HMS BELFAST

WORDS TOM GARNER WITH THANKS TO MICHAEL SMITH & RACHAEL CAMPBELL

This powerful reminder of Britain's naval might in the early 20th century helped sink the Scharnhorst and led the Allied naval bombardment on D-Day

Located in the heart of central London HMS Belfast is a unique naval survivor from World War II and the Korean War

Image © Imperial War Museum

HMS Belfast is one of the finest surviving examples of a World War II battleship in existence and has an impressive history. It was launched on Saint Patrick's Day in 1938 by the wife of then-Prime Minister Neville Chamberlain, and was commissioned into the Royal Navy on 5 August 1939, almost exactly in time for the war. Belfast was the largest cruiser in the fleet, and was immediately called into service patrolling northern waters. However, in November 1939, Belfast struck a mine in the Firth of Forth and the extensive damage took two and a half years to repair.

On rejoining the fleet in 1942, Belfast was newly equipped with advanced radar systems and played a crucial role in protecting Arctic convoys, most notably at the Battle of North Cape where it participated in the sinking of the German battleship Scharnhorst. In 1944, Belfast would have been the ship that transported Winston Churchill to the D-Day landings but King George VI prevented him from going. Belfast was among the first ships to open fire on 6 June and spent 33 days at Normandy, expending more than 5,000 shells.

After the end of the war, Belfast played an active role in Korea from 1950-52, working with other naval forces to support United Nations troops and firing more than 8,000 shells during the entire conflict. The ship was later modernised for nuclear warfare before being decommissioned in 1963. Since 1971, Belfast has been a museum ship and is permanently moored in London on the River Thames near Tower Bridge.

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HMS BELFAST

MANUFACTURER: HARLAND AND WOLFF SHIPYARD
COMMISSIONED: 5 AUGUST 1939
LENGTH: 613.6 FEET (187.03 METRES)
BEAM: 69 FEET (21.03 METRES)
DRAUGHT: 19.9 FEET (6.07 METRES)
DISPLACEMENT: 11,175 TONS
SPEED: 32 KNOTS (37 MPH/ 59.5 KM/H)
POWERPLANT: 4 X OIL-FIRED, THREE-DRUM STEAM BOILERS POWERING FOUR PARSONS SINGLE REDUCTION GEARED STEAM TURBINES
ARMAMENT: 12 X 152MM MK XXIII GUNS, 16 X 40 MM TWO-POUNDER ANTI-AIRCRAFT CANNONS, 8 X 13MM ANTI-AIRCRAFT CANNONS
AIR ARM: 2 X SUPERMARINE WALRUS RECON BIPLANES
CREW: 850

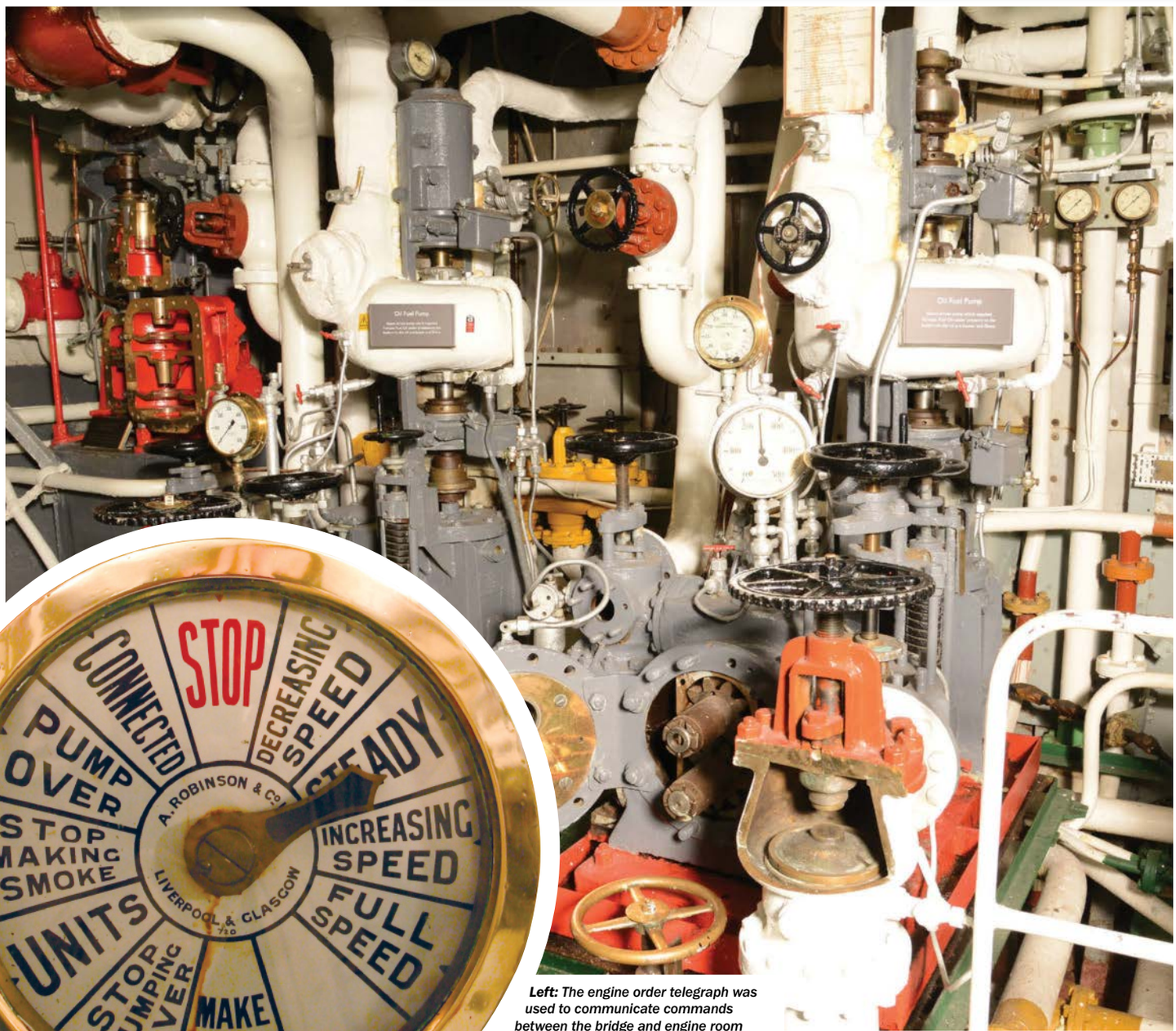
HMS Belfast bombarding German positions in Normandy, June 1944. The ship was one of the first Allied vessels to fire on D-Day at 5.27am

BOILER ROOM AND ENGINES

Belfast's stokers likened stepping into the boiler room to stepping into hell: the temperature ranged between 30-40 degrees Celsius. The complex machinery generated superheated steam at about 400 degrees Celsius to help power the engines. There are four boilers and fuel tanks carrying 2,200 tonnes of oil, and Belfast's four turbine engines rely on unit-propulsion. Each engine has four turbines for pressure, cruising and reversing, and were operated by university-educated artificers. When all four engines were working together, the ship would get through two to three tonnes of oil per hour but this would increase to 26 to 29 tonnes per hour at the full speed of 32 knots.

***Right:** During the 1950s modernisation refit, a panel was installed so that the boilers could be manned from the engine room, thus giving the artificers more control*

***Below:** The working temperatures in the vast labyrinths of the boiler rooms could be extreme, between 30-40 degrees Celsius. Stokers were constantly supplied with lemonade and salt tablets to prevent dehydration*



***Left:** The engine order telegraph was used to communicate commands between the bridge and engine room*

The forward triple turrets of HMS Belfast. Combined with the men in the shell and cordite rooms below, it could take up to 50 men to control one turret

"LOADING AND FIRING ONE GUN CAN TAKE LESS THAN TEN SECONDS AND THE RATE OF FIREPOWER IS EIGHT ROUNDS PER MINUTE"

Each shell weighed 50 kilograms, which the admiralty said was the largest that a man could lift by hand

Nine men worked in the shell room, and in heavy action could get 30 rounds of ammunition up to the guns per minute

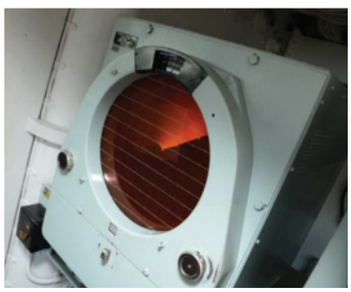
ARMAMENT

Belfast has multiple triple gun turrets with each one containing a crew of 27. There would be seven men around the breaches, a turret captain, observer, sight-setter, gun trainer, ordnance suppliers and mechanics. The middle barrel in each turret would be set slightly behind the other barrels so that shells wouldn't interfere with each other in flight. Loading and firing one gun could take less than ten seconds and the rate of firepower is eight rounds per-minute. The guns were supplied from shell rooms directly below the turrets. Each room held 600 rounds of ammunition, equating to 2,400 rounds for the whole ship and 200 rounds per gun.

***Left:** HMS Belfast fires a salvo against enemy troop concentrations on the west coast of Korea in March 1951. The Korean War was the last time Belfast fired its guns on active service*

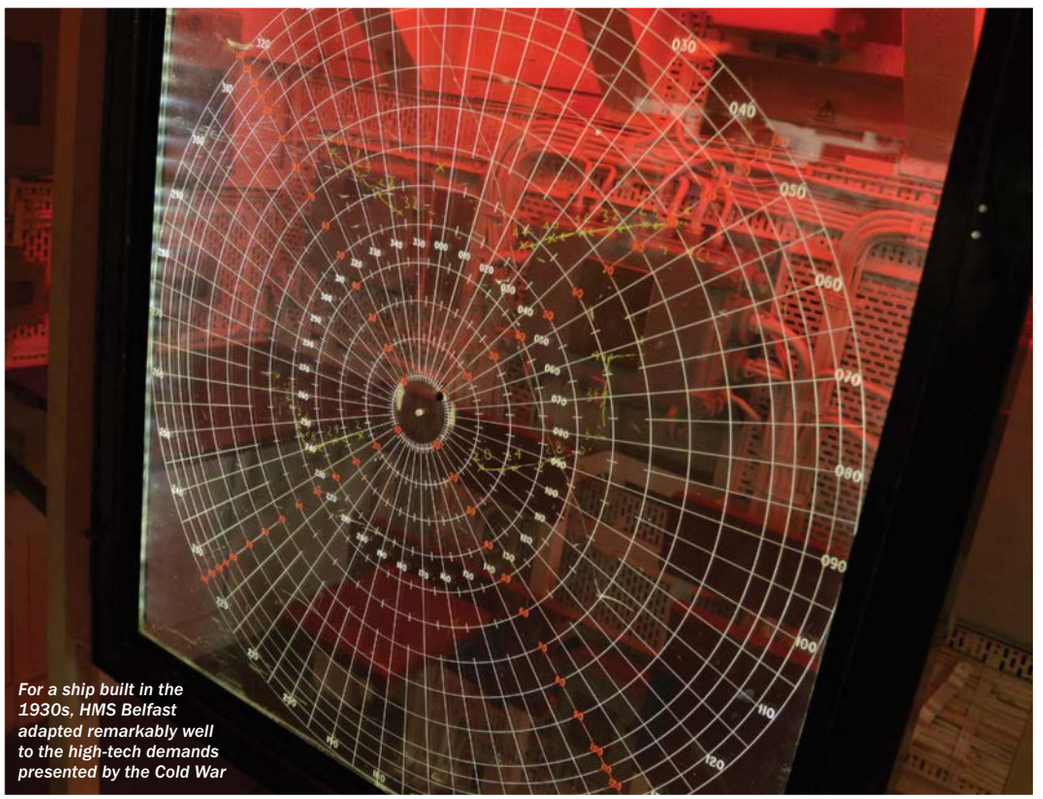
The enclosed bridge was designed to protect the captain in an age of nuclear warfare. It also contains the ship's strikingly mounted main compass (centre)

***Below:** By the 1950s, radar was replacing eyes as the main naval sighting device, which enabled the bridge to be enclosed with a reduced viewing platform*



BRIDGE

Before the refit of 1956-59, Belfast's bridge was open air, but the captain was moved inside with the advent of nuclear warfare. This is a bridge designed for the Cold War and is positioned at the highest possible level. It also doubles as the main compass platform. Previously, the captain needed a 360-degree view of the surrounding area, but by the 1950s, radar was doing most of the work, enabling the windows to only face forward, port and starboard. There is also no helm as it is stationed in the bottom of the hull. This was so the ship could keep steering if it came under attack.

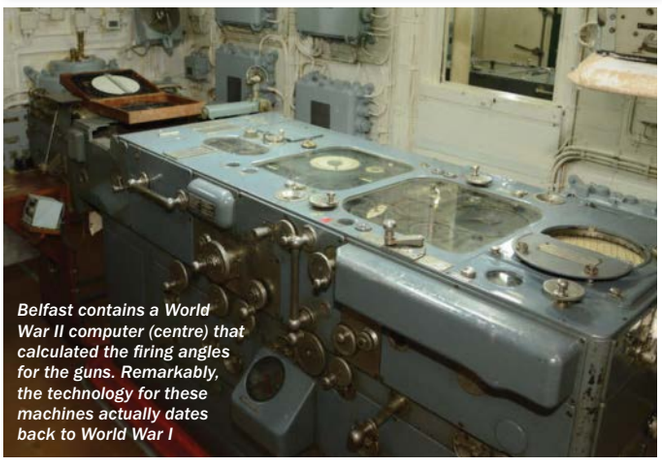


For a ship built in the 1930s, HMS Belfast adapted remarkably well to the high-tech demands presented by the Cold War

INFORMATION AND TRANSMITTING STATIONS

After 1959, Belfast was a recognisably modern warship. The captain and his main officers would be located in the action information office to act on targets picked up by radar and the direction control tower. The captain could make an informed decision in one spot based on data from readers, chart tables and repeaters. In the transmitting station, there is a mechanical computer from World War II that predates the refit. Exclusively operated by Marines, the computer made calculations about air pressure, wind speed, drift and targets in order to aim and elevate Belfast's guns at precise angles.

During the Cold War, the captain and his senior officers worked in this command centre where compiled information enabled them to make quick decisions



Belfast contains a World War II computer (centre) that calculated the firing angles for the guns. Remarkably, the technology for these machines actually dates back to World War I

Belfast was equipped with two Supermarine Walrus amphibious biplanes that were used to attack submarines. They were launched by catapult and had hangars to store them

WITH THANKS TO THE IMPERIAL WAR MUSEUM WWW.IWM.ORG.UK/VISITS/HMS-BELFAST