DDG 91 Pinckney [Arleigh Burke Flight IIA] - 2005 ESSM

United States



Type: DDG - Guided Missile Destroyer
Max Speed: 35 kt
Commissioned: 2005
Length: 155.2 m
Beam: 20.4 m
Draft: 9.3 m
Crew: 315
Displacement: 8500 t
Displacement Full: 9217 t
Propulsion: 4x General Electric LM-2500 Gas Turbines, COGAG

Sensors / EW:
- AN/SPY-1D(V) MFR [ABM Mod] - Radar, Radar, FCR, Surface-to-Air, Long-Range, Max range: 324.1 km
- AN/SRS-1A Combat DF Blk 1 - (1998) ESM, HF/DF w/ OTH Targeting, Max range: 926 km
- AN/SQS-53C(V)1 - (1998) Hull Sonar, Active/Passive, Hull Sonar, Active/Passive Search & Track, Max range: 74.1 km
- AN/SLQ-32(V)3 [ECM] - (Group, 1983) ECM, OECM & DECM, Offensive & Defensive ECM, Max range: 0 km
- AN/SLQ-32(V)3 [ESM] - (Group, 1983) ESM, ELINT, Max range: 926 km
- AN/SPG-62 [Mk99 FCS] - (Group, 1983) Radar, Radar Illuminator, Long-Range, Max range: 305.6 km
- AN/SPS-67(V)1 - (1982) Radar, Radar, Surface Search & Navigation, Max range: 64.8 km
- Mk46 Mod 1 [CCD] - (Group, 2001, DDG 51) Visual, LLTV, Weapon Director & Target Search, Slaved Tracking and Identification, Max range: 185.2 km
- Mk46 Mod 1 NightConqueror [IR] - (Group, 2001, DDG 51) Infrared, Infrared, Weapon Director & Target Search, Slaved Tracking and Identification Camera, Max range: 185.2 km
- Mk46 Mod 1 [Laser Rangefinder] - (Group, 2001, DDG 51) Laser Rangefinder, Laser Rangefinder for Weapon Director, Max range: 0 km
- Bridgemaster E ATA - (2000) Radar, Radar, Surface Search & Navigation, Max range: 46.3 km

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Weapons / Loadouts:
- RUM-139B VLA [Mk46 Mod 5A(SW)] - (1998) Guided Weapon. Subsurface Max: 16.7 km.
- RGM-109C Tomahawk Blk III TLAM-C - (1994) Guided Weapon. Land Max: 1296.4 km.
- RGM-109E Tomahawk Blk IV TACTOM - (2005) Guided Weapon. Land Max: 1600.1 km.
- RIM-66M-5 SM-2MR Blk IIIB - (2000, AEGIS VLS) Guided Weapon. Air Max: 166.7 km. Surface Max: 46.3 km.
- RIM-162A ESSM - (2004, AEGIS, Mk41) Guided Weapon. Air Max: 55.6 km. Surface Max: 46.3 km.
- RGM-109D Tomahawk Blk III TLAM-D - (1996) Guided Weapon. Land Max: 1296.4 km.
- RIM-66M-1 SM-2MR Blk III - (1991, AEGIS VLS) Guided Weapon. Air Max: 92.6 km. Surface Max: 46.3 km.
- RIM-66M-2 SM-2MR Blk IIIA - (AEGIS VLS) Guided Weapon. Air Max: 166.7 km. Surface Max: 46.3 km.

- Mk46 NEARTIP Mod 5A(S) - (1997) Torpedo. Subsurface Max: 7.4 km.
- Mk50 Barracuda Mod 0 ALWT - (1991) Torpedo. Subsurface Max: 7.4 km.
- Mk54 LHT Mod 0 - (2004) Torpedo. Subsurface Max: 7.4 km.
- 127mm/62 HE-CVT [HiFrag] - Gun. Air Max: 2.8 km. Surface Max: 22.2 km. Land Max: 24.1 km.
- 127mm/62 HE-PD [HiCap] - Gun. Air Max: 2.8 km. Surface Max: 22.2 km. Land Max: 24.1 km.
- 127mm/62 WP - Gun. Surface Max: 22.2 km. Land Max: 24.1 km.
- Mk234 Nulka - (2002) Decoy (Expendable). Surface Max: 1.9 km.
- Mk214 Sea Gnat Chaff [Seduction] - (1987) Decoy (Expendable). Surface Max: 1.9 km.
- Mk216 Sea Gnat Chaff [Distraction] - (1988) Decoy (Expendable). Surface Max: 1.9 km.
- Mk245 GIANT Flare - (1997, DM19A1) Decoy (Expendable). Surface Max: 1.9 km.
- AN/SLQ-25A Nixie - Decoy (Towed). Surface Max: 1.9 km.
- 25mm/75 Bushmaster Mod 1 Burst [12 rnds] - Gun. Air Max: 1.5 km. Surface Max: 2.8 km. Land Max: 2.8 km.
- 12.7mm/50 MG Burst [10 rnds] - (Facility/Ship, No Anti-Air Capability) Gun. Surface Max: 1.9 km. Land Max: 1.9 km.

OVERVIEW: The Arleigh Burke-class of guided missile destroyers (DDGs) is the United States Navy's first class of destroyer built around the Aegis Combat System and the SPY-1D multi-function phased array radar. The class is named for Admiral Arleigh Burke, the most famous American destroyer officer of World War II, and later Chief of Naval Operations. The class leader, USS Arleigh Burke, was commissioned during Admiral Burke's lifetime.

They were designed as multi-role destroyers to fit the AAW (Anti-Aircraft Warfare) role with their powerful Aegis radar and anti-aircraft missiles; ASW (Anti-submarine warfare) role, with their towed sonar array, anti-submarine rockets, and ASW helicopter; ASUW (Anti-surface warfare) role with their Harpoon missile launcher; and strategic land strike role with their Tomahawk missiles. Some versions of the class no longer have the towed sonar, or Harpoon missile launcher. Their hull and superstructure were designed to have a reduced radar cross section. The first ship of the class was commissioned on 4 July 1991. With the decommissioning of the last Spruance-class destroyer, Cushing, on 21 September 2005, the Arleigh Burke-class ships became the U.S. Navy's only active destroyers; the class has the longest production run for any postwar U.S. Navy surface combatant. The Arleigh Burke-class is planned to be the third most numerous class of destroyer to serve in the U.S. Navy, after the Fletcher and Gearing classes; besides the 62 vessels of this class (comprising 21 of Flight I, 7 of Flight II and 34 of Flight IIA) in service by 2013, up to a further 42 (of Flight III) have been envisaged.

With an overall length of 505 feet (154 m) to 509 feet (155 m), displacement ranging from 8,315 to 9,200 tons, and weaponry including over 90 missiles, the Arleigh Burke-class ships are larger and more heavily armed than most previous ships classified as guided missile cruisers.

DETAILS: The Arleigh Burke-class is among the largest destroyers built in the United States. Only the Spruance and Kidd classes were longer (563 ft). The Arleigh Burke-class are multi-mission ships with a combination of an advanced anti-submarine warfare system, land attack cruise missiles, ship-to-ship missiles, and advanced anti-aircraft missiles. The larger Ticonderoga-class ships were constructed on Spruance-class hullforms, but are designated as cruisers due to their radically different mission and weapons systems. The Arleigh Burke-class on the other hand were designed with a new, large, water-plane area-hull form characterized by a wide flaring bow which significantly improves sea-keeping ability. The hull form is designed to permit high speed in high sea states.

The Ticonderoga-class cruisers were deemed too expensive to continue building and too difficult to further upgrade. The angled rather than traditional vertical surfaces and the tripod mainmast of the Arleigh Burke design are stealth techniques, which make the ship more difficult to detect, in particular by anti-ship missiles.

Their Aegis radar differs from a traditional rotating radar that mechanically rotates 360 degrees for each "sweep" scan of the airspace which allows continual tracking of targets. The system's computer control also allows centralization of the previously separate tracking and targeting functions. The system is also resistant to electronic counter-measures. Their standalone Harpoon anti-ship missile launchers give them an anti-ship capability with a range in excess of 64 nm. The 5"/54 caliber Mark 45 gun, in conjunction with the Mark 34 Gun Weapon System, is an anti-ship weapon which can also be used for close-in air contacts or to support forces ashore with Naval Gun-Fire Support (NGF), with a range of up to 20 miles and capable of firing 20 rounds per minute. The class's RIM-7 Sea Sparrow missiles provide point defense against missiles and aircraft while the Standard Missile provides area anti-aircraft defense, additionally the ship has an electronics warfare suite that provides passive detection and decoy countermeasures.

The class's Light Airborne Multipurpose System, or LAMPS helicopter system improves the ship's capabilities against submarines and surface ships, a helicopter able to serve as a platform to monitor submarines and surface ships, and launch torpedoes and missiles against them, as well as being able to support ground assaults with machine guns and Hellfire anti-armor guided missiles. The helicopters also serve in a utility role, able to perform ship replenishment, search and rescue, medical evacuation, communications relay, and naval gunfire spotting and controlling.

Arleigh Burke-class destroyers have many combat systems. Burkes have the Navy's latest anti-submarine combat system with active sonar, a towed sonar array, and anti-submarine rockets. They support strategic land strikes with their VLS launched Tomahawks. They are able to detect anti-ship mines at a range of 1400 yards.

So vital has the Aegis Ballistic Missile Defense System (BMD) role of the class become that all ships of the class are being updated with BMD capability. Burke production is being restarted in place of additional Zumwalt-class destroyers.

TYPE: Guided Missle Destroyer (DDG).

SPECIFICATION: Displacement: Flight I - 8,315 t (8,184 long tons; 9,166 short tons), Flight II - 8,400 t (8,300 long tons; 9,300 short tons), Flight IIA - 9,200 t (9,100 long tons; 10,100 short tons), Flight III - 9,800 t (9,600 long tons; 10,800 short tons) || Length: 505 ft (154 m) (Flights I and II), 509 ft (155 m) (Flight IIA) || Beam: 66 ft (20 m) || Draft: 30.5 ft (9.3 m) || Installed power: (3) Allison AG9140 Generators (2500kW each, 440V) || Propulsion: (4) General Electric LM2500-30 gas turbines each generating 29,500 shp (22,000 kW) coupled to two shafts - each driving a five-bladed reversible controllable pitch propeller || Total output: 118,000 shp (88,000 kW).

PERFORMANCE: Speed: In excess of 30 kn (56 km/h; 35 mph) || Range: 4,400 nmi (8,100 km) at 20 kn (37 km/h; 23 mph).

SENSORS: AN/SPY-1D 3D Radar || AN/SPS-67(V)2 Surface Search Radar || AN/SPS-73(V)12 Surface Search Radar || AN/SQS-53C Sonar Array || AN/SQR-19 Tactical Towed Array Sonar || AN/SQQ-28 LAMPS III Shipboard System || AN/SLQ-32(V)2 Electronic Warfare System || AN/SLQ-25 Nixie Torpedo Countermeasures || MK 36 MOD 12 Decoy Launching System || AN/SLQ-39 CHAFF Buoys.

ARMAMENT: (1) 5-inch (127-mm)/54 Mk-45 Mod 1/2 (lightweight gun) (DDG-51 through DDG-80) || (1) 5-inch (127-mm)/62 Mk-45 mod 4 (lightweight gun) (DDG-81 onwards) || (2) 5-inch (127-mm)/62 Mk-45 mod 4 (lightweight gun) (DDG-51 through DDG-84) || (1) (DDG-85 onwards) 20 mm Phalanx CIWS || (2) 25 mm M242 Bushmaster cannons || Flight I: 90 cell Mk 41 Vertical Launching System (VLS) || Flights II and IIA: 96 cell Mk 41 VLS || BGM-109 Tomahawk || RIM-66M Standard medium range SAM (has an ASuW mode) || RIM-161 Standard Ballistic missile defense missile for Aegis BMD || RIM-162 ESSM (4 per cell) SAM (DDG-79 onward) || RUM-139 Vertical Launch ASROC || RIM-174A Standard ERAM || RGM-84 Harpoon SSM (not in Flight IIA units).

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AIRCRAFT: Flights I and II: None || Flight IIA onwards: (2) MH-60R Seahawk LAMPS III helicopters.

BOATS: (2) Rigid hull inflatable boats.

SHIPS BUILT: FLIGHT 1: Arleigh Burke (DDG-51) || Barry (DDG-52) || John Paul Jones (DDG-53) || Curtis Wilbur (DDG-54) || Stout (DDG-55) || John S. McCain (DDG-56) || Mitscher (DDG-57) || Laboon (DDG-58) || Russell (DDG-59) || Paul Hamilton (DDG-60) || Ramage (DDG-61) || Fitzgerald (DDG-62) || Stethem (DDG-63) || Carney (DDG-64) || Benfold (DDG-65) || Gonzalez (DDG-66) || Cole (DDG-67) || The Sullivans (DDG-68) || Milius (DDG-69) || Hopper (DDG-70) || Ross (DDG-71) ##### Flight II: Mahan (DDG-72) || Decatur (DDG-73) || McFaul (DDG-74) || Donald Cook (DDG-75) || Higgins (DDG-76) || O'Kane (DDG-77) || Porter (DDG-78) ##### Flight IIA (5"/54 Variant): Oscar Austin (DDG-79) || Roosevelt (DDG-80) ##### Flight IIA (5"/62 Variant): Winston S. Churchill (DDG-81) || Lassen (DDG-82) || Howard (DDG-83) || Bulkeley (DDG-84) ##### Flight IIA (5"/62, one 20mm CIWS Variant): McCampbell (DDG-85) || Shoup (DDG-86) || Mason (DDG-87) || Preble (DDG-88) || Mustin (DDG-89) || Chafee (DDG-90) || Pinckney (DDG-91) || Momsen (DDG-92) || Chung-Hoon (DDG-93) || Nitze (DDG-94) || James E. Williams (DDG-95) || Bainbridge (DDG-96) || Halsey (DDG-97) || Forrest Sherman (DDG-98) || Farragut (DDG-99) || Kidd (DDG-100) || Gridley (DDG-101) || Sampson (DDG-102) || Truxtun (DDG-103) || Sterett (DDG-104) || Dewey (DDG-105) || Stockdale (DDG-106) || Gravely (DDG-107) || Wayne E. Meyer (DDG-108) || Jason Dunham (DDG-109) || William P. Lawrence (DDG-110) || Spruance (DDG-111) || Michael Murphy (DDG-112) ##### Flight IIA (Restart): John Finn (DDG-113) || Ralph Johnson (DDG-114) || Rafael Peralta (DDG-115) ##### Flight IIA (Technology Insertion): Thomas Hudner (DDG-116) || Paul Ignatius (DDG-117) || Daniel Inouye (DDG-118).

SOURCE: [SCO] Wikipedia http://en.wikipedia.org