CIVIL AIR PATROL
National Headquarters
Maxwell AFB AL 36112-6332

CAP PAMPHLET 214 (E)

1 March 1994

Civil Air Patrol Senior Member Training Program

SPECIALTY STUDY GUIDE

Communications Officer

FOREWORD

We in the communications field have a tremendous responsibility. Not only are we performing one of the most essential activities of civilization - communications; we also provide a service without which the Civil Air Patrol could not fulfill its mission. It has been said many times that the success of any organization depends upon the strength of its communications.

The communications mission of CAP is to organize and maintain a reliable nationwide point-to-point, air-to-ground, and ground mobile capability for use in search and rescue, civil defense, and disaster relief missions; to augment other existing communications services in the event of floods, fire, tornado, and similar natural disasters and to support the US Air Force Survival and Recovery program.

The Communications Officer Study Guide is designed to assist those individuals who have selected communications as their field. This study guide provides instruction for the entry level technician through the intermediate level senior and to the highest rating of master communicator.

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COMMUNICATIONS OFFICER STUDY GUIDE

Technician Rating

1. Position Description. (Reference CAPM 100-1.) Proficient in operation of a CAP radio station. Assists senior-level communicators in managing and directing communications activities.

2. Objectives:

a. Familiarize Civil Air Patrol communications trainees with an understanding of the basic concept of communications operation in Civil Air Patrol.

b. Provide skills to operate a Civil Air Patrol radio station under the rules and regulations as set forth by CAP.

c. Prepare an individual for entry into the Senior Communicator level of training.

3. Functions and Responsibilities. Attainment of Basic Communicator - Technician rating requires thorough knowledge and proficiency in the following areas:

a. Radio operator requirements:

(1) Member must hold a valid CAP Form 76, CAP Radio Operator's Permit.

(2) A valid CAP Radio Operators Permit must be kept in the personal possession of each CAP radio station operator when operating a CAP radio station.

b. Other member requirements:

(1) Completion of Level I, Senior Member Training Program.

(2) Performance of assigned duties with minimum supervision.

(3) Participation in one mission in any communications capacity.

(4) Participation in one communications exercise sanctioned by the Wing Director of Communications.

(5) Active participation in communications with check-in to 25 percent of the local nets each year.

(6) Attendance at a minimum of one communications meeting.

c. Radio station operation:

(1) Each CAP radio station must possess a valid radio station authorization for the type of service for which it will be used before it may transmit.

(2) CAP radio stations are not licensed to individuals members or units. They are licensed to a region or wing, as appropriate, and operated by individuals or units.

(3) The power of a CAP transmitter shall be no more than the minimum required for satisfactory operation; however, in any case, output power will be limited as specified in CAPM 100-1, paragraph 14-2 and figure 13-1.

(4) CAP radio stations will not be required to maintain daily operations logs unless the station is acting as a net control station or participating in an emergency services operation or SHARES operation. For stations that must maintain logs, the logs will show hours of operation, frequencies used, time and identification of formal messages sent and received, stations with which communications are held, hours of station operation, and the signature of the operator on duty during this period.

(5) Station operators will participate in net operation and abide by the instructions of the net control station.

(6) Station operators must understand the three categories of CAP radio transmissions (formal, informal, and administrative).

(7) Transmitters shall be so installed and protected that they are not accessible to unauthorized persons.

d. Radiotelephone procedures and message formats:

(1) An efficient radio net operation depends on the development and use of standard procedures which establish the foundation upon which good net discipline and effective communications are built.

(2) Prior to transmission, all messages should be read. This will enable words or phrases which could cause unnecessary delay in communications to be familiar.

(3) Operators will carefully monitor the frequency before commencing a transmission.

(4) During scheduled net operations and prior to roll call, all operators should be in place with equipment tuned to the proper frequency, logs available, and traffic ready.

(5) Only emergency traffic to be transmitted justifies break-in on operations in progress.

(6) The assigned call sign must be used to identify the station.

(7) Establish a system of message handling so the original copy of each message is promptly forwarded to the addressees concerned, the second copy to the administrative officer for record purposes, and the third copy is retained by the communications section for 30 days for reference and confirmation.

(8) CAP Form 4, CAP Radio Message Form, or similar form will be used for transmission of all formal traffic.

(9) Message identification will consist of the appropriate office symbol and the date/time group.

(10) Precedence designations (Routine, Priority, Immediate) must be understood.

e. Distress and emergency communications:

(1) All CAP communications personnel will be familiar with the following international distress and emergency signals: MAYDAY, PAN and SECURITE.

(2) No person within the jurisdiction of the United States shall knowingly utter or transmit, or cause to be transmitted, any false or fraudulent signals of distress.

(3) Radio operators involved in any condition of emergency or distress communications will adhere to the following two basic rules of operating procedures: (1) always listen before transmitting, (2) be prepared to offer assistance; but remain off the air unless it is clearly determined that your station services are needed.

f. Applications for individual radio stations will be forwarded through channels to the appropriate CAP region/wing office for authorization under the region/wing fleet license.

g. Communications safety:

(1) All stations should be properly grounded to avoid electrical shock.

(2) High voltage warning signs should be prominently displayed.

4. Applicable Schools/Courses:

a. CAP Form 119, Radio Operator's Test.

b. CAP Form 43, Technician Level Communicator's Test.

5. Read. CAPM 20-1 and CAPR 50-15 for additional information.

6. Evaluation. When the following actions are completed, the member should be awarded the technician rating and entered into senior rating training:

a. Attainment of radio operator requirements per paragraph 3a.

b. Completion of all basic requirements per paragraph 3b.

c. Familiarization with radiotelephone procedures, message format, distress and emergency communications, and communications safety.

d. Knowledgeable of radio station types, call signs, and authorization procedures.

e. Completion of CAP Form 119.

f. Completion of CAP Form 43.

g. Commander's certification that these requirements have been met.*

*Document this training on CAP Form 45, Senior Member Master Record, and update the unit Senior Training Report (STR).

COMMUNICATIONS OFFICER STUDY GUIDE

Senior Rating

1. Position Description. (Reference CAPM 20-1 and CAPM 100-1.) Manages and directs communications activities to include development and implementation of communications plans, programs, and directives; coordinates communications plans and programs with other staff agencies and with subordinate and higher headquarters; develops detailed operating procedures for communication operations and guidance to subordinate units and personnel; collects and reports data to determine the effectiveness of communications operations; processes applications for CAP radio stations; plans and conducts communications conferences, meetings, and workshops; maintains and operates radio equipment.

2. Objectives:

a. Enable a CAP communicator to obtain full knowledge of the principles and functions of CAP communications, communications management principles, and to prepare her/him with the expertise necessary to cope with matters pertaining to communications at all levels; a senior communicator should be fully qualified to act as communications advisor at any staff level position in CAP.

b. Understand the objectives and goals of the CAP communications program. Although not mandatory due to the fact that not all personnel may have the opportunity for mission duty, a senior communicator should be qualified to fulfill the role of mission communications officer. Failure to attain this qualification does not preclude an individual from receiving a senior rating. If an individual has had the opportunity to act as a mission communications officer, the rating should indicate that he/she is a Senior Communicator/Mission Qualified.

3. Functions and Responsibilities:

a. A senior communicator must have successfully completed the Technician Communicator level.

b. Award of the Senior Communicator rating requires complete knowledge and proficiency in the following areas:

(1) Principles and functions of CAP communications.

(2) Communications management principles.

(3) Frequency use and net schedules.

(4) Communications plans and preparations for emergencies.

(5) CAP radio station licenses, authorizations, and call signs.

(6) Aeronautical Search and Rescue Radio Station operation.

(7) Survival Beacon Station operation.

(8) Corporate aircraft radio station authorization procedures and operations.

(9) Search and Rescue.

(10) Emergency power operation.

(11) Basic antenna installation and adjustment.

(12) Participation in communications meetings, exercises, and classes in accordance with CAPM 100-1, chapter 20.

c. Other requirements include the following:

(1) Completion of Level II, Senior Member Training Program.

(2) Participation in at least three operational missions in a communications capacity with at least one as communications officer.

(3) Participation in at least three communications exercises sanctioned by region headquarters.

(4) Attendance at a minimum of two communications meetings, one of which must be at wing or region level.

(5) Active participation in communications serving as a net control station for a minimum of two nets.

4. Applicable Schools/Courses. Completion of Level II, CAP Form 44, Senior Communicator Test.

5. Additional Study Suggestions. All CAP regulations and manuals.

6. Evaluation. When the following actions are completed, the member should be awarded the Senior Communicator rating and entered into master rating training:

a. Qualification at the base skill level (technician rating).

b. Demonstrated proficiency in managing and directing communications activities.

c. Demonstrated knowledge of all applicable directives, management principles, and functions of CAP communications.

d. Completion of all other requirements per paragraphs 3b and 3c.

e. Completion of Level II, Senior Communicator Test.

f. Commander's certification that the above requirements have been met.*

*Document this training on CAP Form 45 and update the unit Senior Training Report (STR).

COMMUNICATIONS OFFICER STUDY GUIDE

Master Rating

1. Position Description. (Reference CAPM 100-1.) May serve as a communications staff officer or special advisor at any level of the Civil Air Patrol organization. Provides commanders, staff officers, and communications personnel with technical and non-technical assistance and guidance concerning CAP and other agency communications activities. Furnishes technical advice and assistance to CAP units. Maintains close liaison and coordination with unit communications officers and communications personnel providing assistance relating to communications network requirements, operational and emergency planning, frequency use, maintenance programs, safety programs, radio operator proficiency, equipment use, equipment modification, communications training, and CAP licensing and station authorization and records keeping procedures. Maintains liaison with counterparts of agencies such as Emergency Management and Red Cross.

2. Objectives: (Reference CAPR 50-15 and CAPM 100-1.)

a. Promote and develop a thorough understanding of all operational aspects of the CAP communications program as it pertains to all levels of the organization.

b. Recognize and cope with communications problems and matters unique to CAP networks and support requirements for the CAP mission.

c. Develop and maintain a high degree of knowledge pertaining to radio equipment, basic electronic theory, and network operations, training and maintenance.

d. Serve as a communications advisor to various staff personnel providing expert technical assistance and guidance concerning communications matters.

e. Be fully qualified to fulfill the duties of a mission communications officer.

3. Functions and Responsibilities:

a. Member must have successfully completed the first and second training levels required for award of Technician and Senior Communicator ratings.

b. Award of Master Communicator rating requires knowledge and proficiency of the following areas and technical subject matter. *NOTE: This knowledge and proficiency can be derived from the study of reference sources listed or other educational institutions or courses as the member may select.*

(1) Duties of the Mission Communications Officer.

(2) Goals of the CAP Communications Program.

(3) HQ CAP-USAF Command Radio Nets.

(4) Licensing and authorization procedures for all types of radio stations used in CAP.

(5) Basic electrical laws and circuits.

(6) Basic receiving systems.

(7) Basic transmitting systems.

(8) Basic amplitude modulation principles.

(9) Basic single-sideband (SSB) principles.

(10) Basic frequency modulation principles.

(11) Basic radioteleprinter principles.

(12) Testing and monitoring transmissions.

(13) Frequency measurements and transmitter adjustments.

(14) Antennas (fixed, portable, and mobile).

(15) Basic propagation theory.

(16) Mobile and portable emergency equipment.

(17) Use of test equipment.

(18) Participation in communications meetings, exercises, and classes in accordance with CAPM 100-1, chapter 20.

c. Other requirements include the following:

(1) Completion of Level II, Senior Member Training Program.

(2) Participation in at least five missions in a communications capacity, two as communications officer and one as communications officer in a state-wide mission.

(3) Participation in at least five communications exercises sanctioned by region headquarters and begin and run at least one exercise.

(4) Attendance at three communications meetings, one of which must be a region level meeting and plan and conduct one communications meeting at a local level.

(5) Active participation in communications serving as net control station for at least 25 nets, five of which must be on SSB.

(6) Leading at least one communications training class at the local level.

4. Applicable Schools/Courses. Completion of Level III, Master Communicator Test.

5. Additional Study Suggestions. Members endeavoring to increase their proficiency by other means than those listed above may pursue such training through various accredited correspondence courses, special college courses, vocational schools, and self-study of publications and reference material as prepared by the American Radio Relay League.

6. Evaluation. When the following actions are completed, the member should be awarded the Master Communicator rating:

a. Qualification at the senior skill rating.

b. Proficiency in all general knowledge areas and technical subject matter as prescribed in paragraphs 2b and 2c.

c. Completion of Level III, Master Communicator Test.

d. Commander's certification that the above requirements have been met.*

*Document this training on CAP Form 45 and update the unit Senior Training Report (STR).