NONRESIDENT TRAINING COURSE

April 1997

Information Systems Technician Training Series

Module 1—Administration and Security

NAVEDTRA 14222

NOTICE

Any reference within this module to "Radioman" or the former "Radioman rating" should be changed to "Information Systems Technician" and the "Information Systems Technician (IT) rating". The subject matter presented relates to the occupational standards for the IT rating.

Although the words "he," "him," and "his" are used sparingly in this course to enhance communication, they are not intended to be gender driven or to affront or discriminate against anyone.

PREFACE

By enrolling in this self-study course, you have demonstrated a desire to improve yourself and the Navy. Remember, however, this self-study course is only one part of the total Navy training program. Practical experience, schools, selected reading, and your desire to succeed are also necessary to successfully round out a fully meaningful training program.

COURSE OVERVIEW: In completing this nonresident training course, you will demonstrate a knowledge of the subject matter by correctly answering questions on the following subjects: AIS Administration, Communications Administration, Communications Security, AIS Security, and General Security.

THE COURSE: This self-study course is organized into subject matter areas, each containing learning objectives to help you determine what you should learn along with text and illustrations to help you understand the information. The subject matter reflects day-to-day requirements and experiences of personnel in the rating or skill area. It also reflects guidance provided by Enlisted Community Managers (ECMs) and other senior personnel, technical references, instructions, etc., and either the occupational or naval standards, which are listed in the *Manual of Navy Enlisted Manpower Personnel Classifications and Occupational Standards*, NAVPERS 18068.

THE QUESTIONS: The questions that appear in this course are designed to help you understand the material in the text.

VALUE: In completing this course, you will improve your military and professional knowledge. Importantly, it can also help you study for the Navy-wide advancement in rate examination. If you are studying and discover a reference in the text to another publication for further information, look it up.

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Sailor's Creed

"I am a United States Sailor.

I will support and defend the Constitution of the United States of America and I will obey the orders of those appointed over me.

I represent the fighting spirit of the Navy and those who have gone before me to defend freedom and democracy around the world.

I proudly serve my country's Navy combat team with honor, courage and commitment.

I am committed to excellence and the fair treatment of all."

CONTENTS

SUMMARY OF THE RADIOMAN TRAINING SERIES

MODULE 1

Administration and Security—This module covers Radioman duties relating to administering AIS and communication systems. Procedures and guidance for handling of classified information, messages, COMSEC material and equipment, and AIS requirements are discussed.

MODULE 2

Computer Systems—This module covers computer hardware startup, including peripheral operations and system modification. Other topics discussed include computer center operations, media library functions, system operations, and troubleshooting techniques. Data file processes, memory requirements, and database management are also covered.

MODULE 3

Network Communications—This module covers network administration, LAN hardware, and network troubleshooting. Related areas discussed are network configuration and operations, components and connections, and communication lines and nodes.

MODULE 4

Communications Hardware—This module covers various types of communications equipment, including satellites and antennas. Subjects discussed include hardware setup procedures, COMSEC equipment requirements, distress communications equipment, troubleshooting equipment, satellite theory, and antenna selection and positioning.

MODULE 5

Communications Center Operations—This module covers center operations, including transmit message systems, voice communications, center administration, quality control, and circuit setup/restorations. Guidelines for setting EMCON and HERO conditions and cryptosecurity requirements are also discussed.

INSTRUCTIONS FOR TAKING THE COURSE

ASSIGNMENTS

The text pages that you are to study are listed at the beginning of each assignment. Study these pages carefully before attempting to answer the questions. Pay close attention to tables and illustrations and read the learning objectives. The learning objectives state what you should be able to do after studying the material. Answering the questions correctly helps you accomplish the objectives.

SELECTING YOUR ANSWERS

Read each question carefully, then select the BEST answer. You may refer freely to the text. The answers must be the result of your own work and decisions. You are prohibited from referring to or copying the answers of others and from giving answers to anyone else taking the course.

SUBMITTING YOUR ASSIGNMENTS

To have your assignments graded, you must be enrolled in the course with the Nonresident Training Course Administration Branch at the Naval Education and Training Professional Development and Technology Center (NETPDTC). Following enrollment, there are two ways of having your assignments graded: (1) use the Internet to submit your assignments as you complete them, or (2) send all the assignments at one time by mail to NETPDTC.

Grading on the Internet: Advantages to Internet grading are:

- you may submit your answers as soon as you complete an assignment, and
- you get your results faster; usually by the next working day (approximately 24 hours).

In addition to receiving grade results for each assignment, you will receive course completion confirmation once you have completed all the assignments. To submit your assignment answers via the Internet, go to:

http://courses.cnet.navy.mil

Grading by Mail: When you submit answer sheets by mail, send all of your assignments at one time. Do NOT submit individual answer sheets for grading. Mail all of your assignments in an envelope, which you either provide yourself or obtain from your nearest Educational Services Officer (ESO). Submit answer sheets to:

COMMANDING OFFICER
NETPDTC N331
6490 SAUFLEY FIELD ROAD
PENSACOLA FL 32559-5000

Answer Sheets: All courses include one "scannable" answer sheet for each assignment. These answer sheets are preprinted with your SSN, name, assignment number, and course number. Explanations for completing the answer sheets are on the answer sheet.

Do not use answer sheet reproductions: Use only the original answer sheets that we provide—reproductions will not work with our scanning equipment and cannot be processed.

Follow the instructions for marking your answers on the answer sheet. Be sure that blocks 1, 2, and 3 are filled in correctly. This information is necessary for your course to be properly processed and for you to receive credit for your work.

COMPLETION TIME

Courses must be completed within 12 months from the date of enrollment. This includes time required to resubmit failed assignments.

PASS/FAIL ASSIGNMENT PROCEDURES

If your overall course score is 3.2 or higher, you will pass the course and will not be required to resubmit assignments. Once your assignments have been graded you will receive course completion confirmation.

If you receive less than a 3.2 on any assignment and your overall course score is below 3.2, you will be given the opportunity to resubmit failed assignments. **You may resubmit failed assignments only once.** Internet students will receive notification when they have failed an assignment--they may then resubmit failed assignments on the web site. Internet students may view and print results for failed assignments from the web site. Students who submit by mail will receive a failing result letter and a new answer sheet for resubmission of each failed assignment.

COMPLETION CONFIRMATION

After successfully completing this course, you will receive a letter of completion.

ERRATA

Errata are used to correct minor errors or delete obsolete information in a course. Errata may also be used to provide instructions to the student. If a course has an errata, it will be included as the first page(s) after the front cover. Errata for all courses can be accessed and viewed/downloaded at:

http://www.advancement.cnet.navy.mil

STUDENT FEEDBACK QUESTIONS

We value your suggestions, questions, and criticisms on our courses. If you would like to communicate with us regarding this course, we encourage you, if possible, to use e-mail. If you write or fax, please use a copy of the Student Comment form that follows this page.

For subject matter questions:

E-mail: n311.products@cnet.navy.mil
Phone: Comm: (850) 452-1501
DSN: 922-1501
FAX: (850) 452-1370
(Do not fax answer sheets.)
Address: COMMANDING OFFICER
NETPDTC N311
6490 SAUFLEY FIELD ROAD
PENSACOLA FL 32509-5237

For enrollment, shipping, grading, or completion letter questions

E-mail: fleetservices@cnet.navy.mil
Phone: Toll Free: 877-264-8583
Comm: (850) 452-1511/1181/1859
DSN: 922-1511/1181/1859
FAX: (850) 452-1370
(Do not fax answer sheets.)
Address: COMMANDING OFFICER
NETPDTC N331
6490 SAUFLEY FIELD ROAD
PENSACOLA FL 32559-5000

NAVAL RESERVE RETIREMENT CREDIT

If you are a member of the Naval Reserve, you may earn retirement points for successfully completing this course, if authorized under current directives governing retirement of Naval Reserve personnel. For Naval Reserve retirement, this course is evaluated at 8 points. (Refer to *Administrative Procedures for Naval Reservists on Inactive Duty,* BUPERSINST 1001.39, for more information about retirement points.)

Student Comments

Course Title: *Information Systems Technician Training Series*
Module 1—Administration and Security

NAVEDTRA: 14222 **Date**: _____

We need some information about you:

Rate/Rank and Name: _____ SSN: _____ Command/Unit _____

Street Address: _____ City: _____ State/FPO: _____ Zip _____

Your comments, suggestions, etc.:

Privacy Act Statement: Under authority of Title 5, USC 301, information regarding your military status is requested in processing your comments and in preparing a reply. This information will not be divulged without written authorization to anyone other than those within DOD for official use in determining performance.

NETPDTC 1550/41 (Rev 4-00

CHAPTER 1

AIS ADMINISTRATION

LEARNING OBJECTIVES

Upon completing this chapter, you should be able to do the following:

- *Describe the preparation and monitoring of the run schedule.*
- *Examine console printouts, logs, and describe the analysis of console printouts and logs.*
- *Schedule computer downtime with users, to include hardware maintenance and software upgrades.*
- *Prepare emergency urgent change requests, to include application and system programs.*
- *Prepare, review, and coordinate trouble reports.*
- *Describe how to conduct and update an AIS equipment inventory.*
- *Describe the preparation and analysis of system performance reports.*
- *Explain the establishment and maintenance of system resource limits.*
- *Describe how to project future application growth capabilities.*
- *Explain how to prepare guidelines for contingency/disaster recoveries, to include adequate replacement parts and backup media and current backups.*

Are scheduling systems really necessary to get the work done? No; but unless you are working at an AIS facility with unlimited resources, it would not be long before confusion and disorder set in if you did not have one. That would be followed by unhappy and dissatisfied users demanding their output products in a timely manner. Users rely on computer operations and support personnel to get their jobs done on time.

Whether your AIS facility has one or several computers, it will be your job to see that the AIS production work of your command is processed in a timely reamer. This means schedules. You will need to develop monthly production schedules in coordination with user-assigned subsystem coordinators. You will also need to develop daily workload schedules to meet user-established deadlines. If your computer system has online capabilities, you will need to be sure users have access when they need it and that the system is responsive.

Technical administration and support are important aspects of automated information system (AIS) facility management. As a technical administrator, you will be making hardware and software projection reports, software performance reports, hardware utilization reports, and trouble reports. You will be responsible for

implementing performance-tuning initiatives to improve computer system performance. You will also be expected to project future application growth capabilities. All these are technical functions needed to ensure the smooth operation of an AIS facility.

In this chapter, you will learn about the many varied tasks you may perform as an input/output control clerk and then as a scheduler, reports preparation, trouble reports, technical assists, and operational guidelines. Our objective is to give you a better understanding of the importance, scope, and responsibilities that go with processing production jobs—receiving jobs, scheduling AIS production within the AIS facility, and ensuring the accuracy and timeliness of products.

I/O CONTROL

I/O control is the interface between the user and the computer system. Figure 1-1 shows an example of the role played by I/O control in the processing of computer jobs.

I/O CONTROL PROCEDURES

I/O, as you know, stands for input/output. The people who perform I/O functions are called control clerks, I/O control clerks, job-staging clerks, distribution clerks, or computer aids. In short, these are the people who are responsible for the quality and control of data processing input and output media and products. They ensure that the data to be processed meets all the requirements as outlined in the input criteria (instructions and procedures), that all data are processed, that all processing steps are performed, that the output products are distributed to the appropriate users once they are complete.

To be an efficient and effective I/O control clerk, you should be able to work on your own with a minimum of supervision; work well with other people; display tact and diplomacy; be a good communicator; use sound judgment; be logical, methodical, and persuasive; and most of all be able to respond to users' requests. Although you may manage to stay out of the limelight in this job, you do perform an integral function in the overall ADP operation. The importance and impact you have (whether it be aboard ship or ashore) is far-reaching and invaluable. Most opinions formulated by the AIS users (customers) are based on the quality of their output products and their personal contact with you as an I/O control clerk. Your attitude toward your job and its importance is seen not only by the customer, but also by your fellow workers, supervisor, and, in some cases, management. The quality of your work will be your signature when dealing with other AIS personnel and customers.

I/O control is a process. Your job will be to follow your installation's procedures. Although the procedures may differ from one installation to another, they all require the same knowledge and skills.

As an I/O control clerk, you act as the middle person between the user (customer) and the computer. Normally, the users come to you with a transmittal or request form and sometimes with their input—source documents, magnetic tapes, diskettes, and so on. Before accepting and logging in their jobs, take a few moments to look over the transmittal form. Be sure that all the necessary entries are properly filled in, that they are readable, and that any special instructions are understandable. It is better to clear up any misunderstandings right then and there, rather than having to contact the user again later and possibly cause a delay in the job getting on the computer. Never be embarrassed to ask questions. You must remember that many of the users you come in contact with are non-ADP oriented; therefore, it is up to you to help them understand the process and its requirements.

Once you have logged the job in, you may work with data entry to prepare data or programs; then with the media library to pull the needed tapes or disks; and then with computer operations to have the job run. Once the job has been run on the computer, you may check the output products. When you are sure the outputs are OK, you distribute them according to instructions, log the job out, and file or return the job materials to the user.

Study figure 1-1 for a few moments. It will help you see how the work flows and how you, as an I/O control clerk, fit in the picture. The functional areas are listed across the top of the figure.

As you enter the level of middle management, you will be required to take on added duties and additional responsibilities. You will be a technical administrator, and you will provide support to management. You will use your expertise to evaluate current procedures and equipment and to make recommendations for improvements to operations. This includes estimating future equipment needs.