



AERO INDIA

The Runway to a Billion Opportunities

रक्षा मंत्रालय
MINISTRY OF
DEFENCE
भारत सरकार



रक्षा उत्पादन विभाग
DEPARTMENT OF
DEFENCE PRODUCTION
GOVERNMENT OF INDIA

INDIAN AEROSPACE AND DEFENCE: REACHING GLOBAL HEIGHTS



FOREWORD

Over the years, the Indian defence sector has witnessed substantial growth. Since 2002, the defence sector has been fully open to the Indian private sector. Today, the public and private sectors, both with the extensive support of the Government of India, are able to design, develop and deliver state-of-the-art defence systems based on the latest indigenously developed technologies. These systems draw on the strength of proven software and hardware architectures and provide safety, security, and threat management capabilities to the armed forces.

Today, the Indian defence sector can deliver a wide variety of world-class weapon systems that can play a critical role in a nation's security framework. Indian products aim to deliver defence solutions that are designed to meet the highest standards of quality, durability, and affordability. This handbook showcases the various tried and tested weapon systems that are currently operational, as well as provides an insight into a wide range of products being developed by the Indian defence industries for the Indian defence forces, which are available for export with Government approval.



AIR SYSTEMS

LCA TEJAS



DESCRIPTION:

Tejas - Indian Light Combat Aircraft (LCA), together with its variants, is the smallest and lightest Multi-Role Supersonic Fighter Aircraft of its class. This single engine, Compound-Delta-Wing, Tailless Aircraft is designed and developed by ADA with HAL as the principal partner along with DRDO, CSIR, BEL, DGAQA, IAF & IN to meet the diverse needs of the Indian Air Force (IAF) and the Indian Navy (IN). Tejas is an amalgamation of contemporary concepts and technologies such as relaxed static-stability, fly-by-wire flight control, advanced glass cockpit, integrated digital avionics systems and advanced composite materials for the airframe.

SPECIFICATIONS:

- Max Speed : Supersonic at all altitudes
- Service Ceiling : 50,000 ft
- 'g' Limits : +8/-3.5

COMPANY : HINDUSTAN AERONAUTICS LIMITED

CONTACT : marketing@hal-india.com

NSN 1510 720 472 325

WEIGHT

- Take-off Clean : 9900 kg
- Empty : 6950 kg
- External Stores : 3500 kg

DIMENSIONS

- Span : 8.20 m
- Length : 13.23 m
- Height : 4.40 m

POWER PLANT

- F404-GE-IN20
- Thrust - 8600 kg

LIGHT COMBAT HELICOPTER



DESCRIPTION:

The Light Combat Helicopter (LCH) is a twin-engine, dedicated combat helicopter of 5.8 tonne class. This helicopter has a narrow fuselage and a tandem configuration for Pilot and Co-pilot/ Weapon System Operator (WSO). It incorporates a number of stealth features, such as reduced visual, aural, radar and infra-red signatures and crashworthy features for better survivability.

THE MAJOR FEATURES OF LCH ARE:

- Glass cockpit
- Crashworthy bottom structure
- Crashworthy fixed tricycle type with tail wheel landing gear
- Canted flat panels for low Radar Cross Section
- Integrated Dynamic System
- Hinge-less Main Rotor / Bearing-less Tail Rotor
- Anti-Resonance Isolation System
- Integrated Architecture and Display System (IADS)
- IR Suppressor
- Counter Measuring Dispensing System (CMDS)
- EO pod, Helmet Mounted Display System & EW suite
- 20 mm Gun, 70 mm Rocket & Missiles - Air to Air Missiles (ATAM) & Air to Ground Missiles (ATGM)

SPECIFICATIONS:

- MTOW : 5800 kg
- Max Speed : 268 kmph
- Range : 550 km
- Service Ceiling : 6.5 km
- Oblique Climb Rate : 12 m/s
- Power Plant
 - SHAKTI engine (2 no.)
 - Power is 1032 kw

COMPANY : HINDUSTAN AERONAUTICS LIMITED

CONTACT : marketing@hal-india.com

NSN 1520720471805

LIGHT UTILITY HELICOPTER (LUH)



DESCRIPTION:

Light Utility Helicopter (LUH) is a new generation utility helicopter in the three-tonne weight class designed to meet the requirements of both military and civil operators, powered by a single turbo shaft engine with adequate power margins to accomplish high altitude missions with ease and is suitable for operations in diverse operating conditions.

COMPANY : HINDUSTAN AERONAUTICS LIMITED

CONTACT : marketing@hal-india.com

SPECIFICATIONS:

- Composite airframe with crashworthy features
- Main and tail rotor blades made of composite materials for damage tolerance capability
- The hinge-less rotor system ensures high agility and manoeuvrability of the helicopter
- State-of-the-art avionics suite with smart MFDs
- Capacity of transporting up to 6 troops or 2 stretchers with a medical attendant or large volume internal cargo

ADVANCED LIGHT HELICOPTERS (ALH) - DHRUV



DESCRIPTION:

The ALH Dhruv is a 5.5 tonne class category helicopter with side-by-side cockpit configuration, built to FAR 29 specifications. This helicopter is designed, developed and manufactured to meet the requirements of both military and civil operations. Dhruv has gone through various upgrades to arrive at the present Dhruv MK III/IV configuration, powered by a Shakti Engine.

The various roles of ALH are: Passenger / Commuter Role, VIP Travel, Casualty Evacuation, Under Slung Load, Rapid Deployment of Forces, Logistic Air Support, Search and Rescue, and Training.

COMPANY : HINDUSTAN AERONAUTICS LIMITED

CONTACT : marketing@hal-india.com

NSN 1520 720 351 481 / 1520 720 351 482

SPECIFICATIONS:

- Length : 15.9 m
- Width : 13.2 m
- Height : 4.98 m
- Hinge-less Main Rotor and Bearing-less Tail Rotor
- Integrated Dynamic System (IDS)
- Anti-resonance Vibration Isolation System (ARIS)
- 4-Axis Digital Automatic Flight Control System (AFCS)
- Integrated Architectural Display System (IADS)

DORNIER (DO-228)



DESCRIPTION:

The 19-seater Do-228 aircraft is a highly versatile multi-purpose light transport aircraft. It has been developed specifically to meet the manifold requirements of utility and commuter transport, third level services and air-taxi operations, coast guard duties and maritime surveillance. Do-228 can be deployed for various roles like:

- Maritime Surveillance
- Pollution Prevention
- Troop Transport
- Aerial Survey
- Search and Rescue
- Commuter Transport
- Calibration of airport NAV-COM Aids
- Remote Sensing Applications
- Causality Evacuation
- Executive Transport
- Cargo & Logistics Support

COMPANY : HINDUSTAN AERONAUTICS LIMITED

CONTACT : marketing@hal-india.com

NSN 1510 720 471 790

SPECIFICATIONS:

- Wing span : 16.97 m
- Overall length : 16.56 m
- Overall height : 4.86 m
- Pax seats : 19
- Engine Model : Garrett TPE 331-5-252D
- Max Take-off Weight (Maritime role) : 6400 kg
- Max cruise speed : 428 km/hr
- Max Take-off Weight (Commuter role) : 6200 kg
- Max range speed : 333 km/hr
- Rate of climb : 9.7 m/s

BRAKE PARACHUTE FOR SU-30 A/C



DESCRIPTION:

The brake parachute is intended to reduce the aircraft landing run length or aborted take off.

SPECIFICATIONS:

- Basic material : Fabric nylon 93 gm undyed conforming to specn. ARDE/Specn/2000/53
- Canopy : Unicross
- Dia of Canopy : 6850 mm
- Effective length of rigging lines : 6680 mm
- Length of connecting link : 4000 mm
- No. of rigging lines : 32
- Performance characteristics
- A/C Normal Landing Speed : 260 kmph (72.2 m/s)
- A/C Emergency Landing Speed : 300 kmph (83.3 m/s)
- Max operational load : 234000 N (23810 kgf)
- Max mass of parachute system : 23 kg

COMPANY : OFB

CONTACT : export.ofb@nic.in

NSN 1670 720 464 895

THE HINDUSTAN TURBO TRAINER (HTT)-40



DESCRIPTION:

The Hindustan Turbo Trainer (HTT)-40 is a fully aerobatic tandem seat turbo trainer designed to meet primary training requirements. Fitted with modern avionics, zero-zero ejection seats and powered by Honeywell TPE331-12B Turboprop engine, it has good low speed handling qualities for better training effectiveness. In addition to basic training, it may be used for Aerobatics, Navigation, Instrument Flying, and Close Formation.

SPECIFICATIONS:

- Sturdy structure with a combination of light alloys and composites
- Single piece canopy giving both pilots good all-round vision
- Full glass cockpit
- Maximum speed 450km/h
- Maximum load factor +6/-3g
- Glide ratio of 11.5:1
- Fitted with indigenously developed Avionics viz Radio Communication, Standby Communication, VOR-ILS, TACAN, Radio Altimeter and Identification Friend or Foe (IFF) and ISIS

COMPANY : HINDUSTAN AERONAUTICS LIMITED

CONTACT : marketing@hal-india.com





LAND SYSTEMS

AKASH



DESCRIPTION:

The Akash Weapon System is an all-weather, Area Defence System for defending Vulnerable Areas / points against penetrating targets at low, medium and high altitudes. The system can engage multiple targets simultaneously.

- Target types : Helicopters, fighter aircraft, UAV etc.
- High immunity against active and passive jamming.
- Fully automatic with quick response time from target detection to kill.
- Adaptable to existing and futuristic Air Defence environment.
- Secured mode of communication among combat elements.
- Self-sufficient in electrical power with in-built power source.
- Road and rail transportable with quick mobilisation and deployment capabilities.
- In-built safety features with secured IFF.

COMPANY : BHARAT DYNAMICS LIMITED

CONTACT : bdbdl@bdl-india.in

NSN 1420 72 0471555

SPECIFICATIONS:

- Effective range : 3-25 km
- Speed range : 1.8 - 2.5 Mach
- Altitude of operation : 30 m - 18 km
- Propulsion System : Two stage solid integral Rocket - ramjet system
- Length : 5.87 m
- Diameter : 350 mm
- Weight : 720 kg
- Warhead Type : High explosive, prefragmented warhead with proximity fuse.
- Detonation Mechanism : RF proximity fuse.
- Guidance System : Digitally coded command guidance system.

BRAHMOS WEAPON SYSTEM



DESCRIPTION:

The BRAHMOS is a Supersonic Cruise Missile which can be fired from various platforms and, under stringent launch conditions, has established accuracy, reliability, ease of operation, faster reaction time and practically no possible countermeasures. The BRAHMOS missile has the identical configuration for land, sea, sub-sea and air platforms. It is launched from a canister, which also acts as a storage cum transportation container. It has a shorter flight time leading to lower target dispersion and quicker engagement. The missile has a wider range of flight trajectories and operates on "Fire and Forget" principle.

COMPANY : BRAHMOS AEROSPACE PRIVATE LIMITED

CONTACT : praveenpathak@brahmos.com

NSN 1410 720 487 334

SPECIFICATIONS:

- Range of 290 kms
- Speed up to 2.8 Mach all through the flight
- Flight Altitude : 5 m to 15 km
- Warhead : Up to 300 kg conventional

MILAN 2-T



DESCRIPTION:

The Milan-2T is a man portable (infantry) second generation ATGM, fitted with Explosive Reactive Armour for both moving & stationary targets, with a tandem warhead to destroy tanks. It is wire guided, highly reliable and requires no maintenance/prefire checks.

SPECIFICATIONS:

- Calibre : 115 mm
- Length : 1137 mm
- Weight : 7.1 kg
- Range : 25-1850 m
- Penetration : > 720 mm
- Flight time : 12.5 sec
- Reliability : 95%

COMPANY : BHARAT DYNAMICS LIMITED

CONTACT : bdbdl@bdl-india.in

NSN 1425 720 487 376

DHANUSH



DESCRIPTION:

The Dhanush is a state-of-the-art gun system with an effective range of 38 km in plains and is equipped with high performance sub-systems like INS based sighting system, auto-laying system, on-board ballistic computation and advanced day and night direct firing system. The Dhanush is a multi-terrain weapon platform and has the capability to negotiate and deploy itself in difficult hilly and mountainous terrain as well as in deserts. The barrel is 155 x 45 calibre with 23 litre chamber volume and JBMOU compliant, compatible to both modular and bag charge system.

COMPANY : OFB

CONTACT : export.ofb@nic.in

NSN 1025 720 471 000

SPECIFICATIONS:

- Calibre : 155 mm
- Weight : < 13 Tons (approx.)
- Range : Max 38 kms (with ERFB BB) on plains
- Elevation : Max up to 70° (1245 mils),
Min. up to -3° (-53 mils)
- Ammunition : HE M 107, ERFB-BT (HE),
ERFB-BB (HE), Illuminating, Smoke and is
Compatible with all NATO 155mm Ammunition System

ADVANCED TOWED ARTILLERY GUN SYSTEM



DESCRIPTION:

The Advanced Towed Artillery Gun System is a 155 mm/52 calibre artillery system jointly designed and developed by ARDE (DRDO). It has a futuristic and technically superior breech, with higher service pressure and can withstand pressure up to 560 Mpa. It can fire any type of ammunition.

SPECIFICATIONS:

- 155 mm 52 Calibre Gun System
- Firing range of 48.074 km (HE-ERFB BBI) & 38.569 km (HE-ERFB BT)
- Zero backlash Electrical Drives : Hydro-electric gun system
- System has ability to fire Zone 7 charge
- Elevation Angle : -3° to $+75^{\circ}$ with the speed of $5^{\circ}/s$
- Ground Clearance : 400 mm
- Self-propelled capability with a speed of 20 kmph

COMPANY : BHARAT FORGE LIMITED

CONTACT : mohit.singh@bharatforge.com

NSN 1025 720 487 409

VAJRA



DESCRIPTION:

The K9 Vajra-T gun system has proven to withstand extreme weather conditions, both in severely cold areas as well as in desert terrain. It is equipped with longer firing range, higher rate of accuracy and effective state-of-the-art firing capabilities.

SPECIFICATIONS:

- 155 mm/52 calibre tracked self-propelled gun system

COMPANY : LARSEN & TOUBRO LIMITED

CONTACT : intl.defence@larsentoubro.com

BHARAT - 52



DESCRIPTION:

The Bharat-52 is a long-range 155 mm/52 calibre towed gun, providing a highly manoeuvrable field artillery solution. It has been designed for accuracy, stability, and reliability during firing manoeuvres. It has a self-suspension arrangement which is achieved by using walking beam system which provides ease of maintenance. It has self-propelled capability with a speed of 21 kmph and is able to ride at a towing vehicle's speed during towed mode. It can fire any type of ammunition.

COMPANY : BHARAT FORGE LIMITED

CONTACT : mohit.singh@bharatforge.com

NSN 1025 720 487 410

SPECIFICATIONS:

- 155 mm 52 Calibre Gun System
- Gun Dimensions : Length 10258 mm x Width 2880 mm x Height 2656 mm
- Arc of Fire (Traverse Angle of Fire) : $\pm 35^\circ$ to right and left, with the speed of $5^\circ/\text{s}$
- Elevation Angle : -3° to $+72^\circ$ with the speed of $5^\circ/\text{s}$
- Steering : Steer-by-wire method for manoeuvring the artillery
- Deployment Time : 1 minute in day, and 1.5 minute in night
- Weight : 15 ton
- Equipped with fully automatic Load Assist System (LAS) with manual backup arrangement with rate of fire as follows :
 - Burst rate of fire: 3 rounds in 30 sec
 - Intense rate of fire: 12 rounds in 3 min
 - Sustained rate of fire: 42 rounds in 1 hr

UPGRADED L-70 GUN



DESCRIPTION:

The L-70 Gun Upgrade is a fusion of the latest technologies in the areas of Electrical Servo Drives, Electro-Optical Fire Control System and Video Tracking. It has an Integrated Fire Control System with Optronic Sight Consisting of Eye SAFE LRF, DLTV AND TI.

SPECIFICATIONS:

- Modes of Operation : Remote Power Control, Local Power Control & Back-up Mode
- Power Source : MF Batteries with Charger and DG Set
- Drive Specifications :
 - Azimuth Travel: 360°
 - Elevation Travel: -5° to 85°
 - Laying Accuracy: 0.5 Mil (0.0286")
- Daylight TV Camera Magnification : 3 x (min); Field of View : 1.5° to 40°
- Thermal Imager Wavelength : 3 - 5 μm; Field of View : 2.4° to 25° continuous zoom

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 1010 720 463 678

GARUDA - 105



DESCRIPTION:

The Garuda-105 is a light-weight field gun based on the 105 Indian Field Gun. It incorporates state-of-the-art soft recoil technology resulting in a lightweight, modular, high performance howitzer that can be designed to be integrated with many types of combat transportation. It has shoot and scoot capability.

The Garuda-105 is ultra-light gun system which utilizes the high-end Soft Recoil Technology. This allows the weapon (gun) to be placed on light vehicles and nonstandard platforms, including aircraft and coastal and river patrol watercraft. This high-tech system is a force multiplier for the forward forces and will prove to be a complete game changer in the realm of weapon systems.

SPECIFICATIONS:

- 105 mm 37 Calibre Gun System
- Extremely lightweight : less than 1 ton
- Ordnance used : Existing 105 LFG
- Digital fire control, electrically controlled elevation and traverse
- Elevation and Traverse - Elevation : -5° to 70°; Traverse: 360°
- Rate of Fire - Normal Rate : 4 rds/min; Intense Rate : 6 rds/min

COMPANY : BHARAT FORGE LIMITED

CONTACT : mohit.singh@bharatforge.com

NSN 1015 720 487 330

KONKURS-M (ATGM)



DESCRIPTION:

The Konkurs-M is a second generation, mechanized infantry ATGM, designed to destroy armoured vehicles equipped with Explosive Reactive Armour, both moving and stationary. It is a higher homologue of the Konkurs missile with improved warhead penetration.

FEATURES:

- Can defeat armoured targets fitted with ERA
- Can be launched either from BMP-II or from ground launcher
- Equipped with tandem warhead
- High hit and kill probability

SPECIFICATIONS:

- Length : 1260mm
- Calibre : 135mm
- Range : 4000m
- Flight time : 19 s
- Armour penetration : 800 mm behind ERA
- Weight : 16.5 kg

COMPANY : BHARAT DYNAMICS LIMITED

CONTACT : bdbdl@bdl-india.in

ZU-23 UPGRADE



DESCRIPTION:

The Zu-23 Upgrade converts the manually-laid gun into an all-electric system with autonomous functionality. It enables effective engagement of aerial and ground targets, incorporates the automatic target tracker and complies with the operating and storage temperatures, humidity, dust and rain protection requirements for reliable and fault-free operation.

COMPANY : LARSEN & TOUBRO LIMITED

CONTACT : intl.defence@larsentoubro.com

NSN 1005 720 487 384

SPECIFICATIONS:

- Modular construction for easy maintenance

UPGRADED SCHILKA WEAPON SYSTEM



DESCRIPTION:

The Upgraded Schilka system is a ZSU 23 mm, 4 barrel, advanced all weather self-propelled Air Defence Weapon System primarily designed to protect mobile formations against aircraft and helicopters. It consists of state-of-the-art 3D planar Active phased-array solid state Radar and Electro Optical Fire Control system that ensures day and night capability for detection, acquisition and tracking of targets. The various phases of operation such as rapid acquisition of fast-moving target, determination of the aiming point for the guns and ballistics of the projectiles, rapid laying of the guns on to the target and firing can be carried out when the vehicle is on the move or at halt. It has built-in simulator for operator training and has Nuclear Biological Chemical (NBC) protection system.

SPECIFICATIONS:

- Calibre : 23 mm
- No. of Barrels : 4 x Automatic water-cooled barrels
- Rate of Fire : 3400 rounds/minute for 4 guns
- Max Range : 2000 m
- Operating Ranges
 - Radar Detection : 15 km, Radar Tracking : 9 km
 - Output Average Power : 49 w
 - Max Speed on Road : 50 kmph
 - Max Speed on Cross Country : 30 kmph

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 2350 720 464 145

WHEELED AMPHIBIOUS PLATFORM



DESCRIPTION:

The WhAP (named Kestrel) is a Wheeled Amphibious Infantry Combat Vehicle jointly designed and developed by DRDO and VRDE. Its 8x8 under chassis driveline with double wish bone type independent hydro-pneumatic suspension provides mobility across all kinds of terrain - land and water.

SPECIFICATIONS:

- 600 HP High Power Engine with Automatic transmission in power pack concept
- Modular Architecture for multiple variants on same platform
- Scope for Enhanced Ballistic Protection, up to Stanag Level 4
- Strong uprated driveline with Hydro pneumatic suspension
- Open Electronic Architecture for any "Mission Kits"
- Advanced Environment Control for Ambient temperatures up to 55 degree Celsius

COMPANY : TATA MOTORS LIMITED

CONTACT : pranav.singh@tatamotors.com

NSN 2355 720 487 370

WEAPON LOCATING RADAR



DESCRIPTION:

The Weapon Locating Radar (WLR) has been primarily designed to locate hostile guns, mortars, and rockets. WLR, in its secondary role, can track and observe the fall of shot from own weapons to provide corrections to own fire. Detection, location and tracking of the requisite targets is handled by the advanced algorithms and state-of-the-art hardware. It has an electronically scanned Phased Array Antenna.

The ability to locate enemy weapons from its first round and transmit the data of the required target to counter fire elements for retaliatory strike before the target is redeployed is the key feature of the radar with built in test equipment (BITE) and a remote display.

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 1285 720 461 381

SPECIFICATIONS:

- Weapon Locating Range
 - 81 mm or Larger Mortars : 4 to 20 kms
 - 105 mm or Larger Guns : 6 to 30 kms
 - Free Flight Rockets : 6 to 40 kms
- Simultaneous Targets Tracked : 7 (maximum)
- Time to bring Radar into Action : 30 minutes
- Time to bring Radar out of Action for move : 15 minutes
- Range : 50 km
- Frequency Band : C band
- Elevation Coverage : 0° to 60°
- Shock, Vibration : As per JSS 55555
- EMI/EMC : MIL STD-461E

BATTLEFIELD SURVEILLANCE RADAR - EXTENDED RANGE (BFSR-XR)



DESCRIPTION:

The Battle Field Surveillance Radar - Extended Range (BFSR-XR) is a man portable, battery powered state-of-the-art Pulse Doppler Surveillance Radar capable of automatically detecting and displaying a diversity of moving targets such as pedestrians, groups of men, vehicles, tanks, low flying helicopters, etc. It is lightweight and operates 24 hours a day under all weather conditions. It has a J-band Pulse Doppler Radar with built in test equipment (BITE) and built-in digital magnetic compass. It is used for border surveillance, battlefield surveillance, intelligence gathering, protection of sensitive sites and prevention of infiltration and illegal immigration.

SPECIFICATIONS:

- Range Accuracy : 20 m rms
- Range Resolution : 50 m
- No. of Tracked Targets : up to 99
- Target Identification : using Doppler tones
- Power Supply : 24 Volts DC nominal
- Power Consumption : 100 watts
- Weight of System (excluding accessories) : 30 kg
- Operating Temperature : -20°C to +55°C
- Relative Humidity : up to 95% at 40°C
- Altitude : 4500 meters
- Wind Load (operation) : 80 kmph

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5840 720 487 324

3D LOW LEVEL LIGHT WEIGHT RADAR (ASLESHA)



DESCRIPTION:

The Aslesha is a multifaceted ground based S-Band 3D Low Level Light Weight Surveillance Radar for deployment in diverse terrains like plains, deserts, mountain tops and high altitude regions. Aslesha detects and tracks heterogeneous air targets, including helicopters, fighters and UAVs at low and medium altitudes. It can be easily transported by men, light vehicles and under slung by helicopter, and is fast and easy to install and decamp. It can track while scanning up to 100 targets, has full 3D capability using multi-beam technology and is enabled for networking with Integrated Asterix protocol.

SPECIFICATIONS:

- Environmental : JSS 55555 compliant
- Height coverage : 30 m to 4500 m (AGL)
- Elevation coverage : 00 to 300
- Power source : Generator with UPS and Battery
- Power consumption : < 1 kva
- Accuracy
 - Range : < 50 m
 - Height : \pm 500 m
 - Azimuth : < 0.50
 - Resolution : Range < 200 m, Azimuth < 70

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5840 720 472 437

MILITARY VEHICLES



DESCRIPTION:

Ashok Leyland has vehicles for defence in Light, Medium & Heavy Duty segments. Ashok Leyland provides different power packs for armoured fighting vehicles and self-propelled guns, and power packs for different uses including Gen sets and 16 to 80 seater buses. These vehicles are used for a variety of applications, from normal Load Carrier to Ambulance, Recovery, Fire Fighting, Refrigerated Lorry, Fuel & Water Bowsers, Rocket Launcher, Radars, and Missile.

COMPANY : ASHOK LEYLAND

CONTACT : Puri.SK@ashokleyland.com

NSN 2320 720 200 752 NSN 2320 720 200 746

NSN 2310 720 466 073 NSN 2320 720 150 691

NSN 1730 720 477 686 NSN 4210 720 461 388

SPECIFICATIONS:

- Product range : 1T GVW (Gross Vehicle Weight) to 100T GTW (Gross Trailer Weight)
- Vehicles for Defence in Light, Medium & Heavy Duty segments
- Configuration of 4 x 4, 6 x 6, 8 x 8, 10 x 10 for high mobility
- Medium Bullet Proof Vehicles (MBPV 4 x 4)
- Mine Protected Vehicle (MPV 4 x 4)
- Personnel Protected Vehicle (PPC 4 x 4)

MINE PROTECTED VEHICLE (MPV)



DESCRIPTION:

The MPVs can carry up to a dozen fully armed personnel and have a provision for gun sights in bullet proof glass, from where troops can take on targets outside. There is also a provision to install a rotating heavier gun on top of the vehicle. MPVs can move cross-country across most terrain even while taking fire and hitting back at terrorists. The vehicle consists of monocoque hull/body. The cabin assembly is built of high-quality steel alloy. Maximum safety of the crew from ballistic and other forms of attack is provided by virtue of the “V” shaped envelope of the body.

COMPANY : OFB

CONTACT : export.ofb@nic.in

NSN 2355 720 487 367

SPECIFICATIONS:

- Dimensions : 6.00 m (length), 2.90 m (width), 3.07 m (height)
- Ground Clearance : 305 mm
- Speed : 85 kmph max
- Patrol Speed : 50 kmph
- GVW / Pay Load : 11 tons/1400 kgs
- Range : 1000 km
- Protection Level : Mine Blast 14 kgs TNT under wheels 10 kgs TNT under Hull
- Small Arms : 7.62 SLR Rifle firing from a distance of 10 meters on all sides of vehicle

PINAKA MULTI-BARREL ROCKET LAUNCHER



DESCRIPTION:

The Pinaka Multi-Barrel Rocket Launcher (MBRL) System is a high-tech, all weather, long-range, area fire artillery system built on an 8x8 chassis with high cross-country mobility. It is fitted with electro-mechanical outriggers with an auto levelling feature to stabilise the launcher during launch.

COMPANY : LARSEN & TOUBRO LIMITED

CONTACT : intl.defence@larsentoubro.com

NSN 1055 720 251 323

SPECIFICATIONS:

- Range : Over 40 kms
- Ready-to-fire Rockets : 12 (2 pods)
- Control of Firing : Auto/Manual
- Firing Modes : Single/Salvo
- Time to fire Salvo of 12 Rockets : 44 seconds
- Area Coverage : 1000 m x 800 m
- Shoot and Scoot Capability : Fast coming in and out of action (<3 min)
- Crew : 4

SARVARTRA BRIDGE SYSTEM



DESCRIPTION:

The Sarvatra Bridge System is an optimally designed scissor launch system, with a state-of-the-art hydraulic system which provides multi span capability. It is a high mobility launching platform suitable for heaviest military traffic with advanced hydraulics which ensures continuous and smooth operation. Its double "A" shaped trestle provides excellent stability and can be constructed with minimum crew.

COMPANY : BEML LIMITED

CONTACT : office@export.beml.co.in

NSN 5420 720 473 569

SPECIFICATIONS:

- The vehicle is BS II (EURO II) 8-cylinder, 'V' type, air cooled engine, 402 HP (300 kw) @ 1800 rpm
- Swinging Half Axles for better cross country mobility
- Rear cabin with Dual Drive Facilities
- All wheel Drive for Maximum Traction
- Left hand drive with 2x10 Forward Speeds
- High Mobility Launching Platform
- Suitable for Heaviest Military Traffic
- Multi Span capability up to 75 meters

PONTOON BRIDGE SYSTEM



DESCRIPTION:

The Pontoon Bridge has a maximum load carrying capacity of 60 tonnes and can transport military vehicles over water obstacles and marshy grounds. The midstream members are joined together to form the floating part and the bank. The shore members are connected to the midstream members and serve as the transition section between the floating part and the bank.

SPECIFICATIONS:

- The vehicle is 8 Cylinder, "V" type, Air-cooled Engine, 402 HP(300kw) @ 1800 rpm, Max Torque : 1830 Nm @1200 rpm
- Transmission : 10 forward and 2 reverse gears
- Suspension : Front: Leaf spring type and Telescopic shock absorbers.
Rear: Leaf spring
- Brakes : Two circuit drum air brakes with cam type actuator
- Steering : Mechanical, power assisted by hydraulic steering
- Bridge Length : 227 meters

COMPANY : BEML LIMITED

CONTACT : office@export.beml.co.in

NSN 1945 720 487 038

BAILEY TYPE BRIDGES



**VIEW OF A MULTI-SPAN BRIDGE (120 ft & 130 ft)
ON RIVER TEESTA IN WEST BENGAL, INDIA**



**VIEW OF A 360 ft PRE-FAB SUSPENSION TYPE BRIDGE
ON SIYOM RIVER, ARUNACHAL PRADESH, INDIA**

DESCRIPTION:

The GRSE Bailey Type Bridges are fully tested, pre-engineered and pre-fabricated, having high strength and versatility. As the modular design facilitates easy assembly, these bridges can be erected very fast even in the most challenging terrain and conditions. These bridges are re-usable, portable and upgradable. The individual components for GRSE Bailey types Bridge can be moved manually to the site. As the transporting and machinery is not a pre-requisite for movement and installation, the GRSE Bailey type bridges are ideal for facilitating connectivity in remote areas and thereby enabling people.

SPECIFICATIONS:

Sl. No.	Type of Bridge	Road Width (m)	Max Span (ft)	IRC-6* Load Class	Weight of Equivalent Wheeled Vehicle
01	Single Lane Bridge (Steel Deck)	3.32/4.25	200/200	30R	38MT
			190/180	40R	55MT
			140/140	70R	100MT
01	Single Lane Bridge (Steel Deck)	3.32/4.25	200/200	30R	38MT
			190/180	40R	55MT
			140/140	70R	100MT

INDIAN ROADS CONGRESS-6

Sl. No.	Type of Bridge	Road Width (m)	Max Span (ft)	BMLC** Load Class
01	Suspension Bridge (Wooden/Steel Deck)	3.277	400	Class 18
			360 & below	Class 24

BRITISH MILITARY LOAD CLASSIFICATION

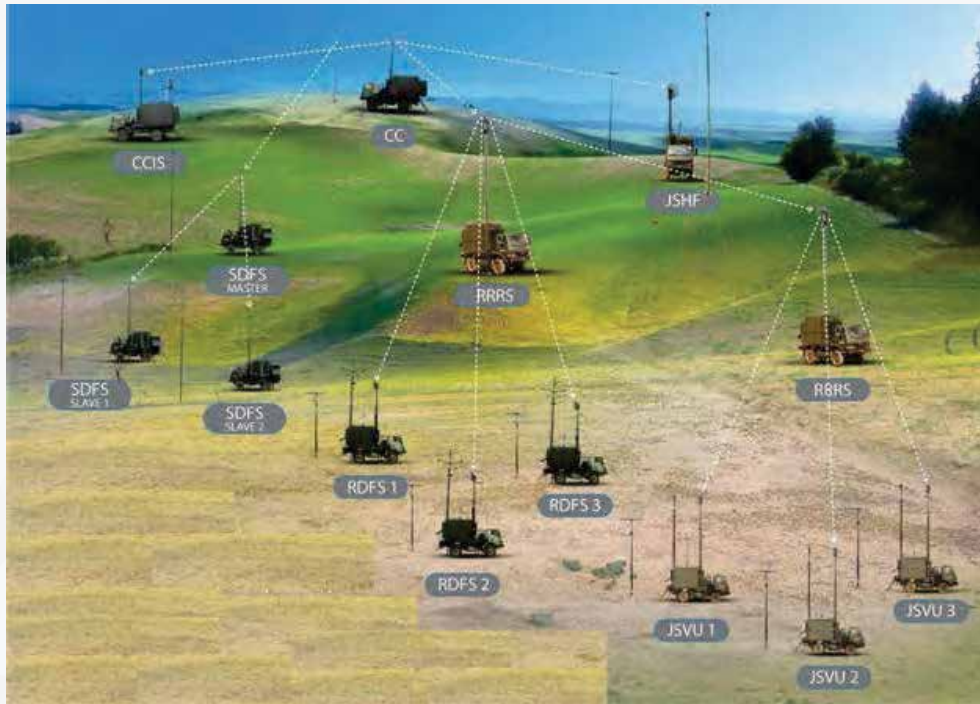
Sl. No.	Type of Bridge	Road Width (m)	Max Span (ft)	AASHTO# Load Class
01	Single Lane Bridge (Steel Deck)	3.32	180	HS20
		4.25	90	HL93 LRFD
			80 (with walkway)	
02	Improved Single Lane Bridge (Steel Deck)	4.25	230	HS20
			230	HL93 LRFD
			180	HL93 LRFD
			150 (With walkway)	

The American Association of State Highway Transportation Officials

COMPANY : GARDEN REACH SHIPBUILDERS & ENGINEERS LIMITED

CONTACT : marketing@grse.co.in, grse.mktg@gmail.com

COMMUNICATION INTEGRATED ELECTRONIC WARFARE SYSTEM



DESCRIPTION:

The Communication Integrated Electronic Warfare System is an Integrated Electronic Warfare system and operates in HF and VUHF band. It consists of three independent functional blocks also called as Control Centre (CC) blocks and comprises of total of 75 Entity and Generator Vehicles. Each entity is realized in slip-on ISO shelters installed on 2.5 Ton vehicle. The system is designed to function in an integrated mode where the CC entity is connected with other functional entities with secure intra-system communications with state-of-the-art ECCM features with suitable backup radios.

SPECIFICATIONS:

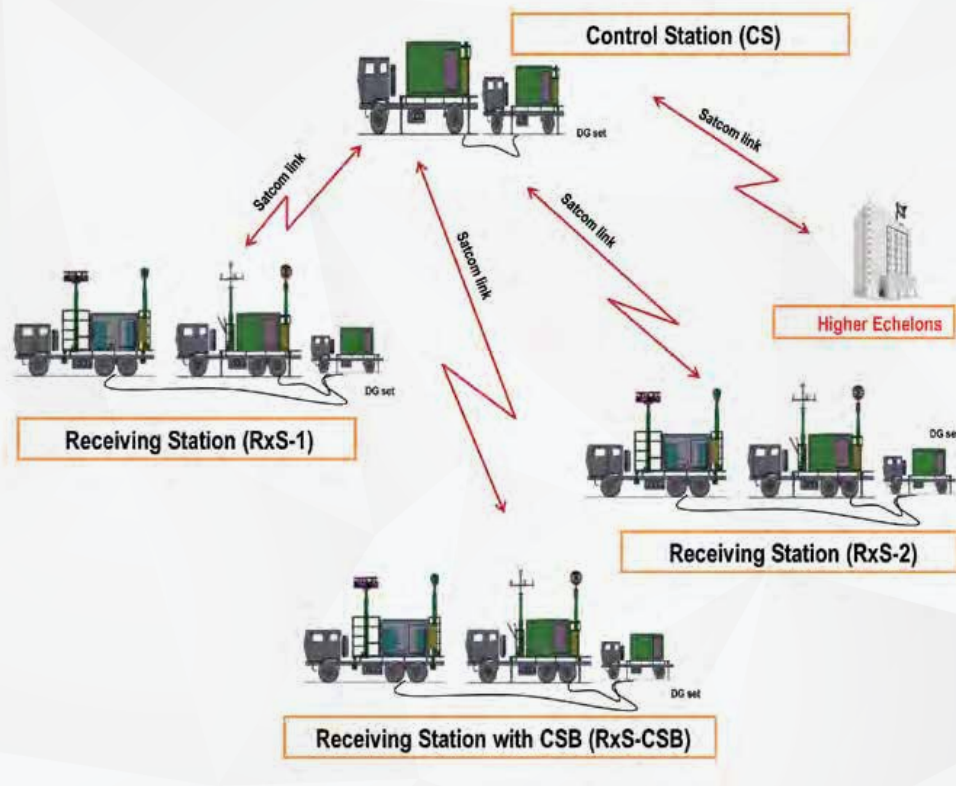
- Each CC block covers the functionality of Search, Detection, Monitor, Recording & Analysis of hostile threats of FF, FH and Burst signals, as well as covers the functionality of Direction Finding, Location Fixing and Jamming of the hostile threats.
- Each CC block is configured with seven types of functional entities namely CC, CCIS, RDFS, SDFS, JSHF, JSVU and RRRS. CCIS has capability to Intercept and Jam GSM and CDMA based cellular radio transmissions.

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5865 720 487 320Z

GROUND-BASED MOBILE ELINT SYSTEM (GBMES)



DESCRIPTION:

The Ground Based Mobile ELINT System is capable of detection, monitoring, location fixing, and complete analysis of RF signals in the frequency range of 70 MHz to 40 GHz. The System is configured on indigenously developed Antennae, DF & Receiver Technologies.

SPECIFICATIONS:

- The system is fully automated, software intensive with a facility for manual override when required
- Interception of Radar emitters in 70 MHz to 40 GHz band
- Capability to monitor at least 200 emitters simultaneously

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 6350 720 487 301

155-MM HE-ERFB BT



DESCRIPTION:

The 155-MM HE-ERFB BT is designed for rapid and accurate firing at long ranges to attack the ground targets, fixing, and complete analysis of RF signals in the frequency range of 70 MHz to 40 GHz. The System is configured on indigenously developed Antennae, DF & Receiver Technologies.

SPECIFICATIONS:

- Maximum Range : 30 km
- Compatible Fuzes : PDM - 572 CI & M85 P13 A3
- Compatible Charge : Charge 8 & Charge 9
- Shelf Life : 10 years

COMPANY : OFB

CONTACT : export.ofb@nic.in

NSN 1320 720 487 363

INSTAVEST G6



DESCRIPTION:

The 6th generation Instavest offers ballistic protection from handgun ammunition, RCC's and FSP's at vastly improved energy absorption and dissipation levels. The unique patented quick release (QR) system in Instavest G6 enables swift doffing and donning of the vest in emergency situations.

SPECIFICATIONS:

- WEIGHT : < 5 kgs
- Made from 6th generation ultra-lightweight Ammoflex armour

COMPANY : MKU LIMITED

CONTACT : r.gupta@mku.com

NSN 8470 720 487 368

ADVANCED COMBAT HELMETS



DESCRIPTION:

The boltless Advanced Combat Helmets are manufactured using special trauma reduction technology that results in just 10 mm blunt trauma, nearly 40% lower in comparison to a standard helmet. The No Holes - No Drill technology used in MUKUT helmets ensures zero compromised areas in the helmet shell, providing uniform protection across the ballistic shell perimeter. This eliminates the risk of lethal injuries due to secondary fragments as compared to traditional bolted helmets, in situations where the high velocity threat hits the bolts.

SPECIFICATIONS:

- Flame & UV resistant
- Manufactured using non-toxic material as per 2002/61/EC
- Jointless rubber edge guard
- Compatible with NVD, Gas Masks, Communication systems etc.
- Level IIIA protection with V50 up to 700 m/s

COMPANY : MKU LIMITED

CONTACT : r.gupta@mku.com

NSN 8415 720 487 365

BALLISTIC SHIELDS



DESCRIPTION:

The handheld and trolley mounted Ballistic Shields have large view ports and transparent armour, offering enhanced coverage during counterterrorism, insurgency and riot control operations.

SPECIFICATIONS:

- Made from non-toxic materials
- Fire, UV resistant
- Ballistic glass on view port for clear vision and enhanced field of view (FOV)
- Abrasion resistant Neoprene rubber edges
- Available in flat or curved (750 R or 540 R) geometry
- Ambidextrous handle with nylon neck and shoulder strap

COMPANY : MKU LIMITED

CONTACT : r.gupta@mku.com

NSN 4240 720 487 364

BALLISTIC PROTECTION



DESCRIPTION:

- Advanced Ceramic B4C (CaraSTOP) Plates
- Tiles for Light Weight Armour
- Personal Ballistic Protection:
 - Ballistic Vest & Jackets
 - Armour Plates
 - Ballistic Helmets
 - Ballistic Shields
- Lightweight armour solutions for Aircraft / Helicopter / Vehicle / Boat
- Tank, Artillery and Mortar Munitions

SPECIFICATIONS:

- Body Armour & Ballistic Shields : Protection of NIJ Level IIIA to IV
- Armour Plates : Stand alone or ICW with protection of NIJ Level III, III SP and IV, all shapes and sizes
- Ballistic Helmets : For protection of NIJ Level IIIA, III, III+ & fragments, all designs (PASGT, ACH, MICH, TCH)
- Armour Solutions : For protection of STANAG Level -1 to 5 and Blast Protections
- Tank Ammunition : 120MM and 125MM (FSAPDS and HESH)
- Artillery Ammunition : 105MM and 155MM (LZ & HZ), 130MM (FVC and RVC)
- Mortar Bomb Ammunition: Augmented Cartridges and Transparent Celluloid Sheets

COMPANY : SM CARAPACE ARMOUR

CONTACT : contact@smgroupindia.com

NSN 8470 720 487 473

NSN 8470 720 487 474

HIGH ENERGY MATERIALS AND MULTI MODE HAND GRENADE



DESCRIPTION:

HMX, RDX, TNT and their compositions have multiple uses in variety of military applications and are used in the manufacture of warhead composition for ammunition. TNT is used in the filling of Artillery Shells, Mines, and Boosters etc. The Multi Mode Hand Grenade offers numerous advantages over conventional grenades in terms of Safety, Dual Mode Capability and Lethality.

SPECIFICATIONS:

- HMX : MIL-DTL-4544C, Grade B, Class 1 to 6
- RDX : MIL-DTL-398D, Class 1 to 5
- TNT : MIL-DTL-248D
- Hand Grenade:
- Operating temperature : -20° C to +55° C
- Additional safety to the soldier through Arming Delay
- Easy to prime and un-prime

COMPANY : SOLAR INDUSTRIES INDIA LIMITED

CONTACT : solar@solargroup.com

NSN 1330 720 487 346

CMDS (COUNTER MEASURE DISPENSING SYSTEM)



DESCRIPTION:

A state-of-the-art Chaff and Flare Dispensing System, the CMDS is a micro controller based airborne defensive system. It can be activated either by the pilot or RWR. This protects the Aircraft against Radar guided and IR seeking missiles (Air and Ground Launched) by dispensing chaff and / or flare payloads.

SPECIFICATIONS:

- Provides self-protection to the Aircraft against Radar Guided and heat seeking missile launched from Air or Ground.
- Dispenses Decoy for all Heat / IR seeking missile directed against Aircrafts / Helicopters.

COMPANY : BHARAT DYNAMICS LIMITED

CONTACT : bdbdl@bdl-india.in

NSN 5865 720 278 067

HANDHELD HELMET / MOUNTED NIGHT VISION DEVICES (MODEL: NETHRA)



DESCRIPTION:

The NETHRA is an uncooled thermal sight which can view through dust, smoke, fog, haze and other battlefield obscurants. The NETHRA senses only heat and not light, it will not shut down or "bloom" when hit by direct light.

SPECIFICATIONS:

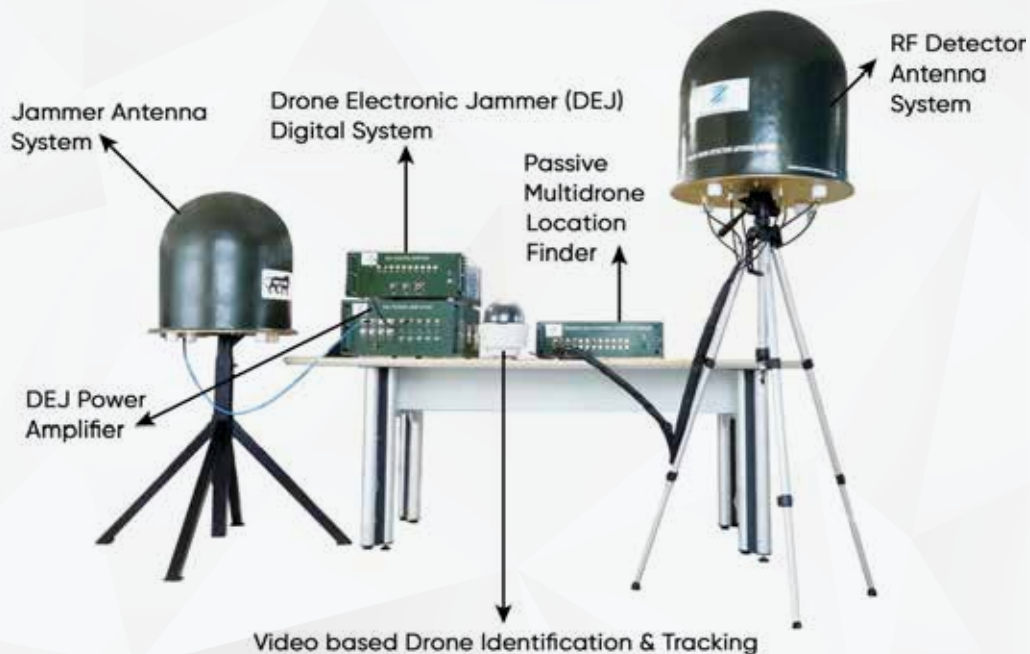
- Spectral Range : 8-14 μ m
- FPA Resolution : 640X480 or better
- Lightweight (under 1.3 kg)
- Can be used as a Weapon Mounted Sight / Handheld Thermal Sight / Helmet Mounted Sight

COMPANY : ALPHA DESIGN TECHNOLOGIES PVT. LTD.

CONTACT : alphacorp@adtl.co.in

NSN 5855 720 487 349

ZEN ANTI-DRONE SYSTEM



DESCRIPTION:

The Zen Anti-Drone is a multi-layer system aimed at providing security against drone attacks. It is capable of integrating 2D/3D Radar for detection, as well as AD weapons (guns) for hard kill.

SPECIFICATIONS:

- Frequency Covered : 400MHz to 6GHz
- Frequency Scan Speed : Fast scan mode - 20 GHz/sec; Slow scan mode - 1 GHz/sec
- RF Detection Range : 5 m to 5 km for commercial and military drones
- Angle Coverage : Azimuth - 360 degrees, Elevation - 70 degrees
- Optical Detection Range: Up to 4 km
- Jamming Frequency : All ISM and navigation bands
- Jamming Range : Up to 3 km

COMPANY : M/S ZEN TECHNOLOGIES

CONTACT : mktg@zentechnologies.com





NAVAL SYSTEMS

ANTI-SUBMARINE WARFARE CORVETTE



DESCRIPTION:

The Anti-Submarine Warfare Corvette (ASWC) is a frontline warship with stealth features. The Composite Material Superstructure reduces Weight, Magnetic Signature and RCS (Radar Cross Section).

The hull, equipment & equipment foundation is designed for low Acoustic signature. Advanced heat signature management techniques such as an IRSS device have been installed for infrared signature suppression thus enhancing the stealth capability of the platform. The ship is also capable of operating in NBC Environment (Nuclear, Biological & Chemical).

SPECIFICATIONS:

- Length Overall : (m) 109.10
- Breadth : (m) 14.17
- Depth : (m) 8.5
- Displacement : (t) 3200 approx.
- Max Speed : (knots) 25.00
- Draught (Design) : (M) 3.72
- Endurance : (Nm) 3450 approx. at 18 knots
- Main Engines : (kw) 4 X 3888 at 1050 rpm
- Diesel Generators : (kw) 2 X 1000, 2 X 500
- Aircraft : Seaking Mk-42B / Advanced Light Helicopter
- Armament
 - Electronic Warfare System : Hull Mounted Sonar
 - SRGM : CIWS
 - Torpedo Launcher : Integrated Rocket Launcher
 - Chaff Launcher : Early Warning Radar
 - Fire Control Radars : Under Water Sensors
- Accommodation
 - Officers : 17
 - Sailors : 106

COMPANY : GARDEN REACH SHIPBUILDERS & ENGINEERS LIMITED (GRSE)

CONTACT : marketing@grse.co.in

NSN 5865 720 487 372

OFFSHORE PATROL VESSEL (OPV)



DESCRIPTION:

The Offshore Patrol Vessel is equipped with sophisticated state-of-the-art weapons and sensors viz the Bofors anti-aircraft gun, Racal Decca 2459 search radar and BEL 1245 navigation radar. The 1890 tonnes vessel is the biggest NOPV developed at HSL. It has state-of-the-art communication and navigation systems.

SPECIFICATIONS:

- Length : 101.00 m
- Breadth : 11.50 m
- Speed : 21 knots speed achieved @ 85% MCR
- Range : 7000 Nm
- Power : 680 kw at 900 rpm

COMPANY : HINDUSTAN SHIPYARD LIMITED

CONTACT : mprojectsdo@hslvizag.in

NSN 1940 720 473 210

ADVANCED OFFSHORE PATROL VESSELS



DESCRIPTION:

The Advanced Offshore Patrol Vessel (AOPV) is designed for patrolling and policing maritime zones, search and rescue, pollution control, external fire fighting and embarkation & operation of the Advanced Light Helicopter for long range all time search and surveillance. The vessel has a rail-less Helo-traversing system for Helicopter handling. This provides a clear deck for Helo-operations without the attendant rail fittings. A state-of-the-art navigation & communication equipment with Integrated Bridge System is provided on board. Modular Mast options are available for higher weapon fit. It is a multiple role capable, cost effective product, comparable to any other similar internationally available product. The basic platform is fuel efficient and cost effective and can be easily adapted to any special sea evolution requirements of the customer.

SPECIFICATIONS:

- Main Engine : 2 x Diesel Engines (2 x 9000 kw)
- Speed : Not less than 25 knots
- Endurance : Not less than 6000 miles
- Armament : 1 no 30mm Gun with FCS + 2 Nos. 12.7 mm Gun with FCS
- Aviation : Operation & embarkation of 1 no twin engine helo of AUW 6800 kgs

COMPANY : GOA SHIPYARD LIMITED

CONTACT : fpg_office@goashipyard.com

NSN 1940 720 472 511

FAST PATROL VESSELS



DESCRIPTION:

Primarily designed for patrolling, anti-smuggling and anti-terrorist operations, the Fast Patrol Vessel can also support the Navy during wartime as a coastal convoy escort and as a communication link. The hull of the vessel is steel and strong enough to withstand continued heavy sea conditions. Fully air-conditioned accommodation is provided for 35 men on-board. These vessels have proven useful during challenging situations and national disasters like tsunamis. Two Fast Patrol Vessels have been exported to Mauritius.

SPECIFICATIONS:

- Length Overall : 50.44 m (Incl. Water Jet)
- Breadth (mid.) : 7.50 m
- Displacement : 270 tons
- Main Engine : 3 x MTU-F 16V4000 M 90
- Total Power : 3 x 2720 kw
- Speed : 35 knots
- Range : 1500 Nm at 12-14 knots
- Endurance : 7 days

COMPANY : GOA SHIPYARD LIMITED

CONTACT : fpg_office@goashipyard.com

NSN 1940 720 472 511

HIGH SPEED PATROL BOAT



DESCRIPTION:

The High Speed Patrol Boat is a day/night surveillance and investigation vessel operating in shallow coastal waters in and around harbour and anchorage. The boat is the highly seaworthy unsinkable type, able to sustain operations up to sea state 3 in open sea and also in breaking sea waves near the coast while in shallow water. The boat has propulsion & power generation, lifesaving & ballistic protection and other engineering and electrical systems to carry out safe and reliable operations.

SPECIFICATIONS:

- Length Overall : 15.00 m (including aft platform)
- Speed : 30 knots
- Range : 8 hours in the area of operation
- Main Engine : 2 x Caterpillar C9 ACERT 503 BHP @ 2500 rpm inboard diesel engines

COMPANY : GOA SHIPYARD LIMITED

CONTACT : fpg_office@goashipyard.com

NSN 1940 720 472 529

FAST INTERCEPTOR BOAT



DESCRIPTION:

The Fast Interceptor Boat (FIB) is capable of performing high speed pursuits and interception in various border protection roles including anti-smuggling, anti-infiltration, fisheries, patrol and immigration and anti-terrorism activities. The vessel can also be used for search and rescue operations.

The boat hull has been constructed with the most advanced FRP construction technology. The FIB is capable of surviving at sea state 6 and withstanding 4G acceleration as well as rough waters and choppy seas. Even at its top speed, it can be brought to a grinding halt within seconds. The boats are fully air-conditioned for crew comfort during prolonged patrolling duties.

COMPANY : GOA SHIPYARD LIMITED

CONTACT : marketing@grse.co.in

NSN 1940 720 472 465

SPECIFICATIONS:

- Speed : 35 t 1 knots
- Range : 150 Nm with 25% reserve
- Main Engine : 2 x Cummins QSC8.3 500101
BHP @2600 rpm Diesel Engine
- Propulsion : 2 x Waterjet Kamewa FF310

INSHORE PATROL VESSEL



DESCRIPTION:

The IPV is designed and developed for coastal patrolling, anti-smuggling, search and rescue operations, fisheries protection, monitoring, and providing communication links. It has provision for dynamic reorientation of the ship in the planning mode with the use of interceptors.

COMPANY : HINDUSTAN SHIPYARD LIMITED

CONTACT : mprojectsdo@hslvizag.in

NSN 1940 720 473 227

SPECIFICATIONS:

- LBP : 44 m
- Displacement : 330 tonnes
- Speed : 33.5 knots
- Endurance : 1500 Nm

LANDING CRAFT UTILITY



DESCRIPTION:

The Landing Craft Utility (LCU) are deployed to transport troops and equipment from ship to shore and vice versa. Following are the salient features of the LCU platform:

- Equipped with Bow Ramp for handling combat equipment and vehicles.
- Arrangements for transporting and stowing equipment / vehicles on main deck.
- Ballast tanks to achieve desired trim and for smooth beaching / un-beaching operation.
- Arrangement to pull in / pull out stranded vehicles on the beach using Tank Hauling Capstan installed on main deck.
- Integrated Platform Management System (IPMS).

SPECIFICATIONS:

- Length Overall : (m) 62.8 (approx.)
- Breadth, moulded : (m) 11
- Depth up to Dk. No.1 : (m) 4
- Draught (design) : (m) 1.70
- Displacement : (t) 830 (approx.)
- Speed : (knot) 15
- Endurance : (Nm) 1500 at 12 knots
- Main Engines : (kw) 2 x 1850
- Diesel Generators : (kw) 2 X 250, 1 X 350
- Payload :
 - 01 No. Main Battle Tank / 04 Nos. Armoured Personnel Carrier (Light Tanks) / 04 Nos. 4 Ton Trucks
- Weapons :
 - 02 Nos. CRN-91 Guns
 - 04 Nos. Medium Machine Guns (MMGs)
 - 02 Nos. Heavy Machine Guns (HMGs)
- Accommodation :
 - Officers 10
 - Sailors 46
 - Troops 160

COMPANY : GARDEN REACH SHIPBUILDERS & ENGINEERS LIMITED (GRSE)

CONTACT : marketing@grse.co.in

NSN 1905 720 487 373

VOITH TUG



DESCRIPTION:

The Voith Tug is designed and developed for towing and assisting naval ships, submarines and crafts in harbour and restricted water, conducting fire fighting operations, carrying out search and rescue operations. It can tow ships up to 45000 displacement in harbour, as well as tow two or more small ships (450 tonnes displacement).

COMPANY : HINDUSTAN SHIPYARD LIMITED

CONTACT : mprojectsdo@hslvizag.in

NSN 1925 720 487 327

SPECIFICATIONS:

- LOA : 34.55 m
- Bollard Pull : 50 Ton bollard pull achieved @ 85% MCR
- Speed : 12 knots
- Endurance : 72 hrs with reserve capacity

TORPEDO ADVANCED LIGHT (TAL)



DESCRIPTION:

The Torpedo Advanced Light is a state-of-the-art underwater weapon. The homing and guidance technique include proportional navigation, pure pursuit and interception. Its power source is a seawater activated battery and thrust is provided by means of contra rotating propulsion motor.

COMPANY : BHARAT DYNAMICS LIMITED

CONTACT : bdbdl@bdl-india.in

NSN 1356 720 474 117

SPECIFICATIONS:

- Operating Depth : 10 m-300 m
- Maximum Speed : 32 knots
- Endurance : 6 min
- Range : 6 km
- Weight : 220 \pm 5 kg (warhead version/ 197 kg Exercise version)
- Explosive : 40 kg
- Dia : 324 mm \pm 1 mm
- Length : 2750 mm \pm 5 mm

HEAVY WEIGHT TORPEDO (VARUNASTRA)



DESCRIPTION:

The Varunastra is a state-of-the-art ship launched weapon. It weighs around 1.60 tonne and carries about 250 kg of explosives at a speed of 38 nautical miles per hour. Its circular trajectory makes it difficult for the enemy to target it and it smashes the target (underwater) from both top and bottom. Equipped with the most advanced automatic and remote-controlled guidance system, the weapon uses its own intelligence in tracing the target. It is electric-powered.

COMPANY : BHARAT DYNAMICS LIMITED

CONTACT : bdbdl@bdl-india.in

NSN 1356 720 473 826

SPECIFICATIONS:

- Speed : 27 & 40 knots with variable facility
- Homing : Acoustic, Active, Passive, Mixed & Imaging
- ACCM : SOBID (Sonar Objective Identification)
- Guidance : Pursuit & Predictive
- Proximity Fuse : Acoustic
- Warhead : Conventional/Insensitive Munitions

SUBMARINE FIRED DECOY (SFD)



DESCRIPTION:

The Submarine Fired Decoy acts as a preferred target in presence of own submarine to a passive or active homing torpedo.

COMPANY : BHARAT DYNAMICS LIMITED

CONTACT : bdbdl@bdl-india.in

NSN 1356 720 474 117

SPECIFICATIONS:

- Can function as a preferred target
- Offers zero response time for launching
- Deployed from signal cartridge launch tube of a submarine
- Calibre : 130 mm
- Weight : 9.60 kg
- Power Source : LiSo2 Primary Battery
- Endurance : 20 mins

CRN 91 NAVAL GUN



DESCRIPTION:

The CRN 91 Gun is a modular based, flexible and effective weapon intended for use against armoured targets and air targets flying at low altitudes. The range is 2 km for AP and 4 km for HE projectiles. The cannon can hit slow moving objects in air at a height of 2000 m and has a total range of 2500 m.

COMPANY : OFB

CONTACT : export.ofb@nic.in

NSN 1005 720 487 371

SPECIFICATIONS:

- Diameter : 2700 mm
- Height : 2100 mm
- Designation : 2A42
- Calibre : 30 mm
- Rate of Fire : Single: 200 to 300 rounds per min, Slow: 550 rounds per min
- Binocular Type : BPK 2-42

KAVACH MOD - II CHAFF ROCKET LAUNCHER



DESCRIPTION:

The KAVACH MOD-II system is designed to counter the threat of various anti-ship missiles by using chaff decoys. The system provides soft kill defence in a three-layered defence scheme. Multi barrel chaff rocket launcher is available both in Long Range and Short Range.

SPECIFICATIONS:

- Overall Weight : 1680 kgs
- Overall Height : 2690 mm
- Overall Width : 1300 mm (dia)
- Overall Length : 1300 mm (dia)
- Mode of Operation : Power and Manual
- Bore of Barrel : 105.6 + 0.4 mm

COMPANY : OFB

CONTACT : export.ofb@nic.in

NSN 1055 720 487 366

ASW ROCKET LAUNCHER



DESCRIPTION:

This ship-based anti-submarine weapon system is capable of firing 212 mm depth charge rockets at submerged targets, in single and salvo mode, from remote as well as local control stations. The launcher has a stabilised naval launch platform with two 2-axis all-electric servo drives. It has been developed for 15A and P28 class ships.

SPECIFICATIONS:

- Capable of firing 12 radially arranged depth charge rockets
- Supported by Rocket Feed Complex

COMPANY : LARSEN & TOUBRO LIMITED

CONTACT : intl.defence@larsentoubro.com

NSN 1055 720 487 387

TORPEDO LAUNCHERS



DESCRIPTION:

L&T has designed both lightweight and heavyweight torpedo launchers for Anti-Submarine warfare operations. The lightweight torpedo launchers (TTL) have triple tube configuration and are installed on P16A class ships of the Indian Navy. The heavyweight torpedo launchers (HTL) have twin-tube configuration and are installed on P15A and P28 class ships. The system is designed with a Power PC-based controller.

SPECIFICATIONS:

- TTL system : Firing is achieved by injecting high pressure air at high mass flow rate into the tube.
- HTL : The system is designed for single shot and salvo firing of torpedoes from a remote station through the IAC Mod C Fire Control System.

COMPANY : LARSEN & TOUBRO LIMITED

CONTACT : intl.defence@larsentoubro.com

NSN 1045 720 487 328

WM-18 ROCKET LAUNCHER (BEACH CLEARING SYSTEM)



DESCRIPTION:

The WM-18 weapon system is designed for beach-clearing by LST class of ships before executing amphibious operations. The weapon system comprises of two launcher mounts, one for each port and starboard. The Rocket Launcher WM-18 can be slaved to a Director Sight and is equipped with a weapon reloading system.

SPECIFICATIONS:

- Comprises two mounts of launchers.
- Each launcher mount is controlled by a closed-loop electro-hydraulic control system and is designed for automatic compensation of roll and pitch motions of the ship, which holds the weapon axis fixed with respect to the target.

COMPANY : LARSEN & TOUBRO LIMITED

CONTACT : intl.defence@larsentoubro.com

NSN 1055 720 487 385

53,000 DWT BULKER



DESCRIPTION:

Designed and developed for carriage of 53,000 DWT bulk cargo materials, the DWT vessel is accommodated with 5 cargo holds and equipped with heavy cranes for loading and unloading cargo. Constructed and equipped to carry dry bulk, break bulk, grain, metal concentrates, iron ore, scrap metal, coal, bauxite, salt and sugar, general cargo such as steel products, forest products, package freight and palletized cargo, long cargo like pipes and bagged cement, bagged cargo etc.

SPECIFICATIONS:

- LOA : 190.00 m
- Displacement : 65084 tonnes
- Speed : 14 knots speed achieved @ 85% mcr
- Power : 9480 kw

COMPANY : HINDUSTAN SHIPYARD LIMITED

CONTACT : mprojectsdo@hslvizag.in

NSN 1915 720 473 237

FLOATING DOCK



DESCRIPTION:

The L&T Floating Dock is ideal for docking of Naval Assets. Designed for operation alongside a jetty or with a mooring system, it meets stringent Military Specifications and Classification Society rules. The Floating Dock is capable of meeting end-to-end requirements for repairs of high-end warships and submarines. It also provides accommodation to its crew and the crew of the docked ship, thereby becoming a critical enabler for the Naval Forces. Other features of the Floating Dock are as follows:

- Fully-automated Ballast Control System
- Constructed of military grade steel
- Multiple docking capability - warships and submarines
- Retractable cover for all-weather operations

COMPANY : LARSEN & TOUBRO LIMITED

CONTACT : intl.defence@larsentoubro.com

NSN 1925 720 487 345

- Fully-automated hauling-in system
- Services the needs of docked ships and ships berthed alongside
- Redundancy of critical systems

SPECIFICATIONS:

- Length (overall) : 185 m
- Breadth between Inner Walls : 28 m
- Lifting Capacity : Up to 8000 T
- Draught of Docked Ship : 7 m
- Accommodation Capacity : 113 persons

ADVANCED COMPOSITE COMMUNICATION SYSTEM (CCS MK IV)



DESCRIPTION:

The Advanced Composite Communication System (ACCS) is an IP based, highly flexible Integrated Communication System designed to provide quick and reliable communication over VLF/MF/HF and V/UHF bands on board Naval Ships and Submarines for facilitating ship-to-ship, ship-to-shore and ship-to-air communication.

It provides the end user central control for allocation & control of radios, monitoring of status and power, and other supervisory features. It facilitates remote operations of radio, intercom and radio group working.

SPECIFICATIONS:

- Broadcast reception in VLF band
- Transmission and reception in HF band for long range communication
- Transmission and reception in V/UHF band for short and medium range (LOS) communication
- Data transmission/reception through High Speed Data Modem on HF link
- SATCOM equipment
- Remote radio communication/control and intercom over IP technology

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5895 720 487 321

COASTAL SURVEILLANCE SYSTEM



DESCRIPTION:

The protection of Exclusive Economic Zone (EEZ), particularly of coastal lines, has become important in view of spreading of illegal fishing, poaching, smuggling and to protect the sea environment. This necessitates a need for a surveillance system for detection, classification and identification of vessels using the territorial waters as well as for active help in search and rescue operation.

The Surveillance System comprises of a Network of Radars with a centrally located Control Centre and Communication System for Data Voice Connectivity between Radar Stations and Control Centre. The important task of the Surveillance System is to detect and identify surface targets / low-flying Helicopters / Aircrafts. The classification of targets is made based on the speed data. In order to facilitate identification of targets, Automatic Identification System (AIS) is integrated into the Radar network. The communication system enables transfer of Radar track data and AIS Track of the surface targets to the Control Centre. An integrated Radar picture of surface and air targets will be available on the display at the Control Centre. For observation and monitoring of close range targets, a Low Light TV Camera (LLTV) with zoom facility and suitable pan & tilt mechanism can be proposed at each Radar Station as an option. This provides a visual image of surface targets up to a range of 10 kms.

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5840 720 487 276

SPECIFICATIONS:

- Surveillance Radar is a 9 ft slotted waveguide array
- Automatic Identification System works by integrating standard VHF Trans receiver with GPS receiver

COMBAT MANAGEMENT SYSTEM (CMS)



DESCRIPTION:

The CMS automates tactical data handling from the ship's sensors and provides a Decision Support System to the command. It gathers data from ships / helicopters / aircrafts in the fleet through data link to collate, process, integrate and present a comprehensive tactical picture of the area of operation, and also acquires, stores, processes, integrates, correlates & displays tactical data (both raw & processed) from various sensors in real time. It does continuous identification and classification of air, surface & sub-surface targets, carries out threat assessment and automatically advises the command on course of action when activated by events occurring in the integrated equipment.

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 1230 720 487 277

SPECIFICATIONS:

- Designates sub-surface, surface and air targets to the fire control system
- Monitors the execution of weapon firing and displays the status of weapons communication etc. after firing
- Efficient recording of events, operator commands & data to enable reconstruction of scenario at later time
- Facility for off-line map preparation and loading of charts
- Adequate redundancy provided by fault tolerant software
- Capable of simulating environment comprising of all sensors to present real situation scenario for training of the operator
- Easy to use diagnostics for off-line health monitoring, maintenance of system and verification of hardware health
- Flexible architecture to facilitate addition / detection of system components on different types of platforms

ELECTRO OPTICAL FIRE CONTROL SYSTEM - UPGRADE 2 (EOFCS-U2)



DESCRIPTION:

The EOFCS is a compact, 2 axes stabilized, high performance system for control of short and medium range naval gun mounts. It has capability of panoramic detection, identification and gun engagement of all types of surface and air targets, such as anti-ship sea-skimming missiles, high speed missile boats and Fast Incoming Attack Craft (FIAC) and provides efficient and comprehensive control of short and medium range guns in anti-air, surface and Naval Gunfire Support (NGS) engagements.

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 1260 720 487 322

SPECIFICATIONS:

- Azimuth Limits : Panoramic
- Elevation Limits : -30° to $+85^{\circ}$
- TV Camera : Continuous Zoom from 16(H) x 12(V) to 1.7(H) x 1.3(V)
- Thermal Imager : Continuous 36 x Optical Zoom
- Laser Range Finder : Eye safe type with beam wavelength of 1.54 μm , Beam width - 0.7° , SRBIUM glass
- Operating Temperature : -10°C to $+50^{\circ}\text{C}$
- EMI/EMC : As per MIL STD 461E
- 2 axes Gyro Stabilized





COMMUNICATION SYSTEMS

SECURE VHF HANDHELD RADIO LVP 341



DESCRIPTION:

The LVP 341, a VHF handheld radio with in-built high grade digital secrecy, is compact, lightweight and user friendly, with minimum number of controls and an interface provided for Headgear and Crypto Key Loading. The radio set is provided with three types of antennas for use in different types of terrains and ranges.

SPECIFICATIONS:

- Frequency Range : 136 to 174 MHz
- Channel Spacing : 12.5 KHz / 25 KHz
- Type of Operation : FM, Simplex
- Battery :
 - Secondary : 7.2 V Ni MH & Li-ion (1.5 Ah)
 - Primary : LiSO2 battery pack
- Operating Temperature Range : -30° C to +55° C
- EMI / EMC : Complies with MIL-461 C

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5820 720 487 278

SECURE UHF HANDHELD RADIO LUP 291



DESCRIPTION:

The LUP 291, a UHF handheld radio with in-built high grade digital secrecy is compact, lightweight and user friendly, with minimum number of controls and an interface provided for Headgear and Crypto Key Loading. The radio set is provided with helical and magnetic mount antennas.

SPECIFICATIONS:

- Dimensions : 60 mm (W) x 40 mm (D) x 130 mm (H)
- Weight : 400gms (with standard 1.5 Ah Li-Ion)
- Frequency Range : 403 to 470 MHz
- Channel Spacing : 12.5 kHz / 25 kHz
- Type of Operation : FM, Simplex
- Battery : 7.2V Primary and Secondary batteries
- Operating Temperature Range : -30° C to +55° C
- EMI / EMC : Complies with MIL- 461 C
- 32 Preset crypto keys + 1 manual key

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5820 720 276 701

SOFTWARE DEFINED HANDHELD RADIO



DESCRIPTION:

The UHF Handheld Transceiver is developed to meet the required short range ground-to-ground, ground-to-ship and ship-to-ship communication needs with protection against Electronic Counter Measures (ECM). The radio is provided with high-grade crypto frequency hopping. It has in-built GPS with External Antenna.

SPECIFICATIONS:

- Dimension : 171 mm x 80 mm x 39 mm (with battery)
- Weight : <450 gm (with battery)
- Frequency Band : UHF (325 to 470MHz), 2W
- Power Supply : 7.4V DC (nominal) Rechargeable battery Li-Ion (2.9Ah)
- EMI/EMC : JSS 55555 & MIL-STD-461F compliant
- Operating Temperature : -20°C to +55°C

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5820 720 487 279

HF TRANCEIVER LHP 265



DESCRIPTION:

The LHP 265 is an advanced DSP based lightweight 20W HF SSB manpack radio. It provides a complete solution to the short-range communication requirements in the crowded HF band. It provides Voice, Data, Telegraphy and Flash message communication. Communication reliability is improved by means of automatic link establishment (BEST CALL), which enables real-time selection of optimum channel frequency. For reliable transmission of critical information under EW condition, the radio provides secure transmission and anti-jamming protection by means of frequency hopping. The radio can be used with wide range of antennas, including a lightweight foldable whip for portable operation, dipole, long wire and many other antennas for static operation.

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5820 720 487 300

SPECIFICATIONS:

- Dimension : 85 (H) x 224 (W) x 250 (D) mm
- Weight : 3.9 kg (without battery)
- Frequency Range : 1.50000 to 29.9999 MHz at 10 Hz spacing
- Power Consumption : 4W in Receive, 70W in Transmit
- Operating Temp. Range : -30° C to +55° C
- EMI / EMC : MIL-STD-461/462C
- Meets JSS 55555 L3/N3 specifications
- 100 preset channels

VHF FF TRANSCEIVER LVP 346



50W Power Amplifier Module



25W Power Amplifier Module

DESCRIPTION:

The VHF FF Transceiver is a new generation of Fixed Frequency radio in the frequency band of 30MHz to 87.975MHz. It is a lightweight, compact design, high performance Voice and Data communication equipment for Manpack, Mobile and Static role. The design is based on the Digital Signal Processor (DSP), Direct Digital Frequency Synthesiser (DDFS) and high-end Micro controller (ARM). The radio works in fixed frequency mode with built in high-grade digital secrecy. The radio has built-in GPS and is available in 5 watt and 25W/50W output. The radio is interoperable with the Handheld Radio in Fixed Frequency Clear and Secure modes for Voice Communication.

SPECIFICATIONS:

- Dimension : 319 mm X 222 mm X 150 mm
- Weight : 9.95 kg. (max)
- Frequency Range : 30 MHz to 87.975 MHz with 25 KHz channel spacing
- Operating Temperature : -30° C to +55° C
- I/P Voltage : 14.5 VDC typical (for 5W), 24.0V DC typical
- 2320 channels with 100 preset channels

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5820 720 487 340

VEHICLE BASED SATCOM FOR DISASTER MANAGEMENT (MODEL: HSPA MOBILE BTS)



DESCRIPTION:

The Portable HSPA Mobile BTS is required to establish mobile communications, in remote locations, where the overall WCDMA network does not provide local coverage.

SPECIFICATIONS:

- All terrain four wheel drive vehicle
- Mobile 3G-WCDMA BTS, providing local coverage
- Km coverage with 18 M Electro Mechanical Mast
- Supports up to 25 simultaneous HSPA Users

COMPANY : ALPHA DESIGN TECHNOLOGIES PVT. LTD.

CONTACT : alphacorp@adtl.co.in

NSN 5895 720 487 379

CB/LB FIELD TELEPHONE PTR 1000+



DESCRIPTION:

The PTR 1000+ is a lightweight, ruggedized and portable 2-wire analogue field telephone for voice communication. It can be used on a table, hanged on a tree or a wall, carried in a bag or with the carrying strap.

SPECIFICATIONS:

- DTMF or pulse signalling
- Standard H-250, Push-To-Talk, Noise Cancelling Handset
- Adjustable level for acoustical signal, including silent

COMPANY : ALPHA DESIGN TECHNOLOGIES PVT. LTD.

CONTACT : alphacorp@adtl.co.in

NSN 5805 720 487 323

WEAPON SIGHTS FOR TARGET OBSERVATION & AIMING

COMMANDERS SIGHT THERMAL IMAGER FOR BMP-II TANK (CSTI-BMP)



DESCRIPTION:

The CSTI-BMP is an innovative combined device for the commander of an armoured vehicle or tank for day or night surveillance of targets, terrain and vehicles during battle situations.

SPECIFICATIONS:

- The night channel is based on Thermal Imaging principle and has a 3rd generation detector.
- It is interchangeable with the previous TKN-3B form, fit and functional without the need for any modifications to the vehicle.

COMPANY : ALPHA DESIGN TECHNOLOGIES PVT. LTD.

CONTACT : alphacorp@adtl.co.in

NSN 1240 720 487 325

MULTIBAND CELLULAR & BWA JAMMER



DESCRIPTION:

The Multiband Cellular and portable multi-band RCIED barrage sweep jammer cover cell phone bands and BWA band. The shielding frequency range covers almost all cell phone bands, including GSM, CDMA, DCS, 3G as well as the broadband wireless access (BWA) band, up to 2.5 GHz.

SPECIFICATIONS:

- Configurable bandwidth, configurable sweep rate and configurable power level
- Effective shielding distance is 50-150m, depending on the signal strength

COMPANY : ALPHA DESIGN TECHNOLOGIES PVT. LTD.

CONTACT : alphacorp@adtl.co.in

NSN 5865 720 487 369

VHF BASE STATION LVM 342



DESCRIPTION:

The Secure VHF Base station radio LVM 342 is lightweight and portable and useful for ground communication at the platoon level. The radio provides for clear and secure voice communication. The radio is micro controller based and has a user friendly MMI (Man Machine Interface). It enables selective call operation between two radios or in a net of many radios.

SPECIFICATIONS:

- Weight : 3.8 kg
- Dimension : 241 mm (W) X 220 (D) mm X 65 (H) mm
- Frequency Range : 136 MHz to 174 MHz
- Channel Spacing : 25 KHz
- No. of Channels : 1520

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5820 720 487 343

V/UHF AM/FM TRANSCIVER LUP 329



VUHF AMFM TRANSCIVER-329

DESCRIPTION:

The V/UHF AM/FM Transceiver meets the required long range ground-to-ground, and ground-to-air communication needs with protection against Electronic Counter Measures (ECM). The radio is provided with high-grade crypto, frequency hopping, voice & data. The communication in ECCM mode is instantaneous as Time of the Day (TOD) is maintained using a highly stable clock.

SPECIFICATIONS:

- Dimension : 250 W x 100 H x 247D (mm) (without battery)
- Weight : <6 kg (without battery pack)
- Frequency Range : 108-155.975 MHz and 225-399.975 MHz
- Channels : Up to 8920 channels at 25 KHz spacing
- Power Supply : 24 V DC (nominal)
- Operating Temperature : -20° C to +55° C
- EMC / EMI : MIL-STD-461C

COMPANY : BHARAT ELECTRONICS LIMITED

CONTACT : imd@bel.co.in

NSN 5820 720 487 331

SOFTWARE DEFINED RADIO MANPACK (SDR)



DESCRIPTION:

SDR is a new generation compact V/UHF band radio designed to provide fast, reliable and secure LOS voice, data and video communication. It has high data rate of up to 1Mbps. It is power efficient, lightweight and suitable for manpack application.


SPECIFICATIONS:

- Dimension : 260 mm x 195 mm x 64 mm (with battery)
- Weight : <3.5 kg (with battery)
- Frequency Band : V/UHF (30 to 512 MHz)
- Data Rate : 64 Kbps/512 Kbps/ 1Mbps
- Software : Re configurable and Upgradable
- Security : Built-in high grade security and ECCM capability
- Power Supply : Rechargeable battery: 14.8 V DC, Li -Ion (8.7Ah)
- EMI/EMC : JSS 55555 & MIL-STD-461F complaint
- Operating Temperature : -30°C to +55°C

COMPANY : BHARAT ELECTRONICS LIMITED

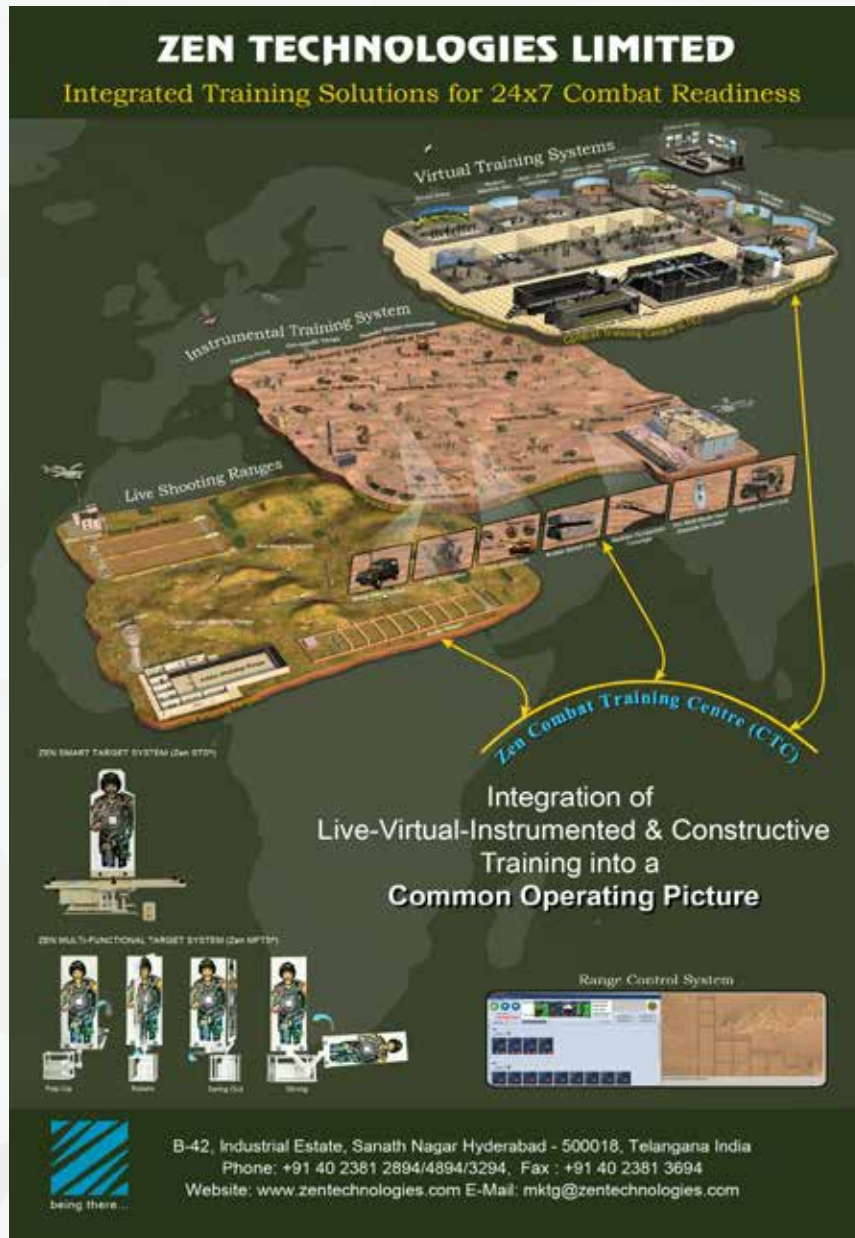
CONTACT : imd@bel.co.in





OTHER SYSTEMS

COMBAT TRAINING CENTRE (CTC)



DESCRIPTION:

The Combat Training Centre (CTC) is a one-stop training infrastructure solution for Defence, Security, Paramilitary and the Police forces. The secure facility, equipped with modern training equipment / infrastructure, free from routine encumbrances and other disturbances, is designed to provide performance oriented training in realistic, tactical and operational environment. The CTC consists of simulators and live training solutions to enable coordinated team training under various realistic threat scenarios. This centre can train people who are in the business of protecting various infrastructure, crowd management etc. especially where the threat can come from any direction without warning. Combat Readiness Training essentially starts with planning the training.

SPECIFICATIONS:

- **Planning & Monitoring Suite**
Helps tailor make the annual training plans, monthly / weekly schedule and the daily training programme for units and teams down to every single individual.
- **Scoring & Measurement System**
Helps quantify all training at individual, team and unit level.
- **Scenario Builder Tool**
Helps create most realistic and realistically opposed scenarios.
- **Wargaming Facility**
This not only helps train the decision makers and the leadership, but is also fully integrated with Live Ranges, Tactical on Ground Training and also the Simulators.

COMPANY : ZEN TECHNOLOGIES LIMITED

CONTACT : info@zentechnologies.com

NSN 6920 720 487 448

TITANIUM ALLOYS

DESCRIPTION:

Titanium by virtue of its excellent corrosion resistance and high strength-to-weight ratio finds application in the aerospace, chemical, petrochemical, marine, paper pulp, textile, food and dairy industries. Titanium alloy is also used for biomedical implants.

SPECIFICATIONS:

GRADE	UNS. NO.	CONFORMITY TO INTERNATIONAL SPECN.
Titan 12	R 50250	ASTM B 265/B 348 GRADE 1
Titan 15	R 50400	ASTM B 265/B 348 GRADE 2
Titan 31	R 56400	ASTM B 265/B 348 GRADE 5
Titan 26	-	TAGZD IMI 685
Halfalloy	R 56320	ASTM B 265/B 348 GRADE 9



COMPANY : MISHRA DHATU NIGAM LIMITED (MIDHANI)

CONTACT : mktg@midhani-india.in

NSN 9630 720 487 326

SPECIAL PURPOSE STEELS

DESCRIPTION:

The special steels have improved mechanical properties and better work ability which is essential for special applications in aerospace, power generation, nuclear, defence cryogenic and other general engineering industries. These include precipitation hardening steels, nonmagnetic austenitic and martensitic stainless steels and high performance maraging steels.

SPECIFICATIONS:

GRADE	UNS. NO.	CONFORMITY TO INTERNATIONAL SPECN.
MDN 174	S 17400	ASTM A 564-TYPE 63
MDN 250	K 92890	ASTM A 538/A 579
MDN 904L	N 08904	ASTM B 625, B 649
MDN 15-5PH	S 15500	ASTM A 567
MDN 11-10PH	-	-



COMPANY : MISHRA DHATU NIGAM LIMITED (MIDHANI)

CONTACT : mktg@midhani-india.in

NSN 9640 720 487 472

NON-PRESSURE BEARING PARTS OF SMALL ARMS



DESCRIPTION:

Complex-shaped metal parts manufactured by Metal Injection Moulding, as per customer drawings. The examples include Non-Pressure Bearing Parts such as Safety, Sear, Triggers, Extractors, Hammers, Ejectors, Housing, etc.

SPECIFICATIONS:

Parts made by Metal Injection Molding (MIM) are assembled in the following small arms :

Rifles of Calibre 5.56 mm, 0.22", 7.62 mm, 0.315"; Pistols of Calibre 9 mm., 0.45", 0.357" Revolvers of Calibre 22 mag, 0.32". These are made using hardened steels such as MIM Fe-2% Ni, MIM S7, MIM 9310, MIM 4340, MIM 4140, etc.

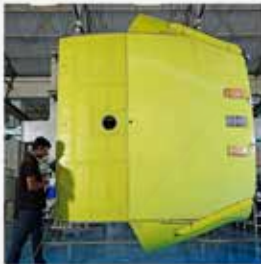
COMPANY : INDO-MIM PVT. LTD.

CONTACT : infohq@indo-mim.com

AIRFRAMED STRUCTURES & ENGINEERED PARTS



Major Airframe Assemblies for the Bell 407 Helicopter



Power and Mission Cabinets for the Boeing's P8 Poseidon Maritime Reconnaissance Aircraft.

DESCRIPTION:

The company designs and builds highly engineered products, airframe structures for Aircrafts.

SPECIFICATIONS:

- Cabinets to house Critical Power and Mission Equipment for Boeing P8 - Navy Reconnaissance Aircraft.
- Complex artisanal and flight critical assemblies Aft Pylon & Cargo Ramp for Boeing Chinook CH-47.
- Flap-Track-Beam assemblies for Airbus A320 Family & A330 aircraft as Global Single Source.
- Major Airframe Assemblies for the Bell 407 Cabin on the Bell Helicopter.

COMPANY : DYNAMIC TECHNOLOGIES LIMITED

CONTACT : ajay.g@dynamics.com

NSN 1560 720 487 329

SUBSYSTEMS

Sl. No.	Product	Manufacturing Company	Email ID
1	Discone Antenna, VHF/UHF Band	ACD Communications Pvt. Ltd.	jnallari@acdcommunications.net
2	Satcom Antenna UHF	ACD Communications Pvt. Ltd.	jnallari@acdcommunications.net
3	2-18 GHz Spiral Antenna	ACD Communications Pvt. Ltd.	jnallari@acdcommunications.net
4	Digital Narrow Band Receiver	Astra Microwave Products Ltd.	info@astramp.com
5	Sleeve Body	BEL	imd@bel-india.co.in
6	Data Link II (MPU)	BEL	imd@bel-india.co.in
7	20W HF Radio	BEL	imd@bel-india.co.in
8	CoMPASS	BEL	imd@bel-india.co.in
9	Flight Control Panels	BEL	imd@bel-india.co.in
10	Container Lifter, Forged Body	Bharat Forge Ltd.	Pratiksh.Rajan@bharatforge.com
11	Remote Controlled Valves (HVAC)	Chamunda Valves	sales@chamundavalve.com
12	MSU General Assembly	DCX Cable Assemblies Pvt. Ltd.	marketing@dcxindia.com
13	Electronic Camera	Defsys Solutions Pvt. Ltd.	samar@defsys.co.in
14	Electronic Box Assembly	Defsys Solutions Pvt. Ltd.	samar@defsys.co.in
15	Electro Mechanical Assembly	Defsys Solutions Pvt. Ltd.	samar@defsys.co.in
16	Electro Mechanical Assembly	Defsys Solutions Pvt. Ltd.	samar@defsys.co.in
17	Automatic Test Equipment	Defsys Solutions Pvt. Ltd.	samar@defsys.co.in
18	Electronic Kit	Defsys Solutions Pvt. Ltd.	samar@defsys.co.in
19	Remote Controlled Valves (IMPS)	DelVal	sales@delvalflow.com
20	Armoured Shelter	Enertech Engineering Pvt. Ltd.	enertech@enertechgroup.in
21	Steel Plates & Profiles	Essar Industries, Jindal Steel, SAIL	info@jindalsteel.com editd@sail-steel.com
22	Main Batteries	Exide Industries	exideindustrieslimited@exide.co.in
23	PRS (Pressure Reducing Systems)	Flash Forge	sunil@f-f.co.in
24	Pressure Reducing Panel	Flash Forge	sunil@f-f.co.in
25	6.5 in LCD Display, TOTE LCD Display, DID LCD Display	Futura Automation Pvt. Ltd.	info@futuraautomation.com

SUBSYSTEMS

Sl. No.	Product	Manufacturing Company	Email ID
26	Forceram Plate	Grindwell Norton Ltd.	viswesh.k@saint-gobain.com
27	Damage Control Simulator	GSL	fpg_office@goashipyard.com
28	Lithium Batteries, MonoBlock Pure Lead Tin Battery	HBL Power Systems Ltd.	srinath@hbl.in
29	Ammunition Case, Cartridge Case	Hyderabad Precisions Manufacturing Co.Pvt.	hpm@patodiagroup.net
30	Brigade Window Glass	Jeet & Jeet Glass	ask@jeetglass.in
31	Sonar Dome	Kineco	rajat.katti@kinecokamanindia.com
32	Magnetic Engine for DG Sets	Kirloskar Diesel Engines	gurudeo.kotkunde@kirloskar.com
33	Heli Landing Grid	L&T, Mumbai	intl.defence@larsentoubro.com
34	Steering Gear	L&T	intl.defence@larsentoubro.com
35	Degaussing System (Live & Self Standing Product)	L&T	intl.defence@larsentoubro.com
36	Fin Stabiliser	L&T	intl.defence@larsentoubro.com
37	Integrated Platform Management System	L&T	intl.defence@larsentoubro.com
38	Landing Platform Dock (LPD)	L&T Navantia	intl.defence@larsentoubro.com
39	Light Mechanical Comp.	Micron Instruments Pvt. Ltd	microninst@gmail.com
40	7.62 mm MAG Gun	OFB	export.ofb@nic.in
41	Mast System, Motor Housing, Shaft Antenna Interface, Actuator Mounting Plate, Mast Interface, Gearbox Housing	Punj Lloyd Ltd.	bd_msid@punjlloyd.com
42	Bolt Carrier, Receiver, Other 68 Components of Small Arms like Bipod Assembly, Gas Cylinder Block, Feeding Lever Base, Feed Drum Adapter etc.	Punj Lloyd Raksha System Pvt. Ltd.	plr@punjlloyd.com
43	Compact Heat Exchanger, Data Link, Satcom on the Move Terminal	Rangsons Electronics Pvt. Ltd.	info@rangsons-ds.com
44	RO Plant	Rochem	rochem@rochemindia.com
45	Transceivers	Sasmos Het Technologies Ltd.	sales@sasmos.com
46	Mounting Tripod	SRP Gears Pvt. Ltd.	badri@srpcorp.in
47	CSI Vertical Spar Box, CSI Spar Box Assembly, Aircraft Skin Structure Parts	Tata Boeing Aerospace Ltd.	vvrao@tasl.aero

System Name	Product	Manufacturing Company	NSN Numbers
Air Systems	LCA Tejas	HAL	1510720472325
	Light Combat Helicopter (LCH)	HAL	1520720471805
	Light Utility Helicopter (LUH)	HAL	-
	Advanced Light Helicopter (ALH) - Dhruv	HAL	1520720351481 / 1520720351482
	Dornier (Do-228)	HAL	1510720471790
	Brake Parachute for Su-30 A/C	OFB	1670720464895
	Hindustan Turbo Trainer (HTT)-40	HAL	
Land Systems	Akash	BDL	1420720471555
	Brahmos Weapon System	Brahmos Aerospace	1410720487334
	Milan-2T	BDL	1425720487376
	Dhanush	OFB	1025720471000
	Advanced Towed Artillery Gun System (ATAGS)	Bharat Forge	1025720487409
	Vajra	L&T	2350720487383
	Bharat-52	Bharat Forge	1025720487410
	Upgraded L-70 Gun	BEL	1010720463678
	Garuda-105	Bharat Forge	1015720487330
	Konkurs-M	Bharat Dynamics	
	Zu-23 Upgrade	L&T	1005720487384
	Upgraded Schilka Weapon System	BEL	2350720464145
	Wheeled Amphibious Platform (WhAP) 8x8	Tata Motors	2355720487370
	Weapon Locating Radar	BEL	1285720461381
	Battle Field Surveillance Radar - Extended Range (BFSR-XR)	BEL	5840720487324
	3D Low Level Light Weight Radar (Aslesha)	BEL	5840720472437
	Military Vehicles	Ashok Leyland	

Land Systems

System Name	Product	Manufacturing Company	NSN Numbers
Land Systems	Automobile,Ambulance	Ashok Leyland	2310720466073
	Truck,Ammunition Loading-Transporting	Ashok Leyland	1730720477686
	Truck,Cargo	Ashok Leyland	2320720200746
	Truck,Wrecker	Ashok Leyland	2320720150691
	Truck,Fire Fighting	Ashok Leyland	4210720461388
	Mine Protected Vehicle (MPV)	OFB	2355720487367
	Pinaka Multi-Barrel Rocket Launcher	L&T	1055720251323
	Sarvatra Bridge System	BEML	5420720473569
	Pontoon Bridge System	BEML	1945720487038
	Bailey Type Bridges	GRSE	
	Communication Integrated Electronic Warfare System	BEL	5865720487320
	Ground-Based Mobile Elint System (GBMES)	BEL	6350720487301
	155-MM HE ERFB BT	OFB	1320720487363
	Instavest G6	MKU	8470720487368
	Advanced Combat Helmets	MKU	8415720487365
	Ballistic Shields	MKU	4240720487364
	Ballistic Protection (Ballistic Jacket & Ballistic Helmet)	SM Carapace Armour	8470720487473 / 8470720487474
	High Energy Materials & Multi Mode Hand Grenade	Solar Industries India	1330720487346
	CMDS (Counter Measure Dispensing System)	BDL	5865720278067
	Hand Held / Helmet Mounted Night Vision Devices (Model: Nethra)	Alpha Design Technologies	5855720487349
	Zen Anti-Drone System	M/s Zen Technologies	

Naval Systems

System Name	Product	Manufacturing Company	NSN Numbers
Naval Systems	Anti-Submarine Warfare Corvette	GRSE	5865720487372
	Offshore Patrol Vessel (OPV)	HSL	1940720473210
	Advance Offshore Patrol Vessels	Goa Shipyard	1940720472511
	Fast Patrol Vessels	Goa Shipyard	1940720472521
	High Speed Patrol Boat	Goa Shipyard	1940720472529
	Fast Inceptor Boats	Goa Shipyard	1940720472465
	Inshore Patrol Vessel (IPV)	HSL	1940720473227
	Landing Craft Utility	GRSE	1905720487373
	Voith Tug	HSL	1925720487327
	Torpedo Advanced Light (TAL)	BDL	1356720474117
	Heavy Weight Torpedo (Varunastra)	BDL	1356720473826
	Submarine Fired Decoy (SFD)	BDL	1080720487380
	CRN 91 Naval Gun	OFB	1005720487371
	Kavach Mod-II Chaff Rocket Launcher	OFB	1055720487366
	ASW Rocket Launcher	L&T	1055720487387
	Torpedo Launchers	L&T	1045720487328
	WM-18 Rocket Launcher (Beach Clearing System)	L&T	1055720487385
	53000 DWT Bulker	HSL	1915720473237
	Floating Dock	L&T	1925720487345
	Advanced Composite Communication System (CCS MK IV)	BEL	5895720487321
	Coastal Surveillance System	BEL	5840720487276
	Combat Management System	BEL	1230720487277
	Electro Optical Fire Control System - Upgrade 2 (EOFCU-2)	BEL	1260720487322

System Name	Product	Manufacturing Company	NSN Numbers
Communication Systems	Secure VHF Handheld Radio LVP 341	BEL	5820720487278
	Secure UHF Handheld Radio LUP 291	BEL	5820720276701
	Software Defined Handheld Radio	BEL	5820720487279
	HF Transceiver LHP 265	BEL	5820720487300
	VHF FF Transceiver LVP 346	BEL	5820720487340
	Vehicle Based Satcom For Disaster Management (Model: HSPA Mobile BTS)	Alpha Design Technologies	5895720487379
	CB/LB Field Telephone Ptr1000+	Alpha Design Technologies	5805720487323
	Weapon Sights for Target Observation & Aiming	Alpha Design Technologies	1240720487325
	Multiband Cellular & BWA Jammer	Alpha Design Technologies	5865720487369
	VHF Base Station LVM 342	BEL	5820720487343
	V/UHF AM/FM Transceiver LUP 329	BEL	5820720487331
	Software Defined Radio Manpack	BEL	-
Other Systems	Combat Training Centre (CTC)	Zen Technologies	6920720487448
	Titanium Alloys	MIDHANI	9630720487326
	Special Purpose Steels	MIDHANI	9640720487472
	Non-Pressure Bearing Parts of Small Arms	INDO-MIM	
	Airframe Structures & Engineered Products	Dynamatic Technologies	1560720487329



2021

AERO INDIA

The Runway to a Billion Opportunities

Export Promotion Cell

Tel: +91 11 23019588

Email: epc@ddpmod.gov.in

Web: ddpmod.gov.in & defenceexim.gov.in

