with RSI 117  
 Troughs 118  
 TRPrice fund family 47  
 Tutorial, *See* Quick Start 15  
 TwentyC fund family 47

## U

Update  
     first 156  
     getting new prices 153  
     hours of operation 153  
 Upgrade programs online 11, 159  
 Use of special symbols 8  
 User defined signals 78  
 Utility funds. *See* commentary #1200

## V

Vanguard fund family 47  
 Value funds. *See* commentary #1200  
 VGA 10

## W

Wall Street Journal, The  
     finding same info in 19  
 Weird Numbers 180  
 Whipsaws 113, 116  
 White line on adjusted return charts 123  
 Wilder, Welles. *See* RSI  
 Windows 10, 182  
 Windows 95  
     operating FastTrack under 184  
     helpful hints. *See* commentary #1600  
 Worksheet 175

## Y

Yellow Values