CHAPTER 20 INDEX

Brake, 12, 14, 15, 149 Α С A/D Converter, 70 Aerobic, 64, 160, 161 CAD, 8,216, See Also Autocad, ORCAD Alarm, 200, 201, 234 Camera, 47, 88, 89, 210, 211 Amplifier, 71, 75, 132, 133, 227, 232, See Also Op Car, 60, 130, 131, 136, 162, 170, 171, 227 Amp Center of Mass, 168 Amputee, 102, 103, 104, 105 Cerebral Palsy, 12, 14, 103, 106, 108, 110, 112, 118, Antenna, 220 120, 122, 152, 154, 164, 168, 176, 178, 200, 202, 210, 218, 222, 224, 226, 228 Armrests, 127,150 Chair, 28, 38, 60, 114, 127, 130, 131, 136, 137, 150, 152, Arthritis, 148, 149, 170 153, 162, 163, 168, 169, 199, 214, 215, 228 Audio, 30, 70, 75, 195, 222, 223, 227, 232 Chassis, 12, 13 Autistic, 194,234 Clutch, 128, 129, 130, 131 Autocad, 127, See Also ORCAD, CAD CMOS, 173 Communication, 118, 120, 202, 203, 218, 219, 220, В 222.223 Bandpass Filter, 234 Communicator, 222,223 Battery, 25, 34, 35, 38, 61, 77, 92, 94, 108, 118, 131, Comparator, 233,234 133, 134, 135, 136, 137, 165, 172, 173, 192, 195, 197, 202, 223, 227, 234 Computer, 8, 114, 126, 127, 176, 177, 178, 192, 194, 196, 198, 199, 200, 202, 204, 205, 206, 217, 224, 225, Bed, 54, 55, 170, 171 See Also Keyboard, Microprocessor, Mouse Belts, 83 Control, 12, 16, 28, 30, 32, 34, 35, 38, 39, 46, 58, 66, 67, 70, 72, 74, 76, 77, 79, 88, 89, 108, 112, 114, 128, 129, Bicycle, 12, 13, 40, 41, 67, 122, 123, 151, 160, 213 130, 131, 132, 134, 135, 136, 137, 138, 139, 151, 160, 164, 171, 172, 176, 178, 179, 197, 198, 200, 202, 210, Blind, 3, 6, See Also Visual Impairment 218, 220, 222, 226, 234

Diode, 118, 119, 131, 197, 218 I Down's Syndrome, 194,226 Incentive, 92,132 DPDT Switch, 30, 135 Infrared, 3, 30, 139 Drive Train, 135 Inverter, 32, 197 Driving, 56, 170, 179 K E Keyboard, 62, 74, 75, 120, 121, 204, 205, 225, See Also Computer, Microprocessor, Mouse Electric Winch, 16, 17, 171 Knee Brace, 23 Encoder, 75, 201 L EPROM, 74 Laser, 3, 118, 119, 120 F LED, 14, 30, 54, 133, 170, 176, 177, 178, 179, 193, 195, 201, 218, See Also Light Array Feedback, 7, 8, 30, 31, 64, 108, 112, 133, 218, 222, 223, 234 Leg, 15, 20, 21, 22, 23, 44, 65, 66, 103, 104, 106, 122, 152, 153, 160, 161, 170, 212, 213, 215, 225 Fiberglass, 60, 65, 75, 90 M Flip Flop, 32, 114 Magnet, 58, 59, 86, 90, 98, 136 Foot, 13, 15, 22, 49, 62, 65, 106, 107, 108, 109, 130, 131, 153, 154, 160, 161, 170, 171, 206, 212, 213 Mentally Handicapped, 76 G Microphone, 232, 234 Microphone, 232, 234	Controller, 32, 62, 74, 76, 77, 178, 201, 223, 233, See <i>Also</i> Microcontroller, Remote D Decoder, 75, 176, 178, 197, 201 Desk, 127, 204, 205	H Head Switch, 35, 58, 59 Horseback Riding, 102 Hydraulic, 12, 58, 82
Driving, 56, 170, 179 K E Keyboard, 62, 74, 75, 120, 121, 204, 205, 225, See Also Computer, Microprocessor, Mouse Electric Winch, 16, 17, 171 Knee Brace, 23 Encoder, 75, 201 L EPROM, 74 Laser, 3, 118, 119, 120 F LED, 14, 30, 54, 133, 170, 176, 177, 178, 179, 193, 195, 201, 218, See Also Light Array Feedback, 7, 8, 30, 31, 64, 108, 112, 133, 218, 222, 223, 234 Leg; 15, 20, 21, 22, 23, 44, 65, 66, 103, 104, 106, 122, 152, 153, 160, 161, 170, 212, 213, 215, 225 Fiberglass, 60, 65, 75, 90 M Flip Flop, 32, 114 Magnet, 58, 59, 86, 90, 98, 136 Foot, 13, 15, 22, 49, 62, 65, 106, 107, 108, 109, 130, 131, 153, 154, 160, 161, 170, 171, 206, 212, 213 Mentally Disabled, 30, 92 G Microcontroller, 74, 176, See Also Controller, Remote Microphone, 232,234	Down's Syndrome, 194,226 DPDT Switch, 30,135	Incentive, 92,132 Infrared, 3, 30, 139
Encoder, 75,201 L EPROM, 74 Laser, 3, 118, 119, 120 F LED, 14, 30, 54, 133, 170, 176, 177, 178, 179, 193, 195, 201,218, See Also Light Array Feedback, 7, 8, 30, 31, 64, 108, 112, 133, 218, 222,223, 234 Leg, 15, 20, 21, 22, 23, 44, 65, 66, 103, 104, 106, 122, 152, 152, 153, 160, 161, 170, 212, 213, 215, 225 Feeder, 134,135 Light Array, 32, 33, See Also LED Fiberglass, 60, 65, 75, 90 M Flip Flop, 32,114 Magnet, 58, 59, 86, 90, 98, 136 Foot, 13, 15, 22, 49, 62, 65,106, 107,108, 109, 130, 131, 153, 154, 160, 161, 170, 171, 206, 212, 213 Mentally Disabled, 30, 92 G Microontroller, 74, 176, See Also Controller, Remote Gait Training, 108 Microphone, 232,234	Driving, 56, 170, 179 E	Keyboard, 62, 74, 75, 120, 121, 204, 205,225, See Also Computer, Microprocessor, Mouse
Feed, 77,116 201,218, See Also Light Array Feedback, 7, 8, 30, 31, 64, 108, 112, 133, 218, 222,223, 234 Leg, 15, 20, 21, 22, 23, 44, 65, 66, 103, 104, 106, 122, 152, 152, 153, 160, 161, 170, 212, 213, 215, 225 Feeder, 134,135 Light Array, 32, 33, See Also LED Fiberglass, 60, 65, 75, 90 M Flip Flop, 32,114 Magnet, 58, 59, 86, 90, 98, 136 Foot, 13, 15, 22, 49, 62, 65,106, 107,108, 109, 130, 131, 153, 154, 160, 161, 170, 171, 206, 212, 213 Mentally Disabled, 30, 92 G Microcontroller, 74, 176, See Also Controller, Remote Microphone, 232,234 Microphone, 232,234	Encoder, 75,201 EPROM, 74	L Laser, 3, 118, 119, 120
Fiberglass, 60, 65, 75, 90 M Flip Flop, 32,114 Magnet, 58, 59, 86, 90, 98, 136 Foot, 13, 15, 22, 49, 62, 65,106, 107,108, 109, 130, 131, 153, 154, 160, 161, 170, 171, 206, 212, 213 Mentally Disabled, 30, 92 G Mentally Handicapped, 76 G Microcontroller, 74, 176, See Also Controller, Remote Microphone, 232,234 Microphone, 232,234	Feedback, 7, 8, 30, 31, 64, 108, 112, 133, 218, 222,223, 234	201,218, See <i>Also</i> Light Array Leg, 15, 20, 21, 22, 23, 44, 65, 66, 103, 104, 106, 122, 152, 153, 160, 161, 170, 212, 213, 215, 225
153, 154, 160, 161, 170, 171, 206, 212, 213Mentally Handicapped, 76GMicrocontroller, 74, 176, See Also Controller, RemoteCait Training, 108Microphone, 232,234	Fiberglass, 60, 65, 75, 90 Flip Flop, 32,114	Magnet, 58, 59, 86, 90, 98, 136
	153, 154, 160, 161, 170, 171, 206, 212, 213 G	Mentally Handicapped, 76 Microcontroller, 74, 176, See <i>Also</i> Controller, Remote

Mobility, 12, 14, 15, 60, 61, 86, 88, 110, 150, 154, 170, 198, 212, 214, 220, 229

Modulation, 131

MOSFET, 173

Motorola, 32, 70, 77

Mounting System, 58, 155, 218, 220

Mouse, 176, 177, 178, 179, See *Also* Computer, Keyboard, Microprocessor

Multiple Sclerosis, 226

Ν

NAND, 114

Nintendo, 132,133

NPN Bipolar Transistor, 32

NSF, vii, viii, 1, 2, 3, 6, 9, 58, 132

0

Op Amp, 234, See Also Amplifer

OR, viii, 1, 2, 3

ORCAD, 8, See Also Autocad, CAD

Orthosis, 9, 22, 23

Piezoelectric, 24,234

Oscillator, 173

Ρ

Painting, 54
Paraplegic, 18, 40, 41, 62, 63
Photography, 7,210
Physical Therapy, 18, 34, 40, 103, 106, 110, 112, 160
Physically Disabled, 16, 17, 45, 48, 50, 92, 148, 156, 176, 178, 224, 232

Plexiglas, 15, 92, 98, 99, 112,203
Plywood, 24, 32, 34, 110, 112, 116, 139, 151, 155, 168, *169,229*Polyethylene, 28, 214, 216
Polyurethane, 17, 116, 151, 171
Posture, 20,122, 150
Potentiometers, 28
Pressure Relief, 151
Pully, 65
PVC, 34, 49, 98, 106, 110, 112, 134, 135, 192, 223, 226, *227*Quadriplegic, 38, 54, 160, 200, 232
R
Radio, 70, 151, 227, 234

Reading, 70, 127, 201, 204

Receiver, 2, 77, 120, 164, 165, 202, 203, 227

Recreation, 18, 20, 45, 62, 66, 212

Reed Relays, 133

Regulator, 32, 177, 179, 192

Rehabilitation, v, 2, 6, 7, 20, 21, 44, 45, 48, 167, 168, 170, 172, 176, 178, 232

Remote, 88, 118, 138, 139, 161,164, 200, 201, 202, 220, 226,227, See *Also* Controller, Microcontroller

RF, 151

ROM, 126

S

Saddle, 19,102, 103, 104, 105

Safety Factor, 43, 83, 86

Telephone, viii, 3, 44, 45, 76, 77, 133

Texas Instruments, 173

Thermometer, 70, 71, 72, 73

Scanner, 8 Time Delay, 120, 197, 234 Scanning, 176, 177, 178, 179 Timer, 30, 32, 34, 98, 114, 129, 173, 197, 200, 201 Scoliosis, 202 Toilet, 206 Sensor, 70, 139, 218 Toys, 60, 92, 94 Ski, 66, 67 Train, 92, 132, 135 Speech, 3, 58, 77, 103, 164, 172, 202, 218, 219, 220, Training Wheels, 122 222, 223, 232, 234, 235 Transducer, 234 Springs, 57, 59, 107, 161 Transmission, 82,149 Standing, 20, 21, 86, 96, 116, 134, 161, 228 Transmitter, 164, 165, 202, 203, 226, 227, 232, 233 Steering, 57,122 Transportation, 60, 78, 150, 206 Support, viii, 1, 7, 13, 14, 15, 16, 20, 22, 23, 28, 34, 38, Tub, 16, 17 41, 45, 49, 51, 54, 65, 66, 67, 82, 96, 104, 110, 112, 116, 136, 150, 151, 155, 160, 161, 168, 169, 199, 201, 204, 205, 210, 218, 219, 220, 221, 225, 227, 228, 229 V Swing, 16, 17, 42, 43, 114, 115, 199, 215 Velcro, 24, 28, 34, 41, 43, 58, 161, 165, 192, 193, 207, 223,225 Switch, 16, 24, 30, 32, 34, 35, 38, 39, 58, 59, 62, 63, 75, 88, 92, 94, 95, 108, 114, 128, 129, 130, 131, 134, 135, Voice Synthesizer, 58 138, 149, 156, 157, 161, 164, 165, 172, 176, 177, 178, 179, 192, 193, 194, 195, 196, 197, 198, 201, 202, 206, W 207, 222, 223, 224, 225, 226, 227, 228, 229 Walker, 14, 15, 66, 67, 86, 87 Т Wheelchair, 12, 16, 18, 20, 21, 28, 29, 30, 38, 39, 40, Table, 30, 58, 59, 84, 115, 116, 117, 164, 192, 194, 198, 41, 42, 43, 46, 48, 54, 55, 56, 57, 58, 60, 64, 82, 83, 88, 199, 206, 214, 215, 216, 224, 225, 228, 229, 230 89, 104, 114, 126, 130, 131, 136, 137, 138, 150, 151, 160, 162, 163, 164, 168, 196, 197, 198, 200, 204, 205, Tape Player, 92 206, 210, 211, 214, 215, 216, 218, 220, 221, 224, 226