

Index

- ; as .INI file comment character, 159
- ! as field delimiter, 128
* denoting built-in devices in SYSTEM.INI entries, 100, 193
^ in WIN.INI, 171
- .2GR grabber files, 94, 290, 184, 409, 410
[.3gr] font sections in SETUP.INF, 96
32-bit disk access, 193, 245, 520-523
386 enhanced mode Windows. *See also* Standard mode Windows; Windows 3.1
described, 63, 238-239
- memory
- expanded memory, 238, 240-243, 249
 - extended memory, 239
 - system requirements, 9, 63, 217, 420
 - virtual memory, 243-247
- networks, 36, 370-373
- optimizing, 260, 271
- removing support for, 502
- troubleshooting, 34-36, 420-422
- [386enh] section in SYSTEM.INI, 117, 193-218
.3GR grabber files, 94, 184, 290, 409, 410
386MAX memory manager, 34, 93, 154, 243, 247, 373, 421
[386 max] section in SETUP.INF, 93
3C505 Network Adapter Card, 375
3Com networks, 102, 143, 374-375
80286 and 80386 machines
files installed during Setup, 105-106,
memory, 228-229, 234, 247
system requirements, 9
- 8086 and 8088 machines, 229, 231
8514 display, 104-105, 139, 150, 312-314, 411
- A**
- A20 handler, 35, 44, 118, 193, 418
 - Acer computer, 35, 418
 - Adapter card. *See* Display adapter
 - Adapter segment, 231, 240, 241, 447, 455
 - Ad Lib, *See* MIDI

Administrative Setup (setup /a), 72-74

Adapter Type Manager (ATM), 26, 32, 74, 818, 888

Advanced Power Management driver, 140, 150

All ChargeCard, 375

ALR computers, troubleshooting, 12

AMI BIOS, troubleshooting, 12

Anarkey, 405

ANSI character set, 76, 188, 310, 315, 317

API (application programming interface), defined, 447

Append utility (MS-DOS), 405, 414

Apple LaserWriter Plus, 333

Application. *See also* Non-Windows applications; Windows applications

defined, 284, 447

files copied during Windows installation, 107-108

running at Windows startup, 168

Windows vs. non-Windows, described, 284

Application execution error, 39

Application swap files, 243-244, 290

- APPS.INF
content summary, 121-125
customizing, 133
editing procedure, 87
format, 88-89
non-Windows applications with PIF data in, 296-297
Apricot Laser printer, 325
ARCNet, 36, 11
Arial font, 113, 310, 311, 317-320
Artisoft LANtastic, 31, 113, 102-103, 375-377, 406
ASCII character set, 310
ASP Integrity Toolkit, 404
Aspect ratio, and fonts, 314
AST computer, troubleshooting, BIOS, 12
AT computer. *See IBM AT*
ATI display adapter, 411
AT&T computer, 138, 139, 149, 187-188, 418
Attrib command (MS-DOS), 369
Audio CD, troubleshooting, 49, 435
Austin computers, troubleshooting, 12
Auto-detection for Setup, troubleshooting, 401, 432
AUTOEXEC.BAT
editing, with System Editor, 161
modifying during Setup, 369
optimizing MS-DOS 5.0 configuration, 248
running a shared copy of Windows, 368
troubleshooting, 13-14, 398, 413, 416, 432
AutoFont Support files, 315
Automated Setup (setup /h), 75-81
Award BIOS, troubleshooting, 12
- B**
- Backfilling and bank switching, 211, 231, 234, 447
Banyan VINES, 31, 102-103, 143, 150, 377-378
Batch Mode Setup. *See Automated Setup*
Baud rate, 174
BIOS (basic input/output system)
EBIOS identified in Setup, 120
SYSTEM.INI entries, 199
troubleshooting, 12, 23, 37, 421
Bitmap files, for wallpaper, 153-154
Bitstream fonts, 29, 34, 315, 336, 426
Windows Resource Kit
- Block devices, 34, 113
[Blowaway] section in SETUP.INF, 116
[Blue Max] section in SETUP.INF, 93
Bold
document and syntax conventions, 4, 6, 159
font characteristic, 310, 313
Boolean, as .INI entry value, 159
[Boot] section in SYSTEM.INI, 184-186
[Boot.Description] section in SYSTEM.INI, 187
Boot disk, creating, 13, 14, 398
BOOT.SYS, 406
Break points, 206, 213
Buffers
COM port, 196
data transfer, 209, 372
defined, 447
DMA, 198, 201, 208, 372

Buffers, *continued*
double buffering, defined, 449
FIFO, 196
hard disk, 201
keyboard, 202
network, 208-209, 218, 372
non-Windows applications requirements, 190
permanent swap file, 210
printing from serial ports, 344
settings in CONFIG.SYS, 259
Building-font-database message, 328-329

C

Cannot-find-file error message, 414-415
Canon Laser Beam printer fonts, 336-337
Caret (^), and filename extensions, 171
CD (audio) troubleshooting, 49
CD-ROM, 21, 119, 435-436
CEMM.EXE, 243, 247, 448
CGA display, 145, 147, 149, 150
Character-based interface, defined, 448
Character sets, 314
ANSI, 310, 315, 321
ASCII, 310
extended character codes, 321
matching screen fonts to printer fonts, 316
OEM, 310, 315, 321
Windows 3.1, 316, 317
 Characters-per-inch (CPI), 311, 322
 Chips and Technologies, troubleshooting, 12, 410-411
 Chkdsk command (MS-DOS), 260
 Clean-boot floppy, 13, 14, 398
 Client application, defined, 353, 448
 Clipboard
data formats and OLE, 355-356
non-Windows applications, 291
 Clock speed, 448
 CMOS, 12, 25, 213, 430, 448
 Code pages
defined, 448
files in Setup, 97, 99
translation tables, 147, 188

U.S., 146, 448
[Codepages] section in SETUP.INF, 99
Code segments, kinds of, 236
Color, 182, 207, 222
[Colors] section in WIN.INI, 182
COMMAND.COM, for troubleshooting, 13-14
Command environment, 189
Command prompt, 448
Comments, in initialization files, 159
Communications driver, 140, 184
Compaq, MS-DOS version, 35, 433
COM port
 in 386 enhanced mode, 206
buffering, 196
configuring, 174, 195-197
driver, 140, 184
hardware interrupts, 25, 197, 343
printing from, 343-345
ROM BIOS address conflicts, 346-348
troubleshooting, 19, 31, 427-428
 Compound documents
Clipboard support, 354-356
described, 352-358, 448
 Compound documents, *continued*
Edit menu commands supporting, 354, 357-358
File Manager support, 354-355
 Compressed files, and installing Windows 3.1, 59
 Computers
compatible with Windows 3.1, 488-494
identified in Setup, 117-118
specifying for Automated Setup, 78
 CONFIG.SYS
editing, with System Editor, 161
network adapter cards in, 371
optimizing performance, 248, 259
troubleshooting, 13-14, 398, 413, 432
 Context-sensitive help, 273, 277, 300
 CONTROL.INF
content summary, 126-128
editing procedure, 87
format, 88-89

-
- Windows installation, 77
- CONTROL.INI, 161, 222
 - Control Panel
 - changing values in .INI files, 159
 - initialization (.INI) file, 222
 - installation information (.INF) file, 126-128
 - maintaining Windows with, 82
 - multimedia extensions, 46
 - supporting files, 151
 - CONTROL.SRC, 161
 - Conventional memory
 - described, 228-229
 - freeing, 263
 - operating problems, 44
 - specifying for PIFs, 301
- Windows operating modes, 217, 235, 238
- Copy command (MS-DOS), 59, 73
 - Core files (Windows), 136-137, 250-251
 - [Country] section in CONTROL.INF, 128
 - Courier font, 112, 313, 314, 317, 320, 336
 - Courier New font, 318, 320
 - CPU (central processing unit), 448
 - CTRL+ALT+DEL
 - defining behavior, in SYSTEM.INI, 204
 - when to use, 256, 294-295
 - Cursor, WIN.INI entry, 164
 - Customizing files
- changing .INF files for
- custom applications, 130
 - custom groups to Program Manager, 132
 - custom PIF information, 133
 - custom Setup, 128
- creating custom installation script, 77-78
- D**
- Data Physician Plus, 404
 - [Data] section in SETUP.INF, 90
 - Date, defining formats, 172
 - DDE (dynamic data exchange), defined, 439
 - Debugging COM ports, 19, 346-347
 - DEC Pathworks, 102, 143 150, 381, 379-382
 - Default
- in .INI files, 159
- printer, WIN.INI entries, 165-166
- _DEFALUT.PIF, 285, 289, 294, 300, 305-306
 - Deleting files, 155, 500-504
 - [DelfFiles] section in SETUP.INF, 107-108
 - Demand paging, 448, 451
 - Desktop, 169-170, 182, 403, 442
 - [Desktop] section in WIN.INI, 169, 170
 - Destination document (OLE), 353
 - Device
 - defined in WIN.INI, 181
 - global, 201
- synonyms in SYSTEM.INI, 183
- Device command (MS-DOS), 264
 - Device contention, and non-Windows applications, 291
 - Device drivers. *See also* specific device driver types
 - defined, 449
 - memory management, 230
 - specifying during installation, 77-78
 - SYSTEM.INI entries, 187, 204
 - troubleshooting, 10, 34, 46, 430
 - Devicehigh command (MS-DOS), 248, 264-265, 413
 - [Devices] section in WIN.INI, 181
 - [Dialog] section in SETUP.INF, 90
 - Direct Graphics Interface Standard (DGIS) display adapter, 412
 - Direct memory access. *See* DMA
 - Discardable code segment (in Windows applications), 236, 449
 - Disk cache, 416, 441, 449. *See also* SMARTDrive
 - Disk compacting utility, 245, 260
 - Diskless workstation, 74, 259, 262, 369
 - Disk partition, troubleshooting, 13-14
 - Disk space. *See also* Swap files
 - freeing by deleting files, 155, 500-504
- TrueType requirements, 320
- [Disks] section in SETUP.INF, 91
 - Disk swapping. *See* Swap files
 - Display adapters
 - compatible with Windows 3.1, 139, 495
 - resolutions, supported by Windows 3.1, 144-145
- SYSTEM.INI entries, 194, 198
- troubleshooting, 20, 26, 408-420
- Display driver
 - files, 139

- identified in Setup, 94-96
optimizing performance, 260
SYSTEM.INI entry, 185
troubleshooting, 20, 27, 37, 44, 403, 408-412
 [Display] section in SETUP.INF, 95, 129
 DLL (dynamic-link library), 449
 .DLL filename extension, 138
 DMA (direct memory access)
buffers, 198, 201
defined, 449
EISA machines, 199
Micro Channel machines, 207
network and paging, 207
page addresses, 206
 [Dontfind] section in APPS.INF, 121
 DOS. *See* MS-DOS
 Doscue, 405
 DOS extender. *See* Extended memory manager
 [Dos mouse.driver] section in SETUP.INF, 101
 DOSX.EXE, 90, 136, 150, 290
 Dot matrix printers, 317, 322, 340
 Double buffering, 70, 201, 255-256, 439
 Double-click, defining, 165
 Doubledisk, 406
 Downloadable soft fonts
 changing typeface names for, 337-338
described, 312, 320-321, 330, 449
 Downloadable soft fonts, *continued*
font installers, 140-141, 326-328
HPPCL, 324-330
page limit message, 330
PostScript, 336
TrueType installation, 320
 DPMI (DOS Protected Mode Interface), 237, 239, 295, 449
 Drivers. *See also* Display drivers; Keyboard drivers; Memory drivers; Mouse drivers; Multimedia drivers; Printer drivers; Sound drivers; System drivers
described, 136-137
identified in Setup, 94-97, 100-101, 113-114, 126
incompatible drivers, in Setup, 58, 66
MS-DOS drivers for use with Windows 3.1, 148
removing files, 500
requirements in UMBs, 264-266
switches for MS-DOS system drivers, 258
SYSTEM.INI entries, 185
third-party, troubleshooting, 10, 27, 31, 399
virtual support files, 150
Windows Driver Library, 443
 [Drivers] section in SYSTEM.INI, 187
 .DRV (printer driver) file, 340
 Dr. Watson, and general protection faults, 37, 434
 DSWAP.EXE file, 150
 DTK BIOS, troubleshooting, 12
 Dynamic data exchange (DDE), defined, 449
 Dynamic-link library (DLL), defined, 449, 452
- E**
- [Ebios] section in SETUP.INF, 120
Editing
.INI and .SRC files, 159-161
using System Editor, 160-161
 Edit menu commands and OLE, 357-358
 Edit utility (MS-DOS), 160
 EGA display device
driver and grabber files, 139, 149
fonts, 104-105, 312-314
SYSTEM.INI entries, 199
troubleshooting, 27
virtual support files, 150
 EGA.SYS, 148
 EISA (Extended Industry Standard Architecture) bus machines, 197, 199, 240, 449
 [Embedding] section in WIN.INI, 178
 EMM. *See* Expanded memory manager
 EMM386.EXE
backfilling with, 234
defined, 230, 449
deleting file, 155
driver, 148
emulating expanded memory, 228, 231, 258, 296
incompatibility with memory expansion board, 259

- loading in CONFIG.SYS, 259, 264, 371
 network issues, 273, 284
 non-Windows applications, 238, 240, 242, 243, 296
 optimizing performance, 266-268, 268-269
 troubleshooting, 413-417
 EMMExclude=
 display driver conflicts, 411
 excluding UMB ranges, 199-200, 204, 212, 215
 troubleshooting UMB conflicts, 416-417, 420-421, 433
 EMS. *See* Expanded Memory Specification
 EMS memory. *See* Expanded memory
 Environment variables, 189, 301
 EPT ports, 174, 345-346
 Error 20 message, 330
 ESDI controllers, 421
 Etherlink, identified in Setup, 119
 Ethernet, troubleshooting, 11, 36
 Exec command (MS-DOS), 136
 Expanded memory. *See also* Expanded memory managers (EMM); Expanded Memory Specification (EMS)
 board or card, 228, 234, 237-238, 242, 296
 described, 228-229, 235, 449
 driver, 209
 LIM 3.2 and 4.0 EMS, 231, *illus.* 233
 problems with, 235
 upper memory area, *illus.* 232
 in Windows
 386 enhanced mode, 238, 240-243
 non-Windows applications, 230, 241, 301, 303
 standard mode, 237-238
 SYSTEM.INI entries, 194, 199-200, 209, 213, 214
 troubleshooting, 415-417
 Expanded memory managers (EMM). *See also* EMM386.EXE
 386 managers, 242-243, 456
 backfilling and bank switching, 234
 emulating expanded memory, 228, 230, 231, 258, 296, 449
 ignoring third-party managers, 201
 QEMM-386, 454, 515-518
 troubleshooting, 23-34
 Expanded Memory Specification (EMS), 230-235, 449, 450
 Expanding files, 61, 152
 Extended memory. *See also* Extended memory managers described, 228-229, 450
 requirements for
 386 enhanced mode, 9, 238-239, 250, 420
 non-Windows applications, 237, 301, 303, 424
 standard mode, 9, 235-237, 418
 Windows, 9, 418, 420
 SYSTEM.INI entries, 194, 213-214
 troubleshooting, 34, 424
 Extended memory managers (XMM). *See also* HIMEM.SYS defined, 450
 drivers, 236, 418-420
 troubleshooting, for standard mode, 418-419
 Windows 3.1, 150, 237, 247-248
 Windows Setup, 90
 Extended Memory Specification (XMS), 230, 450
 [Extensions] section in WIN.INI, 171

F

- FaceLift. *See* Bitstream FaceLift
 Fastopen utility (MS-DOS), 406
 File. *See also* specific types
 copying
 additional files to a user's directory, 130
 from installation disks, 63
 files for Windows installation, 105-108
 corruption, 43
 deleted in Setup, 107-108
 deleting to free disk space, 155, 500-504
 expanding, 17

- filenames translated in Setup, 115
ignored in Setup, 121
miscellaneous hardware and other support files, 154
printing to a file, 31, 33
removing, 500-504
 file= settings in CONFIG.SYS, 259
 FILE:, WIN.INI entry, 174
 File allocation table (FAT), 262
 File handles, 259, 373
 File Manager
changing values in .INI files, 159, 223
customizing, 278-279
initialization (.INI) files, 223
new features in Windows 3.1, 277
OLE support, 279, 354-355
 Filename extensions
associated with filenames, 171
defined in WIN.INI, 171
.PIF, 287
 Filenames
translated in Setup, 115
working with long filenames, 370
 File Size Information, Windows Resource Kit utility, 441
 FINSTALL.DIR file, 327-328
 Fixed font, 144, 311, 316
 Floppy drive, troubleshooting, 22-23, 25, 202
 Font. *See also* Downloadable soft fonts; HPPCL printer fonts;
 PostScript fonts; Printer fonts
cartridges
 dot-matrix printers, 322
 HP LaserJet-compatible, 323-324
 installing in printers, 316
 Microsoft 1Z font cartridge, 314
 PostScript, 336
converters, 27, 425
dot matrix printer fonts, 317, 322, 340
duplicate font names, 316-317
files, 104-105, 112, 144-147, 501
font families in Windows, 310
font matching in Windows, 316-317
installing, 315-316
kinds of
 printer fonts, 312, 320-337
 raster fonts, 311, 313-314
 screen fonts, 175, 312
 TrueType fonts, 311, 318-320
 vector fonts, 311, 315, 317, 456
substituting font names, 175
 Font cache, 318-319
 FontEdit utility, 315
 Font Installer, for HP LaserJet, 315-316, 321, 324-337
 Font mapping table, 316
 Font Metrics dialog box, 338
 [Fonts] section in WIN.INI, 175
 [fontSubstitutes] section in WIN.INI, 117, 175
.FOT file, 318
- ## G
- GDI
.EXE file, 137, 250
heap, 251, 442
General protection (GP) faults, 27, 37-38, 431-434
Grabber
application execution error, 39
defined, 94, 408, 450
files, 148-149, 290, 292
identified in Setup, 96
SYSTEM.INI entries, 184
troubleshooting, 26, 408-410, 423
Graphical user interface (GUI), defined, 450
Graphics adapter. *See* Display adapter
Graphics utility (MS-DOS), 405
Graphics Viewer, Windows Resource Kit utility, 440
Groups. *See* Program Manager group
[Group#] sections in SETUP.INF, 110-113, 133
[Groups] section in PROGMAN.INI, 220
.GRP file, 369
GUI (graphical user interface), 450

H

- Handshaking, 342, 344
Hard disk
correcting interleave without reformatting, 258
ensuring maximum space, 263
interrupts, 25, 217
optimizing performance, 258-260
printing, space requirements, 30, 32
Stacker, 17
troubleshooting, 24, 34
 Hardware
 adapters, and problems with expanded memory, 235
compatible with Windows 3.1, 487-498
creating custom Setup, 129
general protection faults, 37
manufacturer support, 482-483
multimedia, 47-51
optimizing performance, 258-259, 271
support files, 154
troubleshooting, 21-26, 35, 44, 430, 442
 Headland Technologies display adapter, 410
 Help window, WIN.INI entries, 178-179
 Helvetica font, 175, 320
 Helv font, 107, 314
 Hewlett-Packard
 EBIOS for 80386 computer, 120, 150
 Intellifont, disabling, 28
 keyboard driver, 135
 mouse driver, 139, 148
 MS-DOS version, 35
 plotters, 332, 427
 Printer Control Language (HPPCL), 323
 printer drivers, 140
 printer fonts, 323-333
 soft font installer files, 141
system driver (for HP Vectra), 138
Type Director, 315
Vectra, 138, 419
virtual support files, 150
 High area. *See* High memory area (HMA); Upper memory area
 High memory area (HMA)
 defined, 228, 450
 disabling a network's HMA option, 373
 loading MS-DOS 5.0 into, 248, 263-264
 troubleshooting, 413-415
 HIMEM.SYS
 accessing extended memory, 229, 230, 236, 239
 file, 148
 loading in CONFIG.SYS, 259
 optimizing, 248
 troubleshooting, 412, 416, 418
 “Hints,” for TrueType, 318
 HP DeskJet printer fonts, 331-332
 HP PaintJet printer fonts, 332

HPPCL-compatible printers
driver files, 141
fonts, 317, 321, 323-331
setting up unsupported printers in Windows, 340
types of, 330, 331

HPPCL printer fonts
described, 323
downloadable soft fonts

- font summary file, 328-329
- installing, 324
- permanent vs. temporary downloading, 325-326
- recovering fonts after reinstalling Windows, 326-328
- soft font limits, 315, 330

font cartridges, 323-324
memory settings for, 323

HP plotter printer fonts, 332

I

IBM 4019 Laser Printer fonts, 337
IBM computer
AT, A20 handler, 419

DOS LAN requester. *See* IBM computer, OS/2 LAN Server

MS-DOS version, 35, 433

OS/2 LAN Server, 102, 383

PC LAN Program, 102, 143, 383-384

PS/2 computer, 24, 25, 150, 204, 412

- IDE drive, troubleshooting, 24, 217
- [incompTSR#] sections in SETUP.INF, 113, 401
- Independent software vendor (ISV), defined, 450
- .INI file, 369
- Initialization (.INI) files. *See also* CONTROL.INI; PROGMAN.INI; SYSTEM.INI; WIN.INI; WINFILE.INI

content summary, 158-159

editing procedure, 159-161

format, 158, 159

preserving, after reinstalling Windows, 15

source files, 161

updated in Setup, 116

- [Ini.upd.*] sections in SETUP.INF, 116
- [Installable drivers] section in SETUP.INF, 114
- Installation disks, 59
- Installation information (.INF) files. *See also* APPS.INF; CONTROL.INF; SETUP.INF

content summary, 86-87

customizing, 128-133

editing procedure, 87

format, 158-159

- Installing Windows 3.1

- Administrative Setup option (setup /a), 72-74

AUTOEXEC.BAT modifications, 368-369

Automated Setup (setup /h), 58, 74-81

- changing values in .INI files, 159
- creating system settings scripts for multiple systems, 76-81
- customizing, 60-61, 74, 76-81, 128-134
- Custom Setup, 58, 62, 64-65
- Express Setup, 58, 62, 64
- from floppy disks, 59
- hardware identification, 65-66
- installation information (.INF) file, 88-120
- maintaining Windows with Setup, 82-83
- MS-DOS Mode Setup, 58, 63-68, 401-402
- Network Setup (setup /n), 73-75
- new Setup features, 58
- overview, 57-62
- setting up multiple systems

- Installing Windows 3.1, *continued*

- Automated Setup option (setup /h), 72, 75-76

- creating a system settings script, 76-81
- setting up on a network

- Administrative Setup option (setup /a), 72-

- 74
- disabling pop-up service to prevent Setup failure, 370
- Network Setup option (setup /n), 72, 74-75
- on network server vs. workstations, 74
- overview, 71-72
- shared Windows files, 72-73
- setting up on a single workstation, 71
- specifying the WINDOWS directory, 64
- switches for Windows Setup command, 60
- SYSTEM.INI settings, 370-371
- technical discussion, 62-71
- troubleshooting, 9-17, 399-403
- upgrading from an earlier version, 64-65
- Windows Mode Setup**, 58, 68-71, 402-403
- Insufficient memory, 43
 - INT 13, 252-253, 520-522
 - INT 21, 349, 350, 520-522
 - Intel, snapin, 24, 386
 - Intellifont. *See* Hewlett-Packard Intellifont
 - International support in Windows
 - formats defined for Control Panel, 128, 172-173
 - support files, 138, 147
- WIN.INI** entries, 172-173
- Interrupts
 - 32-bit disk access, 520-522
 - COM ports, 19, 196, 197
 - defined, 451
 - floppy drives, 22
 - hard disks, 24, 217
 - keyboards, 193, 194, 203
 - list of, 25
 - memory-resident software, 202, 211
 - mouse, 18, 208
 - network, 36, 430
 - printers, 165, 213
- Windows Resource Kit*
- system timer, 214
- virtual machines**, 201
- [Intl] section in WIN.INI, 172-173
 - Invisible Software—NET/30 For Windows, 384
 - I/O port, troubleshooting, 430
 - [IO.*] sections in CONTROL.INF, 126-129
 - IPX Upgrade utility from Microsoft, 444
 - IRQ. *See* Interrupts
 - ISA computers (adapter locations), 240-241, 372, 433, 441
 - ISV (independent software vendor), 450
 - Italic
 - document and syntax conventions, 4-6
 - font characteristic, 310, 313
- J**
- Join utility (MS-DOS), 405
- K**
- Kernel, 90, 107, 137, 250, 451
 - Keyboard
 - buffer, 202
 - compatible with Windows 3.1, 495
 - defining behavior, 166
 - drivers, 97, 138, 185, 187, 202
 - identified in Setup, 97
 - interrupts, 25, 203
 - Keyboard, *continued*
 - language tables, 138
 - password, 204
 - reboot, 204, 294-295
 - tables, 98, 128, 138
 - timeslicing, 202
 - troubleshooting, 12, 422
- [Keyboard.drivers] section in SETUP.INF, 97
 - [Keyboard] section in SYSTEM.INI, 187-188
 - [Keyboard.tables] section in SETUP.INF, 98
 - [Keyboard.types] section in SETUP.INF, 97, 129
 - Keyname, defined, 87, 158
- L**
- Language
 - code page, 188
 - defining international usage, 173

drivers and libraries, 138, 147, 185
identified in Setup, 120
supported by Windows 3.1, 147, 458
used for Windows Setup, 91
[Language] section in SETUP.INF, 120
LAN Manager 348, 451, 456. *See also* specific networks
LanSight, 405
LANtastic. *See* Artisoft LANtastic
Laser printers, and unsupported printer compatibility, 340
LaserTools, 406
LATCP DEFINE SCB command, 380
Le Menu, 406
LIM. *See* Expanded Memory Specification (EMS)
[Lmouse] section in SETUP.INF, 101
Loadhigh command (MS-DOS)
optimizing performance with, 248, 264-265
SYSTEM.INI entries, 204
troubleshooting, 413, 416
 Local heap, 251, 451
 Lockit utility, 405
 Logitech mouse
driver, 139, 148, 158
 identified in Setup, 101
 troubleshooting, 18, 407
 virtual support file, 150
 Lotus 1-2-3, troubleshooting, 424-425
 Lotus/Intel/Microsoft (LIM). *See* Expanded Memory Specification (EMS)
 LPT port
 configuring, in WIN.INI, 174
 default I/O starting locations for, 343
 hardware interrupts, 25, 343
 printing from, 342-343
 troubleshooting, 31, 426-427
 LPTx.DOS
 printing method, 31, 174, 350, 376
 troubleshooting, 427-428
WIN.INI entry, 174
 LPTx.OS2. *See* LPTx.DOS
 LRU (Least Recently Used) paging, 205, 246-247

M

[Machine] section in SETUP.INF, 117-118, 129

MAP ROOT command, 388
Math coprocessor, interrupts, 25
MCA. *See* Micro Channel (MCA) computers
MCI (Media Control Interface), 143, 451
[MCI Extensions] section in WIN.INI, 177
[MCI] section in SYSTEM.INI, 189
Measures, defining formats, 172
Media files, 177
Media Player, troubleshooting, 47, 437
Mem command (MS-DOS)
troubleshooting with, 413, 417, 420
viewing system memory, 229-230, 264
Memory. *See also* 386 enhanced mode memory; Expanded memory; Extended memory; High memory area (HMA); Memory drivers; Standard mode memory; Upper memory area; Virtual memory
conventional memory, 228, 260, 263, 448
DPMI vs. VCPI specification, 247-248
excluding upper memory settings, 372
memory conflicts, 238-239
memory protection, 451
Microsoft Diagnostics utility (MSD.EXE), 229
network memory management with Windows 3.1, 370-372
non-Windows applications and PIF settings, 229, 301-305
optimizing performance, 258-259, 262
out-of-memory errors, 43
overview, 228-229
relative addresses of different kinds of, 229
requirements, 9, 249-250
types of, 228-229
viewing, in your system, 229
Windows system resources, 250-251
 Memory drivers, 230
 Memory expansion board, 258-259
 Memory managers, 229, 230, 373. *See also* Expanded memory managers; Extended memory managers; Virtual Memory Manager (VMM)
 Memory-resident software. *See* TSRs
 Micro Channel (MCA) computers
 changing memory settings for network, 372
 COM port settings, 197

- DMA extensions, 207-208
interrupts, 197, 433
troubleshooting, 12
 Microsoft 1Z font cartridge, 314
 Microsoft Authorized Training Centers (ATCs), 460-466
 Microsoft Certified Professional Program, 459
 Microsoft Consultant Relations Program (CRP), 458
 Microsoft Consulting Services (MCS), 452, 458
 Microsoft Diagnostics utility (MDE.EXE), 229
 Microsoft LAN Manager networks
 described, 384-386
 disabling expanded memory for, 385
 disabling pop-up services, 386
 driver, 143
 identified in Setup, 102
MS-DOS LAN Manager Basic, 384
 Microsoft Network
 described, 387, 452
 driver, 143
 equivalent for other networks, 143, 368
 identified in Setup, 102
MS-Net Redirector, 247, 348
 Microsoft Product Support Download Service, 439
 Microsoft University
authorized training centers, 470-471
training programs, 468-470
 MIDI, 48, 114, 143, 150, 437
 Mirror utility (MS-DOS), 405
 Mode command (MS-DOS), 348
 Modern font, 315, 317
 Mouse. *See also* specific types
 compatible with Windows 3.1, 139, 495
 defining behavior, 167, 169
 drivers, 139, 148, 186, 260
 identified in Setup, 100-101
 interrupts, 25, 208
 in non-Windows applications, 26, 190, 208, 296, 424
 serial mouse and COM port problems, 348
 in standard mode, 192
 troubleshooting, 18, 26
 virtual device, 150, 208
 in Windows Setup, 91
 MOUSE.COM and MOUSE.SYS, 148
 Mouse Systems mouse, 139, 150
 Movable code segment (in Windows applications), 236, 452
 MS-DOS
 OEM versions and general protection faults, 433
 optimizing performance, 259-260
 printing to LPT ports through MS-DOS, 345-346, 426
 troubleshooting, 35, 413-414
 unexpected MS-DOS error #11, 423
 version 5.0
 compatibility with Windows 3.1, 248, 249, 269-270
 device drivers for managing memory, 148, 230
 loading in the high memory area, 248-249, 263-264
 Windows 3.0 conflicts, 238
MS-DOS Extender. *See* Extended memory managers (XMM)
MS-DOS Mode Setup. *See also* Installing Windows 3.1
configuration identification routines, 65-66
 described, 58, 63-68
failure, 68
MS-DOS version check, during Setup, 64
modifying SYSTEM.INI for system configuration, 66-67
setting the WINDOWS directory, 64
troubleshooting, 401-402
 updating the Windows version, 64-65
 MS-DOS Prompt, 198, 287, 373
 MS-DOS system, hardware configuration, 401
 MS-NET. *See* Microsoft Network
 MS Sans Serif and MS Serif fonts, 112, 311, 313-314, 317
 Multimedia
capabilities, supported by Windows 3.1, 143

- CD-ROM, 21, 436
driver files, 114, 143
SYSTEM.INI entries, 189
troubleshooting, 46-51, 434, 435-437
WIN.INI entries, 177, 179
 Multitasking. *See also* Timeslicing
defined, 448, 452, 455
demand paging and virtual memory management, 245-247
PIF Editor options, 304
problems running non-Windows applications, 373
vs. task switching, in 386 enhanced mode, 290-291
Windows vs. MS-DOS 5.0 task swappers, 249
 Music Box, troubleshooting, 49, 436
- N**
- Named pipes, 218, 448
NEC computer, MS-DOS version, 35
NetBIOS, 190, 208, 209, 381, 452
NetWare. *See* Novell NetWare
Network; *See also* Networks and Windows 3.1; specific network types
adapter card, 371
buffers, 208, 209, 218
 Network, *continued*
compatible with Windows 3.1, 143, 401-402, 495
drivers, 143, 186, 209
interrupts, 202
printer redirection, 350
redirector software, and ROM BIOS data segment, 348-349
Token Ring, 214, 454
transport stacks, 371
virtual support files, 150
 Network Assistant, Windows Resource Kit utility, 440
 Networks and Windows 3.1. *See also* Network; specific network types
customizing Windows installation
 modifying logon procedure to set paths, 369
 restricting user actions, 221, 276
 user environments, 374
installation information, 101-103
installing a shared copy of Windows
 Administrative Setup (setup /a), 73-74
 Automated Setup (setup /h), 76-81
 copying Windows files to a user's directory, 130
 forcing Network Setup option, 75, 130
 Network Setup (setup /n), 74-75
 procedures, 71-74
 restoring previous connections, 177
IPX upgrade utility in Windows Resource Kit, 440
optimizing performance, 262, 370-373
printing, 31, 33
running a shared copy of Windows, 368-370, 443
shells, 431
supported networks
 3COM, 102, 374-375
 Artisoft LANtastic, 102-103, 376-377
 Banyan VINES, 102-103, 377-378
 DEC Pathworks, 102-103, 379-382
 IBM OS/2 LAN Server, 102-103, 383
 IBM PC LAN Program, 102-103, 383-384
 Invisible Software—NET/30 For Windows, 384
 Microsoft LAN Manager, 102-103, 384-386
 Microsoft Network, 102-103, 215, 387
 Novell NetWare, 102-104, 387-391
 TCS 10Net, 391
 Ungermann-Bass Net/One, 392

- swapping pages to a network drive, 247
- troubleshooting
- 386 enhanced mode, 36
 - operation, 430-431
 - printing, 31, 33, 428
 - Setup, 11, 402
- virtual support for, 150
- [Network] section in SETUP.INF, 101, 129
- [Network] section in WIN.INI, 177
- [Network_Specific] section in SETUP.INF, 103
- [Network_Version] section in SETUP.INF, 102
- [New.groups] section in SETUP.INF, 109
- NewSpace, 405
- Nonmaskable interrupts (NMI), 209, 408-409, 421
- Nonpreemptive scheduling, 291
- Non-Windows applications. *See also* APPS.INF; PIF Editor option; PIFs (program information files)
- defined, 284, 452
- display updates, 217
- error messages
- execution error, 39
 - file-change messages, 200
 - incorrect system version, 410
- Non-Windows Applications, *continued*
- out-of-memory errors, 43
 - system integrity violation, 40
- files providing support in Windows, 146, 148-149, 290, 292
- memory for
- expanded memory, 231, 237-238, 296
 - extended memory, 236-237, 238, 239-240, 295
 - requirements, 229
- mouse, 18, 26, 208, 296
- removing support for, 503
- running in Windows 3.1, 288-293, 373
- scrolling, 213
- setting up, 283-288
- SYSTEM.INI entries for, 293
- optimizing performance, 258-262
- tips, 294-295
- troubleshooting, 30, 409, 423-424
- [NonWindowsApp] section in SYSTEM.INI, 189-191
 - Norton utilities
- Stacker and troubleshooting, 17
- troubleshooting, 41, 44, 404, 405, 407
- Not-enough-memory error message, 294
 - Novell NetWare
- described, 387-390, 452
- drivers and files, 143, 387, 444
- increasing the file access limit, 389
- NetWare Lite, setting parameters, 391
- preparing to run with Windows, 388
- Printer Assistant, 406
- SETUP.INF information, 102-103,
- troubleshooting, 31, 33, 349, 431
- updating with Microsoft IPX Upgrade utility, 444
- O**
- Object Linking and Embedding (OLE)
- creating compound documents, 352-356
- support in windows, 354-356, 360
- troubleshooting, 45
- WIN.INI entries, 178, 360
- Object Packager, 355
- OEM (original equipment manufacturer)
- character set, 310, 315, 317
- defined, 452
- font, 144, 145
- [OEMdisks] section in SETUP.INF, 91
 - OEMSETUP.INF file, 335
 - Olivetti computers, 138, 139, 149, 187-188
 - Online support services
- bulletin board forums, 472-474
- library services, 478
- PC magazine forums, 475-477

OnTrack Disk Manager (DMDRVR.BIN), 13-14
Operating modes. *See* 386 enhanced mode; Standard mode
Operating system, defined, 453. *See also* MS-DOS
Orientation, printing, 322
Out-of-memory errors, 43, 251, 289, 323, 417

P

Package, in compound documents, defined, 353, 443
Page fault, 243, 453
Page frames. *See also* Expanded memory
defined, 447, 453
memory conflicts in 386 enhanced mode, 235, 239, 240, 242
specifying range in SYSTEM.INI, 200, 212
troubleshooting, 417, 425
Pageswap device, 245
Page swapping. *See* Paging; Virtual memory
Page table, 206, 433
Paging. *See also* Virtual memory
buffers, 210
described 245-246, 453, 456
drive, file, and disk space, 207, 210
maximum size, 206
Paradise VGA cards, troubleshooting, 410-411
Parallel port. *See* LPT port
Parity, 174
Password, setting up protection for a workstation, 374
Path, 13-14, 181, 453
Pathworks. *See* DEC Pathworks
PC-Kwik, 404
.PCM file, 324
PC-NET, 453
PC-NFS and Windows 3.1, 519
PC Tools,
Stacker and troubleshooting, 17
troubleshooting, 17, 22, 42, 44, 404, 407
Peak/DM BIOS, troubleshooting, 12
Pen Windows, 506-514
Permanent swap file, 210, 211, 260, 262
.PFM file, 325, 326
Phoenix Cascade BIOS, 12, 419
PIF Editor options, 301-305
.PIF filename extension, 287
PIFs (program information files). *See also* APPS.INF; Non-Windows applications; PIF Editor options
changing icons in Program Manager, 287-288
modifying, 133, 305-306
overview, 299-300

setting up PIF
after Windows installation, 286, 373
during Windows installation, 121-125, 285-286
from application manufacturer, 287
[PIF] section in APPS.INF, 122-125, 133
Pipe (|), in .INI parameters, 159
Plotters
fonts, 315, 317, 321, 332
setting up unsupported printers in Windows, 340
Plus Hardcard, troubleshooting, 24, 422
Pointing devices, 129, 139, 485. *See also* Mouse
[Pointing device] section in SETUP.INF, 100, 129
Point size, font characteristic, 310, 315, 318, 453
Pop-up messages (network), 73, 370
Ports, 174, 180. *See also* COM port; LPT port
PostScript printers
cartridges, 336
described, 335-336
drivers, 141-142
fonts, 317, 333, 335-336
printing error information, 336
specifying virtual memory, 334
troubleshooting, 30, 426-427, 429
TrueType, 333-334, 335
unsupported printers in Windows, 340
Preemptive scheduling, 291
Printer. *See also* Printer fonts; specific printers
compatible with Windows 3.1, 140-142, 496-498
drivers, 27, 126-128, 140-142, 500-501
interrupts, 213
specifying during Setup, 80
troubleshooting, 30-33, 427-429
TrueType compatibility, 27, 318, 425
Printer cartridge metrics (.PCM) file, 324
Printer fonts. *See also* specific printers and printer types
character sets for, 321
defined, 312, 320
dot matrix printers, 322

HP-compatible printers, 323-333
 PostScript printers, 333-336
 printable screen fonts, 312, 320, 322, 453
 Printer ports. *See also* COM port; LPT port
 port entries in the ROM BIOS data segment, 346-
 348
 troubleshooting, LPTx.DOS method, 345-346
 .WIN.INI entries, 180, 181
 [PrinterPorts] section in WIN.INI, 180
 Printer Setup, 159, 315, 321
 Printing
 determining Windows printing method, 349
 network, 177, 350
 setting up unsupported printers, 340-341
 technical issues related to, 339-349
 troubleshooting, 30-33, 426-429
 Print Manager, 168
 [Progman.groups] section in SETUP.INF, 110, 132
 PROGMAN.INI
 contents, 219-221
 modifying for custom user environments on
 networks, 374
 preserving, after reinstalling Windows, 15
 Program information files (PIFs). *See* PIFs
 Program Manager. *See also* Program Manager groups
 changing values in .INI files, 159
 customizing, 132, 272-274, 276
 initialization (.INI) file, 219-221
 maintaining Windows with, 83
 restricting user action, 221
 Program Manager groups
 created during Setup, 109-111
 customized, 132, 220, 273-274
 setting up shared groups, on networks, 274-275,
 374
 [Programs] section in WIN.INI, 181
 Protected mode, 150, 239-240, 454
 Pyro!, 407

Q
 QEMM-386 expanded memory manager
 386 enhanced mode support, 243, 247
 described, 454, 515-518
 networks, 373
 troubleshooting, 34, 421, 517-518
 Quadtel BIOS, troubleshooting, 12

R
 RAM drive,
 creating a RAM disk, 230
 during Setup, 70
 optimizing performance, 259
 swap files with, 245
 TEMP variable on diskless workstations, 262, 369
 troubleshooting, 418-419
 RAMDRIVE.SYS, 148, 259, 265
 Random access memory (RAM), described, 228
 Raster fonts, 145, 311, 313-315, 317, 454
 README files
 choosing not to install, 79
 compound documents, 353
 files for, 154, 443
 Read-only files on network, 73, 369
 Real mode, and Windows 3.1, 9
 Rebooting
 CTRL+ALT+DEL use, 204, 256, 294-295, 432
 defining behavior, in SYSTEM.INI, 204
 from a batch file, 256,
 nonmaskable interrupts, 209
 non-Windows applications, 294-295
 Windows, after installation, 71, 77, 80-81
 Reference materials, 483-486
 REG.DAT file, 359, 454
 REGEDIT.EXE, 360-365
 Registration database, 454
 described, 359
 installing or modifying file types, 361-363
 restoring a deleted or corrupted registration

database, 363
Registration Info Editor
described, 360
filename extensions defined, 171
installing a .REG file, 361
modifying .REG file types, 363
restoring the registration database, 363
supporting files, 151
WIN.INI entries, 178
 Reinstalling Windows, 15
 Resolution
display, 144-145
printer, 314, 318, 322
 Restricting user actions, in Program Manager, 221
 [Restrictions] section in PROGMAN.INI, 221
 RIPLMEM.EXE program, 379
 Roman font, 315, 317
 ROM BIOS
debugging a COM port, 347-349
INT 17, 349
shadowing, 267
use of upper memory area, 212-213, 216, 231,
 illus. 232
[Run] section in SETUP.INF, 90

S

Screen fonts, 144-146, 175, 312
Screen savers, 154, 168, 374
Script font, 315, 317
SCSI
adapter card (ADAptec 1540B), 380
drive, 24, 421, 520
 SDK (Windows Software Development Kit), 454
 Segmentation, for Windows code, 256, 456
 Semicolon, as comment character, 159
 Serial communications port. *See* COM port
 Server
database, 448
file, 450
network, 177, 454
print, 453
 Server applications (OLE), 353, 454-455

[Settings] section in PROGMAN.INI, 219
Setup. *See* Installing Windows 3.1; Windows Resource Kit
 disk setup; Windows Setup
SETUP.EXE file, and installing Windows on a local drive, 66
SETUP.INF
 checking during Setup, 64
content summary, 88-89
customizing, 128-133
editing procedure, 87
format, 88-89
 SETUP.INF, *continued*
sections
 copy-files sections for applications, 107-108
 copy-files sections for Windows, 105-106
 display driver, 94
 fonts, 112
 general installation, 89
 incompatible driver, 113
 keyboard and code pages, 97
 mouse driver, 100
 network installation, 101-103
 Program Manager groups, 109-111
 system configuration, 117
 system fonts, 104
Windows installation, 64, 77
 [Setup] section in SETUP.INF, 89
 SETUP.SHH file, 76-77
 Setup switches
setup /a, 73-74
setup /h, 75-76
setup /i, 65, 401
setup /n, 11, 74-75
setup /t, 400
summary, 60
 Shadow RAM, 250
 Shadow ROM, 420, 430, 455
 Share command (MS-DOS), 368
 Shared memory, troubleshooting, 430

- Shared resources, 304, 455
 Shell command (MS-DOS), 260
 [Shell] section in SETUP.INF, 94
 Shortcut keys, defined in PIFs, 302-303
 SideKick, 407
 Small Font, 112, 310, 314, 317
 SMARTDrive 3.x, *illus.* 252
 SMARTDrive 4.0
 described, 252-256, 439
 double buffering, *illus.* 253, 255-256
 installation of, 70
 optimizing Windows performance, 230, 259
 Stacker, 17, 256
 troubleshooting, 416, 421-422
 viewing switches, 258
 SMARTDrive Monitor, Windows Resource Kit utility, 441
 SMARTDRV.EXE, 148
 SoftCraft WYSIFonts, 315
 Soft fonts. *See* Downloadable soft fonts
 SoftIce Debugger, 404
 Sound
 drivers on Windows Resource Kit, 443
 files, 154
 troubleshooting, 48-51
 WIN.INI entries, 179
 SoundBlaster, files identified in Setup, 114
 Sound Recorder, troubleshooting, 51, 436
 [Sound] section in WIN.INI, 179
 Source document, for OLE, 355
 [Special_adapter] section in SETUP.INF, 119
 Speedfxr, 407
 Speedstor, troubleshooting, 13-14
 Spooler, 168, 455
 SQL (Structured Query Language), 455
 Stacker, 13-14, 17, 66, 244, 256
 Stack overflow error, 422
 Stacks, in CONFIG.SYS, 422
 Standard mode Windows. *See also* 386 enhanced mode Windows; Windows 3.1
 described, 63, 235
 memory
 conventional memory, 235
 expanded memory, 236-238
 extended memory, 235-237
 system requirements, 9, 63, 410
 optimizing performance, 260
 removing support for, 502
 troubleshooting, 44, 418-419, 423
 [Standard] section in SYSTEM.INI, 191-192
 Startup directory, specifying in PIF Editor, 301
 Startup group, 58, 220
 Startup requirements, for Windows, 249-250
 Stop-bits, 174
 Subst command (MS-DOS), 390, 407
 SuperPrint, troubleshooting, 32
 SuperVGA, troubleshooting, 20, 411, 421
 Swap disk, for non-Windows applications, 191
 Swapdisk memory manager, 230
 SWAPFILE.EXE, file deleted in Setup, 107
 Swap files
 changing size and location of, 244
 creating, for virtual memory, 238, 244
 non-Windows applications using, 290, 521-522
 permanent, 210, 211, 244-245, 260, 262
 temporary, 207, 210, 244
 Virtual Memory Manager, 243-244
 Swappable code segment (in Windows applications), 236
 Swapsize, defined, 236
 Switches, command-line
 Mem command (MS-DOS), 229-230
 MS-DOS system drivers, 258
 PIF Editor options, 301
 Setup, 60
 Windows, 249
 Symbol font, 112, 314, 317, 318, 333
 System
 configuration specified in Setup, 117-120, 401-402
 modifying settings during Setup, 65-66
 requirements, 9, 418, 420
 System Editor, 160-161
 System events, WIN.INI entries, 179
 System font, 104, 144-145, 312-315
 SYSTEM.INI
 contents, 183-218
 content summary, 183
 entries for

- 386 enhanced mode performance, 271
conventional memory, 238, 250
disabling expanded memory, 241
hardware configurations, 66-67, 271
network performance, 272, 370-371
standard mode performance, 238
virtual memory, 246
- preserving entries, after reinstalling Windows, 15
source file (SYSTEM.SRC), 66, 161
updates defined in Setup, 116
- Windows 3.1 changes, 162-163
- Windows installation changes, 66, 77
- System integrity violation, 40
 - System Information screen, *illus.* 66, 77
 - System memory, displaying current use, 442
 - System Resource Monitor, Windows Resource Kit utility, 442
 - System resources, 250-251, 442
 - System screen fonts. *See* System font
 - [System] section in SETUP.INF, 117-120, 129
 - System settings script, 75-81
 - SYSTEM.SRC, 77, 161
 - SYSTEM subdirectory
- defined, 58
files defined for Setup, 93, 127
- T**
- Tandon, troubleshooting, 12
Task Manager
- defined, 290, 373
specifying, 186
- SYSTEM.INI entry, 186
vs. Windows Task List, 248, 249
- WIN.INI entry, 164
- TCS 10Net, 102, 391
 - TEMP directory, 369
 - TEMP environmental variable
- “clean boot” disk, 398
- optimizing performance, 262-263
- printing requirements, 427
- setting RAM drive as, 259
- troubleshooting, 13-14, 427
- Windows on a network, 369, 427
- Temporary swap file described, 243-244
 - optimizing performance on a network, 260, 262
- SYSTEM.INI entries, 207, 210
- Terminal font, 144, 313, 317
 - Texas Instruments Graphics Architecture (TIGA) display adapter, 412
 - Third-party
 - memory managers, 269-270
- soft fonts, 316
- task manager, 272
- Thunder Board (Media Vision), files identified in Setup, 114
 - TIGA display driver, 139, 150, 412
 - Time
- defining formats, 172
- interrupts, 25, 214, 215, 373
- synchronizing with CMOS clock, 213
- Time-out settings, for printer ports, 180
 - Timer (MCI driver), 114, 143
 - Timer interrupts, 214, 215, 373
 - Timeslicing
- between Windows and non-Windows applications, 291-292
- defined, 455
- keyboard, 422
- PIF Editor options, 304
- virtual machines, 207
- Windows applications, 217-218
- Times New Roman font, 113, 310-311, 317-318, 320
 - Tms Rmm font, 107, 314
 - Token Ring networks, 214
 - TopDesk, Windows Resource Kit utility, 442
 - Toshiba computer, 12, 412, 419
 - Training, 466-467, 468-471. *See also* Microsoft Authorized Training Centers (ATCs); Microsoft Certified Professional Program; Microsoft University
 - [Translate] section in SETUP.INF, 115
 - Translation buffers, 239
- controlling mapping in upper memory, 239, 241, 242
- freeing conventional memory, 268-269

- Transmission retries, 169
Transport stack, 371
Trantor (TSCSI.SYS), 407
Troubleshooting
386 enhanced mode, 420-422
creating a “clean boot” disk, 398
desktop configuration, 403
display problems, 408
EMS memory problems, 235, 237, 415-417
fonts, 425
general protection faults, 431-433
MS-DOS configuration problems, 413-414
multimedia, 434
networks, 430-431
non-Windows applications, 423-425
printing, 426-429
Setup, 399-403
standard mode, 418-419
strategy, 396-398
TSRs, 400, 404-407
UMB conflicts, 237
 TrueType
 benefits, 318
Canon printers, 337
changing typeface names, 337-338
described, 311, 318-320
disk space, memory, and speed, 319-320
files, 113, 146, 318
HPPCL printers, 323
IBM 4019 laser printers, 337
installing more fonts, 315
number of fonts on a system, 320
PostScript printers, 333-335
printer support, 316, 317, 319
troubleshooting, 27, 425-426
using in Windows applications, 319, 320
WIN.INI entries, 176
 [TrueType] section in WIN.INI, 176
 Tseng Labs display adapter, 410
 TSRs (terminate-and-stay resident software)
 described, 239, 294, 455
 optimizing performance, 259, 261
 identified in Setup, 113, 401, 404
 SYSTEM.INI entries, 202, 211, 214
troubleshooting
 general protection faults, 37, 432
 in Setup, 10, 13-14, 66, 400-401, 404
 in Windows, 404-407, 414
.TTF file, 318
Typeface, defined, 310
- U**
- Underscore (_), as indicator of compressed files, 59
Ungermann-Bass
network card, 392
XNS transport stack, 384
Universal printer driver, 318, 321-322, 330
Unrecoverable application error (UAE), local reboot, 204
[Update.files] section in SETUP.INF, 115
Upper memory area. *See also* Upper memory blocks (UMBs)
conflicting uses of, in 386 enhanced mode, 242
described, 228-233, 237-238
illus., 229, 232, 233
placing translation buffers in, 241
troubleshooting, 414, 415-417
 Upper memory blocks (UMBs)
controlling, in 386 enhanced mode, 242
defined, 237, 455
dual display adapters, 198
excluding ranges, 199-200, 204, 212, 215, 416-417
illus., 415
mapping, 242

optimizing use of, 263-266, 266-268

troubleshooting for

 386 enhanced mode, 420-421

 general protection faults, 433

 networks, 430

 non-Windows applications, 425

 USER

.EXE file, 137, 250

heap, 250-251, 442

 User groups, listed by location, 479-481

 User interface, defined, 450

 User name, specifying in Windows Setup, 77, 79

 [User] section in SETUP.INF, 92

 .USP file, 325

V

Vaccine, 404

VAR (value-added reseller), defined, 456

VCPI (Virtual Control Program Interface), 237, 247, 295, 456

VDefend, 404

VDNET.386 virtual device driver, 381

Vector fonts, 145, 311, 315, 317, 456

VGA

driver and grabber files, 139, 149

font files, 104-106, 312-314

memory addresses, 216

troubleshooting, 20, 26, 409-412, 424

virtual support file, 150

 Video memory

SYSTEM.INI entries, 212, 216

troubleshooting, 424, 425

 Video Seven VGA

driver and grabber files, 139, 149

troubleshooting, 403, 410, 412

virtual support file, 150

 Viralert, 404

 Virex-PC, 404

 Virtual COM Driver, 196

 Virtual device, 150, 456

 Virtual Display Driver (VDD), 94, 102, 408, 410

 Virtual DMA Services, 255-256

 Virtual Hard Disk (VHD), 34, 422

 Virtual Keyboard Device (VKD), 204

 Virtual machine (VM)

addresses for applications, 215, 453

COM port interrupt processing, 196

described, 239

device drivers in, 204

idle interrupts, 201

memory

 allocation, 211, 213-214

 expanded memory, 213-214

 extended memory, 213-214, 239

printer interrupts, 213

read-write requests, 209

SYSTEM.INI entries, 193, 196, 205, 207, 213-214

timeslicing, 207, 291

 Virtual memory

32-bit disk access, 520-523

386 enhanced mode, 243-247

creating swap files for, 244-245

defined, 453, 456

demand paging, 245-247, 448

management of, 243, 245-247

optimizing, 245, 520-523

pages, page swapping, and page table, 230, 245, 245-246

PostScript printer requirements, 334

swapping pages to network drive not recommended, 247

Virtual Memory Manager (VMM), 206, 230, 243, 245-246

Virtual Mouse Device (VMD), 100

ViruSafe, 404

VMM. *See* Virtual Memory Manager (VMM)

VT320 terminal emulator application, 380

W

Wallpaper, 153, 154, 170

Wave audio, 114, 154, 437

Western Digital

32-bit disk access and 1003 controller standard,

- 520, 523
- Ethercard Plus, 388
- troubleshooting, 11, 34, 36
- WIN386.EXE file, 136, 150, 245
- WIN.COM, 11, 68, 136-137, 152
- [Win.*] copy-file sections in SETUP.INF, 108-109, 130-131
- Win command switches, 249
- Window (on screen)
- running non-Windows applications in a, 292-293
- WIN.INI entries, 164-169, 178-179
- Windows 2.x, troubleshooting, 432
- Windows 3.1. *See also* 386 enhanced mode Windows;
Standard mode Windows; Windows applications;
Windows Setup
- compatibility with MS-DOS 5.0, 269-270
- configuration, troubleshooting, 403-417
- foreign language versions, 458
- maintaining Windows
- on a network, 369-370
 - using Setup, 82
- minimum installation, 504
- MS-DOS 5.0 configuration for, 248-249, 261
- new features in
 - 32-bit disk access, 520-523
 - Character Map, 321
 - File Manager features, 277
 - icons, 288
 - multimedia, 135
 - network features, 368
 - Object Linking and Embedding, 352
 - PIFs, 285
 - printing, 278
 - Program Manager features, 273
 - Setup, 58
 - SMARTDrive 4.0, 252-256
 - swap file features, 244
- system registration database, 359-363
- TrueType fonts, 311, 318-320
- universal printer driver, 318, 321-322
- upper memory management, 243

- Windwos 3.1, *continued*
- optimizing performance
 - adjusting UMBs, 263-266, 266-269
 - hardware, 258-260
 - MS-DOS, 259-260
 - network, 262
- Windows configuration, 260
 - Windows applications
 - custom installation, 130
 - defined, 284, 456
 - files, 151-152
 - removing, 500
 - troubleshooting, 43
 - WINDOWS directory
 - defined, 58
 - files copied to by Setup, 92, 130
 - installing Windows in, during Setup, 77-78
 - personal vs. shared, 368
 - setting during installation, 64
 - Windows Driver Library, 478
 - Windows files
 - core files, 136, 137
 - deleting, 155, 500-504
 - driver files, 136-143
 - font files, 144-146
 - MS-DOS support files, 148-150
 - overview, 135-136
 - Windows applications and related files, 151-155
 - Windows for Pens, 506-514
 - Windows help files, 152, 503
 - [Windows Help] section in WIN.INI, 178-179
 - Windows Mode Setup
 - checking for SMARTDrive, 70
 - completing Setup, 71
 - custom application installation, 69-70
 - first stages of, 58, 68
 - system files update, 70
 - troubleshooting, 402-403
 - updating from earlier Windows version, 71
 - Windows Resource Directory
 - hardware support, 482-483
 - online services, 472-478
 - reference materials, 483-486
 - training services, 458-471
 - user groups, 479-481
 - Windows Resource Kit disk
 - downloading, 439
 - installing a sound driver file, 444
 - Microsoft IPX upgrade utility, 444
 - README files, 443
 - setup, 444
 - utilities described, 440-442
 - Windows Driver Library, 443, 444
 - [Windows] section in SETUP.INF, 93
 - [Windows] section in WIN.INI, 164-169

Windows Setup. *See also* Installing Windows 3.1
Administrative Setup option (`setup /a`), 72-74
Automated Setup (`setup /h`), 58, 75-81
Custom Setup, 58, 64-65
Express Setup, 58, 64
MS-DOS Mode Setup, 58, 63-68, 401-402
Network Setup (`setup /n`), 73-75
overview, 58-63
setup-related files, 152-153
shell, 94
switches for Windows Setup command, 60
technical discussion, 62-71
troubleshooting, 9-17, 399-403
Windows Mode Setup, 58, 68-71, 402-403
Windows shell, 272-276, 277-279
[Windows.system *] sections in SETUP.INF, 93
Windows Technical Support Library, 478
[Winexec] section in SETUP.INF, 90
WINFILE.INI, 223
Wingding (TrueType font), 146
WIN.INI
changes in the system registration database, 354
content, 163-182
content summary, 163
preserving, after reinstalling Windows, 15
size, 163
source file (WIN.SRC), 16, 77, 161
substituting screen fonts in, 335
Windows 3.1 changes, 116, 161-162
Windows installation changes, 77

WinOldApp file, 148, 290, 292, 423
WIN.SRC, 16, 77, 161
WINSTART.BAT file, 261
Workstations, network, 71, 75, 456
.WPD (Windows PostScript Definition) file, 335
Wyse computer, 12, 419

X

X.25 network communications protocol, defined, 456
XGA display driver, 139, 150, 380
XGAAIDOS.SYS, 406
XMM. *See* Extended memory managers (XMM)
XMS. *See* Extended Memory Specification
XMS memory. *See* Extended memory

Z

Zenith, troubleshooting, 12, 35