4000-100/14
4900 Vol.1

THE ACTION ROOM

By Captain J.D. Prentice, RCN(Ret'd)

The retirement of Rear-Admiral J.C. Hibbard DSC, CD, RCN, at an early age due to ill health, brings back many memories of the Battle of the Atlantic. Anyone who knows anything of the history of the Royal Canadian Navy will remember the numerous actions in which the Admiral played such a distinguished part both as leader of an Escort Group and when commanding a Tribal. Fewer people probably realize that possibly his greatest contribution to the defeat of the U-boat was made during one of his brief periods ashore.

When, in the winter of 1942, Admiral Hibbard was appointed as Training Commander on the Staff of Captain "D" Halifax, he had had nearly three years experience of anti-submarine warfare in the Atlantic. He had seen the convoy system and the Asdic defeat the original in-shore, submerged, daylight attack tactics of the U-boat. As leader of an Escort Group, he had fought more than one action against the new "Pack Attacks" during which, in the deep waters of the Atlantic, concentrations of German submarines came in together at night with conning towers awash, attacking as submersibles, firing their torpedoes while on the surface and using their power to dive only to escape.

Admiral Hibbard realized, as well as any officer afloat, how essential it was to train the crew of every escort ship under the new battle conditions; to give officers and men with no war experience some chance to realize what they were going to meet before they were thrown into action; to let those in operating ships correct past mistakes and practice for future battles; and, at the same time, to exercise the whole fighting team of every ship together, instead of seperately in individual groups.

.....2/

The thing seemed impossible. In Halifax, as in every other port where escort ships were based, there were schools where individuals and individual teams could be trained and exercised. Communication ratings could be given practice. Gun crews could be drilled. Asdic teams could carry out firings by day or night or runs on a submerged target submarine, though the time available for sea exercises was all too short since operating ships during their short periods in port always had defects to be repaired and there was continual pressure to get newly commissioned ships away before they had finished their workup training in order to fill gaps in the escort groups.

There was excellent piecemeal training but nobody had, nor ever has, in peace or war, staged a full scale sea exercise representing the attack on a large convoy at night by numerous submarines. A second thought on the magnitude of such an operation and the risks that would be run must convince even the most optimistic training officer that such a thing is impossible. Yet something of the sort was essential if escort ships were to be properly trained.

The Training Commander, knowing the essential, proceeded to achieve the apparently impossible. He designed the Action Room.

If ships could not be exercised under battle conditions at sea then those conditions should be simulated ashore.

A large room completely darkened, called the Battle Room, would allow a night battle to be staged at any time. In the centre of that room the replica of an escort ship's bridge could be built. It must revolve, to represent alterations of course and be made to roll and pitch to produce conditions similar to those in a ship at sea. Even sheets of "spray" could be thrown over it and a pair of .303 rifles firing blanks close under the bridge screens would give the same flash effect as the ships foremost gun.

.....3/

Around the bridge, as far from it as space permitted, could be built a false horizon on which movable models would take the places of all the actors in the drama of night battle, of the convoy, of the other escorts, of the attacking surfaced U-boats. These models could be made to alter course, to send up rockets, to explode and sink, to flash signals, fire guns and carry out depth charge attacks, or to submerge when required. Small electric light globes lowered down on strings would make good star shells, the old spotting table pieces of cotton wool would show the fall of shot. In fact the Captain of any escort ship and his entire bridge personnel could be put through a very realistic night convoy battle.

But those on the bridge were only one part of the ship's fighting team. The training of the other parts of that team was equally important.

Obviously it was hardly possible to build a complete escort ship ashore but the Bridge in the Battle Room could be connected with other rooms in its vicinity by normal ship communications of voice pipe and telephone. A wheel house could be built in which the ship's coxswain would steer the bridge and the ship's action plot be kept. A Radar Cabinet would have the appropriate net installed. A W/T office could be fitted with the necessary instruments. It would even be possible to build a gun and depth charge room complete with gun throwers, which could be fired with reduced charges, and rails, where the gun and depth charge crews could be exercised under night action conditions.

A control room would be required from which Training Officers would sight and analyze the battle. They must be in close communication with the movers of the models in the battle room, must be able to throw blips on the "ship's" radar screen and transmit to and receive from "her" bridge and W/T officer by R/T and W/T.

.....4/

An A/S Attack Teacher connected to wheel and Asdic House would give underwater targets. Finally a Control Room Plot must be installed so that a full record of the action could be kept and its results analyzed.

It was along these lines that Admiral Hibbard must have thought. Like many great inventions it seemed simple - once the idea had been produced. It consisted of the combination, development and elaboration of many training "gadgets" already in use. Something had been taken from the Gunnery School, from the A/S School, from the Signal School, from the Navigation School. But - nobody had thought before of the combined use of all those instruments to give realistic battle training.

The idea may have seemed simple. To put it into practice proved to be a very different matter. The leading of the necessary wires and voice pipes from a freely revolving "bridge" alone posed no mean a problem. It took a tremendous amount of ingenuity and energy on the part of both training and technical officers to produce the first Action Room but with the Training Commander's enthusiasm and drive behind his team it was operating in an old building in Halifax Dockyard by the fall of '42. It was crude and without all those details which have been mentioned. But its worth was proved immediately by the rate of applications for runs put in by all the experienced commanding officers of escort ships who entered the port.

A bigger and better Action Room was built in Halifax in 1943. The idea was adopted by both the Royal Navy, who called it the Night Escort Teacher, and the United States Navy. Before the end of the war Action Rooms were in operation in every major port where Escort ships were based.

Admiral Hibbard's invention may well be classed as one of the greatest single contributions to that training of Escort Ships which made possible our victory in the Battle of the Atlantic.

- 30 -

ACTION ROOM

Appx D

The Action Room is a new departure in training and is not intended to replace any of the schools or training establishments presently in operation, e.g., it is not intended to train the A/S team of a ship with regard to their operating procedure etc., but rather it is intended to test their ability to work efficiently with all other departments of the ship under action conditions. Any training given is incidental to the main purpose of the Action Room, which is to test and inprove the general efficiency and co-ordination of all departments of the ship.

2. OBJECTS

a. To present to the Commanding Officer and ship's company physical circumstances similar to those which will be encountered under night action conditions at sea with a view to the co-ordination of the various departments such as:-

(i) Signals-W/T, V/S, Coding, R/T, D/F.

(ii) Radar.

(iii) Ship's plot - Tactical and A/S

(iv) Gunnery

(v) Bridge procedure- Lookouts, Voice pipe manning,etc.

(vi) Asdic

(vii) Depth charge & ahead throwing weapon drill.

b. To assist the Commanding Officer and his officers in developing their ability to appreciate a situation, and to work as a team.

c. Incidentally, to supplement trainning given in the schools.

3. DESCRIPTION OF THE ACTION ROOM

The Action Room consists of:-

(a) A Battleroom,

(b) W/T Office,

(c) Wheelhouse,

(d) Radar Cabinet,

(e) Attack Teacher,

(f) Depth Charge Room,

(g) Control Room,

(h) Offices and Staff rooms as necessary,

(i) Power supply as required.

(a) BATTLEROOM

This consists of a Bridge and a false horizon of 360°. This horizon is elliptical in shape and is distant from the bridge about ~~fifteen~~ twenty to ~~twenty~~ thirty feet. (This is because of the dimensions of the building in which it is installed. It is felt that a circular horizon distant about 25 feet from the nearest point of the bridge would be preferable).

The bridge is a replica of H.M.S. "MEADOWSWEET", which is one of the revised Corvette types, with A/S hut and plotting table forward of the bridge. It swivels on a vertical axle which is fitted into a concrete pit below deck level. It is rotated by a motor generator, which is controlled from the Control Room, and synchronized in its turning with the compass of the A/S 63, which is in turn controlled by the ship's quartermaster. A geared hand training wheel is also fitted in the pit, which can be used in case of failure of the motor generator. The voice pipes from the bridge to the other parts of the establishment are of two types, mechanical and electrical. The former are taken from the bridge by means of pipes circling the vertical axle and divided laterally so that the upper half turns with the bridge. The electric voice pipes and all other electric connections from the bridge to other parts of the establishment are taken out by means of brushes, which, while rotating with the bridge, maintain connection on fixed slip rings surrounding the vertical axle.

On the bridge are two compasses, gyro and magnetic, and an Aldis lamp for flashing. Forward of the bridge, on the

the same turntable, is a stand carrying two .303 rifles, which reproduce the noise and flash of the forward gun. On the after end of the bridge is a chair, and there is also a telephone to the Control Room for the Staff officer who observes the run.

(b) The HORIZON is similar in structure to that used in night look-out tables. Around the outside of the horizon is a four foot passage where members of the staff control, by hand, models of Escorts, merchant ships, submarines, light-houses, starshell, rockets, etc., controlled from the Control Room so as to fit in with the general tactical scheme.

(c) The W/T OFFICE is connected by voice pipe to the bridge. It contains an R/T set and W/T key connected by wires to similar instruments in the Control Room. It will also be fitted with D/F trainers which will be wired with controlling dials in the Control Room. Books for coding will be supplied as in ships.

(d) The WHEELHOUSE is a room similar in size to that of a ship and is connected by voice pipe to the bridge. The ship's quartermaster will man the wheel, which is on the steering unit of the A/S 63.. It is proposed to fit an A.R.L. plot in this room for the use of ships so equipped.

(e) The RADAR CABINET adjoins the wheelhouse and is connected by voice pipe to the bridge. The control panel for the Radar training unit is in the adjoining control room, while the Radar set itself is in the Radar Cabinet.

(f) The ATTACK TEACHER is an A/S 63 table in a room adjoining the main Control Room, with which it is connected by voice pipe.

(g) The DEPTH CHARGE ROOM contains a complete D/C driller a 4" gun and an ahead throwing weapon, all of which have voice pipe connection with the bridge.

(h) The CONTROL ROOM contains an A.R.L. ploty on which is plotted the general action and complete tactical situation. It has voice pipe connection to all parts of the establishment, which do not adjoin it. It also contains the Radar Control Panel on which pips are placed and controlled both as to size and range to conform to the tactical situation at all times. It is closely co-ordinated with the A/S table, which controls the submarine when submerged. The Control Room is also equipped with a W/T key, R/T set and flashing key and light, by which measages are sent through models in the Battleroom, and through which V/S messages from the bridge are read. It also controls firing of rockets and of star-shell fired by ships other than that doing the run.

4. How a ship's company are closed up and how the run is controlled can only be explained at great length and really must be seen to be appreciated.

5. It is submitted that if the primary object of the Action Room is to be achieved, namely the co-ordination of the various departments of the ship, it should not become identified with any specialized phase of trainning. Its only connection with the various schools is to discover possible weaknesses in any particular department of the ship, e.g. analysis of a run may show that the communications staff are weak on V/S procedure, which fact can be brought to the attention of the Commanding Officer, and the school, in order that it may be corrected. Corrections of this nature are not the responsibility of the Action Room.

6. It is obvious that in a unit of this nature which embodies so many of the specialized branches of the Service and which must be expected to do all things correctly, a highly competent and specialized staff is required. (Vide attached proposed scheme of complement). It also follows that ~~in~~ a unit, whose primary purpose is to co-ordinate the departments of a ship, should not emphasize any particular phase or part of the ship's organization.

7. Experience has shown that best results will be obtained by keeping the Action Room both supplementary and complementary to the Tactical Table. At the latter the Commanding Officers experiment and learn as to howthey can best co-operate with other escorts under various circumstances. In the Action Room They find out how their own organization will stand up under similar circumstances.

8. When intelligent consideration is given to the above it will be seen that the authority most suited to ~~the~~ administer the Action Room is a Captain "D" or N.O.I.C.

J. C. Hibbard
Captain "D" Halifax
4th. October 1945

COPY

(NAVAL SERVICE)

FROM: Captain (D) Halifax. Capt J. C. Hibbard

DATE: 4th October, 1945. FILE: D. 1-36

TO: The Commanding Officer Atlantic Coast
H.M.C.S. "STADACONA".

ACTION ROOM

Submitted herewith report on the Action Room, which gives a brief history of the development and training carried out from 1942 to 1945, and a general outline of the Action Room, including a typical run.

2. With reference to the Training Commander's report, TC.20-3, of October 1942, copy enclosed it was never intended that the Action Room should in any way replace any of the schools or training establishments, or take the place of sea training, but in the modern ship, with its numerous weapons one of the outstanding weaknesses that seriously affects fighting efficiency is the lack of co-ordination. It is rarely if ever possible to obtain sufficient training at sea to enable ships to overcome this difficulty, and the Action Room was evolved to assist in remedying this and in developing in Officers and men the ability to appreciate a situation and work as a team.

3. It will be noted from the enclosures that during three years a total of 370 ships and 1,746 runs, with approximately 133,000 Officers and men participating. Throughout its history I have never heard one word of criticism levelled at this method of training, and many hundreds of Officers remarked on the value of the training they were obtaining. Records of each run were maintained, and Commanding Officers without exception considered the Action Rooms were of the greatest value in determining the weaknesses of their organization and training, and the ability of their personnel. The greatest demand for allocations came from the more experienced Commanding Officers.

4. From the above it is respectfully submitted that an Action Room in the peacetime Navy is most desirable, and it is considered that the best results would be obtained by keeping the Action Room both supplementary and complementary to the Tactical Unit.

5. Much credit for the development of the Action Rooms is due to Lieutenant Commander Mervyn J. WOODS, RCNVR, and Lieutenant (E) O.W. LADERACH, RCNVR. Both of these Officers devoted all their time and energy to surmounting the various "growing pains", and assisted British and American representatives who came to inspect the Action Room in Halifax in order to draw up their own plans. It was these two Officers who drew up the plans with Delamere and Williams Limited for the construction of the Action Room in St. Johns', Newfoundland.

6. The design of the Action Room is of small importance compared to the need of keeping it fitted with the latest devices to enable ships to exercise their whole organization under action conditions.

7. A full and detailed report of the Action Room, including plans, organization and signals for a typical run is being submitted under separate cover.

(J.C. Hibbard)
ACTING CAPTAIN, R.C.N.
CAPTAIN (D) HALIFAX.

Encl.

NIGHT ESCORT ATTACK TEACHER

DESCRIPTION OF PROPOSED CONSTRUCTION

The following modifications to the experimental apparatus are proposed, assuming that approval of the necessary financial encumbrances is forthcoming:-

BUILDING A two story building is required so that the wheel-house, W/T, and R.D.F. cabins, can be placed below the bridge thereby simulating, as far as possible, the conditions met with in a ship.

BRIDGE Size to be that of revised Corvette bridge, mounted on a steel structure which can be trained in any direction. It had been intended to provide for a rypa mounting but this is not considered really necessary. On the other hand it is felt that electrical trsining of the bridge is of importance, in order that the bridge can be made to turn at the approximate rate of the swing of a ship.
At the forward end of the bridge, an A/S cabin and a chart room (for plotting) to be fitted, duplicating those built in the later types of corvettes.

LIGHT LOOKOUT TABLE Is required to be in circular form, surrounding the bridge, the circle having a diameter of approximately 75 feet, thereby allowing for a distance between the bridge and horizon of approximately 30 feet.

GUNNERY Space to be provided for a 4" B.L. loader (if not available, the usual type of 6" loader in lieu) to be placed on a 4" platform similar in size to those of Corvettes, complete with rails and with H.U. lockers and shell racks, spaced as in Corvettes and containing dummies of the various types of cartridges and projectiles in use. The room to be dark except for loading lights and connected with the bridge by V/P.

D/C Space to be provided for Depth Charge Driller as shown in C.B. 04050/42(7).

PLOTTING Room to be constructed forward of the bridge to house an A.R.L. plot. Corvette plots may be spread on the face of the table when Corvette ships' companies are exercised.

NIGHT ESCORT ATTACK TEACHER

DESCRIPTION

As the apparatus is of an experimental nature, it was constructed to fit the room which was allocated to house it.

BRIDGE

A bridge approximately 9'2" long by 6'2" wide is positioned at the end of the room, mounted on springs. It contains:

(I) BINNACLE AND COMPASS

The Compass is worked from the control room, the compass card being moved by transmitter at the approximate rate of the swing of ship.

(2) VOICE PIPES

From bridge to:
(a) W/T and R/T cabin.
(b) Ship's Plot.
(c) R.D.F.
(d) M.T.U. for A/S C.O. and wheelsman.
(e) Control Room
(f) Control Room (for D/C's and Guns).

Trunks are led to the control room from:
(a) W/T.
(b) Ship's Plot.
(c) R.D.F.
(d) M.T.U.

(3) SIGNALMEN'S NIGHT BOX

Containing Aldis Lamp.

(4) ALARM GONG

Admiralty pattern.

GUNS: Immediately forward of, and somewhat lower than, the bridge two rifles have been placed which can be fired from the Control room. The muzzles have been surrounded by cylindrical covers which serve to increase the noise. When the guns fire, a bright light automatically goes on and off, directed to point at the bridge personnel.

NIGHT LOOKOUT TABLE

At first, the design of the lookout table, which is in the form of a semi-circle with the bridge in the centre of the circle, conformed with the C.A.F.O's on the subject and, as such, the lower and upper hinged shutters could be worked. This was found unsatisfactory because, being in the form of a circle, spaces were left between shutters which gave rise to the making of false reports.

Modification was effected by making the lower edges straight and having the background angled at approximately six degrees with the vertical and covered with black hessen.

Distance from centre of bridge to the horizon at the broadest point is approximately 23 feet.

Behind the lookout table runs a small raised passageway for use by the movers. As the room is in complete darkness dim blue lights are positioned every ten degrees which shine on numerals, painted in white, indicating the bearing - luminous paint could be used in lieu.

NIGHT ESCORT ATTACK TEACHER

DESCRIPTION (Continued)

R.D.F.

The complete unit is made up of two small rooms. The one adjacent to the control room contains adjustments to the equipment so that the operator in the second room will read off pre-determined ranges and bearings desired by the control.
A voice pipe connects this second room with the bridge and the control. Thus an operator in close touch with the control adjusts range and bearing on the apparatus in the first room and the operator under training takes his place in the second room and makes necessary reports as required the bridge.
The range calibrations are in two scales of five and twenty miles as on the standard set, but suitable scales marked in yards are also affixed.
The bearings are relative and in five degree steps.
The operation of the equipment is suggested by the simplicity of the apparatus. See sketch attached. The range adjustor simply moves along a silhouette by means of a small roller and a wooden shaft so that it appears on the indicator in the desired position in front of the operator.
The bearing adjustor is linked with a cam under the silhouette so that when the operator turns the wheel the cam pushes the silhouette up in the pre-determined position.
Construction of the range apparatus is such that the size of the "echo" increases as the range decreases, but no adjustment is provided to suggest that the "echo" is a small target or a large one.

PLOT

Three plots are kept:-
(1) One in the control room, showing the ship's course and that of the U-boat when picked up by R.D.F.
(2) One is kept in the M.T.U., and plots the ship's course throughout the entire run, and that of the submarine when contact is gained by HE and A/S.
(3) The third is kept in the Plotting room by the ship's Plotting officer.

(1) CONTROL ROOM

The course of the U-boat during the period in which it will be picked up by R.D.F. is plotted in advance in the control room before the run is started. This course is marked to show the U-boat's position at each half minute.

Once the run is begun, the ship's course is plotted every half minute, the plotter obtaining this information from a compass repeat placed beside him.

Using a Gladstone plot, the plotter has sufficient time to trace the ship's course and to call out half minute ranges and bearings of two submarines if required. These ranges and bearings are passed by voice pipe to the bridge, and also by voice pipe to the M.T.U. plot.

R.D.F. contact is lost at a range of approximately 1,000 to 1,5000 yards. Since the bearing and range of the U-boat have been passed to the M.T.U., H.E. or A/S contact can be reported at a likely position, e.g. after S/M has submerged or as a result of illumination by starshell or snowflakes.

(2) The M.T.U. PLOT.

The first information divulged may consist of H.E. of a U-boat opening her vents, and will be followed by half minute bearings, ranges, inclinations, extent of target, minute bearings, ranges, inclinations, extent of target, etc. picked up on the Asdic. The movements of both ship and submarine are plotted in the usual manner. The Captain is given frequent opportunities to make snap decisions, since the A/S may from time to time pick up the sound of torpedoes approaching, or may obtain contact on one U-boat, when another is already being pursued on the surface. If the same scale is used by the Control and M.T.U. plot, then the latter can be laid on top of the control plot, thereby giving a complete picture of the run carried out, indicating A/S attacks.

(3) The ship's plot is kept in the usual manner.

NIGHT ESCORT ATTACK TEACHER

DESCRIPTION - (Continued)

A further modification to the supports laid down in C.A.F.O's was found necessary in order to allow the mover space in which to move the models from behind.

STARSHELL LIGHTS

Lights are operated on a curtain rail staggered for height in groups of four, fed from a ring main, of which the curtain rail is the positive, and controlled by switches suspended below the curtain rail, thereby enabling firing to be directed on any bearing.

CONVOY SIGNAL LIGHTS

Are fixed on the following bearings: Red 9-0, Red 7-0, Red 4-5, dead ahead, Green 4-5, Green 7-0 and Green 9-0. The selection of signals is effected by moving slotted lengths of wood through a lamp box. The lengthsof wood have holes cut out and filled with red or green paper. Each position is controlled by a switch in the control room.
It is important that the lights be positioned at the approximate height of mast above the horizon.

SIGNAL LAMPS

Are fitted at Red 8-0, Red 5-0, Green 5-0, and Green 8-0. When the signalman on the bridge presses the trigger of his Aldis Lamp, Pattern #S 5110D, the light is flashed in the control room. The signalman in the control room when operating his lamp, causes the pin point signal lamp to flash in the operating room. Any one of the four fixed positions can be selected by the signalman in the control room, using the appropriate switch.
These signal lamps also should be positioned at the approximate height of mast above the horizon

W/T CABINET

A buzzer, Oscillator-Hammond 330, is installed in the W/T cabin and communicates with the Control Room, to simulate W/T communication between the W/T cabin and shore.

A panel containing a number of switches marked with frequencies is operated by the telegraphist and, when pressed down, a light shows on a similar panel in the control room, indicating what frequency is being used. Thus if no reply is received on one frequency, the operator is under the obligation of choosing another and the alternative one chosen is verified in the control room.

A voice pipe provides communication between the bridge and the W/T cabin. R/T is simulated by a telephone affording communication between the bridge, the W/T cabin and the Control room, using normal R/T procedure.

A/S

An H.M.S. Osperey M.A/S T.U. is berthed alongside the building in which the escort attack teacher is housed.
A loudspeaker system having proved unsatisfactory, voice pipes are now used to connect the bridge with the "wheel", and the bridge with the A/S C.O. A trunk is run from the latter to the A/S plot and to the Control room.
A voice pipe is led direct from the control room to the M.A/S T.U. plot for passing R.D.F. bearings. This enables the M.A/S.T.U. Plot to keep ship and submarine in suitable positions, ready to pick up A/S contacts.

The A/S C.O., S.D. and a Quartermaster are stationed in the bus and pass information to the Commanding Officer on the bridge from whence the attack is directed. A/S information is relayed from the M.A/S.T.U. to the plotting room by voice-pipe.

Attacks on dummy submerged submarines are thus carried out from the bridge and co-ordinated with submarine sightings and R.D.F. contacts.

PERSONNEL

Officer in Charge.	It is considered essential that the Officer in Charge have had command of at least a corvette engaged in escort duties for a minimum period of one year.
Signal Officer.	Verification of signal organization, checking of W/T and R/T procedure, Enemy reports and Coding.
Plotting Officer.	Passes R.D.F. bearings, maintains plot in control room of both ship and submarines.
T.G.M.	Directs submarine movements at lookout table and is in charge of electrics in room.
L.T.O.	Attends to repairs and maintenance of equipment under T.G.M., oiling and checking motors. Acts as starshell operator.
1 A.B. and 1 O.D.	Act as sweepers with A.B. as gunlayer and O.D. as mover.
A.B., S.D.	Responsible for maintenance of gyros and repeaters. During runs brings compasses into line when alterations of course are made.
A.B.	Acts as recorder, assisting Plotting Officer and keeping notes of alterations of courses and speeds of ship and submarine.
Ldg.Sig.	Supervises telegraphist, signalmen and coder who are detailed daily from the pool at Signal Training Centre. Checks procedure followed and verifies signals.

GENERAL.

(1) Before a run is commenced, the officers and men of each ship that has not previously attended the Night Escort Teacher are addressed by the Officer in Charge and informed of the procedure that is adopted in connection with runs, emphasis being laid on the fact that everything is carried out in a straightforward manner and no attempt is made to employ unfair tactics or trick those carrying out the run.

(2) R.D.F. contact is generally reported two to three minutes after the run is commenced. It is imperative that sufficient time be given to the ship's company to adopt their eyes to the faint lighting on the horizon after the red lights have been switched off.

GENERAL (Cont'd)

(3) After a few simple runs have been exercised, harder problems are presented, more torpedoes and submarines being introduced and R.D.F. and A/S contacts being reported simultaneously. The courses and speeds of U-boats laid out are based upon the lines of evasive tactics commonly employed.

(4) Upon completion of runs, Commanding Officers, Officers and men are given the opportunity of observing the plot and the whole run is explained, movements of own ship and of submarine, where R.D.F. and A/S contacts were reported, where depth charges and guns were fired, etc.

(5) Beneficial results may be obtained from working up an "Act" by the permanent personnel of the Night Escort Teacher to illustrate what should not be done during a night escort attack. This has the effect of impressing upon the minds of the audience a number of points which might not otherwise be so readily learned or so easily appreciated.

FILE : T.C. 7-3

NIGHT ESCORT ATTACK TEACHER First teacher

It is submitted that one of the present outstanding weaknesses that seriously reduces the fighting efficiency of small efficiency of small ships is lack of co-ordination.

2. While each department of the ship may function correctly by itself, it is found that when all departments are required to work together, particularly at night under conditions of stress, the whole fails to function with the requisite precision and effect.

The escort attack teacher was evolved to assist in remedying this situation, and plans for its construction were prepared during the latter part of June, 1942. The object in view was to provide a means of exercising full night action proceedure under the most realistic conditions possible on shore.

Commanding Officer; A/S C.O. and A/S team; G.O.; S.O., signalmen, telegraphists and coders; R.D.F., plotting, D/C personnel and Lookouts are exercised as a team.

3. Trial runs having been carried out and necessary adjustments effected during the first ten days of September, 1942, the experimental escort attack teacher went into full operation on Monday 14th September.

It has proved a success as evidenced by the numerous requests received from Commanding Officers for allocations, and its value is indicated by the number of mistakes in most phases of escort work that have been revealed.

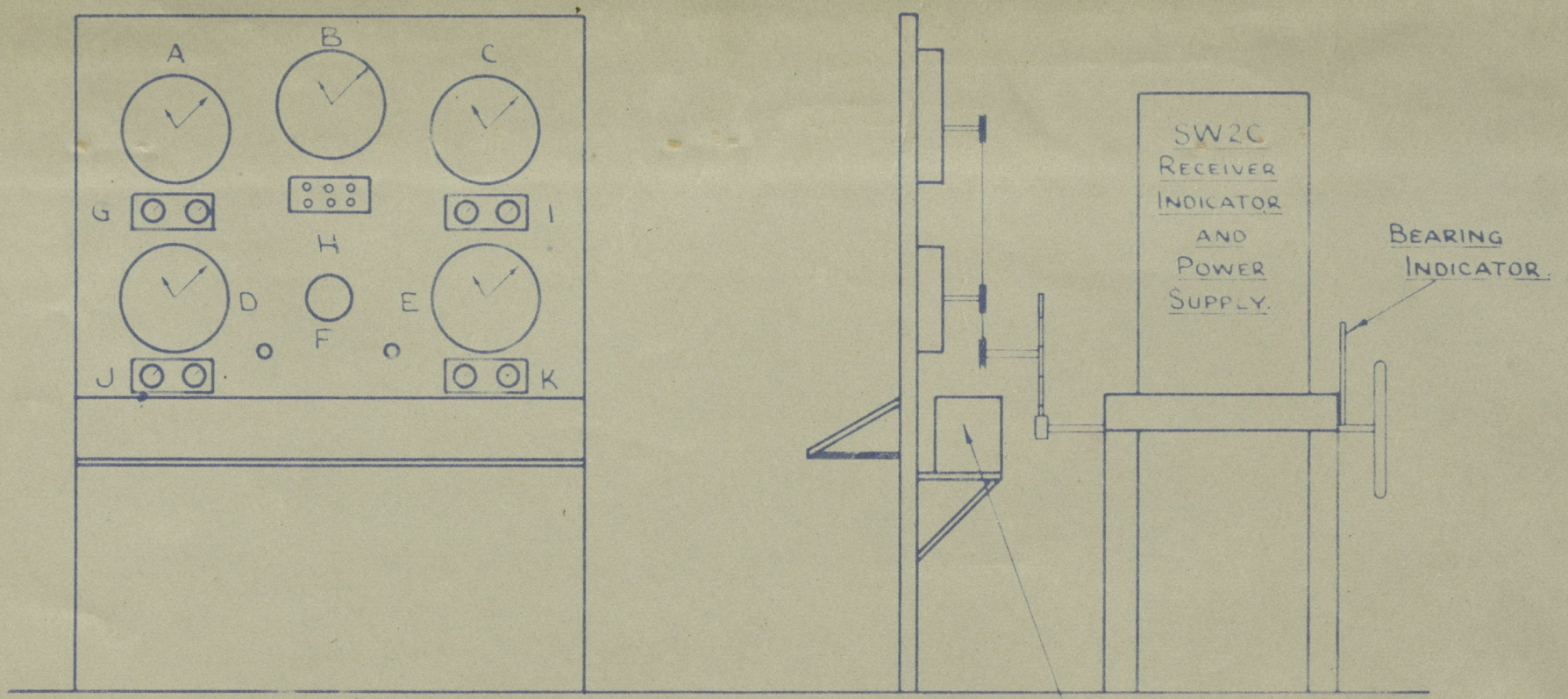
4. Attached hereto is a plan of the present outlay, which is temporary, for experimental purposes only, and was arranged to conform with the building provided.

5. There is also attached a description of the night escort attack teacher, which it is proposed to recommend.

(J.C. Hibbard)
A/COMMANDER, R.C.N.,
THE TRAINING COMMANDER.

20th October, 1942.

2nd 2nd Action Room Completed in 1943



ABCDE — BEARING ADJUSTERS.
B — CONVOY ADJUSTER (3 ECHOES).
ACDE — SINGLE ECHOES.
F — CATHODE RAY TUBE.
GHIJK — RANGE AND INTENSITY (OR AMPLITUDE) CONTROLS.

I.P.S. H.M.C. GUNNERY SCHOOL HALIFAX, N.S. C.G.I. 281


SEPTEMBER
12

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE No. H.S.0450-18

H.S.0450 - 18

SIGNAL PANEL SHOWING V/S KEEP, SEND-RECEIVE UNITS,
TBS SET UP AND MF/DF CONTROL DIAL


12
CANADA
CANADA

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE No. 450450-19

H.S.0450 - 19

SHOWING MASTER PLOT
PLOTTING OFFICER
CONTROL PHONE
SUBMARINE PHONE
CONVOY PHONE
(SHIP'S HEAD)


PORT
STARB
CANADA

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE No. HS 0450-20

H.S. 0450 - 20

CLOSE UP OF CONTROLLER


CANADA
CANADA
CANADA

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE No. H.S.0450-21

H.S. 0450 - 21

SHOWING RADAR PLOT AND PLOTTER
DIRECT RADAR PHONE TO OPERATOR
RADAR TEACHER PIP OPERATORS


ATTACK TABLE

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE NO. A50450-22

H.S. 0450 - 22

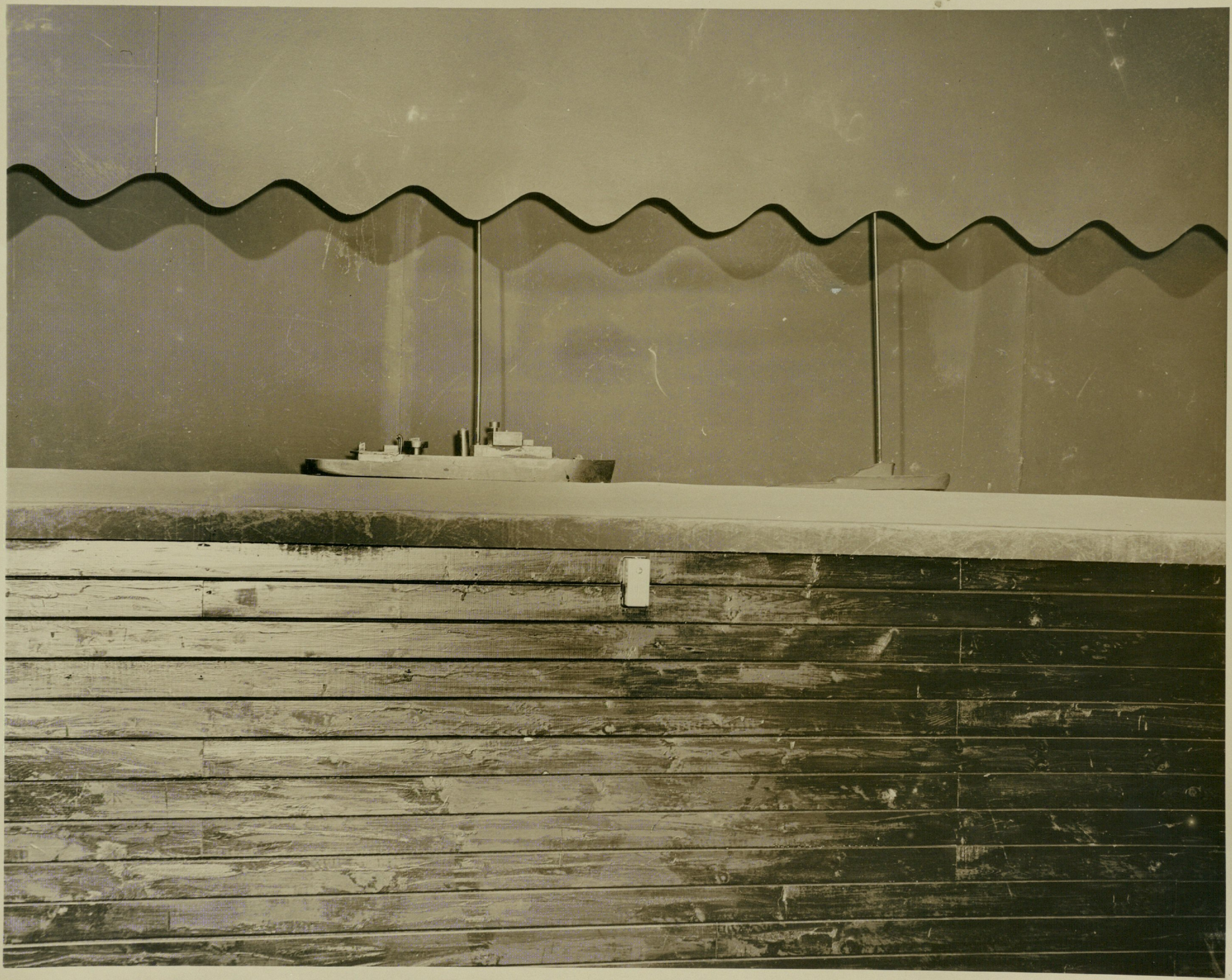
SHOWING MASTER PLOT, PLOTTING OFFICER, CONTROLLER, SUBMARINE AND CONVOY PHONES, CONTROL PHONE, HORIZON DIMMER BANK.


340

ROYAL CANADIAN NAVAL
PHOTOGRAPH
* Crown Copyright Reserved *
NEGATIVE NO. HS0450-35

H.S. 0450 - 35

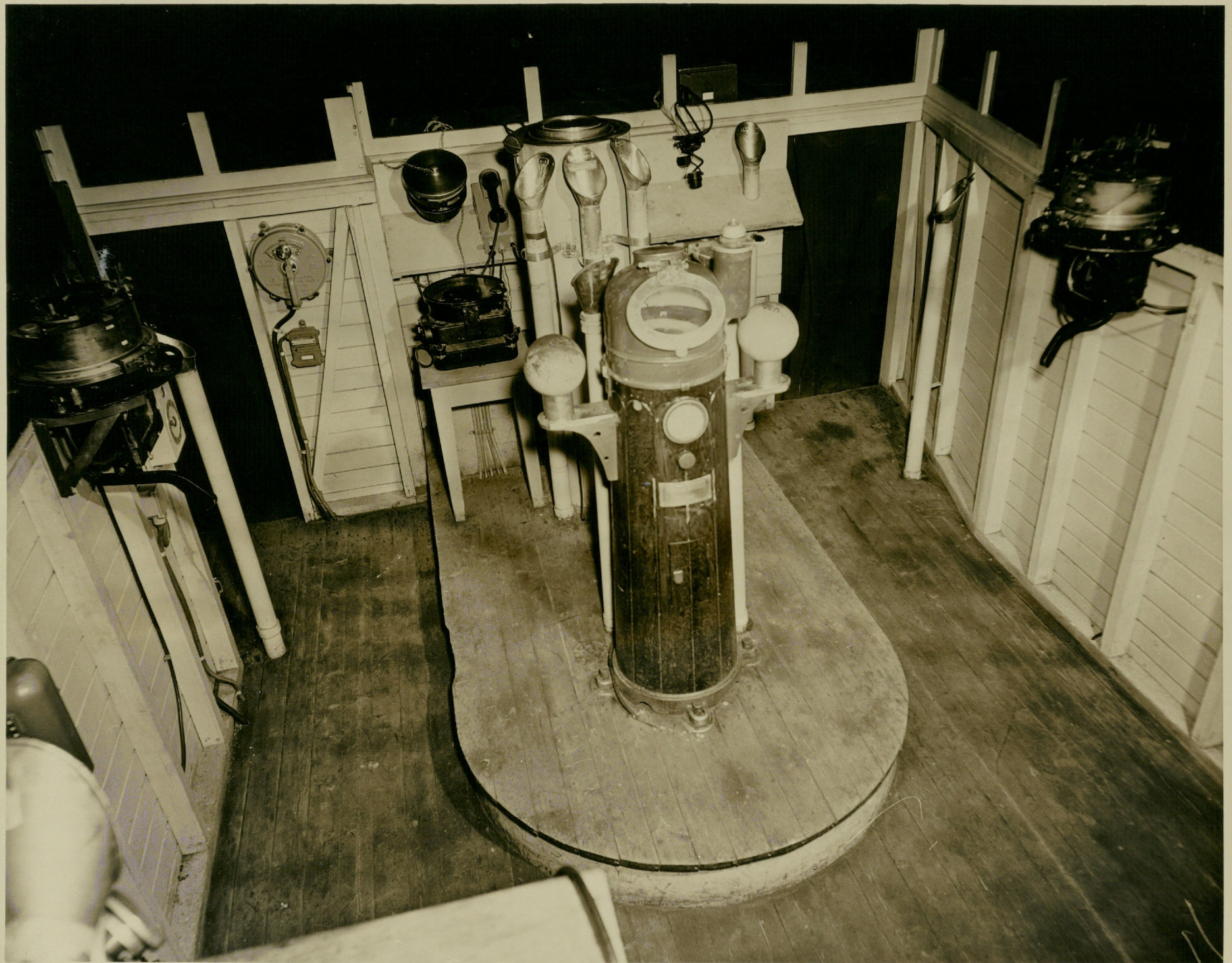
SHOWING: MODEL STOWAGE



ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE No. HS 0450-36

H.S. 0450 - 36

SHOWING MODELS ON HORIZON VIEWED FROM BATTLE ROOM
NEGATIVE NORMAL LIGHTING EFFECT



ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE NO. HS 0450-37

H.S. 0450 - 37

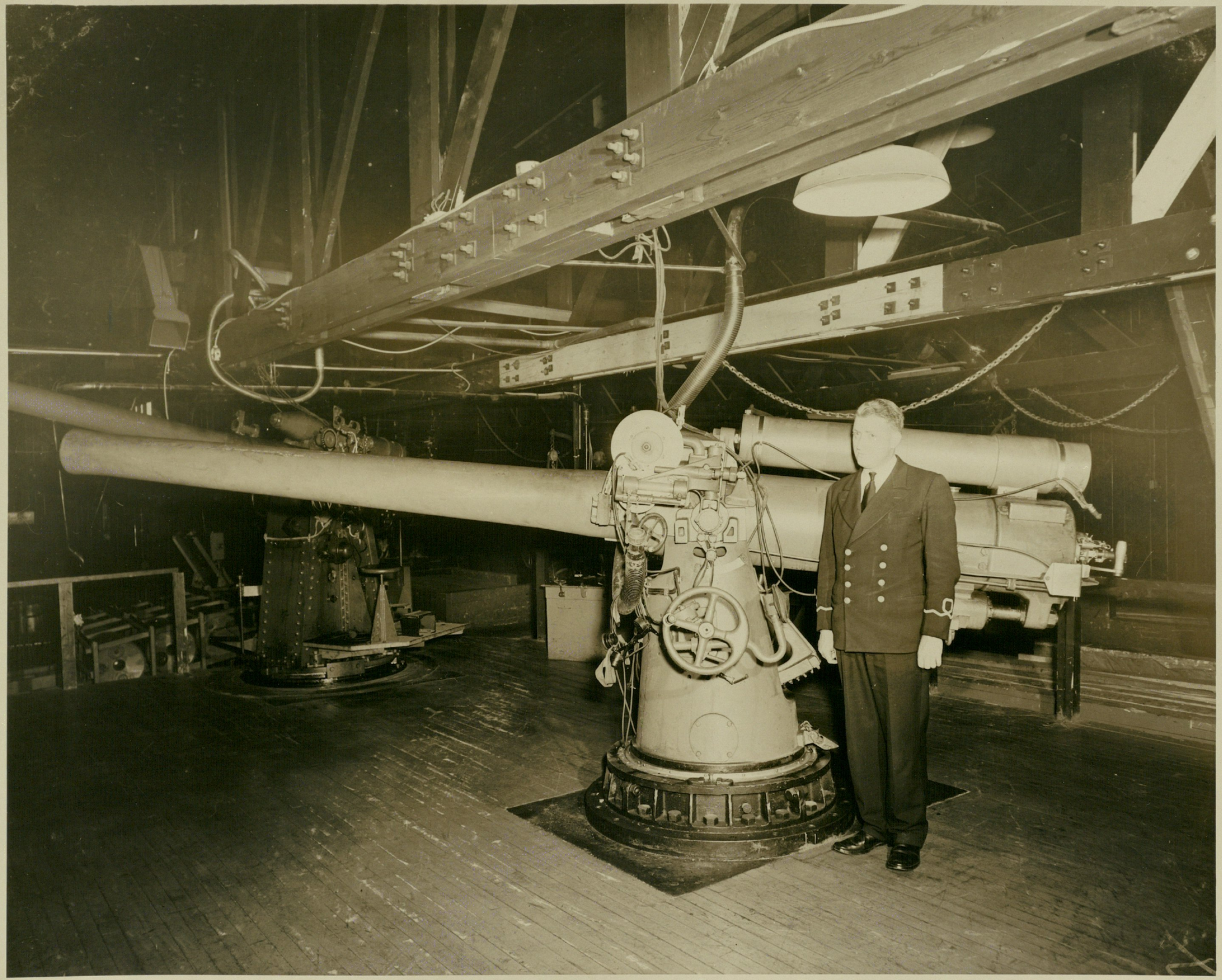
BRIDGE SHOWING:
TORPEDO FIRING SIGHTS
MAGNETIC AND GYRO COMPASSES
ENTRANCES TO PLOT AND A/S CABINETS
CAPTAIN'S BEARING INDICATOR
PPI REPEAT
PHONE TO A.I.C.
CAPTAIN'S SELECTOR SWITCH
DEPTH SETTING INDICATOR
READY INDICATOR
REQUISITE VOICE PIPES, MICROPHONES ETC.



ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE No. HS 0450-38

H.S. 0450 - 38

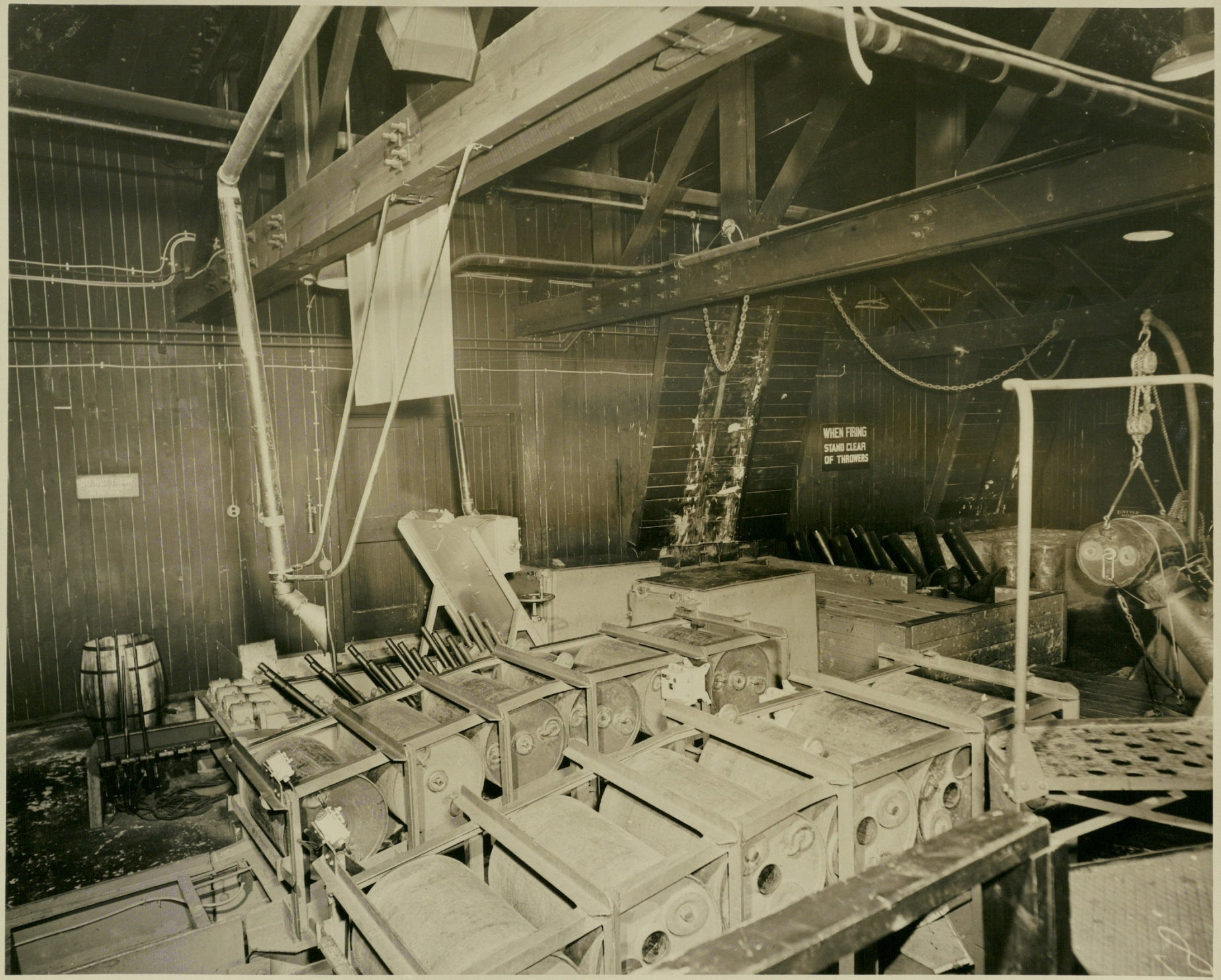
SHOWING:
COMMUNICATION VOICE PIPES AND MICROPHONES,
GYRO REPEAT, BATTLE ROOM CONTROL POSITION (O.I.C.)
AND HORIZON CONTROL POSITION.



ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE NO. HS 0450-39

H.S. 0450 - 39

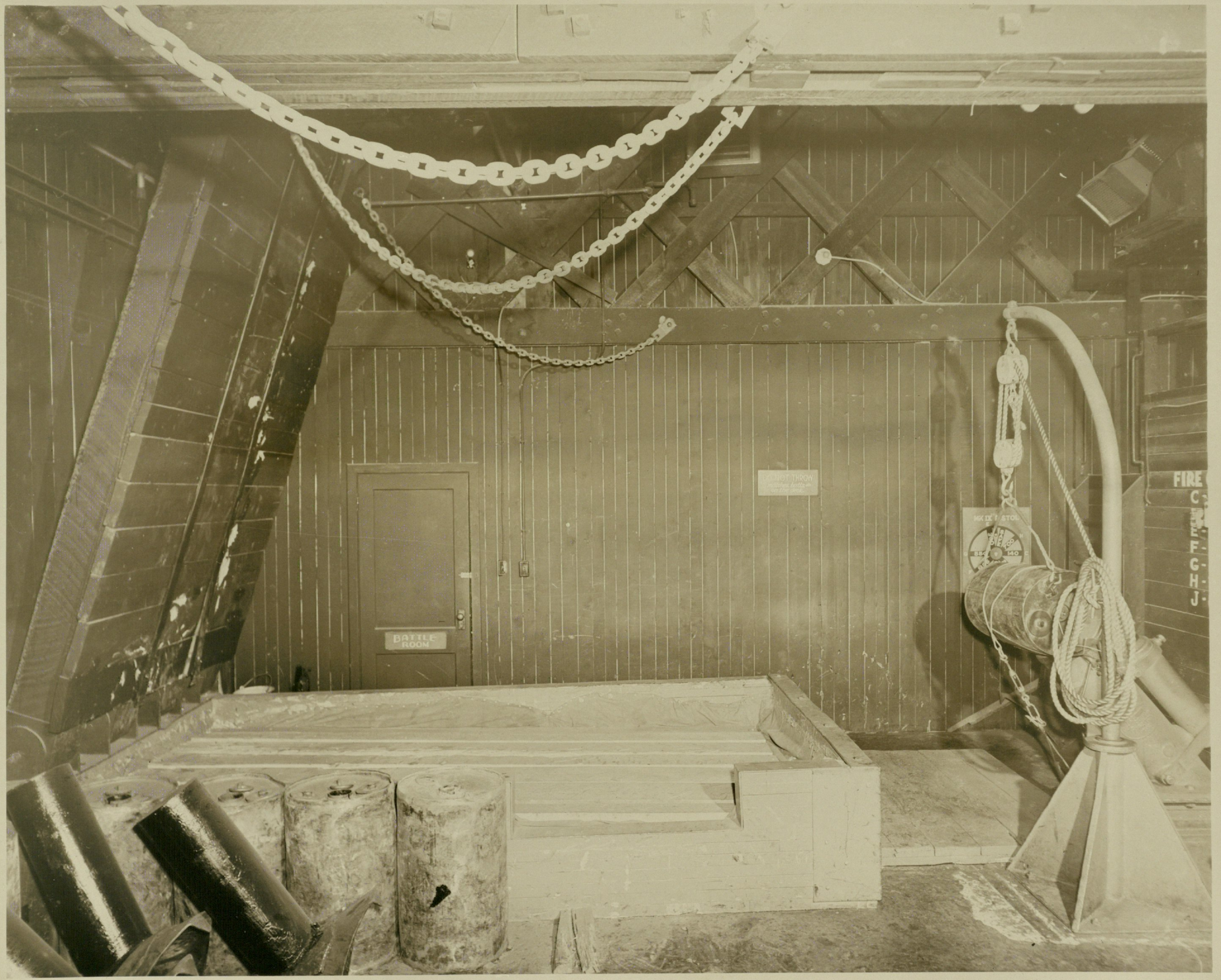
SHOWING FORECASTLE SECTION,
4 INCH VICKERS B.L and 4 INCH
MK XIX Q.F. GUNS AND GUNNERY OFFICER


WHEN FIRING
STAND CLEAR
OF THROWERS

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE No. HS 0450-40

H.S. 0450 - 40

SHOWING DEPTH CHARGE RAILS, HEDGE-HOG, AND HEDGE-HOG STOWAGE, STARBOARD FORWARD THROWER AND CARRIER STOWAGE


BATTLE ROOM
FIRE
C
E
F
G
H
J

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE NO. HS 0450-41

H.S. 0450 - 41

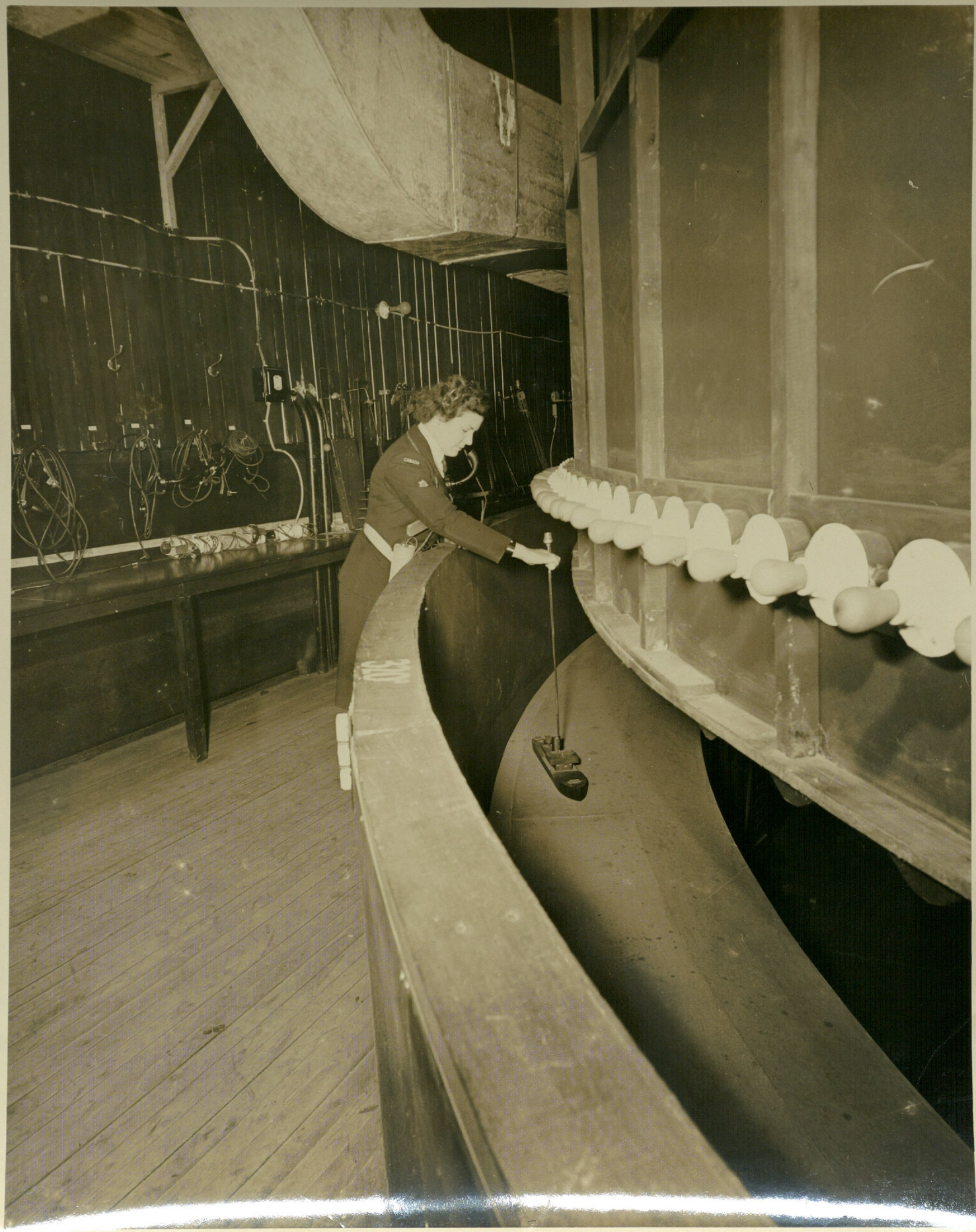
SHOWING:
STARBOARD AFTER THROWER LOADED, PIT AND SAFETY SHIELD


Over 90 DEPTH CHARGES
HAVE BEEN LAID ON THE
HALIFAX APPROACHES
UNEXPLODED OWING TO FAULTY TRAINING
SPEED IS ESSENTIAL
But CARE MUST BE EXERCISED
FIRE ON 1-3-5
C - 140
D - 225
E - 300
F G - 350
H - 700
J - 850
MK VIII PISTOL
F - 250
G H - 350
J - 500

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE NO. HS 0450-42

H.S. 0450 - 42

SHOWING HEDGEHOG, PORT RAILS AND HEDGEHOG READY USE STOWAGE



ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE No. HS 0450-34

H.S. 0450 - 34

SHOWING: ESCORT NUMBER PUTTING MODEL DOWN ON HORIZON



ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE NO. HS 0450-33

H.S. 0450 - 33

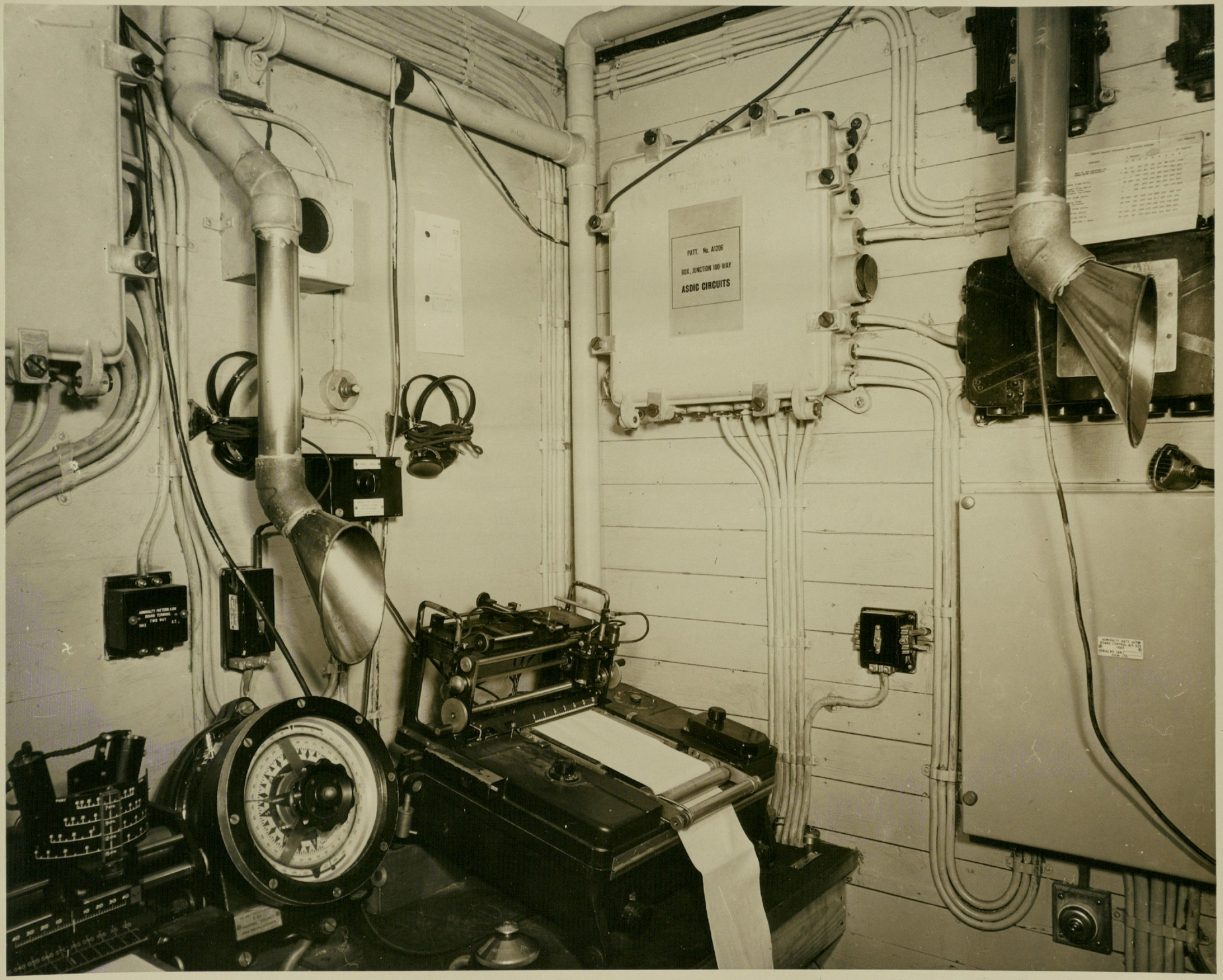
SHOWING: HORIZON NUMBERS, CONVOY, SUBMARINE AND STARSHELL DURING RUN.


OFFICE
THE FAR EAST

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE NO. HS0450-31

H.S. 0450 - 31

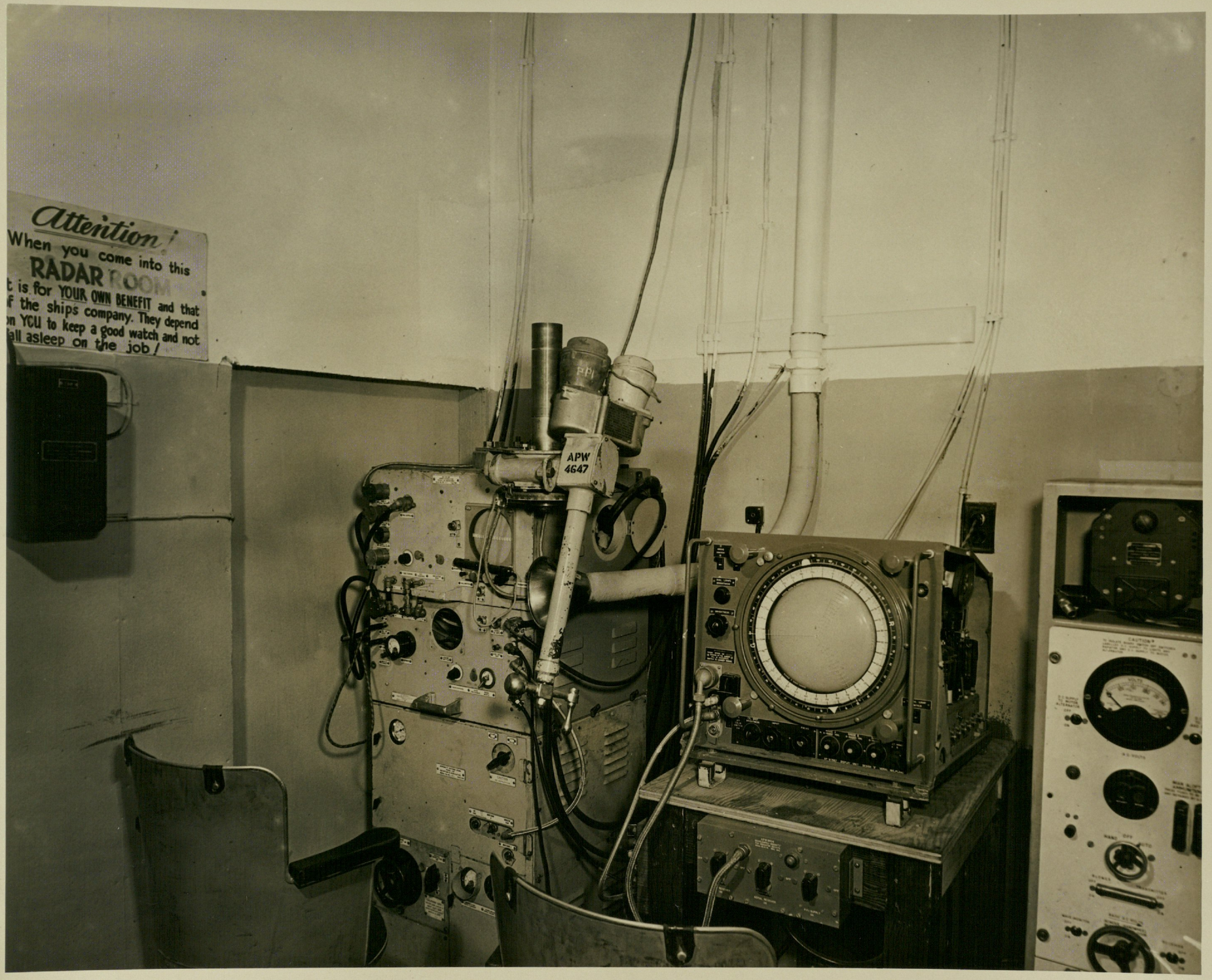
ACTION INFORMATION CENTRE SHOWING:
GENERAL OPERATIONS PLOT
LOCAL " " (ARL)
PPI


PATT. No. A1206
BOX, JUNCTION 100-WAY
ASDIC CIRCUITS

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE NO. HS0450-28

H.S. 0450 - 28

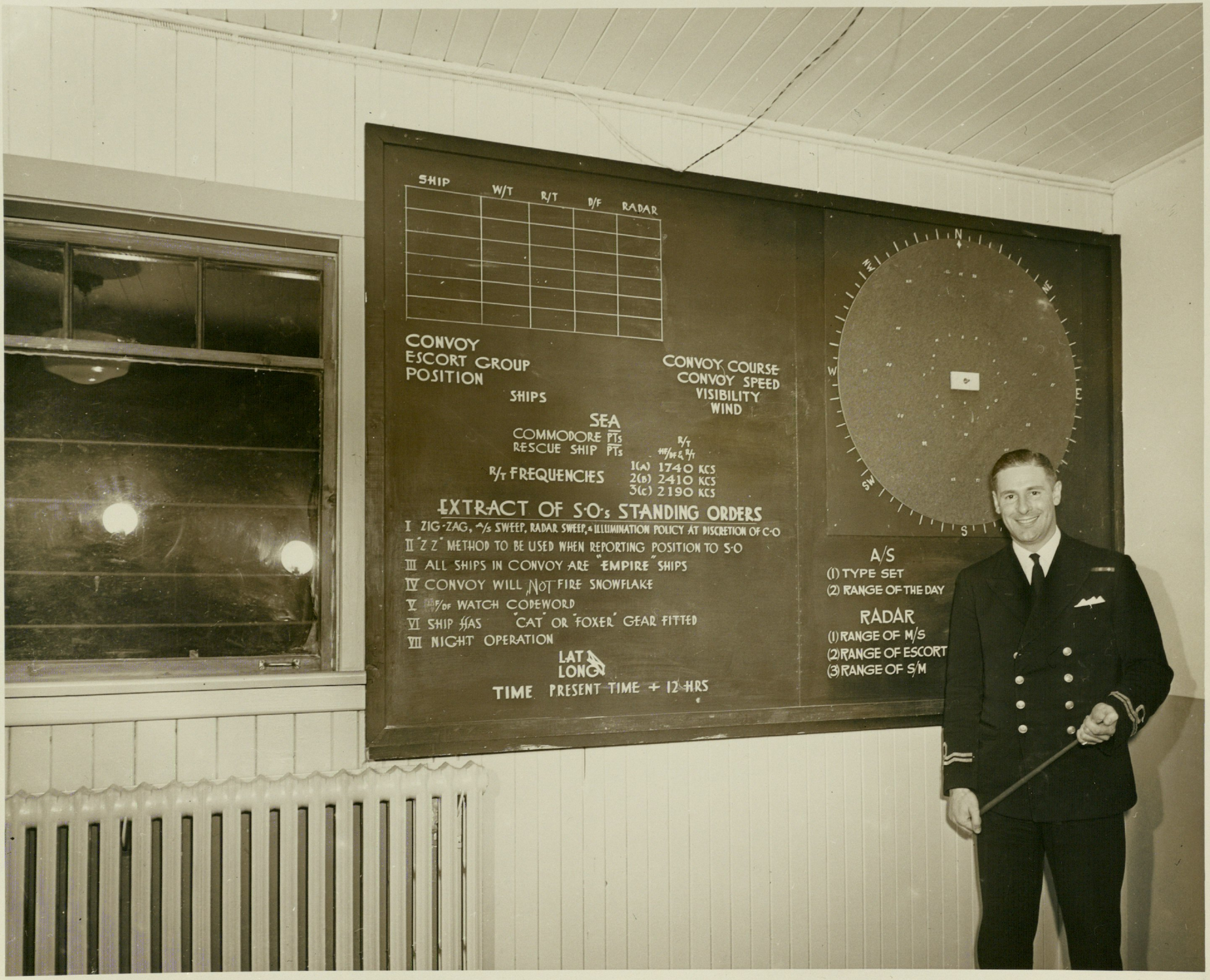
SHOWING:
RANGE RECORDER A/S 285
VOICE PIPE AND MICROPHONE


Attention!
When you come into this
RADAR ROOM
t is for YOUR OWN BENEFIT and that
f the ships company. They depend
n YOU to keep a good watch and not
all asleep on the job!
APW
4647

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE No. H50450-29

H.S. 0450 - 29

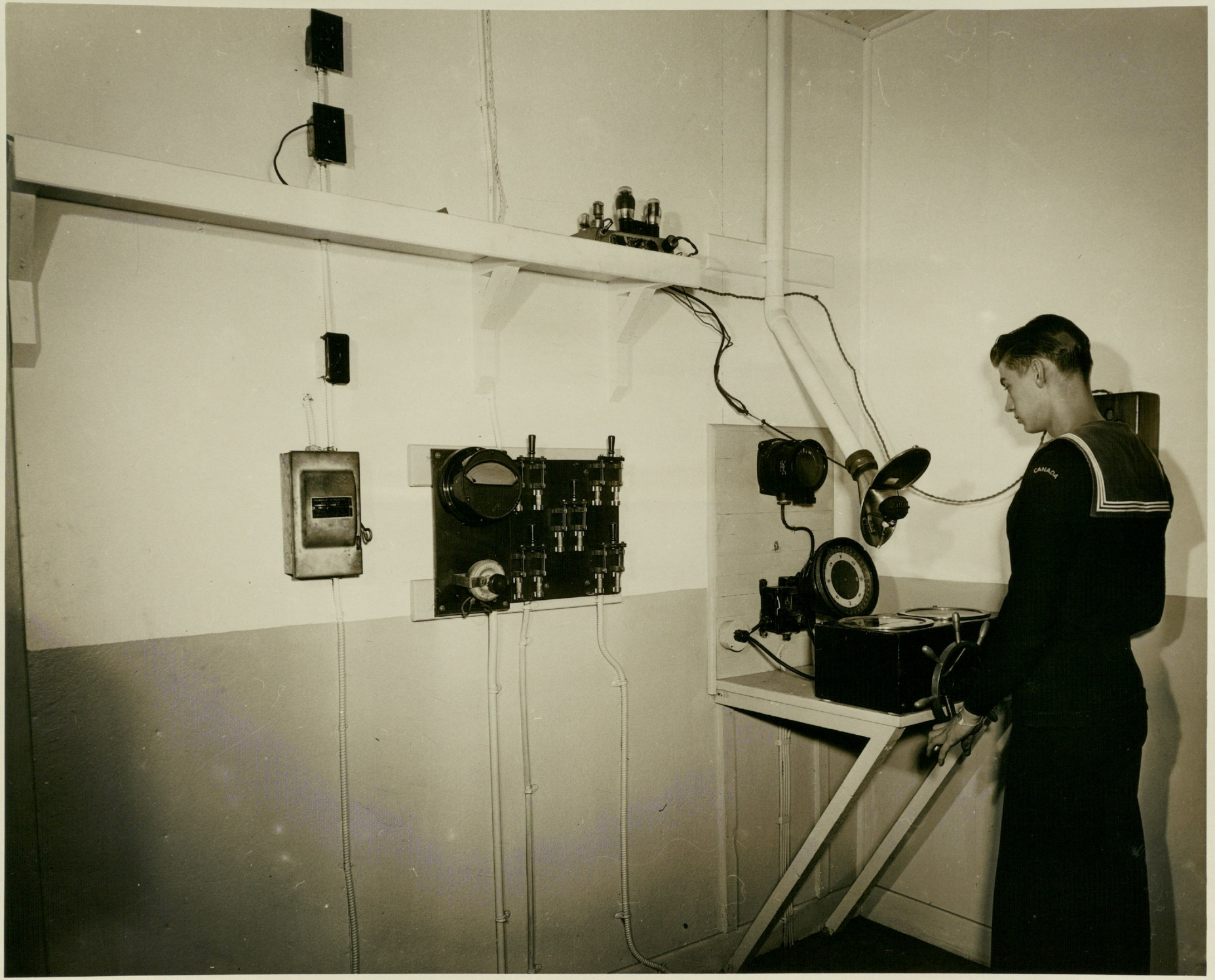
RADAR CABINET SHOWING:
RADAR SET AND TEACHER
PPI
SUPPLY AND DISTRIBUTING PANEL


SHIP
W/T
R/T
D/F
RADAR
CONVOY
ESCORT GROUP
POSITION
SHIPS
CONVOY COURSE
CONVOY SPEED
VISIBILITY
WIND
SEA
COMMODORE PTs
RESCUE SHIP PTs
R/T FREQUENCIES
R/T
H/F & R/T
1(A) 1740 KCS
2(B) 2410 KCS
3(C) 2190 KCS
EXTRACT OF S.O.'s STANDING ORDERS
I ZIG-ZAG, A/S SWEEP, RADAR SWEEP, & ILLUMINATION POLICY AT DISCRETION OF C.O
II "Z Z" METHOD TO BE USED WHEN REPORTING POSITION TO S.O
III ALL SHIPS IN CONVOY ARE "EMPIRE" SHIPS
IV CONVOY WILL NOT FIRE SNOWFLAKE
V H/F WATCH CODEWORD
VI SHIP HAS "CAT" OR "FOXER" GEAR FITTED
VII NIGHT OPERATION
LAT
LONG
TIME PRESENT TIME + 12 HRS
N
NE
E
SE
S
SW
W
NW
A/S
(1) TYPE SET
(2) RANGE OF THE DAY
RADAR
(1) RANGE OF M/S
(2) RANGE OF ESCORT
(3) RANGE OF S/M

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE NO. H50450-24

H.S. 0450 - 24

O.I.C. AT BRIEFING BOARD


CANADA

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE No. H50450-25

H.S. 0450 - 25

QUARTERMASTER'S POSITION CLOSED UP


CANADA
SOUTH

ROYAL CANADIAN NAVAL
PHOTOGRAPH
Crown Copyright Reserved
NEGATIVE NO. H504-50-17

H.S. 0450 - 17

A/S ATTACK TABLE SHOWING SDI AND MATE PLOTTING
UNDERWATER TRACK