

Index

• Numerics •

1-to-2 splitter jack, 39
2-jack modular adapter, 39
2.4-GHz digital spread-spectrum phones,
171
3D home theater, 378–380
3G cellular radios, 213
3G mobile data services, 244
5.8-GHz digital spread-spectrum phones,
171
10Base2, 260
10BaseT, 260
46-MHz phones, 170
49-MHz phones, 170
100BaseT, 260
802.11a standard, 275–276, 277
802.11b standard, 275, 277
802.11g standard, 276, 277, 278
802.11n standard, 276, 277, 278–279
802.16d-based service, 243
802.16e-based service, 243
911 requirements for VoIP phone service,
186
900-MHz analog phones, 170
900-MHz digital phones, 170
900-MHz digital spread-spectrum phones,
170–171
1000BaseT, 261
1080p, 77

• A •

AB Electrolux, 374
A-BUS systems, 133, 156–157
access point, 279–280
Acoustic Research, 163
active fiber-optic systems, 233
ADSL, 228
ADSL 2/2+, 228

Advanced Television Standards Committee
(ATSC) signals, 75–79
aesthetics of media center, 31
air mouse, 216
alarm interfaces, 335
alarm systems, 41, 355–356
Alarmnet, 320
all-in-one cables, 40
all-in-one packaged solutions, 371–372
Amimom, 126
amplification, 105
amplifiers, 137–139
anaglyph encoding, 379
analog cable, 87
analog inputs, 357
analog modems
external modems, 226
features of, 226–227
handshake, 226
internal modems, 226
Internet call waiting, 225
overview, 224–225
PC Card modems, 226
quick connect, 226
speakerphones, 227
V.90 56-Kbps modems, 226
V.92 56-Kbps modems, 225–226
V.PCM, 226
voice mail, 227
analog modulators, 106
analog telephone adapter (ATA), 60,
187–188
analog TV signals, 74
animal repeller, 303
answering machines, 178–179
antennas, 86
AOL, 231
Apple TV, 84
appliance modules, 331
appliance usage, controlling, 61

- applications
 - in home network, 24
 - not supported by structured cabling systems, 41
 - architects used for planning your home network, 66
 - aspect ratio, 77
 - ATA (analog telephone adapter), 60, 187–188
 - ATSC (Advanced Television Standards Committee) signals, 75–79
 - AT&T, 230
 - audio connections
 - A-BUS systems, 133
 - banana plugs, 140
 - bare wires, 140
 - digital audio connections, 132
 - in-wall speaker cabling, 134
 - line-level interconnects, 134
 - line-level signals, 132, 134
 - overview, 131–133
 - patch cabling, 135
 - pin connectors, 140
 - spade connectors, 140
 - speaker-level signals, 132, 134–135
 - audio devices to be networked, 17
 - audio interface for security system, 321
 - audio output, transmission of, 107
 - audio speaker cabling, 34
 - audio surveillance, 309–310
 - audio systems. *See also* wiring audio systems
 - amplifiers, 137–139
 - audio connections, 131–135
 - audio connectors, 139–141
 - banana plugs, 140
 - banana-plug receptacles, 141
 - bare wires, 140
 - CAT-5e/6 cabling, 142
 - components of, 92–93
 - computer network, combining with, 142
 - control amplifier, 92
 - control systems, 135–136
 - digital music, 133
 - docking system, 133
 - five-way binding posts, 141
 - integrated amplifier, 92
 - in-wall speakers, 143
 - line-level signal, 92
 - loudspeakers, 92–93
 - MP3 players, 133
 - multichannel audio networks, 131
 - multizone audio system, 93, 130
 - overview, 92, 129
 - pin connectors, 140
 - power amplifier, 92
 - preamplifier, 92
 - single-zone audio system, 129–130
 - source component, 92
 - spade connectors, 140
 - speaker cable, 139
 - speaker outlets, 141–142
 - speakers, 137–139
 - spring-loaded clips, 141
 - video systems, 152
 - wireless audio systems, 154, 158–163
 - audio transducers, 380
 - AudioRequest, 133
 - audio/video consultants used for planning your home network, 67
 - Audiovox/Terk, 163
 - automated reminders, 53
 - automatic pool covers, 57
 - automatic routing of phone calls to answering machine without ringing first, 49
 - automation sensors, 354
 - autosensing, 267
 - A/V interconnect video cables
 - component video connector, 97
 - composite video connector, 97
 - DVI (Digital Video Interconnect) interface, 98
 - FireWire interface, 98
 - HDMI (High-Definition Multimedia Interface) interface, 98–99
 - IEEE 1394 interface, 98
 - overview, 96
 - S-video connector, 97
 - away mode, 51
- B •**
- balanced line-level cable, 148
 - Baldwin Piano, 377
 - baluns, 155–156
 - banana plugs, 140

- banana-plug receptacles, 141
- bare wires, 140
- base station, 170, 279–280
- baseband distribution, 96
- basement
 - as location of central wiring closet, 29
 - wiring a security system, 316
- bedroom
 - as location for network connections, 250
 - requirements for wiring a phone system, 194
- Belkin, 256
- BellSouth, 230, 320
- bidirectional video distribution panel, 112
- black box option for modulators, 107
- Bliley, Tom (Senate Commerce Committee), 47
- Bluetooth, 191, 213, 287–289, 375
- boosting powerline signals, 348–349
- break sensor, 301
- bridges, 271–272, 346–347
- bridging mode, 270
- broadband interface for security system, 321–322
- broadband modem, 269–270
- broadband video-distribution system, 99–100
- broadcast television, 85–86
- budgetary considerations
 - coaxial distribution panel costs, 65
 - data network costs, 65
 - equipment racks, 46
 - general costs of planning your home network, 65–66
 - home network, 20–21
 - home theater costs, 65
 - home-automation system costs, 66
 - home-security system costs, 66
 - KSU/hybrid phone systems, 175
 - KSU-less phone systems, 176
 - overview, 65
 - phone system costs, 65
 - routers, 256
 - satellite Internet service, 240
 - switches, 266
- Buffalo Technology, 210, 211, 256
- built-in phone directories, 169
- built-in wireless NIC, 280
- C**
 - C Band satellite system, 91–92
 - cable modems
 - advantages of, 235
 - DOCSIS (Data Over Cable Service Interface Specification), 237–238
 - overview, 234–236
 - telco-return modem, 236
 - two-way modems, 237
 - cable phone service, 182–185
 - cable television
 - analog cable, 87
 - CableCARD system, 88
 - cable-ready television set, 87
 - converter, 87
 - digital cable, 87–88
 - digital cable-ready television, 88
 - digital set-top box, 88
 - head-end site, 86
 - overview, 86–87
 - QAM (quadrature amplitude modulation), 87–88
 - set-top box, 87
 - CableCARD system, 88
 - cable-ready television set, 87
 - cables. *See also* structured cabling systems
 - audio speaker cabling, 34
 - Category 1 cable, 33
 - Category 2 cable, 33
 - Category 3 cable, 33
 - Category 4 cable, 33
 - Category 5 cable, 33
 - Category 5e cable, 33–34
 - Category 6 cable, 33–34
 - Category 7 cable, 34
 - coaxial cabling, 34
 - features, extra, 139
 - gauge, 139
 - jacks, 38–39
 - modular wall outlets, 39–40
 - NID (network interface device), 35
 - overview, 32–33
 - patch cables, 35, 36
 - patch panels, 35–37
 - plugs, 38–39
 - quad cables, 32–33
 - security cabling, 34

- cables (*continued*)
 - SID (service interface device), 35
 - speaker cable, 139
 - twisted-pair cabling, 32–33
 - UL listing, 139
 - wired LAN, 260, 263–268
- Caller ID displays, 169
- capture technologies, 208
- carbon monoxide detector, 301
- CardBus, 266–267, 280
- Carrier-Sense Multiple Access with Collision Detection (CSMA/CD), 261
- cars
 - enhancements to, 374–375
 - future options for, 58
 - remote-control systems in, 352
- CAT-5e/6 cabling
 - IR-repeater networks, 362–363
 - using equipment not rated for, 369–370
 - a video network, 122–124
- CAT-5e/6 cabling for audio systems
 - A-BUS systems, 156–157
 - baluns, 155–156
 - Control4, 157–158
 - hubs, 157
 - overview, 154–155
 - power modules, 157
 - proprietary solutions, 157–158
 - ZON system, 158
- CAT-5e/6 LANs, 259–263
- Category 1 cable, 33
- Category 2 cable, 33
- Category 3 cable, 33
- Category 4 cable, 33
- Category 5 cable, 33
- Category 5e cable, 33–34
- Category 6 cable, 33–34
- Category 7 cable, 34
- CCTV (closed circuit television), 308
- CD servers, 376
- CEDIA (Custom Electronics Design & Installation Association), 68–69
- cellular phones
 - docking stations, 191
 - home area, 190
 - mobile switching center (MSC), 190
 - overview, 189–192
 - roaming area, 190
 - technology for, understanding, 190
 - VoIP on, 192
- Cellular Telecommunications & Internet Association (CTIA), 189, 190
- central controller, combining sensors with a, 356–357
- central distribution panel, wiring a video network to, 111
- central hubs, 31
- central impedance-matching transformer system, 138
- central node, 264
- central wiring closet
 - advantages of, 26–27
 - basement as location of, 29
 - contents of, 27–28
 - easy access as advantage of, 27
 - garage as location of, 29
 - hidden hardware as advantage of, 27
 - hidden wires as advantage of, 26
 - laundry room as location of, 29
 - location of, 28–29
 - multiple wiring closets, 27
 - overview, 26–27
 - single point of connection as advantage of, 27
 - utility room as location of, 29
 - weather-protected outdoor closet as location of, 29
- centrally amplified audio systems, 146–147
- centrally distributed star configuration, 147–148
- CFL (compact fluorescent lights), 331
- Channel Vision, 114
- ChannelPlus, 42, 114, 359
- Charter Communications, 235
- circuit-switched cable telephone service, 184
- Clark Synthesis, 380
- closed-circuit television (CCTV), 308
- coax connectors, 102
- coaxial cables
 - for digital audio connections, 132
 - overview, 34, 101–102
 - used with wired IR-repeater networks, 358–359
- coaxial distribution panel costs, 65
- coaxial surge protectors, 122

- coaxial video networks
 - coax connectors, 102
 - coaxial cable, 101–102
 - components of, 102–108
 - distribution panel, 104–105
 - F connectors, 102
 - modulators, 105–108
 - outlets, 103
 - overview, 100
 - RG-59 coax, 101
 - RG6 coax, 101
 - unrated 75-ohm coax, 101
- Comcast, 235
- communication costs, saving money on, 19
- community wireless LANs, 283
- compact fluorescent lights (CFL), 331
- component video connector, 97
- composite video connector, 97
- computer networks
 - adding computers, 352–353
 - combining with audio systems, 142
 - desktop computers, 207–208
 - digital still cameras, 217
 - digital video cameras, 218
 - docking stations, 218
 - home servers, 209–211
 - home-theater PCs, 207–208
 - keyboards, 215–216
 - laptop computers, 207–208
 - Macintoshes, 206–207
 - media-center PCs, 207–208
 - mice, 216
 - modems, 217
 - monitors, 214–215
 - next-generation computers, 219–222
 - NIC (network interface card), 208
 - overview, 205–206
 - PDA's, 211–213
 - peripheral devices, 216–218
 - printers, 217
 - scanners, 217
 - tablet computers, 208
 - telephone management devices, 218
 - traditional PCs, 206–207
 - video phone, using a PC as, 217
 - videoconferencing, 217
 - Windows-based PCs, 206–207
 - Wintel machines, 206–207
- computers
 - to be networked, 17
 - connected devices for videoconferencing, 183
 - options for video surveillance, 308
 - PC-powered TV, 219
 - peripherals, 281
 - as a phone, 188
 - as remote control in home network, 53
- computer-systems contractors used for
 - planning your home network, 67
- concerts, giving, 377
- conduits, 43, 372
- conference calling, 169
- conferencing system, 48
- contact sensors, 301, 302–303
- context-based TV Web browsing, 219
- contractors, working with, 66–69
- Control4, 61, 131, 147, 157–158, 340
- control amplifier, 92
- control networks for entertainment systems
 - overview, 341
 - RF remotes, 342
 - wired IR repeater system, 343–344
- control panel, 300
- control systems
 - multiroom integrated amplifiers, 135–136
 - multizone control systems, 136
 - overview, 135
 - single-distribution amplifier, 136
 - single-zone control systems, 135–136
- controller devices
 - controllers, 333–338
 - modules, 329–332
 - overview, 326, 329
 - switches, 332–333
- controlling your home-automation system
 - alarm with built-in automation
 - functionality, using, 355–356
 - automation sensors, 354
 - central controller, combining sensors
 - with a, 356–357
 - computer, adding, 352–353
 - interactive, making your home, 353–357
 - macros, 352–353
 - overview, 351
 - with sensors, 353–357

- controlling your home-automation system (*continued*)
 - simple network, starting with a, 351–352
 - through Internet connection, 353
 - voice control, 355
 - converter, 87
 - cooling systems, 45, 62
 - cordless handset, 170
 - cordless phones
 - base station, 170
 - cordless handset, 170
 - DECT phones, 171
 - disadvantages of, 172
 - expandable cordless phones, 171
 - 5.8-GHz digital spread-spectrum phones, 171
 - 46-MHz phones, 170
 - 49-MHz phones, 170
 - headsets, 172
 - multiline, multistation cordless phones, 171–172
 - multimode wireless phones, 172
 - 900-MHz analog phones, 170
 - 900-MHz digital phones, 170
 - 900-MHz digital spread-spectrum phones, 170–171
 - overview, 170
 - quality of, 172
 - security with, 172
 - 2.4-GHz digital spread-spectrum phones, 171
 - cordless VoIP, 201–202
 - costs. *See* budgetary considerations
 - Covad, 230
 - Cox Communications, 235
 - creation of home automation system
 - bridges, 346–347
 - ground wire, 350
 - hot wire, 350
 - load wire, 350
 - neutral wire, 350
 - noise blocks, 347–348
 - overview, 346
 - powerline signals, 346–349
 - signal coupler, 346–347
 - surge protectors, 349
 - switches, wiring, 350
 - creativity, use of, 44
 - Crestron, 131, 340
 - cross-connecting, 35
 - CRT monitors, 214
 - CSMA/CD (Carrier-Sense Multiple Access with Collision Detection), 261
 - CTIA (Cellular Telecommunications & Internet Association), 189, 190
 - Custom Electronics Design & Installation Association (CEDIA), 68–69
 - customized wall outlet plates, 40
- D •
- daisy-chain architecture, 196
 - data network costs, 65
 - Data Over Cable Service Interface Specification (DOCSIS), 237–238
 - D-Box, 380–381
 - DBS. *See* direct broadcast satellite television
 - DECT (Digital Enhanced Cordless Telecommunications) phones, 171, 202
 - dedicated circuits, running, 44
 - dedicated IR control wires, using, 360–362
 - demarcation point, 197
 - derived channels, 317
 - design tips for home network
 - conduits, running, 43
 - creativity, use of, 44
 - dedicated circuits, running, 44
 - electrical outlets, need for, 44
 - expansion, leaving room for, 43
 - individual options, considering, 44
 - needs, anticipating your, 42
 - overbuilding, 42–43
 - overview, 42–44
 - reading information on home networks, 42
 - desktop computers, 207–208
 - detection, 299
 - device controllers
 - alarm interfaces, 335
 - Internet, 338
 - keyboard, 338
 - minicontrollers, 334
 - overview, 333–334
 - PC interfaces, 337–338
 - photo sensors, 335
 - PIR controllers, 335

- programmable controllers, 334
- sensor controllers, 335
- stand-alone controllers, 334
- tabletop controllers, 334
- telephone interfaces, 334–335, 338
- timers, 334
- touch panels, 336–337
- voice control, 338
- wireless controllers, 336
- digital audio connections, 132
- digital cable
 - overview, 87–88
 - wiring a video network, 112
- digital cable-ready television, 88
- Digital Enhanced Cordless Telecommunications (DECT) phones, 171
- digital inputs, 357
- digital light processor (DLP), 81–82
- digital media adapters (DMAs), 162–163, 281
- digital modulators, 106
- digital music, 133
- Digital Rights Management (DRM), 99
- Digital Satellite System. *See* DSS
- digital set-top box, 88
- digital still cameras, 217
- digital subscriber line. *See* DSL
- digital TV signals, 75–79
- digital video cameras, 218
- Digital Video Interconnect (DVI) interface, 98
- dining room requirements for wiring a phone system, 194
- diplexers, 119, 121
- direct broadcast satellite (DBS) television
 - advantages of, 89
 - DIRECTV, 90–91
 - disadvantages of, 89–90
 - EchoStar, 90–91
 - overview, 89–91
- direct-view televisions, 80
- distributed audio systems, 146–147
- distribution amplifier, 151–152
- distribution hub, 35
- distribution panel
 - amplification, 105
 - connecting wires at, 113–115
 - inputs, 104
 - modulators, 107
 - outputs, 105
 - overview, 104–105
- D-Link, 183, 256
- DLP (digital light processor), 81–82
- DMAs (digital media adapters), 162–163, 281
- docking stations, 191, 218
- docking system, 133
- DOCSIS 1.0, 238
- DOCSIS 2.0, 238
- DOCSIS 3.0, 238
- DOCSIS (Data Over Cable Service Interface Specification), 237–238
- doctors monitoring patients at home, 54
- Doorcom system, 48
- DRM (Digital Rights Management), 99
- drop, 197
- DSL (digital subscriber line)
 - ADSL, 228
 - ADSL 2/2+, 228
 - continuous connectivity with, 232
 - external DSL modem, 229
 - internal DSL modem, 230
 - ISPs, 230–231
 - low-pass filters, 231
 - noise, filtering, 231
 - overview, 227–229
 - providers, 230
 - types of, 228
 - VDSL, 228–229
 - VDSL 2, 228–229
- DSS (Digital Satellite System)
 - coaxial surge protectors, 122
 - diplexers, 119, 121
 - DSS receivers used as source devices, 120
 - hybrid satellite/video network, 119–120
 - inline amplifiers, 121
 - integrated multiswitches, 119
 - LNB (low noise block), 118
 - multiswitch, 118
 - one-way satellite network, 118–119
 - overview, 118
 - phone lines, using, 121
 - RG6 patch cable used to connect satellite receiver, 120
 - separate video network for satellite, building a, 119–120

DSS (Digital Satellite System) (*continued*)
 tips for, 121–122
 voltage switch, 118
 wireless phone jacks, 121
 dual-mode phones, 48–49
 DVD player, 85
 DVI (Digital Video Interconnect)
 interface, 98
 dynamic DNS service, 232
 dynamic IP address, 232

● E ●

EarthLink, 231
 EchoStar, 90–91
 802.11a standard, 275–276, 277
 802.11b standard, 275, 277
 802.11g standard, 276, 277, 278
 802.11n standard, 276, 277, 278–279
 802.16d-based service, 243
 802.16e-based service, 243
 eight-position jack/plugs, 38
 electrical contractors used for planning
 your home network, 67
 electrical outlets, need for, 44
 electronics, saving money on, 19
 Elk Products, 42
 emergency response, 299
 emitter-connecting blocks, 344
 emitters, 343
 entertainment systems. *See also* TV and
 video systems
 audio systems, 92–93
 existing devices, using, 50
 intercom systems, 50, 93–94
 locations for audio and video signals,
 multiple, 49–50
 options for, 49–50
 overview, 341–344
 TV connections from outside world, 85–92
 video-monitoring capability, 50
 EOS Wireless, 161
 equipment racks
 cooling system for, 45
 cost of, 46
 overview, 44–46
 power bars, connecting to, 45
 requirements of, 45

rotating ability of, 45
 sliding ability of, 45
 Escient, 133
 Ethernet
 100BaseT, 260
 1000BaseT, 261
 overview, 260–261
 10Base2, 260
 10BaseT, 260
 existing devices, using, 50
 expandable cordless phones, 171
 expansion, leaving room for, 43
 ExpressCard, 267
 extenders, 286
 external DSL modem, 229
 external modems, 226
 external NIC cards, 267
 external ringers/lights, 179–180
 external video connection, 110

● F ●

F connectors, 102
 family room requirements for wiring a
 phone system, 194
 fax machines, 177–178
 feed, 197
 fiber-optic cables, 32, 132
 fiber-optic systems, 232–234
 FiOS, 234
 fire-alarm cable, 314
 FireBall Digital Music Manager, 133
 firewalls, 256
 FireWire interface, 98
 5.8-GHz digital spread-spectrum phones,
 171
 five-way binding posts, 141
 fixed IP address, 232
 fixed mobile convergence (FMC), 187
 fixed phone service, choosing, 180–188
 fixed systems, 242
 flat-screen televisions
 LCD TVs, 83
 overview, 82–84
 plasma TVs, 83
 flexibility and comfort with your
 technology as reason for home
 network, 19

46-MHz phones, 170
 49-MHz phones, 170
 four-position jack/plugs, 38
 free channel space, 108
 FreeNAS, 211
 freeze sensor, 301
 frequency agile, need for modulators to be, 105–106
 Friendly Robotics, 374
 front-projection models, 80–81
 full-duplex phones, 169
 future options for home network
 car options, 58
 home-control systems, 61–62
 kitchen options, 58
 microwave, surfing Internet on your, 57
 phone calls made on computer, 59–60
 refrigerator, checking your e-mail on your, 57
 sprinkler system, automating, 58
 television options, 59
 voice recognition, 58
 future toys
 audio transducers, 380
 cars, enhancements to, 374–375
 CD servers, 376
 concerts, giving, 377
 LEGO MINDSTORMS kits, 381
 motion simulator systems, 380–381
 robotic lawnmowers, 374
 robotic servants, 373–374
 robotic vacuum cleaners, 374
 telescopes, 378
 3D home theater, 378–380
 video servers, 377
 weightloss on the Internet, 375–376

• G •

gaming consoles, 220–221, 281
 garage as location of central wiring closet, 29
 gas detector, 301
 gas usage, controlling, 51
 gate alarms for pools, 56
 gateway, 197
 gauge, 139
 GE Smart, 42

Gefen, 124
 Gekko, 143
 general contractor/builders used for planning your home network, 67
 general costs of planning your home network, 65–66
 Gizmo, 186
 Global Positioning System (GPS), 53
 Gookin, Dan (*PCs For Dummies*), 218
 ground wire, 350
 Guitammer Company Inc., 380
 Gyration, 216

• H •

HAI, 353
 HAL2000, 355
 half-duplex phones, 169
 Hamilton, Gene and Katie (*Home Improvement For Dummies*), 350
 handheld computer devices, 271
 handshake, 226
 handwriting recognition, 208
 hardwired IR network, 360–363
 hardwired security systems, 310
 Harman/Kardon, 133
 Hawking, 256
 head-end site, 86
 headsets, 172
 heat detector, 301
 heaters, controlling, 51
 heating systems, 62
 heating/cooling contractors used for planning your home network, 67
 hidden hardware as advantage of central wiring closet, 27
 hidden wires as advantage of central wiring closet, 26
 High-Definition Multimedia Interface (HDMI) interface, 98–99
 high-definition television (HDTV), 76–79, 113
 hiring someone to install security systems, 311–312
 Home Automated Living Company, 58
 home automation system
 appliance usage, controlling, 61
 controller device, 326, 329–333

- home automation system (*continued*)
 - cooling systems, 62
 - costs, 66
 - device controllers, 326, 333–338
 - entertainment systems, 341–344
 - future options for home network, 61–62
 - heating systems, 62
 - lighting-control systems, 338–341
 - overview, 61–62, 325–326
 - pager alert when back door is opened, 62
 - protocols, 326–329
 - video monitor for front door, 62
 - wiring infrastructure, 326
 - home expenses, saving money on, 19
 - Home Improvement For Dummies* (Hamilton and Hamilton), 350
 - home network
 - applications in, 24
 - costs of having, 20–21
 - items list for, 16–17
 - logical configuration of, 24
 - overview, 23–25
 - physical configuration of, 24
 - physical connections, 25
 - reasons to have a, 18–20
 - types of networks included in, 23–24
 - Home Networking For Dummies* (Ivens), 258, 268
 - home office
 - as location for network connections, 251
 - requirements for wiring a phone system, 195
 - Home Phonenumber Networking Association (HPNA), 127, 289
 - home servers
 - Media Center servers, 210
 - NAS (network attached storage), 209–210, 211
 - overview, 18, 209
 - RAID (redundant array of inexpensive drives), 210
 - Windows Home Server, 210
 - home theater
 - costs, 65
 - as location for network connections, 251
 - requirements for wiring a phone system, 195
 - home-automation kits for pools, 56
 - home-control interface for security systems, 320
 - HomeLink, 352
 - home-network revolution, 16
 - home-network routers. *See* routers
 - HomePlug, 290–294
 - HomePlug 1.0, 291
 - HomePlug AV, 291
 - HomePlug Turbo, 291
 - HomePNA 1.0, 289
 - HomePNA 2.0, 289
 - HomePNA 3.0, 289
 - home-security system costs, 66
 - home-systems integrators used for
 - planning your home network, 67
 - home-theater PCs, 207–208
 - HomeVoice, 355
 - Honeywell FutureSmart, 42
 - hot wire, 350
 - household items to be networked, 16
 - HPNA (Home Phonenumber Networking Alliance), 127, 289
 - Hubbel netSELECT, 42
 - hubs, 157, 261–262, 264–265
 - HughesNet, 240
 - Husqvarna, 374
 - hybrid architecture for phone system, 198–199
 - hybrid audio systems, 147
 - hybrid satellite/video network, 119–120
 - HyperText Markup Language (HTML), 255
- 1 ●
- Icon Fitness, 375–376
 - IEEE 1394 interface, 98
 - IEEE standards, 274–278
 - impedance
 - matching, 138–139
 - overview, 137
 - indoor antennas, 86
 - industry standard architecture (ISA) bus, 266
 - industry standards for LAN (local area network), 249
 - Infinuvo, 374
 - Infrared Data Association (IrDA), 213
 - infrared emitters, 343

- infrared networking
 - Bluetooth compared, 213
 - disadvantages of, 213
 - handheld computer devices, 271
 - notebook computers, 271
 - overview, 212–213
 - PDA's, 212–213, 271
 - printers, 271
 - Wi-Fi compared, 213
 - infrared sensors, 343
 - in-home video devices, 85
 - inline amplifiers, 121
 - inline coupler, 39
 - in-pool movement alarms, 56
 - inputs, 104
 - in-room video connections, 115–116
 - installation of satellite Internet service, 240
 - INSTEON, 327–328
 - integrated amplifier, 92, 152
 - integrated multiswitches, 119
 - integrated services digital network (ISDN), 228
 - integration of LAN with no-new-wires networks, 270–272
 - Intelix, 156
 - interactive, making your home, 353–357
 - intercom cable, 314
 - intercom systems
 - entertainment system options for home network, 50
 - overview, 93–94
 - phone options for home network, 48
 - wired systems, 93
 - wireless systems, 93
 - interior designers used for planning your home network, 68
 - interlaced scan display, 76
 - internal DSL modem, 230
 - internal modems, 226
 - internal video connection, 110
 - Internet
 - access from anywhere in your home as reason for home network, 18
 - access with LAN (local area network), 253–258
 - analog modem connection, 224–227
 - cable modem connection, 234–238
 - call waiting, 225
 - connection controlling your home automation system, 353
 - device controllers, 338
 - DSL (digital subscriber line) connection, 227–232
 - fiber-optic system connection, 232–234
 - IP address connection, 232
 - ISDN (integrated services digital network) connection, 228
 - overview, 223–224
 - phone calls through the Internet, 52
 - power companies providing Internet connection, 245–246
 - satellite Internet service, 238–241
 - simultaneous Internet access, 51–52
 - wireless Internet connection, 241–244
 - Internet protocol (IP) networking, 24
 - Internet-controlled electric usage, 339
 - in-wall iPod docks, 161
 - in-wall speaker cabling, 134
 - in-wall speakers, 143
 - ionization detector, 301
 - IP address
 - assigning, 284
 - in LANs, 253–254
 - overview, 232
 - iPod docks, 161
 - iPods as center of audio system, 161
 - IPTV (Internet Protocol TV), 79
 - IR keypad controllers, 344
 - IrDA (Infrared Data Association), 213
 - iRobot, 374
 - ISA (industry standard architecture) bus, 266
 - ISDN (integrated services digital network), 228
 - ISPs, 230–231
 - items list for home network, 16–17
 - Ivens, Kathy (*Home Networking For Dummies*), 258, 268
- 1 •
- jacks
 - configuration of, 38
 - 1-to-2 splitter jack, 39
 - overview, 38–39
 - RJ-31X jack, 38

jacks (*continued*)

- 2-jack modular adapter, 39
- wireless jacks, 202

Jandy, 56

Japan, high-tech toilets in, 252

• K •

key phone systems

- KSU/hybrid phone systems, 174–176
- KSU-less phone systems, 176–177
- overview, 173–174

key switches, 300

key system, 173

key system unit (KSU), 173

keyboards, 215–216, 338

keypads, 300–301

kitchen

- future options for home network, 58
- as location for network connections, 252
- requirements for wiring a phone system, 194

kitchen designers used for planning your home network, 68

KSU/hybrid phone systems

- advantages of, 174–175
- cost of, 175
- disadvantages of, 175
- KX-TA824 system, 175
- overview, 174–176
- wiring a phone system, 199–200

KSU-less phone systems

- advantages of, 176
- cost of, 176
- disadvantages of, 176–177
- overview, 176–177
- wiring a phone system, 200

KX-TA824 system, 175

Kyodo, 374

• L •

lamp modules, 330–331

LAN (local area network)

- bedroom as location for network connections, 250
- home office as location for network connections, 251

home theater as location for network connections, 251

industry standards for, 249

Internet access, 253–258

IP address, 253–254

kitchen as location for network connections, 252

living room as location for network connections, 250

locations for network connections, 250–253

media center as location for network connections, 251

overview, 247–249

proxy server, 257–258

routers, 253–257

routing packets using your PC, 257–258

speed of, 249

wired LANs, 248–249

wireless LANs, 248–249

LAN-capable peripheral, 218

landline phone service, 180–188

landline replacement services, 186

laptop computers, 207–208

laserdisc player, 85

latency, 239

laundry room as location of central wiring closet, 29

LCD displays, 169

LCD monitors, 214

LCD technology, 82

LCD TVs, 83

LCoS (liquid crystal on silicon), 82

LEGO MINDSTORMS kits, 381

Leviton, 42, 133, 339–341

lighting consultants used for planning your home network, 68

lighting-control systems, 338–341

lights, automating, 53–54

Lightstat, Inc., 339

line-level interconnects, 134

line-level signals, 92, 132, 134

lines of resolution, 76

Lingo, 186

Linksys, 256

Linux, 207

living in your smart home after work, 14–15

- off-hours mode, 15
- overview, 12
- starting your day, 12–13
- a virtual day of, 12–15
- work day, 13–14
- living room
 - as location for network connections, 250
 - requirements for wiring a phone system, 194
- LNB (low noise block), 118
- load wire, 350
- local area network. *See* LAN
- localized hubs, 31
- logical configuration of home network, 24
- Logitech, 215
- LonWorks, 328
- loop-through capability, 107
- loudspeakers, 92–93
- Lowe, Doug (*Networking For Dummies*), 268
- low-pass filters, 231
- low-voltage lines and high-voltage lines,
 - not keeping distance between, 369
- low-voltage modules, 331–332, 354

• M •

- Macintoshes, 206–207
- macros, 336, 352–353
- magnetic sensor, 301
- manuals, not reading, 368
- Meade ETX, 378
- media center
 - aesthetics of, 31
 - contents of, 30
 - as location for network connections, 251
 - overview, 29–30
 - setting up, 31
- Media Center Edition software, 84
- Media Center servers, 210
- media servers, 84
- media-center PCs, 207–208
- MediaFlex system, 126
- mesh networking, 242, 328
- metro Wi-Fi networks, 243
- MFD (multifunctional device), 177–178
- mice, 216
- microprojection televisions, 81–82
- Microsoft, 220

- Microsoft MSN TV 2 Internet & Media Player, 221
- microwave, surfing Internet on your, 57
- Middle Atlantic Products, Inc., 46
- minicontrollers, 334
- mobile switching center (MSC), 190
- MoCA (multimedia over coax), 290
- modems, 217
- modular wall outlets, 39–40
- modulators
 - analog modulators, 106
 - audio output, transmission of, 107
 - black box option, 107
 - digital modulators, 106
 - distribution panel option, 107
 - free channel space, 108
 - frequency agile, need for modulators to be, 105–106
 - loop-through capability, 107
 - multichannel unit, 106–107
 - overview, 105–106
 - signal amplifier, installing, 107–108
 - signal interference, awareness of, 108
 - single video source unit, 106
 - skip channels between modulated channels, 108
 - wall outlet size option, 107
- modules
 - appliance modules, 331
 - lamp modules, 330–331
 - low-voltage modules, 331–332, 354
 - overview, 329–330
 - receptacles, 332
 - universal modules, 331–332
- moisture sensor, 302
- money savings as reason for home network, 19
- money savings with home network
 - away mode, defining an, 51
 - gas usage, controlling, 51
 - heaters, controlling, 51
 - options for, 50–51
 - thermostats, controlling, 50
 - water pumps, controlling, 51
 - window coverings, motorizing, 50
- monitors, 214–215
- Monster Cable Products, 42
- motion detectors, 354

motion sensor, 302
 motion simulator systems, 380–381
 motion-detector floodlights, 354
 MP3 players, 133
 MPEG (Motion Picture Experts Group), 75
 MSC (mobile switching center), 190
 multichannel audio networks, 131
 multichannel unit, 106–107
 multifunctional device (MFD), 177–178
 multiline, multistation cordless phone systems, 171–172, 201
 multiline phone system, 48, 173
 multimedia over coax (MoCA), 290
 multimode wireless phones, 172
 multiplayer, online gaming, 220–221
 multiple wiring closets, 27
 multiroom DVR service, 127
 multiroom integrated amplifiers, 135–136
 multiswitch, 118
 multizone audio system, 93, 130, 152–154
 multizone control systems, 136
 multizone hi-fi audio not supported by structured cabling systems, 41
 multizone wired IR-repeater system, 360
 MuxLab, 156

• N •

Napco, 320, 321
 NAS (network attached storage), 209–210, 211
 NAT (network address translation), 255
 National Burglar & Fire Alarm Association, 312
 National Television Standards Committee (NTSC), 74
 needs, anticipating your, 42
 NETGEAR, 256
 network architecture, 109
 networkable peripheral, 218
Networking For Dummies (Lowe), 268
 networking support for routers, 256
 neutral wire, 350
 NextAlarm, 322
 next-generation computers
 context-based TV Web browsing, 219
 gaming consoles, 220–221
 overview, 219–220

PC-powered TV, 219
 T-commerce, 219
 unified messaging, 219
 Web-enabled TV, 221–222
 NIC (network interface card)
 built-in wireless NIC, 280
 CardBus, 280
 overview, 208, 260, 266–268
 PC Card, 280
 PCI Card, 280
 USB external NIC, 280
 NID (network interface device), 35
 Niles Audio, 147
 911 requirements for VoIP phone service, 186
 900-MHz analog phones, 170
 900-MHz digital phones, 170
 900-MHz digital spread-spectrum phones, 170–171
 Nintendo, 220
 noise blocks, 347–348
 noise, filtering, 231
 notebook computers, 271
 NTSC (National Television Standards Committee), 74

• O •

off-hours mode, 15
 Omni controller system, 353
 100BaseT, 260
 1000BaseT, 261
 1080p, 77
 1-to-2 splitter jack, 39
 one-way satellite Internet service, 239
 one-way satellite network, 118–119
 On-Q/Legrand, 42
 outdoor antennas, 86
 outlets, 103
 outputs, 105
 overbuilding, 42–43

• P •

Packet8, 186
 packets, 262
 pager alert when back door is opened, 62
 PAN (personal area network), 287–288

- passive fiber-optic systems, 233–234
- passive infrared receivers (PIRs), 303–304
- passive optical networks (PONs), 233–234
- passwords, 282
- patch cables, 35, 36, 135, 267–268
- patch panels, 35–37, 264
- PBX (private branch exchange), 60
- PC Card
 - modems, 226
 - overview, 280
- PC interfaces for device controllers, 337–338
- PCI (peripheral component interconnect) bus, 266
- PCI Card, 280
- PCs For Dummies* (Gookin), 218
- PDA(s) (personal digital assistants)
 - infrared networking, 212–213, 271
 - overview, 211
 - pure PDAs, 212
 - as remote control, 212
 - smartphones, 212
 - 3G cellular radios, 213
 - wireless networking, 213
- peripheral devices, 216–218
- personal area network (PAN), 287–288
- personal computers. *See* computers
- personal video recorder (PVR), 84–85
- pets, options for, 55
- phase, 151
- Philips Electronics, 202
- phone calls, 52, 59–60
- phone line interface
 - vulnerability of, 317
 - wiring a security system, 318–319
- phone line video distribution systems, 126–127
- phone lines, using, 121
- phone options for home network
 - automatic routing of phone calls to
 - answering machine without ringing first, 49
 - conferencing system, 48
 - Doorcom system, 48
 - dual-mode phones, 48–49
 - intercom system, 48
 - as interface to home-automation system, 49
 - multiline phone system, 48
 - options for, 48–49
 - ringtones, 48
 - transferring calls, 48
 - videophones, 48
 - wireless phone system, 48–49
- phone system. *See also* wiring a phone system
 - answering machines, 178–179
 - built-in phone directories, 169
 - cable phone service, 182–185
 - Caller ID displays, 169
 - cellular phones, 189–192
 - conference calling, 169
 - cordless phones, 170–172
 - costs, 65
 - external ringers/lights, 179–180
 - fax machines, 177–178
 - features, 169
 - fixed phone service, choosing, 180–188
 - full-duplex phones, 169
 - half-duplex phones, 169
 - HomePNA 1.0, 289
 - HomePNA 2.0, 289
 - HomePNA 3.0, 289
 - inline coupler, 39
 - key phone systems, 173–177
 - key system, 173
 - key system unit (KSU), 173
 - landline phone service, 180–188
 - LCD displays, 169
 - modular wall outlets, 39–40
 - multifunctional device (MFD), 177–178
 - multiline phone systems, 173
 - 1-to-2 splitter jack, 39
 - overview, 167, 289–290
 - POTS (Plain Old Telephone Service), 181–182
 - POTS-compatible devices, 168–170
 - quad wire, 181
 - RJ-11 connectors, 168
 - speakerphones, 169
 - speed dialing, 169
 - splitters, 183
 - TDD devices, 180
 - 2-jack modular adapter, 39
 - used with power line networking, 294
 - videoconferencing, 183

- phone system (*continued*)
 - voice mail, 169
 - voice-activated dialing, 169
 - VoIP phone service, 181, 184–188
 - wireless phone systems, 200–202
- PhoneLabs, 191
- phones to be networked, 17
- photo sensors, 335
- photocells, 354
- photoelectric sensor, 302
- physical configuration of home network, 24
- physical connections for home network, 25
- pin connectors, 140
- PIR controllers, 335
- PIRs (passive infrared receivers), 303–304
- pixels, 76
- Plain Old Telephone Service (POTS), 168, 181–182
- plain paper fax, 177
- planning your home network
 - with architects, 66
 - with audio/video consultants, 67
 - with computer-systems contractors, 67
 - contractors, working with, 66–69
 - deciding how much to spend, 64–65
 - with electrical contractors, 67
 - with general contractor/builders, 67
 - general costs, 65–66
 - with heating/cooling contractors, 67
 - with home-systems integrators, 67
 - with interior designers, 68
 - with kitchen designers, 68
 - lack of planning, 370
 - with lighting consultants, 68
 - overview, 64
 - with security consultants, 68
 - timeline, 69–70
- Plantronics, 188
- plasma monitors, 214–215
- plasma TVs, 83
- plugs, 38–39
- plunger switch, 302
- pole and nut terminal interface, 36
- PONs (passive optical networks), 233–234
- pools
 - automatic pool covers, 57
 - gate alarms, 56
 - home-automation kits for, 56
 - in-pool movement alarms, 56
 - Safety Turtle, 56
 - water levels, monitoring, 56
- port interface, 36
- portable systems, 242–243
- ports, 265
- POTS (Plain Old Telephone Service), 168, 181–182
- POTS-compatible devices, 168–170
- power amplifier, 92
- power bars, connecting to, 45
- power companies providing Internet connection, 245–246
- power line networking
 - advantages of, 291–292
 - HomePlug, 290–294
 - overview, 290–291
 - phone line networking used with, 294
 - wireless LAN used with, 294
- power modules, 157
- power status sensor, 302
- powerline signals, 347–349
- preamplifier, 92
- pressure sensor, 302
- prevention, 299
- prewiring your home, 313–316
- printers, 217, 271
- private branch exchange (PBX), 60
- programmable controllers, 334
- progressive scan display, 76
- projection televisions (PTV)
 - front-projection models, 80–81
 - overview, 80–82
 - rear-projection models, 81
- proprietary systems
 - locking yourself into, 371
 - overview, 157–158
- protocols
 - INSTEON, 327–328
 - LonWorks, 328
 - overview, 326–327
 - Universal Powerline Bus (UPB), 327
 - X10, 327, 329
 - ZigBee, 328
 - Z-Wave, 328
- proxy server, 257–258
- pull cords, 43
- punchdown block, 35, 264

punchdown interface, 36
punchdown tool, 36
pure PDAs, 212
PVR (personal video recorder), 84–85

• Q •

QAM (quadrature amplitude modulation), 87–88
quad cables, 32–33
quad wire, 181
quick connect, 226
Qwest, 230

• R •

racks. *See* equipment racks
Radio Shack, 202
RAID (redundant array of inexpensive drives), 210
rain sensor, 202
RCA, 163
reading information on home networks, 42
rear-projection models, 81
receptacles, 332
refrigerator, checking e-mail on your, 57
regulations against using a satellite dish, knowing your rights about, 91
remote control
 automated reminders, 53
 computers, control of your, 53
 control of your, 52
 lights, control of, 52
 PDAs (personal digital assistants) as, 212
 of your home as reason for home network, 18
remote power injectors, 359
repeaters, 286
Request, Inc., 133, 376, 377
residential gateways. *See* routers
resolution, 76
RF remotes, 342
RG6 coaxial cable, 101, 110
RG6 patch cable used to connect satellite receiver, 120
RG-59 coaxial cable, 101
ringtones, 48

risks to avoid
 all-in-one packaged solutions, 371–372
 basics of automation, missing the, 367–368
 CAT-5e/6, using equipment not rated for, 369–370
 conduits, forgetting to add, 372
 low-voltage lines and high-voltage lines, not keeping distance between, 369
 manuals, not reading, 368
 planning, lack of, 370
 proprietary systems, locking yourself into, 371
 wired connections, not using, 370
 wires, not labeling, 372
RJ-11 connectors, 168
RJ-11 jack/plug, 38
RJ-14 jack/plug, 38
RJ-25 jack/plug, 38
RJ-31X connection, 319
RJ-31X jack, 38
RJ-45 jack/plug, 38
Road Runner, 235
roaming area, 190
Robert Hoskin's Broadband Wireless Exchange Web site, 242
robotic lawnmowers, 374
robotic servants, 373–374
robotic vacuum cleaners, 374
Rogers, 236
Roku Labs, 162
routers
 cost of, 256
 firewalls, 256
 integration with switches, 265–266
 LAN (local area network), 253–257
 NAT (network address translation), 255
 networking support, 256
 overview, 253–255
 subnets, 254
 vendors, 256–257
 VPN support, 256
 wireless LAN support, 256
routing packets using your PC, 257–258
RS-232, 321
Ruckus Wireless, 126
running the cables, 113

• S •

- safety and health issues for people home alone, 54
- Safety Turtle, 56
- satellite integration into video network
 - coaxial surge protectors, 122
 - diplexers, 119, 121
 - DSS receivers used as source devices, 120
 - hybrid satellite/video network, 119–120
 - inline amplifiers, 121
 - integrated multiswitches, 119
 - LNB (low noise block), 118
 - multiswitch, 118
 - one-way satellite network, 118–119
 - overview, 118
 - phone lines, using, 121
 - RG6 patch cable used to connect satellite receiver, 120
 - separate video network for satellite,
 - building a, 119–120
 - tips for, 121–122
 - voltage switch, 118
 - wireless phone jacks, 121
- satellite Internet service
 - choosing, 241
 - cost of, 240
 - disadvantages of, 239–240
 - installation, 240
 - latency, 239
 - one-way service, 239
 - overview, 238
 - providers, 240
 - sharing, 239
 - speed of, 239
 - two-way service, 239
- satellite television
 - C Band satellite system, 91–92
 - direct broadcast satellite (DBS)
 - television, 89–91
 - overview, 89
 - regulations against using a satellite dish,
 - knowing your rights about, 91
- scan lines, 76
- scanners, 217
- security
 - cabling, 34
 - with cordless phones, 172
 - devices to be networked, 17
 - loop, running a, 314
 - passwords, 282
 - WEP (wired equivalent privacy), 282
 - wireless LAN, 281–283, 285
 - WPA (Wi-Fi protected access), 282
- security consultants used for planning your home network, 68
- security systems. *See also* wiring a security system
 - audio surveillance, 309–310
 - control panel, 300
 - detection, 299
 - emergency response, 299
 - goals of, 299
 - hardwired systems, 310
 - hiring someone to install, 311–312
 - key switches, 300
 - keypads, 300–301
 - monitoring, 306
 - overview, 299
 - prevention, 299
 - reasons for having, 298
 - sensors, 301–305
 - sirens, 305
 - stress detectors, 298
 - video surveillance, 307–309
 - wireless systems, 311
- SecurityandMore, 307
- Sensio, 379
- sensor controllers, 335
- sensors
 - alarm with built-in automation
 - functionality, using, 355–356
 - analog inputs, 357
 - animal repeller, 303
 - automation sensors, 354
 - break sensor, 301
 - carbon monoxide detector, 301
 - central controller, combining sensors
 - with a, 356–357
 - contact sensors, 301, 302–303
 - controlling your home automation system, 353–357
 - digital inputs, 357
 - freeze sensor, 301
 - gas detector, 301
 - heat detector, 301

- home automation, 305
- ionization detector, 301
- low-voltage sensor modules, 354
- magnetic sensor, 301
- moisture sensor, 302
- motion detectors, 354
- motion sensor, 302
- motion-detector floodlights, 354
- overview, 301
- passive infrared receivers (PIRs), 303–304
- photocells, 354
- photoelectric sensor, 302
- plunger switch, 302
- power status sensor, 302
- pressure sensor, 302
- rain sensor, 302
- smoke detectors, 302, 304–305
- snow sensor, 302
- tamper switch, 302
- temperature sensor, 302
- vibration sensor, 302
- water disturbance sensor, 302
- weather sensor, 302
- separate video network for satellite, building a, 119–120
- servers, 18
- service centers, 40
- set-top box, 87
- Shaw, 236
- SID (service interface device), 35
- signal amplifier
 - installing, 107–108
 - overview, 348–349
- signal coupler, 346–347
- signal interference, awareness of, 108
- signal/injector splitters, 358–359
- simple network, starting with a, 351–352
- simultaneous Internet access, 51–52
- single point of connection as advantage of central wiring closet, 27
- single video source unit, 106
- single-distribution amplifier, 136
- single-zone audio network
 - overview, 148
 - single-zone and multi-amplifier system, installing, 151–152
 - single-zone and single-amplifier system, installing, 149–150
 - single-zone audio system, 129–130
 - single-zone control systems, 135–136
 - sirens, 305
 - six-position jack/plugs, 38
 - skip channels between modulated channels, 108
 - Skype, 186, 192, 281
 - sliding ability of equipment racks, 45
 - Slim Devices, 162–163
 - smartphones, 212
 - SMC, 256
 - smoke detectors, 302, 304–305
 - snow sensor, 302
 - softphone software, 188
 - software, 268, 287
 - Sonos Music System, 159–160
 - Sony, 163, 220
 - SoundBridge, 162
 - spade connectors, 140
 - Speakeasy, 231
 - speaker cable, 139
 - speaker outlets, 141–142
 - speaker-level signals, 132, 134–135
 - speakerphones, 169, 227
 - speakers, 137–139, 163
 - special interests fulfilled by smart home
 - doctors monitoring patients at home, 54
 - lights, automating, 53–54
 - options for, 53–55
 - pets, options for, 55
 - safety and health issues for people home alone, 54
 - video chats, 54
 - visitors, monitoring, 55
 - speed
 - LAN (local area network), 249
 - satellite Internet service, 239
 - switches, 265
 - wireless LAN, 277
 - speed dialing, 169
 - splitters, 183
 - spring-loaded clips, 141
 - sprinkler system, automating, 58
 - Squeezebox, 162
 - stand-alone analog devices, 183
 - stand-alone broadband devices, 183
 - stand-alone controllers, 334
 - stand-alone receiver unit, 123

- stand-alone sender unit, 123
 - star architecture
 - wired LAN, 261–263
 - wiring a phone system, 196–198
 - StarBand, 240
 - starting your day, 12–13
 - stress detectors, 298
 - structured cabling systems
 - alarm systems not supported by, 41
 - all-in-one cables, 40
 - applications not supported by, 41
 - components of, 40
 - customized wall outlet plates, 40
 - multizone hi-fi audio not supported by, 41
 - overview, 40
 - service centers, 40
 - support by, 41
 - vendors for, 42
 - subnets, 254
 - subzones, 316
 - SunRocket, 186
 - supplementary, PC-based VoIP services, 186
 - surge protectors, 349
 - S-video connector, 97
 - switches
 - cost of, 266
 - overview, 261–262, 332–333
 - ports, number of, 265
 - router integration, 265–266
 - speed of, 265
 - wiring, 350
- T •
- tablet computers, 208
 - tabletop controllers, 334
 - tamper switch, 302
 - taskmasters, 374
 - T-commerce, 219
 - TDD (Telecommunications Device for the Deaf) devices, 180
 - telco-return modem, 236
 - Telecommunications Industry Association (TIA), 38–39
 - telephone interfaces, 334–335
 - telephone management devices, 218
 - telephone wire, 314
 - telephony adapter, 201
 - telescopes, 378
 - television options for home network, 59
 - temperature sensor, 302
 - 10Base2, 260
 - 10BaseT, 260
 - terminal blocks, 35
 - thermal paper fax, 177
 - thermostats, controlling, 50
 - 3D home theater, 378–380
 - 3G cellular radios, 213
 - 3G mobile data services, 244
 - time savings as reason for home network, 19
 - timeline for your home network, 69–70
 - timers, 334
 - toilets, high-tech, 252
 - TomTom, 375
 - topology, 109
 - TOTO USA, Inc., 252
 - touch panels, 336–337
 - touchscreen monitors, 215
 - toys, future. *See* future toys
 - traditional PCs, 206–207
 - transferring calls, 48
 - Transporter, 163
 - TV and video systems
 - analog TV signals, 74
 - ATSC (Advanced Television Standards Committee) signals, 75–79
 - audio systems, 152
 - digital light processor (DLP), 81–82
 - digital TV signals, 75–79
 - direct-view televisions, 80
 - DVD player, 85
 - flat-screen televisions, 82–84
 - HDTV (high-definition television), 76–79
 - in-home video devices, 85
 - IPTV (Internet Protocol TV), 79
 - laserdisc player, 85
 - LCD technology, 82
 - LCoS (liquid crystal on silicon), 82
 - media servers, 84
 - microprojection televisions, 81–82
 - 1080p, 77
 - overview, 73–74
 - personal computers, 85
 - projection televisions, 80–82

PVR (personal video recorder), 84–85
 types of televisions, 79–84
 VCR (videocassette recorder), 84
 video game machine, 85
 video source components, 84–85
 TV connections from outside world
 antennas, 86
 broadcast television, 85–86
 cable television, 86–88
 indoor antennas, 86
 outdoor antennas, 86
 overview, 85
 satellite television, 89–92
 TV rooms, connecting wires in, 115–116
 TV-mounted broadband devices, 183
 twisted-pair cabling, 32–33
 2.4-GHz digital spread-spectrum phones,
 171
 2-jack modular adapter, 39
 two-way modems, 237
 two-way satellite Internet service, 239

• U •

Ubuntu, 207
 UL listing, 139
 Unicom, 42
 unified messaging, 219
 universal modules, 331–332
 Universal Powerline Bus (UPB), 327
 unlicensed mobile access (UMA), 187
 unrated 75-ohm coax, 101
 Uplink, 320
 uplink port, 264–265
 UPS (uninterruptible power supply), 322
 USB external NIC, 280
 USTec, 42
 utility room as location of central wiring
 closet, 29

• V •

V.90 56-Kbps modems, 226
 V.92 56-Kbps modems, 225–226
 V.PCM, 226
 VCR (videocassette recorder), 84
 VDSL, 228–229
 VDSL 2, 228–229

vendors
 routers, 256–257
 for structured cabling systems, 42
 Verizon, 230, 234
 Vesture, 374
 Vialta, 183
 vibration sensor, 302
 video chats, 54
 video devices to be networked, 17
 video game machine, 85
 video monitor for front door, 62
 video network. *See also* wiring a video
 network
 coaxial video networks, 100–108
 overview, 95–96
 video signals, 96–100
 video phone, using a PC as, 217
 video servers, 377
 video signals
 A/V interconnect video cables, 96–99
 baseband distribution, 96
 broadband video-distribution system,
 99–100
 overview, 96
 video source components, 84–85
 video surveillance
 CCTV options, 308
 network options, 309
 overview, 307
 PC options, 308
 video systems. *See* TV and video systems
 videoconferencing, 183, 217
 video-monitoring capability, 50
 videophones, 48
 Videotron, 236
 virtual day of living in your smart home,
 12–15
 visitors, monitoring, 55
 voice control, 338, 355
 voice mail, 169, 227
 voice recognition, 58
 voice-activated dialing, 169
 VoIP phone service
 analog telephone adapter (ATA), 187–188
 on cellular phones, 192
 features of, 185–187
 fixed mobile convergence (FMC), 187
 landline replacement services, 186

VoIP phone service (*continued*)
 911 requirements, 186
 overview, 184–185, 281
 PC as a phone, 188
 softphone software, 188
 supplementary, PC-based VoIP services,
 186
 unlicensed mobile access (UMA), 187
 VoIP phones, 188
 voltage switch, 118
 Vonage, 186
 VPN support by routers, 256

• W •

wall outlet size option for modulators, 107
 wall outlets, senders and receivers
 integrated into, 123
 water disturbance sensor, 302
 water levels in pools, monitoring, 56
 water pumps, controlling, 51
 WDS (wireless distribution system),
 285–287
 weather sensor, 302
 weather-protected outdoor closet as
 location of central wiring closet, 29
 Web-enabled TV, 221–222
 WebLink II software, 353
 weightloss on the Internet, 375–376
 WHDI (Wireless High-Definition Interface),
 126
 Wi-Fi Alliance, 275
 Wi-Fi protected access (WPA), 282
 WildBlue, 240
 WiMAX (Worldwide Interoperability for
 Microwave Access), 243
 window coverings, motorizing, 50
 Windows Home Server, 18, 210
 Windows-based PCs, 206–207
 Wintel machines, 206–207
 wired connections, not using, 370
 wired equivalent privacy (WEP), 282
 wired intercom systems, 93
 wired IR-repeater networks
 with CAT-5e/6 cabling, 362–363
 coaxial cable network used with, 358–359
 dedicated IR control wires, using, 360–362
 emitter-connecting blocks, 344
 hardwired IR network, 360–363
 infrared emitters, 343
 infrared sensors, 343
 IR keypad controllers, 344
 multizone system, 360
 overview, 343–344, 357–358
 remote power injectors, 359
 signal/injector splitters, 358–359
 wired LAN
 bridges, 271–272
 bridging mode, 270
 broadband modem, 269–270
 cabling, 260, 263–268
 CAT-5e/6 LANs, 259–263
 central node, 264
 connectors, 263–268
 Ethernet, 260–261
 how it works, 268–269
 hubs, 261–262, 264–265
 integration with no-new-wires networks,
 270–272
 Internet connection, working with your,
 269–270
 ISA (industry standard architecture) bus,
 266
 network components, 263–266
 NIC (network interface card), 260,
 266–268
 overview, 248–249
 packets, 262
 patch panel, 264
 PCI (peripheral component interconnect)
 bus, 266
 punchdown block, 264
 software for, 268
 star architecture, 261–263
 switches, 261–262, 264–266
 uplink port, 264–265
 wireless audio systems
 digital media adapters (DMAs), 162–163
 EOS system, 161
 overview, 158–159
 Sonos Music System, 159–160
 speakers, 163
 Yamaha MusicCAST, 160–161
 wireless controllers, 336

- wireless distribution system (WDS), 285–287
- wireless HDMI systems, 126
- Wireless High-Definition Interface (WHDI), 126
- wireless Internet connection
 - 802.16d-based service, 243
 - 802.16e-based service, 243
 - fixed systems, 242
 - mesh networks, 242
 - metro Wi-Fi networks, 243
 - overview, 241–242
 - portable systems, 242–243
 - Robert Hoskin’s Broadband Wireless Exchange Web site, 242
 - 3G mobile data services, 244
 - WiMAX, 243
- wireless LAN
 - access point, 279–280
 - base station, 279–280
 - Bluetooth, 287–289
 - community wireless LANs, 283
 - digital media adapters, 281
 - 802.11a standard, 275–276, 277
 - 802.11b standard, 275, 277
 - 802.11g standard, 276, 277, 278
 - 802.11n standard, 276, 277, 278–279
 - gaming consoles, 281
 - IP address, assigning, 284
 - location, finding, 284–285
 - NICs (network interface cards), 280
 - overview, 248–249, 274
 - PAN technologies, 287–288
 - passwords, 282
 - PC peripherals, 281
 - routers, 256
 - security, 281–283, 285
 - Skype, 281
 - speed of, 277
 - standards, 274–278
 - steps for setting up, 283–285
 - used with power line networking, 294
 - VoIP, 281
 - WDS (wireless distribution system), 285–287
 - WEP (wired equivalent privacy), 282
 - WPA (Wi-Fi protected access), 282
- wireless line-level distribution systems, 163
- wireless phone jacks, 121
- wireless phone systems
 - cordless VoIP, 201–202
 - DECT phones, 202
 - jacks, wireless, 202
 - multiline, multistation cordless phone systems, 201
 - overview, 200–201
 - phone options for home network, 48–49
 - telephony adapter, 201
- wireless speaker systems, 163
- wireless systems. *See also specific systems*
 - disadvantages of, 26
 - intercom systems, 93
 - overview, 213
 - prewiring for, 315–316
 - security systems, 311
- wireless video-distribution systems
 - MediaFlex system, 126
 - overview, 124–126
 - wireless HDMI systems, 126
- wires, not labeling, 372
- wiring a phone system
 - architecture for, building, 195–199
 - bedroom requirements for, 194
 - daisy-chain architecture, 196
 - demarcation point, 197
 - dining room requirements for, 194
 - drop, 197
 - end devices, 198
 - family room requirements for, 194
 - feed, 197
 - gateway, 197
 - home office requirements for, 195
 - home theater requirements for, 195
 - hybrid architecture, 198–199
 - kitchen requirements for, 194
 - KSU/hybrid phone system, 199–200
 - KSU-less phone systems, 200
 - living room requirements for, 194
 - overview, 193–195
 - star architecture, 196–198
- wiring a security system
 - audio interface, 321
 - in basement, 316

wiring a security system (*continued*)

- broadband interface, 321–322
 - derived channels, 317
 - fire-alarm cable, 314
 - home-control interface, 320
 - intercom cable, 314
 - phone line interfaces, 318–319
 - prewiring your home, 313–316
 - RJ-31X connection, 319
 - RS-232, 321
 - security loop, running a, 314
 - subzones, 316
 - supervision, 317–318
 - supervision for wireless systems, 318
 - telephone wire, 314
 - types of wire, 314
 - wireless interface, 320
 - wireless system, prewiring for, 315–316
 - zones, 316–318
- wiring a video network
- bidirectional video distribution panel, 112
 - with CAT-5e/6, 122–124
 - to central distribution panel, 111
 - digital cable, 112
 - distribution panel, connecting wires at, 113–115
 - external video connection, 110
 - for HDTV, 113
 - in-room video connections, 115–116
 - internal video connection, 110
 - overview, 109–112
 - phone line video distribution systems, 126–127
 - recap of, 117–118
 - RG6 coaxial cable, using, 110
 - running the cables, 113
 - satellite systems, 118–122
 - stand-alone receiver unit, 123
 - stand-alone sender unit, 123
 - TV rooms, connecting wires in, 115–116
 - wall outlets, senders and receivers integrated into, 123
 - wireless video-distribution systems, 124–126

wiring audio systems

- balanced line-level cable, 148
 - CAT-5e/6 cabling for, 154–158
 - centrally amplified audio systems, 146–147
 - centrally distributed star configuration, 147–148
 - choosing a system, 146–147
 - distributed audio systems, 146–147
 - distribution amplifier, 151–152
 - hybrid systems, 147
 - integrated amplifier, 152
 - multizone audio system, 152–154
 - overview, 145
 - phase, 151
 - single-zone audio network, 148–152
- wiring existing homes, 63
- wiring infrastructure, 326
- Worldwide Interoperability for Microwave Access (WiMAX), 243
- WPA (Wi-Fi protected access), 282

• X •

X10

- bridges, 346–347
- overview, 327, 329, 346
- powerline signals, 346–349
- signal coupler, 346–347

• Y •

Yamaha MusicCAST, 160–161

Yujin Robot, 374

• Z •

- ZigBee, 328
- ZON system, 158
- zones, 316–318
- Zucchetti, 374
- Z-Wave, 328

