

Contents

Preface	xvii
Acknowledgments	xxi
CHAPTER 1 Introduction	1
The Expanding Role of Technical Analysis	1
Convergence of Trading Styles in Stocks and Futures	2
A Line in the Sand between Fundamentals and Technicals	3
Professional and Amateur	4
Random Walk	6
Background Material	7
Research Skills	9
Objectives of This Book	10
Profile of a Trading System	11
A Word about the Notation Used in This Book	14
CHAPTER 2 Basic Concepts	15
About Data and Averaging	16
On Average	19
Price Distribution	22
Dispersion, Skewness, and Kurtosis	27
Standardizing Returns and Risk	36
The Index	40
Probability	43
Supply and Demand	50
CHAPTER 3 Charting	59
Finding Consistent Patterns	60
What Creates the Major Price Moves and Trends?	62
The Bar Chart and Its Interpretation by Charles Dow	63

	Chart Formations	73
	Trendlines	74
	One-Day Patterns	82
	Continuation Patterns	92
	Basic Concepts in Chart Trading	96
	Accumulation and Distribution—Bottoms and Tops	97
	Episodic Patterns	111
	Price Objectives for Bar-Charting	112
	Implied Strategies in Candlestick Charts	118
	Practical Use of the Bar Chart	122
	Evolution in Price Patterns	126
CHAPTER 4	Charting Systems and Techniques	129
	Dunnigan and the Thrust Method	129
	Nofri's Congestion-Phase System	132
	Outside Days with an Outside Close	134
	Action and Reaction	134
	Channel Breakout	142
	Moving Channels	145
	Combining Techniques	147
	Complex Patterns	147
	A Study of Charting Patterns	150
CHAPTER 5	Event-Driven Trends	153
	Swing Trading	153
	Constructing a Swing Chart Using a Swing Filter	155
	Point-and-Figure Charting	165
	The <i>N</i>-Day Breakout	200
CHAPTER 6	Regression Analysis	209
	Components of a Time Series	209
	Characteristics of the Price Data	210
	Linear Regression	211
	Linear Correlation	220
	Nonlinear Approximations for Two Variables	224
	Second-Order Least Squares	226
	Transforming Nonlinear to Linear	228
	Evaluation of Two-Variable Techniques	229
	Multivariate Approximations	231
	ARIMA	237
	Basic Trading Signals Using a Linear Regression Model	243
	Measuring Market Strength	247

CHAPTER 7	Time-Based Trend Calculations	249
	Forecasting and Following	249
	The Moving Average	255
	Geometric Moving Average	267
	Drop-Off Effect	269
	Exponential Smoothing	269
	Relating Exponential and Standard Moving Averages	278
CHAPTER 8	Time-Based Trend Systems	285
	Why Trend Systems Work	285
	Basic Buy and Sell Signals	288
	Bands and Channels	292
	Applications of Single Trends	299
	Comparison of Major Trend Systems	307
	Techniques Using Two Trendlines	332
	More than Two Trends	337
	Comprehensive Studies	337
	Selecting the Right Moving Average	337
	Moving Average Sequences: Signal Progression	341
	Living with a Trend-Following Philosophy	344
CHAPTER 9	Momentum and Oscillators	347
	Momentum	348
	Oscillators	360
	Double-Smoothed Momentum	376
	Velocity and Acceleration	382
	Hybrid Momentum Techniques	387
	Momentum Divergence	389
	Some Final Comments on Momentum	401
CHAPTER 10	Seasonality	403
	A Consistent Factor	404
	The Seasonal Pattern	404
	Popular Methods for Calculating Seasonality	405
	Seasonal Filters	428
	Seasonality and the Stock Market	437
	Common Sense and Seasonality	445
CHAPTER 11	Cycle Analysis	447
	Cycle Basics	447
	Uncovering the Cycle	453
	Maximum Entropy	471
	Cycle Channel Index	478
	Phasing	480

CHAPTER 12	Volume, Open Interest, and Breadth	483
	A Special Case for Futures Volume	483
	Variations from the Normal Patterns	485
	Standard Interpretation	487
	Volume Indicators	490
	Breadth Indicators	502
	Interpreting Volume and Breadth Systematically	506
	An Integrated Probability Model	509
	Intraday Volume Patterns	510
	Filtering Low Volume	512
	Market Facilitation Index	513
CHAPTER 13	Spreads and Arbitrage	515
	Dynamics of Futures Intramarket Spreads	515
	Spreads in Stocks	517
	Spread and Arbitrage Relationships	519
	Risk Reduction in Spreads	520
	Arbitrage	520
	Carrying Charges	537
	Changing Spread Relationships	540
	Intermarket Spreads	544
	Technical Analysis of Spreads	548
	Leverage in Spreads	559
CHAPTER 14	Behavioral Techniques	561
	Measuring the News	562
	Event Trading	567
	Commitment of Traders Report	576
	Opinion and Contrary Opinion	581
	Fibonacci and Human Behavior	587
	Elliott's Wave Principle	590
	Price Target Constructions Using the Fibonacci Ratio	601
	Fischer's Golden Section Compass System	603
	W. D. Gann—Time and Space	606
	Financial Astrology	612
CHAPTER 15	Pattern Recognition	627
	Projecting Daily Highs and Lows	629
	Time of Day	630
	Opening Gaps and Intraday Patterns	651
	Three Studies in Market Movement—Weekday, Weekend, and Reversal Patterns	671
	Computer-Based Pattern Recognition	691
	Artificial Intelligence Methods	696

CHAPTER 16 Day Trading	699
Impact of Transaction Costs	700
Applicability of Trading Techniques	706
Trading Using Price Patterns	713
CHAPTER 17 Adaptive Techniques	731
Adaptive Trend Calculations	731
Adaptive Momentum Calculations	746
Adaptive Intraday Breakout System	748
An Adaptive Process	749
Considering Adaptive Methods	750
CHAPTER 18 Price Distribution Systems	753
Measuring Distribution	753
Use of Price Distributions and Patterns to Anticipate Moves	756
Distribution of Prices	759
Steidlmayer's Market Profile	771
CHAPTER 19 Multiple Time Frames	779
Tuning Two Time Frames to Work Together	779
Elder's Triple-Screen Trading System	781
Robert Krausz's Multiple Time Frames	783
Martin Pring's <i>KST System</i>	786
CHAPTER 20 Advanced Techniques	791
Measuring Volatility	791
Trade Selection	810
Price-Volume Distribution	811
Trends and Noise	812
Expert Systems	815
Fuzzy Logic	818
Fractals, Chaos, and Entropy	824
Neural Networks	830
Genetic Algorithms	838
Considering Genetic Algorithms, Neural Networks, and Feedback	845
CHAPTER 21 System Testing	847
Expectations	849
Identifying the Parameters	850
Selecting the Test Data	853
Searching for the Optimal Result	858
Visualizing and Interpreting Test Results	861

Step-Forward Testing and Out-of-Sample Data	871
Massive Testing	874
Changing the Strategy Rules	878
Arriving at Valid Test Results	879
Point-and-Figure Testing	887
Comparing the Results of Two Systems	889
Profiting from the Worst Results	895
Retesting Procedure	898
Comprehensive Studies	900
Price Shocks	920
Anatomy of an Optimization	922
A Plan for Robustness	926
CHAPTER 22 Practical Considerations	935
Use and Abuse of the Computer	936
Price Shocks	946
Gambling Techniques—The Theory of Runs	954
Selective Trading	963
System Trade-Offs	964
Trading Limits and Disconnected Markets	972
Silver and Nasdaq—Too Good to Be True	975
Similarity of Systematic Trading Signals	977
CHAPTER 23 Risk Control	983
Mistaking Luck for Skill	983
Risk Aversion	984
Liquidity	988
Measuring Return and Risk	990
Leverage	1000
Individual Trade Risk	1002
Ranking of Markets for Selection	1012
Probability of Success and Ruin	1022
Compounding a Position	1025
Equity Trends	1028
Investing and Reinvesting: <i>Optimal f</i>	1033
Comparing Expected and Actual Results	1036
CHAPTER 24 Diversification and Portfolio Allocation	1043
Diversification	1044
Classic Portfolio Allocation Calculations	1048
Portfolio Allocation Using Excel's Solver	1050
Kaufman's Genetic Algorithm Solution to Portfolio Allocation	1054

APPENDIX 1	Statistical Tables	1083
	Probability Distribution Tables	1084
APPENDIX 2	Method of Least Squares	1087
	Operating Instructions	1087
	Computer Programs	1088
	Least-Squares Solution for Corn versus Soybeans	1095
	Least-Squares Solution for Soybeans Only	1099
APPENDIX 3	Matrix Solution to Linear Equations and Markov Chains	1103
	Direct Solution and Convergence Method	1103
	General Matrix Form	1103
	Direct Solution	1104
	Convergence Method	1110
APPENDIX 4	Trigonometric Regression for Finding Cycles	1113
	Single-Frequency Trigonometric Regression	1113
	Two-Frequency Trigonometric Regression	1119
APPENDIX 5	Fourier Transformation	1127
	Fast Fourier Transform Program	1127
APPENDIX 6	Construction of a Pentagon	1133
	Construction of a Pentagon from One Fixed Diagonal	1133
	Construction of a Pentagon from One Side	1134
	Bibliography	1137
	About the CD-ROM	1153
	Index	1157

