

APPENDIX I

REFERENCES

NOTE: Although the following references were current when this NRTC was published, their continued currency cannot be assured. Therefore, you need to be sure that you are using the latest version.

Chapter one

Military Requirements for Petty Officer Third Class, NAVEDTRA 12024, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1999.

Naval Search and Rescue Manual, NWP 3-50.1, Office of the Chief of Naval Operation, Washington D.C., July 1983.

Standard Organization and Regulations of the U.S. Navy, OPNAVINST 3120.32B, Office of the Chief of Naval Operations, Washington, D.C., September 1986.

U.S. Department of Transportation, *Navigation Rules, International-Inland*, USCOMDTINST M16672.2C, U.S. Coast Guard, Washington, D.C., 1995.

Chapter two

Operations Specialist I&C, NAVEDTRA 12126, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1993.

Standard Organization and Regulations of the U.S. Navy, OPNAVINST 3120.32B, Office of the Chief of Naval Operations, Washington, D.C., September 1986.

Chapter three

Allied Communications Publication, *Radio Telephone Procedures*, ACP 125, the Joint Chiefs of Staff, Washington, D.C., 1987.

Basic Military Requirements, NAVEDTRA 12018, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1999.

Voice Communications, NTP 5, Naval Telecommunication Command, Washington, D.C., 1984.

Chapter four

Basic Operational Communications Doctrine, NWP 6-01, Office of the Chief of Naval Operations, Washington, D.C., 1981.

Department of the Navy Information Security Program Regulations, SECNAVINST 5510.36, Office of the Secretary of the Navy, Washington, D.C., 1999.

Department of the Navy Personnel Security Program, SECNAVINST 5510.30A, Office of the Secretary of the Navy, Washington, D.C., 1999.

Military Requirements for Petty Officer Third Class, NAVEDTRA 12024, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1999.

Naval Warfare Document Guide, NWP 1-01, Office of the Chief of Naval Operations, Washington, D.C., 1998.

Preparing, Maintaining and Submitting the Ship's Deck Log, OPNAVINST 3100.7B, Office of the Chief of Naval Operations, Washington, D.C., March 1986.

Standard Organization and Regulations of the U.S. Navy, OPNAVINST 3120.32B, Office of the Chief of Naval Operations, Washington, D.C., September 1986.

Chapter five

Navy Electricity and Electronics Training Series (NEETS), Module 18, *Radar Principles*, NAVEDTRA 172-18-00-84, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1984.

Radar Systems Fundamentals, NAVSHIPS 900.017, Bureau of Ships, Navy Department, Washington, D.C., 1944.

Chapter six

Indicator Group AN/SPA-25G, NAVSEA SE251-DG-MMO-010, Commander, Naval Sea Systems Command, Washington, D.C., 1989.

Chapter seven

Allied Tactical Publication, *Allied Maritime Maneuvering Instructions*, ATP 1, Vol. I., NATO, 1983.

Navy Electricity and Electronics Training Series (NEETS), Module 18, *Radar Principles*, NAVEDTRA 172-18-00-84, Naval Education Training and Professional Development and Technology Center, Pensacola, Fla., 1984.

Radar Systems Fundamentals, NAVSHIPS 900.017, Bureau of Ships, Navy Department, Washington, D.C., 1944.

Chapter eight

Allied Communications Publication, *IFF/SIF Operational Procedures*, ACP 160, the Joint Chiefs of Staff, Washington, D.C., 1978.

Allied Communications Publication, *IFF Mark XII Standing Operating Procedures for the Identification of Friendly Military Aircraft and Ships (U)*, ACP 160 US Supp 1(C) (S).

Allied Communications Publication, *Policy and Procedures of IFF (NATO Supplement No. 1) (U)*, ACP 160 NATO Supp 1(B) (S).

Antiair Warfare, NWP 3-01.01, Office of the Chief of Naval Operations, Washington, D.C., 1983.

Limited Maintenance Manual KIR-1A/TSEC and KIT-1A/TSEC (U). KAM-225D/TSEC.

Operation and Maintenance Overview, General Tri-service Mode 4 Handbook, DOD AIMS 86-100.

Operations: NORAD Identification Friend or Foe (IFF/Selective Identification Features (SIF)) Operating Instructions (U), NORAD 55-68 (S).

Programmed Instruction Handbook for Decoder Group AN/UPA-59AS(V)2, NAVEXLEX 0967-LP-374-7050, Commander, Naval Electronics Systems Command, April 1971.

Programmed Instruction Handbook for Decoder Group AN/UPA-59AS(V)2, NAVEXLEX 0967-LP-456-5010, Commander, Naval Electronics Systems Command, July 1981.

Chapter nine

Allied Tactical Publication, *Allied Maritime Maneuvering Instructions*, ATP 1, Vol. I., NATO, 1983.

Chapter ten

Allied Tactical Publication, *Allied Maritime Maneuvering Instructions*, ATP 1, Vol. I., NATO, 1983.

Allied Tactical Publication, *Allied Maritime Tactical Signal and Maneuvering Book*, ATP 1, Vol. II., NATO, 1983.

Antiair Warfare, NWP 3-01.01, Office of the Chief of Naval Operations, Washington, D.C., 1983.

Maloney, Elbert S., *Dutton's Navigation and Piloting*, 14th ed., Naval Institute Press, Annapolis, 1985.

Target Motion Analysis and Passive Localization for Surface Ships, NWP 3-21.51.3, Office of the Chief of Naval Operations, Washington, D.C., 1983.

U.S. Department of Defense, *Maneuvering Board Manual*, PUB 217, 4th ed., National Imagery and Mapping Agency, Washington, D.C., 1984.

Chapter eleven

Allied Tactical Publication, *Allied Maritime Maneuvering Instructions*, ATP 1, Vol. I., NATO, 1983.

Allied Tactical Publication, *Allied Maritime Tactical Signal and Maneuvering Book*, ATP 1, Vol. II., NATO, 1983.

Antiair Warfare, NWP 3-01.01, Office of the Chief of Naval Operations, Washington, D.C., 1983.

Maloney, Elbert S., *Dutton's Navigation and Piloting*, 14th ed., Naval Institute Press, Annapolis, 1985.

Target Motion Analysis and Passive Localization for Surface Ships, NWP 3-21.51.3, Office of the Chief of Naval Operations, Washington, D.C., 1983.

U.S. Department of Defense, *Maneuvering Board Manual*, PUB 217, 4th ed., National Imagery and Mapping Agency, Washington, D.C., 1984.

Chapter twelve

Antiair Warfare, NWP 3-01.01, Office of the Chief of Naval Operations, Washington, D.C., 1983.

Maloney, Elbert S., *Dutton's Navigation and Piloting*, 14th ed., Naval Institute Press, Annapolis, 1985.

U.S. Department of Commerce, *Nautical Chart Symbols and Abbreviations*, Chart No. 1, 10th ed., National Oceanic and Atmospheric Administration, Washington, D.C., November 1997.

U.S. Department of Defense, *Catalog of Maps, Charts, and Related Products, Part 2, Vol. 1, Hydrographic Products*, 9th ed., National Imagery and Mapping Agency, Washington, D.C., 1998.

U.S. Department of Transportation, *Navigation Rules, International-Inland*, USCOMDTINST M16672.2C, U.S. Coast Guard, Washington, D.C., 1995.

Chapter thirteen

Allied Tactical Publication, *Search and Rescue*, ATP 10, NATO, 1999.

National Search and Rescue Manual, Vol. I: National Search and Rescue System, JP 3-50, the Joint Chiefs of Staff, February 1991.

National Search and Rescue Manual, Vol II: Planning Handbook, JP 3-50-1, the Joint Chiefs of Staff, February 1991.

Naval Search and Rescue Manual, NWP 3-50.1, Office of the Chief of Naval Operation, Washington D.C., July 1983.

INDEX

A

- Absolute minimum range, 10-35
- Aids to navigation, 12-6
- Air control, 1-3
- Air event board, 2-4
- Air plotting, 10-8
 - air summary plot, 10-8
 - computing course and speed, 10-13
 - conversion plotting, 10-14
 - fades, 10-12
 - plotting friendlies, 10-12
 - plotting symbols and abbreviations, 10-9
 - plotting techniques, 10-10
 - splits, 10-12
 - tote board, 10-13
- Air summary plot, 2-2, 10-8
- Air warfare operations, 1-4
- Aircraft incident, 13-5
- Amphibious operations, 1-6
- Analysis of target motion, 10-22
 - bearing rate computer, 10-23
 - establishing bearing rate, 10-22
 - plotting procedures, 10-25
 - time/bearing plot, 10-23
 - time/bearing plot equipment, 10-25
- Analyzing displays, 7-10
 - low land, 7-11
 - ships near shore, 7-11
 - side lobe ringing, 7-11
- Anchoring a ship, 12-36
- Angle on the bow, 10-18
- Antenna systems, 5-9
 - antenna components, 5-13
 - common antenna types, 5-11
 - duplexer, 5-14
 - transmission lines, 5-13
- Antennas, 5-11
- Antisubmarine warfare operations, 1-4
- Arrangement of charts, 12-19
- ASW flow board, 2-6
- ASW plotting, 10-15
 - DRT plotting procedures, 10-16
 - emergency plotting, 10-16
- Atmospheric conditions, 5-14
- Atmospheric noise, 7-10
- Attenuation, 5-15
- Aviation charts, 12-22
- Avoiding course problem, 11-18

B

- Basic formula for determining speed, 9-11
- Basic plotting definitions and terminology, 10-2
 - bearings, 10-2
 - formation diagram, 10-6
 - geographic plot, 10-3
 - plotting procedures, 10-5
 - plotting symbols and abbreviations, 10-4
 - strategic plot, 10-8
 - surface plot, 10-3
 - surface status board, 10-8
- Battle group operations, 1-9
- Bearing rate, 10-21
- Bearing rate computer, 10-23
- Bearings, 10-2
- Bottom contour charts, 12-19
- Broad aspect target verification phase, 10-38

C

- Calculator-assisted procedure, 10-42
- Captain's night order book, 4-8
- Cartesian coordinate (X-Y) grid, 12-8
- Change of station problems, 11-14
- Channel navigation in a fog, 12-35
- Chart/publication correction record system, 12-19
 - Notice to Mariners, 12-20
 - Summary of Corrections, 12-20
- Chart ordering, 12-22
 - automatic initial distribution, 12-23
 - classified charts and publications, 12-23
 - ship allowance, 12-22
- Charts, 12-1
 - aids to navigation, 12-6
 - chart terminology, 12-3
 - gnomonic projection, 12-3
 - latitude and longitude, 12-4
 - locating positions on charts, 12-1
 - Mercator projections, 12-2
 - meridians, 12-3
 - nautical distance, 12-4
 - parallels, 12-4
 - scale, 12-5
 - soundings, 12-5
- CIC displays, 2-1
- CIC functions, 1-7
 - displaying information, 1-8
 - disseminating information, 1-8

- evaluating information, 1-8
- gathering information, 1-7
- processing information, 1-8
- CIC manning, 1-8
 - battle group operations, 1-9
 - CIC at anchor, 1-8
 - conditions of readiness, 1-9
 - preparations for getting under way, 1-8
 - special sea detail, 1-8
- CIC missions, 1-2
 - air control, 1-3
 - air warfare operations, 1-4
 - amphibious operations, 1-6
 - antisubmarine warfare operations, 1-4
 - communications, 1-3
 - controlling small craft, 1-3
 - electronic warfare, 1-6
 - emission control, 1-2
 - information documentation, 1-3
 - man overboard, 1-3
 - mine warfare, 1-6
 - navigation and piloting, 1-4
 - search and rescue operations, 1-5
 - shore bombardment, 1-5
 - surface warfare operations, 1-4
 - tactical maneuvers, 1-3
 - target indication, designation, acquisition, and anti-ship missile defense, 1-4
- CIC plots, 2-1
 - air summary plot, 2-2
 - formation diagram, 2-3
 - geographic plot, 2-1
 - strategic plot, 2-1
 - surface summary plot, 2-3
- CIC SAR procedures, 13-6
 - conducting the search, 13-11
 - determining the search area, 13-7
 - estimating probable position, 13-7
 - EVENT SUBMISS, 13-13
 - EVENT SUBSUNK, 13-13
 - general responsibilities, 13-7
 - minimax plotting, 13-9
 - on-scene commander, 13-13
 - probability of detection, 13-10
 - rescue force, 13-13
 - search, 13-14
 - search area coverage, 13-10
 - search force, 13-13
 - sinking drift, 13-9
 - submarine SAR mission coordinator, 13-13
 - surface drift forces, 13-8
 - track spacing, 13-10

- CIC watch log, 4-3
- Classified charts and publications, 12-23
- Closest point of approach problems, 11-8
- Coastal navigation, 12-34
- Coffey assumption, 10-38
- Computing turning bearing and turning range, 12-25
- Conditions of readiness, 1-9
- Contact designation, 9-12
- Conversion of bearings, 9-7
- Conversion plotting, 10-14
- Course and speed problems, 11-12

D

- Dead reckoning systems, 9-1
 - dead reckoning analyzer indicator (DRAI) , 9-1
 - dead reckoning tracer (DRT), 9-3
 - gyrocompass, 9-1
 - underwater log system, 9-2
- Desired wind (alternate method), 11-26
- Desired wind problems, 11-22
- Destruction of classified material, 4-17
 - destruction procedures, 4-17
 - emergency destruction, 4-18
 - reporting emergency destruction, 4-19
 - routine destruction, 4-18
- Detecting an incorrect target speed estimate, 10-38
- Determining closest point of approach, 11-9
- Determining target course, 9-11
- Determining target speed, 9-11
- Determining time of CPA, 11-10
- Developing own ship's track, 9-9
- Distress signals, 13-6
- DRT casualties, 9-7
- DRT operation, 9-5
 - conversion of bearings, 9-7
 - DRT casualties, 9-7
 - Halifax plot, 9-8
 - parallel motion protractor, 9-6
- DRT plotting procedures, 10-16

E

- Evaluation of scope indications, 7-5

F

- Factors affecting radar operation, 5-14
 - atmospheric conditions, 5-14
 - height, 5-15
 - sea return, 5-15
 - weather, 5-15

False or phantom contacts, 7-9

G

Geographic plot, 9-8

- basic formula for determining speed, 9-11
- contact designation, 9-12
- data recorded on plots, 9-12
- determining target course, 9-11
- determining target speed, 9-11
- developing own ship's track, 9-9
- direct plotting, 9-10
- indirect plotting, 9-10
- man overboard procedure, 9-12
- plotting bearings and ranges with the PMP, 9-10
- 3-minute rule, 9-11

Geographic plotting techniques, 10-28

- absolute maximum range, 10-35
- detecting an incorrect target speed estimate, 10-38
- general direction of target motion, 10-36
- geographic plot, 10-38
- maximum range for assumed or estimated target speed, 10-34
- minimum range, 10-35
- minimum target speed for a given range, 10-35
- small target angle, 10-37
- strip plotting, 10-31

Grid systems, 12-6

- Cartesian coordinate (X-Y) grid, 12-8
- converting positions, 12-10
- GEOREF to geographic coordinates, 12-11
- major grids, 12-6
- military grid reference system, 12-12
- polar coordinates to grid coordinates, 12-11
- Universal transverse Mercator (UTM) grid, 12-12
- world geographic reference (GEOREF) system, 12-8

H

Hydrographic bulletins, 12-15

Hydrographic products, 12-15

I

Identification (IFF) equipment, 8-1

- MK XII IFF equipment operation, 8-3
- operation under jamming and emergency conditions, 8-32

IFF emergency displays, 8-25

IFF operations brevity codes, 8-36

Indicator tracking, 7-4

- continuous line, 7-5

dot method, 7-5

Information to the bridge, 10-44

Inland Rules of the Road, 12-42

Internal communications, 3-1

- CIC intercommunications group, 3-4
- interior voice communication system (IVCS) , 3-4
- multi-channel (MC) system, 3-2
- pneumatic tubes, 3-2
- ship's service telephones, 3-1
- sound-powered telephone system, 3-4
- voice tubes, 3-1

International Rules of the Road, 12-41

L

Logs, 4-1

- captain's night order book, 4-8
- CIC watch log, 4-3
- radar navigation log, 4-9
- radiotelephone logs, 4-8
- Ship Operational Data Forms, 4-2
- surface radar contact log, 4-2

M

Maneuvering board, 11-1

- avoiding course problems, 11-18
- change-of-station problems, 11-14
- closest point of approach problems, 11-8
- course and speed problems, 11-12
- maneuvering board scales, 11-7
- relative motion, 11-1
- relative plot, 11-5
- vector diagram, 11-6
- wind problems, 11-18

N

National Imagery and Mapping Agency (NIMA)

Catalog of Maps, Charts, and Related Products, 12-15

- arrangement of charts, 12-19
- bottom contour charts, 12-19
- hydrographic bulletins, 12-15
- hydrographic products, 12-15
- nautical chart numbering system, 12-16
- NIMA stock numbering system, 12-19
- portfolio designations, 12-16
- standard nautical charts, 12-16
- world and miscellaneous charts, 12-19

Naval Tactical Data System, 2-6

Naval warfare publications, 4-10

- accountability, 4-12

- changes and corrections, 4-12
- handling considerations, 4-11
- naval warfare publications library, 4-11
- publication inventory, 4-15
- storage of classified material, 4-11
- subcustody, 4-12
- Navigation, 12-23
 - anchoring a ship, 12-36
 - channel navigation in a fog, 12-35
 - coastal navigation, 12-34
 - navigation at sea, 12-35
 - piloting, 12-23
 - Rules of the Road, 12-38
- NTDS consoles, 6-5

O

- Operations plans and orders, 4-10

P

- Personnel assignments, 1-9
 - enlisted station assignments, 1-10
 - officer station assignments, 1-9
- Piloting, 12-23
 - CIC piloting team, 12-30
 - computing turning bearing and turning range, 12-25
 - determining position, 12-26
 - functions of CIC, 12-24
 - navigational plot, 12-24
 - radar-assisted piloting, 23-34
 - set and drift, 12-29
 - tactical data, 12-24
 - use of tactical data, 12-25
- Plotting, 10-1
 - air plotting, 10-8
 - bearings, 10-2
 - formation diagram, 10-6
 - geographic plot, 10-3
 - procedures, 10-5
 - relative plot, 10-3
 - strategic plot, 10-8
 - surface plot, 10-3
 - symbols and abbreviations, 10-9
- PPI pip characteristics, 7-2
 - fade areas, 7-3
 - fluctuation, 7-3
 - motion, 7-4
 - shape, 7-2
 - size, 7-2
 - target composition, 7-3

R

- Radar fundamentals, 5-1
- Radar system constants, 5-5
 - carrier frequency, 5-5
 - maximum range, 5-8
 - minimum range, 5-9
 - power relationship, 5-6
 - pulse repetition rate (PPR), 5-5
 - pulse repetition time, 5-5
 - pulse width, 5-6
 - range resolution, 5-9
 - rest time, 5-6
 - time-range relationship, 5-6
- Radar display equipment, 6-1
- Rules of the Road, 12-38
 - equipment for sound signals, 12-41
 - maneuvering and warning signals, 12-41
 - responsibility, 12-44
 - sound signals in restricted visibility, 12-43
 - steering and sailing rules, 12-40

S

- SAR incident, 13-5
 - aircraft incident, 13-5
 - distress signals, 13-6
 - emergency signals, 13-6
 - radar, 13-6
 - submarine incident, 13-6
 - surface vessel incident, 13-5
 - urgency signal, 13-6
- Search and rescue, 13-1
 - inland region, 13-3
 - maritime region, 13-3
 - on-scene commander, 13-4
 - organization, 13-1
 - overseas region, 13-3
 - SAR coordinator, 13-3
 - SAR facilities, 13-1
 - SAR mission coordinator, 13-3
 - SAR regions, 13-3
 - search and rescue unit, 13-4
 - U.S. Coast Guard facilities, 13-3
 - U.S. Navy facilities, 13-3
- Status boards, 2-4
 - air event board, 2-4
 - ASW flow board, 2-6
 - communication status board, 2-5
 - equipment status board, 2-5
 - identification status board, 2-4
 - surface status board, 2-5

- task organization board, 2-5
- tote board, 2-4
- voice call sign board, 2-5
- S/P telephone and procedures
 - basic digits, 3-11
 - basic message format, 3-9
 - general rules, 3-9
 - numeral pronunciation, 3-10
 - rules for pronouncing numerals, 3-11
 - S/P phraseology, 3-9
- Storms and clouds (weather), 7-7
 - cold fronts, 7-7
 - hurricanes and typhoons, 7-8
 - tornadoes and waterspouts, 7-8
 - warm fronts, 7-7
- Surface plotting, 10-3
 - formation diagram, 10-6
 - geographic plot, 10-3
 - procedures, 10-5

- strategic plot, 10-8
- surface plot, 10-3
- surface status board, 10-8
- symbols and abbreviations, 10-9

T

- Target motion analysis and passive localization, 10-17
 - analysis of target motion, 10-22
 - angle on the bow, 10-18
 - bearing rate, 10-21
 - broad aspect target verification phase, 10-38
 - geographic plotting techniques, 10-28
- Time/bearing plot, 10-23

U

- Universal transverse Mercator (UTM) grid, 12-12

