

**XB2**

## **TYPE 700**

Date of design:- 1922.

This installation has two or three Mark IV or V Hydrophone Plate Receivers (1)(2)(3) (see page XA2). Two of these are fitted one on each tow in direct contact with the water and the third, if fitted, is immediately abaft or inside the after superstructure.

A Revolving Directional Hydrophone (4) (see page XA5) is fitted in many cases, usually in the foremost superstructure. In a few cases it is found in a tank down below forward.

Type "D" Switchboard consisting of main switchboard (figure b.) and R. D. H. extension (figure a.) is fitted. The main switchboard contains the circuits for the plate hydrophones and communication to the R. D. H. operator by means of the microphone (23) and C. O. S. (22).

Supply to the hydrophone microphones is 6 volts from batteries straight to the microphones then through switches (5)(6) or (7) milliammeter (9) an adjustable resistance (10) and the primary (11) of a telephone transformer to negative.

Each hydrophone can be switched "on" or "off" at will by means of the switches (5)(6)(7). The adjustable resistance (8) is permanently connected in the lead to either the Starboard or Port Hydrophone whichever is the more sensitive, so that by inserting resistance the more sensitive hydrophone can be brought down to balance the less sensitive. The position of the resistance (8) is determined by trial after fitting.

The extension switchboard (figure a.) (sometimes called the Captain's Board) is situated near the R. D. H. control position. It contains the circuit for the R. D. H. and three switches (16)(17)(18) which, when made, light lamps (19)(20)(21) on the main switchboard, thus showing which hydrophones are required switched on. The operator at the main switchboard then makes the necessary switches (5)(6)(7). The extension board also contains the telephone switches (24)(25) which enable the captain and operator to listen on the revolving directional hydrophone (4). A switch (14) on the main board also allows the captain and R. D. H. operator at the extension board to listen on the plates (1)(2)(3), or the switchboard operator to listen on the R. D. H. (4).

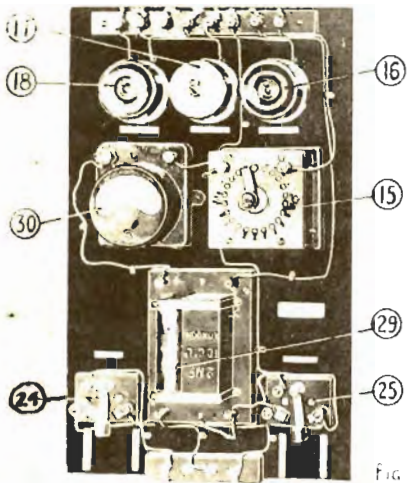


FIG. a

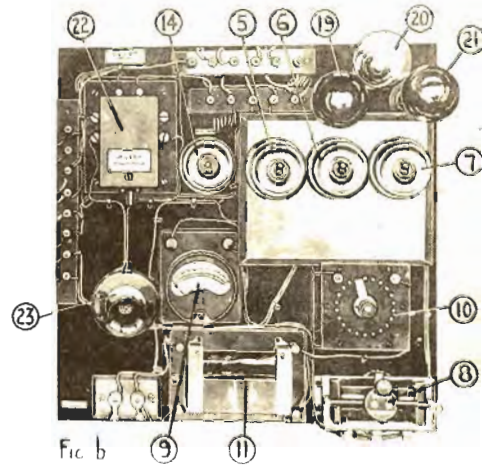


FIG. b

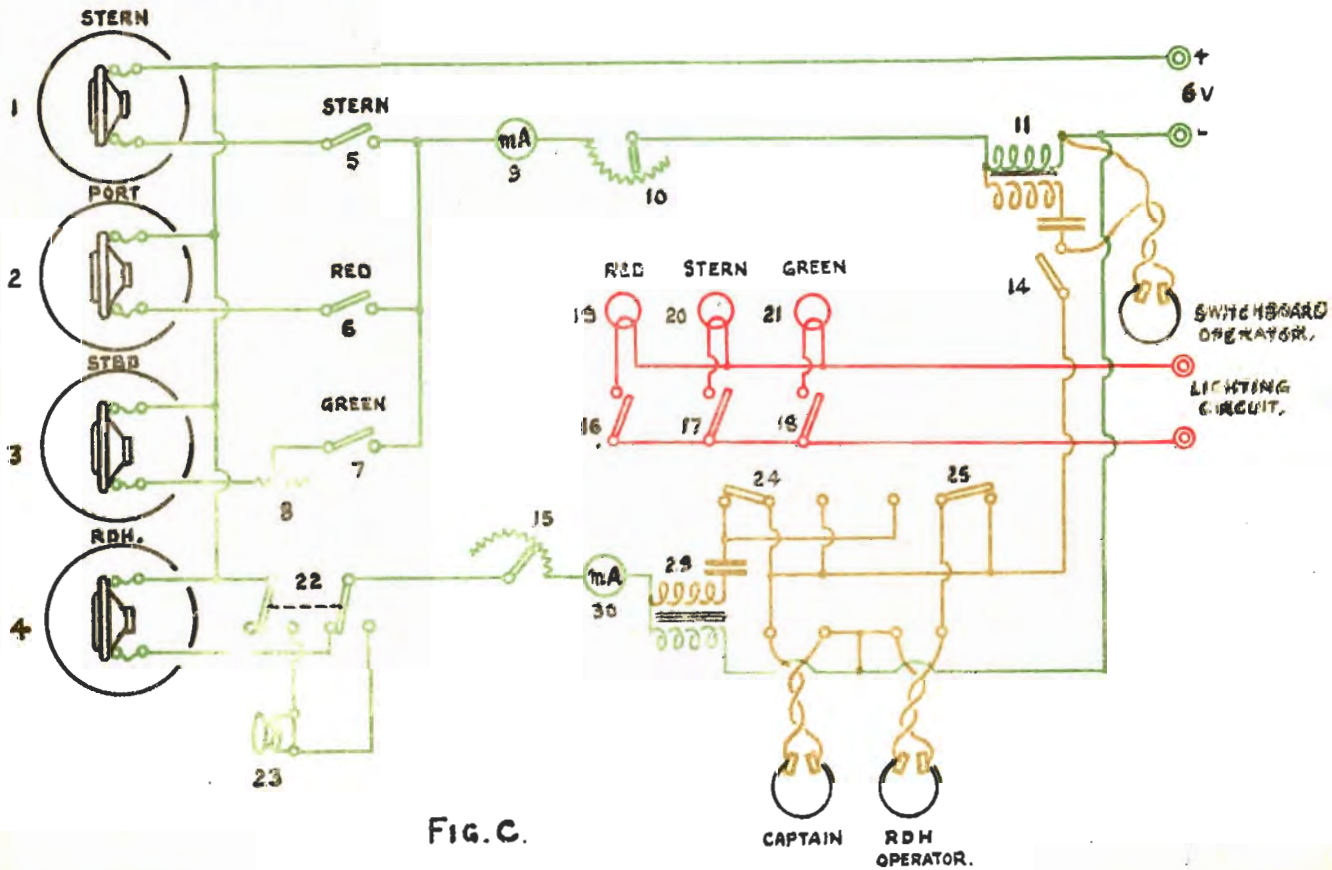


FIG. c.

In certain cases a modified Type "D" switchboard (see figure d.) is fitted. The single pole switches (5)(6)(7) (see figure b.) are replaced by 3-way switches (5)(6)(7) marked "Listening", "Warming" and "Off".

The "Listening" and "Off" positions are for making and breaking the microphone circuit. In the "Warming" position the circuit is lead through a fixed 200 ohm resistance (26)(27)(28) which permits a small warming current of about 8 milliamps to flow through the microphone. These 3-way switches (5)(6)(7) are so designed that in switching over from one plate to another the warming current is not broken, and thus the true interval, required to obtain full sensitivity when listening on either low plate alternately, is much reduced.

In place of the rheostat (3) (figure c.) a potentiometer (3) (figure e.) is fitted as it provides a more convenient method of balancing the sensitivities of the two low plates.

