

APPENDIX I

TRAINING FILM LIST

Training films that are directly related to the information presented in this training course are listed below. Under each chapter number and title the training films are identified by Navy number and title and are briefly described. Other training films that may be of interest are listed in the United States Navy Film Catalog, NavPers 10000 (revised).

Chapter 2

NAVAL COMMUNICATIONS

- MN-2621A Radio Operator Training—The Radio Man Fights. (7 min. — B&W—Sound—Unclassified—1944.) Follows course of message from NSS in Washington, D. C., to Guadalcanal, and a taskforce flagship. Explains that radio is the nerve system of the Navy. Presents an overall picture of training and duties expected of each radioman.
- MN-8099A Radio Teletype Systems Afloat - General Principles of Operation. (15 min. —B&W—Sound—Unclassified—1956.) Explains the reason for radio teletype systems afloat and describes briefly two different systems of transmitting and receiving.
- MN-8157A The Naval Communications System—Types of Communication Centers and Services Rendered. (12 min. —B&W—Sound—Unclassified—1955.) Shows the functions of the four kinds of communication centers and tributaries.
- MN-8157B The Naval Communications System - Typical Communication Center Operation. (15 min. —B&W—Sound—Unclassified—1955.) Shows how a typical primary communication center performs its functions.
- MN-9235 The Communicator's Job. (10 min. — B&W — Sound — Unclassified—1954.) Shows the various aspects of the communicator's job on ship and shore stations and the equipment necessary to keep communications flowing swiftly and efficiently.

Chapter 3

COMMUNICATION SECURITY

- MN-2621D Radio Operator Training—Transmission Security. (19 min.—B&W—Sound—Unclassified—1944.) Cautions radio operators against any action which might reveal a location or aid enemy in any way. Points out danger in sneaking through messages, sending unauthorized messages, and cutting in.
- MN-6947 Security Control—You Never Can Tell. (36 min.—B&W—Sound—Unclassified—1951.) Teaches security by following a naval security officer through the offices, laboratory, and production plant of manufacturer producing a classified device for the Navy. The security officer, in search of information leaks which caused the device to be ineffective during a naval engagement, discovers and points out existing conditions which would enable an espionage agent to operate in the factory.
- MA-7993 Cryptosecurity. (18 min.—B&W—Sound—Confidential—1952.) US Army TF30-1739.
- MN-8333 Radio Transmission Security. (28 min.—B&W—Sound—Unclassified—1955.) US Army TF11-1976. Dramatizations of violations of radio transmission security in a task force operation involving Ground Forces, Air Forces, and Navy.
- MA-8580 Defense Against Radio Jamming. (24 min.—B&W—Sound—Unclassified—1956.) US Army TF11-1995. Teaches how to recognize radio jamming and how to minimize its effectiveness. Outlines several precautions to reduce the possibility of jamming including: desirable radio location; use of dummied antenna for tune-up; operating with the least power required; and keeping transmissions as short as possible.

Chapter 4

INTERNATIONAL MORSE CODE

- MN-2621B Radio Operator Training—The Technique of Hand Sending. (9 min.—B&W—Sound—Unclassified—1944.) States that important parts of transmitter are knob, contacts, tension spring, adjusting contacts, and adjusting springs. Studies elements of Morse code, timing, and parts of body that function when transmitting code. Stresses importance of correct position and operation.

- MN-2621C Radio Operator Training - Rhythm, Speed, and Accuracy in Hand Sending. (11 min. — B&W — Sound — Unclassified — 1944.) Discusses sequence in rhythm and timing. Points out that clear, distinct sending is essential in order to assure proper receiving at destination. Compares several senders' ability by means of the recording tape. States that it is best to be accurate and progress slowly rather than be a speed demon who sends jumbled messages.

Chapter 8

ANTENNAS AND RADIO WAVE PROPAGATION

- MA-1704 Radio Antennas - Creation and Behavior of Radio Waves. (11 min. — B&W — Sound — Unclassified — 1942.) USAF TF1-474. Demonstrates how electromagnetic fields are formed, and illustrates behavior of sky and ground radio waves. Animated diagrams are used almost exclusively.
- MA-1705 Radio Antennas - Fundamentals. (13 min. — B&W — Sound — Unclassified — 1942.) USAF TF1-475. Shows how a standing wave is created; explains voltage and current strength at various areas along the antenna; shows how antenna length is determined; and demonstrates handling trailing antenna. Both straight photography and animation are used.
- MA-6963 Effects of the Ionosphere on Radio Wave Propagation. (29 min. — B&W — Sound — Unclassified — 1950.) US Army TF 11-1632. By means of animation, shows characteristics of propagated radio waves at various frequencies. Action and characteristics of both groundwaves and sky waves are shown, and advantages and disadvantages of each are discussed. Effect of ionosphere on the skywaves of higher frequencies is discussed in some length. Refraction of radio waves entering the ionosphere and effect of skip distance are shown and discussed for different frequencies and angles of transmission. Effects of favorable and unfavorable ionospheric conditions are shown.

Chapter 9

RADIO COMMUNICATION EQUIPMENT

- MN-1679B Radio Operator Training—Superheterodyne Receivers. (14 min. — B&W — Sound — Unclassified — 1944.) Discusses manual procedure and principles involved in detailed operation of receivers; demonstrates typical errors and how to guard against them. (Accompanied by film strip SN-1679AB.)

- MA-1706 Radio Transmitters - Principles and Typical Circuits. (18 min. - B&W - Sound - Unclassified - 1942.) USAF TFL-476. Points out parts of several types of radio transmitters, describes functions, and illustrates action of the amplifier, microphone, and crystal oscillator. Both straight photography and animation are used.
- MN-6836 Shipboard Radio Communications - Remote Control Transfer Switchboards. (11 min. - B&W - Sound - Unclassified 1951.) Describes new communications switch-type remote control panels designed to replace more cumbersome remote control transfer panels of patch cord type. Two panels are discussed: Radio Receiver Transfer Switchboard, and Radio Transmitter Transfer Switchboard.

Chapter 10

TELETYPEWRITER EQUIPMENT AND OPERATION

- MN-7467A TT-47/UG Teletypewriter - General Principles and Operation (16 min. - B&W - Sound - Unclassified - 1953.) Outlines how teletypewriters are used in the Navy's communication system. The principal differences between the TT-47 and older, more familiar models are shown. Demonstrates for the operator the basic principles of operation, use of the various function keys, correct procedure for setting up messages, and securing machine.
- MN-9237A Mechanical Operation of the Model 28 Teletypewriter - Keyboard Transmitting Mechanism. (12 min. - B&W - Sound - Unclassified - 1954.) Shows the mechanical operation of the keyboard transmitting mechanism of the model 28 teletypewriter (TT-47A/UG). Action is traced from the key punched to the signal generator with the action of each part in the chain between keyboard and generator graphically explained.
- MN-9237B Mechanical Operation of the Model 28 Teletypewriter - Automatic Typewriter Selecting Mechanism. (11 min. - B&W - Sound - Unclassified - 1954.) Shows the chain of action in the automatic typer of the model 28 teletypewriter (TT-47A/UG) from the signal generator to and through the selecting mechanism that operates the code bars.
- MN-9237C Mechanical Operation of the Model 28 Teletypewriter - Type Box Positioning Mechanism. (18 min. - B&W - Sound - Unclassified - 1954.) Shows by means of close live photography the chain of action of the mechanical levers that position the type box of the model 28 teletypewriter (TT-47A/UG) in the proper position so that the letter or figure key that is punched may be printed.

- MN-9237D Mechanical Operation of the Model 28 Teletypewriter--Function Mechanism. (13 min. --B&W--Sound--Unclassified--1954.) Shows the mechanical chain of action in the function mechanism of the model 28 teletypewriter (TT-47A/UG). Particular emphasis is placed on the operation of the function clutch as opposed to the main shaft clutch.
- MN-8099A Radio Teletype Systems Afloat--General Principles of Operation. (15 min. --B&W--Sound--Unclassified--1956.) Explains the reason for radioteletype systems afloat and describes briefly two different systems of transmitting and receiving.
- MN-8099B Radio Teletype Systems Afloat--Tone-Modulated System. (11 min. --B&W--Sound--Unclassified--1956.) Describes operation of the tone-modulated system for short-range radioteletype transmitting and receiving system.
- MN-8099C Radio Teletype Systems Afloat--Carrier Frequency Shift Transmitting System. (6 min. --B&W--Sound--Unclassified--1956.) Describes the long-range frequency-shift transmitting system used in shipboard radioteletype systems.
- MN-8099D Radio Teletype Systems Afloat--Carrier Frequency-Shift--Receiving System. (10 min. --B&W--Sound--Unclassified--1956.) Explains simply the reason and operation of radio-frequency shift system for radioteletype systems afloat.

Chapter 13

SAFETY

- MN-6754 Safety Precautions for Electronics Personnel-Introduction. (15 min. --B&W--Sound--Unclassified--1951.) Shows electrical and mechanical hazards that Electronics Technician encounters in normal work and stresses precautions which should be employed to prevent accidents. Film content includes procedures for working on energized and deenergized circuits, handling of cathode ray tubes, preventive measures aboard ship, and hazards of carelessness and practical jokes. Stresses necessity for cultivation of safe working habits.

Chapter 14

MAINTENANCE

- MN-1540P Radio Technician Training--Tube Tester Operation. (9 min. --B&W--Sound--Unclassified--1944.) Shows testers designed to check (1) cathode emission, and (2) dynamic

mutual conductance of tube. Emphasizes use of instruction book supplied with tester and of tube manual. Testers are practically foolproof. Simply turn index scale to number of tube being tested, and follow lines to operate appropriate control or pushbutton.

- MN-1540S Radio Technician Training - Volt-Ohmmeter Operation. (15 min. -B&W-Sound-Unclassified-1944.) Demonstrates use of various types of volt-ohmmeters (including the electronic meter), and gives cautions to be followed, such as using the large scale first (R x 1000; R x 10; R ranges available), and connecting the voltmeter in parallel (scales 600, 300, 30, 3 volts).
- FN-7467C TT-47/UG Teletypewriter - Preventive Maintenance. (5 min. -B&W-Sound-Unclassified-1953.) Shows the importance of frequent checks and stresses the preventive maintenance technique which should be done by the operator rather than maintenance personnel. Cleaning, oiling, and minor adjusting of the machine are shown.
- MN-6942 Lubrication of Electronic Equipment. (8 min. -B&W-Sound-Unclassified-1953.) The purpose of this film is to instill among key personnel an appreciation for the necessity and importance of routine and methodical lubrication according to tried and recommended procedures.