CHAPTER 3

COMMUNICATIONS AFLOAT

Command in naval operations is exercised through communications, and naval communications are organized to parallel command relationships. Within a command, the communicator serves as the instrument of command.

FORCE ORGANIZATION

The two branches of command within the naval task force organization are an administrative command and a tactical command. Each ship of the U. S. Navy always belongs to some administrative command, but each is not at all times part of a tactical command.

ADMINISTRATIVE COMMAND

An administrative command usually is a ship type command, as shown in figure 3-1. Commander Cruiser-Destroyer Force, U. S. Atlantic Fleet (COMCRUDESLANT) and Commander Amphibious Force, U. S. Atlantic Fleet (COMPHIBLANT), for example, are administrative commands composed of ship types. CRUDESLANT forces consist of cruiser and destroyer types of the Atlantic Fleet; PHIBLANT forces comprise the various amphibious types of the Atlantic Fleet. The type commander is responsible for the manning, equipment, organization, and readiness of the ships under his command.

In the illustration, USS Keith is one of eight destroyers attached to Destroyer Squadron (DESRON) 22. The squadron is divided into two divisions, each composed of four ships. The squadron flagship is USS DuPont. The DuPont also is flagship for the first division of the squadron, Destroyer Division (DESDIV) 221. The second division of the squadron, DESDIV 222, has a commander who is junior to the squadron commander. The flagship for the division commander (COMDESDIV 222) is USS McGowan.

The squadron is under the administrative command of Commander Cruiser-Destroyer Flotilla (COMCRUDESFLOT) 4. He, in turn, is under the administrative command of

COMCRUDESLANT. To complete the chain of command, COMCRUDESLANT is responsible to the Commander in Chief, U. S. Atlantic Fleet.

Administrative correspondence forwarded by individual commands is sent via the complete administrative chain of command. Destroyers in DESDIV 221 send controlled exercise reports to COMCRUDESLANT via COMDESRON 22 (who is also COMDESDIV 221) and COMCRUDESFLOT 4. Destroyer COs in DESDIV 222 send their reports to COMCRUDESLANT via COMDESDIV 222, COMDESRON 22, and COMCRUDESFLOT 4. Thus, if the commanding officer of The Sullivans submits a recommendation for a change to a communication publication, he forwards his recommendation with his reasons to the Chief of Naval Operations via COMDESDIV 222, COMDESRON 22, COMCRUDESFLOT 4, COMCRUDESLANT, and CINCLANTFLT.

TACTICAL COMMAND

A tactical command is an organization formed from one or from several ship types, and therefore from different administrative commands, to perform specific tasks. Although the ships of a tactical organization remain under the administrative control of their respective type commanders, they also are part of an operational (tactical) organization, and subject to a tactical chain of command as well. A destroyer operating in the western Pacific as a unit of the Seventh Fleet, for example, is under the administrative control of COMCRUDESPAC and under the tactical command of COMSEVENTHFLT.

Figure 3-2 shows the tactical organization of Task Force 62 of the Sixth Fleet. The task forces of a fleet are numbered in succession as TF 60, TF 61, TF 62, and so on. Divisions within a fleet retain the fleet number (6) throughout the breakdown. A subdivision of a force is a group; a subdivision of a group is a unit; and a subdivision of the unit is an element.

The tactical chain of command within our hypothetical force is headed by Commander

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Task Force 62, who is responsible to Commander Sixth Fleet. Because of the scope of tasks to be accomplished, the task force is divided into task groups and units.

In our example, activation of Task Force 62 makes it necessary for COMCRUDESLANT to assign destroyers to fill the needs of the force. As a result, DESDIV 221 is assigned antisubmarine duties as a component of Task Group 62.2. The CTG 62.2 is Commander Carrier Division (COMCARDIV) 14, embarked in USS Wasp. Both DESDIV 221 and DESDIV 342 form Task Unit 62.2.2, a screen unit organized to screen the carrier, act as plane guard, and conduct offensive antisubmarine warfare.

Further division of the fleet is possible through the formation of task elements, which normally are comprised of one or two ships. Ault and Weeks, for example, may temporarily form Task Element 62.2.2.1 to function as a van antisubmarine warfare (ASW) patrol. Subdivision into task elements is limited to the minimum required by essential operational tasks.

FLEET OPERATIONS AND COMMUNICATIONS

The highly complex character of naval operations today and the urgency for accomplishing the required action have resulted in exigent demands for reliable communications. As a result of the speed with which situations develop, there also is a lessening of the former distinction between strategy and tactics.

One important purpose of a fleet exercise is to train personnel to produce the quality of communications demanded by the complexity of modern naval warfare. The efficiency, communications-wise, at which the individual ship operates is a major determining factor in the overall operational performance of the ship. The sum of these individual performances makes or breaks the fleet operation.

A necessary step in achieving efficient communications is officer interest and supervision. Communication officers must give particular attention to the details of communication plans, practices, procedures, and the capabilities and
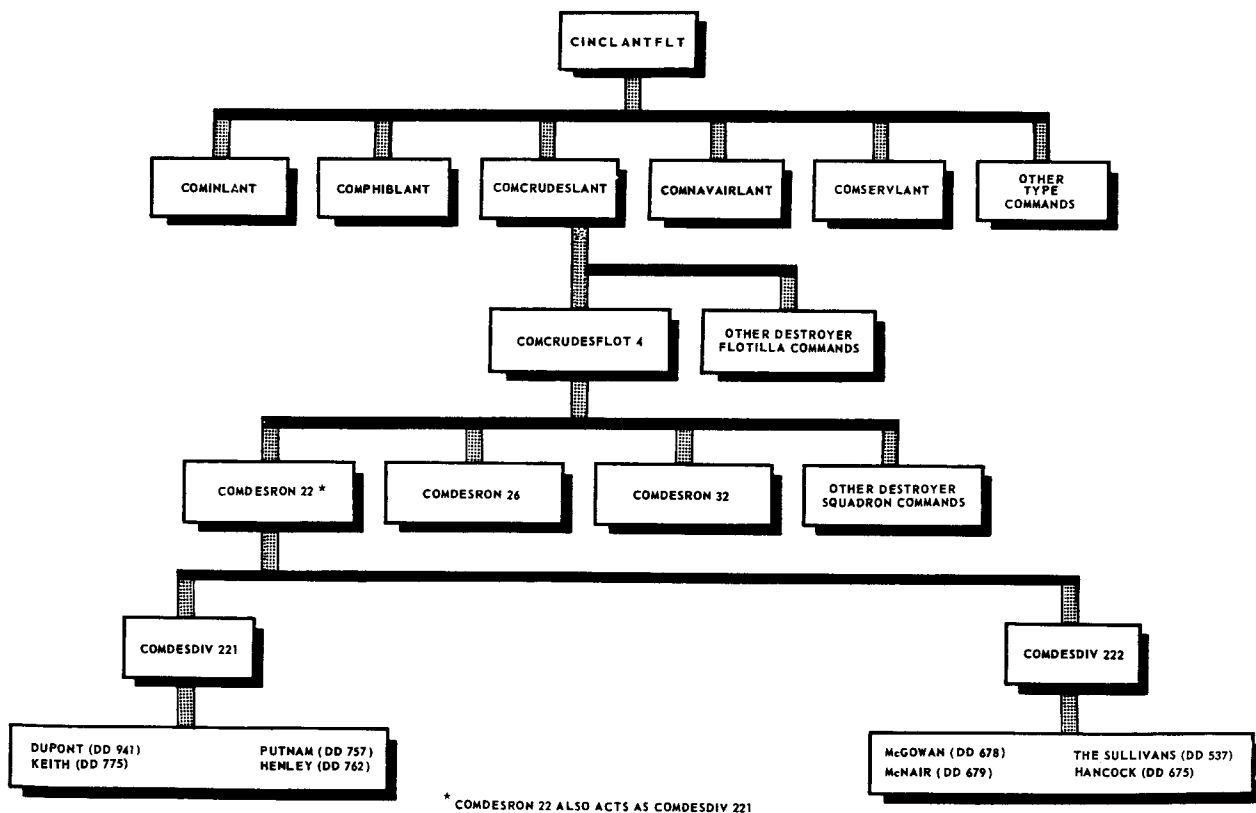

* COMDESRON 22 ALSO ACTS AS COMDESDIV 221

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Figure 3-1.—Administrative chain of command.

limitations of the communication facilities of the ship concerned.

Net Operations

The communication demands of fleet operations or exercises entail the use of many circuits. A brief description of the categories and types of circuits aids the reader to understand basic requirements considered in establishing the communication annex of an operation order.

Communication traffic breaks down into three broad categories: (1) exercise, (2) administrative, and (3) operational. The first is self-explanatory.

Administrative traffic includes such routine matters as personnel distribution, normal logistics, recurring administrative reports, and similar subjects.

Examples of operational traffic are tactical communications, combat intelligence, strategic or vital weather reports, combat logistics, and so forth. Operational traffic utilizes numerous circuits that are classified by type and use as (1) command, (2) common, and (3) functional.

A command net is one linking any commander with his immediate subordinates in the chain of command, and such other units as may be designated. A task force command net, for example, is used by the task force commander to promulgate tactical signals and other appropriate communications to his task group commanders. The latter, in turn, disseminate significant information received over the TF command net to ships and commands within the groups.

A common net links all ships or troop units of a designated task organization. A task group common net, activated by the TG commander, is guarded by all ships or troop units within the group.

A functional net connects directly the personnel who are delegated control of a specified function for which the net is provided. Functional nets include combat information (CI) nets
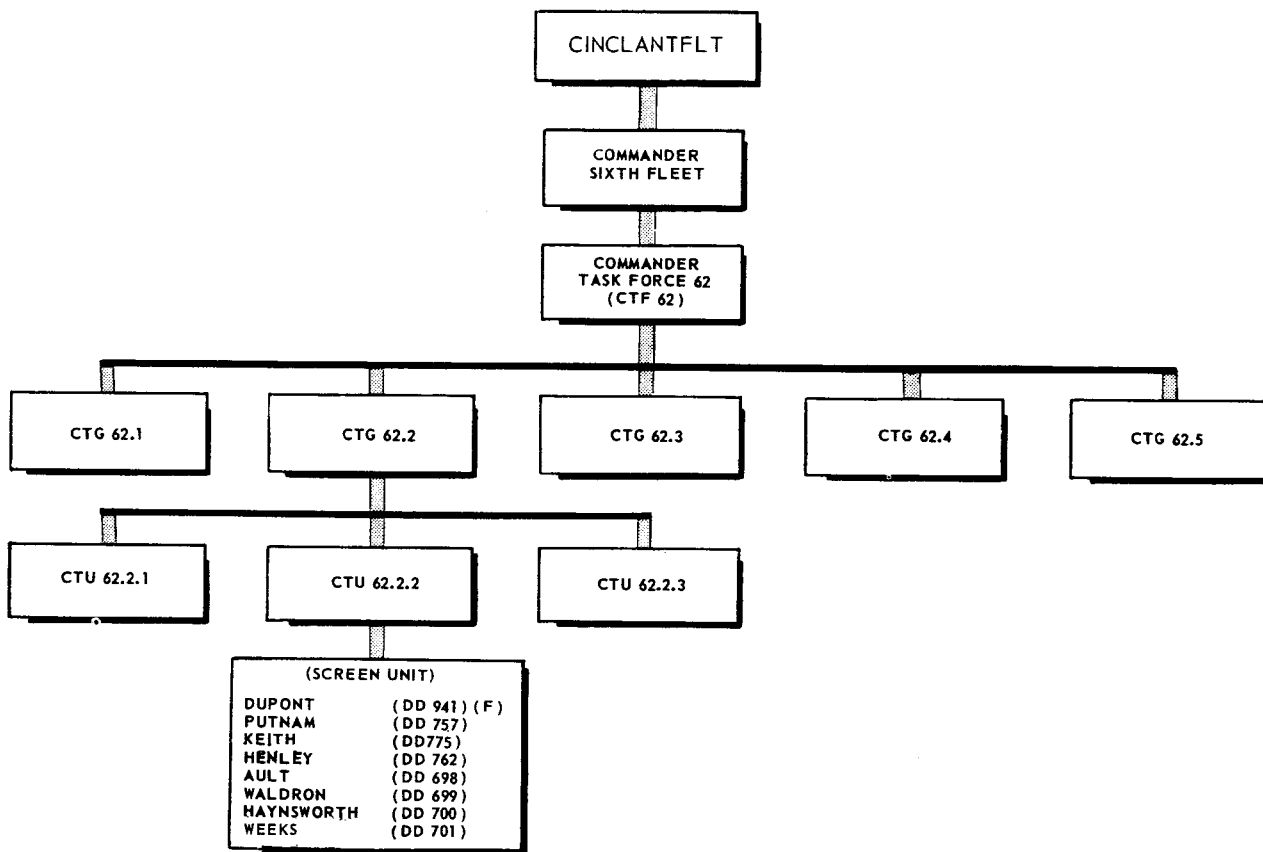

Figure 3-2. —Tactical chain of command.

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for passing combat information between all units and commands in the formation, maneuvering and warning (M&W) nets for maneuvering signals and flash warnings for all units and commands in the formation, and ship-to-air nets for communications between ships and aircraft of the task force.

A net control station (NCS) is designated by appropriate authority to direct and control the operation and flow of all traffic on the net. The NCS, normally the station serving the senior command, has these specific responsibilities:

1. Expedite traffic on the net.
2. Maintain circuit discipline.
3. Limit transmissions to the essential minimum.
4. Resolve disputes incident to traffic handling.
5. Monitor traffic to determine procedural discrepancies and initiate corrective action.

A net may be either a free net or a directed net. When operational factors permit the former, the NCS authorizes member stations to transmit traffic to other net stations without first obtaining permission from the NCS. The control station, however, remains responsible for maintaining circuit discipline. Directed nets normally are necessary when complicated traffic patterns or security measures exist, warranting direct control of each transmission by the NCS. When operating on a directed net, net stations obtain permission from net control before any transmission. Transmissions on a directed net may be accomplished in accordance with predetermined schedules.

Stations are required to report to the net control station before leaving the net or securing the net for a period of time, giving the approximate time of reentering the net.

Communication Frequency Plans

The assignment of radiofrequencies is a function of command. Control over radiofrequency assignments is vested where possible in theater commanders in active theaters of operation and in the appropriate national departments or ministries in other areas. For technical reasons, the greatest practicable degree of coordination is necessary in making frequency assignments, and the responsibility for ensuring such coordination rests upon the authorities stated above. The radiofrequency spectrum available for military use is limited.

Maximum economy in frequency usage is therefore essential and must be exercised constantly by assignment authorities. Coordination of frequency usage to prevent harmful interference is essential. This coordination, by international agreement, is a responsibility of the constitutional authority of the government concerned. In active theaters of operations, however, when this authority rests with the theater commander or in other areas where the national authorities consider it expedient, coordination of military assignments normally is undertaken by frequency coordination committees. Committees have been established in areas throughout the world to effect speedy and satisfactory coordination of frequency assignments and clearance of interference. For those assignments proposed for use within one theater or area that are considered to be capable of harmful interference to assignments made in another theater or area, the frequency coordination committee concerned coordinates frequency usage with the committees of the other affected theater(s) or area(s).

ASSIGNMENT OF FREQUENCIES.—Task organization basic communication frequency plans are contained in JANAP 195. These frequency plans, for use when a U. S. Navy task force (or portion thereof) is formed, are based on the following principles:

1. Communications follow the established chain of command.
2. The number of functional nets must be held to a minimum.
3. Adequate and economical utilization must be made of the communication facilities available.

Frequency plans provide a basic task organization communication plan that affords all the communication channels required to perform the tasks assigned a tactical organization. JANAP 195 supplements NWP 16, which contains the basic fleet operational communication doctrine. Basic communication instructions are contained in DNC 5. It is suitable for use in war operations and training.

The frequency plan is devised for use by divided or undivided task organizations. A divided task force, group, or unit is one that is separated organizationally into task groups, units, or elements, and may or may not be concentrated geographically. An undivided task force (group) (unit) is one that is not separated organizationally, and normally is concentrated geographically.

The plan is based on the assumption that the task force will be the largest individual tactical organization. In a divided task force, group, or unit that is concentrated geographically, the senior commander prescribes only those organizational circuits that are essential while so concentrated. In a task group that is divided into three task units operating in company, for instance, the task group commander would prescribe those frequencies assigned on the group level. Frequencies assigned for unit and element components of the group normally would not be used while in company.

Included in JANAP 195 are both a frequency list and a list of circuits. The frequency list is a record of radiofrequencies designated by the Chief of Naval Operations for Navy use, and either indicates the circuit or notes where the particular frequency may be found. The list of circuits provides for each a designating symbol and descriptive title, a list of assigned frequencies (where available), and special instructions governing the use of these frequencies.

Two frequencies normally are assigned for each net; one is designated the primary frequency, the other is the alternate. The primary frequency, in the UHF band, is used when line-of-sight communications are practicable. The alternate frequency, in the HF or MF band, is utilized when additional range is required. Selection of the frequency to be used depends entirely upon the range required for effective communications. Normally, concurrent use of one in conjunction with the other is not permitted. Additional frequencies for backup purposes are not assigned, one reason being the resultant economy of frequency utilization. When interference conditions prevent the satisfactory use of primary frequencies, commanders are authorized to use the frequencies of similar though differently numbered tactical subdivisions not operating in the vicinity.

The frequencies required for an operation usually are contained in the communication annex to the operation plan/order. From that annex, the communication officer must organize, write, and distribute the command communication plan. He also checks the feasibility of the plan to ensure ability to meet requirements. Frequently, the operations in which a ship is participating are not governed by a specific communication plan. When this is the case, appropriate frequencies, based on area frequency designators allocated by the fleet or type commander, may be obtained from JANAP 195.
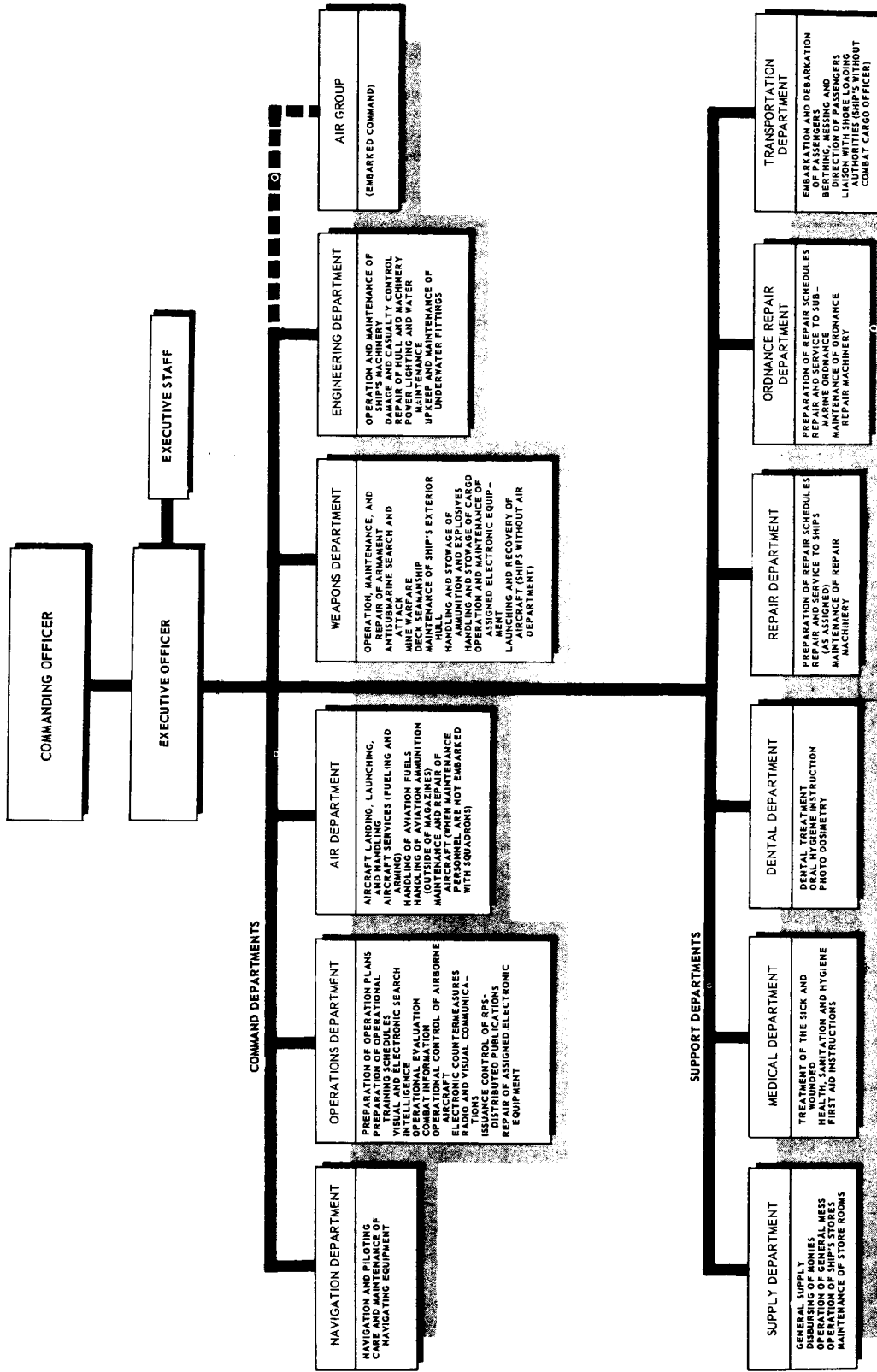
SHIPBOARD ORGANIZATION

The type commander promulgates a standard organization book that each commanding officer modifies only to the extent necessary to meet the needs of his ship. He then publishes for all hands a ship's organization and regulations manual that, among other things, spells out the functional relationships between the billets on his ship—who is responsible for what, who reports to whom, and so on.

Organizational billet assignments must of necessity vary between ships because of equipment limitations, ship size, ship function or mission, and the like. The assignments may vary within ships of the same type, perhaps because of personnel availability or lack of similar equipment. It follows that billet assignments must be flexible if they are to conform to changing requirements.

Figure 3-3 shows the basic administrative shipboard organization. Several departments, notably the operations department, have many specific responsibilities. In a large ship, such as a carrier, it is necessary for most—if not all—department heads to prepare department organization manuals based on the ship's manual; it is not unusual for division officers to prepare supporting division organization books for their division personnel.

Figure 3-4 supplements figure 3-3 by presenting the organizational arrangement of a shipboard communication division. A graphic breakdown of this type is desirable when a large number of functions are performed by many persons. Each man, down to the striker, can tell at a glance to whom he is immediately responsible. In large ships the communication organization is composed of two divisions—R and S—headed by the radio and signal officer, respectively.

Figure 3-5 is suitable as a destroyer-type organization chart, no breakdown being necessary. As compared to the billets in figure 3-4, for example, the DD communication officer may concurrently be the censor, custodian of registered publications, radio officer, and signal officer. Seldom are there more than three radiomen on watch at any one time to perform the functions shown in figure 3-4, and all the men are responsible directly to the senior enlisted radioman on board, who acts as radio officer. A chief signalman usually acts as signal officer.

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COMMAND DEPARTMENTS

COMMANDING OFFICER

EXECUTIVE OFFICER

EXECUTIVE STAFF

NAVIGATION DEPARTMENT
NAVIGATION AND PILOTING
CARE AND MAINTENANCE OF
NAVIGATING EQUIPMENT

OPERATIONS DEPARTMENT
PREPARATION OF OPERATION PLANS
PREPARATION OF OPERATIONAL
TRAINING SCHEDULES
VISUAL AND ELECTRONIC SEARCH
INTELLIGENCE
OPERATIONAL EVALUATION
COMBAT INFORMATION
OPERATIONAL CONTROL OF AIRBORNE
AIRCRAFT
ELECTRONIC COUNTERMEASURES
RADIO AND VISUAL COMMUNICA-
TIONS
ISSUANCE CONTROL OF RPS-
DISTRIBUTED PUBLICATIONS
REPAIR OF ASSIGNED ELECTRONIC
EQUIPMENT

AIR DEPARTMENT
AIRCRAFT LANDING, LAUNCHING,
AND HANDLING
AIRCRAFT SERVICES (FUELING AND
ARMING)
HANDLING OF AVIATION FUELS
HANDLING OF AVIATION AMMUNITION
(OUTSIDE OF MAGAZINES)
MAINTENANCE AND REPAIR OF
AIRCRAFT (WHEN MAINTENANCE
PERSONNEL ARE NOT EMBARKED
WITH SQUADRONS)

WEAPONS DEPARTMENT
OPERATION, MAINTENANCE, AND
REPAIR OF ARMAMENT
ANTISUBMARINE SEARCH AND
ATTACK
MINE WARFARE
DECK SEAMANSHIP
MAINTENANCE OF SHIP'S EXTERIOR
HULL
HANDLING AND STOWAGE OF
AMMUNITION AND EXPLOSIVES
HANDLING AND STOWAGE OF CARGO
OPERATION AND MAINTENANCE OF
ASSIGNED ELECTRONIC EQUIP-
MENT
LAUNCHING AND RECOVERY OF
AIRCRAFT (SHIPS WITHOUT AIR
DEPARTMENT)

ENGINEERING DEPARTMENT
OPERATION AND MAINTENANCE OF
SHIP'S MACHINERY
DAMAGE AND CASUALTY CONTROL
REPAIR OF HULL AND MACHINERY
POWER LIGHTING AND WATER
MAINTENANCE
UPKEEP AND MAINTENANCE OF
UNDERWATER FITTINGS

AIR GROUP
(EMBARKED COMMAND)

SUPPORT DEPARTMENTS

SUPPLY DEPARTMENT
GENERAL SUPPLY
DISBURSING OF MONIES
OPERATION OF GENERAL MESS
OPERATION OF SHIP'S STORES
MAINTENANCE OF STORE ROOMS

MEDICAL DEPARTMENT
TREATMENT OF THE SICK AND
WOUNDED
HEALTH, SANITATION AND HYGIENE
FIRST AID INSTRUCTIONS

DENTAL DEPARTMENT
DENTAL TREATMENT
ORAL HYGIENE INSTRUCTION
PHOTO DOSIMETRY

REPAIR DEPARTMENT
PREPARATION OF REPAIR SCHEDULES
REPAIR AND SERVICE TO SHIPS
(AS ASSIGNED)
MAINTENANCE OF REPAIR
MACHINERY

ORDNANCE REPAIR
DEPARTMENT
PREPARATION OF REPAIR SCHEDULES
REPAIR AND SERVICE TO SUB-
MARINE ORDNANCE
MAINTENANCE OF ORDNANCE
REPAIR MACHINERY

TRANSPORTATION
DEPARTMENT
EMBARKATION AND DEBARKATION
OF PASSENGERS
BERTHING, MESSING AND
DIRECTION OF PASSENGERS
LIAISON WITH SHORE LOADING
AUTHORITIES (SHIP'S WITHOUT
COMBAT CARGO OFFICER)

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Figure 3-3.—Standard shipboard organization. On aircraft carriers, the operations department is divided into an operations and a communications department.

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Figure 3-4. —Large shipboard communication organization.

In smaller commands, charts of only the department organizations may suffice to illustrate the details of all executive and supervisory positions.

OFFICER BILLETS

Under the conditions described in the preceding section, it is obvious that most of the following officer billets, although separated by function, apply on board a small ship to one man—the communication officer.

Communication Officer

The ship's communication officer, under the operations officer, is responsible for the organization, supervision, ahd coordination of the ship's exterior communications; the operation, care, and maintenance of all communication equipment not otherwise assigned; and the

procurement, custody, distribution, physical security, correction, and reporting of all classified registered publications and devices issued to the ship and of all other classified material assigned to him.

The communication officer is responsible for the routing, filing, and physical security of all messages handled by the ship, ensuring that messages are delivered promptly to the proper persons. He maintains message files and records, disposing of obsolete files in accordance with disposal instructions. He is in charge of all personnel assigned to radio and visual communications. He furnishes the effective recognition and identification signals to cognizant personnel of the watch.

With respect to duties involving equipment, the communication officer is responsible for the cleanliness and preventive maintenance of all electronic, cryptographic, and visual signaling

equipment and for the compartments and deck spaces occupied by such equipment.

Radio and Signal Officers

The radio and signal officers are assistant communication officers in charge of radio and visual signals. Each is charged with the operation and maintenance of assigned equipment. Their duties are to ensure reliable, secure, and rapid handling of radio and visual communications. In addition, the radio officer must know the effective communication plan, understand propagation characteristics, and be familiar with the condition, capabilities, and limitations of the ship's radio equipment, including antennas.

RPS Custodian

The Registered Publications System (RPS) is a publication distribution system that provides for strict accountability of certain publications by assigned register numbers. Special safeguards against loss or compromise include a system of continuous accountability, periodic inventories, and detailed handling procedures.

The RPS custodian is responsible to the commanding officer for keeping a complete, up-to-date, and correct allowance of registered publications issued to the ship. Under the direct supervision of the communication officer, the tasks of the custodian extend to the drawing, stowage, correction, destruction, submission of reports, and issuance of all registered publications.

Communication Watch Officer (CWO)

In large ships, junior officers may be assigned specifically to the operations department (on carriers, to the communications department) for watch standing duty or training in communications. In smaller ships, CWO duties are performed by the communication officer and his assistants.

While on watch, the CWO is in active and immediate charge of the ship's communications.

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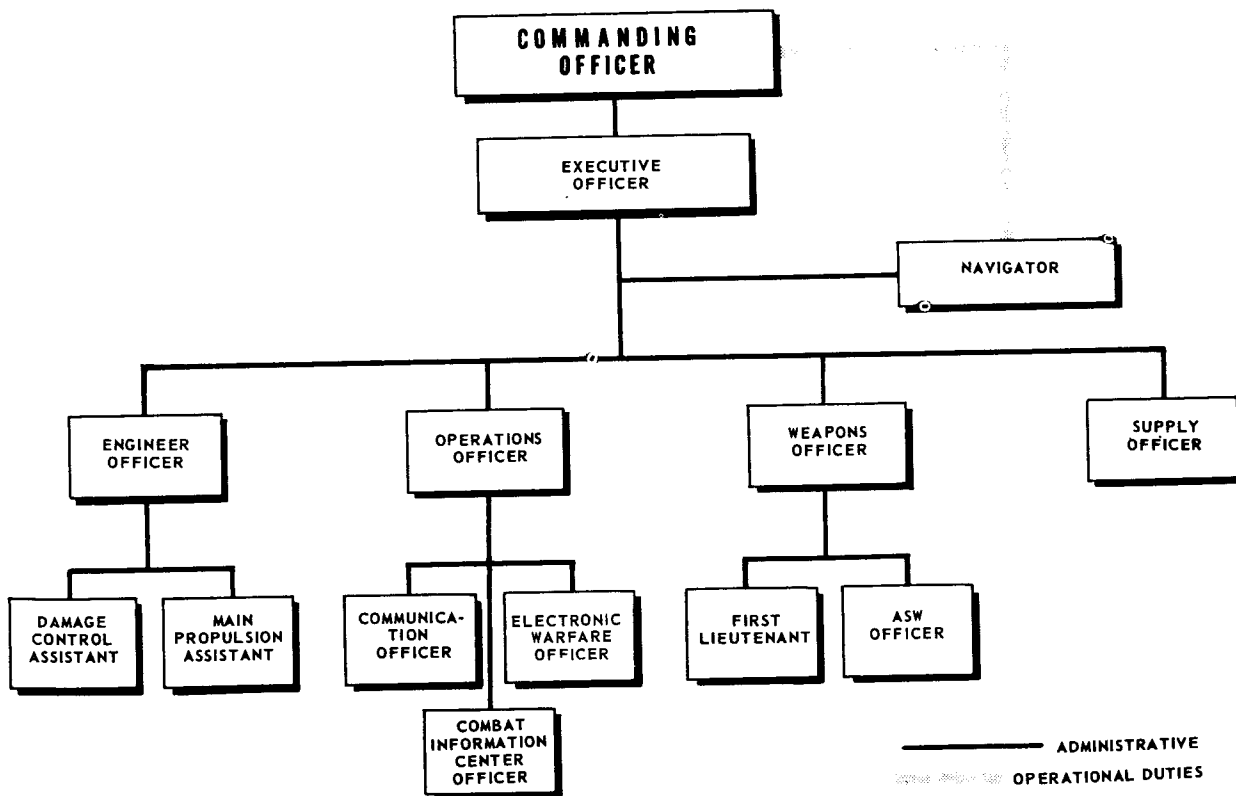
Figure 3-5.—Organization chart for a destroyer.

He is responsible for incoming and outgoing traffic as provided for in the ship's communication organization, ensuring that all messages sent and received are in correct form and are handled promptly and efficiently. During the period of his watch, he is responsible for the proper operation of the cryptocenter.

Cryptoboard Member

Cryptographers—collectively called the cryptoboard—are designated by the commanding officer to assist the CWO in the encryption and decryption of messages when the traffic load warrants. Cryptoboard members may be commissioned officers, warrant officers, and trustworthy and reliable enlisted personnel.

Each commanding officer appoints an assistant communication officer for cryptosecurity who serves as advisor to the CO in all matters relating to cryptosecurity and the physical security of cryptomaterials. The officer so appointed is responsible to the communication officer for the accurate, secure, and efficient operation of the cryptocenter.

ENLISTED BILLETS

The specific duties of enlisted personnel assigned to communication duties (radio operators and signalmen) vary according to the size, location, and mission of the ship. The principal duties of the radiomen are the operation of radiotelegraph, radiotelephone, teletypewriter, and facsimile equipment. Signalmen are concerned primarily with communications utilizing flashing light, semaphore, flaghoist, and other visual means.

The leading petty officers assigned to radio and signal duties are in direct charge of other enlisted personnel so assigned. They prepare all watch lists, organize and conduct adequate training programs, and make frequent checks of traffic files and logs. They are responsible for the cleanliness and preventive maintenance of all equipment assigned.

During the periods of their watches, the supervisors in radio central and on the signal bridge supervise the operations of all other men on watch. The radio supervisor monitors frequencies in use, inspects traffic and logs to detect errors by his operators, makes prescribed frequency checks, and takes immediate action in the event of equipment failure (e.g., notifies the bridge if necessary, and details

men to make repairs). The signal bridge supervisor keeps his watch informed of the force's tactical disposition, ensures that watch standers know the effective recognition and identification signals, and maintains all visual equipment in readiness for use.

COMMUNICATION SPACES

The number, size, and arrangement of the communication spaces of a ship depend upon her size and mission. Many large ships, particularly large combatants, have spaces located forward, aft, and amidships. This arrangement has the dual advantage of (1) scattered antennas, which helps to reduce interference, and (2) minimum danger of loss of communications if part of the ship is damaged—each space can carry out at least partial communications. The most important spaces (radio central, message center, and cryptocenter) are located amidships.

Radio Central

Radio central, also called main radio or radio I, is the largest and most completely equipped radio space in the ship. It contains operating positions ofr radiotelegraph, radiotelephone, radioteletypewriter, and fascimile. Normally, it is the location where transmitters, receivers, and remote speakers and keying positions are selected and tied together to provide communication channels for the remote operating stations elsewhere in the ship. Radio central, located in close proximity to the message center and cryptocenter, is the duty station of the watch supervisor and of most radio operating personnel.

Message Center

The shipboard message center is the duty station of the communication watch officer. It is here that outgoing traffic is prepared for transmission, and incoming messages are readied for local delivery. All messages, except tactical signals received and sent direct from shipboard control stations, must clear the message center before internal routing or external transmission. In ships without a message center, the functions of the center are carried out in radio central.

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Cryptocenter

The cryptocenter is the exclusive working area of the cryptoboard. Access to the cryptocenter is strictly controlled. There is a single entrance, and an authorized entry list is posted nearby.

Other Radio Spaces

According to the size of the ship, there may be one or more additional spaces containing special equipment, additional equipment, or duplicate facilities. Depending upon their arrangement and intended use, they may be designated as transmitter room, emergency radio room, auxiliary radio, or other appropriate titles.

Most of the ship's transmitters are located in the forward radio space, called the transmitter room or radio II. Watch standers in radio II keep transmitters tuned to prescribed frequencies and connected (patched) to keys, microphones, teletypewriters in radio central, and to remote operating positions in CIC, on the bridge, and in other parts of the ship. Receiving equipment includes one or two emergency receivers and the ship's entertainment receivers.

Radio III, an emergency radio room aft in large combatants, has been converted (on most ships) into an active transmitter room because of frequency demand. Where not so converted, radio III is manned only during general quarters.

Remote Control Facilities

Remote control stations, consisting of receiving outlets and transmitter keying positions, are located on the bridge, in CIC, and other battle control spaces where a need exists for direct radio communication. Receivers in radio central and transmitters in radio II and radio III can be connected to remote control positions as required. Positions on the bridge and in CIC often are paralleled. For example, a tactical maneuvering net can be controlled from either the bridge or CIC by means of remote control units in these two spaces. The remote control units are connected through radio central to the same transmitter and receiver.

Visual Signal Spaces

Equipment and spaces for visual communications are provided in the superstructure of the ship. Signal halyards for flaghoist signaling lead from the yardarm to flag bags abaft the bridge. Signal searchlights and semaphore platforms are positioned where each has the largest arc of vision, and so that the total visual coverage is 360 . Remote control keys for operating yardarm blinkers are placed in protected positions.

COMMUNICATION FILES

Every message handled by a ship (or station) is placed in one or more files to be retained for periods of time, and then to be disposed of as directed by DNC 5. Several files of an optional nature are permissible to fill the needs of particular activities. Those discussed in this section may be mandatory for many commands.

Communication Center File

The communication center file contains a copy of every unclassified message, regardless of means of transmission, addressed to or originated by the command, and an off-line (manually) encrypted copy of each classified message as received or transmitted. When an encrypted copy is unavailable or is nonexistent (for example, unencrypted classified messages transmitted by registered mail), a filler or dummy referring to the cryptocenter file is inserted in place of the message. Messages are filed chronologically by date-time group.

The file should be subdivided into incoming and outgoing sections. Encrypted copies of classified messages in the communication center file contain operator's services and communication watch officers' initials. Plain language outgoing messages contain the foregoing notations plus signatures of drafting and releasing officers.

Cryptocenter File

The cryptocenter file contains the edited plain language version of each classified message addressed to or originated by the command, filed chronologically by DTG. In effect, the cryptocenter file is the classified portion of the communication center file.

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The cryptocenter file may be physically sub-divided to comply with stowage requirements for classified matter. Top Secret messages always are afforded separate stowage.

Station Files

The radio station file is a chronological record of all radio traffic handled by the command. It consists of a copy of each nontactical message received, transmitted, or relayed by the radio facilities of the command.

The visual station file is a chronological record of all nontactical traffic handled by the command by visual means.

General Message File

The general message file is a chronological record of all general messages addressed to the command. The file normally is subdivided by type of general message, and each type is filed in serial number order. These files are given the classification of the highest classified message in the files. For convenience of access and stowage, the files may be segregated by security classification with appropriate cross references.

Broadcast File

A ship copying broadcast maintains complete broadcast files for a short period of time (1 or 2 months, depending on ship size). Messages in a broadcast addressed to the ship are written up on message books for local delivery, as are other messages. Copies are placed in the communication center and radio station files. Broadcast copies are filed in serial number by month (the serial numbers start with 1 the first day of each month).

Communication Logs

Communication personnel maintain four types of logs: radiotelephone, radioteletype-writer, and visual.

It is never permissible to erase a log entry. A change or correction is made by drawing a single line or by typing slant signs through the original entry, indicating the changed version adjacent to the original entry. Any operator who changes an entry must initial the change.

File Consolidation

New requirements and concepts often result in deviations from accepted standards. The advent of the on-line broadcast (discussed in chapter 7), for example, warrants experimental changes in filing procedures. DNC 5 states that the communication center file and the radio/visual files may be combined as necessary. In the interest of further improving the internal handling of messages, the Director, Naval Communications recommends, by means of an OpNav instruction in the 2110 series, that all commands consider the feasibility of maintaining a single communication center file. This file would contain all messages, except Top Secret, originated by or addressed to the command. To expedite recovery time, the only file division considered necessary is the separation of incoming and outgoing traffic. This procedure results in several tangible benefits. It eliminates at least the cryptocenter and station files. It does away with numerous cross-reference dummies or fillers. In many commands, the need for rewrite would become nonexistent.

The DNC further recommends that the file copy of a message be placed in the communication center file as soon as possible after receipt of the message, and that no file copy be permitted to leave the communication center. These measures make the message quickly available for reference and reduce the possibility of loss.

MESSAGE PROCESSING

Regardless of classification, the contents of messages routed internally are not divulged to any persons except those who need the information. This applies also to personal Class E messages. Official messages for delivery should be placed on covered boards. Messengers must not allow messages they are distributing to be seen by persons other than those authorized. All copies of messages except those required for files are destroyed when they no longer are needed.

Incoming Messages

All CW, RATT, and FAX messages, and nontactical visual and radiotelephone messages addressed to the ship are processed through the

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message center. Typically, an incoming message is processed through these steps:

1. The radio operator copies the message on a message form or takes it off the RATT. He passes it to the supervisor, who resolves any discrepancies and, in turn, passes the message to the message center.

2. In the message center, the CWO or one of his assistants translates the call signs and address groups in the heading, records the identifying information (e.g., TOR, precedence) in the appropriate incoming message log, and indicates the internal distribution. Except for the security classification and the internal distribution, messages as received normally contain all of the information needed by the ultimate recipients. Items such as the TOR, precedence (spelled out), and briefs of references all require manual entry and need not be shown on the message unless absolutely necessary.

When no procedures exist that eliminate the need for rewrite, the message is passed to the communication clerk, who makes a smooth copy and as many carbons as are required.

3. The CWO gives the message to the messenger, retaining one copy until delivery is completed.

4. The messenger delivers the traffic first to action and then to information officers, who receipt for classified messages by initialing the master copy. The commanding officer, executive officer, and communication officer see copies of all messages. The CO, however, may exempt himself from the routing of certain types of messages, such as those dealing only with routine supply matters.

5. After distributing all copies and obtaining any required initials, the messenger returns the master to the message center. The master copy becomes a permanent part of the communication center file.

For high-precedence messages, the CWO employs the most rapid means of delivery available, particularly to action officers. He may resort to direct delivery over a telephone circuit, delivery of an advance copy before writeup, or other expedients.

To ensure expeditious handling, time limits should be established to complete the processing of each precedence of message. The senior supervisor (CWO) on watch should check the time of receipt (TOR) entries in the incoming message logs at frequent intervals. Any message that has not been cleared within the prescribed time limit is then located and its processing expedited.

Classified messages require security measures in handling. Some, or all, information officers do not receive personal copies, but see and initial the original copy, which then is returned and placed in the cryptofile.

Top Secret messages are processed by a Top Secret control officer, who may or may not be a regular communicator, appointed by the captain.

INTERNAL ROUTING.—The call signs in the heading of a message usually provide no indication of the officers aboard who are to receive the message, either for action or information. The CWO must decide who the action or cognizant departments are, based on guidance provided by the various departments. Special care is needed in the handling of Class E messages to ensure that the privacy of their contents is not violated.

It is important that the correct number of copies be distributed. If a message is underrouted, the result may be unnecessary delay. The other extreme, preparing a copy for everyone aboard who might have even a remote interest in the message, is equally bad; it would take too much time and often circulate classified information too widely.

Before a message is delivered, the CWO should ensure that he has not left himself open for questions from the recipient. If there is dual precedence, is it shown? Are there any references in the text? If so, are clarifying excerpts required on the face of the message?

Figure 3-6 shows the type of message (gale warning) that properly should receive wide distribution within the ship. The operations officer (indicated by the No. 3 routing box) acts for the CO in matters relating to the ability of the ship to carry out her assigned mission; he therefore is the action officer. Routing boxes numbered 1, 2, and 3 normally indicate information (I) to the CO, XO, and communication officer, respectively.

Other recipients of the gale warning message include the navigator, the meteorological officer, and such department heads as the weapons officer (who must take measures to protect exposed ordnance equipment), engineer officer (responsible for damage control and ship stability), and the medical officer (responsible for the comfort of bedridden patients and security of medical spaces for weather

damage). All recipients notify personnel within their departments.

Outgoing Messages

The originator of a message is the command by whose authority a message is sent. A message from the USS Weeks, for example, is referred to in just that way—not as from the "CO of the Weeks." Unless otherwise indicated, the originator in all instances is understood to be the commander of the originating station.

Within a command, the term "originator" often is used to indicate the person who originally prepared a message for transmission. This, however, is the function of the drafter.

A releasing officer is an individual within a command designated by the commander to authorize message transmissions for and in the name of the originator; the releasing officer may also be the drafter. All outgoing message forms provide for the initials or names of the drafter and the officer authorizing release (transmission) of a message.

A message is not used unless other means of corresponding will not suffice. For example, U. S. mail or airmail always are utilized when the addressees are in the continental limits of the United States and action is not required for 72 hours. In other instances, the necessity for a message is left to the discretion of the originator. When an officer authorized to draft

NAVAL MESSAGE (SHORT FORM) OPNAV FORM 2110-29 (10-58) Reorder from FPSO Cog. "I" Stock Points			SECURITY CLASSIFICATION UNCLASSIFIED	
DRAFTED BY	PRECEDENCE IMMEDIATE	DATE/TIME GROUP 11Ø4Ø3Z	MESSAGE NR. 31	

FROM:
FLEAWEACEN WASHDC

TO:
ALL SHIPS COPYING THIS BROADCAST

INFO:
COMEASTSEAFRON / FLEWEAFAC NORVA / FLEWEAFAC MIAMI

UNCLAS

11Ø4ØØZ GALE WARNING. BETWEEN FORTY TWO AND FORTY FIVE NORTH FROM

THIRTY FIVE WEST TO EUROPEAN COAST. WIND WESTERLY TWENTY FIVE TO

THIRTY FIVE KNOTS

WR NR3365   WU/JN

RELEASE								TOR 11/Ø417Z				TOD				CWO				WO				DATE 11 OCT 64	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DATE/TIME GROUP	
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SECURITY CLASSIFICATION
UNCLASSIFIED

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Figure 3-6.—Incoming message. Internal routing is indicated by numbered blocks.

messages determines that a message is necessary, he prepares it, assigns the proper classification and precedence, and sends it to the releasing officer. Typically, the outgoing message then is processed through the following steps:

1. The releasing officer (on a small ship the commanding officer or executive officer) checks the message for content, precedence, classification, brevity, and clarity, making any changes he thinks necessary. When he believes the message to be unnecessary, he returns it to the drafter. If he approves the message, with or without changes, he sends it to the message center.

2. In the message center, the CWO determines, if possible, whether all addressees hold copies of any messages referenced in the message being processed. When they do not hold them, he adds the suffix NOTAL to appropriate references, indicating that the latter were "not to, nor needed by, all addressees."

3. After the enlisted watch supervisor enters the appropriate information in the outgoing message log and adds the heading, the CWO sends the message to the radio room for transmission. If the message is classified, however, he first sends it to the cryptocenter. The heading is then added before the encrypted version goes to the radio room.

4. In the radio room the message is placed on the air. The time of delivery (TOD), identification of accepting station, frequency used, and the operator's sign are noted on the face of the form. The message is returned temporarily to the message center for completion of the CWO's outgoing message log.

5. When the drafter has not prepared a sufficient number of copies, the original draft is given to the communication clerk, who prepares file and internal routing copies for interested officers.

6. When separate files are maintained, the original draft is placed in the rough file; the original encrypted copy, if any, goes to the radio supervisor for the radio station file; a filler, dummy, or encrypted copy is placed in the communication center file; and a plain language copy goes into the proper section of the cryptocenter file.

BROADCASTS

The broadcast method of transmission is a method of delivery by which a station transmits serially numbered messages at scheduled times. The principal advantage of this method is that the station addressed does not answer, thus avoiding disclosure of position. Another advantage is that it often is possible to avoid the use of individual call signs, which serves to conceal the identity of addressed stations. This topic is discussed more fully in chapter 4.

FLEET BROADCASTS

Fleet broadcasts are the primary means of delivering traffic to the fleet. All ships not exempt must copy all messages transmitted on the appropriate area broadcast. They are responsible for maintaining a complete file of the serially numbered messages. The fleet broadcast is broken down into the CW, RATT, FAX, and submarine broadcast. The last, however, usually is integrated with the regular CW broadcast unless an independent fleet submarine broadcast is established in the area. The submarine broadcast ordinarily occurs only during wartime.

All fleet broadcasts normally are transmitted on several frequencies to allow a choice for best reception, considering the time of day or night and the atmospheric conditions.

The operating schedule for each type of fleet broadcast is given in JANAP 195. For example, the fleet broadcast (CW) commences every hour on the hour, unless otherwise indicated, and normally does not exceed 50 minutes in duration, except the general message schedule, which may be extended to 1 hour and 50 minutes. Submarine schedules, when included as a submarine component of the fleet broadcast, usually are transmitted every odd hour.

GENERAL BROADCASTS

General broadcasts include scheduled transmissions of the following material:

1. Messages to U. S. Navy controlled merchant ships (MERCAST).
2. Hydrographic information.
3. Weather.
4. Time signals.
5. Press.

Like the fleet broadcast, the general broadcast has CW, RATT, and FAX components. Operating schedules for each of these can be found in JANAP 195, as can the various operating frequencies.

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COVERED BROADCASTS

A radioteletype broadcast may be utilized to disseminate classified as well as unclassified information to the fleet, in plain language copy, by using cryptographic devices at the sending and receiving terminals. This method is referred to as a covered broadcast.

CORONETTING

Provisions are available so that a primary or major communication center (described in the next chapter) in a specific geographical area may key the transmitters of one or more of the communication stations in the same area simultaneously with its own. This procedure is called coronetting, and results in identical information being broadcast to several areas at the same time.

As an example, the transmitter at NAVCOMMSTA Guam is equipped to key the transmitters of the COMMSTAs in Japan and the Philippines. A message can be broadcast from the three stations simultaneously, providing blanket coverage of the entire WestPac area over a wide range of frequencies. This is an advantage when a particular broadcast area is subject to disruption of communications because of meteorological conditions or heavy weather. A ship having reception difficulty in the Guam broadcast area may shift to the Philippine or Japan broadcast and receive the same information on a different frequency.

SHIP-SHORE COMMUNICATIONS

Ship-shore radio circuits are the principal means for delivery of traffic from ships at sea to shore radio stations. These circuits fall within three general categories: primary, secondary, and special.

Primary circuits provide for long-distance communications. Prior to transmitting, ships should determine the best frequency to be used by referring to the propagation tables in DNC 14 or by listening to the HF fleet or general broadcast from the shore radio station the ship desires to contact. Shore stations customarily guard radioteletypewriter and radiofacsimile ship-shore circuits only on a request basis. Ships desiring to transmit on these circuits should send a CW service message to the station concerned, using the appropriate radiotelegraph ship-shore circuit.

Secondary circuits normally utilizing medium frequencies are used in lieu of the primary circuits when a ship is within reliable range of the shore station. These circuits also may serve as warning nets by ships in or near established harbors. When in harbors, all ships except those guarding district or sea frontier frequencies guard the frequency employed as harbor common, or make guardship arrangements.

Special ship-shore circuits may be established by CNO, based on recommendations of fleet or force commanders, with a view to providing adequate circuits to fulfill the missions of forces under their commands. When traffic is of extreme urgency and importance, ships may be authorized to use point-to-point circuits (fixed radio and wire circuits established for communications between shore facilities) to pass traffic to shore stations that usually do not guard a ship-shore circuit.

COASTAL HARBOR/HIGH SEAS RADIO-TELEPHONE SERVICES

During peacetime, as a contribution to the morale of personnel afloat, fleet commanders and district commandants may authorize Navy ships to use commercial radiotelephone services. Such services provide two-way telephone conversations between a ship and any telephone on land through commercial land radiotelephone stations. U. S. Navy ships utilizing this service are limited to calls originating on the ship; incoming calls cannot be accepted. The commercial companies concerned are the Coastal Harbor Radiotelephone Service and the High Seas Radiotelephone Service.

Coastal Harbor stations provide communications to a few hundred miles offshore. Numerous stations are established on the Pacific, Atlantic, and Gulf coasts and in Oahu, Hawaii. High Seas stations located in Oakland, California, New York City, and Miami should be used only by ships operating beyond the normal range of the Coastal Harbor stations. Call signs, operating frequencies, and the names and addresses of company representatives are listed in DNC 26.

To initiate service, a form letter is submitted to the telephone company representative nearest the home port of the ship. The company sets up an account in the name of the ship and thereafter accepts calls through any of its

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stations. A change in the home port assignment of the ship requires a new letter of request to the company representative nearest the new home port.

The communication officer is responsible for the shipboard arrangements for use of the telephone service. Included in his responsibilities are the preparation of the form letter to initiate service; provision of locally prepared forms to be filled out by users of the service; selection and adjustment of the shipboard transmitter and receiver; collection of charges and transfer of money to the disbursing officer; verification of telephone company bills before payment by the disbursing officer; and maintenance of technical liaison with the telephone company.

The charge for service depends upon the location of the ship as well as the land telephone. Calls may be either station-to-station or person-to-person, the charge being the same for either.

For Coastal Harbor Service, the coastal waters are divided into rate areas that are defined by latitude and longitude and are illustrated in DNC 26. The initial rate is for 3 minutes or less, with overtime charges based on one-third of the initial rate for each minute of overtime. All charges are subject to 10 percent Federal excise tax. Collect calls are permitted and, if accepted by the person or station called, no charge is collected from the user on the ship.

For High Seas Radiotelephone Service, the United States is divided into three land rate areas by groups of states, and the oceans are divided into three ocean rate areas defined by latitude and longitude. A chart in DNC 26 shows the land and ocean rate areas.

Practically all standard Navy transmitters and receivers designed for voice amplitude modulation emission and reception are suitable for this R/T service. The transmitter must be on the exact frequency specified, otherwise the carrier will not actuate the calling device at the telephone company marine operator's desk and the call will be unanswered. To prevent the calling device from being actuated unintentionally, it is best to tune the transmitter before coming into range.

The best microphone to use is the push-to-talk (release-to-listen) type; the microphone should be demonstrated to the user before he goes on the air. Ship and shore station transmit on different frequencies, but when the

microphone switch is pressed, receiver blockage may nevertheless occur if the transmitting and receiving antennas are close together.

To place a call, the user fills out a form (provided by the communication officer) giving his name, serial or file number, rank or rate; city, telephone number, and individual to be called; whether the call is collect; and the time the call is to be made. (The commanding officer normally designates the hours during which service is available.) Charges are entered and the communication officer signs the completed form. The caller keeps one copy as a receipt.

Assuming that preliminary arrangements were made and the equipments are tuned properly, the shipboard operator listens to make certain the circuit is not in use. Then, if the circuit is clear, he calls the marine operator by voice:

NORFOLK MARINE OPERATOR—THIS
IS USS FREMONT

When the operator responds, he is given the name of the ship, the coastal rate area in which the ship is located, the city and telephone number desired, and, if the call is person-to-person, the name of the individual called. He then is requested to quote the rates for the call.

THIS IS USS FREMONT—RATE AREA 2B—
CALLING WASHINGTON DC—LUDLOW
4-5400—STATION TO STATION—
QUOTE TIME AND CHARGES

When the marine operator makes the telephone connections, the circuit is ready for the caller. Best results are obtained by speaking plainly and naturally. Instruct the caller not to speak until the other person finishes. When the conversation is over, the shipboard operator notifies the marine operator: THIS IS USS FREMONT—CALL COMPLETED

The marine operator then quotes the time and charges. Actually, the Coastal Harbor and High Seas Radiotelephone Service channels are like party lines and are shared by a large number of ships. Courtesy and discretion are necessary if everyone is to share the service equally. Observe these rules:

1. Avoid chains of calls. Space them out so other ships can use the circuit without too much delay.

2. Keep conversations brief.

3. Plan calls for slack hours. The hours between 1900 and 0700 local harbor time are least busy.

4. Be discreet in conversation. Anyone with a shortwave set can monitor half the transmissions.

STANDARD COMMUNICATION PLANS

The communication officer on every ship should prepare, in advance of the need for them, standard communication plans to be used in frequently recurring or emergency situations. These include type or situational plans, such as a standard frequency plan for search and rescue operations, in-port frequency plans used for various harbor warning nets and other secondary frequencies designated, and local frequencies on which a watch must be maintained in the event emergency sortie (attack) procedures are instituted. These standard plans vary according to the area and type of operations. When prepared ahead of time and made readily accessible to all personnel who have need of the information, a great deal of time can be saved and embarrassment avoided.

In most instances, the movements of a ship (ports of call, scheduled exercises, and the like) are known well in advance of the movements. Early preparation of the standard communication plans becomes a matter only of advance preparation for a scheduled event. For example, there are four methods of maintaining a radio watch: (1) guard, (2) cover, (3) copy, and (4) listen. To guard a circuit, a continuous radio watch is maintained. A transmitter is ready for immediate use, and a complete log is mandatory. When a frequency is covered, the watch also is continuous. The transmitter is calibrated and available, but it does not have to be available for immediate use. A complete log is maintained. To copy means to keep only a continuous receiver watch and a complete log. Listening is similar to copying except that a complete log is optional. The frequencies to be guarded, c o v e r e d, copied, or listened to when in port depend on port regulations and operational commitments.

Usually, the frequencies on which a watch must be maintained in a given port are contained in JANAP 195. The senior officer present afloat (SOPA), however, may designate a secondary frequency; this information probably would be disseminated by a SOPA instruction or notice to ships concerned. In addition, the area commander may order, by another instruction, other frequencies guarded. A ship in port retains its force or group identification, and this may result in other watch requirements. All these separate orders (which must be up to date) should be studied before arrival, if possible, and a complete compilation of frequencies on which watches must be maintained should be set up in the form of a communication plan. Just as important, before arrival the plan should be broken out and studied, and equipment calibrated, to ensure readiness of the ship to assume its in-port communication commitments at a moment's notice.

The alternative to having a plan ready for each port, or possible recurrent underway situation, is repeated confusion caused by the last-minute need for studying, on a crash basis, all the pertinent publications and local, fleet, or force regulations. The usual embarrassing result of this lack of preparedness is tuning in on a designated frequency in 2 hours instead of 2 minutes. Your performance is judged by results accomplished, not by the effort expended.

ENTERING AND LEAVING PORT

When entering and leaving port, the communication officer is responsible for exercising specific functions as prescribed by the commanding officer. While the ship is in port, SOPA instructions usually apply.

This section of the chapter is intended as a guide to assist the communicator prior to entering, upon arrival in, and departure from port.

PRIOR TO ENTERING

It is mandatory that two reports be made before or upon arrival in port—an arrival (movement) report and a logistics requirements report.

Although the arrival report is not filed until the ship physically arrives in port, it should be prepared beforehand. The logistics requirements report is sent 48 hours preceding the ship's arrival at any United States, British, or Canadian port. Both reports normally are transmitted as messages.

ENTERING PORT

The following items, as a minimum, must be considered while the ship is entering port.

DEGAUSSING: Many naval bases have a degaussing range. Some are so located that a ship cannot pass through the main channel

without running the range. Ensure that a guard is set on the proper frequency to communicate with the degaussing station and that your signal force knows the visual call. Prepare a message giving the ship's coil settings, which can be obtained from the navigator. The message is sent to the degaussing station and, shortly after running the range, the ship will receive an answer stating whether the equipment is functioning properly.

HARBOR NETS: Ensure that a watch is set on the prescribed harbor frequencies (radiotelegraph and/or radiotelephone). These frequencies are listed in JANAP 195, the appropriate fleet guide, and SOPA instructions. The latter, of course, usually are unavailable before entering port.

The general rule is to check out on the harbor nets when the ship is near enough for effective communication. Although berthing instructions usually are included in the answer to the logistics requirements report, you sometimes may receive last-minute changes. The harbor net is available for this type of traffic.

SPECIAL SEA DETAILS: Certain communication personnel man special sea detail stations, reporting to the bridge when the stations are manned and ready.

A ship entering (or leaving) port literally is on parade. Make sure that the men of your division contribute constructively to the appearance of the ship. Fly the ship's best set of colors during the time the special sea detail is set. The ensign must be close up and not fouled in the halyards. Ensure that the ship's international call sign is flying from the yardarm. Ascertain that no flags are torn, their frayed ends whipping in the breeze.

The bridge watch is required to provide certain equipment during special evolutions—a portable electric megaphone, for example. Ensure that everything needed is on hand. Have the batteries of the megaphone checked a day in advance by the ship's electrician. Even then, supply a standard cone megaphone as a backup.

Signalmen should be alert for visual signals. Be sure that all sectors are watched closely, and permit no skylarking.

Those of your division not on watch and not assigned a specific special sea detail station assemble at quarter with an officer or petty officer in charge. The men should be at division parade, in ranks at all times. They must know how to render passing honors. Uniforms should be immaculate.

VISUAL COMMUNICATIONS: Each naval base has a visual communication tower and its call is included in the fleet guide. Messages can be addressed to the naval port control officer (NAVPORCO) either visually or by the harbor radio net. Where possible, visual means should be used.

During time of war, most harbors are protected by antisubmarine nets and various listening devices that can detect a submarine attempting a sneak submerged entry. The activities of the various harbor defense units are coordinated at a harbor entrance control post (HECP). Ships must receive permission to pass through the nets from the HECP. Warn signal personnel to be prepared to establish communications with HECP if required.

ARRIVAL IN PORT

Usually, most of the following are specific responsibilities of the communication officer.

ARRIVAL REPORT: File the arrival report (already discussed) in accordance with existing directives.

SECURITY OF MATERIALS: Remove all classified materials from the bridge and from communication spaces. Classified matter includes extracts of recognition signals, authentication systems, call sign and task organization data, and publications necessary for maneuvering the ship at sea. These items should either be stowed in an acceptable safe or destroyed, as appropriate. Tactical and communication publications and operation orders and plans not needed in port must be accounted for before stowage. Binoculars, long glasses, sextants, and other pilferable items should be accounted for and placed under lock and key. All spaces containing classified equipment must be locked.

SOPA INSTRUCTIONS: SOPA instructions cover almost every detail of in-port activities. These instructions, together with other useful information, usually are delivered by a boarding officer.

The communication officer must become familiar with any instructions devoted to the various communication facilities available at the base. At some ports the communication guard is assumed by the communication station for the ship. The location and hours of the registered publication issuing office (RPIO) are

indicated. Availability and means of obtaining electronic repair assistance usually are included. Drill circuits and ship's responsibilities for manning them are delineated also.

WATCHES: Unless the shore communication station assumes radio guard for the ship, watches must be maintained on all designated harbor frequencies. It is common practice for destroyers to moor in nests with several other destroyers. Invariably arrangements can be made for each ship to stand communication guard watches for the whole nest, rotating the duties daily. In small ships this should be done when possible. It allows equipment to be shut down for preventive maintenance or repairs, and, as an important morale boost, it gives communication personnel a respite from round-the-clock operations.

Depending on instructions of the SOPA, a voice guard may be required on the harbor net. Check SOPA instructions before securing any net.

Communication personnel may be required to stand petty officer or messenger watches on the quarterdeck during in-port periods. In general, the in-port enlisted watch bill is coordinated by the weapons officer. Make sure a copy of the bill is posted on the division bulletin board.

In addition to the harbor frequency watches, set a signal bridge watch or arrange for guard.

BASEGRAMS: Send a messenger to the basegram authority at the naval base to obtain any general messages transmitted by that system that have not yet been received aboard.

REGISTERED PUBLICATIONS: Immediately upon arrival, require the custodian of registered publications to visit the RPIO and make the necessary draw to bring the ship's allowance up to date. On extended stays, have frequent visits made. While in port, the custodian should be required to enter all changes and corrections to the publications. This task is simplified while in port because the publications are not needed elsewhere (e. g., the bridge or CIC).

EQUIPMENT REPAIRS: Arrange with the operations or electronics material officer for necessary repairs to communication equipment in ample time to permit repairs before departure.

At many naval bases, mobile technical units (MOTUs) are organized. These units consist of enlisted technicians or civilian engineers who are available to ships for both training and repairs. The basic function is training, however, and no work is performed unless your repair personnel are present. If you have a transmitter casualty, for example, that the ship's electronics technicians are unable to repair, MOTU personnel may come aboard and help the ETs repair the equipment. In this way, the equipment is made operative and at the same time the shipboard ETs learn how to repair a similar casualty should one occur.

TELEPHONE SERVICE: Immediately after mooring, arrange to have a landline telephone installed on the quarterdeck and in the captain's cabin. If the installation cannot be made, determine the location of the nearest telephone ashore and publish the information to all hands.

CRYPTODEVICES: Arrange for the inspection of the ship's cryptodevices and establish a cryptoguard.

Cryptodevice repair personnel are few in number; most ships do not have a qualified repairman on board. Take advantage of every opportunity to have equipment inspected and tested.

The general rule is that a preventive maintenance inspection is made at quarterly intervals and an overhaul is preformed annually. More frequent inspections should be scheduled under unusual conditions, or when cryptodevices are subjected to exceptionally heavy usage. The important point is that with technicians at a premium, you should obtain their services whenever and wherever you can.

TRAINING: Schedule vigorous drill circuits and other supervised training, and take advantage of shore training facilities as much as practicable.

Training does not take care of itself. You must plan it, direct it, and evaluate it. Your objective is to attain that level of accomplishment that will help your department attain a high mark in the competitive overall communication exercise.

Check SOPA instructions for the schedule of drill circuits. Arrange visual drills within the division. Check the local training group officer for availability of schools. Some CW operator schools tailor their courses to any number of weeks you desire. Depending on the ship's operating schedule, you may arrange 1 week, 2 weeks, or even 16 weeks of operator training.

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DEPARTURE

Preparation for getting underway include a number of important steps. After an extended in-port stay, there is a psychological disadvantage because the men face a complete change in routine. The operation will run smoothly only if careful attention is given to detail. The following pointers should be observed.

DEPARTURE REPORT: Unless the report of departure is included in an arrival report (they may be combined when a ship is to remain in port for fewer than 4 days), a departure (movement) report must be sent to the appropriate AIG at least 24 hours, if possible, before the ship's departure. File the movement report in accordance with existing directives.

REGISTERED PUBLICATIONS: A publications draw should be made just prior to sailing. If all the corrections have been made from the previous draw, and too much time has not elapsed between visits to the RPIO, the custodian should be able to make last-minute corrections before sailing. A point to remember: It is inadequate that the publications only be corrected; those who have need to know should be made aware of the changes and their effects on past doctrine.

BASEGRAMS: Obtain the latest basegrams from the local basegram authority.

TELEPHONE SERVICE: Arrange for removal of the landline telephone(s).

CALIBRATION OF EQUIPMENT: Before departure, ensure that all radio equipment is calibrated, particularly on frequencies to be used in forthcoming operations. Unless specifically authorized by the operational commander, however, do not allow testing signals to be radiated.

It sometimes happens that a transmitter or receiver fails just prior to getting underway. Although this may seem insignificant if other equipment is available covering the same frequency range, report the casualty to the department head immediately.

WATCHES: Confirm underway communication guard arrangements with either the SOPA or the OTC, depending on the type of scheduled operation. If in-port guardship arrangements on the fleet broadcast were made, resume own guard at least 4 hours before departure. Set the radio watches and have operators test all assigned circuits and nets on the designated

frequencies. Set a guard on the degaussing station frequency as required. Set the signal bridge watch. During wartime, communication with the HECP will be required; ensure that the signalmen know the call sign and location of the HECP.

PUBLICATIONS FOR UNDERWAY USE: Distribute tactical and communication publications, orders, and plans to the navigation bridge and the communication and operations spaces.

CALL SIGNS: Prepare a list of the tactical call signs required during the forthcoming operation.

As task groups join or break up, there often is a need for an entirely new set of call signs. A complete list of all the call signs is useful, but of far greater importance is a list showing only those the captain and officer of the deck need to know during each phase of an operation. Prepare the call sign lists and have them posted in a conspicuous place on the bridge well ahead of time.

SPECIAL SEA DETAIL: At the proper time, have communication personnel man their special sea detail stations and report when the stations are manned.

PASS THE WORD: For all but the most routine operations, a presailing conference of all officers usually is held in the wardroom. On many occasions the task force commander conducts a presailing briefing in his flagship. The communication officer invariably attends. The purpose of both conferences is to give key officer personnel an appreciation of what the problem is, how it is to be carried out, and what is hoped to be accomplished.

Pass to all communication personnel any pertinent information regarding the operation plan or order.

Generally, the men will respond favorably to a presailing briefing covering the many facets of communications. Within the limits of security, tell the men the mission of the force and how they can contribute to its successful conclusion. Explain the schedule of events. Show them how the ship's communication plan will help to accomplish the communication phase of the mission. It is insufficient that a radioman knows he is supposed to set up a particular frequency on the bridge at 1015. He will cooperate more willingly if he knows what the circuit is for and what is happening to require it.

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