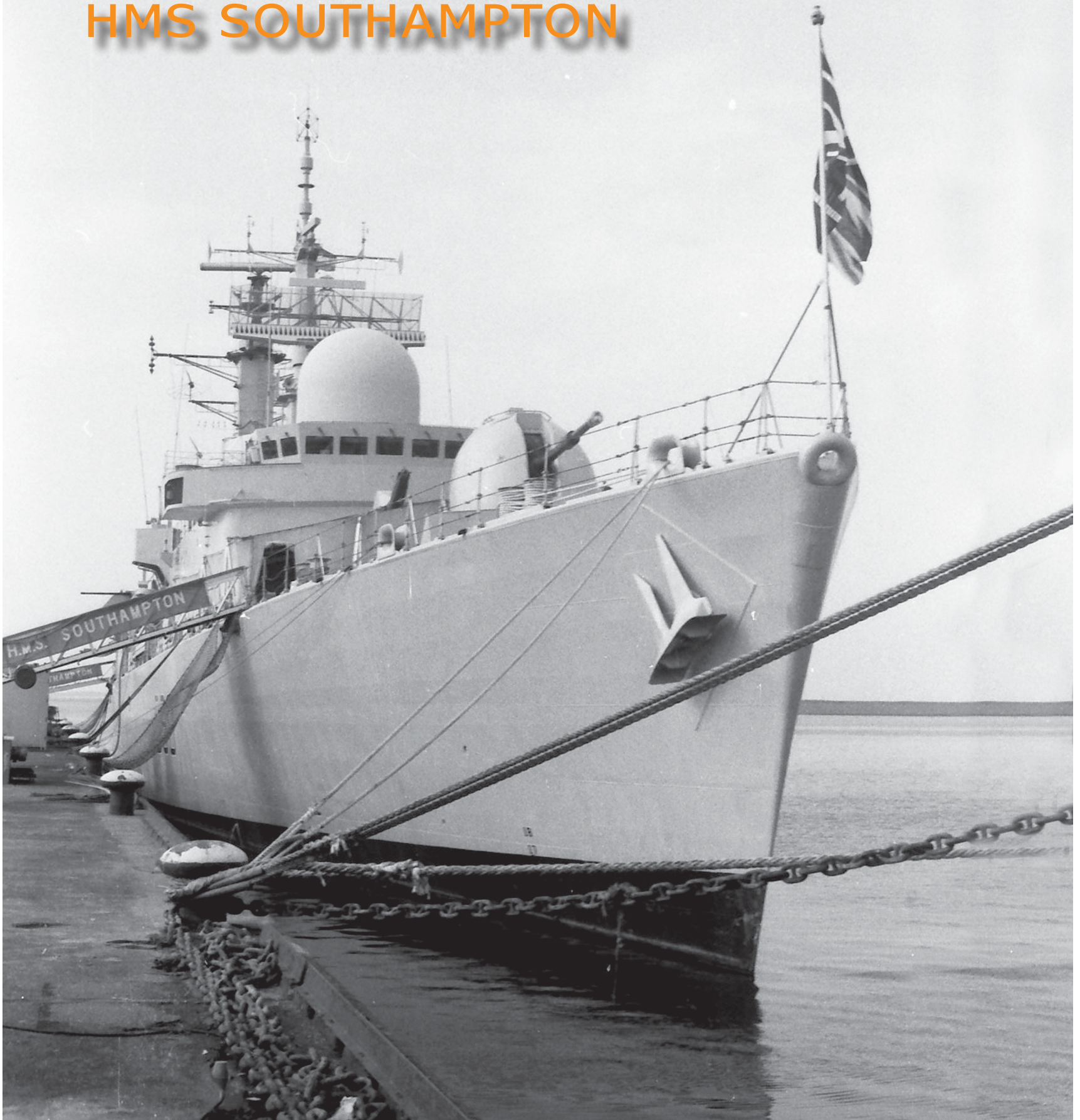


# TYPE 42 DESTROYER HMS SOUTHAMPTON





# HMS SOUTHAMPTON

## INTRODUCTION

The replacement for the destroyers of the County-class, were much more compact and austere than their fore bearers. The primary role of the Type 42s was to provide area air defence for the ships they had to escort. With their long-range sensor fit they also could act as radar pickets, sailing ahead of a Task Group to act as its eyes and ears.

The loss of HMS *Sheffield* and *Coventry* demonstrated, this latter role denied the ships supporting fire from accompanying warships and highlighted their vulnerability.



## DEVELOPMENT

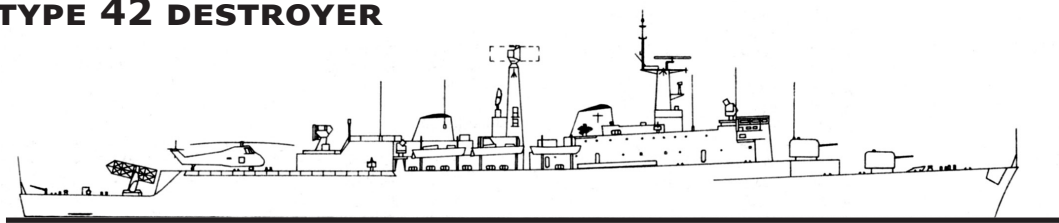
In the 1960s the Royal Navy was still one of the premier carrier fleets in the world, second only to the US Navy which was in the process of building 80,000 tons aircraft carriers of the Kitty Hawk-class. The increasing weight and size of modern jet fighters meant that a larger deck area was required for take offs and landings. Although the Royal Navy had come up with increasingly innovative ways to allow ever larger aircraft to operate from the small flight decks of their carriers and to maintain air groups of a size large enough. It was decided that it would be necessary to commission a new class of large fleet carriers; the CVA-01.

On 14 February 1966, after a day long meeting, the Cabinet decided to cancel the plans for the construction of the new carrier. The Labour government calculated that maintaining a carrier air group East of Suez would be 60% more expensive than as a land based airforce. Along with the cancellation went the proposed Type 82 destroyers designed to escort them. This led to new Staff Requirements for a smaller fleet escort capable of providing area defence. The result was the much more compact Type 42 guided missile destroyer (DDG), which achieved significant savings on cost and displacement by dropping the Ikara long-range ASW missile and Limbo mortar and adopting

an all-gas turbine (COGOG) propulsion system, using Rolls-Royce Olympus turbines for main drive and Tynes for cruising.

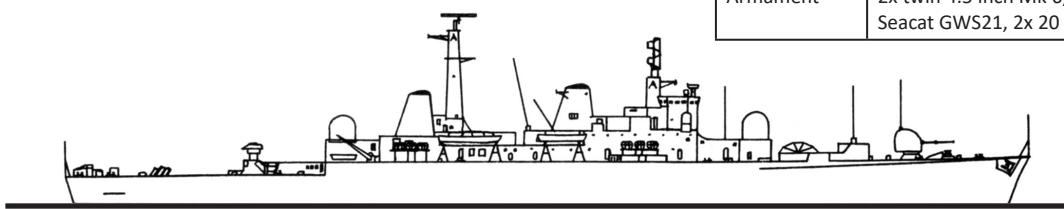
Although lacking Ikara, the ASW capability was greatly improved over previous ships by providing a hangared Lynx light helicopter (armed with torpedoes and missiles). Unlike *Bristol* the forecastle deck extends right aft to form the helicopter flight deck, leaving a small covered quarterdeck below for handling mooring wires. Close-range ASW defence is provided by triple TT similar to the USN Mk 32, firing Mk 44 or Mk 46 torpedoes (STWS), but eventually to fire the new Stingray light-weight torpedo (STWS-2).

### ANCESTORS OF TYPE 42 DESTROYER



#### County class destroyer

HMS *Kent* (D 12) in service 1963-1983. Originally an eight-ship class built between 1959 and 1970. The design was volume critical and centered on the Seaslug-missile system. They were the first ships to have Combined Steam Or Gas turbine machinery. Permitting the ship to get under way at short notice as well as providing more power at high speed without excessive weight.



#### Type 82 destroyer

HMS *Bristol* (D 23) in service 1973-1991. Initially planned as a four-ship class, but in 1967 three were cancelled. Designed as a successor to the 'County'-class for giving air-defence screening for the Royal Navy's planned 50,000 tons aircraft carrier. A secondary function was to act as command ship for a Task Force. With the cancellation of the aircraft carrier programme, much of the reason for existence evaporated and helped lend impetus to the development of the Type 42 destroyer.

#### County class

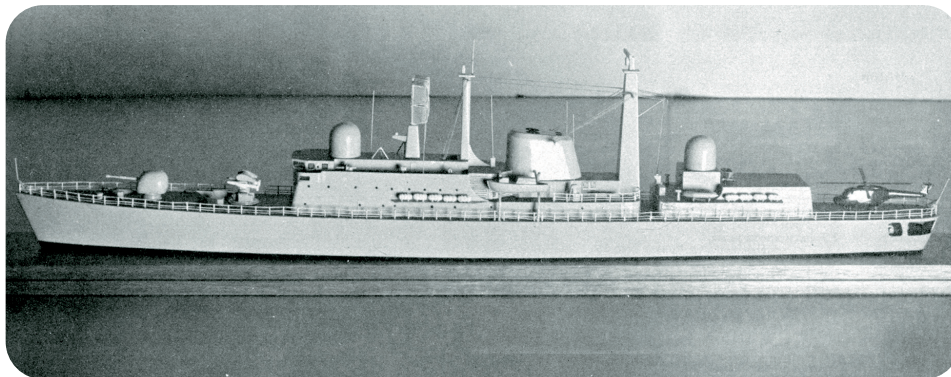
Displacement	6,800 tons full load (6,200 tons standard)
Dimensions	Length: 158.6 m (520 ft 5") / Beam: 16.4 m (54 ft 3")
Machinery	COSAG (Combined Steam or Gas), 2 shafts
Performance	30,000 / 30,000 shp; 28 knots
Complement	440-471
Armament	2x twin 4.5 inch Mk 6, 1x 2 Seaslug SAM, 2x quadruple Seacat GWS21, 2x 20 mm, 2 helicopters

#### Type 82

Displacement	7,700 tons full load (6,700 tons standard)
Dimensions	Length: 154.5 m (507 ft) / Beam: 16.8 m (55 ft)
Machinery	COSAG (Combined Steam or Gas), 2 shafts
Performance	30,000 / 44,000 shp; 30 knots
Complement	407
Armament	1x single 4.5 inch Mk 8 dual-purpose gun, 1x twin Sea Dart SAM, 1x Ikara ASW, 1x Limbo Mk 10, 2x single 20 mm

## HMS Southampton

*Shipbuilders model of Sheffield of 1974. It was intended to promote sales and draw attention on trade fairs and exhibitions.*  
(Collection: Jt. Mulder)



Besides the Mod.I twin Sea Dart missile launcher forward (a lighter hand-operated version of the type in *Bristol*), the configuration was similar to *Bristol*: Type 909 target illuminating radars forward and aft and a Type 965 air warning radar with AKE-2 (double bedstead) aerial above the forward superstructure.

The appearance was quite different from previous DLGs, with a single wide funnel. *Sheffield* appeared with prominent 'Loxton Bends' on each side, an attempt to keep heat emission down, but this was not repeated in following ships. *Exeter* commissioned in 1980 with the new Type 1022 interim STIR radar in place of the double 965, and this set may be retro-fitted to the earlier ships. *Sheffield* did not receive her STWS TT, but the others carry them on small platforms abreast the mainmast.

Technical Data Type 42		
	Batch 1 & 2	Batch 3
Length o.a.:	125,5 m (412 feet)	141,1 m (463 feet)
Beam:	14,3 m (47 feet)	14,9 m (49 feet)
Draught:	4,2 m (14 feet)	4,2 m (14 feet)
Displacement:	3.500 tons (4.100 tons full)	3.600 tons (5.350 tons full)
Engines:	COGOG; 2 × Rolls-Royce Olympus TM3B high-speed gas turbines, (50,000 shp) 2 × Rolls-Royce Tyne RM1C cruise gas turbines, (5,340 shp)	
Propulsion:	2 shafts / S.H.P. 50.000	
Max speed:	30 kn (56 km/h; 35 mph)	
Range:	4,100 miles at 18 knots	
Armament:	<ul style="list-style-type: none"> <li>- 1 × twin launcher for GWS-30 Sea Dart missiles (capacity 24 missiles, space was reserved for an additional 15 in Batch 3)</li> <li>- 1 × 4.5 inch Mark 8 naval gun</li> <li>- 2 × 20 mm Phalanx CIWS (not on Argentine ships)</li> <li>- 2 × Oerlikon / BMARC 20 mm L/70 KBA guns in GAM-B01 single mounts</li> <li>- 4 × MM38 Exocet anti-ship missile launchers (only on Argentine ships)</li> <li>- 2 × STWS II triple anti-submarine torpedo tubes (not on Argentine ships)</li> <li>- 1 helicopter (Westland Lynx HAS / HMA)</li> </ul>	
Complement	253	269

(source: Royal Navy)

*Sheffield on trials.* (Collection: Jt. Mulder)





Sheffield on trials. Note the 'Loxton Bends', often called 'Elephant Ears' or 'Mickey Mouse Ears', the prominent exhaust funnels intended to deflect hot exhaust gasses away from radar antennae and flightdeck. They proved unnecessary and were not fitted to the other Type 42s.

(Collection: Jt. Mulder)

## Destroyer

The type of ship is indicated by the first letter of her pennant number.

D = Destroyer / guided missile destroyer.



The Royal Navy has been classifying its warships in terms of role rather than tonnage, size or shape since 1945. Although the Type 42 was classified as destroyer her tonnage and general appearance was that of a pre-war light cruiser.

The Type 42 was primarily an air defence destroyer using long range radars to detect aircraft and, if needed, engage it with its medium-range Sea Dart missile system or direct friendly aircraft against the threat.

- The first six ships of the **Batch 1** design were completed 1975-79.
- Four **Batch 2** ships with improved electronics and radar were completed 1980-83.
- Four **Batch 3** ships, completed 1982-85, were a lengthened version. (Type 42 C) 16 metres larger and a 60 cm (2 feet) increased beam giving them far better sea-worthiness, endurance and habitability.



In April 1992 HMS Exeter paid a visit to Den Helder. The ship was the first of the slightly modified 'Batch 2' Type 42 destroyers.



*HMS Glasgow berthed in Amsterdam, 5 April 1986. On 27 May 1981, during the Cold War the destroyer was deliberately rammed by the Soviet cruiser Admiral Isakov, while in the Barents Sea collecting intelligence on new Soviet equipment. The damage aboard Glasgow was minor, after they matched their speed with that of the cruiser. One year later she was involved in the Falklands War, and on 12 May 1982 damaged by a bomb from an Argentine A-4 Skyhawk.*

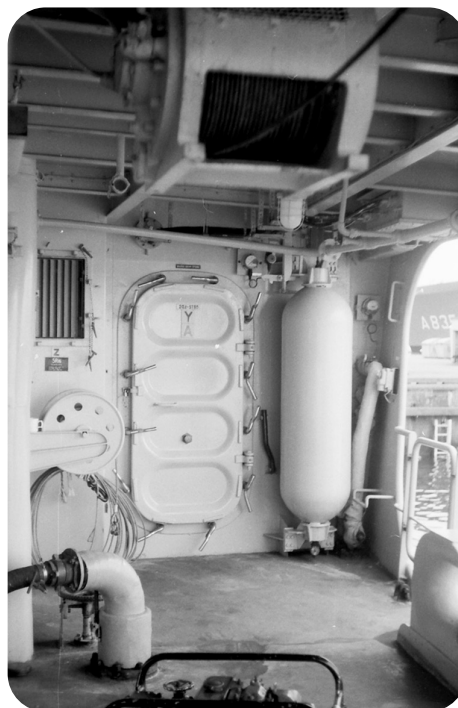
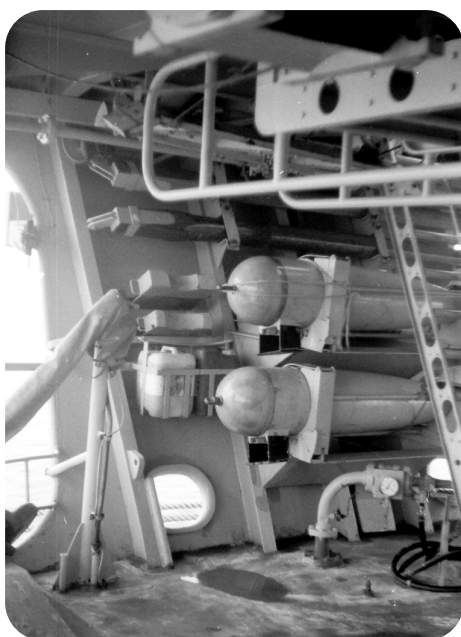
The main weakness of the Type 42s did lie in the constraints placed on dimensions during the design phase. As a result of Treasury pressure the Controller kept length and beam down, which results in cramped accommodation, a much smaller complement of missiles than in *Bristol*, and reduced endurance. The problem of endurance was shrugged aside on the grounds that the ships had no 'east of Suez' role and would always be within

reach of a replenishment group around the coasts of north-western Europe, but the short forecastle affects their seaworthiness by making them very wet forward. This fault has been rectified in the improved vessels building (Batch 3), but it placed severe limits on what can be added to the ships. The lengthening caused in turn hull cracking.



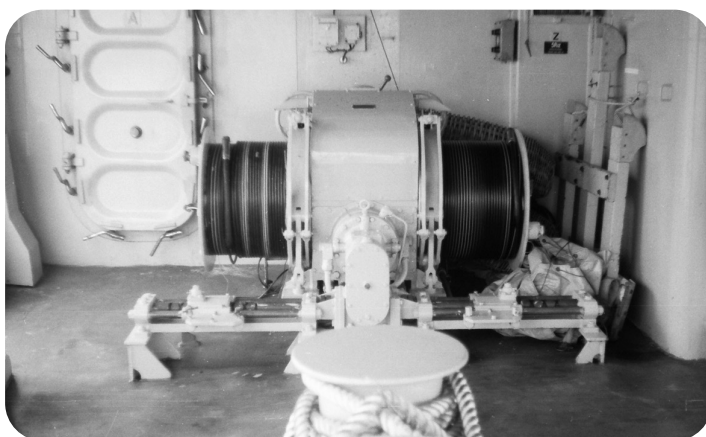
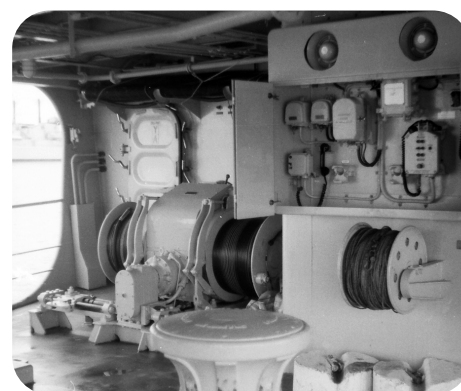
*Right:  
Quarterdeck*





*This page: Quarterdeck of HMS Southampton in 1985.*

*The winch (bottom, left) and its yellow bodies (above) are the Type 182 torpedo decoy. These bodies can be streamed astern, radiating a noise into the water to seduce submarine launched torpedoes that may be homing on to the ship.*



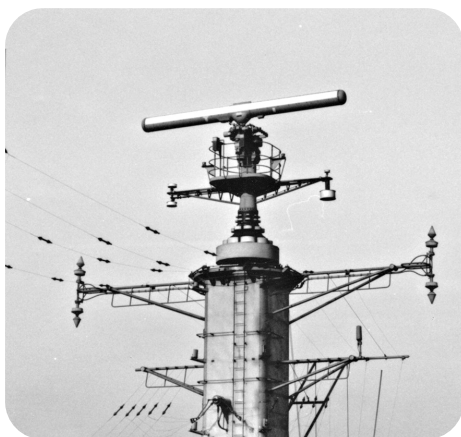
## HMS Southampton



Coventry was commissioned at Portsmouth on 10 November 1978. Thereafter the ship was designated for qualification of the new Westland Lynx helicopter operating from a Type 42 platform. The ship's first major deployment came in 1980 when she was sent to the Far East. In September of that year, alongside Antrim and Alacrity, she became the first British warship to visit the People's Republic of China in 30 years.

**Right:** HMS Liverpool preparing for RAS (Replenishment At Sea).

**Below:** The mainmast of Liverpool with her Marconi Type 992Q, a S-band target-designation radar on top.





With ten ships completed between 1975 and 1982 they were the largest class of major ships built for the RN since 1967. Because of the Falklands War the survivors were fitted with 4-30mm Oerlikons (2x2) and two single 20mm amidships, had their EW enhanced and US chaff systems added. In addition, the Lynx helicopter received the Sea Skua air-to-surface missile, rushed into service.

The high degree of automation has resulted in a reduction of 100 men over Type 82's (*Bristol*) complement. The layout of the machinery compartments allowed easy removal routes, and a complete change of gas turbine could be carried out by the ship herself: all that was needed was a sheltered anchorage and a crane capable of lifting the turbine in its module.

The building time has come down from an average of five years to four. *Cardiff* was seriously delayed by a shortage of skilled manpower at Barrow-in-Furness and had to be towed to the Tyne in February 1976 for completion by Swan Hunter. *Liverpool* was the first to be built by the 'extrusion' method: large sections of hull were built separately and then moved on to the slipway. This enabled Cammell Laird to cut delivery time by a year.

*Sheffield* was disabled and set on fire by an Argentine AM-39 Exocet missile on 4 May 1982; the wreck was scuttled 10 May. *Coventry* was sunk by bombs on 25 May.

The shortcomings of the Sheffield class could easily be remedied by restoring the length cut off the original design and slightly increasing the beam, and in November 1977 an order was placed for the first of four 'stretched Type 42s'. In configuration these four ships were identical with the later Sheffield class, with Type 1022 air warning radar. They also had the improved version of the STWS defence against submarines using the Stingray torpedo and had four 30mm Oerlikons added. Because of the longer hull they were marginally faster than the Batch 1 and Batch 2 ships.

Fourteen RN ships were built from 1970 to 1985 and two were ordered by Argentina.

## Modelplans

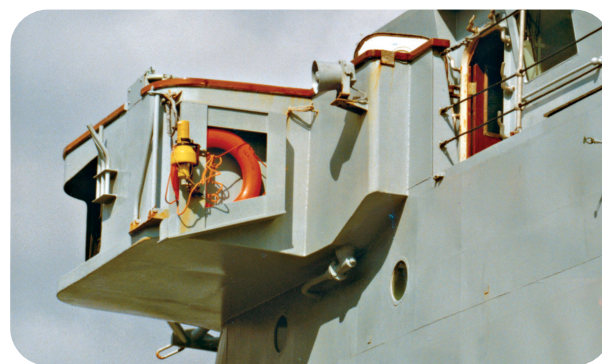
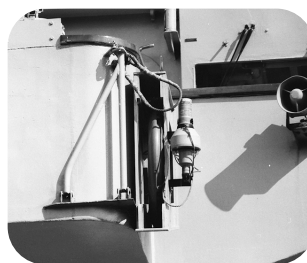
Gerald L.Y. Hitch made some high quality plans of some Type 42 destroyers. They are available on his website [www.jecobinplans.com](http://www.jecobinplans.com). These plans have a degree of detail that suits the requirements of the advanced model maker as well as making them of interest in their own right to those interested in ships.

There are plans of:

- HMS Sheffield
- HMS Birmingham
- HMS Exeter
- HMS Glasgow
- HMS Liverpool
- HMS Manchester (1981 & 1984)
- HMS York (1986, 1991 & 1998)



*Bridge of Glasgow in 1986.*



*Right: Starboard bridge wing of Southampton.*

## HMS Southampton

Type 42 Batch 1								
Pennant	Name	Hull builder	Ordered	Laid down	Launched	Accepted into service	Commissioned	Estimated building cost
D80	Sheffield	Vickers Shipbuilders Ltd, Barrow-in-Furness.	14 November 1968	15 January 1970	10 June 1971	16 February 1975	16 February 1975	£23,200,000
D86	Birmingham	Cammell Laird & Co, Birkenhead.	21 May 1971	28 March 1972	30 July 1973	26 November 1976	3 December 1976	£31,000,000
D87	Newcastle	Swan Hunter Ltd, Wallsend-on-Tyne.	11 November 1971	21 February 1973	24 April 1975	25 February 1978	23 March 1978	£34,600,000
D118	Coventry	Cammell Laird & Co, Birkenhead.	21 May 1971	29 January 1973	21 June 1974	20 October 1978	10 November 1978	£37,900,000
D88	Glasgow	Swan Hunter Ltd, Wallsend-on-Tyne.	11 November 1971	16 April 1974	14 April 1976	9 March 1979	24 May 1979	£36,900,000
D108	Cardiff	Vickers Shipbuilders Ltd, Barrow-in-Furness (to launching stage) Swan Hunter Ltd, Hebburn (for completion).	10 June 1971	6 November 1972	22 February 1974	22 September 1979	24 September 1979	£40,500,000



*HMS Cardiff while paying a visit to Amsterdam in April 1992.*

*Cardiff served in the Falklands War, where she shot down the last Argentine aircraft of the conflict and accepted the surrender of a 700-strong garrison in the settlement of Port Howard.*

*During the 1991 Gulf War, her Lynx helicopter sank two Iraqi mine-sweepers.*

*(Collection: Jt. Mulder)*

Type 42 Batch 2								
Pennant	Name	Hull builder	Ordered	Laid down	Launched	Accepted into service	Commissioned	Estimated building cost
D89	Exeter	Swan Hunter Ltd, Wallsend-on-Tyne.	22 January 1976	22 July 1976	25 April 1978	30 August 1980	19 September 1980	£60,100,000
D90	Southampton	Vosper Thornycroft Ltd, Woolston.	17 March 1976	21 October 1976	29 January 1979	17 August 1981	31 October 1981	£67,500,000
D92	Liverpool	Cammell Laird & Co, Birkenhead.	27 May 1977	5 July 1978	25 September 1980	12 May 1982	1 July 1982	£92,800,000
D91	Nottingham	Vosper Thornycroft Ltd, Woolston.	1 March 1977	6 February 1978	18 February 1980	22 December 1982	14 April 1983	£82,100,000

This batch featured improved sensors and electronics.



*HMS Nottingham participating Dutch Navy Days in 1987. On 7 July 2002, Nottingham ran in poor weather conditions aground on the submerged Wolf Rock near Lord Howe Island, 370 miles (600 km) off the coast of Australia causing £26 million to repair.*

*(Collection: Jt. Mulder)*

Type 42 Batch 3								
Pennant	Name	Hull builder	Ordered	Laid down	Launched	Accepted into service	Commissioned	Estimated building cost
D95	Manchester	Vickers Shipbuilders Ltd, Barrow-in-Furness.	10 November 1977	19 May 1978	24 November 1980	19 November 1982	16 December 1982	£110,000,000
D98	York	Swan Hunter Ltd, Wallsend-on-Tyne.	25 April 1979	18 January 1980	21 June 1982	25 March 1985	9 August 1985	£118,700,000
D96	Gloucester	Vosper Thornycroft Ltd, Woolston.	27 March 1979	29 October 1979	2 November 1982	16 May 1985	11 September 1985	£120,800,000
D97	Edinburgh	Cammell Laird & Co, Birk-enhead.	25 April 1979	8 September 1980	13 April 1983	25 July 1985	17 December 1985	£130,600,000

Long hull to meet demands for extra space and better seaworthiness.

*HMS Gloucester was one of the modified of the class. Having a lengthened hull design giving better seakeeping and endurance.*

*Gloucester served in the Persian Gulf War in 1991 where she spent the longest period upthreat of any coalition warship. (Collection: Jt. Mulder)*



Type 42 of Argentinian Navy								
Pennant	Name	Hull builder	Ordered	Laid down	Launched	Accepted into service	Commissioned	Estimated building cost
B-52	Hércules	Vickers Shipbuilders Ltd, Barrow-in-Furness.	18 May 1970	16 June 1971	24 October 1972	10 May 1976	12 July 1976	
D2	Santísima Trinidad	AFNE Rio Santiago	18 May 1970	11 October 1971	9 November 1974		1 July 1981	

Same specifications as the Batch 1 destroyers.