navy today
SHIPS OF THE ROYAL AUSTRALIAN NAVY

First Australian Submarine Squadron

First Australian Mine Countermeasures Squadron

Australian Patrol Boat Squadrons

First Australian Training Squadron

First Australian Landing Craft Squadron

Support ships
A modern navy

Although not large, the Royal Australian Navy compares well with navies of other middle powers. It is well armed and trained, technically advanced, and possesses a wide range of capabilities. The main objective is to maintain a balanced general-purpose capability to meet all possible future operational situations. The present Fleet has capabilities in all facets of naval operations including interdiction, surface and anti-submarine warfare, naval air operations, surveillance and patrol, mine counter-measures, hydrography and oceanography and support for the other Services such as naval gunfire support and sea transport.

Briefly, the Navy's role is as follows:

1. To organise, train and equip naval forces, including naval aircraft, for combat operations at sea;
2. To provide naval support for land operations;
3. To provide military sea transport support for the Australian Services; and
4. To provide seaward defence of ports and anchorages.

In peacetime the Navy maintains operational effectiveness in the capabilities required for the above functions, including the maintenance of an effective standard for joint operations with the Army and the RAAF. In addition, as much as possible, the Navy contributes to national development and assists the civil population.

The ships and aircraft required to perform these tasks are described on the following pages.
Aircraft carrier

The light aircraft carrier HMAS Melbourne is the Royal Australian Navy’s flagship. With her Skyhawk and Tracker fixed-wing aircraft and Sea King helicopters, which will replace the Westland Wessex S1B. Melbourne combines aerial defence of the Fleet with her anti-submarine role.

She also has a formidable strike capacity which was strengthened with the purchase of additional Skyhawk aircraft, strike force which can be directed against either maritime or shore targets and can give ground support to the Army.

Melbourne embarked her present generation of aircraft in 1969 after an extended refit which included modifications to aid flying and aircraft handling.

In 1971 the ship received a rebuilt catapult, strengthened flight deck and other changes.

Melbourne was laid down in 1943 as HMS Melbourne, at the same time as HMS Sydney (later HMAS Sydney) and was launched in 1945.

With the end of World War II, work on Melbourne stopped pending a decision on future requirements. Arrangements were then made for the ship to be taken over by the RAN and renamed HMAS Melbourne.

Commissioned in 1949 with modifications including increasing the size of the flight deck lifts to handle larger aircraft and later fitting an angled flight deck, steam catapult and mirror landing system.

Melbourne was commissioned into the RAN on 28 October 1955 and after working up in British waters with her Sea Venom and Gannet aircraft she sailed for Australia, arriving in Sydney on 10 May 1956.
The three guided missile destroyers—HMA Ships Perth, Hobart and Brisbane—make up the RAN’s First Destroyer Squadron. The US-built ships are similar to the US Navy’s DDG-15 class and their design is particularly versatile.

Their main task is air defence of the Fleet, but they also have formidable anti-submarine and surface gunnery capabilities.

The principal aircraft defence weapon is the Tartar guided missile system which is mounted near the stern.

The DDGs are also fitted with two Ikara missile launchers. This long-range anti-submarine system is Australian-designed and developed. The missile is automatically guided to the vicinity of a hostile submarine where a torpedo is released by parachute to home on the target.

The ships are fitted with modern long-range sonar, radar, communications and electronic equipment to provide the command with comprehensive information.

Living spaces are air conditioned.

All three ships saw action in Vietnam where they served with distinction with ships of the US Navy’s 7th Fleet.

Perth has recently completed a weapons system update at Long Beach Naval Shipyard in the United States. Hobart and Brisbane will undergo similar updates at Garden Island Naval Dockyard, Sydney.

Perth, Hobart and Brisbane are the names of former RAN cruisers.

<table>
<thead>
<tr>
<th>Name</th>
<th>No.</th>
<th>Builder</th>
<th>Launched/isActive</th>
<th>Displacement</th>
<th>Length</th>
<th>Beam</th>
<th>Armament</th>
<th>Machinery</th>
<th>Speed</th>
<th>Ship’s Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perth</td>
<td>38</td>
<td>Defoe Shipbuilding</td>
<td>21/10/62</td>
<td>4,580 tonnes</td>
<td>133.2m</td>
<td>14.3m</td>
<td>Two 5 inch automatic rapid fire guns, Tartar anti-aircraft guided missile system. Two Ikara anti-submarine missile systems. Two sets triple mounted anti-submarine homing torpedoes</td>
<td>Two GE geared steam turbines driving two shafts</td>
<td>More than 30 knots</td>
<td>333</td>
</tr>
<tr>
<td>Hobart</td>
<td>39</td>
<td>Defoe Shipbuilding</td>
<td>26/10/62</td>
<td>5/5/66</td>
<td>16/12/67</td>
<td>Two Ikara missile launchers. This long-range anti-submarine system is Australian-designed and developed. The missile is automatically guided to the vicinity of a hostile submarine where a torpedo is released by parachute to home on the target.</td>
<td></td>
<td>333</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brisbane</td>
<td>41</td>
<td>Defoe Shipbuilding</td>
<td>15/2/65</td>
<td>4/5/66</td>
<td>16/12/67</td>
<td>Two Ikara missile launchers. This long-range anti-submarine system is Australian-designed and developed. The missile is automatically guided to the vicinity of a hostile submarine where a torpedo is released by parachute to home on the target.</td>
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<td>333</td>
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**Destroyers**

The Royal Australian Navy's Second Destroyer Squadron is made up of the Daring Class destroyers HMA Ships Vendetta and Vamprre. These all-purpose warships have main gunnery armament comparable to a light cruiser, giving them formidable surface gunnery as well as anti-aircraft capabilities.

Anti-submarine detection equipment and weapons increase their versatility.

Vampire and Vendetta were built in Australia, while the training ship Duchess—also a Daring—was built in Britain.

The three ships are all-welded and light alloys have been used extensively in their construction to reduce weight.

In 1969, Vendetta became the first Australian-built warship to serve in Vietnam. She had the distinction, as a result, of being the first Daring Class destroyer to engage in the role for which the ships were primarily built—naval gunfire support.

Half-life modernisation of Vampire and Vendetta, completed in 1972, included fitting new gun turrets, fire control systems, new aircraft warning and navigation radar, re-equipping the operations centre, enclosing the bridge and replacing a major part of the superstructure.

Communications equipment was renewed and living conditions on board considerably improved.

The original Vampire and Vendetta served with distinction in the 10th Destroyer Flotilla, known as the "Scrap Iron Flotilla", in World War II.
The Royal Australian Navy has six Australian-built destroyer escorts forming the Third Australian Destroyer Squadron. The newest ships, HMA Ships Swan and Torrens, incorporate many improvement over the earlier River Class HMA Ships Derwent, Stuart, Yarra and Parramatta.

All the ships are armed with twin 4.5 inch guns which are used with digital fire control radar and computer. The guns can be used for shore bombardment or can provide fire power against air or surface targets. Close-range air and surface defence is provided by the Seacat missile system which is controlled by a separate radar and computer. The Seacat missile system was developed in Britain and has been adopted by a number of navies. A submarine threat can be met by using either the Australian-designed and built Ikara anti-submarine missile system, or the triple-barrelled mortars carried on all the escorts. Ikara is a rocket-propelled guided missile which carries a homing torpedo towards its submarine target. The torpedo is dropped into the sea by parachute and is then acoustically homed on the submarine target. All the ships in the squadron except Derwent carry the names of former RAN destroyers and sloops.

The four older ships in the squadron are to be extensively refitted and modernised in a dockyard program due to commence in 1976.

<table>
<thead>
<tr>
<th>Name</th>
<th>Builder</th>
<th>Last Used</th>
<th>Launched</th>
<th>Commissioned</th>
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</thead>
<tbody>
<tr>
<td>YARRA</td>
<td>Williamstown Dockyard</td>
<td>9/4/57-9/9/58</td>
<td>27/7/56</td>
<td></td>
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<tr>
<td>PARRAMATTA</td>
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<td>3/1/57-31/1/59</td>
<td>4/7/56</td>
<td></td>
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<td>SQUART</td>
<td>Cockatoo Island Dockyard</td>
<td>25/2/57-8/4/59</td>
<td>28/5/60</td>
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<tr>
<td>PARRAMATTA</td>
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<td>18/4/60-16/12/67</td>
<td>17/4/61</td>
<td></td>
</tr>
<tr>
<td>SWAN</td>
<td>Williamstown Dockyard</td>
<td>18/4/60-16/12/67</td>
<td>20/4/61</td>
<td></td>
</tr>
<tr>
<td>TORRENS</td>
<td>Cockatoo Island Dockyard</td>
<td>19/6/65-20/6/67</td>
<td>10/1/71</td>
<td></td>
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**Displacement**: 2,750 tonnes  
**Length**: 112.8 metres  
**Beam**: 12.5 metres  
**Armament**: Two 4.5 inch guns in twin turret controlled by digital fire control radar and computer. Seacat anti-aircraft missile system, Ikara anti-submarine missile system, Triple-barrelled anti-submarine mortar  
**Machinery**: geared steam turbines developing 22,070 kw  
**Speed**: More than 30 knots  
**Ship's Company**: 250
The First Australian Submarine Squadron consists of four attack submarines of the Oberon class, built in the United Kingdom between 1964 and 1970. Two more Oberons are under construction for the RAN.

The Squadron is based at HMAS Platypus, North Sydney—a shore base specially designed to support submarines. RAN submarines have diesel-electric propulsion and are capable of remaining submerged for several weeks, using the snort system. This enables the diesel generators to re-charge the batteries while submerged. They can dive to more than 120 metres and have a maximum submerged speed of more than 15 knots.

Their main detection system is “passive sonar”—which picks up the machinery noise radiated by other ships and submarines. A new passive sonar is currently being installed which measures the range as well as the bearing of targets. Weapons carried include guided, homing anti-submarine torpedoes as well as conventional anti-ship torpedoes.

The four submarines in service are HMAS Oxley, Otway, Ovens and Onslow; the two being built are Orion and Otama. Oxley and Otway are named after earlier Australian submarines and the name Orion has been chosen to preserve long-established links with the Royal Navy. Otama is a Queensland aboriginal word meaning dolphin—the symbol of the Submarine Arm.

HMAS Orion was launched at Scott’s Shipyard, Greenock, Scotland, on 16 September, 1974, and is due to be completed in early 1976. HMAS Otama will follow nine months later.
Mine warfare ships

The First Australian Mine Countermeasures Squadron is made up of three Ton Class mine countermeasure ships. Of British design and construction, the ships were modified in the UK before joining the Australian Fleet in 1962. Originally the squadron consisted of six ships fitted as minesweepers. The squadron has since been reduced to three ships, and HMAS Curlew and HMAS Snipe have been converted to minehunters. HMAS Ibis is still fitted for minesweeping. She carries devices to explode acoustic and magnetic as well as contact mines. She can also detect and destroy other underwater obstructions which would be hazardous to shipping.

The wooden-hulled mine countermeasure ships are themselves non-magnetic and are sufficiently silent not to actuate acoustic mines.

Mine hunting is the latest advance in mine countermeasures and the re-equipped Curlew and Snipe are significant additions to the Australian Fleet. Mine hunting is complementary to mine sweeping and is carried out in a different way.

Using a high definition sonar set, the minehunter locates mines ahead of the ship.

When a mine is located, clearance divers go into the water to identify it and decide whether to render it safe and remove it, or to blow it up with an explosive charge.
Twenty patrol boats were built in Queensland shipyards for patrol and survey work in waters around Australia and Papua-New Guinea. Five of these, Alotau, Ladaya, Lae, Macfang and Samara, now form a Papua New Guinea Defence Force patrol boat squadron. Two others, Acher and Bandora, have been presented to Indonesia, and a third, HMAS Arora, was lost during Cyclone Tracy in Darwin.

The remaining twelve ships make up the Navy’s patrol boat squadron. These ocean-going ships have a variety of tasks, including the patrol of fishing grounds close to the coastline. They assist RAN survey ships in sounding and survey work. The 32.6 metre patrol boats are also used for Reserve training. The speed and versatility of the patrol boats have made them useful for helping disabled craft, for use as sea-air rescue boats and for transporting patients from remote shallow ports. Major excursions have been made deep into Papua New Guinea river systems.

Included in the ships’ equipment is high definition navigation radar, high and ultra-high frequency radio transmitters and receivers, gyro and magnetic compasses and echo sounders. All the patrol boats are fully air conditioned.
Amphibious craft

For the first time since World War II, the RAN has a landing craft squadron. Called Landing Craft Heavy (LCH), the first ship, HMAS Brunei, joined the Fleet on January 5, 1973.

The squadron is based at HMAS Moreton, the RAN shore establishment at Brisbane, where the commanding officer is also the LCH Squadron Commander.

At the end of August 1973, four LCHs had been commissioned into the RAN—HMA Ships Brunei, Labuan, Tarakan and Wewak. Four others—HMA Ships Salamaua, Buna, Betano and Balikpapan—were commissioned in the period up to mid-1974. Two LCHs, Buna and Salamaua, have been handed over to the Papua New Guinea Defence Force.

Balikpapan, the prototype LCH, was manned by the Army until July, 1974. She went through extensive joint Navy/Army evaluation trials in 1972. The sea-going ships, all built at Walkers Ltd shipyards, Maryborough, Queensland, are each manned by two officers and 11 sailors. They will be employed primarily in providing support for the Army, although one will normally be allocated to the Navy for hydrographic survey work.

As the names suggest, the ships are all named after World War II amphibious operations in which RAN ships and craft put Australian Army units ashore or did surveys preparatory to the landings. The versatile LCHs can carry the heaviest equipment in the Army's order of battle (up to three Centurion tanks, for example).
The Daring Class destroyer HMAS Duchess is the RAN's training ship. Duchess, formerly a Royal Navy ship, was built in Britain and commissioned in 1952. She served at Suez during the 1956 crisis and escorted aircraft carriers in the Aden area in 1963. She was lent to the RAN in 1964 and was bought by the Australian Government in 1972.

Duchess has served in recent years as a member of the Second Australian Destroyer Squadron. Changes have been made to Duchess to convert her to her training role.

Trainees in the ship include young sailors, cadet midshipmen from the RAN College, midshipmen from the Papua New Guinea Division of the RAN and officer cadets from other countries. Normally they spend several months at sea learning navigation, seamanship, engineering, communications and other aspects of naval life.
Destroyer tender

The destroyer tender HMAS Stalwart is the largest naval vessel wholly designed and built in Australia. Her role is to provide destroyers with repair and maintenance facilities on a mobile basis so the ships can spend the maximum time on duty in their operational areas.

For this job the ship is equipped with extensive engineering, electrical, electronic, weapons, shipwright and other workshops, staffed by experts in a wide variety of trades and professions.

Several destroyers can be maintained by Stalwart at a time and three-quarters of Stalwart's ship's company of nearly 400 are available for repair and maintenance duties.

Fleet oiler

HMAS Supply, the largest ship in the RAN, has the important task of refuelling fleet units to give ships greater range and mobility. She supplies furnace fuel, aviation gasoline, diesel oil and water to other ships while they are underway.

In a typical operation a destroyer will steam alongside Supply at about 15 knots. With only about 30 metres between ships, lines are shot across, hoses are run across and connected, and pumping begins. A destroyer can be refuelled in this way in less than half an hour.
Surveying of Australian and Papua New Guinea waters, which combined involve 30,000 km of coastline and cover about one eighth of the earth’s surface, is the mammoth task entrusted to the RAN Hydrographic Service.

The stepped-up exploitation of Australia’s vast mineral resources in recent years based on bulk handling methods has led to the development of new ports such as Gove, Weipa, Spring Bay, Dampier and Port Hedland.

The largest bulk carriers in the world now call at Australian ports and there is a continuing need for new and more accurate surveys of shipping routes and harbour approaches.

Four RAN ships are engaged full time in this work and on oceanographic research. They are HMAS Moresby, Flinders, Diamantina and Kimba, helped at times by other Fleet units.

Moresby is a large modern survey ship. She operates her own helicopter and carries advanced electronic surveying equipment. A new hydrographic ship, the 765 tonne Flinders, has replaced the 342 tonne Patvma, which was commissioned in 1957.

Diamantina will soon be replaced by another new hydrographic ship, HMAS Cook, similar to Moresby but slightly larger, and fitted with the most up-to-date oceanographic and survey equipment.
The Royal Australian Navy has two general purpose ships, HMAS Bass and HMAS Banks, of the Explorer Class, built at Walkers Ltd. shipyards, Maryborough, Queensland.

In June 1967, Bass was assigned as a Naval Reserve training ship in Tasmanian waters and a month later Banks was assigned to similar duties in South Australian waters. Normally they have complements of two officers and 12 sailors, but during training cruises they may carry more.

Both ships provide training of officers and sailors in the seamen, electrical, engineering and communications branches of the Naval Reserve.

**Future ships**

As well as HMAS Flinders, which was commissioned in 1973, the RAN's oceanographic and hydrographic service is to have another new ship. She is HMAS Cook, which will replace HMAS Diamantina.

Plans have been made to buy two Guided Missile Frigates FFGs from the United States. Delivery is planned for the early 1980s.

In addition to escort duties, the FFG will have a capability for conducting prolonged independent patrol and surveillance type operations. Armament includes a missile system, two armed helicopters, a 76 mm gun and two triple anti-submarine torpedo tubes.

The Government has also approved the construction of a 6,000 tonne Amphibious Heavy Lift Ship for the RAN. The new ship will be designed and equipped to provide maximum versatility in all forms of amphibious operations.
Aircraft

The Skyhawk jet fighter-bomber (top left) is the air defence and strike aircraft of the Fleet Air Arm. These transonic aircraft are ideal for high pay load/wide radius operations in tactical air support and they have increased the versatility of the aircraft carrier HMAS Melbourne.

The Douglas A4-G Skyhawk is a relatively small aircraft (weight empty—4450 kg) but it is capable of carrying an extensive and varied war load (maximum all-up weight—11,126 kg) over a considerable distance.

Its armament includes combinations of air-to-air missiles, a variety of 250, 500 and 1000 lb bombs, 20 mm cannon and rockets. Embarked on Melbourne with the Skyhawks are anti-submarine Tracker aircraft and Wessex helicopters.

The Grumman S2E Tracker (below left) is an all-weather, twin-engine aircraft. It can remain on patrol for up to 10 hours and each carries a crew of two pilots, an observer and an aircrewman.

The Tracker is fitted with electronic devices for submarine detection and can be armed with homing torpedoes or depth charges.

The Westland Sea King Mk 50 helicopter, which doubles in a search and rescue role, is equipped with sonar for its anti-submarine duties and can also be armed with homing torpedoes or depth charges.

The Sea King carries a crew of two pilots, an observer and an aircrewman.

Training and support aircraft of the Royal Australian Navy include Westland Wessex 31B and Iroquois utility and search and rescue helicopters, Bell Kiowa helicopters, Macchi jet trainers and Hawker Siddley 748 training aircraft.