

THE SOUTH AFRICAN NAVAL HYDROGRAPHIC SURVEYING SHIP « NATAL »

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Hydrographer S.A. Navy

S.A.S. *Natal* was originally built as a Loch-class frigate, by Swan Hunter and Wigham Richardson Ltd., being completed in March 1945. Having seen active service during the final stages of the war, she was employed on normal peacetime training cruises until 1956, when she was converted for surveying operations by the naval dockyard at Simonstown. *Natal* was commissioned as the South African Surveying Ship in October 1957.

To convert her for hydrographic surveying purposes, the upper bridge was extended forward to give ample room for a bridge plotting table between an echo sounder, radar, and asdic compartment at the afterend, and a wheelhouse and navigating charthouse in the forepart. Both these compartments are set down so that the observers on the bridge deck have an uninterrupted view all round except for the mast and funnel. Gyro-compass wing repeaters and steering strip in the wheelhouse are fitted and also a standard magnetic compass with repeater in the wheelhouse. Also located in the wheelhouse is a remote radar screen for navigational purposes.

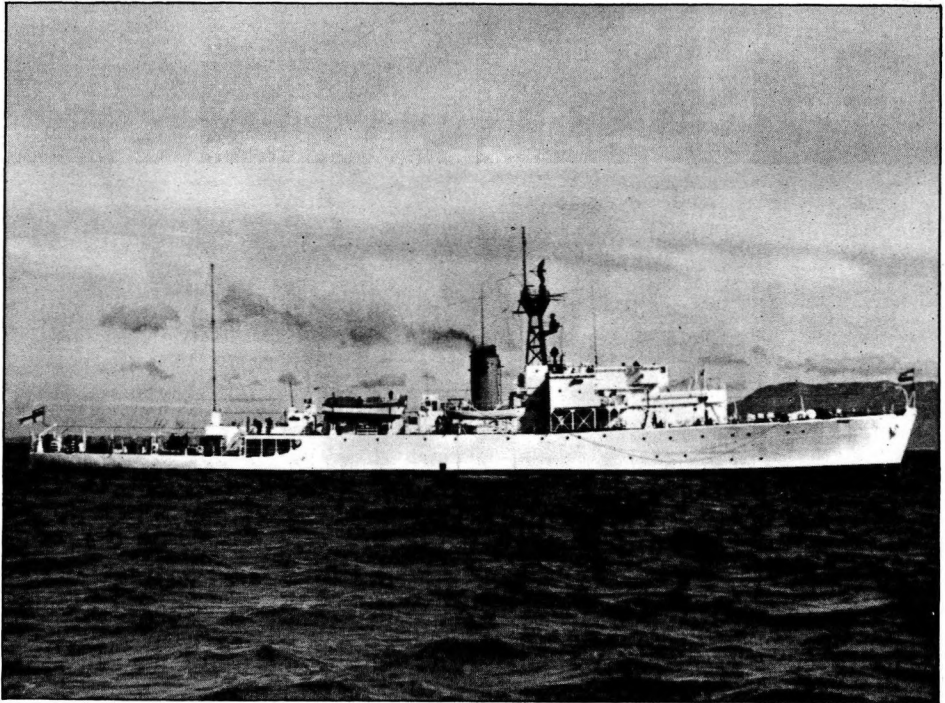
Immediately below the bridge is the large well-lighted surveying chartroom, together with a photographic darkroom and laboratory for oceanographic research work. The Two-Range Decca receivers and plotters are installed in the chartroom and decometers are sited in convenient positions in the chartroom and on the bridge. Radarscopes are also fitted in the chartroom.

The Two-Range Decca transmitter and aerial mast are located on the afterend of the boat deck. The Red and Green slave stations are permanently installed in specially constructed vehicles, and the diesel generating plants are fitted in trailers towed by the aforesaid vehicles. Each slave station is self-contained, bunks being fitted for three and an adequate supply of fuel and water being stored in the trailer. The mast is stored in sections on the roof of the main vehicle. R/T is fitted for ship-shore communication.

The ship is fitted with two Kelvin Hughes B-26 echo sounders using teledeltos dry paper, and having a range scale of 720 fathoms. These are used for normal survey work. For deep-sea soundings, the Kelvin Hughes J-26 with a range scale of 4 500 fathoms is fitted. The positions of the transmitting and receiving oscillators are shown on the accompanying plans of the vessel.

A deep-bathymograph winch is sited on the afterdeck and a hydrographic winch and associated derrick for use in oceanographic research work are fitted on the starboard side abreast the bridge so that the commanding officer has an unobstructed view of the operation in progress.

To handle the survey floating beacons and current logships, two davits are fitted on the superstructure forward of the bridge.



S.A.S. *Natal*.

A sweeping winch and associated roller fair-leads are sited aft. Being a single drum, winch sweeping can be carried out on one side only.

For quick handling of the two 29-foot survey motorboats, Wellin gravity davits have been fitted. The survey boats are fitted with Kelvin Hughes 26-A echo sounders. In addition to the survey boats, there are a 25-foot motor cutter, a service whaler and trawler dinghy.

The ship's complement comprises 9 officers and 120 other ranks. The living accommodation has been modernized, and bunks have been fitted for all members of the ship's company. Surveying storerooms and suitable workshops have been so located that the vessel is a self-contained surveying unit.

The vessel's cruising range at 11 knots is 5 800 miles, the fuel capacity being 724 tons and her fresh-water tanks hold 120 tons.

The main characteristics of the ship are as follows :

Overall length : 307 feet.

Length between perpendiculars : 286 feet.

Maximum beam : 38 $\frac{1}{2}$ feet.

Maximum draught : 15 feet.

Displacement fully loaded : 1 900 tons.

Speed maximum : 19 knots.

Surveying speed : 11 knots.

Machinery : triple expansion, 2 shafts. I.H.P. 5 500.

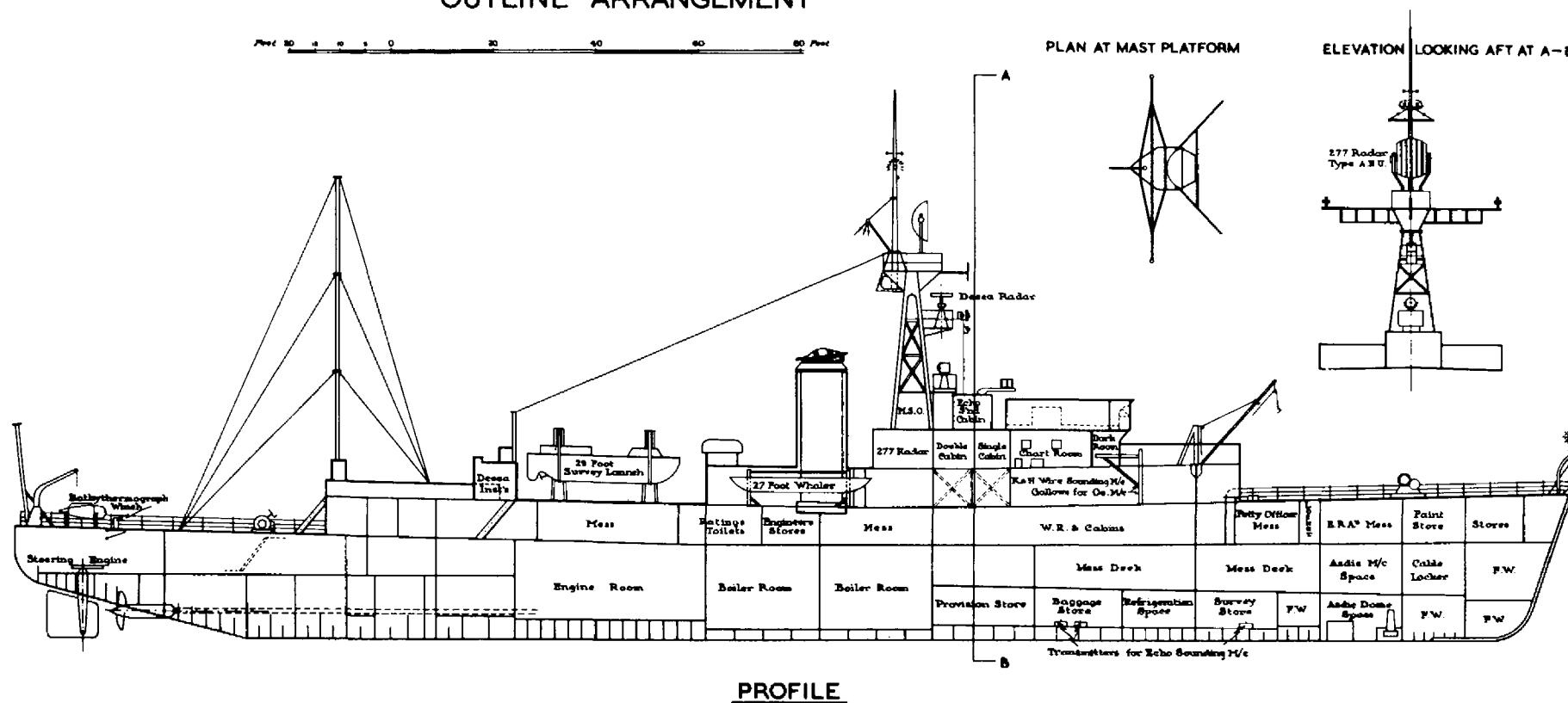
Boilers : 2 Admiralty, 3-drum type.

S.A.S. *Natal* is employed on hydrographic survey work on the South African Coast, and at times is also engaged on oceanographic research operations. During such operations, specialized research personnel from universities or other research organizations are embarked to conduct the research program.

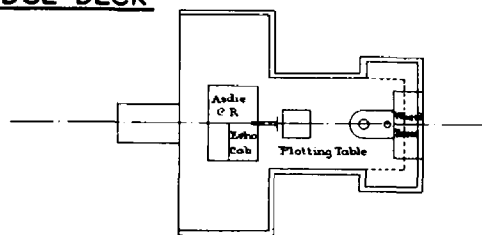
S. A. S. NATAL

OUTLINE ARRANGEMENT

Feet 20 40 60 80



BRIDGE DECK



SUPERSTRUCTURE DECK

