



A Growing Navy

The Royal Australian Navy of the 1980s is beginning to take shape. Design work, planning studies and construction being undertaken now will result in the development of a new generation of ships and facilities to serve the Navy of the future.

This development is directed towards meeting the roles of the RAN which are:—

- to have a force capable of timely and sustained combat operations at sea;
- detection and destruction of enemy naval forces and sea commerce;
 establishing superiority in areas as necessary for naval operations,

including protection of sea lines of communications;

 conducting naval offensive operations against enemy forces and installations:

 conducting naval reconnaissance and surveillance, anti-submarine warfare, shipping protection and hydrographic and oceanographic

surveying;

providing naval support for land operations;

providing military sea transport for Australian Services; and

providing seaward defence of ports and anchorages.

Among these new projects are the construction of two submarines, oceanographic and hydrographic ships, a fast combat support ship to carry fuel, stores and ammunition to other ships at sea, and the design of a new class of light destroyer.

These ships will join a fleet which already is the largest in the peacetime history of the RAN. Among its 55 ships in service are an aircraft carrier which carries modern aircraft of several types, guided missile destroyers, quiet and effective submarines, destroyer escorts specially designed and equipped for anti-submarine warfare, mine counter-measure vessels, patrol boats which operate constantly in northern Australian and Papua-New Guinea waters, support ships, training ships and specialised vessels for hydrographic and oceanographic research.

These ships and aircraft are described in detail in the following pages.

MELBOURNE

Machinery

First Com-Down Launched missioned 21 Vickers-Armstrong 15/4/43 28/2/45 27/10/55

Barrow-in-Furness

Displacement 20,000 tons

701.5 ft Length 80.2 ft Beam

Armament 12 (4 twin, 4 single) 40/60 mm Bofors

> Parsons single reduction geared turbines, 4 Admiralty 3-drum

type boilers

Speed Over 20 knots

Ship's Company 1,335 (includes 347 Carrier Air

Group personnel)

Douglas Skyhawk A4G jet fighter-Aircraft

bombers

Grumman Tracker S2E ASW

aircraft

Westland Wessex ASW heli-

copters

Westland Wessex SAR heli-

copters

Aircraft Carrier

The light aircraft carrier HMAS MELBOURNE is the Royal Australian Navy's flagship.

With her Skyhawk, Tracker and Wessex aircraft, MELBOURNE combines aerial defence of the Fleet with her anti-submarine role.

She also has a strike capacity which has been strengthened with the purchase of additional Skyhawk aircraft in 1971.

When carrying extra Skyhawk aircraft the carrier will control a significant strike force which can be directed against either maritime or shore targets and can give ground support to the Army.

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

MELBOURNE was laid down in 1943 as HMS MAJESTIC. at the same time as HMS TERRIBLE (now HMAS SYDNEY) and was launched in 1945.

With the end of World War II, however, work on MAJESTIC ceased pending a decision on future requirements. Arrangements were made for her to be taken over by the RAN and renamed HMAS MELBOURNE.

Construction resumed in 1949 with modifications to be made including increasing the size of the flight deck lifts to handle larger aircraft coming into service and in 1952 work started on fitting an angled flight deck, steam catapult and mirror landing sight.

She was commissioned into the RAN on October 27, 1955 and after working up in British waters with her Sea Venom and Gannet aircraft she sailed for Australia, arriving in Sydney on May 10, 1956.



Name	No.	Builder		Laid Down	Launched	First Com- missioned
PERTH	38	Defoe Shipbuild Co Bay City Mi		/9/62	26/9/63	17/7/65
HOBART	39	Defoe Shipbuild Co Bay City Mi		/10/62	9/1/64	18/12/65
BRISBANE	41	Defoe Shipbuild Co Bay City Mi		/2/65	5/5/66	16/12/67
		Displacement	4,500	tons		
		Length	437	ft		
		Beam [*]	47	ft		
		Armament	guns, missil submi moun	Tarta e syst arine i ted 2	automatic ar anti-airo tem. Two missile syst sets ant pedoes	raft guide Ikara ant tems. Trip
		Machinery ⁹			eared stea shafts	m turbine
		Speed	Over	30 kn	ots	
		Ship's Company	333			
		ر سعد	The state of the s			

Guided Missile Destroyers

The RAN's First Destroyer Squadron comprises the three guided missile destroyers HMA Ships PERTH, HOBART and BRISBANE.

The three 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 towards the stern of these ships.

The DDG's are also fitted with two Ikara missile launchers. This long-range anti-submarine system is Australian-designed and developed. In action, the missile is automatically guided to the vicinity of the 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 in the operations room.

Living spaces are air conditioned.

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

They share the names of former RAN cruisers.



Name	No.	Builder		Laid Down	Launched	First Com- missioned
VENDETTA 😅	08	HMA Naval Do yard Williamsto		4/7/49	3/5/54	26/11/58
VAMPIRE	11	Cockatoo Island Dockyard Sydne		1/7/52	27/10/56	23/6/59
DUCHESS	154	John I. Thorny- croft & Co Sout	thham	2/7/48 apton	9/4/51	8/5/64 (RAN) 23/10/52 (RN)
		Displacement	3,60	0 tons		
		Length	39	0 ft		
		Beam	4	3 ft		
		Armament	twin	turret 40/60 n le-barr	s, two form	ose guns in ward, one aft guns. ti-submarine
		Machinery			uble reductiving two	ction geared shafts
		Speed	Ove	r 30 kn	ots	
		Ship's Company	321			

Destroyers

The RAN's Second Destroyer Squadron is made up of the Daring-Class destroyers HMA Ships VENDETTA, VAMPIRE and DUCHESS.

These all-purpose ships 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.

Though based on the same design, VAMPIRE and VENDETTA were built in Australia while DUCHESS is British-built.

They are all-welded construction and light alloys have been used extensively to reduce weight.

Modernisation of the two Australian ships which began in 1970 includes updating of weapons systems and other changes which will improve their performance. Changes will include a new enclosed bridge.

The three twin-gun turrets are being modernised by improving the drive and other systems.

Digital systems replace analogue fire control systems and include new radars.

New air-warning radar, new navigation/surface search radar and better sonar are other improvements.

In 1969, VENDETTA became the first all Australian-built warship to see service in Vietnam.

She also has the distinction, as a result, of being the first Daring-Class destroyer to be engaged in the role for which they were primarily built—naval gunfire support.



Name	No.	Builder		First Com- missioned		
YARRA	45	Williamstown Dockyard	9/4/57 30/9/58	27/7/61		
PARRAMATTA	46	Cockatoo Island Dockyard	3/1/57 31/1/59	4/7/61		
STUART	48	Cockatoo Island Dockyard	20/3/59 8/4/61	28/6/63		
DERWENT	49	Williamstown Dockyard	16/6/58 17/4/61	30/4/64		
SWAN	50	Williamstown Dockyard	18/8/65 16/12/67	20/1/70		
TORRENS	53	Cockatoo Island Dockyard Displacement	18/8/65 28/9/68 2,700 tons	19/1/71		
		ength	370 ft			
		Beam	41 ft			
			Two 4.5 in guns in twin ture controlled by digital fire controlled by digital fire controlled and computer. Seacat anti-aircraft missile system anti-submarine missile tem. Triple-barrel anti-submarine mortar.			
	1	1achinery	Geared steam turbines 30,000 shaft horsepower			
	S	peed	Over 30 knots			
	S	hip's Company	250			



Destroyer Escorts

With HMAS TORRENS now in the Fleet, the RAN has six Australian-built destroyer escorts forming the Third Australian Destroyer Squadron.

TORRENS is identical to her sister ship HMAS SWAN, but these two escorts have had included many changes on the four earlier River-Class ships—DERWENT, STUART, YARRA and PARRAMATTA.

They are all armed with 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 lowered into the sea by a parachute and is then acoustically homed on the submarine target.



Name	No.	Builder		Laid Down	Launched	First Com- missioned
OXLEY	57	Scotts' Shipbuil Greenock	ding,	2/7/64	24/9/65	27/3/67
OTWAY	59	Scotts' Shipbuil Greenock	ding,	29/6/65	29/11/66	22/4/68
ONSLOW	60	Scott's Shipbuil Greenock	ding,	4/12/67	3/12/68	22/12/69
OVENS	70	Scotts' Shipbuil Greenock	ding,	17/6/66	4/12/67	15/4/69
		Displacement	2,03	0 tons	0	
		Length	295	ft		
		Beam	261	ft		
		Armament	surf			stern ant ti-submarir
		Machinery	puls Adn	ion r	notors,	c main pro with tw range dies
		Speed	Subi	merged	speed, ov	ver 15 kno
		Ship's Company	62			

Submarines

Four Oberon-Class submarines form the First Australian Submarine Squadron. Two more are on order.

Their value as an offensive weapons system is enhanced by their ability to operate in enemy-dominated waters for extended periods, without logistic support and without air cover.

The Oberons are long-range diesel-electric submarines which can move against surface ships or other submarines.

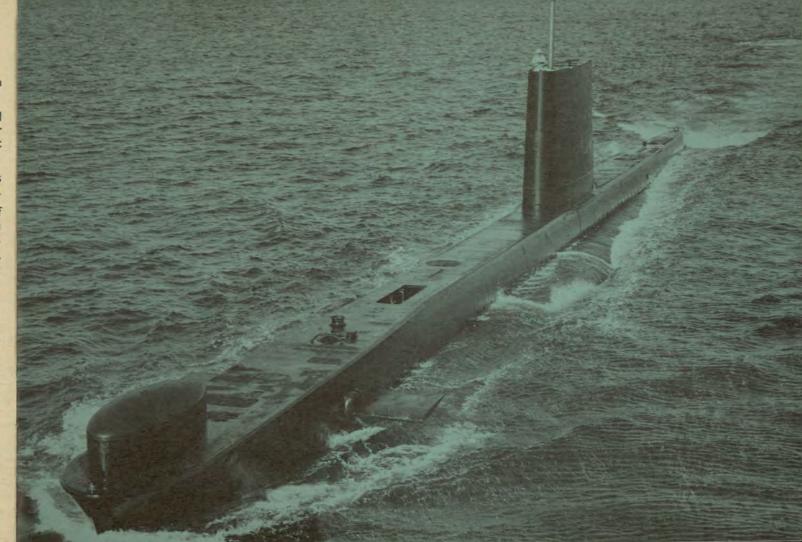
They are one of the most effective conventional types of submarines available today, and their quietness of operation makes them particularly difficult for an enemy to detect.

They are designed for silent running, and underwater equipment includes sensitive listening apparatus and an electronic fire control system.

All are fitted with a 'snort' system which enables batteries to be recharged while the submarine remains submerged.

They can dive to more than 400 ft and have a submerged speed of over 15 knots.

The four craft are based at HMAS PLATYPUS, Neutral Bay, Sydney.



					First Com-
Name	No.	Builde		Launched	missioned
NIPE	1102	Thornycroft,	UK	5/1/53	11/9/62
CURLEW	1121	Montrose, U	K	6/10/53	21/8/62
HAWK	1139	I. W. Richard	ls, UK	17/9/55	18/7/62
EAL	1152	Philip, UK		28/2/55	30/8/62
BIS	1183	Montrose, Ul	(18/11/55	7/9/62
GULL	1185	Doig, UK		1/7/54	19/7/62
	Di	splacement	480 tons		
	Le	ngth	153 ft		
	Be	am	28 ft		
	Ar	mament	Two 40/on mineh	60 mm Bofo nunters)	rs gun (on
	Ma	chinery	Napier d 3,000 hp	liesel engines	developing
	Spe		Over 15	knots °	
	Shi	p's Company	34 (mines 38 (mines		



Mine Warfare Ships

The First Australian Mine Countermeasures Squadron is made up of six 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 all six ships were fitted as minesweepers, but HMA Ships CURLEW and SNIPE have been converted to minehunters.

The other four are fitted for mine sweeping.

They carry devices to explode acoustic and magnetic as well as contact mines. They can also detect and destroy other underwater obstructions which would be hazardous to shipping.

The wooden-hulled minesweepers 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 where it lies.



Name
ACUTE
ADROIT
ADVANCE
AITAPE
SAMARAI
ARCHER
ARDENT
ARROW
ASSAIL
ATTACK
AWARE
LADAVA
LAE
MADANG
BANDOLIER
BARBETTE
BARRICADE
BOMBARD
BUCCANEER
BAYONET
BATONET

	Laid		First Com-
Builder	Down	Launched	missioned
Evans Deakin Ltd	Apr. 67	26/8/67	26/4/68
Evans Deakin Ltd	Aug. 67	3/2/68	17/8/68
Walkers Ltd	Mar. 67	16/8/67	24/1/68
Walkers Ltd	Nov. 66	6/7/67	13/11/67
Evans Deakin Ltd	Dec. 66	14/7/67	1/3/68
Walkers Ltd	Jul. 67	2/12/67	15/5/68
Evans Deakin Ltd	Oct. 67	27/4/68	26/10/68
Walkers Ltd	Sep. 67	17/2/68	3/7/68
Evans Deakin Ltd	Aug. 67	18/11/67	12/7/68
vans Deakin Ltd	Sep. 66	8/4/67	17/11/67
vans Deakin Ltd	Jun. 67	7/10/67	21/6/68
Walkers Ltd	Feb. 68	11/5/68	21/10/68
Walkers Ltd	May 67	5/10/67	3/4/68
vans Deakin Ltd	Mar. 68	10/8/68	28/11/68
Walkers Ltd	Jul. 68	2/10/68	14/12/68
Walkers Ltd	Nov. 67	10/4/68	16/8/68
vans Deakin Ltd	Dec. 67	29/6/68	26/10/68
Walkers Ltd	Apr. 68	6/7/68	5/11/68
vans Deakin Ltd	Jun. 68	14/9/68	11/1/69
Walkers Ltd	Oct. 68	6/11/68	22/2/69

Displacement 146 tons
Length 107 ft

Beam 20 ft

Armament 40/60 mm Bofors gun, machine gun and a variety of light arms

Machinery Two 16-cylinder diesels, producing

more than 3,000 hp

Speed Over 20 knots

Ship's Company 19



Patrol Boats

Twenty patrol boats have been built in Australian shipyards for patrol and survey work in waters around Australia and Papua-New Guinea.

They are units of the First Australian Patrol Boat Squadron.

These all-weather, ocean-going ships have a variety of tasks, including the patrol of fishing grounds close to the coastline.

They also assist RAN survey ships in sounding work.

The 107-ft patrol boats are also used to train Australian Naval Reserve officers and sailors while Papuan and New Guinean officers and sailors are being trained to assume full responsibility for operating the P-NG patrol boat squadron.

The speed and versatility of the patrol boats have made them useful for assisting 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 sounder.

They are fully air conditioned. All were built in Queensland shipyards, with the first being commissioned in November, 1967.



First Com-Down Launched missioned 19/4/43 30/9/44 16/12/48 214 HM Dockyard, SYDNEY Devonport Displacement 17,233 tons 698 ft Length Beam 80 ft Four 40/60 mm Bofors guns Armament Machinery Parsons single reduction geared Over 20 knots Speed Ship's Company 607

Troop Transport

HMAS SYDNEY, which first saw service in the Royal Australian Navy as a light aircraft carrier, was converted in 1961-62 to a fast troop transport carrier.

It is also the senior ship of the First Australian Training Squadron.

SYDNEY was recommissioned in her present transport role on March 7, 1962.

She is capable of transporting a large body of men and their equipment anywhere in the world.

Late in May, 1964, SYDNEY transported a complete load of Army and RAAF units and equipment to Malaysia.

She has been continuously employed in transporting Australian Forces to South Vietnam and in 1971 visited the US to pick up new aircraft for the Fleet Air Arm.

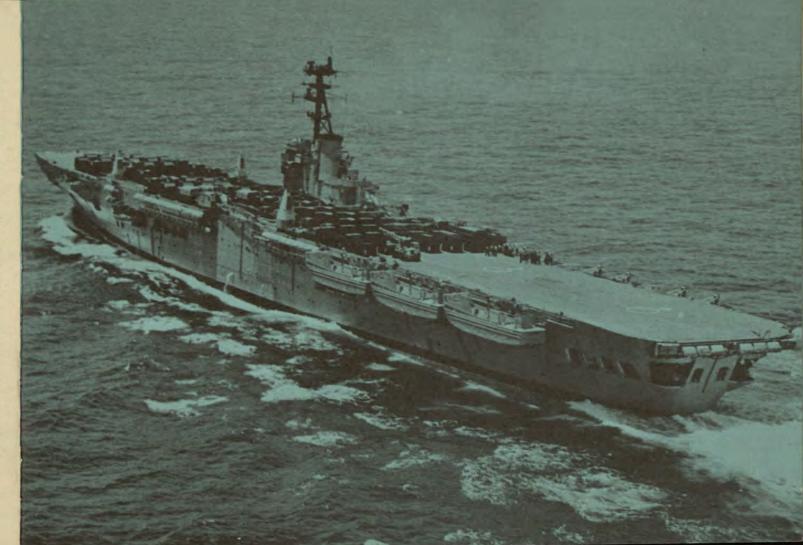
SYDNEY was laid down in 1943 as HMS TERRIBLE.

By the end of the war she was not urgently needed and was laid up until bought for the RAN as Australia's first aircraft carrier.

She reached Sydney on May 28, 1949, but returned the following year to bring back the 21st Carrier Air Group. The aircraft borne comprised Sea Furies, then the fastest pistonengined fighter in the world, and all-purpose Fairey Fireflies.

In 1951-52 and 1953-54, SYDNEY served with distinction in Korean waters where she mounted aerial strikes against tanks, trains, bridges, supply depots and troop concentrations.

SYDNEY finally landed her aircraft on May 1, 1955, and began her role as a training ship.



			Laid		First Con
Name	No.	Builder	Down	Launched	
QUEENBORO	UGH 57 S	wan Hunter and W.R. Wallsend	6/11/40	16/1/42	10/12/4
ANZAC		Williamstown Dockyard	23/9/46	20/8/48	22/3/5
	QUEENBOR	OUGH		AN	ZAC
Disp	olacement	2,020 tons		3,450 tons	
Leng	gth	358 ft		379 ft	
Bear	m	35.7 ft		41 ft	
Arm	nament	Twin 40/60 mm gun, two anti-s marine mortar	ub-	One 4.5 in	gun
Mac	hinery	Parsons geared turbines 40,000 2 shafts	shp,	Parsons ge turbines 5 2 shafts	
Spec	ed	Over 30 knots		Over 30 k	nots
Shin	's Company	237		270	

Training Ships

Much of the sea training for RAN sailors is gained through experience aboard the troop carrier HMAS SYDNEY, and the training destroyers QUEENBOROUGH and ANZAC. The three ships form the First Australian Training Squadron.

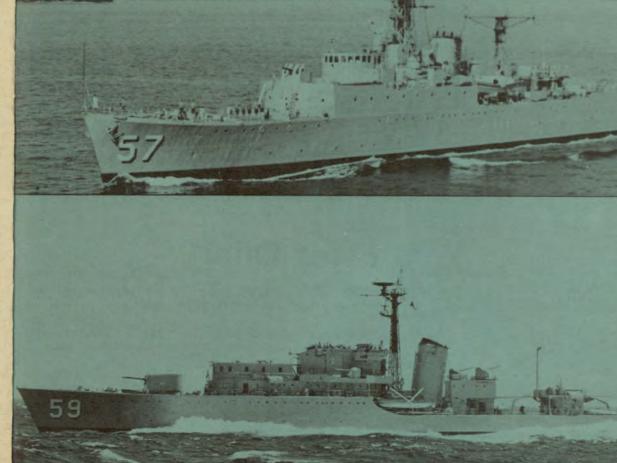
QUEENBOROUGH was a Royal Navy ship until transferred to the RAN in 1950. She was converted to a fast anti-submarine frigate and saw service in South-East Asia and off the Australian Coast.

She was taken out of service and placed in the Reserve Fleet in 1963, but recommissioned into the RAN in 1966 as a training ship.

With the other training ships, QUEENBOROUGH provides most of the basic sea time for recruits and midshipmen during their initial training period.

The destroyer ANZAC is a veteran of the Korean War, and since 1960 has been a Fleet training ship.

Originally she had three twin 4.5 inch gun mountings, but one of the forward turrets was removed in 1966 and replaced by a classroom for training.





Nam	ne	No.	Builder	Laid Down	Launched	missioned
STALWA	ART	215	Cockatoo Island Dockyard	23/6/64	7/10/66	9/2/68
SUPPLY		195	Harland and Wolff Belfast	5/8/52	1/9/55	7/9/62
	STAL	WART	r		SUPPL	Y
	Displacen	nent	10,500 tons		26,000 ton	s
	Length		515 ft		583 ft	
	Beam		67 ft		71 ft	
Armame		nt	Two 40/60 mm Bo guns twin mo ings. Provision Seacat close-rang missiles	for		, two singl , 40/60 mr
	Machiner	у	Two six-cylinded diesel engines developing 14,400 bhp)	Double geared tur developing shaft hp	
	Speed		Over 20 knots		Over 16 ki	nots
	Ship's Co	mpan	у 396		205	



Destroyer Tender

The destroyer tender HMAS STALWART is a floating workshop with the job of maintaining and repairing destroyers between major dockyard refits. Three quarters of the ship's company of 396 are engaged in repairing and maintaining other ships.

STALWART can handle several destroyers alongside at the same time and can operate from forward bases.

She has extensive and well-equipped engineering, electrical, electronic, weapons, shipwright and other workshops manned by officers and sailors expert in a variety of trades.

She is Australian-designed and built.

Fleet Oiler

HMAS SUPPLY has the important task of refuelling fleet units to give ships greater range and mobility.

She supplies furnace fuel, aviation gasoline, diesolene and water to other ships while they are underway.

A typical operation sees a destroyer steam alongside SUPPLY at 15 knots. With only about 100 ft 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.



Name	No.	Builder	Laid Down	Launched	First Com- missioned	
MORESBY	73	Newcastle State Dockyard	1/6/62	7/9/63	6/3/64	
PALUMA	337	NSW State Dock- yard		5/2/46	18/3/57	
DIAMANTINA	266	Walkers Ltd, Maryborough	12/4/43	6/4/44	27/4/45	
KIMBLA	314	Walkers Ltd, Maryborough	4/11/53	23/3/55	27/3/56	
		MORESBY		PALL	JMA	
Displacement Length Beam Armament	2,300 tons 314 ft 42 ft Two 40/60 mm Bofors guns		Displacement Length Beam Machinery		336 tons 120 ft 24 ft Diesel main engines	
Machinery Speed Ship's Company	Diesel electric main engines Over 18 knots pany 146			es Speed 9 1 Ship's Company 29		
	DIAMAN	ITINA		KIMBLA		
Displacement Length Beam Armament	2,200 to 301 ft 36.7 ft One 40	ons 1/60 mm Bofors gun	Displac Length Beam Machin		750 tons 179 ft 32 ft Triple ex-	
7 in marrience	0110 10	you min Bolors gui	Tacilli		pansion steamengine	
Machinery	Triple e	expansion; 2 lty 3-drum boilers	Speed		Over 10 knots	
CI	O 10	1 Inner	CLI-1-		40	



Ship's Company 40

Over 19 knots

Ship's Company 121

Survey Ships

Hydrographic surveys and oceanographic research are carried out by HMA Ships MORESBY, PALUMA, DIAMANTINA and KIMBLA, aided at times by other Fleet ships.

The RAN Hydrographic Service is the charting authority for Australian waters, which cover about one-eighth of the earth's surface.

The recent increase in the exploitation of Australia's natural resources has seen the development of a number of new ports, such as Gove, Weipa, Port Latta, Spring Bay, Hay Point and Dampier and has heralded the era of the bulk carrier. This has necessitated the surveying of new shipping routes and harbour approaches and the resurvey of existing routes, notably the Great Barrier Reef and Torres Strait, to cope with the deep draught ships.

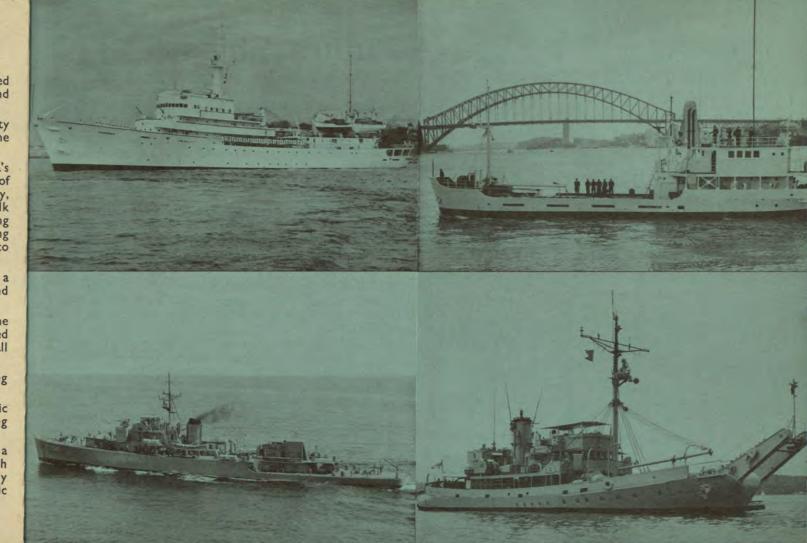
The surveying task is a formidable one and presents a challenge to the two RAN survey ships MORESBY and PALUMA.

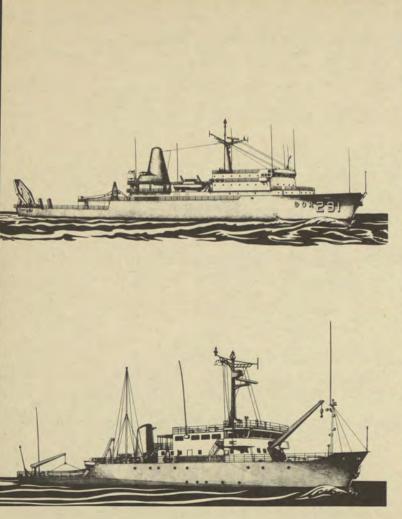
MORESBY is one of the most modern survey ships in the world. She operates her own helicopter and has advanced equipment including electronic aids for surveying in all conditions.

A new hydrographic ship to replace PALUMA is being built.

DIAMANTINA and KIMBLA undertake oceanographic research both for military and scientific purposes, including programmes for the CSIRO, universities and museums.

DIAMANTINA, a converted frigate, will be replaced by a modern hydrographic ship, now under construction, which will be similar in design to HMAS MORESBY, but slightly larger to incorporate requirements for modern oceanographic research.





Future Ships

Increased demands and newly-developed techniques are providing the Navy with a need for new ships.

Several different types are on the drawing boards and they will become an important part of the Fleet for the 1980s.

The biggest project is the designing and construction of a series of new destroyers designed specifically for Australian conditions.

They will have a long cruising range and high top speed and will be armed with a variety of weapons.

To provide support away from bases, the Navy is also planning a combat support ship to carry fuel, stores and ammunition to warships so they can operate for long periods and distances away from base facilities.

The support ship will carry several types of liquid fuel, as well as stores such as clothing and food.

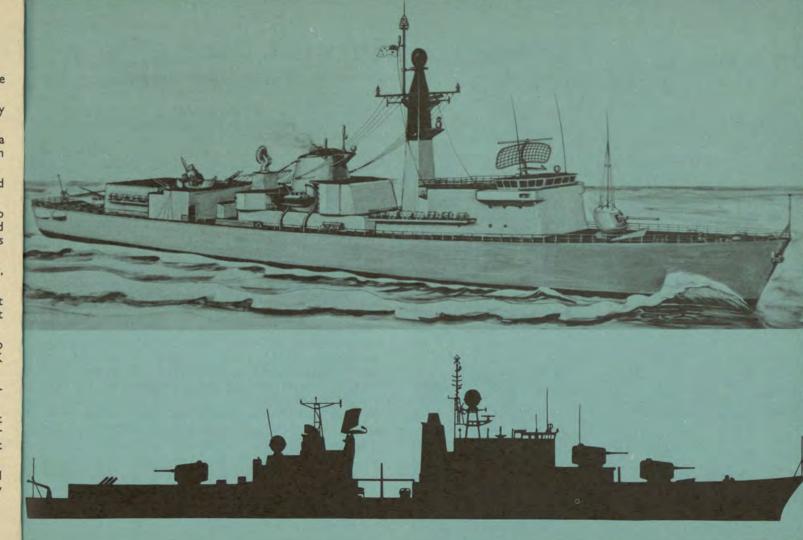
The ship will displace about 20,000 tons, will be about 540 ft long and will be built in Australia at an estimated cost of \$45 million.

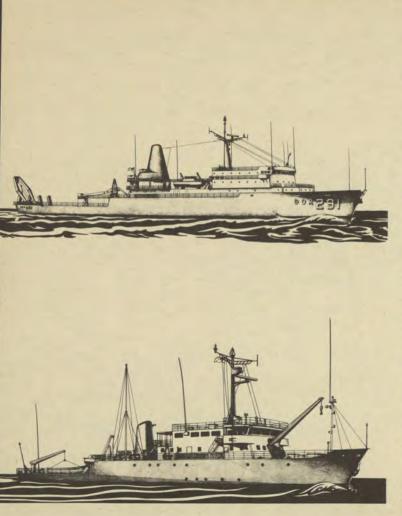
Approval has been given for a new oceanographic ship to replace HMAS DIAMANTINA. It will be named HMAS COOK and is expected to go into service about 1975.

A replacement is being built at Williamstown Naval Dockyard for the hydrographic ship HMAS PALUMA.

Named HMAS FLINDERS, it will have about a 50 per cent increase in output over PALUMA mainly because of higher speed, better endurance and better sea-keeping qualities. It will displace about 700 tons.

The RAN currently has four Oberon Class submarines, and another two will be bought from British ship builders. They are expected to enter service in the mid 1970s.





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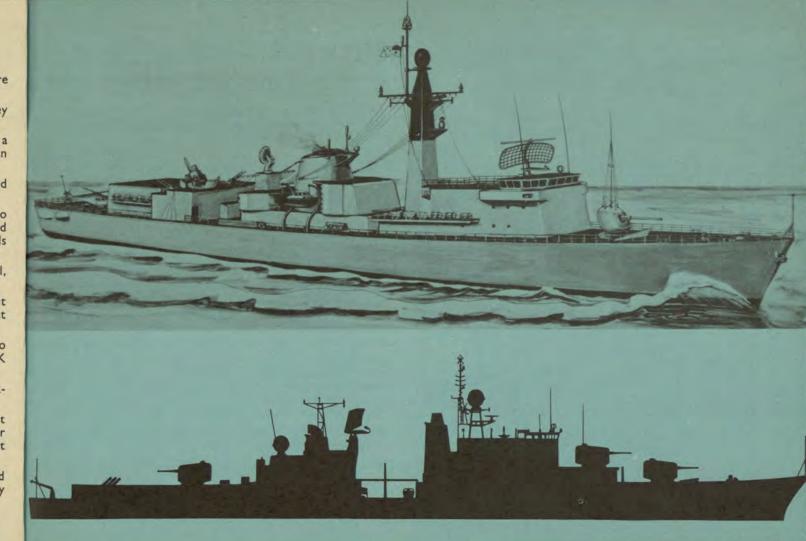
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Aircraft

Fleet Air Arm effectiveness has been increased with the addition of 10 new Skyhawk jet fighter-bombers.

These transonic aircraft have joined 10 already in service, which has significantly added to the versatility of the aircraft carrier HMAS MELBOURNE.

The Douglas Skyhawk is a relatively small aircraft (weight empty 9,800 lb) but it is capable of carrying an extensive and varied war load (maximum all-up weight, 24,500 lb) over considerable distance. (Picture—top left).

Its armaments include combinations of air-to-air missiles, a variety of 250, 500 and 1,000 lb bombs, a 20 mm cannon and rocket projectiles.

Embarked on MELBOURNE with the Skyhawks are antisubmarine Tracker aircraft and Wessex helicopters.

Grumman Trackers are all-weather twin-engine aircraft fitted with electronic devices for navigation and detecting submarines. (Picture—below left).

They can remain on patrol for up to 10 hours, and each carries a crew of two pilots, observer and aircrewman.

Armaments include homing torpedoes or depth charges in bomb bay, underwing attachments for torpedoes, depth charges or rockets, and sonobuoys and marine markers in rear of engine nacelles.

The Westland Wessex are employed to screen the Fleet, searching with their sonar equipment for submarines.

They are also used in a search and rescue role.

They carry a crew of two pilots, observer and aircrewman.







Above left — Macchi training aircraft.

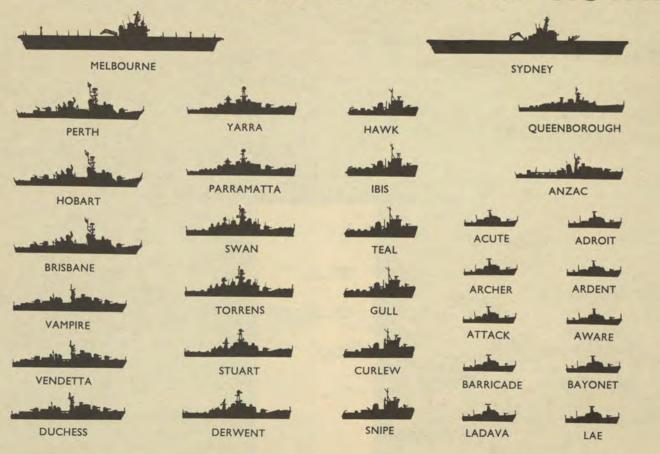
Above right — Westland Wessex helicopter.

●Left — Bell Iroqu

Right — Westland
 Scout helicopter.



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