Index

2Wire, 172
3D desktops, 184–188

A
ABC, 127
Abt Electronics, 131
Acer, 141, 144
Acrobat, 204
ADS Technologies, 99
Advanced Encryption Standard, 44
AES encryption, 44
AIBO robot puppies, 201
alerts, 55–58
Alpine, 122
Amazon.com, 131
American Express Blue, 150–153
Anoto, 195, 196
AOL Instant Messenger, 50, 53, 54
Apple Computer, 116
applications, sharing, 63–64
Archos, 116
artificial intelligence, 189–192
Ascend, 5, 7
ASIMO robot, 201–204, 205
AT&T Broadband, 5, 7, 131
AT&T Wireless
e-Wallett service, 155–157
purchasing ring tones from, 24–25, 26
satellite phone service, 31
smartphones, 21
Attentional User Interface project, 191
audio files
file-size considerations, 115–116
ripping, 114–115
sharing, 105–108
augmented reality, 197–200
AUI project, 191
authentication
improved techniques for, 37–38
single sign-on, 32–33
three-factor, 39
Auto Mower, Husqvarna, 201, 205
B
backpack computers, 198
backups, data, 111
bar code scanners, 211
battery-operated cars, 220
Bayesian vision system, 191
BearShare, 105, 108
BellSouth, 7
Best Buy, 131
BestCom project, 192
biometrics, 37–39
bitrates, 114
Blackberry, 53, 54, 206
Blue card, American Express, 150–153
Bluetooth, 16, 170
Bombay Company, 34
broadcasters, HDTV, 127
burners, CD/DVD, 109–112
business cards, beaming to/from Palm devices, 16

C
cable modems, 4–7
camcorders, digital, 97–99
camera phones, 100–104
cameras, digital, 86–91
Canesta, 207, 209
Canon, 91, 99
capture, video/still-image, 98
car tags, Speedpass, 148–149
cars
and electronic-perception technology, 209
flying, 223–226
information/entertainment in, 73–76, 117–122
safety/security in, 68–69
CBS, 127
CCD sensors, 97
CD burners, 109–112
CD-ROM drives, 109–110
CDMA, 28
CDPD, 28
CDs, 110, 114–115
cell phones. See also mobile devices
combining PDAs and, 18–22
making international calls on, 27–30
personalizing ring tone for, 18–22
receiving alerts via, 55
shopping with, 154–157
U.S. vs. European standards for, 27–28
and voice-activated services, 46–49, 68
Cellular Digital Packet Data, 28
charge-coupled device sensors, 97
chat rooms, 51
Chatpen, 195
chess, 189
Cingular, 22
Circuit City, 131
Code Division Multiple Access, 28
collaboration services, online, 63–67
collaborative computing, 60
Columbia University, 197, 200
Communicator, Nokia, 51–53, 54
Compal, 21
Compaq
fingerprint reader, 38
iPAQ, 13, 17, 51
and tablet PC, 141
Web site, 40
computer gaming, 132–135, 208–209
computer vision, 190–192
Conference Center, WebEx, 67
Coolpix, Nikon, 86–89
Costco Online, 34
Cox Communications, 5
Creative Technology, 99, 116
D
D-Link Systems, 12
data backups, 111
data conferencing, 63
Dazzle, 99
DC06 robot, 201
Deep Blue, 189
Delphi Corporation, 74
desktop PC
new visual interfaces for, 184–188
receiving alerts via, 55
synchronizing Pocket PC with, 14–15
dialup Internet connections, alternatives to, 4–7
Digital 8 format, 96
digital camcorders, 97–99
digital cameras
drawbacks to, 91
features to look for in, 90–91
how they work, 87–89
manufacturers of, 91
popularity of, 86
transferring photos to PC from, 89–90
digital music, 113–116. See also MP3 files
digital paper, 193
digital pen-and-ink, 140, 193–196
digital photos
  - adding audio commentary to, 87
  - editing, 90
  - enlarging, 87–88
  - previewing, 87
  - printing, 87, 90
  - taking, 86–91
  - transferring to computer, 88–90
  - viewing, 92–95
digital television, 123–127
  - broadcasters, 127
  - features and benefits, 126–127
  - how it works, 125–126
  - manufacturers, 127
  - standards, 123–124
digital video
  - filming with, 96–99
  - formats, 96
  - recorders, 128–131
digital wallets, 154–157
  - Directions & Connections Plan, OnStar, 71
  - DIRECTV, 130–131
  - Dolby Digital sound, 124
  - Dr. Who, 182–183
  - drive-by-wire cars, 219–222
  - DSL, 4–7
  - DTV format, 123
  - DVD
    - burners, 109–112
    - formats, 110
    - in-car, 76
  - DVD-ROMs, 110
  - DVRs, 128–131
  - Dyson, 201, 205

e
  - E Ink Corporation, 193, 196
  - e-Wallet service, 155–157
  - Earthlink, 7
  - eBay, 34
  - eBooks, 15–16, 193
  - EGNOS, 79
  - eigenface, 38
  - electronic ink, 193–196
  - electronic-perception technology, 207, 208–209
  - electronic product codes, 211
  - email
    - contrasted with instant messaging, 53
    - printing attachments to, 136–137
    - sending photos via, 86
    - sending to fax machine, 137–138
  - encryption, 11–12, 37, 44
  - entertainment, in-car, 73–76, 117–122
  - ePCs, 211, 212
  - Epson, 91
  - Ethernet, 5, 11, 171
  - European Geostationary Navigation Overlay Service, 79
  - Expedia, 34
  - Expertcity, 41
  - ExxonMobil Speedpass, 145–149
  - facial recognition, 37–40
  - fax machine, sending email to, 137–138
  - file sharing, Internet, 105–109
  - Fingerprint Identification System database, 38
  - fingerprint readers, 37–40
  - FireWire, 98, 99, 111–112
  - FloorVac, Roomba Intelligent, 204
  - flying cars, 223–226
  - Fossil.com, 34
  - FOX, 127
  - free trials/downloads
    - GoToMyPC, 43, 45
    - Groove voice-over-IP product, 62
  - fuel cells, hydrogen, 219–221
  - Fujitsu, 141
  - Furby, 201
G
  - GALILEO, 78
  - game controllers, 208–209
  - gaming, online, 132–135
  - gasoline, using Speedpass to purchase, 145–149
  - Gates, Bill, 33
  - General Motors. See GM
  - General Packet Radio Service networks, 21
  - gestures, tablet PC, 142
  - Global Navigation Satellite System, 78
  - Global Positioning System. See GPS
  - Global System for Mobile Telecommunications, 28
  - Globalstar, 30
  - GLONAS, 78
  - GM
    - Hy-wire, 219–222
    - OnStar service, 68–76 (See also OnStar)
  - GNSS, 78
  - Good Guys, 131
  - GoToMyPC, 41–45
  - GPRS networks, 21
242 Index

GPS
and MARS project, 198
personal locators, 81–85
receivers, 77–78
satellite technology, 68, 69, 70, 78–79
grocery stores, self-checkout, 158–161
Groove Networks, 59–62, 107, 108
Groove Project Toolset Space, 60–61
GSM networks, 21, 28
Gymboree, 34

H
H-E-B, 158
HAL, 189, 191
handwriting recognition, 193, 206
Hawker Harrier, 224
HDTV, 123–127
broadcasters, 127
features and benefits, 126–127
formats, 123–124, 126
how it works, 125–126
manufacturers, 127
Hewlett-Packard, 13. See also HP
High-Definition Television. See HDTV
high-speed Internet connections, 4–7
High Tech Corporation, 19, 21
Hilton.com, 34
Home Alliance, Internet, 164–168
home networking
via electrical system, 173–176
via phone lines, 169–172
Home Phoneline Networking Alliance. See HomePNA
HomePlug Powerline Alliance, 173–176
HomePNA, 169–172, 174, 175, 176
Honda ASIMO robot, 201–204, 205
Hotmail, 34
HP
Digital Entertainment Center, 172
Jornada, 13, 17
routers, 172
HTC, 19, 21
Human Transporter, Segway, 215–218
Husqvarna Auto Mower, 201, 205
hydrogen fuel cells, 219–221

I
IBM, 39, 106
Identix, 38, 40
IEEE standards, 10
i.Link, 98
Image Transfer software, Nikon, 89
images, sharing, 105–108
iMow, Toro, 201, 204, 205
IMPP, 64
information, in-car, 73–76
instant messaging, 50–54, 64
Intel Philanthropic Peer-to-Peer Program, 107
intelligent messaging, 189–192
international phone calls, 27–31
Internet
accessing PC remotely via, 44
as “business operating system,” 32
connecting home network to, 176
downloading ring tones from, 23–24
high-speed connections, 4–7
holding meetings via, 63–64
instant messaging via, 50–54
monitoring home via, 164–168
sharing files via, 105–108
shopping via, 32–36, 150–153
and single sign-on authentication, 32–33
voice communications via, 51, 59–62
wireless connections, 8–12
Internet Home Alliance, 164–168
Internet Service Providers, 6, 7
inventory tracking, 210
Inxight, 185, 186–187, 188
IORAGEAR, 176
iPAQ, 13, 17, 51
Iridium, 30
iRobot, 201
ISDN, 4–7
ISPs, 6, 7
IXI Personal Mobile Gateway, 178–180

J
Jornada, HP, 13, 17
jukebox software, 113–116
JVC, 99
JXTA, 107

K
K-Mart, 158
Kasparov, Garry, 189
Kazaa, 105–106, 108
key tags, Speedpass, 148–149
Key Tronic, 38, 40
keyboards, virtual, 206–209
kids, tracking, 81–85
Kodak, 91
Kroger, 158
LANs, wireless, 8–12, 171
laptops
and face-recognition software, 39
installing wireless card in, 9–10
next-generation, 140–144
receiving alerts via, 55
lawn mowers, robotic, 201, 204
Lego, 204, 205
Lexmark, 91
Liberty Alliance Project, 32–33, 35, 36
LimeWire, 105, 108
LinkSys, 12, 172, 176
local area networks. See LANs
log-in, Web, 32–36
Logitech, 194–195, 196
LoJack, 81
Lucent, 5, 7
Luxury & Leisure Plan, OnStar, 71

Microsoft
eBook reader, 15–16
instant-messaging protocol, 50
.NET Alerts, 56–58
.NET Messenger, 54
.NET Passport, 32–36
Office Assistant, 190
Passport account, 16
Priorities system, 190–191, 192
smartphones, 19–20, 21
tablet PCs, 141–144
and Trustworthy Computing, 33
TV Photo Viewer, 92–95
UltimateTV service, 131

and wireless LANs, 12
Xbox Live, 132–135

Mindstorms robots, 204
Mini-DV format, 96, 98
Minolta, 91
Mirror Worlds Technologies, 185–186
MIT, 38
Mitsubishi, 22, 127
MMOG, 132
MMS, 101, 102
Mobile Augmented Reality System, 197–198
mobile devices. See also mobile phones
avoiding multiple wireless connections for, 177–180
printing from, 136–139
receiving alerts via, 55
talking to, 181–183
virtual keyboards for, 206–209
mobile gateways, personal, 177–180
mobile phones. See also mobile devices
combining PDAs and, 18–22
making international calls on, 27–30
personalizing ring tone for, 23–26
shopping with, 154–157
U.S. vs. European standards for, 27–28
and voice-activated services, 46–49, 68
MobileAria, 74, 76
modern manufacturers, 7
moderns, cable, 4–7
Moller Skycar, 223–226
Monster.com, 34
Motion Computing, 141, 144
Motion Picture Experts Group, 114
Motorola, 26
MP3 files
ripping, 114–115
sharing, 105
MP3 players, 113–116
contrasted with CD/tape players, 114
features and benefits of, 115–116
how they work, 114–115
in-car, 76, 108
manufacturers of, 114, 116
purpose of, 113–114
MPEG format, 114
MSN
broadband service, 7
Hotmail, 34
Messenger, 34, 50
Multimedia Messaging Service. See MMS
multiplayer gaming, 132–135
music
digital, 113–116 (See also MP3 files)
via satellite, 117–122
MusicMatch Jukebox, 114–115, 116
Napster, 105
NBC, 127
NCR FastLane, 159–161
.NET
Alerts service, 56–58
Messenger, 54
Passport, 32–36
NETGEAR, 12, 172, 176
networks
local area, 8–12, 171
using electrical system for, 173–176
using phone lines for, 169–172
virtual private, 16, 44
wireless, 8–12, 177 (See also wireless connection)
Nextel, 31
NextPage, 107, 108
Nikon
Browser software, 89
Coolpix, 86–89
Web site, 91
NikonNet, 91
Oshman’s, 34
Ozzi, Ray, 60
Palm Pilots, 13, 16, 17
Panasonic
digital camcorders, 99
and HDTV, 127
mobile phones, 26, 30
MP3 players, 116
routers, 172
PANs, 178–179
Paris Motor Show, 219
Passport Express Purchase logo, 35–36
passwords, Web site, 32, 37
PBS, 127
PC card fingerprinting systems, 40
pcAnywhere, 44
PCMCIA, 8, 9, 40
PCs
new visual interfaces for, 184–188
playing games on, 132–135
remote-control software for, 41–45
synchronizing Pocket PCs with desktop, 14–15
transferring digital photos to, 88–90
transferring video to, 98
video conferencing with, 63–67
PCS Vision Camera, 100–104
PCS Voice Command, 46–49
PDAs, 13–22
benefits of, 15–16
combining mobile phones and, 18–22
how they work, 13–15
manufacturers of, 13, 17
PDAs, 13–22 (continued)
  receiving alerts via, 55
  synchronizing with desktop PCs, 14–15
  talking to, 181
  virtual keyboards for, 206–209
PDC standard, 30
peer-to-peer computing, 105–108
Peer-to-Peer Trusted Library, 107
Peer-to-Peer Working Group, 107
.PEN format, 194–195
personal area networks, 178
Personal Calling, OnStar, 68–69, 71, 73–76
personal computers. See PCs
Personal Digital Assistants. See PDAs
Personal Digital Cellular standard, 30
personal identification numbers. See PINs
personal locators, GPS, 81–85
personal mobile gateways, 177–180
personal robots, 201–205
personal transporters, 215–218
pets, robotic, 201
phone lines, networking via, 169–172
phone number, worldwide, 27–31
phones
  camera, 100–104
  cell (See cell phones)
  satellite, 30
  world, 27–31
Photo Viewer, Microsoft TV, 92–95
photos. See also digital photos
  adding audio commentary to, 87
  emailing, 86
  printing, 87, 90, 91
  scanning, 86
Pinnacle Systems, 99
PINs, 150, 151
Pioneer, 122
PlaceWare, 67
playlists, 113
PlayStation, 132
PMGs, 177–180
Pocket Outlook, 14, 19–20
Pocket PCs, 13–17, 209
powerline networking, 173–176
PowerPoint, 95
printing
  email attachments, 136–137
  from mobile devices, 136–139
  photos, 87, 90, 91
PrintMe Networks, 137–139
Priorities system, Microsoft, 190–191, 192
Private Payments system, American Express,
  150–153
profiles, Web site, 32–36
Project Juxtapose, 107
.PVA format, 95
Q
QWERTY keyboard, 207
R
radio, satellite, 117–122
radio frequency identification. See RFID
technology
RadioShack, 34
RCX programming language, 204
read-only disks, 110
recorders, CD/DVD, 109–112
remote-control software, 41–45
ReplayTV, 131
Research In Motion. See RIM
residential gateways, 172
retail automation, 158
RFID technology, 145–149, 210–214
RIM, 53, 54, 206
ring tones, personalizing cell phone, 23–26
ripping, 114–115
Ritz Camera, 34
robotic pets, 201
robotic vacuum cleaners, 204
Robotics Invention System, 204
robots, personal, 201–205
Roomba Intelligent FloorVac, 201, 204, 205
routers, 172, 176
Roverbot, 204
Russian Global Navigation Satellite System, 78
S
Safe & Sound Plan, OnStar, 71
safety, in-car, 68–69
Samsung
  digital camera phones, 104
  and digital television, 124
  and HDTV, 127
  mobile phones, 22
  MP3 players, 116
  powerline equipment, 176
  and virtual keyboards, 207
satellite communications, 7, 78–79
satellite phones, 30
satellite radio, 73, 117–122
SATS, 226
scanners, bar code, 211
Scope application, Microsoft Research, 185
Scopeware, 185–186, 188
SD slot, 16
SDTV format, 123
Secure Digital slot, 16
security
biometric solutions to, 37–39
in-car, 68–69
Internet monitoring of home, 165–168
and Internet shopping, 150–153
and PDAs, 16
and single sign-on authentication, 33
and three-factor authentication, 39
and wireless LANs, 11
Segway HT, 215–218
self-checkout shopping, 158–161
Sendo Ltd., 22
Senseboard Technologies, 207
SETI program, 107
Sharp, 99, 104
shopping
securing Internet, 150–153
self-checkout, 158–161
single log-in/profile for online, 32–36
Short Message Service. See SMS protocol
Sign In logo, .NET Passport, 35–36
SIM card, 29
single sign-on service, 32–36
Sirius Satellite Radio, 73, 117, 122
SkyCar, Moller, 223–226
slide shows, 92
Small Aircraft Transportation System, 226
Smart Chip
Private Payments system, 151–153
Readers, 151, 152, 153
smart labels, 211–214
smartphones, 18–22, 181
SMS protocol, 23–24, 50–53
SONICblue, 131, 172
Sony
digital camcorders, 99
digital cameras, 91
Memory Stick, 98
robot puppies, 201
and satellite radios, 122
Sony Ericsson
digital camera phones, 104
digital pens, 194–195
ring-tone capable mobile phones, 26
Spectrum24, 12
speech recognition, 181–183, 193
Speedpass, 145–149
spoken-language understanding, 181–183
Sports Authority, 34
Sprint PCS
PCS Vision package, 46–49, 100–104
ring-tone Web sites, 26
SPV Smartphone, 19–20
spyware, 106
Star Tree, 185, 186–187
Starbucks, 34
stock alerts, 57
Stop & Shop Supermarkets, 146
Subscriber Identification Module card, 29
Sun Microsystems, 32, 107
Support Center, WebEx, 64, 66
Symbol Technologies, 12, 16
T
T-Mobile, 22, 30, 31
tablet PCs, 140–144, 181–182
Targus, 38, 40
Task Gallery, Microsoft Research, 185
TDMA, 28
technology. See also specific technologies
today’s, 1–3
tomorrow’s, 162–163
teleconferencing, 63
Telefonica Moviles, 22
telematics services, 73
telephones. See phones
television, 123–131
digital vs. analog, 123
high-definition, 123–127
playing games on, 132
recording live, 128–130
viewing photos on, 92–95
Telstra, 22
Texas Instruments, 146, 214
Thales Navigation, 77, 80
ThinFax, 137–138
ThinMail, 137–139
three-factor authentication, 39
Time Division Multiple Access, 28
TiVo, 130, 131
Toro iMow, 201, 204, 205
Toshiba
digital cameras, 91
fingerprint reader, 38
Pocket PC, 13–17
tablet PC, 141
Web site, 40
Training Center, WebEx, 64, 66
transporters, personal, 215–218
Trustworthy Computing, 33
Turtle Beach Audiotron, 172
TV. See television
TV Photo Viewer, Microsoft, 92–95
Tweeter, 131

**U**
Ultimate Electronics, 131
UltimateTV, 131
universal product codes, 211
UPC bar codes, 211
USB Evaluation Utility, 153
USB port, 86, 89, 111–112
usernames, Web site, 32, 37

**V**
vacuum cleaners, robotic, 201, 204
VCRs, 128–130
Verizon, 7, 22, 31
vertical-takeoff-and-landing aircraft, 224
VHS-C cassette tapes, 96, 98
VHS cassette tapes, 96, 98
video, digital, 96–99
video capture, 98
video conferencing, 63–67
video-editing software, 99
video files, sharing, 105–108
video recorders, 128–131
ViewSonic, 141
ViisageTechnology, 38, 40
Virtual Advisor, OnStar, 68–69, 71, 73–76
Virtual Devices, 207, 208, 209
virtual keyboards, 206–209
virtual private networks. See VPNs
virtual tours, 197–200
viruses, 106
vision, computer, 190–192
Vision Camera, Sprint VCS, 100–104
VKB, 207
Vodafone, 22
voice-activated services, 46–49, 68
voice communications, using Internet for, 51, 59–62
voice-recognition applications, 206–207
VPNs, 16, 44
VTOL aircraft, 224, 226

**W**
WAAS, 79
Wal-Mart, 158, 159
wallets, digital, 154–157
WANs, 178
.WAV format, 115
WCDMA, 28
Web, sharing files via, 105–108
Web sites, registering with, 32
WebEx, 63–67
WECA, 11
WEP setting, 11–12
Wherify Wireless personal locator, 81–85
Wi-Fi, 11, 170
Wide Area Augmentation System, 79
wide area networks, 178
Wideband CDMA, 28
WIN, 63
Windows CE, 14, 20
Windows Journal, 142
WinMX, 105, 108
Wired Equivalent Privacy setting, 11–12
wireless access points, 8–9, 11–12
wireless cards, 8–12
wireless carriers, 104
wireless commerce applications, 210
wireless communication standards, 27–28
wireless connection
and alerts/notifications, 55
and instant messaging, 50–54
and PDAs, 16
sending faxes via, 137–138
using many devices with one, 177–180
Wireless Ethernet Compatibility Alliance, 11
wireless LANs, 8–12, 171
world phones, 27–31
WorldBoard Forum, 198, 200
WorldConnect Service, AT&T Wireless, 31
writable disks, 110–111

**X**
Xbox Live, Microsoft, 132–135
XM Satellite Radio, 117–122
channel listings, 118
contact information, 122
features and benefits, 120–121
how it works, 119–120
retail outlets, 122
XML, 60, 64

**Y**
Yahoo! Messenger, 50, 53, 54
YourMobile, 23, 24, 26

**Z**
Zenith, 127