

## CHRONOLOGICAL TABLE OF DEVELOPMENTS IN THE BTI MARINE SERVICES AND ITS PREDECESSORS

1837	10 June	Messrs. Wheatstone and Cooke were granted patent that led to the setting up of the first practical electrical signalling system in the U.K.
1839	9 July	The World's first commercial telegraph line, using equipment invented by C. Wheatstone and W. F. Cooke between Paddington and West Drayton, installed by the Electric Telegraph Company.
1851	Nov	Telegraph cable laid across Channel between Dover (U.K.) and Calais (France), and the World's first International commercial telegraph communication via submarine cable began.
1853		The International Telegraph Company laid the first cable of the Orfordness-Hague submarine telegraph cable, and established Lowestoft as their Submarine Cable Depot, with their modified paddle steamer "Monarch" based there.
1868		An Act of Parliament gave the Postmaster General the exclusive right to take over the telegraphs from the private companies operating in the U.K.
1869		An Act of Parliament authorised the Postmaster General to spend money to buy out the private telegraph companies.
1870	28 Jan	Private telegraph companies operating in the U.K. passed into the ownership of the Post Office.
1870	30 Oct	After breaking down in heavy seas, the Monarch was finally condemned as unfit for sea-going duties.
1871		Great Britain was admitted to the membership of the International Telegraph Union.
1883		The Post Office Submarine Cable Depot removed from Lowestoft and opened on a site at the corner of Woolwich Dockyard.
1883	Oct	HMTS Monarch (2) arrived at the Woolwich Depot after completing her acceptance trials.
1887		An Englishman, Oliver Heaviside, propounded the theory that the effect of the large electrostatic capacitance of cables could be minimised by increasing their inductance, this led to various types of "loaded" cables which had better telegraph signalling speeds. Later, this led to the successful development of long-distance telephone cables.
1889	29 April	The Cableship "Lady Carmichael" transferred to the Post Office.
1891		The first telephone cable was laid by HMTS Monarch (2) between England and France enabling telephone conversations to be made between London and Paris.
1898		The first time X-rays (Rontgeon Rays) used to check a cable joint (Wales-Ireland) telephone cable.
1905		Taut-wire apparatus fitted to HMTS Monarch (2), (developed by Werner Siemens).
1915	6 Sept	HMTS Monarch (2) sunk by mine as she left Folkstone Harbour.
1915	Oct	HMTS Alert (ex-Lady Carmichael) condemned as unfit for sea-going duties.

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1916	Aug	A newly built cables ship originally ordered to replace HMTS Alert came into service and was called HMTS Monarch (3).
1918		A replacement cables ship for the old Alert came into service and was named HMTS Alert (2).
1922		HMTS Monarch (3) conducted experiments on behalf of Admiralty, for location of submarine cables by towing electrodes behind the ship.
1932		Regular use of towing electrodes behind P.O. cables ships to locate submarine cables and faults.
1932		The first submarine cable for carrier working was laid from the U.K. to La Panne in Belgium. It contained 120 wires arranged as four wire circuits and provided nearly ninety telephone circuits using one-plus-two carrier equipment.
1937		A pair of coaxial cables were laid between the U.K. and Holland.
1939		The first polyethylene submarine telephone cable produced by Submarine Cables Ltd. in the U.K.
1939		Cables ship HMTS Ariel added to P.O. Cables ship fleet.
1940		Cables ship HMTS Iris added to P.O. cables ship fleet.
1943		The World's first submerged repeater was laid. It was inserted in a submarine coaxial cable between Anglesey and the Isle of Man, and was designed by members of the Post Office Research Station.
1945		HMTS Alert (2) torpedoed and sunk with the loss of all the ship's complement.
1945		HMTS Monarch (3) mined and sunk with the loss of only three of its complement.
1946		HMTS Monarch (4) commissioned, she was at this time the biggest cables ship in the World.
1946		The German C.S. Orderney handed over to the British Post Office as War reparations, she was re-fitted and renamed HMTS Alert (3).
1950		Four 2 way repeaters were inserted into the Aleburgh-Domburg No. 4 cable which increased its capacity to 60 channels.
1951		Post Office Research Engineers (led by Dr. Brockbank) evolved an entirely new type of deep sea cable. Known as lightweight submarine cable, it had a steel strand in the centre instead of the conventional layer of steel armour wires on the outside. This lightweight type of cable was both cheaper and easier to lay. The patent number was 703782.
1954		A submarine cable was laid between Aberdeen, Scotland, and Bergen, Norway. This cable, 300 nautical miles long with seven repeaters was, at the time it was laid, the longest telephone cable in the World. The cable was laid by the P.O. cables ship HMTS Monarch (4).
1956		The first transatlantic telephone cable between Oban (Scotland) and Clarenville (Newfoundland), a distance

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		of 2,240 miles, was laid by the P.O. cablesip HMTS Monarch (4). After crossing Newfoundland, a further submarine cable was used to complete the connection to the mainland of Canada, some of the circuits terminating in Canada and some passing via an overland microwave radio system to the U.S.A.
1957		Five sheave cable and repeater laying gear installed on HMTS Monarch 19-Nov-1957.
1959		HMTS Monarch chartered to lay the TAT2 cable between France and Newfoundland.
1960		HMTS Alert (3) taken out of service.
1960	Nov	Parachute proving trials carried out by HMTS Ariel in Loch Fynne. The parachutes were designed to slow the descent of the rigid repeaters to match that of the lightweight cable.
1961		The Anglo-Canadian telephone cable (CANTAT 1) was laid by HMTS Monarch (4). This was the first time that the lightweight cable developed by the P.O. in 1951, was brought into service. It provided 80 speech circuits.
1961		HMTS Alert (4) was commissioned.
1963		The Commonwealth trans-Pacific cable (Compac) was laid between Canada and Australia. HMTS Monarch was chartered to lay one section of this cable.
1965		HMTS Monarch trials, a number of new ideas were tried out, among these were: <ol style="list-style-type: none"> <li>1. The use of television cameras in the various parts of the ship to enable a watch to be kept of the cable from the cable tank to the sheaves, as well as the foredeck and jointing areas. As a result TV cameras are now standard fittings on the P.O. cablesips</li> <li>2. Buoyancy bags attached to the lightweight cable by highly extensible ropes were so arranged that they would support a considerable portion of the loading of the cable while the ship was standing to the cable end. Using this technique, peaks in the cable tension due to the movement of the ship in rough weather ae greatly reduced.</li> <li>3. Tests were made on a new design of temperature and pressure transducer produced by the P.O. Research Dept. This device provides more accurate depth and temperature records during survey operations.</li> </ol>
1966	April	HMTS Monarch fitted with new bow and stern Whiskers associated with the needs of the latest design of lightweight cables and repeaters.
1967		Transistorised repeaters laid with new cables on the Dartmouth-Jersey No. 2. (420 speech circuits). The transistors were the P.O. Type 4A2 and were all produced by the Post Office Research Branch, Dollis Hill, London.
1969	1 Oct	The Post Office ceased to be a Government Department and became a Corporation. All P.O. cablesips lost the prefix HMTS and used the prefix CS (Cable Ship) instead.

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1970		CS Alert had installed a sixteen-wheel linear cable engine, this controlled both cable and repeater.
1970	Sept	CS Monarch (4) taken out of service and sold to Cable & Wireless Ltd.
1974		Hovercraft principle adopted for moving cable containers.
1974	Nov	P.O. Central Marine Depot opened at Southampton.
1976		CS Ariel taken out of service and sold when CS Monarch (5) came into service.
1976		CS Monarch (5) brought into service.
1976	1 June	CS Iris (2) taken out of service and sold.
1976	28 June	CS Iris (3) brought into service.
1980		World's first purpose designed optical fibre submarine cable was laid in Loch Fyne, Scotland.
1981		The British Post Office was separated into two distinct parts on the 1st October. That section of the old Post Office dealing with submarine cables now contained in the new public corporation called British Telecommunications, which for trading purposes was shortened to British Telecoms.
1982		CS Iris (3) was chartered by the British Government for the role of a special support ship to the main Battlefleet around the Falklands, she sailed on the 20-April-1982.
1983		Saw the successful trials of BTI Submersible Trencher a remote controlled tracked vehicle designed to trench and lay submarine cables. It could operate down to 300 m and a television camera allowed the cable to be inspected as the work proceeded.
1983		BTRL Wheeled detrenching Grapnel and remote sensor first used.
1984		British Telecom engineers laid the worlds first undersea optical fibre cable carrying commercial traffic to link the Isle of Wight with the mainland across the Solent.
1984		An unusual project to recover a section of a disused submarine coaxial telephone cable together with its repeaters and instal part of this (including three repeaters) between the U.K. mainland and Northern Ireland.
1984		British Telecom becomes a private limited company (PLC) and sells its shares to the public.
1986		The first optical fibre cable with three regenerators laid from the U.K. to Belgium capable of providing at least 11,250 simultaneous telephone calls.

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