

CHAPTER ONE: INTRODUCTION.....	1
STUDY BACKGROUND	1
STUDY GOALS AND OBJECTIVES.....	1
INTENDED AUDIENCE.....	1
SCOPE OF REPORT	2
METHODOLOGY AND INFORMATION SOURCES.....	2
ANALYST CREDENTIALS.....	3
RELATED BCC RESEARCH REPORTS.....	3
BCC ONLINE SERVICES.....	3
DISCLAIMER	4
 CHAPTER TWO: SUMMARY.....	 5
<i>SUMMARY TABLE GLOBAL MARKET FOR MICROSCOPES,</i> <i>ACCESSORIES AND SUPPLIES, THROUGH 2014 (\$ MILLIONS)</i>	 5
<i>SUMMARY FIGURE GLOBAL MARKET FOR MICROSCOPES,</i> <i>ACCESSORIES AND SUPPLIES, 2008-2014 (\$ MILLIONS)</i>	 5
SUMMARY (CONTINUED)	6
 CHAPTER THREE: MICROSCOPY OVERVIEW	 7
GENERAL DESCRIPTION	7
DEFINITIONS	7
Charged Particle.....	7
Compound Microscope.....	7
Confocal Microscope	7
Depth of Field	7
Dispersion	8
Eyepiece	8
Inverted Microscope	8
Immersion Media.....	8
Lens.....	8
<i>FIGURE 1 MAGNIFYING LENS PRINCIPLES</i>	9
Magnification.....	9
Nanoscale	9
Near Field	10
Numerical Aperture.....	10
Objective.....	10
Phase Shift.....	10
<i>FIGURE 2 LIGHT WAVE PHASES</i>	11
Polarization.....	11
<i>FIGURE 3 POLARIZATION</i>	12
Reflected Light Microscopes.....	12
Reflecting Microscope	12
Refraction.....	13
<i>FIGURE 4 REFRACTION</i>	13

Resolution	13
Scanning Probe	14
Stereoscopic.....	14
Tunneling Current.....	14
Wavelength	14
<i>FIGURE 5 LIGHT WAVE</i>	<i>15</i>
<i>FIGURE 6 WAVELENGTHS USED IN OPTICAL MICROSCOPY (NM)</i>	<i>15</i>
BRIEF HISTORY OF MICROSCOPY.....	16
Brief History of Microscopy (Continued)	16
TYPES OF MICROSCOPE.....	17
OPTICAL MICROSCOPES.....	18
Description and Applications	18
<i>TABLE 1 TYPES OF OPTICAL MICROSCOPES AND THEIR MAIN</i> <i>APPLICATIONS</i>	<i>18</i>
Upright (Compound) Microscopes	18
Binocular Stereomicroscopes.....	19
Polarizing Microscopes	19
Metallographic Microscopes	20
Reflecting Microscopes.....	20
<i>FIGURE 7 REFLECTING MICROSCOPE</i>	<i>21</i>
Phase-Contrast Microscopes.....	21
<i>FIGURE 8 BASIC PRINCIPLE OF A PHASE-CONTRAST</i> <i>MICROSCOPE</i>	<i>22</i>
Fluorescence Microscope.....	23
<i>FIGURE 9 FLUORESCENCE MICROSCOPY PRINCIPLES</i>	<i>23</i>
<i>FIGURE 10 FLUORESCENCE MICROSCOPE LAYOUT</i>	<i>24</i>
Confocal Microscopes	25
<i>FIGURE 11 PRINCIPLES OF CONFOCAL MICROSCOPY</i>	<i>26</i>
Confocal ...(continued).....	27
Near-Field Scanning Optical Microscopes	28
<i>FIGURE 12</i>	<i>29</i>
<i>SCANNING NEAR FIELD OPTICAL MICROSCOPE PRINCIPLES</i>	<i>29</i>
Inverted Microscopes	30
Other Types of Optical Microscope	30
• Advanced Confocal Microscopy.....	31
• Phase-Sensitive Scatter-Field Optical Imaging	31
• Stochastic Optical Reconstruction Microscopy.....	31
• Stimulated Emission Depletion Microscopy	32
• Structured Illumination Microscopy	32
• Second Harmonic Generation Microscopy	32
Patent Analysis.....	33
Technologies	33

<i>TABLE 2 U.S. OPTICAL MICROSCOPY PATENTS (NUMBER OF PATENTS/PATENT APPLICATIONS BY TYPE OF TECHNOLOGY)</i>	33
<i>FIGURE 13 OPTICAL MICROSCOPY PATENTS BY TYPE OF TECHNOLOGY (PERCENT OF TOTAL PATENTS AS OF JUNE 1, 2009)</i>	34
Trends over Time	34
<i>TABLE 3 OPTICAL MICROSOCOPY PATENTS ISSUED ANNUALLY BY TYPE OF TECHNOLOGY, 2004-2008 (NUMBER OF PATENTS)</i>	35
<i>FIGURE 14 OPTICAL MICROSOCOPY PATENTS ISSUED ANNUALLY BY TYPE OF TECHNOLOGY, 2004-2008 (NUMBER OF PATENTS)</i>	35
Patent Holders	36
<i>TABLE 4 PATENT HOLDERS AND APPLICANTS</i>	36
<i>FIGURE 15 MAJOR OPTICAL MICROSCOPY PATENT HOLDERS (%)</i>	37
<i>TABLE 5 OPTICAL MICROSCOPY PATENT HOLDERS BY TECHNOLOGY TYPE (NUMBER OF PATENTS)</i>	37
<i>FIGURE 16 MAJOR OPTICAL MICROSCOPY PATENT HOLDERS BY TECHNOLOGY TYPE (PERCENTAGES OF TOTAL PATENTS)</i>	38
Manufacturers	39
<i>TABLE 6 OPTICAL MICROSCOPE MANUFACTURERS</i>	39
CHARGED PARTICLE MICROSCOPES	40
Description and Applications	40
<i>TABLE 7 TYPES OF CHARGED PARTICLE MICROSCOPES AND THEIR MAIN APPLICATIONS</i>	40
<i>TABLE 7 (CONTINUED)</i>	41
Transmission Electron Microscopes	41
Transmission ... (Continued)	42
<i>FIGURE 17 TRANSMISSION ELECTRON MICROSCOPE</i>	43
Scanning Electron Microscopes	44
<i>FIGURE 18 SCANNING ELECTRON MICROSCOPE</i>	45
<i>FIGURE 19 SCANNING ELECTRON MICROSCOPE-SAMPLE INTERACTION</i>	46
• Environmental Scanning Electron Microscope (ESEM)	47
• Field Emission Scanning Electron Microscopes (FESEM)	47
• Field Ion Microscopes (FIM)	48
Other Types of Electron Microscope	48
• Electron-Probe Microanalyzer (EPMA).....	48
• Scanning Transmission Electron Microscopes	49
• High-voltage Electron Microscopes	49
• Focused Ion Beam (FIB) Microscopes	50
• Reflection Electron Microscope	51
• Low Energy Electron Microscopy	51

• Photo-Electron Emission Microscope	52
Patent Analysis.....	52
Technologies	52
<i>TABLE 8 U.S. CHARGED PARTICLE MICROSCOPY PATENTS AND PATENT APPLICATIONS (NUMBER AND PERCENT OF U.S. PATENTS ISSUED THROUGH JUNE 1, 2009)</i>	52
<i>TABLE 8 (CONTINUED)</i>	53
<i>FIGURE 20 U.S. CHARGED-PARTICLE MICROSCOPY PATENTS BY TYPE OF TECHNOLOGY (PERCENT OF U.S. PATENTS ISSUED THROUGH JUNE 1, 2009)</i>	53
Trends over Time	54
<i>TABLE 9 CHARGED PARTICLE MICROSCOPY PATENTS ISSUED ANNUALLY BY TYPE OF TECHNOLOGY, 2004-2008 (NUMBER OF PATENTS)</i>	54
<i>FIGURE 21 CHARGED-PARTICLE MICROSCOPY PATENTS ISSUED ANNUALLY BY TYPE OF TECHNOLOGY, 2004-2008 (NUMBER OF PATENTS ISSUED ANNUALLY)</i>	55
Patent Holders	55
<i>TABLE 10 CHARGED PARTICLE MICROSCOPY U.S. PATENTS PATENTS ISSUED AND APPLICATIONS PENDING THROUGH JUNE 1, 2009)</i>	56
<i>FIGURE 22 CHARGED-PARTICLE MICROSCOPE U.S. PATENT HOLDERS (% OF TOTAL PATENTS ISSUED THROUGH JUNE 1, 2009)</i>	56
<i>TABLE 11 CHARGED-PARTICLE MICROSCOPY PATENT HOLDERS, BY TECHNOLOGY TYPE (NUMBER OF PATENTS)</i>	57
<i>FIGURE 23 MAJOR CHARGED-PARTICLE MICROSCOPY PATENT HOLDERS, BY TECHNOLOGY TYPE (PERCENTAGES OF TOTAL PATENTS)</i>	57
<i>FIGURE 23 (CONTINUED)</i>	58
Manufacturers	58
<i>TABLE 12 CHARGED-PARTICLE MICROSCOPE MANUFACTURERS</i>	58
<i>TABLE 12 (CONTINUED)</i>	59
SCANNING-PROBE MICROSCOPES.....	59
Description and Applications	59
<i>FIGURE 24 SCANNING-PROBE MICROSCOPE</i>	60
<i>TABLE 13 TYPES OF SCANNING-PROBE MICROSCOPES AND THEIR MAIN APPLICATIONS</i>	61
Scanning Tunneling Microscopes.....	61
Atomic Force Microscopes.....	62
<i>FIGURE 25 ATOMIC FORCE MICROSCOPE PROBE</i>	63
Other Types of Scanning Probe Microscope.....	64
• Magnetic Force Microscopes	65
• Electric Force Microscopes.....	65

• Scanning Thermal Microscopy.....	66
Patent Analysis.....	66
Technologies	67
<i>TABLE 14 U.S. SCANNING PROBE MICROSCOPY PATENTS AND PATENT APPLICATIONS.....</i>	<i>67</i>
<i>FIGURE 26 SCANNING PROBE MICROSCOPY PATENTS BY TYPE OF TECHNOLOGY (PERCENT OF ISSUED PATENTS AS OF JUNE 1, 2009)</i>	<i>67</i>
Trends over Time	68
<i>TABLE 15 SCANNING PROBE MICROSCOPY PATENTS ISSUED ANNUALLY BY TYPE OF TECHNOLOGY, 2004-2008 (NUMBER OF PATENTS).....</i>	<i>68</i>
<i>FIGURE 27 SCANNING PROBE MICROSCOPY PATENTS ISSUED ANNUALLY BY TYPE OF TECHNOLOGY, 2004-2008 (NUMBER OF PATENTS ISSUED ANNUALLY)</i>	<i>69</i>
Patent Holders	69
<i>TABLE 16 SCANNING PROBE MICROSCOPY U.S. PATENT HOLDERS AND APPLICANTS.....</i>	<i>70</i>
<i>FIGURE 28 SCANNING PROBE MICROSCOPE PATENT HOLDERS (% OF TOTAL U.S. PATENTS ISSUED THROUGH JUNE 1, 2009)</i>	<i>70</i>
<i>TABLE 17 SCANNING PROBE MICROSCOPY PATENT HOLDERS BY TECHNOLOGY TYPE (NUMBER OF PATENTS).....</i>	<i>71</i>
<i>FIGURE 29 MAJOR SPM PATENT HOLDERS BY TECHNOLOGY TYPE (PERCENTAGES OF TOTAL PATENTS)</i>	<i>71</i>
<i>FIGURE 29 (CONTINUED)</i>	<i>72</i>
Manufacturers	72
<i>TABLE 18 SCANNING PROBE MICROSCOPE MANUFACTURERS.....</i>	<i>72</i>
ACCESSORIES AND SUPPLIES	73
Description and Applications	73
<i>TABLE 19 MICROSCOPE ACCESSORIES AND THEIR MAIN FUNCTIONS.....</i>	<i>73</i>
Photo-microscopy Equipment.....	73
Illumination Systems.....	74
Microscope Stages and Accessories	74
Eyepieces	75
Objectives	75
Scanning Probes.....	75
Consumables	76
Patent Analysis.....	76
Accessory Types	76
<i>TABLE 20 U.S. MICROSCOPE ACCESSORY PATENTS AND PATENT APPLICATIONS</i>	<i>77</i>

<i>FIGURE 30 U.S. MICROSCOPE ACCESSORY PATENTS BY ACCESSORY TYPE (PERCENT OF TOTAL PATENTS ISSUED AS OF JUNE 1, 2009)</i>	77
Patent Holders	78
<i>TABLE 21 MICROSCOPE ACCESSORY U.S. PATENT HOLDERS AND APPLICANTS</i>	78
<i>FIGURE 31 MICROSCOPE ACCESSORY PATENT HOLDERS (PERCENT OF PATENTS ISSUED THROUGH JUNE 1, 2009)</i>	78
Manufacturers	79
<i>TABLE 22 MICROSCOPE ACCESSORY MANUFACTURERS</i>	79
END USERS.....	79
<i>TABLE 23 MICROSCOPE END-USER INDUSTRIES</i>	80
SEMICONDUCTORS	81
Optical Microscopes	81
Charged Particle Microscopes	82
Scanning Probe Microscopes	83
LIFE SCIENCES.....	83
<i>TABLE 24 GLOBAL LIFE SCIENCES SALES, 2008 (\$ BILLIONS)</i>	83
Optical Microscopes	84
Charged Particle Microscopes	84
MATERIALS SCIENCE.....	85
<i>FIGURE 32 MATERIALS SCIENCE INSTRUMENT MAJOR MARKET SEGMENTS, 2008 (PERCENT OF TOTAL SALES)</i>	86
Optical Microscopes	86
Charged Particle Microscopes	87
Scanning Probe Microscopes	88
NANOTECHNOLOGY	89
Charged Particle Microscopes	89
Scanning Probe Microscopes	89
OTHER END USERS.....	89
Education	90
Optical Microscopes	90
Other Types of Microscopes.....	90
Environmental Science.....	90
Optical Microscopes	90
Charged Particle Microscope	91
Forensics	91
Optical Microscopes	91
Charged Particle Microscopes	92
Food Processing	92
Optical Microscopes	92
Charged Particle Microscopes	92
CHAPTER FOUR: GLOBAL MARKET FOR MICROSCOPES AND ACCESSORIES 2008 TO 2014	93

OVERALL MARKET SIZE AND SEGMENTATION.....	93
DETAILED MARKET ANALYSIS AND PROJECTIONS.....	93
MARKET BY TYPE OF INSTRUMENT.....	93
TABLE 25 PROJECTED GLOBAL MICROSCOPE SALES BY PRODUCT TYPE, THROUGH 2014 (\$ MILLION).....	93
FIGURE 33 TRENDS IN GLOBAL SALES OF MICROSCOPES, ACCESSORIES AND SUPPLIES, 2008-2014 (\$ MILLIONS).....	94
FIGURE 34 GLOBAL MICROSCOPY MAJOR MARKET SEGMENTS, 2008 VS. 2014 (%).....	95
Optical Microscopes.....	96
Optical Microscope Market Size and Segmentation.....	96
TABLE 26 GLOBAL OPTICAL MICROSCOPE SALES, 2008 (\$ MILLIONS).....	96
FIGURE 35 GLOBAL OPTICAL MICROSCOPE MARKET SEGMENTATION, 2008 (% OF TOTAL OPTICAL MICROSCOPE SALES).....	97
Market Drivers.....	97
• Spending on Educational Equipment.....	98
TABLE 27 U.S. EDUCATIONAL EXPENDITURES, THROUGH 2006 (\$ BILLIONS).....	98
FIGURE 36 TRENDS IN U.S. EDUCATIONAL EXPENDITURES, 1997- 2006 (\$ BILLIONS).....	98
• Trends in Infrared Spectroscopy.....	99
TABLE 28 GLOBAL MOLECULAR SPECTROMETRY SALES, THROUGH 2014 (\$ BILLIONS).....	99
• Life Sciences R & D and Healthcare Spending.....	99
TABLE 29 GLOBAL LIFE SCIENCES R&D SPENDING THROUGH 2014 (\$ BILLIONS).....	100
FIGURE 37 GLOBAL TRENDS IN LIFE SCIENCES R&D SPENDING 2008-2014 (\$ BILLIONS).....	100
TABLE 30 GLOBAL SPENDING ON MATERIALS CHARACTERIZATION INSTRUMENTS, THROUGH 2014 (\$ BILLIONS).....	101
FIGURE 38 GLOBAL MATERIALS CHARACTERIZATION INSTRUMENT SALES TRENDS, 2008-2014 (\$ BILLIONS).....	101
• Technology Shift Away From Compound Optical Microscopy.....	102
Future Market for Optical Microscopes.....	102
TABLE 31 PROJECTED GLOBAL SALES OF OPTICAL MICROSCOPES THROUGH 2014 (\$ MILLIONS).....	102
TABLE 32 PROJECTED GROWTH RATE OF GLOBAL MARKET FOR STEREOSCOPIC MICROSCOPES, 2008-2014 (PERCENT CAGR).....	103

<i>TABLE 33 PROJECTED GROWTH RATE OF GLOBAL MARKET FOR SCANNING NEAR FIELD OPTICAL MICROSCOPES, 2008-2014 (PERCENT CAGR)</i>	104
<i>FIGURE 39 GLOBAL OPTICAL MICROSCOPE MARKET SEGMENTATION, 2014 (%)</i>	104
Charged Particle Microscopes	105
Charged Particle Microscope Market Size and Segmentation	105
<i>TABLE 34 GLOBAL CHARGED PARTICLE MICROSCOPE SALES, 2008 (\$ MILLIONS)</i>	105
<i>FIGURE 40 GLOBAL CHARGED PARTICLE MICROSCOPE MARKET SEGMENTS, 2008 (%)</i>	106
Market Drivers.....	106
• Semiconductor Industry Investment Trends	106
<i>FIGURE 41 GLOBAL MARKETS FOR SCANNING ELECTRON MICROSCOPES, 2008 (PERCENTAGES OF TOTAL SEM SALES)</i>	107
<i>TABLE 35 SEMICONDUCTOR INDUSTRY CAPITAL EQUIPMENT SPENDING PROJECTIONS THROUGH 2014 (\$ BILLIONS)</i>	108
<i>FIGURE 42 PROJECTED GROWTH IN SEMICONDUCTOR CAPITAL EQUIPMENT SPENDING, 2008-2014 (\$ BILLIONS)</i>	108
• Technology Shifts	109
<i>FIGURE 43 CHARGED PARTICLE MICROSCOPE SALES GROWTH VS. GROWTH IN MAJOR UNDERLYING MARKETS, 2003-2008 (CAGR %)</i>	109
Future Market for Charged Particle Microscopes	110
<i>TABLE 36 PROJECTED GLOBAL SALES OF CHARGED PARTICLE MICROSCOPES THROUGH 2014 (\$ MILLIONS)</i>	111
<i>TABLE 37 PROJECTED GLOBAL GROWTH RATE OF SCANNING ELECTRON MICROSCOPE SALES TO THE LIFE AND MATERIALS SCIENCES, THROUGH 2014 (\$ MILLIONS)</i>	112
<i>FIGURE 44 GLOBAL CHARGED PARTICLE MICROSCOPE MARKET SEGMENTS, 2014 (PERCENT OF TOTAL SALES)</i>	113
Scanning Probe Microscopes	113
Scanning Probe Microscope Market Size and Segmentation	114
<i>FIGURE 45 GLOBAL SPM MARKET PRODUCT SEGMENTS, 2008 (PERCENT OF TOTAL SALES)</i>	114
Market Drivers.....	114
• Trends in Nanoscale Applications	115
• Technology Shifts	115
Future Market for Scanning Probe Microscopes	115
<i>TABLE 38 PROJECTED GLOBAL SALES OF SCANNING PROBE MICROSCOPES, THROUGH 2014 (\$ MILLIONS)</i>	116

<i>FIGURE 46 GLOBAL SCANNING PROBE MICROSCOPE MARKET SEGMENTS, 2014 (PERCENT OF TOTAL SALES)</i>	116
Accessories and Supplies.....	117
Market Size and Segmentation.....	117
<i>TABLE 39 GLOBAL SALES OF MICROSCOPE ACCESSORIES AND CONSUMABLES, 2008</i>	117
<i>FIGURE 47 GLOBAL MICROSCOPE ACCESSORIES AND SUPPLIES MARKET SEGMENTATION, 2008 (%)</i>	118
Market Drivers.....	118
• Number of Microscopes in Use Worldwide	118
<i>TABLE 40 NUMBER OF MICROSCOPES IN USE WORLDWIDE THROUGH 2014 (MILLION UNITS)</i>	118
<i>FIGURE 48 TRENDS IN NUMBER OF MICROSCOPES IN USE WORLDWIDE, 2008-2014 (MILLION UNITS)</i>	119
Future Markets for Microscope Accessories and Supplies.....	119
<i>TABLE 41 PROJECTED GLOBAL SALES OF MICROSCOPE ACCESSORIES AND SUPPLIES, THROUGH 2014 (\$ MILLIONS)</i>	119
MARKETS BY END-USER SEGMENT	120
Optical Microscopes	120
<i>TABLE 42 GLOBAL END-USER MARKETS FOR OPTICAL MICROSCOPES, THROUGH 2014 (\$ MILLIONS)</i>	120
<i>FIGURE 49 GLOBAL OPTICAL MICROSCOPE MARKET SHARES BY END-USER SEGMENT, 2008 VS. 2014 (PERCENTAGE OF SALES)</i>	121
Charged Particle Microscopes	122
<i>FIGURE 50 GLOBAL CHARGED PARTICLE MICROSCOPE MARKET SHARES BY END-USER SEGMENT, 2008 VS. 2014 (PERCENTAGE OF SALES)</i>	122
<i>FIGURE 50 (CONTINUED)</i>	123
Scanning Probe Microscopes	123
All Types of Microscopes	123
<i>TABLE 43 GLOBAL END-USER MARKETS FOR ALL TYPES OF MICROSCOPE*, THROUGH 2014 (\$ MILLIONS)</i>	123
<i>FIGURE 51 GLOBAL MICROSCOPE MARKET SHARES BY END-USER SEGMENT, 2008 VS. 2014 (PERCENTAGE OF SALES)</i>	124
GEOGRAPHICAL MARKETS.....	125
Optical Microscopes	125
<i>TABLE 44 GEOGRAPHICAL MARKETS FOR OPTICAL MICROSCOPES, THROUGH 2014* (\$ MILLIONS)</i>	125
<i>FIGURE 52 OPTICAL MICROSCOPE GEOGRAPHICAL MARKET SHARES, 2008 VS. 2014 (PERCENTAGE OF GLOBAL SALES)</i>	126
Charged Particle Microscopes	127
<i>TABLE 45 GEOGRAPHICAL MARKETS FOR CHARGED PARTICLE MICROSCOPES, THROUGH 2014* (\$ MILLIONS)</i>	127

<i>FIGURE 53 CHARGED PARTICLE MICROSCOPE GEOGRAPHICAL MARKET SHARES, 2008 VS. 2014 (PERCENTAGE OF GLOBAL SALES)</i>	128
Scanning Probe Microscopes	129
<i>TABLE 46 GEOGRAPHICAL MARKETS FOR SCANNING PROBE MICROSCOPES, THROUGH 2014* (\$ MILLIONS)</i>	129
<i>FIGURE 54 SCANNING PROBE MICROSCOPE GEOGRAPHICAL MARKET SHARES, 2008 VS. 2014 (PERCENTAGE OF GLOBAL SALES)</i>	129
<i>FIGURE 54 (CONTINUED)</i>	130
All Types of Microscopes	130
<i>TABLE 47 GEOGRAPHICAL MARKETS FOR ALL TYPES OF MICROSCOPE, THROUGH 2014*</i>	131
<i>FIGURE 55 GEOGRAPHICAL MICROSCOPE MARKET SHARES BY END-USER SEGMENT, 2008 VS. 2014*</i>	131
<i>FIGURE 55 (CONTINUED)</i>	132
CHAPTER FIVE: INDUSTRY STRUCTURE	133
MARKET SHARES	133
OPTICAL MICROSCOPES	133
<i>FIGURE 56 OPTICAL MICROSCOPY MARKET SHARES, 2008 (PERCENT OF TOTAL SALES BY VALUE)</i>	133
CHARGED PARTICLE MICROSCOPES	134
Electron Microscopes	134
<i>FIGURE 57 ELECTRON MICROSCOPE MARKET SHARES, 2008 (PERCENT OF TOTAL SALES BY VALUE)</i>	134
Focused Ion Beam Microscopes.....	134
<i>FIGURE 58 FOCUSED ION BEAM MICROSCOPE MARKET SHARES, 2008 (PERCENT OF TOTAL SALES BY VALUE)</i>	135
SCANNING PROBE MICROSCOPES	135
<i>FIGURE 59 SCANNING PROBE MICROSCOPE MARKET SHARES, 2008 (PERCENT OF TOTAL SALES BY VALUE)</i>	136
OWNERSHIP TRENDS	136
OWNERSHIP TRENDS (CONTINUED)	137
CHAPTER SIX: COMPANY PROFILES	138
APPLIED MATERIALS, INC.	138
BRUKER OPTICS INC.	138
BUEHLER INC.	138
CAMECA SA	139
DANISH MICRO ENGINEERING A/S	139
FEI COMPANY	139
GATAN, INC.	140
HITACH HIGH TECHNOLOGIES CORP.	140
JASCO INTERNATIONAL CO. LTD.	141

JEOL LTD.....	141
LEICA MICROSYSTEMS AG	141
MIS INC.	142
NANONICS IMAGING LTD.	142
NIKON CORP.	142
NT-MDT CO.....	143
OBDUCAT-CAMSCAN LTD.	143
OLYMPUS CORPORATION	143
OMICRON NANOTECHNOLOGY GMB	144
PACIFIC NANOTECHNOLOGY INC.	144
PERKIN ELMER, INC.	144
PARK SYSTEMS CORP.	144
QUESANT INSTRUMENT CORPORATION.....	145
QUESTAR CORP.	145
SCHOTT NORTH AMERICA INC.....	145
SHIMADZU CORP.....	145
SII NANOTECHNOLOGY INC.	146
THERMO FISHER SCIENTIFIC CORP.	146
VEECO INSTRUMENTS INC.	146
WITEC WISSENSCHAFTLICHE INSTRUMENTE UND TECHNOLOGIE GMBH	147
CARL ZEISS NTS GMBH	147