



REVISITED

Marine Modelling International magazine ran from October 1985 to August 2017 for a total of 365 issues with 240 'Waterlines' articles including in the first and last issues. Beginning in 2011 many of these articles were gathered together in various 'Waterlines – Revisited' pdfs providing the opportunity to re-read some of those early and not so early articles virtually as they were. This final pdf combines a series of unpublished articles originally planned for late 2017/early 2018, their subject being the United States Navy's Dreadnought Battleships. Additional pictures & information have been included.

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EARLY DREADNOUGHTS

Commencing this month our subjects are the ‘dreadnought’ battleships of the United States Navy (USN) – fifteen classes of ship from BB26 (USS South Carolina, completed 1910) to BB71 (USS Louisiana, cancelled 1943). Note that this numbering system was introduced in 1920 but has been retrospectively applied to most USN ships. The main references used in writing this article were ‘Directory of the World’s Capitol Ships’, ‘US Warships of WW1’ & ‘WW2’ all by Paul H. Silverstone and Conway’s ‘All the Worlds Battleships’ (Ian Sturton, editor) all of which are recommended for further reading and in the case of the latter considerably more technical detail; also Norman Friedman’s U.S. Battleships – An Illustrated Design History.

The first 25 USN battleships were of the pre-dreadnought type, the last of which USS New Hampshire was launched in 1906 and completed in 1908. In describing the various classes and in particular changes in appearance, the emphasis is on prominent external features which may be evident in 1/1250. To help trace the evolution of the type the same basic ‘as completed’ details are given for each class – full load displacement, main armament and speed. Typical main armament shell weights (there are different types) and ranges are given in the table; this has been taken from ‘The Big Gun’ by Peter Hodges, published 1981.

Gun	AP Shell (lbs)	Range (yds/elev ⁰)	Fitted (classes)
12"/45 Mk 5	870	21,600 / 15 ⁰	BBs 26 – 29 (South Carolina & Delaware)
12"/45 Mk 6	870	23,000 / 15 ⁰	BBs 30, 31 (Florida)
12"/50 Mk 7	870	23,500 / 15 ⁰	BBs 32, 33 (Wyoming)
14"/45 Mk 1 14"/45 Mk8+	1400 1500	21,000 / 15 ⁰ 34,300 / 30 ⁰	BBs 34 – 39 (New York, Nevada & Pennsylvania) (upgraded 1927-31 Nevada & Pennsylvania)
14"/50 Mk 4	1400	22,000 (est)/ 15 ⁰	BBs 40 - 42 (New Mexico) (upgrade as Tennessee in 1930s)
14"/50 Mk 6+	1500	36,800 / 30 ⁰	BBs 43, 44 (Tennessee)
16"/45 Mk 1	2100	35,000 / 30 ⁰	BBs 45, 46, 48 (Maryland)
16"/50 Mk 2	2100	44,600 / 40 ⁰	Cancelled BBs 49 – 54 (South Dakota) (also CC1-6)
16"/45 Mk 6	2700	36,900 / 45 ⁰	BBs 55 – 60 (North Carolina & South Dakota)
16"/50 Mk 7	2700	42,345 / 45 ⁰	BBs 61 – 64 (Iowa) & cancelled BBs 65 – 71 (Iowa/Montana)
12"/50 Mk 8	1140	38,573 / 45 ⁰	CBs 1 & 2 (Alaska) (cancelled CBs 3 – 6)

Main Armament on US battleships and battle cruisers

Notes on the Waterlines

With each class are details of mainly 1/1250 models which are dominated by ‘Navis’ for the WW1 era and ‘Neptun’ for WW2. Improved super detailed versions of the original Navis Models (NM) have their catalogue numbers suffixed ‘N’. Some of the ‘Neptun’ series are also available fully rigged with painted decks in display cases; for these the catalogue numbers are suffixed ‘V’. Neptun have also released some specific versions suffixed ‘P’ depicting ships in their Measure 1 color (sic) schemes as at Pearl Harbor in December 1941. We will also encounter some nice 1/1250s in the defunct but not un-common Delphin range. Other models you may encounter are the long gone ‘Wiking Modelle’, Japanese made ‘Konishi’ models and those in the US Superior 1/1200 range. The latter do get a specific mention for the cancelled (1st) South Dakota and Montana classes. Also there have been four USN battleships in the Atlas full hulled range and the great value Revell 1/1200 plastic kits of the Iowa class ships.

South Carolina Class

Designed before, but completed after the RN’s HMS Dreadnought, the USN’s first ‘dreadnought’ battleships USSs South Carolina (BB26) and Michigan (BB27) had a superior gun layout of superimposed #2 and #3 turrets (see note) but lacking steam turbine engines were little faster than previous BBs, now all labelled pre-dreadnoughts. They featured the distinctive cage masts which had been prototyped in 1908 with single masts on USSs Mississippi and Idaho (BBs 23 & 24) then retro-fitted on earlier ships and subsequently used on US battleships for many years. Both were completed in 1910 and served until 1922 when under the terms of the Washington Naval Treaty it was decided to scrap them, this occurring in 1924. Basic details: 17,617 tons full load, eight 12"/45 guns, 18.5 knots. **Note:** in USN terminology turrets were identified by number from the bow.



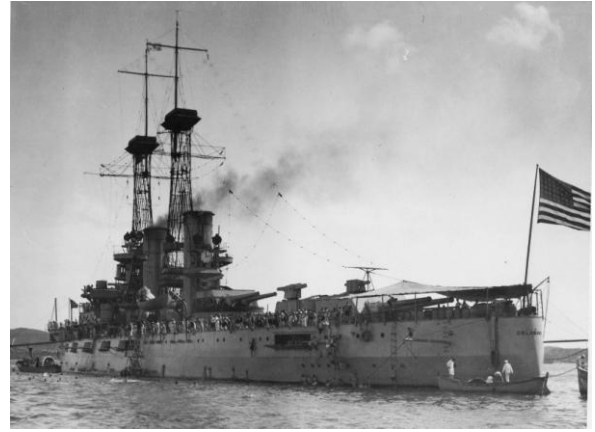
The first USN dreadnought USS South Carolina (courtesy Navsource)

For 1/1250 models we have Navis (NM) 309 representing the class as built.

Delaware Class

Also completed in 1910 were USSs Delaware (BB28) and North Dakota (BB29) introducing in the latter only the turbine although the original Curtis engines were replaced with improved geared turbines in 1917. It transpired that the turbines also resulted in higher fuel consumption/less endurance leading to the decision to return to reciprocating engines in the later New York class & USS Oklahoma (see below). The Delaware class ships were fitted with 5" (vice 3") secondary armament, a calibre used on all future USN dreadnoughts. USS North Dakota was employed as training ship in 1917/18, decommissioned in 1923. Having operated as a target ship she was finally taken out of service & scrapped in 1931. USS Delaware was decommissioned in 1923 and scrapped the following year. Basic details: 22,060 tons full load, ten 12"/45 guns, 21 knots.

1/1250 model of the class is NM 308.



USS Delaware (courtesy Navsource)

Florida Class

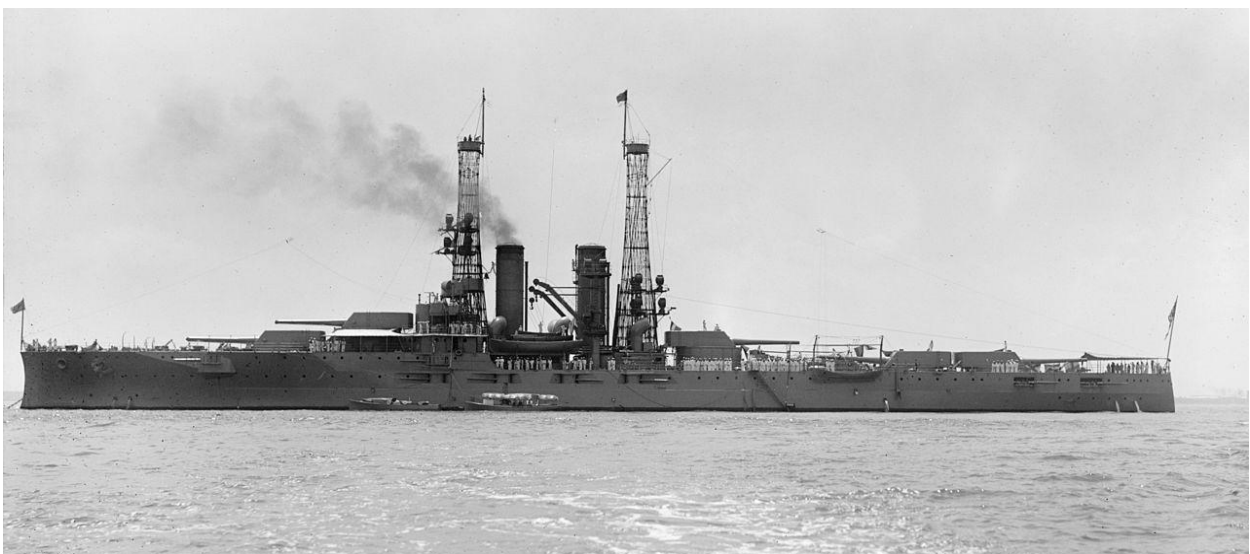
USS Florida (BB30) and USS Utah (BB31) were both completed in 1911. This time Parsons turbines were used. USS Florida served with the RN's Grand Fleet in 1917/18. With the Washington Naval Treaty coming into force in 1922 these were the oldest of the USN's BBs to be retained. USS Florida was modernised in 1924 with new and fewer oil fired boilers, hence a single funnel, and cage mainmast replaced by a pole mast. Provision was made for a catapult on the amidships (#3) turret. The ship was decommissioned and scrapped in 1931 under the terms of the London Naval Treaty which also obliged the RN and IJN 'de-militarise' respectively HMS Iron Duke and IJNS Hiei. USS Utah having been similarly modernised in 1926 was converted to a mobile target ship in 1931 (AG16). At Pearl Harbour in December 1941 in her then role as a gunnery trials ship she was torpedoed and sunk. Basic details: 23,033 tons full load, ten 12"/45 guns, 20.75 knots.



USS Florida post 1924 modernisation

NM 307N depicts USS Utah as built and Hai 187 the ship in 1941; illustrated in the 'Model Gallery' is 'Spider Navy's' USS Florida as in 1929.

USS Florida as completed:

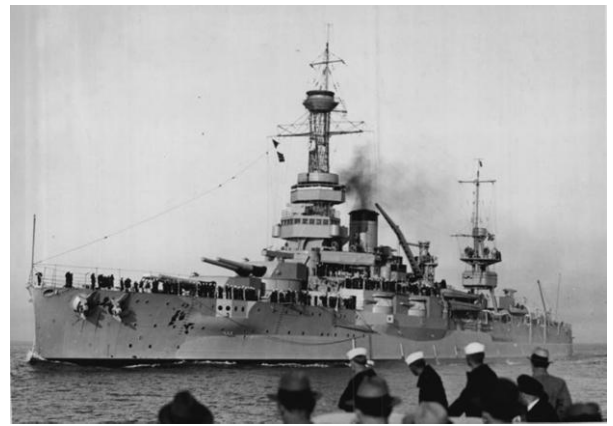


Wyoming Class

USS Wyoming (BB32) and USS Arkansas (BB33) were both completed in 1912 and introduced a new longer barrelled 12" gun (12"/50 instead of 12"/45). Again Parsons turbines were installed. They were modernised in 1925-27 with fewer now oil fired boilers, a single funnel, a catapult on #3 turret, bulges added and cage mainmast replaced by a tripod.

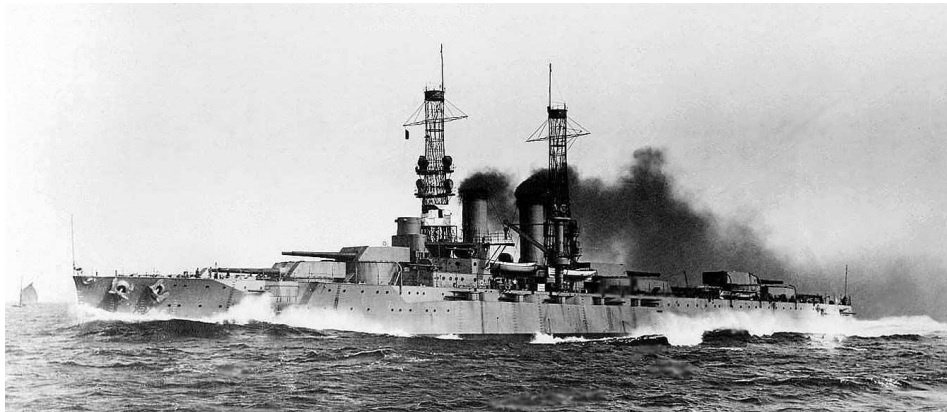
USS Wyoming was converted to a gunnery training ship (AG17) in 1932 and eventually scrapped post-war in 1948. USS Arkansas had the elevation of her main guns increase to 30 degrees in 1940/41 giving additional range; she served mainly in the Atlantic transferring to the Pacific theatre after D-Day; she was sunk as a target in atom bomb tests at Bikini Atoll in July 1946. Basic details: 27,243 tons full load, twelve 12" guns, 20.5 knots

Models are NM 306 (class as built), Neptun (N) 1309: USS Arkansas in 1944 and N-1309a: USS Wyoming in 1944.



USS Wyoming mid-1920s (courtesy Navsource)

USS Wyoming as built:



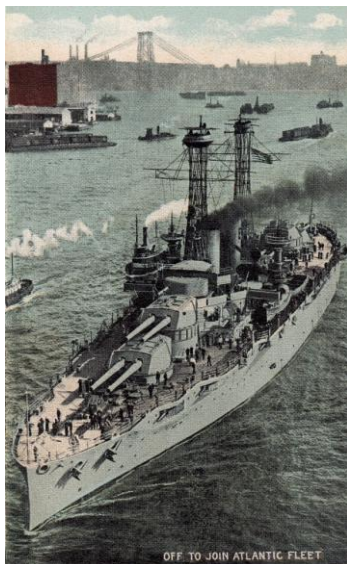
New York Class

USS New York (BB34) and USS Texas (BB35) saw a return to reciprocating engines prompted in part by unsatisfactory trials with early turbines in USS North Dakota. Significantly the older engines were assessed as giving a radius of action of over 7,000 nm at 12 kts compared with only 5,600 with turbines. The pair were completed in 1914 and modernised in 1925–27 with new oil fired boilers, a single funnel, a catapult on #3 turret, bulges added and cage masts replaced by tripods. Both had similar careers deployed in the Atlantic, then supporting landings in North Africa, Normandy and southern France followed by Iwo Jima and Okinawa. USS New York survived two atom bomb tests in 1946 and was sunk in 1948. USS Texas has been preserved as a memorial. Basic details: 28,367 tons full load, ten 14"/45 guns, 21 knots.

Models are NM 305 (class as built), N-1308a: USS New York in 1944, N-1308: USS Texas in 1945 & N-1308x: USS Texas in 1945 in Measure 21 blue.

With the Grand Fleet

In December 1917 the RN at Scapa welcomed the arrival of USSs New York, Texas, Arkansas, Wyoming, Florida and Delaware as the Grand Fleet's 6th Battle Squadron. All were coal fired as there was a shortage of fuel oil. Fully integrated into the Grand Fleet, RN tactics, signalling and fire control methods were adopted by the American ships. During World War I there was a medium/darkish color used called War Gray.



USS New York in 1917



USS New York post 1926 refit

Model Gallery (1)



The last pre-dreadnought USS New Hampshire as completed, then gray (sic) painted circa 1910 and with cage masts as fitted the following year



In 1908 USS Mississippi introduced the lattice cage mast as a robust means of supporting fire control equipment. A second mast was fitted in 1911 as depicted in this Navis model



USS South Carolina and her design contemporary HMS Dreadnought



USSs Delaware (foreground) & Florida, the 2nd and 3rd USN BB classes



USS Wyoming (foreground) the final 12" gunned BB & USS New York with ten 14"



Spider Navy USS Florida 1929

SUPER DREADNOUGHTS

We are now moving on to the super-dreadnought era with five more classes plus two projects which fell foul of the 1922 Washington Naval Treaty. As regards references Siegfried Breyer's 'Battleships and Battle Cruisers 1905 – 1970' deserves a mention particularly for the drawings reflecting various appearance changes over the years which have been used by 1/1250 manufacturer Neptun in representing specific ships on certain dates.

Nevada Class

This class represented an evolution in design being heavily armoured where it mattered, otherwise not at all, this approach being summarised by the term 'all or nothing protection'. Completed in 1916 USS Nevada (BB36) had Curtis turbines and USS Oklahoma (BB37) reciprocating engines. Oil was used but by mid 1918 this was not seen as problem and both were based at Bantry Bay in Ireland. They were extensively modernised in 1927-29 with new boilers, catapults on #3 turret & the stern, bulges added and cage masts replaced by tripods. Main gun elevation was increased from 15 to 30 degrees. Floatplane types carried included the O3U Corsair from 1930 and the SOC Seagull from 1935 with the OS2U Kingfisher coming into service in early 1941.



USS Nevada as built.

Both ships were at Pearl Harbour (see later) with USS Nevada surviving the attack and atom bomb tests in 1946 to be sunk as a target in July 1948, She had received substantial damage at Pearl and was reconstructed in 1942/43 receiving a new heavy AA armament of numerous 20mm and 40mm plus eight twin 5"/38. Basic 'as completed' details: 28,400 tons full load, ten 14"/45 guns, 20.5 knots.

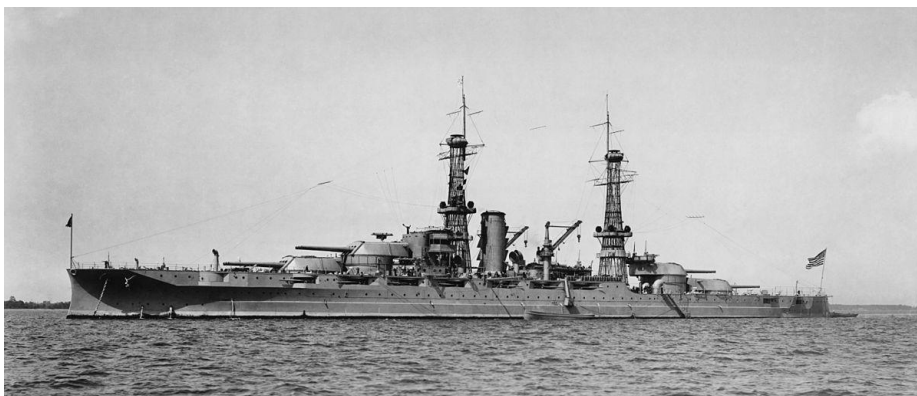


USS Oklahoma before and after modernisation

Models are NM 304N (class as built); USS Nevada: Argonaut (AR) 208 (as in 1941) & N-1307a (1945); USS Oklahoma: AR-209 & N-1307 (both 1941).

Pennsylvania Class

Completed in 1916 USS Pennsylvania (BB38) and USS Arizona (BB39) (pictured below in 1926) were an enlarged version of the previous class shipping two more main guns. Both had Babcock & Wilcox oil fired boilers driving Curtis (BB38) or Parsons (BB39) turbines. Both were modernised in 1928-31 with new boilers, catapults on #3 turret & the stern, bulges added and cage masts replaced by tripods. Main gun elevation was increased from 15 to 30 degrees. Again both were at Pearl Harbour with USS Pennsylvania suffering a single bomb hit and returning to service after repairs; she was later modernised receiving the heavy AA fit as in USS Nevada. USS Pennsylvania too survived atom bomb tests to be sunk as target in early 1948. Basic details: 32,567 tons full load, twelve 14"/45 guns, 21 knots.



USS Arizona as modernised



Models are NM 303 (class as built), USS Pennsylvania: AR-207 (as in 1939), N-1306a (1945) & N-1306ax (1945 in Measure 21 blue); USS Arizona: N-1306 (1940) and rare plastic Bachmann Miniship 1/1200 version (both 1940).

New Mexico Class

USS New Mexico (BB40), USS Mississippi (BB41) & USS Idaho (BB42) were completed between December 1917 and March 1919. The original building programme envisaged just two ships but the sale of a pair of old pre-dreadnoughts (BBs 23 & 24) to Greece in 1914 provided funds for a third. The class introduced the clipper bow but still carried the huge cage masts. BB40 had turbo-electric drives. i.e. turbines driving large electric motors, the others conventional turbines, all fed by Babcock & Wilcox boilers. With improvements in engine design range was now a more than adequate 8000nm at 10 kts. A new 14" gun with a calibre of 50 was introduced. The ships were virtually rebuilt in 1930-34 with new geared turbine engines, catapults on #3 turret & the quarterdeck, bulges added and cage masts replaced by enlarged superstructure. Main gun elevation was increased to from 15 to 30 degrees. Indeed at the time of Pearl Harbour these were the most modern battleships in the USN making it all the more fortunate that they in the Atlantic. Initial wartime modifications involved the removal of the turret catapult and much of the original secondary armament of old 5"/51 guns and the installation of over sixty light AA guns (20mm & 40mm). USS Mississippi later received sixteen 5"/25 AA guns and more 40mm losing some of the less effective 20mm in the process. USS Idaho was given ten 5"/38 DP in single turrets with forty of each type of the lighter guns. USS New Mexico retained six 5"/51 eight 5"/25 plus over eighty light AA guns. USS Mississippi had the most varied post-war career including as a test ship for the Terrier surface to air missile system circa 1952 some four years after her two sister ships had been scrapped. She was stricken from the Navy List in 1956. Basic details: 33,000 tons full load, twelve 14"/50 guns, 21 knots.

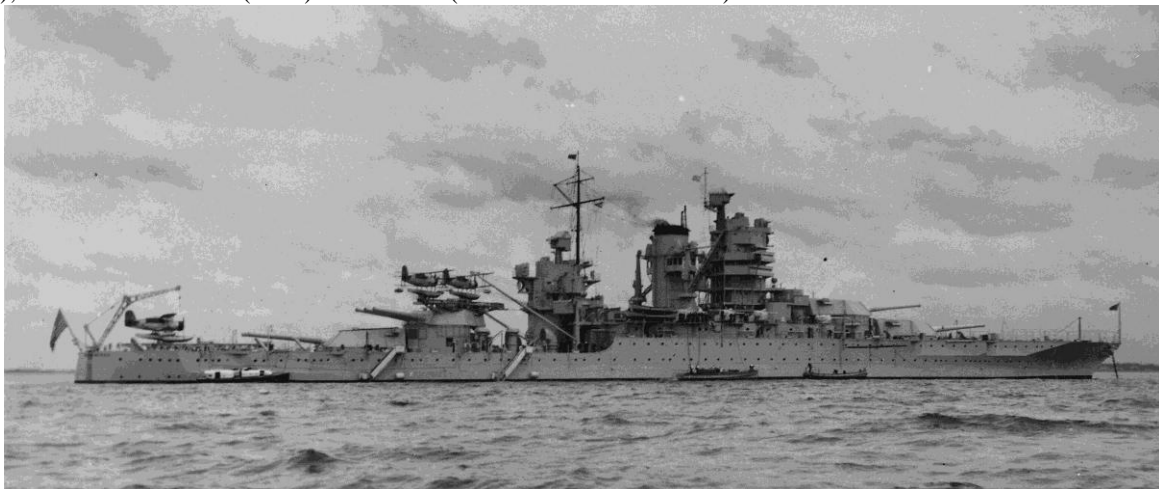


USS Idaho 1927



USS Mississippi post-modernisation circa 1936

Models are NM 302 (class as built), USS New Mexico NM 302aN (1918 detailed cage masts – celebrating 50 years of Navis), AR-216 (as in 1936) & N-1305a (1945); USS Mississippi: AR-215 (1936), N-1305b (1944) & N-2390 (as AG128 1945-56); USS Idaho: N-1305 (1945) & N-1305x (1945 in Measure 21 blue).

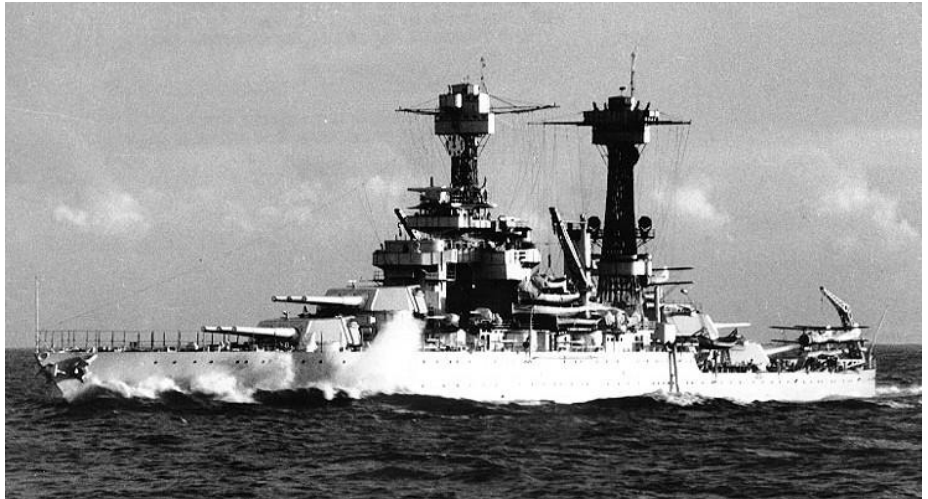


USS New Mexico; the SOC Seagull 'float planes' suggest a date of late 1930s

Tennessee Class

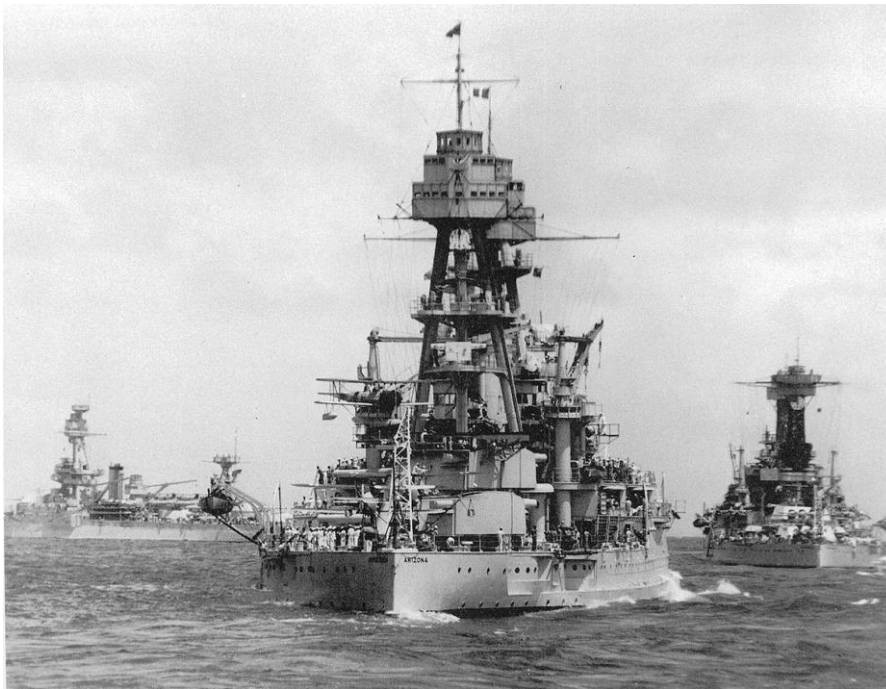
USS Tennessee (BB43) and USS California (BB44) were completed in 1920 and 1921 respectively. Armour and armament were the same as the previous class but turbo-electric drive was fitted in both. Catapults were installed on the quarter deck (with a crane) and on #3 turret in 1929/30.

Both were at Pearl Harbour after which the Tennessee, slightly damaged at the time, was selected as the prototype for a major reconstruction scheme (undertaken from September 1942 to May 1943) that was eventually applied to her sister ship (June 1942 to January 1944) and the USS West Virginia (BB48) (June 1942 to July 1944). In the immediate aftermath of Pearl Harbor USS Tennessee lost her aft cage mast for a small tower; taken out of service at war's end both were scrapped circa 1959/60.



USS Tennessee in the 1930s

Basic details: 33,190 tons full load, twelve 14"/50 guns, 21 knots.



USS New York followed by a Tennessee Class BB and USS Arizona

Models are NM 301 (class as built), Delphin (D) 39 (class as in the 1930s); USS Tennessee: D-95 & N-1304 (both as in 1945); USS California: NM301N (1921), N-1304b (1940) & N-1304a (1944).

The Washington Naval Treaty

As of July 1919 the USN's battleships were organised as follows: Pacific Fleet - Battle Squadron (B.S.) 1 of six pre-dreadnoughts & B.S.4 USSs Wyoming (Flagship), Arkansas, New York, Texas, New Mexico (Fleet Flagship), Tennessee, Idaho & Mississippi; Atlantic Fleet - B.S.2 USSs South Carolina & Michigan plus five pre-dreadnoughts and B.S.3 USSs Utah (Flagship), Delaware, North Dakota, Pennsylvania (Fleet Flagship), Oklahoma, Nevada & Arizona. Significant expansion of the fleet was in hand including the South Dakota class (see below) which had been authorised in 1917-18 and the Lexington Class of six large battlecruisers all of which activity was curtailed by the Washington Naval Treaty of 1922.



This treaty brought to a halt the battleship construction race imposing limits eventually set for the US at 525,00 tons & 18 ships and for Japan at 315,000 tons & 10 ships. Individual ships were limited to a standard displacement of 35,000 tons and 16" guns. It was agreed that no new ships were to be laid down and ships under construction were to be scrapped. So although not complete the Imperial Navy's tenth dreadnought IJNS Mutsu was retained and BBs 45 & 48 (see below) were completed. Two of the USN battlecruisers (CC1 & CC3) were converted to aircraft carriers and Japan did the same with two of their ships, IJNSs Kaga and Akagi.

Maryland Class (aka Colorado Class)

USSs Colorado (BB45) and Washington (BB47) were to be built by New York Shipbuilding in Camden, New Jersey. Both were due to be laid down in the Summer of 1917. However in April the US had joined the war and the Camden yard converted all of their production capacity to Wickes and Clemson Class destroyers. As a result neither BB were laid down until 1919. It was almost the same with USSs Maryland (BB46) and West Virginia (BB48) (→). Both were to be built by Newport News and USS Maryland was laid down in April 1917. Her construction was slowed or maybe suspended (sources differ) due to other building priorities. USS West Virginia did not have her keel laid until USS Maryland had been launched in 1920. Had it not been for those shifting priorities all four would have come into service by 1920-21 before the Treaty and the 'Big Five' would have been the 'Big Six'. Pictured above is USS West Virginia in 'Navy Gray' with a black painted cage mast; another picture shows both masts in black



Eventually then USS Maryland was completed in July 1921 followed by USS Colorado and USS West Virginia in 1923. Construction of USS Washington was suspended due to the Washington Treaty and she was sunk as a target in 1924. The ships were basically repeats of the previous class with turbo-electric drive (and the last to use this method) but introducing a 16" main armament. In 1922 USS Maryland became the first US BB to be fitted with a catapult & crane on the quarter deck; later the entire class were so fitted with an additional second catapult on #3 turret. Post Pearl Harbour USS Virginia was rebuilt; the other two had their aft cage masts shortened (1942) then replaced by towers (1943) when bulges were added. All were scrapped 1959 – 1961. Basic details: 33,590 tons full load, eight 16"/45 guns, 21 knots.

Models are NM 300N (class as built), D-40 (class as in 1930s); USS Colorado: NM 300N (as in 1923), D-50 (1942) & N-1303a (1945); USS Maryland: N-1303b (1945); USS West Virginia: N-1303c (1940), D-98 & N-1303 (both 1945)



USS West Virginia leads the battle line (USN)

(1st) South Dakota Class

This class of six (BBs 49 – 54) had been laid down in 1920/21 but were cancelled because of the Washington Treaty. Construction was halted in February 1922 at which point the lead ship USS South Dakota (BB49) was 38.4% complete (not quite sure how you measure that) and BB54 at 11%. Cancellation was confirmed in August 1923 after which they were scrapped. Basic details: 43,200 tons normal, twelve 16"/50 guns, 23 knots. Waterlines have been produced by Superior (A120 – as designed & A121 – entirely speculative eight 18" gun design) and 'USA Models' the latter comprising USA-010 USS South Dakota (master by noted US model maker John Youngerman) cage mast (issued in the UK as MBM-17) and USA-010a with tripod masts (MBM-18). L to R below USSs South Dakota (A120), Maryland (D-40) & California (D-39).



Lexington Class (Battle Cruisers)

Although not battleships this cancelled class of six ships (CC1 – 6), which became another casualty of the Washington Treaty, deserve to be mentioned. Laid down in 1920/21 the project was suspended in February 1922 and finally cancelled in August 1923. Basic details as designed: 43,500 tons normal, eight 16"/50 guns, 33 knots. Eventually completed as aircraft carriers were USS Lexington (CV2, ex CC1) and Saratoga (CV3 ex CC3). The third and final design for the CCs is represented in 1/1250 by Delphin 65 USS United States (CC6, pictured below) and in 1/1200 by Superior A202 USS Lexington. The first design which specified ten 14"/50 guns and had seven funnels is the subject of A203.

The London Naval Treaty

The London Naval Treaty of 1930 further reduced the number of battleships to 15 for the USA and 9 for Japan. The USN scrapped USS Florida (BB30), modified USS Utah (BB31) as a target ship and USS Wyoming (BB32) as a training ship. IJNS Hiei was de-militarised (but restored to full operational capability by 1940).

COLOR SCHEMES 1920 - 1941

From the early 1920s a standard color scheme was used with 'No.5 Outside Navy Gray' (a light blue-gray) on vertical surfaces, 'No. 20 Outside Deck Gray' (a dark gray) on metal horizontal surfaces with wooden decks left in their natural state. Cage masts were often black painted above funnel level. For embarked bi-planes 'floatplanes' 'chrome yellow' was applied to the top of the upper wing and aluminium paint for the remainder of the aircraft. Some aircraft remained in their natural



metal finish, but most were painted. Aircraft (3 to a BB, although as fleet and battle force flagships respectively USSs Pennsylvania and California carried a 4th, overall aluminium with fuselage blue painted) had different tail colors for each of the four 3 ship divisions, this being how the battlefleet was organised in the 1930s. Based at San Pedro, the BBs of Division 1 USSs Arizona, Nevada & Pennsylvania were assigned aircraft from Observation and Scouting Squadron (VO) -1 which used insignia red with variations of cowlings (red on whole cowling, top half, lower half) to signify aircraft number, for example lower half painted is aircraft #3. Other colors were white (VO-2, Div 2: USSs Tennessee, California & Oklahoma) and true

blue (VO-3, Div 3: USSs Idaho, Mississippi & New Mexico). Black was used for VO-4 floatplanes on the BBs of Division 4 namely USSs West Virginia, Colorado & Maryland. From circa 1938 these colors were also applied to #1 and #2 turret tops on the BBs with #3 turret fitted with a catapult remaining gray. #4 turret was either red, white, or blue, indicating the ships position in the division. Red was for the flagship. That is why you see models of USS Arizona with three reds. In the Atlantic lemon yellow was used by Division 5 (USSs Arkansas, New York & Texas; plus nominally USS Wyoming) although for the period 1939/40 these ships may not have carried aircraft. This information mainly comes from the old Squadron/Signal publication Navy Air Colors courtesy of 'Docksider' Thom Brennan with further input from Dave Chuck Treese who has been very helpful throughout this series of articles. Pictured above is USS Tennessee with her BB# on #2 turret – during the 1930s it was quite common to carry these for fleet exercises.

In September 1937 three shades of gray were specified namely light (which matched existing #5), a medium 'Ocean Gray' and a dark gray with several potential schemes given (see USN Camouflage of the WW2 Era, 1976). These paints were replaced in January 1941 with Light Gray (5-L), Ocean Gray (5-O) and Dark Gray (5-D). At the same time a new set of color schemes known as Measures 1 to 8 were introduced although their use was initially left to the discretion of the Fleet Commanders. In March 'Measure 1' was specified for the Pacific Fleet this scheme being mainly '5-D' with '5-L' applied to the ships upperworks above funnel height; metal decks were '5-D' and wood left bare. The subject of USN color and camouflage schemes is a huge and complex subject but a little googling will reveal a lot of data – that provided by Snyder & Short Enterprises at www.shipcamouflage.com is to be recommended including as it does a list of BBs tabulating the different schemes worn over the years. Of the above colors Lifecolor USN set 1 includes 5, 5-L & 5-D*; no 20 but Revell #77 dark gray looks about right. * not quite as dark as the 5-D gray of the Neptun 'P' series (see below).

Model Gallery (2)



Argonaut models of USSs New Mexico (foreground) & Mississippi as in 1936 post re-build



The first two 'super' dreadnought classes Nevada (foreground) & Pennsylvania were armed with 14" guns



USSs New Mexico (foreground) & Tennessee as completed in 1918 & 1920 respectively



Introducing the 16" gun was USS Maryland & (background) the cancelled USS South Dakota



Two depictions of the same class: Neptun USS Oklahoma (foreground) & Argonaut USS Nevada, both post modernisation circa 1941



Delphin USS United States



Atlas USS Arizona in Measure 1



Atlas USS Pennsylvania in the 1930s with SOC Seagulls in the colors of BATDIV 1; the gray is too pale & upper (metal) decks should be dark gray & turret roofs 1 & 2 red, 4 blue



Argonaut USS Pennsylvania (Paul Jacobs)



Wiking USS Colorado



Delphin D-50 converted to USS Washington



Bachmann Miniship USS Arizona

WW2 ERA (& BEYOND)

Moving on now to the WW2 era (and beyond) we have three more classes. Added to the list of references we now have 'American Battleships, Carriers and Cruisers' by HT Lenton (published 1968) which is very useful as regards modifications prior to and during WW2 for both the older vessels and the new ships. From mid 1942 to 1945, some USN ships in the Western and South Pacific were painted in Measure 21 camouflage. This consisted of vertical surfaces painted Navy Blue 5-N and horizontal surfaces Deck Blue 20-B. This is mentioned because Neptun have released models in this paint scheme – catalogue numbers suffixed with an 'x' for example USS New Jersey N-1300bx.

North Carolina Class

The first new construction for eighteen years, the fast battleships USS North Carolina (BB55) and USS Washington (BB56) were completed in April and May of 1941 respectively. The design was constrained by the terms of the London Naval treaty of 1936 but when Japan declined to accept the 14" limit for main armament (as in the RN's King George V class), it was decided to adopt a new 16" weapon in three triple turrets. Following severe problems with vibration the pair became operational in early 1942 and USS Washington became the only modern US battleship to sink an enemy capitol ship, the IJNS Kirishima (eight 14"/45) in November.

The older battleships had their turn at the Battle of Surigao Strait in October 1944 when a battle line of USSs Mississippi, California, Tennessee, Pennsylvania, West Virginia and Maryland effectively 'crossed the T' of the advancing IJN battleships Fuso and Yamashiro (twelve 14"/45 each) although the former was sunk by the torpedoes of USN destroyers, leaving IJNS Yamashiro to be finally despatched by gunfire.



Both were stricken in 1961 with USS North Carolina (above left – USN) now preserved as a museum ship (above).

Basic details: 44,377 tons full load, nine 16"/45 guns, ten twin 5"/38 DP, 28 knots. Models are USS North Carolina: D-68 (as in 1941), N-1302 (1945) & N-1302T (in camouflage 1945) and USS Washington: N-1302a (1941). Incidentally D-68 is catalogued as USS Washington but the inclusion of an extra platform on the upper for'ard superstructure means that the model is of USS North Carolina.

December 1941

As of December 1941 the USN's five Battleship Divisions (BATDIV) were deployed as follows: in the Atlantic were BATDIV 3 comprising three New Mexico class and BATDIV 2 of two New York class & the older USS Arkansas; plus the two new North Carolina class on sea trials. BATDIVs 1, 2 & 4 comprising nine BBs were in the Pacific and had moved from San Pedro to Pearl Harbor in May 1940. As of December 1941 USS Colorado was in refit at Bremerton Navy Yard in

Washington and the remainder at Pearl Harbor. On December 7th seven battleships from four classes were moored off Ford Island – USSs Nevada & Oklahoma (Oklahoma class), Tennessee & California (California class), West Virginia & Maryland (Maryland Class) and Arizona (Pennsylvania class). Less exposed as the inner of BB pairs were USSs Tennessee and Maryland. USS Arizona (612ft) was partly shielded by the 465ft repair ship USS Vestal moored alongside. USS Pennsylvania was across in the Navy Yard in Drydock No. 1. Also present was AG16 USS Utah, a former battleship. Look on www.coastlinesmodels.co.uk for Roger Dawson's superb 1/1250 Pearl Harbor diorama.

According to Del Palmieri (series of articles in Scale Models, from April 1979) although Measure 11 (overall Sea Blue 5-S, decks Blue 20-B) was introduced in September 1941, lack of paint and heavy sea training schedules meant none of the BBs had been repainted leaving them in Measure 1 (vertical surfaces and metal decks Dark Gray 5-D, vertical surfaces on upperworks above level of stacks Light Gray 5-L with bleached teak wooden decks). USSs Nevada and Oklahoma also had Measure 5 – false bow wave - added. Palmieri says that 'very few of the cruisers and destroyers present had had the opportunity to repaint in Sea Blue'. One that had (pictured at Pearl) was USS Phoenix. He also has interesting pictures of Atlantic based BBs USS North Carolina (on gunnery trials) and USS Washington (on commissioning day) both in Measure 1. The BBs at Pearl Harbor still had their colored turret roofs but for the survivors these were painted over early in 1942.

As regards models the 'date depicted' is significant as the appearances of these ships changed as most were rebuilt and re-commissioned after the attack. The Neptuns suffixed 'P' are basically existing models painted in Measure 1 although N1306P adds the gun platform on the main tripod mast and N1303P has a radar installed. Neptun have not colored the turret roofs probably because some sources suggest that these were gray painted earlier in 1941 as Measure 1 was applied.



N1306P USS Arizona
(turret roof colors: #1, #2 & #4 all red)



N1304P USS California
(turret roof colors: #1, #2 & #4 all white)



N1303P USS West Virginia
(turret roof colors: #1 & #2 black, #4 red)



USS Maryland (IPMS/USA)
(turret roof colors: #1 & #2 black, #4 true blue)



USS 1307P USS Oklahoma
(turret roof colors: #1 & #2 red, #4 true blue)



N1303P compared with D40 USS Maryland
painted using Lifecolor paints

There were differences between class sisters USS Arizona and Pennsylvania by late 1941. The former had a platform on the main tripod mast to mount machine guns and on the for'ard mast a mounting for a new radar antenna, but not the antenna itself. It is understood that USS Vestal was alongside to do some preliminary modifications, including installing the antenna mount, prior to USS Arizona's scheduled trip for further modifications to Bremerton. When USS Pennsylvania was modernised back in 1929/31 she had been fitted out as US Fleet flagship receiving some additional bridgework and superstructure around and associated with the forward tripod mast.

If a 1/1250 diorama is being created a full hulled USS Pennsylvania can be found in the Atlas range although the model would require a repaint from its 1930s scheme to Measure 1 and the SOC Seagulls would have to go. Impressively the Atlas model does have a flagship bridge. Easier perhaps (subject to the remarks above) to substitute Atlas's USS Arizona which like the Neptun version has the low splinter shields around the 5" guns which her sistership USS Pennsylvania also had by late 1941. N1307P could stand in for USS Nevada; there are detail differences between USSs Maryland and West Virginia.

Ship	Model Dec 1941	Fate	1944/45
USS Nevada	AR-208	Badly damaged & reconstructed; re-commissioned 12/42	N-1307a
USS Oklahoma	AR-209, N-1307P	Sunk, raised but lost whilst on tow to the scrappers	--
USS Pennsylvania	AR-207	Slightly damaged, quickly returned to service	N-1306a
USS Arizona	N-1306P, Atlas 15	Sunk, remains in situ as a war memorial	--
USS Tennessee	D39	Slightly damaged, quickly back in service; reconstructed 1942-43	D-95, N-1304
USS California	D39, N-1304P	Badly damaged and reconstructed; re-commissioned 5/44	N-1304a
USS Maryland	D40	Slightly damaged, quickly returned to service	N-1303b
USS West Virginia	D40, N-1303P	Badly damaged and reconstructed; re-commissioned 9/44	D-98, N1303



Battleship Row (IJN)



Drydock No. 1 (USN)

Following the USS Pennsylvania's rapid return to service she was painted in Measure 11, certainly by March '42. The shields on the 5" guns in the Mare island photos of Feb 42, were put in place after Pearl and probably while at Mare Island. USS Pennsylvania operated for some time, based out of California, before she went in for a complete refit. The shields were probably intended as a temporary measure.

Of related interest is a picture in 'USN Camouflage of the WW2 Era, 1976' of Atlantic based USS New Mexico on December 31st 1941 in Norfolk Navy Yard in the process of losing her Measure 1 scheme – #2 turret roof has her BB # (40) and the roofs of #s1 and 2 are of a different shade – colored or gray; who now knows. Of the above colors Lifecolor USN set 1 includes 5, 5-L & 5-D (also 5-O Ocean Gray (for Measure 2) and Measure 11's 5-S Sea Blue & 20-B Deck Blue).

In the Atlantic Fleet Measure 12 (modified) was being brought in at the end of 1941 namely 'waterline to level of main deck (or highest sheer line) Navy Blue 5-N, upper hull and superstructure Ocean Gray 5-O, masts above this Haze Gray 5-H. Also spotted on the back cover of 'The Big Gun' (Peter Hodges, 1981) there is a great color photo of USS New Mexico in 1944 still with unpainted teak decks despite noted above as being thoroughly camouflaged in Measure 32/6D by then. Highly recommended is 'The Floating Drydock (www.floatingdrydock.com) who have books, paintchips and a series of over 190 different design sheets available for the dazzle type camouflage applied to US Navy warships during 1943-45.

Re-building the Battlefleet

In the aftermath of Pearl Harbour a huge amount of effort was expended in repairing and modernising those ships badly damaged during the attack. In the interim the three New Mexicos and USS North Carolina were transferred to the Pacific by mid-1942 bringing fleet strength back to eight. This left just four BBs in the Atlantic including the modern USS Washington operating as part of the RN's Home Fleet.

As regards repairs/refits, USS Nevada lost her tripod mainmast in favour of a tower and received a new AA fit built around eight twin 5"/38 DP guns; also a prominent funnel cap. USS Pennsylvania was similarly modernised in 1943 (no funnel



cap). USS Tennessee although not badly damaged was taken in hand as the prototype for a major reconstruction involving new compact superstructure and single funnel and eight twin 5"/38 DP. USSs California (pictured above in Measure 32/16D in 1944) and West Virginia were similarly re-built.

USS Colorado was given six single 5"/38 DP plus over seventy light (20mm/40mm) guns. USS Maryland received eight twin 5"/38 DP plus numerous light guns. As can be seen in the table all have been depicted in 1/1250.



USS West Virginia in 1944 (Measure 32/7D)

(2nd) South Dakota Class



In theory limited by treaty to 35,000 tons (standard displacement), BBs 57 – 60 were (USSs South Dakota, Indiana, Alabama & Massachusetts) were completed between March and August 1942. USS South Dakota had a slightly different configuration with sixteen (rather than twenty) 5"/38 guns, the weight saving needed due to an extra deck in conning tower for a role as fleet flagship. During the war light AA was considerably enhanced (as in all USN BBs) and all four had very active wars in the Pacific theatre and in the case of USSs South Dakota & Alabama with the British Home Fleet (1943). In November 1942 the Allied invasion of North Africa (Operation Torch) was supported by USSs Texas (BB35) and Massachusetts, the latter engaging the French battleship Jean Bart and achieving five 16" hits (of which two exploded).

Pictured left is USS Indiana in 1944 (USN). By 1946 all of the class had been withdrawn. USS Massachusetts was refitted for further service but ultimately ended up as a museum ship, as did USS Alabama (pictured below).



The other two were sold for scrap in 1962/63. Basic details: 44,519 tons full load, nine 16"/45 guns, ten twin 5"/38 DP, 27.5 knots.

Models are USS South Dakota: D-90 (as in 1942) & N-1301a (1944); USS Indiana: N-1301b (1943); USS Alabama: D-79 & N-1301 (both as in 1943) & N-1301T (1943, in camouflage); USS Massachusetts: N-1301c (1944).

Iowa Class

BBs 61 – 64 were USSs Iowa & New Jersey (laid down 1940, completed 1942) and USSs Missouri & Wisconsin (1941, 1944). Two further ships (BBs 65 & 66) were laid down in December 1942 but not completed, the hull of USS Kentucky being launched in 1950 but sold for scrap. Design work had commenced back in 1938 amidst rumours of a Treaty-busting 46,000 ton Japanese ship prompting the US to invoke an escalator clause in the London Naval Treaty which allowed an additional 10,000 tons in displacement (to 45,000 standard) and an increase in gun size from 14" to 16" (already adopted two classes earlier). In fact the Japanese ships materialised in 1941 and 1942 as IJNSs Yamato & Musashi which at 67,315 standard displacement (69,990 full load) and 18.1" guns were in complete defiance of all treaty limitations.

All four Iowas operated almost without exception in the Pacific (USS Iowa took President Roosevelt to the Casablanca Conference in 1943) and famously the Japanese surrender was signed on board USS Missouri in September 1945. They served in the Korean War and as part of the so-called 600 ship fleet in the 1980s. More specifically USS New Jersey was operational 1968 – 1969 (Vietnam) and USS Wisconsin & USS Missouri during Operation Desert Storm (early 1991). USSs New Jersey and Missouri were taken out of service in 1991 and 1992 respectively at which point USSs Iowa and Wisconsin were assigned reserve status. Both were stricken in 2006 although all four have been preserved bring the total of such ships to eight (others being USS Texas, USS North Carolina plus two of the South Dakota Class). The 1930's practice of having BB #s on turret roofs came back into vogue during the Korean War and throughout the 1950s on the four Iowas. Most if not all had the hull number and a painted American Flag on the roof of Number 1 or Number 2 turrets. Basic details: 57,540 tons full load, nine 16"/50 guns, ten twin 5"/38 DP, 32.5 knots.



USS Iowa in 1946 (USN Official) and today (below)



Models include USS Iowa: N-1300 (as in 1943), N-1300T (1943 in camouflage) & Trident Alpha Ta-10330 (1986); USS Missouri: N-1300a (1945), N-1300aT (1945 in camouflage); USS Wisconsin: AR-201, N-1300c (both as in 1945), N-2300 (1991); USS New Jersey: D-60, AR-200, N-1300b (all as in 1944), N-1300bx (1944 in Measure 21 blue), Hornby Minic (1945), Ta-10310 (1983) and N-2301 (2010).

Montana Class

With four Iowas planned US naval architects were working on the next class with two (of ultimately many) designs identified as BB65-A (four triple 16"/50) and BB65-D (three quadruple 16"/50). Also considered were versions armed with 14" and 18" guns. By March 1941 the approved design featured twelve 16"/50 (triples), 70,500 tons full load and a speed of 28 knots i.e. slower but more heavily armed and armoured than the preceding class. However with the decision to build two more Iowas (to be BBs 65 & 66) the new project (nominally BBs 67 – 71) was slowed down and then suspended (April 1942) and

finally cancelled in July 1943 before any had been laid down. Another factor was the need to install new wide locks in the Panama Canal.

1/1250 models have been released by Optatus (OPT-S26 – ship as planned) and John Youngerman (YSM-004 - as would have been completed with extra AA guns); the latter plus many other fine USN BB models can be seen at www.miniaturemodeling.com. Also Superior in the USA have their main 1/1200 version (A107) plus several others representing different design options e.g. A132: BB65A 54,500 tons 12-16", A125: 60.600 tons 12-16"/50, A141A: BB65-8A 67,100 tons 12-16", A141B: BB65-8B 67,000 tons 12-18". Check out www.alnavco.com from where you can also download a useful catalog(ue).

Alaska Class (Battle Cruisers)

In closing mention should perhaps made of the USN's only completed battle cruisers namely USSs Alaska (CB1) and Guam (CB2) which were completed in June and September 1944 respectively. A third, USS Hawaii, CB3) was cancelled in 1947 when over 80% complete and scrapped in 1960 followed by her two sister ships in 1961. A further three were cancelled in June 1943. On 34,253 tons (full load) they carried a main armament of nine 12"/45 guns and could sustain 33 kts. 1/1250 models are N-1330 USS Alaska (1945) and Delphin D-28 (also Superior A201 (1/1200)).



USS Guam (Navsource)

Model Gallery (3)



USSs Oklahoma (back) and West Virginia in the Neptun P series



Hai USS Utah (foreground) with USS Arizona by Neptun



Late war depictions of the battleships USS Texas (foreground) and USS Idaho festooned with light AA



Neptun USS Tennessee before/after reconstruction



USS West Virginia before (D40) & after re-construction (N1303)



D95 USS Tennessee & D98 USS West Virginia 1944



Delphin USS Colorado 1942 post Pearl Harbour



Neptun USSs North Carolina & Indiana



USS Iowa by Neptun (foreground) and Trident



Atlas USS Missouri in Mountford ABSD1



Optatus USS Montana



USS Arkansas in 1944



USS Wyoming in 1944 (courtesy sammelhafen)



USS Nevada in 1945



USS Pennsylvania in 1945 (both courtesy sammelhafen)



USS Colorado in 1945



USS Maryland in 1945 (both courtesy sammelhafen)

MODEL LIST

NB. Includes Superior 1/1200s

Class (number of ships)	1/1200-1250 Models	Notes
South Carolina (2)		BBs 26, 27
USS South Carolina	NM 309	
USS Michigan	NM 309, Superior A129	
Delaware (2)		BBs 28, 29
USS Delaware	NM 308	
USS North Dakota	NM 308	
Florida (2)		BBs 30, 31
USS Florida	NM 307, SN	
USS Utah	NM 307, 307N	USS Utah AG16 1931-42 Hai
Wyoming (2)		BBs 32, 33
USS Arkansas	NM 306 (as built) N-1309, A102 (as in 1944)	
USS Wyoming	NM 306 (as built) N-1309a (as in 1944)	AG17 1932-48
New York (2)		BBs 34, 35; USS Texas preserved
USS New York	NM 305 (as built) N-1308a (as in 1944)	
USS Texas	A118 (as in 1944) N-1308 (as in 1945) N-1308x (1945 in Measure 21 blue)	
Nevada (2)	NM 304 (as built) 304N	BBs 36, 37
USS Nevada	AR-208 (as in 1941) A108 (as in 1944) N-1307a (as in 1945)	
USS Oklahoma	AR-209, N-1307, A124 (as in 1941) N-1307P (as at Pearl Harbor 1941)	
Pennsylvania (2)	NM 303 (as built)	BBs 38, 39
USS Pennsylvania	AR-207 (as in 1939) Atlas 28 (as in 1937) (full hull) A113 (as in 1944) N-1306a (as in 1945) N-1306ax (1945 in Measure 21 blue)	
USS Arizona	N-1306 (as in 1940) A101 (as in 1941) Atlas 15 (as in 1941) (full hull) N-1306P (as at Pearl Harbor 1941)	

New Mexico (3)	NM 302 (as built) NM 302aN (cage masts – 50 years Navis)	BBs 40, 41, 42
USS New Mexico	AR-216 (as in 1936) A109 (as in 1944) N-1305a (as in 1945)	
USS Mississippi	AR-215 (as in 1936) N-1305b (as in 1944) A111 (as in 1945)	USS Mississippi AG128 1945-56
USS Idaho	N-1305 (as in 1945) A110 (as in 1942) N-1305x (1945 in Measure 21 blue)	
Tennessee (2)	NM 301 (as built), NM 301N D-39 (as in 1930s)	BBs 43, 44
USS Tennessee	A115 (as in 1941) A117 (as in 1944) D-95 (as in 1945) N-1304 (as in 1945)	
USS California	NM 301N (as in 1921) N-1304b (as in 1941) N-1304P (as at Pearl Harbor 1941) N-1304a (as in 1945)	
Maryland (3 + 1)	NM 300 (as built), NM 300N	BBs 45, 46, 48; BB47 USS Washington cancelled
USS Maryland	D-40 (as in 1930s) N-1303b, A123 (as in 1945)	
USS Colorado	NM300, NM 300N (as in 1923) A103 (as in 1941) D-50 (as in 1942) A104 (as in 1944) N-1303a (as in 1945)	
USS West Virginia	N-1303c (as in 1940), N-1303P (as at Pearl Harbor 1941) A119 (as in 1944) D-98 (as in 1945) N-1303 (as in 1945)	
South Dakota (6)	MB-M017 Superior A120	BBs 49 – 54 scrapped incomplete 1923
Lexington (6)	1 st Design: Superior A203 3 rd Design: D-65, A202	CCs 1 – 6; 2 completed as CVs, otherwise scrapped
North Carolina (2)		BBs 55, 56
USS North Carolina	D-68 N-1302 (as in 1945) A112 (as in 1944) N-1302T (in camouflage)	D-68 incorrectly catalogued as North Carolina USS North Carolina preserved
USS Washington	N-1302a (as in 1941)	
South Dakota (4)		BBs 57 – 60
USS South Dakota	D-90, A139 (as in 1942) N-1301a (as in 1944)	
USS Indiana	N-1301b (as in 1943)	
USS Alabama	D-79 (as in 1943) N-1301 (as in 1943) N-1301T (in camouflage)	USS Alabama preserved

USS Massachusetts	Atlas 27 (full hull) N-1301c (as in 1944) A106 (as in 1945)	Preserved at Fall River
Iowa (4 + 2)	Hornby Minic	BBs 61 – 64; 65 & 66 cancelled incomplete 1945/47
USS Iowa	N-1300 (as in 1943), N-1300T (in camouflage) A105 (as in 1945) Ta-10330 (as in 1986)	
USS New Jersey	D-60 AR-200 N-1300b (as in 1944) N-1300bx (in Measure 21 blue) Ta-10310 (as in 1983) N-2301 (as in 2010)	
USS Missouri	Atlas 6 (full hull) N-1300a (as in 1945) N-1300aT (in camouflage)	
USS Wisconsin	AR-201 N-1300c (as in 1945) N-2300 (as in 1991)	
Montana (+ 5)	OPT-S 26 YSM-004 (pictured below) Superior A107	BBs 67 – 71
Alaska & Guam (+ 4)	N-1330 USS Alaska (1945) D-28, A201	CBs 1 & 2 (3 – 6 cancelled)



MODEL PAINTS

6 AUTHENTIC ACRYLIC COLORS

					
UA 619 Navy Gray 5	UA 620 Light Gray 5L	UA 621 Ocean Gray 5 O	UA 622 Dark Gray 5 D	UA 623 Sea Blue 5 S	UA 624 Deck Blue 20 B

US NAVY WWII SET 1

LIFECOLOR
ACRYLIC HOBBY COLORS

CAMOUFLAGE SET

Satin colours
Historical research by Andrea Oneto
Picture by Maurizio Brescia coll. - Marineart




6 AUTHENTIC ACRYLIC COLORS

					
UA 625 Naze Gray 5 H	UA 626 Navy Blue 5 N	UA 627 Pale Gray 5 P	UA 628 Mahogany Stain	UA 629 Flight Deck Blue 21	UA 630 Neutral Haze Gray

US NAVY WWII SET 2

LIFECOLOR
ACRYLIC HOBBY COLORS

CAMOUFLAGE SET

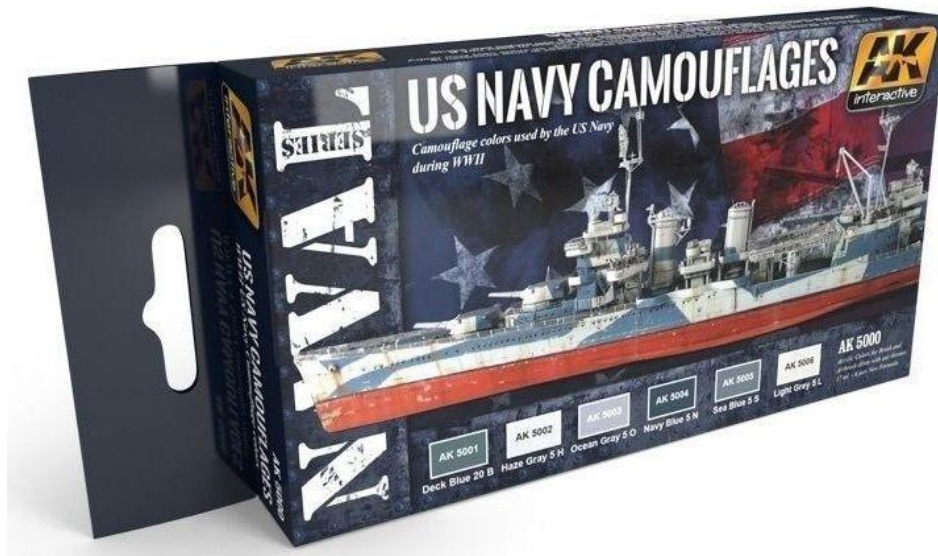
Satin colours
Historical research by Andrea Oneto
Picture by Maurizio Brescia coll. - Marineart




Note to the above: UA 625 looks too pale for 5-H Haze Gray and is probably 5-L Light Gray

Also - AK Interactive US NAVY CAMOUFLAGES

6 acrylic paints specifically designed to paint US Navy camouflages during WWII war. The colors within each bottle are true to the satin original color, with a modification for scale effect.

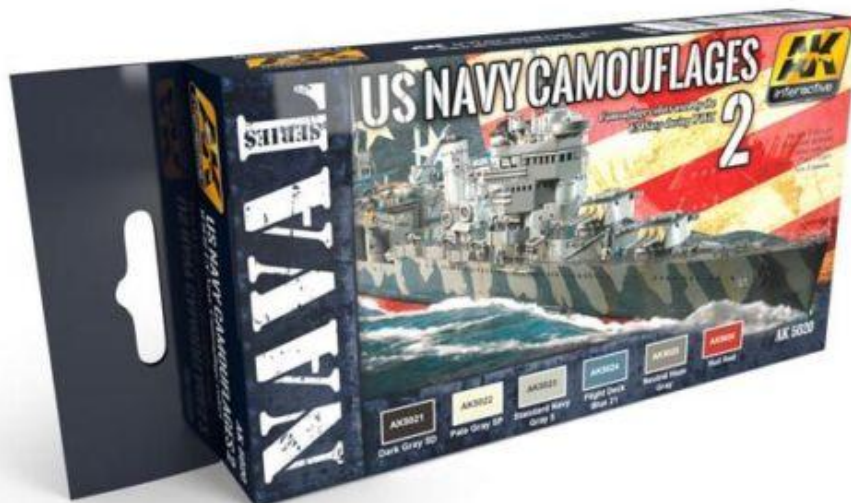


The above set contains:

- AK-5001 Deck Blue 20B.
- AK-5002 Haze Gray 5H.
- AK-5003 Ocean Gray 5O.
- AK-5004 Navy Blue 5N.
- AK-5005 Sea Blue 5S.
- AK-5006 Light Gray 5L.

AK Interactive US NAVY CAMOUFLAGES 2

This new acrylic set will allow you to paint all of the US Navy schemes during World War II, as it can be the “Early” as the “Dazzle” and “Late” Measures. The variants for smaller vessels, submarines and aircraft carrier are also included.



The above set contains:

- AK5021 Dark Gray 5D
- AK5022 Pale Gray 5P
- AK5023 Standard Navy Gray 5
- AK5024 Flight Deck Blue 21
- AK5025 Neutral Haze Gray
- AK5026 Hull Red

TURRET COLORS

On-Line researches revealed:

The colors displayed on this page are as a visual reference only and are not color matched to actual Navy Paints!

Battleship Division One								
Section One			Section Two			Section Three		
Arizona			Nevada			Oklahoma		
Turret 1	Turret 2	Turret 4	Turret 1	Turret 2	Turret 4	Turret 1	Turret 2	Turret 4
Insignia Red	Insignia Red	Insignia Red	Insignia Red	Insignia Red	White	Insignia Red	Insignia Red	True Blue

NB believe Oklahoma was in BATDIV2 and Pennsylvania 3rd in BATDIV1 and Tennessee was Flag of BATDIV2, then Oklahoma and California

Battleship Division Two								
Section One			Section Two			Section Three		
Pennsylvania			California			Tennessee		
Turret 1	Turret 2	Turret 4	Turret 1	Turret 2	Turret 4	Turret 1	Turret 2	Turret 4
White	White	Insignia Red	White	White	White	White	White	True Blue

Battleship Division Three								
Section One			Section Two			Section Three		
New Mexico			Idaho??			Mississippi??		
Turret 1	Turret 2	Turret 4	Turret 1	Turret 2	Turret 4	Turret 1	Turret 2	Turret 4
True Blue	True Blue	Insignia Red	True Blue	True Blue	White	True Blue	True Blue	True Blue

NB believe Idaho was flag then Mississippi and New Mexico

Battleship Division Four								
Section One			Section Two			Section Three		
West Virginia			Colorado			Maryland		
Turret 1	Turret 2	Turret 4	Turret 1	Turret 2	Turret 4	Turret 1	Turret 2	Turret 4
Black	Black	Insignia Red	Black	Black	White	Black	Black	True Blue

Battleship Division Five								
Section One			Section Two			Section Three		
New York??			Texas??			Arkansas??		
Turret 1	Turret 2	Turret 4	Turret 1	Turret 2	Turret 4	Turret 1	Turret 2	Turret 4
Yellow	Yellow	Insignia Red	Yellow	Yellow	White	Yellow	Yellow	True Blue

BB MEASURES (SNYDER & SHORT)

BB	Name	1941	1942	1943	1944	1945
32	Wyoming	?? - ?? MS 12 Mod- Dec	MS 12 Mod	MS 14	MS 22	MS 22
33	Arkansas	MS 12 - ??	MS 12 Mod - ?? MS 22 - July	MS 21	MS 21 MS 31a/7b – Nov.	MS 21
34	New York	?? - ?? MS 12 Mod	MS 12 Mod MS 22 - ??	MS 22	MS 31a /8B	MS 31a / 8B
35	Texas	MS 12 Mod	MS 12 Mod	MS 22	MS 22	MS 21
36	Nevada	MS 1/5 - June	N/A	MS 21	MS 22	MS 31a / 6B
37	Oklahoma	MS 1/5 - June	N/A	N/A	N/A	N/A
38	Pennsylvania	MS 1 - June	MS 21	MS 21	MS 21	MS 21
39	Arizona	MS 1 - June	N/A	N/A	N/A	N/A
40	New Mexico	MS 12 Mod - Dec	MS 21	MS 21	MS 32/6D	MS 21
41	Mississippi	MS 1	MS 22	MS 22	MS 32/6D	MS 21
42	Idaho	MS 12	MS 12 Mod	MS 22, MS 21	MS 21	MS 21
43	Tennessee	MS 1	MS 21	MS 14	MS 32/1D	MS 21
44	California	MS 1	N/A	N/A	MS 32/16D - Jan	MS 21
45	Colorado	MS 1	MS 21	MS 21	MS 32 / 16d	MS 21
46	Maryland	MS 1	MS 21	MS 32/ ??	MS 32/ ??, MS 21	MS 21
48	West Virginia	MS 1	N/A	N/A	MS 32/7d	MS 21
55	North Carolina	MS 1 MS 2	MS 12 MS 12 Mod	MS 21	MS 32/ 18d	MS 22
56	Washington	MS 1	MS 12 Mod MS 22	MS 22	MS 22	MS 22
57	South Dakota	N/A	MS 12 Mod MS 21	MS 21	MS 21	MS 21
58	Indiana	N/A	MS 12 Mod	MS 22	MS 32/ 16d	MS 22
59	Massachusetts	N/A	MS 12 Mod	MS 22	MS 22	MS 22
60	Alabama	N/A	MS 12 Mod	MS 22	MS 22	MS 22
61	Iowa	N/A	N/A	MS 22	MS 32a / 1b	MS 22- Feb.
62	New Jersey	N/A	N/A	MS 21	MS 21	MS 22
63	Missouri	N/A	N/A	MS 32/22d	MS 32/22d	MS 22
64	Wisconsin	N/A	N/A	N/A	MS 22	MS 22
CB	Alaska	N/A	N/A	N/A	MS 32 / 1D	MS 22
CB	Guam	N/A	N/A	N/A	MS 32 / 7C	MS 22

THE FLOATING DRYDOCK – BB AND CB DESIGN SHEETS

Sheets relevant to this article are below (date is when the design was approved for use)

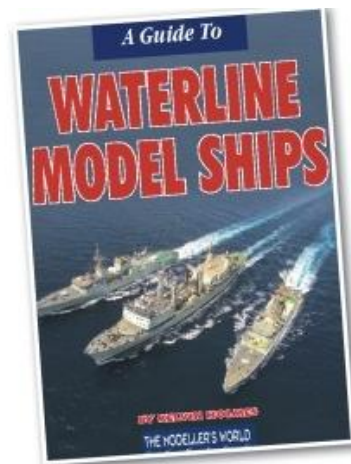
Ship	Ms/Design	Date	Order No.				
USS Arkansas	32/3D	8/44	CF-140	USS Tennessee	32v1/1D		CF-205
USS Arkansas	33/7B	10/44	CF-311	USS Tennessee	32/16D		CF-110
USS New York	31a/8B	10/44	CF-109	USS Colorado	32/7D		CF-203
USS Nevada	31a/6B		CF-310	USS North Carolina	32v11/18D	1943	CF-206
USS Pennsylvania	31a/8B		CF-143	USS North Carolina	32v6/10D		CF-204
USS Pennsylvania	32/3D		CF-202	USS Indiana	32/	1944	CF-195
USS New Mexico	32/6D	2/44	CF-306	USS Massachusetts	32/1D		CF-144
USS New Mexico	31a/7	10/44	CF-139	USS Iowa	32/7A	1/44	CF-320
USS New Mexico	32/3D	8/44	CF-315	USS Missouri	32/22D	6/44	CF-23
USS New Mexico	32/16D	2/44	CF-141	USS Alaska	32/1D	2/44	CF-142
				USS Guam	32/7C	2/44	CF-76

A BRIEF HISTORY OF THE 'GUIDE TO WATERLINE MODEL SHIPS'

The first issue of the guide was compiled in 1990 and was based on a series of eight articles published in Marine Modelling magazine during 1989. In producing a booklet it was possible to include much additional detail and to provide listings for certain manufacturers whose ranges were out of production and whose models would therefore not be listed in dealers' catalogues. Issue 1 then contained listings for Eagle*, Ensign, Hornby Minic/Rovex*, Airfix*, Casadio*, Triang*, Delphin, Hansa, Star and Wiking. Issue 2 (which appeared in 1996) repeated those asterisked and added full lists for Len Jordan Models, Pedestal, Fleetline and Nelson. With UK collectors in mind, all British models produced by a further eighteen manufacturers were listed in tables.

Issue 3 appeared in 1999, followed five years later by Issue 4 which was available on CD only but added a digital photo library. Issue 5 in 2008/09 heralded the pdf download version with many new images. With all issues most entries are reviewed and of course new manufacturers added.

Courtesy of Marine Modelling International Issue 6 (2010) was the first for many years to find its way into print. The author continues to maintain the Guide with updated issues always in hand. The latest version is available as a free pdf download via www.sammelhafen.de.



MMI ARTICLES: Subjects covered included:

Military:

Admiralty Floating Drydocks	RFA in Miniature	RN Queen Elizabeth class
Battleships of the World	RN Aircraft Carriers - 1930s	RN Royal Sovereign Class
Dutch Warships of WW2	RN Ark Royal & Illustrious class	RN Seaplane Carriers
Early Aircraft Carriers	RN by Triang	RN WW2 Camouflage
Fleet Review 1937	RN Carriers post 1945	RN/RFA Falklands Fleet
French Battleships	RN County class cruisers	Soviet Aircraft Carriers
Grand Harbour Malta	RN Cruisers	Soviet Navy
Ice Patrol Ships	RN CVs & DDGs 1960 - 2008	Soviet Navy 1967 Submarines
Ironclads	RN Depot Ships	Soviet Navy 1968
Italian Navy (Modern)	RN Dreadnoughts	Soviet Submarines
Italian WW1 Dreadnoughts	RN Grand Fleet BS & BCS in 1914	<i>USN Dreadnought Battleships</i>
Japanese Battleships	RN HMS Hermes	USN Holy Loch Site One
Japanese MSDF	RN in 1924	USN Missile Cruisers
JMSDF revisited	RN in 1957	USN Modern in 1/1250
Jutland	RN Ironclads	USN Post-War Aircraft Carriers
Jutland - Developments after	RN King George V class	USN Spruance Class and Derivatives
Kriegsmarine	RN Light Fleet Carriers	World's Small Aircraft carriers
Marine Nationale (France)	RN Modern in 1/1250	WW1 AMCs
Project Cancelled	RN Pre-dreadnoughts	WW2 Converted for War
RAN - Post-War		WW2 RN AMCs
RCN - Post-War		

Merchant:

<i>Anchor Line</i>	Dock Building	Royal Caribbean Cruise Line
Bibby	Early Liners	Royal Mail Line
Blue Funnel	Elder Dempster	Shaw, Savill & Albion
Blue Riband	Ellerman Lines	Shell Oil
Blue Star Line	Esso	Southampton Cruise Ships
British India	Icebreakers	Southampton Docks
British Petroleum	Last Big Liners	Southampton Floating Drydock
Canadian Pacific Empress liners	Light Vessels	<i>Thos & Jas Harrison</i>
Carnival Cruise Line	Offshore	Three Big Liners
Container ships	Orient Line	Union Castle
Cruise Liners	P&O	Union Castle - The Cape Run
Cunard	P&O Ferries	White Star
Cunard - The Queens	Railway Steamers	
Cunard A Class		

Those in *italics* were scheduled for late 2017 and never published. All are available now in pdf form; free of course, just ask.