

15634
By the Best-Selling Author of
Windows 3.1 Made Easy and
Windows 3.1:
The Complete Reference

Windows NT

I N S I D E
& O U T

TOM SHELDON

Osborne/McGraw-Hill

Osborne
Asian
Student
Edition

Guides You Quickly from Fundamentals to Advanced Concepts

73.87221
S544

Windows NT: Inside & Out

Tom Sheldon

Osborne McGraw-Hill

Berkeley New York St. Louis San Francisco
Auckland Bogotá Hamburg London Madrid
Mexico City Milan Montreal New Delhi Panama City
Paris São Paulo Singapore Sydney
Tokyo Toronto



73.87221
S544

Osborne McGraw-Hill
2600 Tenth Street
Berkeley, California 94710
U.S.A.

For information on translations or book distributors outside of the U.S.A., please write to Osborne McGraw-Hill at the above address.

Windows NT: Inside & Out

Copyright © 1993 by McGraw-Hill, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher, with the exception that the program listings may be entered, stored, and executed in a computer system, but they may not be reproduced for publication.

1234567890 DOC 99876543

ISBN 0-07-881826-5

Acquisitions Editor
Jeff Pepper

Associate Editor
Bob Myren

Technical Editors
John Heilborn
John Mueller

Project Editor
Wendy Rinaldi

Copy Editors
Ann Krueger Spivack
Joseph Ferrie

Proofreaders
Jeff Barash
Hannah Raiden

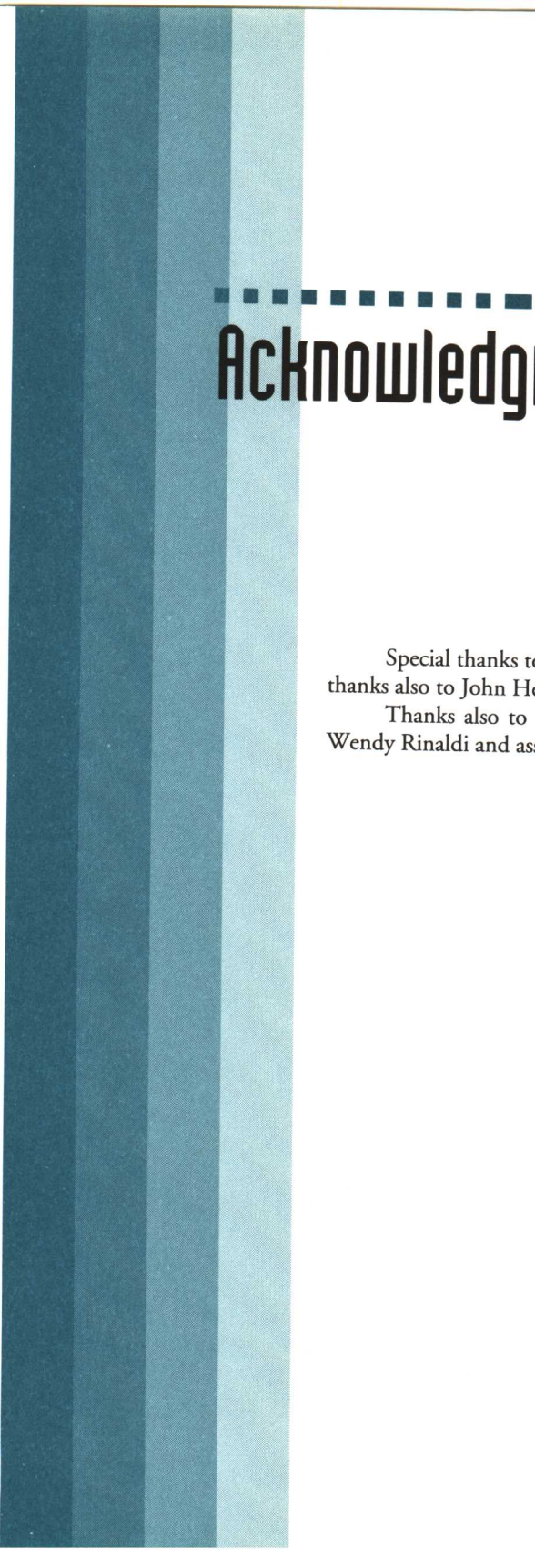
Indexer
Tom Sheldon

Illustrator
Marla Shelasky

Computer Designer
Fred Lass

Cover Designer
Mason Fong

Information has been obtained by Osborne McGraw-Hill from sources believed to be reliable. However, because of the possibility of human or mechanical error by our sources, Osborne McGraw-Hill, or others, Osborne McGraw-Hill does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omissions or the results obtained from use of such information.



Acknowledgments

Special thanks to John Mueller for all his help in getting this project together and thanks also to John Heilborn for his technical edit and review.

Thanks also to everyone at Osborne McGraw-Hill, in particular project editor Wendy Rinaldi and associate editor Bob Myren.

Introduction

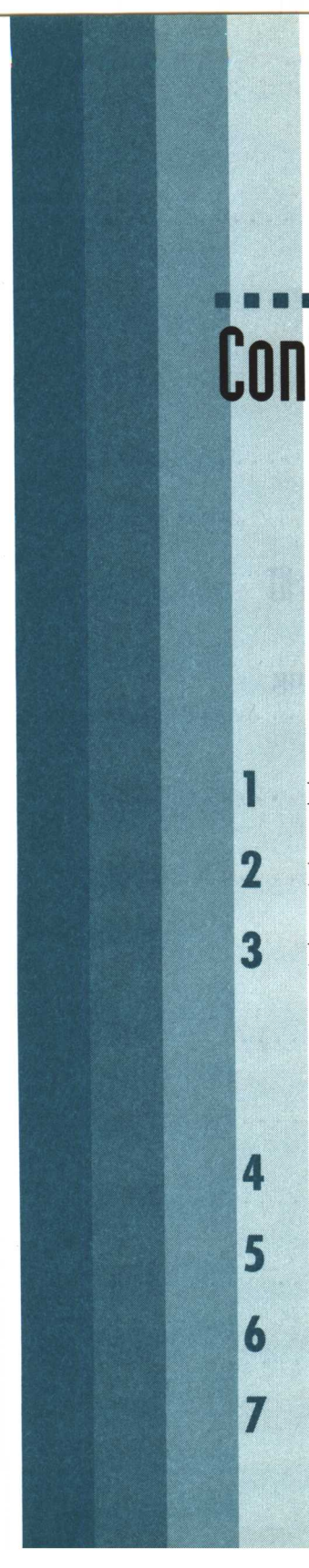
Welcome to *Windows NT: Inside & Out*. Microsoft Windows NT represents a new generation in operating systems. While similar in look and operation to Windows 3.1, Windows NT is radically different in the way it uses hardware and runs applications. It does not use DOS like Windows 3.1. This means you don't need to start DOS before starting Windows NT. However, you can still run DOS applications under Windows NT, as well as Windows 3.1 applications, and even applications written for other operating system environments like UNIX.

Windows NT takes advantage of high-performance processors like those available from Intel, MIPS, and Digital Equipment Corporation. It also takes advantage of systems that use multiple processors. Windows NT provides a computing environment for the future that is compatible with current applications.

This book is written for a diverse audience, including people who are familiar with DOS, Windows, and other operating systems like UNIX. Of course, you don't need to be familiar with any other operating system to read this book, but make sure you *are* familiar with the basic operating techniques of your computer.

The chapters are written in an order that helps you better comprehend the material if you are just starting out. However, you can still open to any chapter and get important information about a topic of interest. Most chapters bring together diverse information. For example, Chapter 17 covers all the features, commands, and options for maintaining and configuring network connections.

The first few chapters that make up Part I introduce the Windows NT operating system and talk about its features, including the security system. You might want to skip these chapters and start with Chapter 4 if you are anxious to begin using the operating system and run programs. Later chapters, however, do assume that you are familiar with some of the material in Part I.



..... Contents at a Glance

Part I Features and Planning for Windows NT

1	Introducing Windows NT	3
2	Hardware for Windows NT	17
3	NT Hierarchy and Security	33

Part II Using Windows NT

4	Starting and Using Windows NT	55
5	Starting and Using Applications	75
6	Global Techniques	87
7	Working with Files	113

8	Using Local and Remote Printers	<i>139</i>
9	Utilities and Accessories	<i>153</i>
10	Creating Compound Documents	<i>185</i>
11	The Command Prompt	<i>205</i>

Part III Customizing, Configuring, and Managing Windows NT

12	Customizing the Program Manager and Organizing Applications and Documents	<i>221</i>
13	Customizing the File Manager	<i>239</i>
14	Customizing the Interface	<i>255</i>
15	Configuring System Settings	<i>277</i>
16	Managing User Accounts	<i>307</i>
17	Server and Network Management	<i>319</i>
18	Managing Printers and Fonts	<i>343</i>
19	Disk Management	<i>373</i>
20	Protecting the System	<i>385</i>

21	Monitoring the System	403
-----------	-----------------------------	-----

Part IV Network Applications

22	Microsoft Mail	423
-----------	----------------------	-----

23	Microsoft Schedule+	445
-----------	---------------------------	-----

Part V Appendixes

A	Network Hardware Settings	471
----------	---------------------------------	-----

B	Command Cross Reference	483
----------	-------------------------------	-----

C	Internetwork Connections with TCP/IP	499
----------	--	-----

	Index	507
--	-------------	-----

Contents

<i>Acknowledgments</i>	xxiii
<i>Introduction</i>	xxv

Part I Features and Planning for Windows NT

1	Introducing Windows NT	3
	Windows NT: An Inside Look	4
	Windows NT on the Outside	5
	How Windows NT Presents Itself	6
	Other Windows NT Features	7
	Support for Other Environments	8
	Virtual Memory	8
	File System Support in NT	9
	File and System Protection	10
	Networking	11
	Security and User Hierarchy	12
	Printing	13
	Logon and Startup Options	14
2	Hardware for Windows NT	17
	Multiprocessing Systems and RISC-based Systems	18
	The Benefits of Symmetric Multiprocessing	18

Intel-Based Systems that Support NT	20
Digital Equipment Alpha AXP Systems	22
MIPS R4000 Systems	22
NT's Storage Options	22
NT's Recoverable File System	23
Supported Disk Options	23
Disk Mirroring and Duplexing	24
Disk Partitions and Formats	25
Disk Striping	27
Network Hardware	28
Network Types	28
Protecting Your System from Power Problems	31
3 NT Hierarchy and Security	33
Accessing the NT System	34
User Accounts	35
User Account Types	36
Group Accounts	37
Group Account Types	38
Creating Groups	41
Workgroups and Domains	41
Workgroups	41
Domains	42
Rights and Permissions	44
Rights	44
Permissions	46

Part II Using Windows NT

4 Starting and Using Windows NT	55
Starting Windows NT	56
The Windows NT Interface	57
The Program Manager	58
The Desktop	59
Sizing and Rearranging Windows	60
The Task List Dialog Box	61
Switching Among Applications	62
Other Windows Elements	62

Menus	62
Dialog Boxes	64
Scroll Bars	67
Customizing with Control Panel Options	67
Changing Colors	68
Pictures on the Desktop	68
Rearranging the Program Manager	68
Setting Options	69
Resizing and Rearranging Group Windows	69
Closing Applications and Logging Off	71
The Windows NT Security Dialog Box	71
5 Starting and Using Applications	75
Starting Applications from the Program Manager	76
Using Quick Keys	76
Starting Minimized Applications	77
The Startup Group	77
The Run Command	78
Opening Associated Files	78
Creating Your Own Startup Icons	79
Starting Applications from the File Manager	80
Locating Files	81
The Drag-and-Drop Method	82
Running Non-NT Applications	83
Running the Command Prompt	83
6 Global Techniques	87
Using the Help System	88
Help Options	89
Using the Help Menu Options	90
Working with Files	92
Files Under DOS and Windows NT	92
Directory Concepts	97
Using File Menu Options	98
Accessing Network Files	103
Editing Techniques	104
Selecting Text	105
Using the Edit Menu and the Clipboard	106
Fonts and Special Characters	107
The Character Map	109
Printing	110

7 Working with Files	113
The File Manager Window	114
Working with Directory Windows	115
Opening Another Directory Window	115
The Split Bar	115
Arranging Windows	116
Windows Refreshment Time	116
Making Network Connections	117
Connecting with Shared Directories	117
Establishing a Shared Directory	119
How to Stop Sharing Directories	122
Climbing the Directory Tree	123
Working with the File List	123
Changing the File View	124
Showing File Details	124
Sorting the File List	125
Listing Specific Files	126
Selecting Files for Operations	126
Selecting Contiguous Files	127
Selecting Noncontiguous Groups of Files	127
Deselecting Files	127
Using the Select Files Option	127
Copying and Moving Files with the Mouse	128
Using the File Menu Commands	129
Opening Selected Directories and Files	129
Moving and Copying Files	129
Deleting Files	130
Renaming Files	130
Viewing and Changing File Properties	131
Searching for Files and Directories	132
Working with Directories	133
Creating Directories	133
Copying and Moving Directories	134
Deleting Directories	134
Using Disk Commands	135
Copying Disks	135
Labeling a Disk	135
Formatting Disks	136

8 Using Local and Remote Printers	139
Printing from Applications	140
Printer Setup	140
Printing	144
The Print Manager	145
Connecting with Network Printers	146
Disconnect from a Printer	147
Sharing Printers	148
Basic Print Manager Tasks	148
Viewing Document Details	149
Setting the Default Printer	150
Managing Your Print Jobs	150
Printing from the File Manager	151
9 Utilities and Accessories	153
The Clipbook Viewer	154
ClipBook Viewer Features	154
The ClipBook Toolbar	156
The Clipboard	156
Setting ClipBook Features	158
Working with Your Local ClipBook	160
Sharing a Local ClipBook Object	161
Connecting with Other ClipBooks	163
Using ClipBook Objects in Your Documents	163
Chatting with Other Users	166
Notepad	167
Windows Write	168
The Write Window and Workspace	168
Find and Replace Techniques	170
Designing the Page Layout	172
Formatting Characters	173
Formatting Paragraphs	173
The Bitmap Editor: Paintbrush	173
The Toolbox	174
Painting Techniques	175
The Paintbrush Canvas	176
Saving Your Work	176
Printing Art	177
Multimedia Accessories	177
The Sound Recorder	177

The Media Player	180
The CD Player	180

10 Creating Compound Documents	185
Understanding OLE Concepts	190
An Example of Linking and Embedding	190
Using OLE Over the Network	191
OLE Components	192
Verbs	192
Creating Linked and Embedded Objects	192
Changing Embedded or Linked Objects	195
Creating Object Packages	196
Examples of Embedding Objects	197
Linking Objects	199
Viewing and Updating Link Information	201
More About OLE Packages	202
Using Packager	202

11 The Command Prompt	205
Getting Command Help	206
The Find Button	208
Command Execution	209
Starting Programs from the Command Prompt	209
Reusing Commands	210
Copying and Pasting Information	211
NTFS Filenames	211
Batch Files	212
Features of the Command Prompt Window	213
Customizing the Window Settings	214
Changing Fonts	214
Changing the Screen Buffer Size	215
Changing Colors	216
Command Environments	216
MS-DOS Environment	217
Windows 3.1 Environment	217

Part III Customizing, Configuring, and Managing Windows NT

12 Customizing the Program Manager and Organizing Applications and Documents	221
Creating a New Group	222
Creating a New Group Window	222
Copying Program Items to a New Group	223
Resizing and Arranging the New Window	224
Saving Arrangements	225
Creating New Program Item Icons	225
The New Option	225
Using the Setup Utility to Create Startup Icons	230
Using the File Manager to Create Startup Icons	231
Other Program Manager Options	232
Changing the Properties of a Group or Icon	232
Deleting a Program Item or Group	233
Installing Applications	233
Organizing Application Directories	234
Installing Non-Windows Applications	234
Organizing Documents	235
13 Customizing the File Manager	239
Options for Customizing	240
Save Settings on Exit	240
Suppressing Confirmation Messages	241
Changing Fonts	243
Displaying the Status Bar	243
Toolbar and Drive Icon Bar Status Options	244
Minimizing the File Manager on Use	244
Indicating Expandable Branches	244
Program and Document Associations	244
Modifying the Toolbar	246
Adding a New Toolbar Button	247
Removing Toolbar Buttons	247
Rearranging the Toolbar Order	248
Resetting the Toolbar	248
Creating Program Manager Startup Icons with the File Manager	248
Starting Applications from the File Manager	249
Establishing Launch Windows	250

14 Customizing the Interface	255
Changing the Color Scheme	256
Creating Custom Color Schemes	257
Mixing Custom Colors	258
Desktop Patterns	261
Editing a Pattern	261
Wallpaper	262
Creating Your Own Wallpaper	263
Icon Spacing	264
Changing the Font, Size, and Style of Icon Titles	265
Screen Savers	266
Customizing a Screen Saver	267
Setting a Password	268
Creating a Marquee	268
Sounds	269
The Keyboard Settings	270
Setting the Date and Time	270
The Mouse	271
Customizing the Mouse Pointer	272
Miscellaneous Features	273
Insertion Point Blink Rate	274
Windows Border Width	274
Granularity (Sizing Grid)	274
Switching Methods	274
15 Configuring System Settings	277
Changing Startup Options	278
If You Add Another Operating System	279
Environment Variables	280
Adding User Environment Variables	281
Using Environment Variables	282
Configuring Virtual Memory	282
Using the Virtual Memory Dialog Box	283
Multitasking Options	284
The Windows NT Setup Utility	285
Changing Display, Mouse, and Keyboard Drivers	286
Adding or Removing SCSI and Tape Adapters	287
Adding or Removing Software Components	287
The Drivers Utility	289
Setup Options	291

Managing Windows NT Services	292
Starting and Stopping Services	293
Starting and Stopping Devices	295
Changing the Startup Option	295
Configuring Serial Communications	296
The Advanced Settings	297
Configuring Multimedia Equipment	298
Installing Multimedia Products	299
MIDI	300
Base-Level and Extended-Level Synthesizers	301
General MIDI	302
The MIDI Mapper	302
16 Managing User Accounts	307
Creating User Accounts	309
Creating New User Accounts	309
Creating User Profiles	311
Other User Account Options	313
Creating Local Groups	314
Creating New Groups	315
Assigning Access Rights	316
17 Server and Network Management	319
Managing the Server	320
Managing User Connections	322
Managing Shared Resources	324
Closing Individual Resource Connections	325
Directory Replication	327
Setting Up Alerts	328
Windows NT Network Communications	329
Network Concepts	329
Windows NT Network Support	332
Windows NT Network Configuration	336
Changing the Computer Name	336
Changing Workgroup or Domain Settings	337
Network Adapter Setup	338
Network Communications Software Setup	339
18 Managing Printers and Fonts	343
The Windows NT Printing Environment	344
Quick Steps for Creating a Printer	347