

COMMUNICATIONS - INTERIOR

45-1 GENERAL:-

Interior Communications on the LSM, consist of the following systems and respective circuits:-

SYSTEMS

CIRCUITS

Voice Tube  
Telephones - Sound Powered  
General and Chemical Attack Alarm  
Call Bell  
Lubrication Oil Low Pressure Alarm  
Salinity Indicator  
Gyro Compass  
Shaft Revolution Indicator  
Rudder Angle Indicator  
Wrong Direction Indicator  
20 MM A.A. Mach. Gun Cease  
Firing Signal

---  
1JV & 15JY  
"G"  
"A" & "E"  
"1EC" & "2EC"  
"SB"  
"LC"  
"K"  
"N"  
"DW"  
"5U"

45-2 VOICE TUBES:-

The vessel is supplied with a system of voice tubes for transmission of and receiving messages. A list of all voice tubes is given in TABLE 45-1, below:

TABLE 45-1

VOICE TUBES

| EQUIPMENT     | LOCATION                       |                 |      | PURPOSE                          |
|---------------|--------------------------------|-----------------|------|----------------------------------|
|               | COMPT. NAME & NUMBER           | DECK            | SIDE |                                  |
| Voice Tube #1 | Pilot House<br>A-0301C         | Wheel House     | P    | Speak to chart & radio room.     |
|               | Chart & Radio Room<br>A-0101CL | Super-structure | P    | Speak to pilot house.            |
| Voice Tube #2 | Pilot House<br>A-0301C         | Wheel House     | S    | Speak to pelorus on open bridge. |
|               | Pelorus-Open Bridge            | Open Bridge     | Ø    | Speak to pilot house (helmsman). |

March 1, 1944

CHAPTER 45

COMMUNICATIONS - INTERIOR

45-5 TELEPHONES:-

Two circuits for sound powered telephones are fitted in the vessel, identified as:-

- (a) Circuit "1JV", utilized for ship control and maneuvering.
- (b) Circuit "15JY", utilized for gun fire control.

All telephones on these circuits are self-powered, requiring no external source of electrical power and are, therefore, independent of ships power supply.

All these jacks are electrically connected in parallel, which permits any station to have two way conversation with any other station on the circuit.

Call bell circuits are provided as a means of signalling between stations fitted with telephone outlets.

The "1JV" ship control and maneuvering circuit consists of a series of jacks fitted with head sets or hand sets.

The "15JY" gun fire control circuit consists of a jack outlet fitted with head set.

Each outlet on this circuit is connected by means of individual pairs of wires to separate double pole, single throw, cutout switches installed in a common enclosure. The prongs of these switches are electrically connected in parallel, to a common bus, making it possible by manipulation of the individual switches to connect all of the respective jacks in parallel to permit common talk on all the telephones or segregate each individual jack so that, in the event of casualty to any part of the vessel in which a jack is located, the balance of the circuit will not be rendered inoperative. There is provided adjacent to this switch box, a telephone jack box which is electrically connected to the bus in the switch box, permitting communication from this jack box to all or any predetermined number of outlets on

March 1, 1944

CHAPTER 45

COMMUNICATIONS - INTERIOR

45-3 TELEPHONES:-

the circuits simultaneously, dependent upon the manipulation of switches in the switch box. A list of all telephones is given in TABLE 45-2 below:

TABLE 45-2

TELEPHONES

| EQUIPMENT | LOCATION                            |             |      | CIRCUIT              | PURPOSE                      |
|-----------|-------------------------------------|-------------|------|----------------------|------------------------------|
|           | COMPT. NAME & NUMBER                | DECK        | SIDE |                      |                              |
| Telephone | Weather                             | Open Bridge | S    | 1JV                  | Ship Control and Maneuvering |
| Telephone | Pilot House - A-0301C               | Wheel House | S    | 1JV                  | Ship Control and Maneuvering |
| Telephone | Pilot House - A-0301C               | Wheel House | S    | 1JV                  | Ship Control and Maneuvering |
| Telephone | Weather - Bow Lookout Sta.          | Foc'le.     | S    | 1JV                  | Ship Control and Maneuvering |
| Telephone | Bow Door Mach. Compt. A-101EV       | Main        | S    | 1JV (Double Jackbox) | Ship Control and Maneuvering |
| Telephone | Ramp Gate Mach. Room A-102AE        | Main        | P    | 1JV (Double Jackbox) | Ship Control and Maneuvering |
| Telephone | Weather - Aft Anchor Cont. Sta.     | Main        | P    | 1JV                  | Ship Control and Maneuvering |
| Telephone | Officer's Berthing & Messing A-210L | Hold        | S    | 1JV (With Handset)   | Ship Control and Maneuvering |

March 1, 1944

45-3

EQUIPMENT

Telephone

Telephone

Telephone

Telephone

Telephone

Telephone

Telephone

Telephone

Telephone

CHAPTER 45

COMMUNICATIONS - INTERIOR

TABLE 45-2 (cont'd.)

TELEPHONES

45-3

| EQUIPMENT | LOCATION                    |                |      | CIRCUIT                              | PURPOSE                      |
|-----------|-----------------------------|----------------|------|--------------------------------------|------------------------------|
|           | COMPT. NAME & NUMBER        | DECK           | SIDE |                                      |                              |
| Telephone | Gyro Room - A-211-5AC       | Hold           | S    | 1JV                                  | Ship Control and Maneuvering |
| Telephone | Engine Room - B-1           | Hold           | P    | 1JV (With Handset & Telephone Booth) | Ship Control and Maneuvering |
| Telephone | Steering Gear Flat - C-206E | Hold           | P    | 1JV                                  | Ship Control and Maneuvering |
| Telephone | Weather                     | Open Bridge    | S    | 15JY                                 | Gun Fire Control             |
| Telephone | 20 MM Mach. Gun No. 1       | Foc'le.        | S    | 15JY                                 | Gun Fire Control             |
| Telephone | 20 MM Mach. Gun No. 2       | Foc'le.        | P    | 15JY                                 | Gun Fire Control             |
| Telephone | 20 MM Mach. Gun No. 3       | Superstructure | S    | 15JY                                 | Gun Fire Control             |
| Telephone | 20 MM Mach. Gun No. 4       | Superstructure | P    | 15JY                                 | Gun Fire Control             |
| Telephone | 20 MM Mach. Gun No. 5       | Superstructure | S    | 15JY                                 | Gun Fire Control             |

March 1, 1944



CHAPTER 45

COMMUNICATIONS - INTERIOR

TABLE 45-3 (cont'd.)

GENERAL ALARM SYSTEM

45-4

| EQUIPMENT | LOCATION   |                            | PURPOSE       |
|-----------|--|----------------------------|---------------|
|           | COMPT. NAME & NUMBER                                   | DECK SIDE                  |               |
| Horn      | Chart & Radio Room<br>A-0101CL                         | Super-<br>struc-<br>ture S | General Alarm |
| Horn      | Crews W.C. Space -<br>A-103L                           | Main S                     |               |
| Horn      | Crew's W.R. Space -<br>A-103L                          | Main S                     |               |
| Horn      | Passage - A-103-1/2L                                   | Main S                     |               |
| Horn      | Galley - A-104-1/2EL                                   | Main P                     |               |
| Horn      | Gen. Workshop -<br>C-102-1/2AE                         | Main P                     |               |
| Horn      | Boiler Room -<br>C-101-1/2E                            | Main S                     |               |
| Horn      | Crew and Landing<br>Force Berthing &<br>Messing A-208L | Hold S                     |               |
| Horn      | Crew's Berthing &<br>Messing - A-210L                  | Hold P                     |               |
| Horn      | Officer's Berthing<br>& Messing - A-210L               | Hold S                     |               |
| Horn      | Engine Room - B-1                                      | Hold P                     |               |
| Horn      | Landing Force<br>Berthing - C-201EL                    | Hold P                     |               |
| Horn      | Steering Gear<br>Flat - C-206E                         | Hold S                     |               |

March 1, 1944

CHAPTER 45

COMMUNICATIONS - INTERIOR

45-5 CALL BELL SYSTEM:-

Circuit "A" is utilized for Officer's Call Bell System.

Circuit "E" is utilized for Sound Powered Telephone Call Bell System.

Circuit "E" of this system provides means of signalling between various sound powered telephone stations. The circuit consists of a pushbutton in the stations calling, and an audible signal in the stations called. Audible signals in stations are provided by means of bells of high intensity, tone A and buzzers of low intensity, both of 115 Volt A.C. The pushbuttons are of high-box and 2 gang types.

Circuit "A" Officers Call System consists of a pushbutton in the officer's quarters A-201L and buzzer in the galley. This system is not used in connection with a telephone. A list of all push-buttons bells and buzzers is given in TABLE 45-4 below:-

TABLE 45-4

CALL BELL SYSTEM

| EQUIPMENT  | LOCATION                              |             |      | CIRCUIT     | PURPOSE        |
|------------|---------------------------------------|-------------|------|-------------|----------------|
|            | COMPT. NAME & NUMBER                  | DECK        | SIDE |             |                |
| Buzzer     | Galley - A-104-1/2EL                  | Main        | P    | A           | Officers Call  |
| Pushbutton | Officer's Berthing & Messing - A-210L | Hold        | S    | A           | Officers Call  |
| Pushbutton | Pilot House A-0301C                   | Wheel House | S    | E<br>2 Gang | Telephone Call |
| Pushbutton | Pilot House A-0301C                   | Wheel House | S    | E<br>2 Gang | Telephone Call |
| Bell       | Pilot House A-0301C                   | Wheel House | S    | E<br>Bell   | Telephone Call |

March 1, 1944

45-5

|            |
|------------|
| EQUIPMENT  |
| Pushbutton |
| Buzzer     |
| Pushbutton |
| Bell       |
| Pushbutton |
| Bell       |
| Pushbutton |
| Bell       |

45-6

LU  
MA

Lo

an  
fa  
to  
on  
al  
lo

CHAPTER 45

COMMUNICATIONS - INTERIOR

TABLE 45-4 (cont'd.)

CALL BELL SYSTEM

45-5

| EQUIPMENT  | LOCATION                            |                  | CIRCUIT | PURPOSE        |
|------------|-------------------------------------|------------------|---------|----------------|
|            | COMPT. NAME & NUMBER                | DECK SIDE        |         |                |
| Pushbutton | Officer's Berthing & Messing A-210L | Hold S           | E       | Telephone Call |
| Buzzer     | Officer's Berthing & Messing A-210L | Hold S           | E       | Telephone Call |
| Pushbutton | Gyro Room - A-211-5AC               | Hold S           | E       | Telephone Call |
| Bell       | Gyro Room - A-211-5AC               | Hold S           | E       | Telephone Call |
| Pushbutton | Engine Room B-1                     | Hold P           | E       | Telephone Call |
| Bell       | Engine Room B-1                     | Hold P           | E       | Telephone Call |
| Pushbutton | Steering Gear Flat-C-206E           | Hold $\emptyset$ | E       | Telephone Call |
| Bell       | Steering Gear Flat-C-206E           | Hold S           | E       | Telephone Call |

45-6 LUBRICATING OIL LOW PRESSURE ALARM SYSTEM - MAIN ENGINES

Circuit "1EC" is utilized for Lubricating Oil Low Pressure Alarm System - Main Engines.

This system is provided to indicate by means of an audible alarm and visible lamp type indicators, any failure of pressure in the lubricating oil supply lines to the main engine. The lamp indicators are mounted on a panel in the main engine room, and an audible alarm is provided by means of a motor driven horn located in the vicinity of the indicator. Contact

March 1, 1944

COMMUNICATIONS - INTERIOR

45-6 LUBRICATING OIL LOW PRESSURE ALARM SYSTEM - MAIN ENGINES

makers, adjusted to operate at a predetermined pressure, are provided in the lubricating oil supply lines, which cause the indicator and alarm to operate when oil pressure falls below predetermined level. A list of equipment used in connection with the system is given in TABLE 45-5 below:-

TABLE 45-5

LUBRICATING OIL LOW PRESSURE ALARM SYSTEM - MAIN ENGINES

| EQUIPMENT     | LOCATION             |      |      | PURPOSE                      |
|---------------|----------------------|------|------|------------------------------|
|               | COMPT. NAME & NUMBER | DECK | SIDE |                              |
| Siren         | Engine Room B-1      | Hold | S    | Lub. Oil Alarm, Main Engines |
| Panel         | Engine Room B-1      | Hold | S    | Lub. Oil Alarm, Main Engines |
| Contact Maker | Engine Room B-1      | Hold | P    | Lub. Oil Alarm, Main Engines |
| Contact Maker | Engine Room B-1      | Hold | S    | Lub. Oil Alarm, Main Engines |

45-7 LUBRICATING OIL LOW PRESSURE ALARM SYSTEM - SHIP'S SERVICE GENERATORS

Circuit "2EC" is utilized for Lubricating Oil Low Pressure Alarm System.

This system gives an audible alarm through a diaphragm type horn and a visible indication through lamp type indicators, mounted on a panel in the engine room, when the pressure in the lubricating oil supply line to the ship's service generator engines falls below predetermined value. A list of equipment used in connection with this system is given in TABLE 45-6 following:-

March 1, 1944

45-7

|               |
|---------------|
| EQUIPMENT     |
| Horn          |
| Panel         |
| Contact Maker |
| Contact Maker |

45-8

45-9

CHAPTER 45

COMMUNICATIONS - INTERIOR

TABLE 45-6

45-7 LUBRICATING OIL LOW PRESSURE ALARM SYSTEM  
SHIP'S SERVICE GENERATORS

| EQUIPMENT        | LOCATION             |           | PURPOSE                              |
|------------------|----------------------|-----------|--------------------------------------|
|                  | COMPT. NAME & NUMBER | DECK SIDE |                                      |
| Horn             | Engine Room B-1      | Hold S    | Lub. Oil Alarm,<br>Generator Engines |
| Panel            | Engine Room B-1      | Hold P    | Lub. Oil Alarm,<br>Generator Engines |
| Contact<br>Maker | Engine Room B-1      | Hold P    | Lub. Oil Low<br>Pressure             |
| Contact<br>Maker | Engine Room B-1      | Hold S    | Lub. Oil Low<br>Pressure             |

45-8 SALINITY INDICATOR SYSTEM:-

Circuit "SB" is utilized for Salinity Indicator System.

This system indicates the saline content (in grains per gallon) of the feed water, condensates and distillates. A salinity indicator panel located in the engine room, port side, with salinity cells electrically connected, is provided for this purpose.

45-9 GYRO COMPASS SYSTEM:-

Circuit "LC" is utilized for Gyro Compass System.

The gyro compass system indicates the true bearing of the ship at all times. A list of equipment used in connection with this system is given in TABLE 45-7 following:-

March 1, 1944

CHAPTER 45

COMMUNICATIONS - INTERIOR

TABLE 45-7

GYRO COMPASS SYSTEM

45-9

| EQUIPMENT           | LOCATION                    |             |      | PURPOSE    |
|---------------------|-----------------------------|-------------|------|------------|
|                     | COMPT. NAME & NUMBER        | DECK        | SIDE |            |
| Bearing Repeater    | Weather                     | Open Bridge | S    | Navigation |
| Steering Repeater   | Pilot House - A-0301C       | Wheel House | S    | Navigation |
| Compass Alarm Unit  | Pilot House - A-0301C       | Wheel House | S    | Navigation |
| Master Gyro Compass | Gyro Room - A-211-5AC       | Hold        | S    | Navigation |
| Steering Repeater   | Steering Gear Flat - C-206E | Hold        | S    | Navigation |

45-10 SHAFT REVOLUTION INDICATOR SYSTEM:-

Circuit "K", is utilized for Shaft Revolution Indicator System.

A magneto type transmitter is coupled to each propeller shaft by means of gearing. The output of each magneto is connected to a volt-meter type indicator, one for the port shaft and one for the starboard shaft at the engine room gauge board. The output voltage of the magneto is proportional to the shaft speed, and the indicators being calibrated in R.P.M. give a direct indication of this speed. A list of equipment used in connection with this system is given in TABLE 45-8 following:-

March 1, 1944

45-10

| EQUIPMENT            |
|----------------------|
| Shaft Re Transmitter |
| Repeater             |
| Shaft Re Transmitter |
| Repeater             |

45-11

CHAPTER 45

COMMUNICATIONS - INTERIOR

TABLE 45-8

45-10

SHAFT REVOLUTION INDICATOR SYSTEM

| EQUIPMENT              | LOCATION             |      |      | PURPOSE                |
|------------------------|----------------------|------|------|------------------------|
|                        | COMPT. NAME & NUMBER | DECK | SIDE |                        |
| Shaft Rev. Transmitter | Engine Room B-1      | Hold | S    | Indicating Shaft Speed |
| Repeater               | Engine Room B-1      | Hold | S    | Indicating Shaft Speed |
| Shaft Rev. Transmitter | Engine Room B-1      | Hold | P    | Indicating Shaft Speed |
| Repeater               | Engine Room B-1      | Hold | P    | Indicating Shaft Speed |

45-11 RUDDER ANGLE INDICATOR SYSTEM:-

Circuit "N", is utilized for Rudder Angle Indicator System.

This system gives a continuous indication in the Pilot house of the rudder position by means of an indicator actuated by a transmitter linked mechanically to the rudderhead.

The transmitter and indicator are of self-synchronous type.

This system is energized from the steering gear, supply transfer switch located in the steering gear room. A list of equipment used in connection with the system is given in TABLE 45-9 following:-

March 1, 1944

CHAPTER 45

COMMUNICATIONS - INTERIOR

TABLE 45-9

RUDDER ANGLE INDICATOR SYSTEM

45-11

| EQUIPMENT              | LOCATION                    |               | PURPOSE                 |
|------------------------|-----------------------------|---------------|-------------------------|
|                        | COMPT. NAME & NUMBER        | DECK SIDE     |                         |
| Rudder Angle Indicator | Weather                     | Open Bridge S | Indicating Rudder Angle |
| Rudder Angle Indicator | Pilot House - A-0301C       | Wheel House S | Indicating Rudder Angle |
| Transmitter            | Steering Gear Flat - C-206E | Hold P        | Indicating Rudder Angle |

45-12 WRONG DIRECTION INDICATOR SYSTEM:-

Circuit "DW" is utilized for Wrong Direction Indicator System.

This system consists of a set of contacts which are provided in the engine order telegraph indicator, in the "ahead and astern" positions, which are connected in series with contacts provided at the engine control levers to give warnings at the associated throttle station, should the throttlemans operate the propelling machinery in a direction opposite to that repeated back over the engine order telegraph system. The contacts at the engines are operated by the engine reversing lever.

The warning consists of a high intensity bell and a single dial red lens indicating lamp.

A list of equipment used in connection with the system is given in TABLE 45-10 following:-

CHAPTER 45

COMMUNICATIONS - INTERIOR

TABLE 45-10

WRONG DIRECTION INDICATOR SYSTEM

45-12

| EQUIPMENT           | LOCATION             |           | PURPOSE   |
|---------------------|----------------------|-----------|---|
|                     | COMPT. NAME & NUMBER | DECK SIDE |   |
| Telegraph Indicator | Engine Room B-1      | Hold P    | Engine Order Mechanical Telegraph Indicator with Reply (with Wrong Direction Contacts). |
| Telegraph Indicator | Engine Room B-1      | Hold S    | Engine Order Mechanical Telegraph Indicator with Reply (with Wrong Direction Contacts). |
| Indicator           | Engine Room B-1      | Hold P    | Wrong Direction Warning   |
| Indicator           | Engine Room B-1      | Hold S    | Wrong Direction Warning   |
| Bell                | Engine Room B-1      | Hold P    | Wrong Direction Warning   |
| Bell                | Engine Room B-1      | Hold S    | Wrong Direction Warning   |
| Contact Maker       | Engine Room B-1      | Hold P    | Indicate Wrong Direction  |
| Contact Maker       | Engine Room B-1      | Hold P    | Indicate Wrong Direction  |
| Contact Maker       | Engine Room B-1      | Hold S    | Indicate Wrong Direction  |
| Contact Maker       | Engine Room B-1      | Hold S    | Indicate Wrong Direction  |

March 1, 1944

CHAPTER 45

COMMUNICATIONS - INTERIOR

45-13 20 MM A.A. MACH. GUN CEASE FIRING SYSTEM:-

Circuit "5U" is utilized for 20 MM A.A. Mach. Gun Cease Firing System.

This system has a manually operated contact maker on the open bridge. When the contact maker is closed it energizes the circuit, thereby energizing a diaphragm horn located at the associated anti-aircraft machine gun station, as a signal to cease firing. A list of horns and contact maker used in connection with this system is given in TABLE 45-11 below:-

TABLE 45-11

20 MM A.A. MACH. GUN CEASE FIRING SIGNAL SYSTEM

| EQUIPMENT     | LOCATION              |                 |      | PURPOSE                        |
|---------------|-----------------------|-----------------|------|--------------------------------|
|               | COMPT. NAME & NUMBER  | DECK            | SIDE |                                |
| Contact Maker | Weather               | Open Bridge     | S    | To operate Cease Firing System |
| Horn          | 20 MM Mach. Gun No. 1 | Fore-castle     | S    | Cease Firing Signal            |
| Horn          | 20 MM Mach. Gun No. 2 | Fore-castle     | P    | Cease Firing Signal            |
| Horn          | 20 MM Mach. Gun No. 3 | Super-structure | S    | Cease Firing Signal            |
| Horn          | 20 MM Mach. Gun No. 4 | Super-structure | P    | Cease Firing Signal            |
| Horn          | 20 MM Mach. Gun No. 5 | Super-structure | S    | Cease Firing Signal            |
| Horn          | 20 MM Mach. Gun No. 6 | Super-structure | P    | Cease Firing Signal            |

March 1, 1944

46-1

46-2

46-3