

Table of Contents – Volume 1

Forward.....	ii
Biographical Note: Nathaniel Bowditch.....	iii
Preface.....	vii
Acknowledgments.....	ix
Part 1, Fundamentals	
Chapter 1: Introduction to Marine Navigation.....	1
Chapter 2: Geodesy and Datums in Navigation.....	17
Chapter 3: Hydrography.....	25
Chapter 4: Nautical Charts.....	33
Chapter 5: ECDIS.....	63
Chapter 6: Nautical Publications.....	91
Chapter 7: Short Range Aids to Navigation.....	109
Chapter 8: Compasses.....	133
Chapter 9: Dead Reckoning.....	153
Part 2, Piloting	
Chapter 10: Piloting.....	159
Chapter 11: Use of Sextant in Piloting.....	183
Chapter 12: The Sailings.....	193
Part 3, Celestial Navigation	
Chapter 13: Navigational Astronomy.....	215
Chapter 14: Instruments for Celestial Navigation.....	259
Chapter 15: Azimuths and Amplitudes.....	269
Chapter 16: Time.....	275
Chapter 17: The Almanacs.....	291
Chapter 18: Sight Planning.....	301
Chapter 19: Sight Reduction.....	309
Part 4, Inertial Navigations	
Chapter 20: Introduction to Inertial Navigation.....	333
Part 5, RF Navigation Techniques	
Chapter 21: Radio Waves.....	357
Chapter 22: Satellite Navigation.....	371
Chapter 23: Radar Navigation.....	383
Chapter 24: Loran Navigation.....	399
Part 6, Alternative Navigation Techniques	
Chapter 25: Doppler Sonar Navigation.....	415
Chapter 26: Bathymetric Navigation.....	425
Part 7, Navigational Safety	
Chapter 27: Navigation Processes.....	433
Chapter 28: Emergency Navigation.....	443
Chapter 29: Navigation Regulations.....	453

Chapter 30: Maritime Safety Systems.....	463
Chapter 31: Reporting.....	479
Part 8, Ice & Polar Navigation	
Chapter 32: Ice Navigation	495
Chapter 33: Polar Navigation.....	525
Part 9, Oceanography	
Chapter 34: The Oceans	553
Chapter 35: Tides and Tidal Currents	561
Chapter 36: Ocean Currents.....	583
Chapter 37: Waves, Breakers and Surf	591
Part 10, Marine Meteorology	
Chapter 38: Weather Elements.....	603
Chapter 39: Tropical Cyclones.....	637
Chapter 40: Weather Observations	663
Chapter 41: Weather Routing.....	693
Appendices & Index	
Appendix A: The World Sailing Ship Routes.....	705
Appendix B: Calculations and Conversions	706
Appendix C: Satellite Navigation	719
Index	739

Table of Contents – Volume 2

Forward.....	ii
Biographical Note: Nathaniel Bowditch.....	iii
Preface.....	vii
Acknowledgments.....	ix
Explanation of Navigation Tables.....	1
Table 1: Logarithms of Numbers.....	11
Table 2: Natural Trigonometric Functions.....	21
Table 3: Common Logarithms of Trigonometric Functions (offset + 10).....	45
Table 4: Traverse Table.....	68
Table 5: Natural and Numerical Chart Scales.....	114
Table 6: Meridional Parts.....	115
Table 7: Length of a Degree of Latitude and Longitude.....	121
Table 8: Conversion Table for Meters, Feet, and Fathoms.....	122
Table 9: Conversion Table for Nautical and Statute Miles.....	124
Table 10: Speed Table for Measured Mile.....	125
Table 11: Speed, Time, and Distance.....	127
Table 12: Distance of the Horizon.....	130
Table 13: Geographic Range.....	132
Table 14: Dip of the Sea Short of the Horizon.....	135
Table 15: Distance by Vertical Angle (Horizon to Top of Object).....	136
Table 16: Distance by Vertical Angle (Waterline to Top of Object).....	138
Table 17: Distance by Vertical Angle (Waterline at Object to Sea Horizon Beyond Object).....	140
Table 18: Distance by Two Bearings.....	142
Table 19: Table of Offsets.....	145
Table 20: Meridian Angle and Altitude of a Body on the Prime Vertical Circle.....	147
Table 21: Latitude and Longitude Factors.....	150
Table 22: Amplitudes.....	154
Table 23: Correction of Amplitude as Observed on the Visible Horizon.....	157
Table 24: Altitude Factor.....	159
Table 25: Change of Altitude in Given Time from Meridian Transit.....	165
Table 26: Time Zones.....	168
Table 27: Altitude Correction for Air Temperature.....	169
Table 28: Altitude Correction for Atmospheric Pressure.....	169
Table 29: Conversion Tables for Thermometer Scales.....	171
Table 30: Direction and Speed of True Wind in Units of Ship's Speed.....	172
Table 31: Correction of Barometer Reading for Height Above Sea Level.....	174
Table 32: Correction of Barometer Reading for Gravity.....	174
Table 33: Correction of Barometer Reading for Temperature.....	174
Table 34: Conversion Table for Units of Barometric Pressure.....	175
Table 35: Relative Humidity.....	177
Table 36: Dew Point.....	178
Chapter 1: Mathematics.....	180
Chapter 2: Interpolation.....	214
Chapter 3: Navigational Errors.....	224
Chapter 4: Calculations and Conversions.....	252

Chapter 5: Compass Conversions	266
Chapter 6: Compass Error	270
Appendix A: The World Sailing Ship Routes.....	271
Appendix B: Haversines	272
Appendix C: Conversion of Compass Points to Degrees.....	311
Glossary of Marine Navigation.....	315
Glossary of Abbreviations and Acronyms	457
Index	465