

INTRODUCTION	XVI
STUDY GOAL AND OBJECTIVES	XVI
REASONS FOR DOING THIS STUDY	XVI
CONTRIBUTIONS TO THE STUDY AND FOR WHOM	XVI
SCOPE AND FORMAT	XVII
METHODOLOGY	XVII
INFORMATION SOURCES	XVII
ANALYSTS CREDENTIALS	XVIII
RELATED BCC WORK CREDENTIALS	XVIII
BCC ON-LINE SERVICES.....	XIX
DISCLAIMER	XX
 SUMMARY.....	 XXI
<i>SUMMARY TABLE VALUE OF WORLDWIDE UNINTERRUPTIBLE POWER</i>	
<i>SUPPLIES MARKET, THROUGH 2009 (\$ MILLIONS)</i>	XXII
<i>SUMMARY FIGURE WORLDWIDE UPS MARKET VALUES, 2003-2009 (\$ MILLIONS)</i>	XXII
 OVERVIEW	 1
THE POWER ENVIRONMENT.....	1
BASIC POWER PROBLEMS	2
NOISE.....	2
SAGS.....	2
SURGES	3
BROWNOUTS	3
TRANSIENTS	3
SPIKES.....	4
HARMONIC DISTORTION.....	4
OVERVOLTAGES.....	4
FREQUENCY VARIATIONS	5
BLACKOUTS	5
POWER PROBLEM FREQUENCY AND EFFECTS.....	5
<i>TABLE 1 FREQUENCY OF POWER DISTURBANCES (%)</i>	6
CAUSES OF POWER PROBLEMS.....	7
<i>TABLE 2 BASIC CAUSES OF POWER OUTAGES (%)</i>	7
IMPACT OF POWER LOSS	7
Computer Data Loss.....	8
<i>TABLE 3 MAJOR CAUSES OF COMPUTER DATA LOSS (%)</i>	8
POWER PROBLEMS AND THE FUTURE.....	9
CONFLICTING TRENDS.....	9
POWER OUTAGES.....	9
A Major Disruption.....	10
IMPACT OF THE ENVIRONMENT ON UPS SYSTEMS	10
<i>TABLE 4 MAJOR CONCERNS ABOUT DATA LOSS AND DEVICE DAMAGE</i>	11
LONG-TERM POWER RELIABILITY.....	11
<i>TABLE 5 KEY FACTORS IMPACTING LONG-RANGE POWER RELIABILITY</i>	11

POWER PROTECTION DEVICES	12
SURGE SUPPRESSORS	12
VOLTAGE REGULATORS	12
AC FILTERS.....	12
POWER CONDITIONERS	12
UNINTERRUPTIBLE POWER SYSTEMS	13
UPS INDUSTRY STRUCTURE.....	14
LEADING COMPANIES IN THE UPS INDUSTRY	14
TABLE 6 LEADING WORLDWIDE MANUFACTURERS OF UPS PRODUCTS.....	15
TABLE 6 (CONTINUED)	16
ACQUISITION ACTIVITIES AND OTHER CHANGES	16
WORLDWIDE UPS MANUFACTURING OBSERVATIONS.....	17
WORLDWIDE MANUFACTURING SHARES.....	18
TABLE 7 ESTIMATED WORLDWIDE UPS MANUFACTURING BY REGION, 2003- 2009 (%)	19
WORLDWIDE CONSUMPTION OF UPS SYSTEMS	19
TABLE 8 ESTIMATED WORLDWIDE CONSUMPTION OF UPS SYSTEMS BY REGION, 2003-2009 (%).....	20
DISTRIBUTION CHANNELS	20
TABLE 9 TYPICAL UPS DISTRIBUTION CHANNELS.....	21
MARKET SHARES	22
TABLE 10 ESTIMATED WORLDWIDE UPS EQUIPMENT MARKET SHARES BY COMPANY, 2003 (\$ MILLIONS).....	22
COMPANY PROFILES	23
ACTIVE POWER.....	23
AEC S.p.A.	24
AMERICAN POWER CONVERSION.....	24
AMETEK SOLIDSTATE CONTROLS	25
ELROND COMPONENTS.....	25
EMERSON ELECTRIC	26
INTELLIPOWER	26
METAPO, INC.....	27
MPG UPS SYSTEMS	28
POWERWARE.....	28
SAFT POWER SYSTEMS.....	29
TRIPP LITE.....	29
UNINTERRUPTIBLE POWER SUPPLIES, LTD.....	30
UNINTERRUPTIBLE POWER PRODUCTS, INC.	31
UPS TECHNOLOGY	32
BATTERY-BACKED UPS SYSTEMS.....	32
STANDBY UPS SYSTEMS.....	33
FIGURE 1 TYPICAL STANDBY UPS SYSTEM.....	33
LINE-INTERACTIVE UPS SYSTEMS	34
FIGURE 2 TYPICAL LINE-INTERACTIVE UPS SYSTEM.....	35
ON-LINE UPS SYSTEMS	35

Double Conversion On-Line	36
<i>FIGURE 3 DOUBLE CONVERSION ON-LINE UPS SYSTEM</i>	37
Delta Conversion On-Line UPS	37
<i>FIGURE 4 DELTA CONVERSION ON-LINE UPS SYSTEM</i>	38
OTHER RELATED BATTERY SYSTEMS	38
Standby On-Line Hybrid	38
The Standby-Ferro UPS	39
BATTERY-BACKED UPS COMPONENTS.....	39
<i>TABLE 11 BASIC UPS SUBSYSTEMS</i>	40
Battery Charger.....	40
Batteries.....	41
Inverter	42
Transfer Switch	42
UPS SOFTWARE	42
Power Management Software	43
<i>TABLE 12 FEATURES OF INTELLIGENT SOFTWARE SYSTEMS</i>	43
Web-Related Power Management.....	43
FLYWHEEL-BASED UPS SYSTEMS	44
BATTERY-FREE FLYWHEEL SYSTEMS	45
Product Features	45
<i>FIGURE 5 TYPICAL BATTERY-FREE FLYWHEEL UPS CONFIGURATION</i>	46
DC FLYWHEEL SYSTEMS	46
Product Features	47
<i>FIGURE 6 FLYWHEEL CONFIGURATION WITH BATTERIES</i>	48
<i>TABLE 13 KEY FEATURES OF THE FLYWHEEL ENERGY STORAGE SYSTEM</i>	49
FLYWHEEL VERSUS BATTERY TECHNOLOGY	49
<i>TABLE 14 COMPARISON OF BATTERY AND FLYWHEEL UPS SYSTEMS</i>	50
TECHNOLOGICAL TRENDS.....	50
UPS ARCHITECTURE EXPANSION.....	50
Rack Configuration.....	51
On-Demand Architecture	51
Cooling Problems	51
<i>TABLE 15 KEY ADVANTAGES TO AN IMPROVED UPS ARCHITECTURE</i>	52
BATTERY MANAGEMENT AND MODULAR DESIGN.....	52
<i>TABLE 16 ADVANTAGES OF MODULAR DESIGN UPS</i>	53
FLYWHEEL UPS SYSTEMS	53
Run-Time Extension.....	53
Monitoring and Control Information	54
FUEL CELL-POWERED ON-LINE UPS	54
<i>TABLE 17 TECHNICAL CHARACTERISTICS OF THE FUEL CELL-POWERED UPS</i> <i>SYSTEM</i>	55
Fuel-Cell Generator	56
PATENT ANALYSIS	57
PATENTS BY TECHNOLOGICAL SUBJECT	57
<i>TABLE 18 PATENTS BY UPS TECHNOLOGY AND FUNCTION, 2003-2004</i>	57
PATENTS BY WORLDWIDE REGION	58

TABLE 19 UPS-RELATED PATENTS BY REGION, 2003-2004.....	58
PATENTS BY COMPANY.....	59
TABLE 20 ASSIGNEES WITH TWO OR MORE UPS PATENTS, 2002-2004.....	59
SAMPLE PATENT ABSTRACTS	60
METHOD AND APPARATUS FOR CONTROLLING POWER SUPPLY, AND STORAGE MEDIUM.....	60
METHOD FOR CONVERTING A DC VOLTAGE TO AN AC VOLTAGE	60
REMOTE MONITORING SYSTEM FOR UPS	61
MEDICAL ULTRASOUND SYSTEM WITH POWER CONTROL.....	61
HYSTERETIC CURRENT CONTROL METHOD AND A UPS USING SAME	62
UNINTERRUPTIBLE POWER SUPPLIES USING FUEL CELLS	62
KEY FACTORS IN UPS SELECTION.....	63
TABLE 21 MAJOR FACTORS IN SELECTING A UPS SYSTEM.....	63
KEY FACTORS IN UPS SELECTION (CONTINUED).....	64
INDUSTRY COMPETITIVENESS.....	65
ECONOMIC ENVIRONMENT	65
POWER DRIVES THE ECONOMY	65
STATUS OF ELECTRONIC PRODUCTS	66
TABLE 22 ESTIMATED AVERAGE ANNUAL GROWTH RATE OF SELECTED ELECTRONIC PRODUCTS, 2004-2009.....	66
THE IMPACT ON THE ECONOMY	67
POWER RELIABILITY	67
TABLE 23 PROPOSED METHODS FOR PREVENTING BLACKOUTS.....	67
DISTRIBUTED GENERATION	68
NORTH AMERICAN RELIABILITY COUNCIL	68
UPS STANDARDS.....	69
TABLE 24 RECOGNIZED STANDARD UPS TOPOLOGIES	70
UPS TECHNOLOGY CHANGES.....	70
TABLE 25 CHANGING UPS TECHNOLOGY	70
IMPACT OF MAJOR COMPETITIVE FACTORS	71
TABLE 26 PERCENTAGE IMPACT OF MAJOR GROWTH FACTORS ON UPS INDUSTRY COMPETITIVENESS.....	71
IMPACT OF MAJOR COMPETITIVE FACTORS (CONTINUED).....	72
UPS MARKETS	73
OVERVIEW OF MARKET STUDY.....	73
UPS SYSTEMS.....	73
ACCESSORIES	74
Software	74
REPLACEMENT BATTERIES	74
CAPACITY.....	75

TABLE 27 UPS MEASUREMENT OBJECTIVES.....	75
THE STANDBY UPS MARKET	76
DEFINITION	76
THE COMPUTER CONNECTION	77
SIZING CRITERIA FOR UPS SELECTION	77
TABLE 28 UPS SIZING CRITERIA.....	78
STANDBY VS. OTHER TYPES OF UPS FEATURES.....	79
TABLE 29 COMPARISON OF BATTERY-BASED UPS FEATURES	79
TABLE 30 SELECTION CONSIDERATIONS FOR STANDBY UPS SYSTEMS.....	80
STANDBY UPS PROFILE.....	81
TABLE 31 PROFILE OF A TYPICAL STANDBY UPS SYSTEM	81
INDUSTRY CHARACTERISTICS	82
APPLICATIONS FOR STANDBY UPS SYSTEMS	83
TABLE 32 SCOPE OF STANDBY UPS APPLICATIONS.....	83
POWER FAILURE PROTECTION FOR PERSONAL COMPUTERS	83
PROTECTION FOR PERIPHERAL DEVICES.....	84
NETWORKS AND MULTIPATH PROTECTION	84
NEWER APPLICATION AREAS	84
Industrial Applications.....	84
Communications	85
Security	85
Point-of-Sale Devices	85
Medical/Laboratory Equipment.....	85
STANDBY UPS MARKET DRIVERS AND TRENDS	86
PERSONAL COMPUTER/WORKSTATION GROWTH	86
TABLE 33 PERSONAL COMPUTER MARKET GROWTH, THROUGH 2004 (MILLION UNITS).....	86
Personal Computers in the Home.....	87
TABLE 34 PERCENTAGE OF U.S. HOUSEHOLDS WITH A COMPUTER, 1998-2003 (%).....	87
NETWORKING AND THE INTERNET	88
The Internet Helps Generate a UPS Market	88
TABLE 35 PERCENT OF ONLINE U.S. HOUSEHOLDS, 1999-2004 (%).....	88
HOME NETWORKS	89
CHANGES IN THE STANDBY MARKET	89
Economic Considerations	89
A Maturing Market	90
STANDBY UPS MARKET PROJECTIONS/FORECASTS.....	90
GROWTH TRENDS	90
TABLE 36 VALUE OF WORLDWIDE STANDBY UPS SHIPMENTS, 1998-2003 (\$ MILLIONS).....	91
SHIPMENTS OF STANDBY UPS SYSTEMS.....	91
TABLE 37 FORECAST ASSUMPTIONS — GROWTH OF STANDBY UPS SYSTEMS.....	92
DOMESTIC AND INTERNATIONAL GROWTH CATEGORIES.....	92

TABLE 38	WORLDWIDE SHIPMENTS OF STANDBY UPS SYSTEMS BY REGION, THROUGH 2009 (THOUSAND UNITS).....	93
FIGURE 7	PROJECTED GROWTH OF STANDBY UNIT SHIPMENTS, 2003-2009 (THOUSAND UNITS).....	93
	VALUE OF STANDBY UPS SHIPMENTS	94
TABLE 39	VALUE OF WORLDWIDE STANDBY UPS SHIPMENTS BY REGION, THROUGH 2009 (\$ MILLIONS).....	95
FIGURE 8	WORLDWIDE PROJECTION OF STANDBY UPS VALUE, 2003-2009 (\$ MILLIONS).....	95
	SHIPMENTS BY CAPACITY	96
TABLE 40	WORLDWIDE SHIPMENTS OF STANDBY UPS SYSTEMS BY CAPACITY, THROUGH 2009 (THOUSAND UNITS).....	97
	SHIPMENT OF BATTERY REPLACEMENTS	97
TABLE 41	WORLDWIDE SHIPMENTS OF REPLACEMENT BATTERY KITS FOR STANDBY UPS SYSTEMS, THROUGH 2009 (THOUSAND UNITS).....	98
	VALUE OF BATTERY REPLACEMENTS.....	99
TABLE 42	WORLDWIDE VALUE OF BATTERY REPLACEMENT KITS FOR STANDBY UPS SYSTEMS, THROUGH 2009 (\$ MILLIONS).....	99
	SHIPMENTS OF STANDBY UPS ACCESSORIES	99
TABLE 43	WORLDWIDE SHIPMENTS OF STANDBY UPS ACCESSORIES, THROUGH 2009 (THOUSAND UNITS).....	100
	VALUE OF ACCESSORY SHIPMENTS	100
TABLE 44	WORLDWIDE VALUE OF STANDBY UPS ACCESSORY SHIPMENTS, THROUGH 2009 (\$ MILLIONS).....	101
	SHIPMENTS BY APPLICATION	101
TABLE 45	WORLDWIDE STANDBY UPS SHIPMENTS BY PRIMARY APPLICATIONS, THROUGH 2009 (THOUSAND UNITS).....	102
FIGURE 9	WORLDWIDE SHIPMENTS OF STANDBY UPS SYSTEMS BY APPLICATION, 2003-2009 (THOUSAND UNITS)	102
	Shipments by Application (Continued).....	103
THE LINE-INTERACTIVE UPS MARKET		104
	DEFINITION	104
	LINE-INTERACTIVE SELECTION CRITERIA.....	105
	APPLICATIONS AND LOAD REQUIREMENTS.....	106
TABLE 46	CONSIDERATIONS FOR SELECTING A LINE-INTERACTIVE UPS SYSTEM.....	106
	LINE-INTERACTIVE PROFILE.....	107
TABLE 47	PROFILE OF A TYPICAL LINE-INTERACTIVE UPS	107
	High-Density Requirements.....	108
	INDUSTRY CHARACTERISTICS	108
	APPLICATIONS OF LINE-INTERACTIVE SYSTEMS	109
TABLE 48	SCOPE OF LINE-INTERACTIVE UPS APPLICATIONS.....	110
	POWER PROTECTION FOR LARGER INSTALLATIONS	110
	UNATTENDED OPERATIONS	111
	MULTIPATH PROTECTION FOR NETWORKING.....	111
	EXTENDED RUN-TIME	111
TABLE 49	TYPES OF SOFTWARE BY CATEGORY USED IN UPS SYSTEMS, 2000- 2003 (%)	112

TELECOMMUNICATIONS SUPPORT.....	112
TABLE 50 KEY CHARACTERISTICS OF NETWORKED UPS SYSTEMS.....	113
MODULAR DESIGN AND DATA-CENTER PROTECTION	113
TABLE 51 KEY BENEFITS OF RACK-MOUNTED UPS SYSTEMS.....	113
MEDICAL AND INDUSTRIAL APPLICATIONS.....	114
UPS in Clinical Laboratories	114
TABLE 52 TYPICAL MEDICAL LABORATORY ENVIRONMENT	114
LINE-INTERACTIVE MARKET FACTORS	115
LARGER PC/WORKSTATION NETWORKS	115
TABLE 53 ESTIMATED ANNUAL COSTS OF NETWORK DOWNTIME, 1998-2003 (\$	
MILLIONS).....	116
SERVER GROWTH.....	116
SMALL DATA CENTERS.....	117
CHANGES IN THE LINE-INTERACTIVE MARKET	117
Increasing Growth in the 10-kVA to 50-kVA Market	117
Higher Demand in the Over-50-kVA Market.....	118
Utility Power is Getting Worse	118
Line-Interactive UPS Moving into the Under-2-kVA	
Range	118
LINE-INTERACTIVE MARKET PROJECTIONS AND FORECASTS	118
GROWTH TRENDS	118
TABLE 54 VALUE OF WORLDWIDE LINE-INTERACTIVE UPS SHIPMENTS, 1998-	
2003 (\$ MILLIONS).....	119
SHIPMENTS OF LINE-INTERACTIVE UPS SYSTEMS	119
TABLE 55 ASSUMPTIONS ON GROWTH OF LINE-INTERACTIVE UPS SYSTEMS.....	120
Domestic and International Growth.....	120
TABLE 56 WORLDWIDE SHIPMENTS OF LINE-INTERACTIVE UPS SYSTEMS BY	
REGION, THROUGH 2009 (THOUSAND UNITS).....	121
FIGURE 10 WORLDWIDE SHIPMENTS OF LINE-INTERACTIVE UPS SYSTEMS BY	
REGION, 2003-2009 (THOUSAND UNITS).....	121
VALUE OF LINE-INTERACTIVE SHIPMENTS	122
TABLE 57 VALUE OF WORLDWIDE LINE-INTERACTIVE UPS SHIPMENTS BY	
REGION, THROUGH 2009 (\$ MILLIONS).....	123
FIGURE 11 VALUE OF WORLDWIDE LINE-INTERACTIVE UPS SHIPMENTS BY	
REGION, 2003-2009 (\$ MILLIONS).....	123
SHIPMENTS BY CAPACITY	124
TABLE 58 WORLDWIDE SHIPMENTS OF LINE-INTERACTIVE UPS SYSTEMS BY	
CAPACITY, THROUGH 2009 (THOUSAND UNITS).....	125
SHIPMENTS OF BATTERY REPLACEMENTS	125
TABLE 59 WORLDWIDE SHIPMENTS OF REPLACEMENT BATTERY PACKS FOR	
LINE-INTERACTIVE UPS SYSTEMS, THROUGH 2009 (THOUSAND UNITS).....	126
VALUE OF BATTERY REPLACEMENTS.....	127
TABLE 60 WORLDWIDE VALUE OF BATTERY REPLACEMENT PACKS FOR LINE-	
INTERACTIVE UPS SYSTEMS, THROUGH 2009 (\$ MILLIONS)	127
SHIPMENTS OF LINE-INTERACTIVE ACCESSORIES	127
TABLE 61 WORLDWIDE SHIPMENTS OF LINE-INTERACTIVE ACCESSORIES,	
THROUGH 2009 (THOUSAND UNITS).....	128
VALUE OF LINE-INTERACTIVE ACCESSORY SHIPMENTS.....	128

TABLE 62 WORLDWIDE VALUE OF LINE-INTERACTIVE ACCESSORY SHIPMENTS, THROUGH 2009 (\$ MILLIONS).....	129
SHIPMENTS BY APPLICATION	129
TABLE 63 WORLDWIDE SHIPMENTS OF LINE-INTERACTIVE UPS SYSTEMS BY PRIMARY APPLICATION, THROUGH 2009 (THOUSAND UNITS)	130
FIGURE 12 WORLDWIDE SHIPMENTS OF LINE-INTERACTIVE UPS SYSTEMS BY APPLICATION, 2003-2009 (THOUSAND UNITS)	130
Shipments by Application (Continued).....	131
THE ON-LINE UPS MARKET	132
DEFINITION	132
CRITERIA FOR ON-LINE UPS SELECTION	133
APPLICATIONS AND LOAD REQUIREMENTS.....	134
TABLE 64 SELECTION CONSIDERATIONS FOR ON-LINE UPS SYSTEMS.....	134
ON-LINE UPS PROFILE	135
TABLE 65 PROFILE OF A TYPICAL ON-LINE UPS SYSTEM	135
INDUSTRY CHARACTERISTICS	135
INDUSTRY CHARACTERISTICS (CONTINUED)	136
ON-LINE UPS APPLICATIONS.....	137
TABLE 66 SCOPE OF ON-LINE UPS APPLICATIONS	138
POWER QUALITY AND PROTECTION FOR LARGE INSTALLATIONS.....	138
Increased Critical Applications in Large Installations.....	139
PARALLEL AND REDUNDANT SYSTEMS.....	139
TELECOMMUNICATIONS AND COMPUTER NETWORKS	139
Telecommunications Equipment	140
TABLE 67 KEY CHARACTERISTICS OF AN ON-LINE UPS FOR COMMUNICATIONS APPLICATIONS.....	140
Computer Networks	140
TABLE 68 CONDITIONS DICTATING THE USE OF ON-LINE UPS WORKSTATION PROTECTION	141
ADVANCED POWER MANAGEMENT	141
MODULAR PACKAGING FOR EXPANDED PROTECTION.....	141
TABLE 69 UPS PACKAGING FOR POWER.....	142
The Cooling Issue	142
The Fuel-Cell UPS.....	143
EXPANDED PROTECTION FOR LARGE FACILITIES.....	143
Applications for Rotary Flywheel UPS Systems	143
TABLE 70 ADVANTAGES OF ROTARY UPS SYSTEMS	144
ON-LINE UPS MARKET FACTORS.....	145
TELECOMMUNICATIONS GROWS AGAIN	145
TABLE 71 GROWTH AND COMPLEXITY OF TELECOMMUNICATIONS	145
CONTINUED EXPANSION OF DATA CENTERS.....	146
TABLE 72 CHARACTERISTICS OF LARGE DATA CENTERS.....	147
MORE INDUSTRIAL POWER PROTECTION	147
CHANGING ON-LINE MARKETS	148
Demand for Higher Capacity	148

Larger Worldwide Market.....	148
Desire for Uninterrupted Power	148
Increased Flexibility	148
Added Markets.....	149
ON-LINE UPS MARKET PROJECTIONS.....	149
GROWTH TRENDS	149
TABLE 73 VALUE OF WORLDWIDE ON-LINE UPS SHIPMENTS, 1998-2003 (\$ MILLIONS).....	149
SHIPMENTS OF ON-LINE SYSTEMS	150
TABLE 74 FORECAST ASSUMPTIONS — GROWTH OF ON-LINE UPS SYSTEMS.....	150
Domestic and International Growth.....	151
TABLE 75 WORLDWIDE SHIPMENTS OF ON-LINE UPS SYSTEMS BY REGION, THROUGH 2009 (THOUSAND UNITS).....	151
VALUE OF ON-LINE SHIPMENTS.....	152
TABLE 76 VALUE OF WORLDWIDE SHIPMENTS OF ON-LINE UPS SYSTEMS BY REGION, THROUGH 2009 (\$ MILLIONS).....	153
SHIPMENTS BY CAPACITY	154
TABLE 77 WORLDWIDE SHIPMENTS OF ON-LINE UPS SYSTEMS BY CAPACITY, THROUGH 2009 (THOUSAND UNITS).....	155
SHIPMENTS OF ON-LINE BATTERY REPLACEMENTS	156
TABLE 78 WORLDWIDE SHIPMENTS OF REPLACEMENT BATTERY PACKS FOR ON-LINE UPS SYSTEMS, THROUGH 2009 (THOUSAND UNITS).....	156
VALUE OF ON-LINE BATTERY REPLACEMENTS.....	157
TABLE 79 WORLDWIDE VALUE OF BATTERY REPLACEMENT PACKS FOR ON-LINE UPS SYSTEMS, THROUGH 2009 (\$ MILLIONS)	157
SHIPMENTS OF ON-LINE UPS ACCESSORIES.....	158
TABLE 80 WORLDWIDE SHIPMENTS OF ON-LINE UPS ACCESSORIES, THROUGH 2009 (THOUSAND UNITS).....	158
VALUE OF ON-LINE ACCESSORY SHIPMENTS	159
TABLE 81 VALUE OF ON-LINE UPS ACCESSORY SHIPMENTS, THROUGH 2009 (\$ MILLIONS).....	159
SHIPMENTS BY APPLICATION	159
TABLE 82 WORLDWIDE SHIPMENTS OF ON-LINE UPS SYSTEMS BY PRIMARY APPLICATION, THROUGH 2009 (THOUSAND UNITS).....	160
Shipments by Application (Continued).....	161