

VICTORIA CLASS SUBMARINE

Type: Long-range diesel-electric patrol submarine

Speed: 12 knots (surfaced), 20 knots (submerged)

Patrol Endurance: approximately 8 weeks

Complement: 48 crew and 5 trainees

Diving Depth: 200 metres

Displacement: 2,185 tons (surfaced), 2,400 tons (submerged)

Length: 70.26 metres

Beam: 7.6 metres

Draught: 5.5 metres

Engine: Two Paxman Valenta 16-cylinder diesels driving two 2,500-kw generators. The boat is propelled by a single 5,400 shp electric motor turning a single propeller

Masts and Periscopes

The binocular Search Periscope is used to search for ships and aircraft when the boat is at periscope depth. It is equipped with a SEASearch II system that warns of nearby hostile radars. The relatively undetectable monocular Attack Periscope with infrared capability is used while conducting attacks or gathering intelligence. Radar is an above-water sensor used only when the boat is at periscope depth or surfaced. Because of its susceptibility to detection, submarines seldom use radar except to assist navigation while entering or leaving harbour. Electronic Sensors Measures detect the presence of active radar before that radar can detect the submarine. The ESM antenna is located on top of the Search Periscope.

1 Engine Room

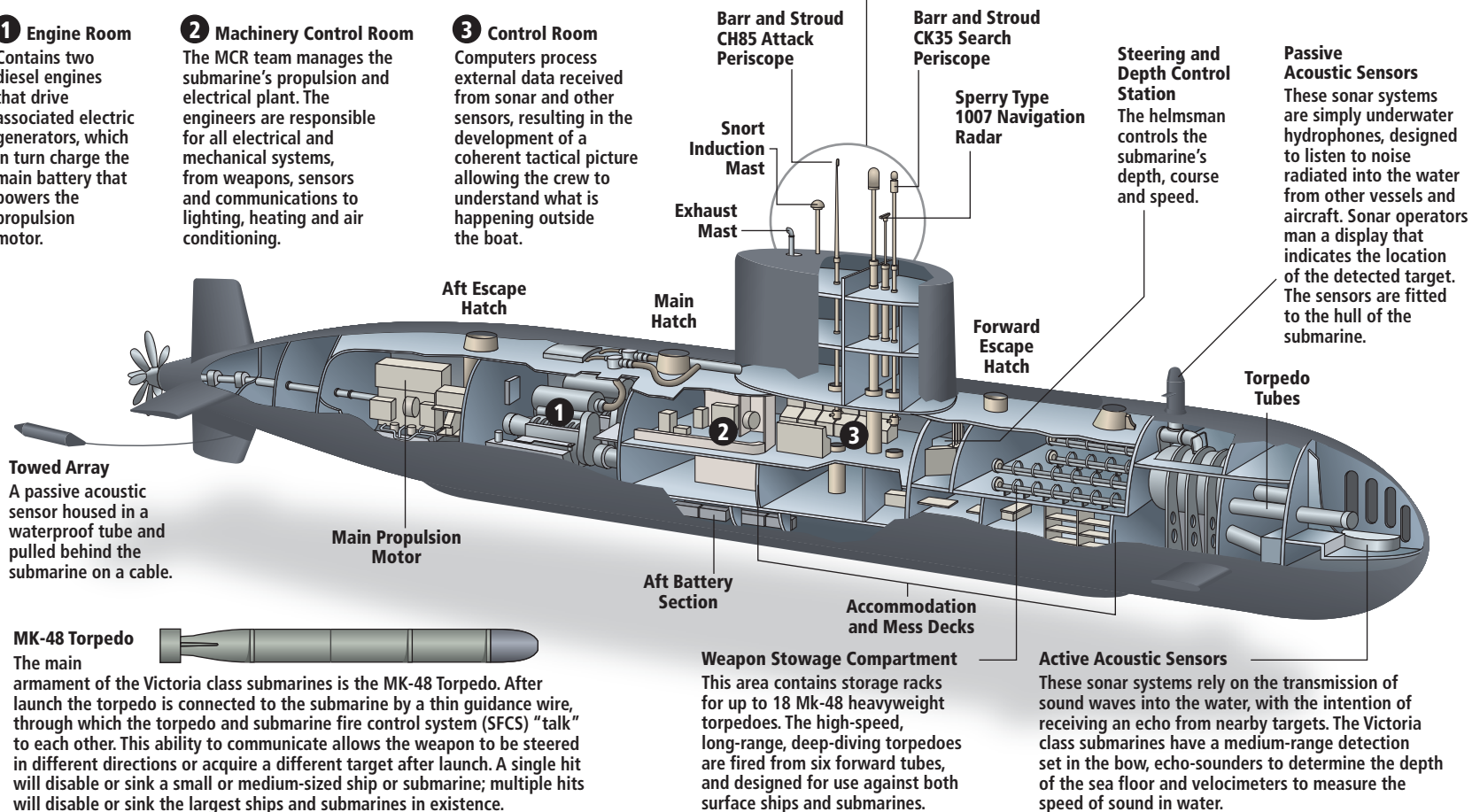
Contains two diesel engines that drive associated electric generators, which in turn charge the main battery that powers the propulsion motor.

2 Machinery Control Room

The MCR team manages the submarine's propulsion and electrical plant. The engineers are responsible for all electrical and mechanical systems, from weapons, sensors and communications to lighting, heating and air conditioning.

3 Control Room

Computers process external data received from sonar and other sensors, resulting in the development of a coherent tactical picture allowing the crew to understand what is happening outside the boat.



Steering and Depth Control Station
The helmsman controls the submarine's depth, course and speed.

Passive Acoustic Sensors
These sonar systems are simply underwater hydrophones, designed to listen to noise radiated into the water from other vessels and aircraft. Sonar operators man a display that indicates the location of the detected target. The sensors are fitted to the hull of the submarine.

Towed Array
A passive acoustic sensor housed in a waterproof tube and pulled behind the submarine on a cable.

MK-48 Torpedo

The main armament of the Victoria class submarines is the MK-48 Torpedo. After launch the torpedo is connected to the submarine by a thin guidance wire, through which the torpedo and submarine fire control system (SFCS) "talk" to each other. This ability to communicate allows the weapon to be steered in different directions or acquire a different target after launch. A single hit will disable or sink a small or medium-sized ship or submarine; multiple hits will disable or sink the largest ships and submarines in existence.

Weapon Stowage Compartment

This area contains storage racks for up to 18 Mk-48 heavyweight torpedoes. The high-speed, long-range, deep-diving torpedoes are fired from six forward tubes, and designed for use against both surface ships and submarines.

Active Acoustic Sensors

These sonar systems rely on the transmission of sound waves into the water, with the intention of receiving an echo from nearby targets. The Victoria class submarines have a medium-range detection set in the bow, echo-sounders to determine the depth of the sea floor and velocimeters to measure the speed of sound in water.