

CHAPTER 3

INTERNAL COMMUNICATIONS

LEARNING OBJECTIVES

After you finish this chapter, you should be able to do the following:

1. Identify the types of shipboard internal communication systems and state their uses.
2. Recognize sound-powered phone nomenclature
3. Identify sound-powered phone equipment and describes its operation
4. Demonstrate proper sound-powered phone operating procedures.

INTRODUCTION

This chapter gives you an overall picture of CIC's internal communication systems, methods, and procedures.

Whenever we communicate, we make every effort to ensure the speed, accuracy, reliability, and security of the communication. Bear in mind that although accuracy, reliability, and security are essential, those efforts will be wasted unless the communication is made in ample time to be completely effective.

The success of all CIC operations depends on teamwork. What is teamwork? Teamwork is the coordinated actions of two or more members of a team. How do we achieve this coordinated action? By exchanging ideas, information, and orders, we let others know what we are doing or are planning to do. Without communications, the CIC team is not really a team. It is merely a group of people doing different jobs, with little chance for actually accomplishing the mission. Therefore, every member of the CIC team must become an expert in voice communications.

TYPES OF INTERNAL COMMUNICATIONS

Several types of shipboard internal communications are used in CIC. They are (1) voice tubes, (2) ship's service telephones, (3) messengers, (4) pneumatic tubes, (5) multi-channel (MC) systems,

and (6) Inter Voice Communication System (IVCS), (7) CIC Communications group, (8) sound-powered telephone systems. Not every ship's CIC has all of these means of communication. The larger ships do, but the smaller ones may have only a few of them. As our discussion progresses, we will examine each type of internal communications.

VOICE TUBES

Voice tubes provide an important means of internal communications, although they are normally used only as a standby measure. This system is merely a network of metal tubes designed to carry the sound of the voice from one station to another. The major value of this system is that it is practically immune to mechanical failure. Consequently, it can be relied upon when accidents or damage disrupts other systems.

SHIP'S SERVICE TELEPHONES

Although the ship's service telephones are not part of the battle communication system, they can prove invaluable if the regular systems fail. They are standard telephones powered by the ship's generators and are normally used in carrying out the administrative routine aboard ship. Two features expedite the telephone-calling process: the executive cut-in telephone and the hunt-the-not-busy-line feature.

Executive cut-in telephones, clearly marked, are for emergency calls and for the use of persons in authority. Operationally, these telephones are the same as a standard telephone but are limited in number and can be used to call a station that is in use. Instead of a busy signal being returned, the cut-in phone breaks into the circuit. The caller then can interrupt the conversation in progress to deliver an important message.

The hunt-the-not-busy-line feature can be used when a call is made to an area that has a group of consecutively numbered telephone stations. After the lowest numbered station has been dialed, the switchboard connects the calling station to the lowest numbered idle telephone. When all the circuits of the group called are in use, a busy signal is returned as with a standard telephone.

MESSENGERS

Ships today still use the oldest method of communication—the messenger. Although messengers are a reliable means of communication, they are not as fast as the other methods. You will be called on many times during your naval career to use your knowledge of the ship by serving as a messenger.

PNEUMATIC TUBES

Pneumatic tubes are for relaying written messages between communication stations in some ships. This system has the advantage of routing a message quickly. Two disadvantages are that it needs ship's power for compressed air and that it is good for written messages only.

MULTI-CHANNEL (MC) SYSTEMS

Multi-channel (MC) systems transmit orders and information between stations within the ship, by means of direct, amplified voice communications. There are two types of MC equipment—one type is used in intercommunication (intercom) systems; the other type is used in shipboard announcing systems. Each type has distinguishing features, which we discuss below.

Intercommunicating (Intercom) Units

Intercommunication (intercom) systems allow two-way transmission of orders and information between stations (in the same space or in different

spaces). Each intercom unit contains its own amplifier.

There are several basic types of intercom units in use throughout the Navy, with certain variations to the basic types (fig. 3-1). These types differ mainly in physical appearance and in the materials used in their construction. Regardless of their appearance and construction, all intercom units have the same electrical characteristics. This allows units of different construction and from different manufacturers to be used in one common system. The components consist essentially of a reproducer, controls, and an amplifier.

The **reproducer** serves both as a microphone and as a loudspeaker. An incoming call can be heard through the loudspeaker because the sound is amplified by the amplifier of the calling unit.

The **controls** consist of the talk switch, a pushbutton assembly, a busy light, a call light, a volume control, and a dimmer control.

When the talk switch is depressed, the reproducer functions as a microphone and the output of the amplifier is electrically connected to the reproducer of the called station. When the switch is released, the reproducer functions as a loudspeaker. The talk switch is spring loaded and returns to the listen or standby position when released.

A handset can be used with the intercommunicating unit in place of the reproducer. The operation is the same as that of the reproducer except that the pushbutton in the handset is used as a talk switch in place of the regular talk switch on the front

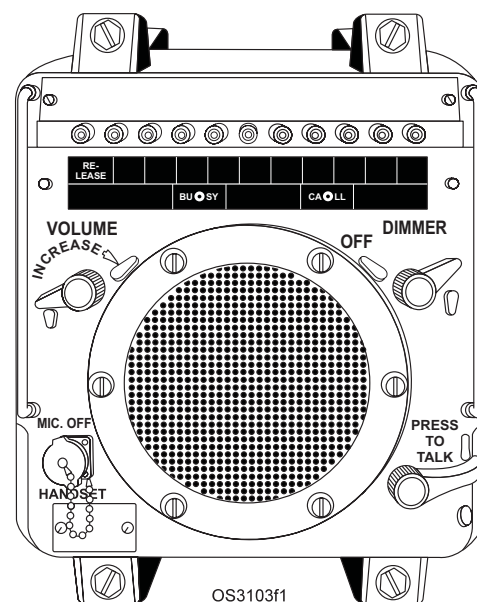


Figure 3-1.—Typical MC unit.

panel. Incoming calls can be heard simultaneously in the handset and in the reproducer. The volume control controls the level of the incoming call to the reproducer only.

A portable microphone can also be used with the equipment. The operation is the same as that of the reproducer except that the pushbutton on the microphone is used as a talk switch instead of the regular talk switch on the equipment.

The station selector buttons are located at the top of the front panel. The locations or designations of the various units in the system are engraved in the station designation plate below the associated selector buttons. When a station selector button is depressed, it will lock in the operative position until the release pushbutton is depressed to return it to the non-operative position.

The “busy” lamp is lighted when a station button is depressed to call another station and the station being called is busy. Do not leave a station selector button depressed when the “busy” lamp is lighted. Depress the release pushbutton and call later.

The dimmer control controls all illumination of the unit. The “busy” and “call” lights are off when the control knob is in the extreme counterclockwise position and are fully lighted for all other positions as the knob is turned clockwise. The station designation lights are lighted for all positions of the control knob and the illumination increases as the knob is turned clockwise.

The volume control varies the volume of incoming transmissions. This control has no effect on the volume of the outgoing sound from the unit. Thus, the volume of each unit in the system can be adjusted to the desired level.

To call a particular station, depress the station selector button of the desired station, depress the “talk” switch, and speak directly into the grille. Release the “talk” switch to listen. When you complete your conversation, depress the “release” pushbutton to return the station selector switch to the non-operative position.

To accept a call from another station, listen to the incoming call through the loudspeaker. Do not operate any of the station selector switches. Depress the “talk” switch to reply to the incoming call. The “call” light illuminates to indicate that the station is being called by another station.

Shipboard Announcing (MC) Systems

Shipboard announcing systems (also called central amplifier systems), are designed to broadcast orders or information to a large number of stations simultaneously. In each of these systems, a central amplifier is used, hence, the system affords only one-way communication.

The following are a few of the MC systems that you may see and use (some are not located in CIC).

General (1MC) — The general announcing system is a one-way system found on practically all ships—large or small. The system’s transmitter is not located in CIC, but you may have occasion to use it while standing in-port quarterdeck watches. It is used for passing general orders and administrative information. Transmissions can be made from key stations—bridge, quarterdeck, and damage control stations—to all or selected groups of stations or compartments within the ship and to all topside areas. The 1MC also provides a means for transmitting emergency alarms throughout the ship.

Ready Room (19MC) — The 19MC provides two-way communications for stations dealing with air operations on aircraft carriers. Stations on the circuit include CIC, ready rooms, flight deck control, hangar deck control station, air intelligence, and the wardroom.

Combat Information (20MC) — The 20MC is used primarily to pass combat intelligence from each main plotting group in CIC to a variety of users. These include primary and secondary conning stations, captain’s tactical plot, open bridge, main battery control stations, anti-air warfare stations, main battery director stations, main and secondary battery plotting rooms, flag bridge, flag command and plotting stations, missile control stations, and electronic warfare (EW) stations.

Captain’s Command (21MC) — The 21MC provides two-way transmission of ship control orders and information among key stations. Key stations include primary and secondary conning stations, signal bridge, main battery control station, air warfare station, radio central, damage control station, main engine control, CIC, primary flight control station, and the captain’s tactical plot. CIC uses the 21MC to send initial contact reports and any emergency information to the bridge. The signal bridge frequently transmits information it receives from flaghoist to the bridge and CIC at the same time.

Radio Room (22MC) — The 22MC is used to pass information and orders concerning radio facilities, as well as data, between radio rooms and certain other radio operating stations. In CIC, you may use the 22MC to call radio and request a frequency setup on a transmitter or to check a radio receiver that may be drifting out of tune.

Flag Command (24MC) — The 24MC system provides two-way transmission of flag orders and information between selected stations, such as flag bridge, signal bridge, flag plot, flag radio, radio central, open bridge, combat information center, and captain’s tactical plot.

Sonar Information (29MC) — The 29MC system provides one-way communication from sonar operators to the captain’s tactical plot, open bridge, pilothouse, CIC, underwater battery plot, and the ASW attack station.

CIC Coordination (42MC) — The 42MC is usually found in CICs in larger ships, especially those having a modular CIC. Such an arrangement provides communications at any time between key personnel within CIC.

INTERIOR VOICE COMMUNICATION SYSTEM (IVCS)

IVCS is a computer-controlled voice system that serves as the ship’s internal telephone system and replaces the majority of the circuits traditionally associated with sound-powered telephones. IVCS has predefined networks, such as the Lookout net with jack boxes at all lookout watch stations and the pilothouse. IVCS nets are listed in Table 3-1.

In addition to jack boxes, IVCS provides telephone terminals throughout the ship. The majority of these are standard dial terminals. Some terminals have additional features such as multi-line, remote speakers, or hands-free operation. Besides serving as a telephone, each IVCS terminal can access all IVCS nets.

CIC INTERCOMMUNICATIONS GROUP

The CIC communications system provides CIC console allows operators to call other console operators, to sign on to CIC nets, to talk on secure and plain R/T circuits, and, through the IVCS interface, to call any telephone on the ship or to access IVCS nets. Each console in CIC and sonar control, and the one console on the bridge, has a communications unit. In

Table 3-1.—Common IVCS Nets

CHANNEL	PURPOSE
11	Helicopter and Boat Fuel Control
12	Helicopter Control
22	Navigation Coordination
25	Combat System Officer of the Watch (CSOOW) Coordination
26	Electronic Support Supervisor Coordination
29	Underwater Supervisor Coordination
51	Captain's Battle Net
52	Lookout Reporting
53	Maneuvering Control
54	Navigation Service
55	Visual Signals
56	Docking
60	Gun Coordination and Service
62	Forward VLS Strikedown
63	Aft VLS Strikedown
65	Ordnance Supervisor Coordination
66	Fire Control Supervisor Coordination
68	Light Machine Gun Coordination
80	Damage and Stability Control
81	Repair 2
82	Repair 3
83	Engineering
84	Fuel Control
85	Electrical
86	Repair 5
88	Vehicular Control Helicopter Transfer (VCHT)
90	Firefighting Equipment
91	Emergency Reporting

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addition to the communications units at each console, remote units are located in CIC for watch stations not associated with a standard console, such as electronic warfare (EW) and TOMAHAWK. CIC nets are listed in Table 3-2.

SOUND-POWERED TELEPHONE SYSTEM

The commanding officer can fight the ship most effectively when he is provided with adequate and accurate evaluated information. This information must be passed over sound-powered (S/P) telephone circuits from damage control (DC) central, engineering spaces, weapons control, after steering, combat information center (CIC), radio central, signal bridge, lookouts, and other stations in the ship. A good phone talker is vital to the ship and plays an important part in the ship’s overall performance.

Supervisory personnel and S/P telephone talkers can exchange information adequately and accurately

Table 3-2.—CIC Nets

CHANNEL	PURPOSE
1	Command Casualty Net
2	Anti-air Warfare (AAW) Casualty Net
3	Anti-surface Warfare (ASUW) Casualty Net
4	ASW Casualty Net
5	Gunfire Control System (GFCS) Casualty Net
6-9	Unassigned
10	Surface/Subsurface Tracking (SST) Coordination
11	ASW Coordination
12	AAW Coordination
13	ASUW Coordination
14	Tactical Information
15	Command
16	Force Coordination
17	Electronic Warfare (EW)
18	GFCS
19	Digital Dead Reckoning Tracer (DDRT) Plotting
20	Sonar Coordination
21-49	Unassigned

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and in the most timely and efficient manner only when they know and abide by the rules for talkers. Talkers must use standard phrases and common terminology and know and practice proper care of their S/P telephone. You should already have a basic knowledge about sound-powered telephones. However, because S/P telephones are considered the “workhorses” of shipboard internal communications systems and since their use in CIC is quite extensive, we need to study them further.

Advantages of S/P Telephones

Several advantages are afforded by sound-powered telephone equipment for internal communications. A few of them are as follows:

It is simple to operate.

- The equipment is rugged, when given reasonable care.
- Talkers are not distracted by external noise, because their ears are isolated by the telephone’s ear pads.
- Security or privacy of communications is superior to that provided by MC equipment.
- Transmissions do not contribute to station noise levels.

- The talker is mobile within the limitations set by the length of the cord and, except while transmitting, is free to perform other tasks, such as those required of a radar operator or plotter in CIC.
- The earphones may be used for emergency transmissions if the microphone becomes defective, and vice versa.
- The system does not require an external source of power for operation.

Circuit Nomenclature

Each sound-powered telephone circuit is designed for a specific purpose. The groups linked by a sound-powered circuit may include the bridge, the underway and docking stations, and the damage control teams. Each circuit is identified, according to its use, by a letter and number code, as explained below.

J—The first letter of a primary sound-powered-circuit designation is *J*. It indicates that the circuit is a sound-powered communication link.

JS—The second letter identifies the general purpose of the circuit.

22JS—Numerals preceding the letters indicate the specific purpose of the circuit. In this example, the designation means that the circuit is an air search radar information circuit.

22JSI—Numerals after the letters indicate a particular station in the circuit—for example, the air summary plotter.

X22JS1—The letter *X* indicates that the circuit is in the auxiliary S/P telephone system.

Circuit Requirements in CIC

The number of sound-powered circuits required in CIC depends on the type of ship. Normally there are more circuits in larger ships than in smaller ones. All types of ships, however, have certain minimum circuit requirements. These needs include separate circuits as follows:

- Between each search radar and the plotters for that radar
- Between the EW room and other CIC stations
- Between the visual lookout station, CIC, and other stations

- Between radio central (communications) and CIC and other stations
- Between CIC, bridge, and other conning stations
- For direct communications between CIC and flag plot (on flagships)
- Between CIC and each weapons control station, including sonar in sonar-equipped ships
- For aircraft information in carriers

Large ships, in which there are many sound-powered telephone circuits, use a more elaborate setup. The number of phones manned depends on what the ship is doing. More circuits are manned at general quarters than during normal steaming watches. Table 3-3 shows the common S/P circuits used in CIC.

Sound-Powered Telephone Equipment

There are so many varieties of sound-powered telephone equipment that it would serve no practical purpose in this text to discuss all of them. We can, however, discuss a few units, and by studying them you should gain a better understanding of the sound-powered system.

DRUM-TYPE SELECTOR SWITCH.—The drum-type selector switch (fig. 3-2) makes it possible to cut a single jack into any one of a number of circuits by turning the switch to the desired circuit marked on the face of the dial. Because of the construction of the switch, only one circuit can be connected at a time.

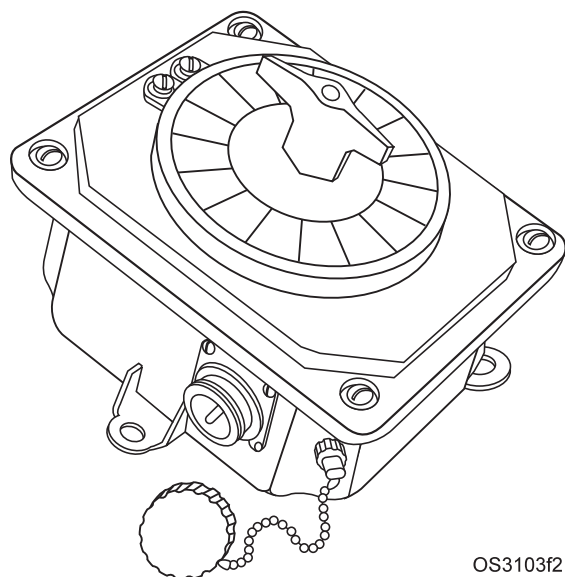


Figure 3-2.—Drum-type selector switch.

CALL SIGNAL STATION BOX.—The call signal box contains a handset phone (see figure 3-3). The purpose of this circuit is to provide communication between stations that normally do not need to exchange information continually. Two distinct circuits compose the call bell system. The first is the S/P circuit to which all the handsets are connected. The second is the call circuit.

On the call circuit, the operator turns the selector switch to the desired position (this switch is usually numbered 1 through 16), turns the magneto hand crank, and listens on the handset until someone answers the call. This circuit does not have a bell like a standard telephone; instead, it makes a growling noise, and is sometimes referred to as the *growler*. Although this circuit is not in constant use, it is a good idea to listen in on the circuit before turning the magneto, to avoid having two conversations on the same S/P circuit. A nameplate just above the selector dial lists the stations on the circuit, identified by the appropriate station number.

PLOTTERS' TRANSFER SWITCHBOARD.—Most ships have a plotters' transfer switchboard installed in CIC. This switchboard (fig. 3-4) allows the CIC S/P circuits to be patched to various stations. For convenience, S/P telephone jack stations are located throughout CIC and are numbered JS1, JS2, JS3, etc. (These jack station numbers are shown on the left side of the switchboard in figure 3-4.)

Through use of the plotters' transfer switchboard, the plotter who is plugged in to JS7, for instance, can talk on any of the S/P circuits that are wired to the switchboard. (The S/P circuits are shown across the top of the switchboard in figure 3-4.) You can patch the plotter who is plugged in to JS7 into the 21JS circuit

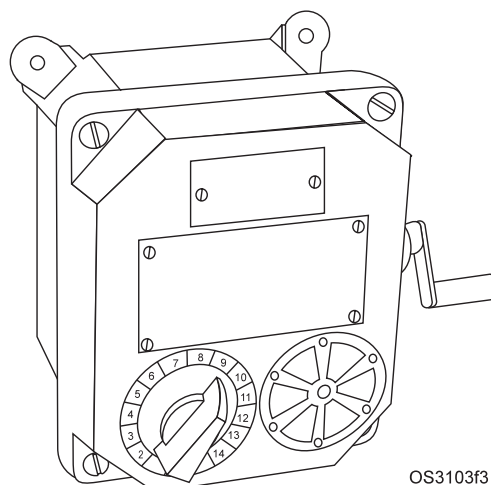


Figure 3-3.—Call signal station box.

Table 3-3.—Common sound-powered Phone Circuits

CIRCUIT	PURPOSE	INFORMATION PASSED	STATIONS ON CIRCUIT	WHEN MANNED IN CIC
JA	Captain's Battle Circuit	Orders From Command To All Stations. Recommendations To Command	Bridge/Pilot House*, CIC, And Weapons Stations.	At All Times
JC	Weapons Control	Gun/Missile Control Orders And Target Designation/Acquisition Information	Bridge*, CIC, Weapons Control, Weapons Plot, All Fire Control, Gun And Missile Stations.	During GQ, AAW, And Radar Assisted Piloting
JL	Lookouts	Visual Sighting Information.	Bridge*/Pilot House, CIC, And Lookout Stations.	At All Times
JX	Radio And Signals Circuit	Visual And Radio Tactical Signals And Important Communications Traffic.	Bridge*, Signal Bridge, CIC, And Radio Central.	During GQ
1JS (1)	CIC Information	Raw And Evaluated CIC Information To Ship Control Stations.	Bridge*/Pilot House And CIC.	At All Times
1JV	Maneuvering And Docking Circuit	Engine Orders; Anchor, Line Handling, And Steering Control Information.	Bridge*, CIC, Main Control, After Steering, Secondary Conn, Forecastle, Midships, And Fantail.	During Special Sea And Anchor Detail.
1JW	Ship Control Bearing Circuit	Visual Navigation Information, Depth Readings, And Exchange Of Navigational Fix Information.	Navigator*, Bearing Takers, Depth Sounder, And CIC.	During Radar Assisted Piloting.
X6J	Electronic Service Circuit	Electronic Casualty And Repair Information.	Electronic Casualty Control*, CIC, And All Electronic Equipment Spaces.	During GQ
21JS	Surface Search Radar	Surface Contact Information	RCO*, Surface-Search Radar Operator, And All Surface Plotters.	At All Times
22JS	Long-Range Air-Search Radar	Long-Range Air Contact Information.	RCO*, Air-Search Operator And All Air Plotters.	At All Times
24JS	Range-Height Radar	Altitude Information.	RCO*, Height-Finding Radar, And All Height Plotters.	At All Times
61JS	Sonar Information	All Sonar Contact Information.	Bridge*, Sonar, And All CIC ASW Plotters.	During ASW Operations
81JS	EW Information	Intercepted Signal Characteristics And Evaluations.	RCO*, EW Equipment Operators, And Plotters.	At All Times

*Control Station

- Notes:
1. On ASW ships the 1JS is used only as a command circuit during ASW operation.
 2. The JA, JL, 1JV, and/or 1JS circuits may be crossed, in any combination, during normal steaming in order to decrease the number of personnel required to man these circuits.
 3. The 21JS, 22JS, and 24JS circuits are used for communications within CIC only.
 4. The information listed above may vary on different ships according to the individual command requirements.

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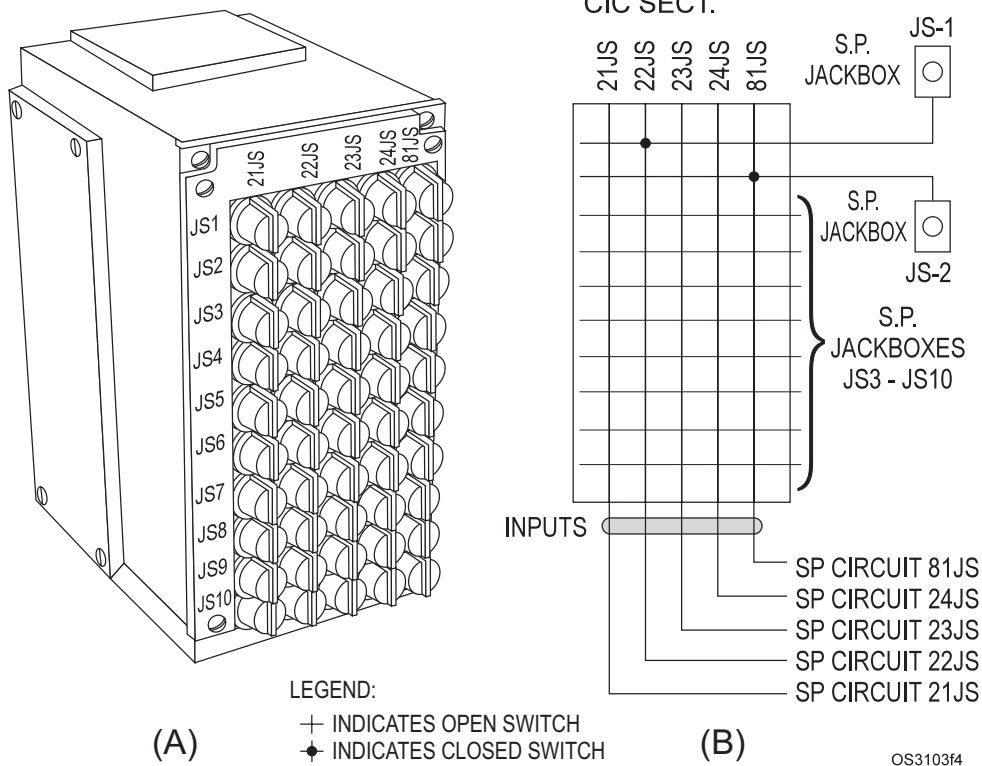


Figure 3-4.—Plotters' transfer switchboard.

as follows: Locate JS7 on the left side and 21JS on the top of the switchboard. Move horizontally to the right from JS7 to the switch that is located vertically under 21JS. Turn this switch clockwise 90° to patch the 21JS circuit into JS7.

More than one circuit may be patched to the same jack station. However, when this is done, the circuits in question are crossed, and every station on the two circuits will be in communication with every other station. Sometimes it is desirable to cross circuits, but carelessness in switching circuits can result in unnecessary cross patches. For this reason, only experienced personnel should make all changes to the plotters' transfer switchboard.

Care of Telephone Equipment

Sound-powered telephones are of sturdy construction. If handled with reasonable care, they should require little attention. Nevertheless, they are fine instruments, perform an important function, and should be treated accordingly. Observe the following precautions.

- Avoid pulling on the electrical connections, and never use the cables for carrying or handling the equipment.
- Remember that the length of the cord is limited. If you attempt to walk any farther than the cord

permits, the cord may be pulled loose from the jack plug.

- Unauthorized persons should not disassemble S/P telephones or tamper with them in any way.
- Do not insert any object through the protective screen. The diaphragm may become damaged.
- When secured, telephones should be made up and stowed on hooks or in the stowage boxes provided. Never leave the telephone adrift or exposed to the weather.
- Never remove a pair of telephones from a stowage box that does not belong to your station. Should general quarters be sounded, the individual who normally used those phones would not be able to man the station, and the safety of your ship could be at stake.
- When you wear a pair of phones, always try to keep the excess cord out of the way of people passing by. If you leave the cord in the way, someone may trip on it and sustain injury or cause damage.
- Do not leave inoperative telephones on station. Telephones that are out of order should be tagged and turned in at once to the IC room or telephone repair locker. They should then be

replaced by sets that are in good operating condition.

- Q1. *What are the eight common types of internal communications used in CIC?*
- Q2. *List four advantages of sound-powered telephones.*

S/P TELEPHONE AND IVCS PROCEDURES

The purpose of having standard sound-powered-telephone and IVCS procedures is to provide uniformity of expression, enabling messages to be understood more clearly over the phones. In every CIC in the fleet, day in and day out, Operations Specialists deal over and over with the same type of information—bearings, ranges, speed, distances, and other tactical data. CIC personnel can handle information with speed, accuracy, and reliability when they have a system that is simple, easily understood, and readily usable. They can then place every transmission into a brief and clear form that will be understood instantly and is ready for use when received.

A system that satisfies these requirements is the standard sound-powered-telephone procedure and phraseology. The system is simple. Speed is not achieved by transmitting rapidly and biting off words or running them together. Speed is gained by using standard procedure and terminology with every transmission.

GENERAL RULES

The following is a list of some general rules for sound-powered-phone talkers.

1. Be alert. Pay attention to what is said over the phones. If possible, maintain a written log of the activities of other stations on the circuit. Pay attention to the officer or petty officer in charge of the station.
2. Repeat or relay all messages word for word. **DO NOT REPHRASE ANY MESSAGE**. Changing a single word may change the meaning of the entire message.
3. Do not engage in idle conversation on the phone. Keep your mind on your assigned duty.
4. Speak into the transmitter in a loud, clear tone; do not shout or whisper. Shouting results in mushy, slurred noises. A whisper cannot be

heard. Speak distinctly. Pronounce every syllable. Restrict your dialect or accent.

5. When using a headset, hold the button down when talking, but do not touch it when listening. When using a handset, hold the button down both to speak and listen.
6. Hold the headset transmitter about 1/2 inch from your mouth when talking.
7. Do not use alphabetic letters as references. This practice can lead to confusion and errors that may result in a considerable loss of time and can prevent needed action that might have been taken had the message been received correctly. Use words in the phonetic alphabet, such as ALFA, GOLF, PAPA, and XRAY.
8. To be an important member of any team, you must become familiar with all the duties of the CIC team.
9. As an OS, strive to be the best talkers on the circuit.

BASIC MESSAGE FORMAT

The basic format for transmitting a message by sound-powered telephone consists of the standard shipboard names for the station called and the station calling, followed by the text (what is to be said) in clear, concise language. In the example below, Combat is passing information about a surface contact to the bridge.

Message from Combat: "Bridge, Combat. Surface contact—TOO SIX ZE-RO—TWEEN-TY TOW-ZAND"

Response from the bridge: "Bridge—Aye, Aye"

NOTE

Do not call a station and wait for word to go ahead. Every time you have information to transmit, call the station(s) concerned, identify your station, and send the message. If you do not get a response, repeat your message.

S/P PHRASEOLOGY

If all called stations could receive and entirely understand every transmission on the first transmission, there would be no need for anything more than the procedure mentioned above. Unfortunately, not all transmissions are received

perfectly. Operators sometimes make errors during transmissions; communication is difficult at times. To help prevent errors, standardized words or phrases come in handy. Using them helps eliminate transmission errors and misunderstandings. Some of the common terms and their meaning follow.

1. SILENCE ON THE LINE — Use this term only in emergencies. When a transmission in progress on the circuit is interrupted by a message of extreme importance, the person on the circuit must cease talking to permit the cut-in to send the important message.
2. AYE AYE — Use this standard response to all transmissions you receive completely. It means “I have received all of your transmission and will deliver it exactly as received.”

Never use this response if you are uncertain that you received all of the transmission. Also, do NOT use it simply as an affirmative answer to a question. After you give an AYE AYE to a message, either use the information the message contains if you are the “action” addressee or pass the message on to the person responsible for taking action.
3. SAY AGAIN — With this term, you signify that you did not receive the message. The proper response to the term by the sender is a complete retransmission of the message.
4. CHANGING PHONES; BACK ON THE LINE — Use the term CHANGING PHONES when you remove the telephone headset to give it to another talker. CHANGING PHONES signifies that your station will temporarily be unable to receive messages. The new talker should report BACK ON THE LINE when he or she is ready to resume normal operations. This process should take very little time to complete.
5. CORRECTION — The word CORRECTION preceded and followed by a pause during a transmission indicates that the sender made an error and is correcting it. Examples of errors are a mispronounced word, an omitted word or phrase in the text, or the incorrect information. If you make an error, make the correction to the message clearly and distinctly. To correct an error, pause, speak the word CORRECTION, pause, retransmit the last word or phrase that you transmitted correctly, transmit the corrected word or phrase, and then transmit the rest of the message. This procedure is particularly

important when you are transmitting a series of numerals.

6. REPEAT BACK — When you want to be sure the receiving talker has understood your message correctly, you may ask him or her to repeat it back to you by saying “Repeat back.”
7. THAT IS CORRECT (or WRONG) — If you direct another talker to REPEAT BACK a message that you send, you must acknowledge the repeat with either THAT IS CORRECT (or WRONG) —do not use the phrase AYE AYE.
 - a. Say “THAT IS CORRECT” if the receiver repeats the message correctly.
 - b. Say “WRONG” if the receiver repeats the message incorrectly. Then give the correction.
8. BELAY MY LAST — Sometimes, as you are transmitting a message, but before you complete the transmission, you may realize that you made an error that you can correct only by stating the message over. Or, you may realize that you shouldn’t have sent the message. In such instances, use the phrase BELAY MY LAST. Do not use this phrase to cancel a message that you have completely transmitted and had received.
9. WAIT — Use the word WAIT when you need to make a pause of short duration (several seconds) during a transmission. You can also use it when someone requests information that you do not have immediately available.

NUMERAL PRONUNCIATION

Although it is impossible to completely standardize the phraseology used in the text of a sound-powered-telephone message, numerals can be and are standardized. Since numerals are the Operations Specialist’s “chief stock in trade” and because most of the information supplied by CIC is expressed in numerical form (bearings, ranges, speeds, distances, time, and so on), you should learn from the beginning to treat numerals with the care they deserve.

Personnel in CIC cannot afford to make errors in the information they handle, because in many instances it is vital to ship control. Numerical errors concerning enemy forces, when passed on to the command, could prove disastrous in wartime. Even in peacetime, numerical errors on tactical maneuvering or navigational data may cause a disaster.

For an example of how numerals can be misunderstood, say the following numbers aloud: 7, 11, 17, 70 (seven, eleven, seventeen, seventy). Notice that the sounds are similar. If they are slurred or are pronounced indistinctly, there is room for error. A carelessly pronounced “seventeen” may sound like “seventy”. If range (in miles) is the subject, mistaking “seventeen” for “seventy” will introduce an error of 53 miles. You can avoid making such an error by following the well-established communications rules listed below.

Basic Digits

Ten basic digits make up the numerical system. Each digit must be pronounced distinctly so that it will be understood. Learn to pronounce them as they are written in the accompanying list.

Number	Spoken as	Number	Spoken as
0	ZE-RO	5	FIFE
1	WUN	6	SIX
2	TOO	7	SEV-EN
3	TREE	8	AIT
4	FOW-ER	9	NIN-ER

Rules For Pronouncing Numerals

If the basic digits were the only consideration in using numerals, there would be little problem. Unfortunately, numerals may form an indefinite number of combinations, and the combinations may be spoken in several different ways.

The following rules apply to the pronunciation and expression of numerals. Situations may arise, however, in which these rules are inapplicable. In these cases, try the pronunciation and expression that best fit the situation.

1. Always speak the numeral 0 (written Ø) as ZE-RO, never as *oh*. This rule applies to ranges as well as to bearings.
2. Speak decimal points as DAY SEE MAL.
3. For ranges and distances given in units other than “miles”, transmit the numbers digit by digit except for multiples of hundreds and thousands. Say them as such. Some examples are:

Number	Spoken as
44	FOW-ER FOW-ER
9Ø	NIN-ER ZE-RO
136	WUN TREE SIX
5ØØ	FIFE HUN-DRED
14ØØ	WUN FOW-ER HUN-DRED
1478	WUN FOW-ER SEV-EN AIT
7ØØØ	SEV-EN TOW-ZAND
16ØØØ	WUN SIX TOW-SAND
165ØØ	WUN SIX FIFE HUN-DRED
2ØØØØ	TOO ZE-RO TOW-ZAND
812681	AIT WUN TOO SIX AIT WUN

4. Ranges and distances given in mile units, and speed, are transmitted as the integral cardinal number. Some examples are:

Number	Spoken as
1Ø	TEN
13	THUR-TEEN
25	TWEN-TY FIFE
5Ø	FIF-TY
11Ø	WUN HUN-DRED TEN
3ØØ	TREE HUN-DRED

5. Altitude of raid aircraft is always expressed in feet. Altitude may be spoken either in exact integral cardinal numbers or in multiples of thousands (angels), using the integral cardinal number. Some examples are:

Altitude	Spoken as
7ØØ	700“Altitude SEV-EN HUN-DRED” or “Angels DAY-SEE-MAL SEVEN”
11ØØ	1100“Altitude ELEV-EN HUN-DRED” or “Angels WUN point WUN”
55ØØ	“Altitude FIF-TY FIFE HUN-DRED” or “Angels FIFE point FIFE”

10500	“Altitude TEN TOW-ZAND FIVE HUN-DRED” or “Angels TEN day-see-mal FIFE”
20000	“Altitude TWEN-TY TOW-ZAND” or “Angels TWEN-TY”

NOTE

The brevity code word *angels* pertains to the height of friendly aircraft only. The word *altitude* pertains to bogey height, in exact integral cardinal numbers.

6. Target altitude information relayed to weapons support is expressed in feet. Exact multiples of hundreds and thousands are spoken as such. Some examples are:

Number	Spoken as
100	WUN HUN-DRED
1000	WUN TOW-ZAND
1100	WUN TOW-ZAND WUN HUN-DRED

7. Courses, bearings, and angles other than position angles are given in three digits and are transmitted digit by digit. Some examples are:

Number	Spoken as
090	ZE-RO NIN-ER ZE-RO
180	WUN AIT ZE-RO
295	TOO NIN-ER FIFE

Position angles, always less than 90°, may be expressed in one or two digits and are pronounced as the integral cardinal number. When so transmitted, the phrase *position angle* always precedes the numerals. Some examples are:

Number	Spoken as
5	POSITION ANGLE FIFE
1	POSITION ANGLE TEN
15	POSITION ANGLE FIF-TEEN
27	POSITION ANGLE TWEN-TY SEV-EN

8. Time is always spoken digit by digit and preceded by the word “time”.

TIME: 1215–WUN TOO WUN FIFE

- Q3. *When is it appropriate to use the phrase “silence on the line” on a sound-powered telephone circuit?*
- Q4. *What sound-powered telephone circuit is used to pass sonar contact information?*

ANSWERS TO CHAPTER QUESTIONS

- A1. *(1) voice tubes, (2) ship’s service telephones, (3) messengers, (4) television, (5) pneumatic tubes, (6) target designation equipment, (7) multi-channel (MC) systems, and (8) Inter Voice Communication System (IVCS), (9) CIC Communications group, (10) sound-powered telephones*
- A2. *Simple to operate; rugged, when given reasonable care; talkers are not distracted by external noise; security or privacy of communications is superior to that provided by MC equipment; transmissions do not contribute to station noise levels; the talker is mobile and, except while transmitting, can perform other tasks; the earphones may be used for emergency transmissions if the microphone becomes defective, and vice versa; the system does not require an external source of power for operation.*
- A3. *Only in an emergency.*
- A4. *61JS.*