

DG-60M/540T BARBAROS Class PATROL BOAT

ASuW, ASW, AAW

INTRODUCTORY SPECIFICATION

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DESIGN :

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PLATFORM :

- Length OA = 60,00 mts
- Length BP = 55,50 mts
- Breadth mld = 8,90 mts
- Depth to main deck = 5,50 mts
- Design draft (mld) = 2,43 mts
- Design draft (extreme) = 2,98 mts
- LWT = 409,00 mtons
- Displacement (100% loaded) = 540,00 mtons
- Growing margin = 45,00 mtons
- Displacement (with growing) = 585,00 mtons
- Speed maximum = 33,0 - 40,0 knots (*)
- Speed max. continuous = 30,0 - 33,0 knots (*)
- Speed patrol = 14,0 - 25,0 knots
- Speed sonar = 10,0 - 12,0 knots
- Range = 1.000 n-miles (with 30 knots speed)
2.000 n-miles (with 16 knots speed)
- Endurance = 10 days (minimum)
- Accommodation = 57 (8 officers + 9 petty officers + 40 ratings)

(*) According M/E and propulsion system selection

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OTHERS :

- Low RCS
- Low IR signature
- Low underwater acoustic signature
- High sea keeping performance and maneuverability (full operating with sea state-6)
- High survivability
- 100% redundancy
- Low maintenance.

MAIN PROPUSLION and Auxiliary SYSTEMS :

Alternative-01:

- 2 x 5900 kW high speed diesel engines with 2 x FPP (dia abt. 2000 mm)

Alternative-02 (CODAD):

- 4 x 4300 kW high speed diesel engines with 2 x FPP (dia abt. 2150 mm)

Alternative-03 :

- 4 x 4300 kW high speed diesel engines with 4 x waterjets

Auxiliary diesel gen-sets :

- 2 x 350 kWe main gen-sets + 1 x 135 kWe em'cy gen-set

Bow thruster :

- 1 x 300 kW pump jet type

Fin stabilizers, fresh water maker, sewage treatment plant, bilge separator, pressed air system.

SENSORS and NAVIGATION AIDS :

- 25 kW X-band radar with ARPA/ECDIS capability
- Electro-optic low-weight, multi-purpose, thermal imaging sensor for pilotage/navigation, surveillance, search and rescue, automatic tracking, target classification and targeting
- Mid / Shallow water Sonar
- Optical Gyro compass with INS capability
- Echo sounder with two transducers
- Electromagnetic log
- Meteo-sensor
- DGPS
- WECDIS

WEAPONS :

- 1 x 76 mm gun
- 3 x 12,7 mm stabilized machine guns with IR imaging and remote control capability
- 08 x C-802A SSMs, ASuW mid/long range ship to ship missiles,
- 1 x CIWS, 20 mm short range semi-auto defense system for aircraft missiles and asymmetric threats with EO/IR sensors.
- Chaff and IR decoys.
- ASW rocket launcher
- Depth charges
- 1 x 12 x anti air missiles.

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In accordance with the mission definition, PB is considered to operate both in coastal and offshore waters.

PB will comply with the rules of the following organizations: NATO, IACS member International Class Organization, CE, NAVSEA, BV, NES, ISO, DIN, VG, VDE, IEC, IMO, SOLAS, MARPOL, and COLREG, and the national state.

PB will be registered by a IACS member Class as a High Speed Boat.

COMBAT SYSTEM CAPABILITIES (DEFENSE AND ATTACK) :

In the Combat Information Center of the ship, there will be 2 (two) consoles allocated to E/O Director and Sonar, 1(one) DRT Plotting Table, and near to the armchair of the Commanding Officer, with the best visibility, an LCD panel to be able to select and monitor either one of the navigational radar(at the bridge), E/O Director's console or Sonar console. All of this configuration shall make up the Combat Information Center (COC) of the ship.

Combat system of the ship will have the capability to search, identify, classify and engage the air, surface and underwater targets without loss of performance.

Combat system of the ship shall fulfill reconnaissance, monitoring, patrolling at the straits / naval bases and ports, and inshore waters also the system shall provide anti-submarine warfare mission functions.

All the systems shall completely fulfill their functions at Sea State 6 (six) and at lower conditions.

AAW ENGAGEMENT CAPABILITES :

A layered AAW capability is proposed with PB BARBAROS project. 76 mm main gun and the IR guided SAM missiles represent the first layer defense against aerial targets. Electro optically directed, three 12.7 mm heavy machine guns (two in the aft in either sides and one on the compass deck) will be utilized to engage in the aerial targets as the secondary layer.

For self defence purposes a CIWS will be installed to the aft to track and engage the aerial targets. To increase the survivability, PB BARBAROS is designed to have a defence capability against sea skimming missiles as well.

ASuW ENGAGEMENT CAPABILITES :

To counter the surface targets the main gun and heavy machine guns will be used. Long range engagement will be conducted by 8 x SSM placed in the aft. PB BARBAROS is designed to fight in traditional combat scenarios as well as in asymmetric warfare scenarios like counter pirate operations and low level conflicts.

ASW ENGAGEMENT CAPABILITES :

A Mid / Shallow Water sonar is proposed with PB BARBAROS allowing to detect and localize underwater threats like submarines, swimmers and midgets. In order to neutralize the underwater threats depth charges and ASW rockets will be used. ASW capabilities will be tailored to counter a wide spectrum of targets.

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COMMAND / CONTROL / COMMUNICATION / COMPUTER / INTELLIGENCE :

Internal and external communication capabilities shall allow PB BARBAROS to exchange the situational data with the other ships, aircrafts and shore stations. The integrated communications system covers the HF, VHF and UHF bands and allows the vessel to send and receive open and encrypted messages in voice, data, and CW modes.

Internal communication system of the ship will have the capability of station-to-station internal communication between the stations on the vessel, conference calls, access to external communication, alarm circuit and public announcement.

Alarm system, public announcement system, ship entertainment system (TV and central broadcasting system) , S/P telephone system, ship telephone system, LAN (Local Area Network) will be considered within the internal communication system of the ship.

Message Processing System (MPS) will allow the information to be drafted as messages, authorized by the Commanding Officer and send by comms infrastructure of the vessel.

1 (one) underwater telephone is proposed with PB BARBAROS allowing the vessel to communicate with the submarines or vessels nearby thru water medium.

The vessel has an WECDIS System fully capable of representing the operational data in S-57/63 format and also Additional Military Layers.

SEARCH / RECONNAISSANCE :

Air and surface observation and reconnaissance will be conducted with E/O director. Secondary sensor for reconnaissance and observation will be the navigation radar of the ship. Medium range underwater reconnaissance will be conducted by means of hull mounted sonar of the ship.

The sensor and weapon suites may be changed regarding the users requests.

Electronic warfare suite to intercept the electro-magnetic spectrum may be installed upon the request and preference of the users.

OPERATIONAL CAPABILITIES :

PB is able to house the medium and or long range SSM, modern multi-dimensional sensors and weapon suites catering for Anti-Surface, Anti Submarine and Anti-Air warfare. PB BARBAROS has also the capability for defence against Nuclear, Biological and Chemical threats.

PB is having the capability to undertake following benign / constabulary operations:

- (1) Traditional Naval Operations (ASW, ASuW, AAW, Land Attack)
- (2) Maritime Security Operations.
- (2) Operations against asymmetric threats.
- (3) Intelligence gathering.
- (4) Search and Rescue.
- (5) Training.

A self launching and recovery (alternatively also with a telescopic crane) type RHIB boat (with inboard motor and water jet propulsion) having capacity for 10 persons, is capable for SAR and attach missions for asymmetric threats.

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