HMS MEDUSA

In June 1944, HMS Medusa served as the lead navigation ship on D-Day, guiding allied crafts through enemy minefields

During the course of WWII, over 480 Harbour Defence Motor Launches (HDMLs) were built to defend the United Kingdom's coasts against the German submarine threat. In the early years of the war there was a real fear U-boats could encircle the country and cut off its vital ports and harbours, so these small vessels were intended to build a screen of defence, identifying and sinking any enemy boats. When this threat didn't materialise, the HDMLs were put to work in a whole range of other tasks, such as defending convoys, inserting agents into enemy territory and supporting attacks on islands.

The vessels truly came into their own during Operation Neptune, when they guided allied craft through the deadly enemy minefields of the English Channel on D-Day. In the lead up to the assault, minesweepers carved two channels towards Omaha beach, where American troops would soon be facing some of the toughest resistance of the landings. Vessels ML 1383 and 1387 were positioned as beacons to these channels and would remain for over 30 hours, guiding the allied craft packed with men and equipment on their way to the beaches of Normandy.

Designed to be small, silent, agile and incredibly flexible, HDMLs weren't intended for longevity. Of the original 480 or so craft, only one remains operational today: ML 1387, now called the HMS Medusa. Built in Poole, UK, in 1943, the Medusa took part in Exercise Fabius in May 1944, which was a practise operation for D-Day, before providing crucial support of the landings themselves.

The HMS Medusa, commission in 1943 and built in Poole, UK, served allied ships during the war, guiding them through enemy waters

***Left:** The crew of HMS Medusa, HDML 1397, including Commanding Officer TSLt Arthur Maurice Liddiard RNVR*

***Below:** At its current moorings in Gosport, UK*

ML 1387 'HMS MEDUSA'

COMMISSIONED: 29 DECEMBER 1943
CREW: 12
LENGTH: 72 FEET
ORIGIN: DORSET, UK
TOP SPEED: 12 KNOTS
ENGINE: TWIN DIESEL GARDNER 8L3S
WEIGHT: 54 TONS (WATER DISPLACEMENT)

"HDMLS WERE PUT TO WORK DEFENDING CONVOYS, INSERTING AGENTS INTO ENEMY TERRITORY AND SUPPORTING ATTACKS"

The Chart Room aboard the HMS Medusa, this was where Sub Lt Maurice Liddiard would have outlined the ships involvement in D-Day

OERLIKON 20MM AUTOMATIC CANNON

Each of the two deck-mounted cannons were manned by one gunner strapped in by a harness. This helped the gunner to easily manoeuvre the weapon almost 360 degrees, as well as upward to a nearly fully vertical angle. A safety feature was built into the mechanism of the mount to prevent the weapon rotating a full 360 degrees, as gunners were prone to accidentally damaging their own vessel as they turned and followed their target. The guns carried 60-round magazines, and were capable of delivering 480 rounds per minute. This meant even a brief squeeze of the trigger for just over seconds could expel an entire magazine into the enemy. Bursts of fire like this were ideal against diving Stuka bombers and other aircraft.

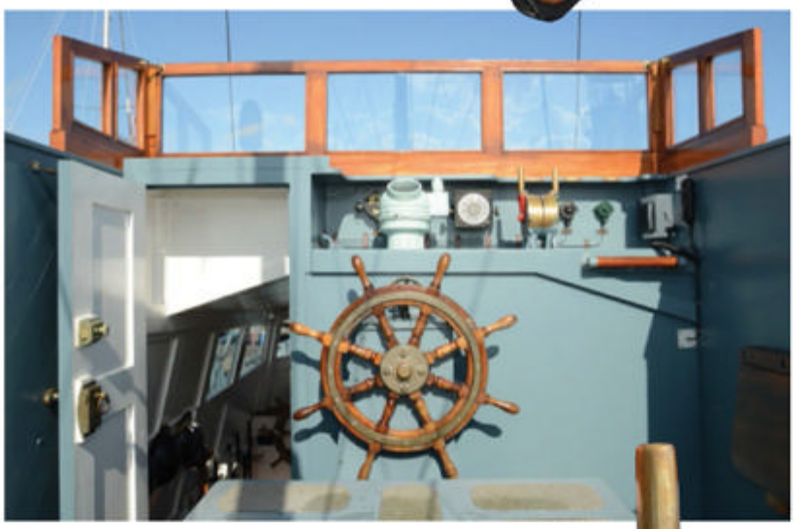
The manoeuvrability of the 20mm gun made it perfect for levelling fire at both aircraft and targets on the surface

Two nearby lockers each contained four extra magazines for reloading the gun

Medusa currently has only one 20mm gun, put together from donations and chance findings at scrap yards

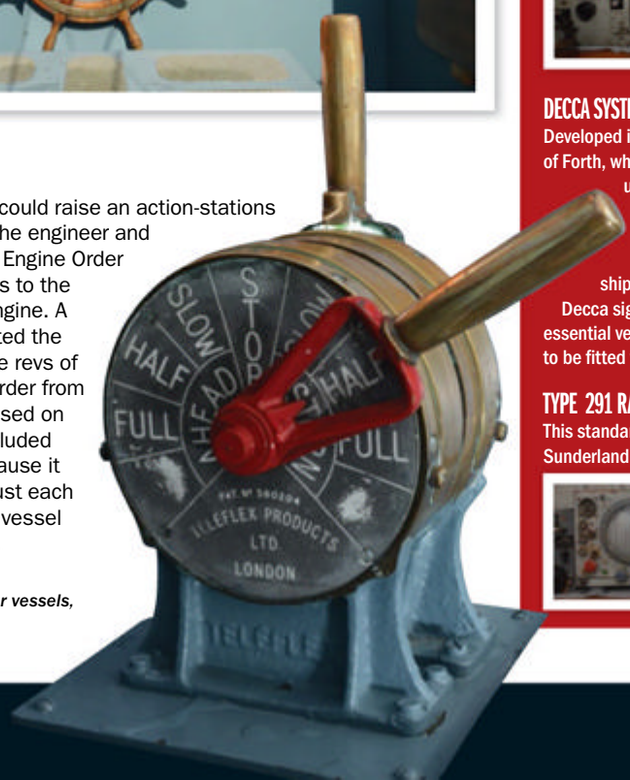
TWIN VICKERS 'K' MACHINE GUNS

Two twin Vickers machine guns could be mounted on the vessel, one each on the port and starboard sides. These gas-operated guns were each capable of between 900 and 1,200 rounds per minute and were originally developed for the RAF. They were ideal for dealing with enemy aircraft, as well as providing supporting fire.



THE BRIDGE

From here the commanding officer could raise an action-stations alarm, as well as communicate to the engineer and the radio operator below deck. The Engine Order Telegraph (EOT) would deliver orders to the engineer, with one lever for each engine. A bell ringing in the engine room alerted the engineer, who would then adjust the revs of each engine to correspond to the order from the EOT at his end. Just like EOTs used on much larger vessels, the orders included Full Ahead, Stop and Slow, but because it took a small amount of time to adjust each engine, slowing or accelerating the vessel would not have happened instantly.



The EOT system was typical of much larger vessels, but was included on HDMLs as standard

ELECTRONIC WARFARE AT D-DAY

MEDUSA WAS EQUIPPED WITH SOME OF THE MOST CUTTING-EDGE TECHNOLOGY, ALL MANNED BELOW DECK BY A LONE OPERATOR

GEE NAVIGATION SYSTEM

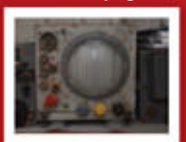
Designed for the RAF to improve the accuracy of its bombers, this system was accurate to within a quarter of a mile. Three stations on the shore would send out simultaneous pulses, each of which would be received by the Gee, then the timings between each pulse would determine the location of the vessel. Because it was feared that the Germans would be able to block the signal of the Gee, new transmitters and receiver modules were developed just for D-Day

DECCA SYSTEM (QM)

Developed in Canada and tested at the Firth of Forth, where it was less-likely to be picked up by the Germans, this system was kept highly secret prior to D-Day to prevent it being jammed. The system was integral to the planning of Operation Neptune, even to the point that ship positions, movements and routes were planned with the Decca signal in mind. Only 20 of these units were used on the most-essential vessels during D-Day and Medusa was only one of two HDMLs to be fitted with one.

TYPE 291 RADAR

This standard-issue radar was adapted from a system used on Sunderland flying boats. Much less-sophisticated than modern-day PPI (Plan Position Indicator) displays, the Type 291 could simply how far away a target was. It was capable of identifying a destroyer at around six miles away. An IFF system (Indicate Friend Foe) would also indicate where allied or unidentified objects in the area.



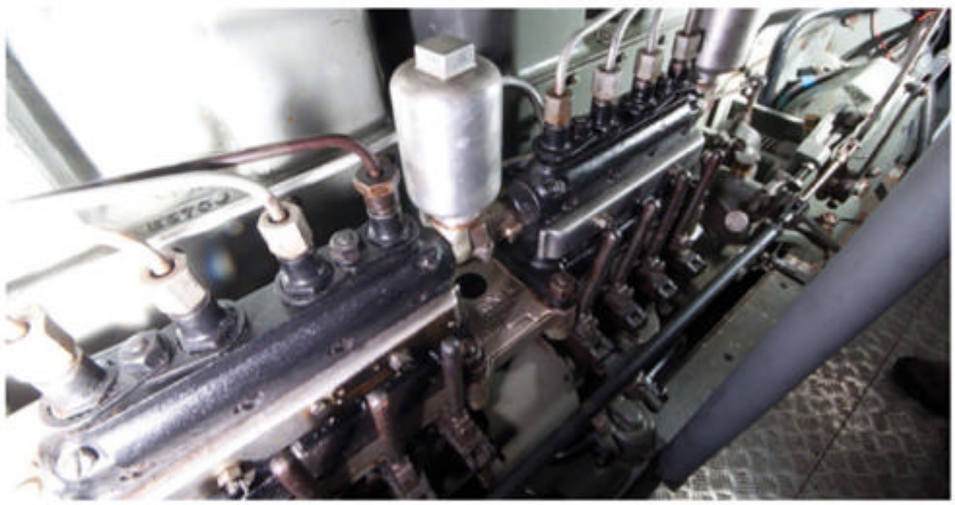
THE ENGINE ROOM

HDMLs were fitted with two diesel engines and one generator to charge the electricity. There would be an engineer manning the engine room at all times, on alternating shifts of 12 hours. Cruising at around 600 revs per minute, the vessel would consume an average of seven gallons of fuel per hour between all three engines. With room to store 1,550 gallons of fuel on board, the vessel could stay at sea for over 2,000 nautical miles. It was the job of the engineer to ensure that fuel was consumed equally between tanks on both the port and starboard sides of the boat, so that the craft remained level and balanced, rather than lopsided.

Below: *In the event a depth charge was dropped to attack a submarine, the engineer could boost each engine's revs to 900 per minute so the vessel could escape the blast!*

Above: *The two engines could produce less than 300 horsepower between them – they were built for endurance, not power*

Below: *Engines were regularly swapped out of older and into newer craft by the Admiralty and weren't originally designed to last more than five years*



SUBMARINE DETECTION

The original purpose of HDMLs was to seek out and destroy submarines. A large metal dome on the underside of the vessel would send out sonar pings, which would then return back any objects within range. The size and direction of a submarine would be displayed on the automatic graph, and the crew would easily be able to manoeuvre the vessel to pursue it.

This box (left) contained a detonator that was to be used by the commanding officer to destroy all the classified equipment on the vessel, if it were at risk of being captured by the enemy

THE WARDROOM

The skipper and first officer occupied this room near the aft of the vessel. Though it was nearly the exact size of the galley area, which housed six of the crew, the two officers occupied this space in relative comfort, complete with an alcohol cabinet, furnishings and the vessel's safe. This safe contained the crew's pay, the captain's orders, side arms, a flare gun and any other sensitive documents. A bell system connected to the galley was also in place, for the officers to call for their meals or other attention from the crew. It was here that refugees hide when they were aboard the vessel.

THE MEDUSA TRUST

WWW.HMSMEDUSA.ORG.UK

Set up in 2003, the Medusa Trust worked tirelessly to raise funds for the refit of the vessel, which was in need of drastic restoration work. "In order to do the sort of fundraising we needed to do, she needed to be part of a charitable trust," says Medusa's current skipper and Chairman of the Trust Alan Watson. "The whole purpose of the Trust was to restore, operate and maintain this vessel, but it has broadened slightly. As well as this vessel we're also guardians of the history of all the HDMLs… We are the last crew of the last HDML now, which is a bit special." Along with coxswain and historian of the Medusa, Brian Holmes, the Trust continues to piece together the history of these vessels and the stories of their crew for future generations.