

DIRECTOR GENERAL BORDER SECURITY FORCE
PROVISIONING DIRECTORATE (Mod Cell)

Expression of Interest

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The Sub group of Technical Experts on Surveillance Equipments constituted by MHA vide their letter No. IV 1017/18/2001-Prov-I dated 05th July 2002 held its meeting at BSF Headquarters on 15th Feb 2016 and 21st Sep 2016 to revise the QRs of Global Positioning System.

QUALITATIVE REQUIREMENT OF GLOBAL POSITIONING SYSTEM

S/No	PROPOSED QRs
Navigation Features :	
1.	Display : LCD Display size 2.6" minimum diagonal.
2.	Routes : Minimum 200 routes with compatible SD memory card.
3.	Way point: Unit must have capacity to store 10,000 way points.
4.	Tracks : Must be able to store 10,000 track points and 200 tracks.
5.	Track back : Storage of track log files should be provided.
6.	Map Datum's : Should have the facility for user-defined datum with inbuilt standard datum's including Indian datum.
7.	Co-ordinates : Lat/ Lon, UTM, MGRS (Indian GR system (IGRS) with Auto IGRS zone selection and other grid based on user defined requirements. It should also show the map sheet no. as per Indian Military standard.
8.	Co-ordinates conversion : The system should have the provision to convert Co-ordinates from Lat-Lon to IGRS & vice versa.
9.	Safety : The system should have the provision of password protection for prevention of unauthorised user. The data stored in the memory card should be encrypted and can't be accessed by unauthorised user. Validation of Co-ordinates: The system should alert the user for wrong entry of co-ordinates with map sheet number during storage of way point.
10.	Navigation screens: Should display battery status, Own position, altitude Compass, Graphical plot, Speed and Time, total distance covered and Cross track error.
11.	PC Interface: Should provide cable with software to upload and down load data with high speed USB port.
12.	Optional Language : Hindi & English for operation
13.	Alarm : Off track visual indication and arrival audio alarm.
14.	Way point icons : Should be provided.
15.	Compass: Should have built in 3 axis electronic compass for real time direction indication without GPS fix.
16.	Radio Comn. Interface: Optional (To be defined by the user) if required.
PERFORMANCE	
17.	Receiver : Min 12 Parallel channel receiver and should be compatibility to

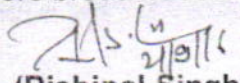
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	receive signals from GPS, GLONASS, MSAS, GAGAN, WAAS,
18.	Acquition: ≤ 20 second hot, ≤ 60 seconds warm and 3 minutes cold.
19.	Mapping units and software: Loading of maps of user specific format in the GPS unit along with map loading software should be provided. Also an option to load satellite images into GPS unit. It should also support raster maps in Geo TIFF, JPG etc. formats, Vector maps or digital maps (Shape files).
20.	Unit to Unit transfer: Data can be transferred from one unit to another via Bluetooth.
21.	Update rate : One per second continuous.
22.	Accuracy: < 10 meters.
23.	Power (source): Rechargeable Batteries 'AA' size (NIMH or Lithium) and compatible battery charger . The battery should function for 10 hours minimum in operational mode and 48 hours minimum in stand by mode. .
24.	Operating system: The GPS software should be compatible with MS windows operating system 2000 onwards that normal personal computer and laptop use.
Physical	
25.	Weight : Max 350 grams with batteries
26.	Display : Sunlight-readable, High contrast colour display with backlight
27.	Keyboard : Should have keys or multi function keys or soft keys (touch screen) for easy & quick operations like navigation, set up, illumination, Go to, point logging and marking.
28.	Case : Ruggedized and water resistance (30 minutes at 1 meter depth).
29.	Temperature: Operating - 10 ⁰ C to + 60 ⁰ C Storage -20 ⁰ C to +65 ⁰ C
30.	Memory Backup : Minimum 1 GB inbuilt memory must be provided along with additional memory of 2 GB through SD card should be provided with the unit.
31.	Shelf Life : 10 Year
32.	Warranty : The vendor will provide the AMC (including spare part if required) by the user for 05 years after expiry of warranty. Free warranty for 12 months with spares.
33.	Spare Battery : One set spare battery should be provided as mentioned in QRs Para. 5.
34.	Engineering Support Package : i) Technical literature. ii) Training manual and user hand book. iii) Illustrated spare part list duly priced. iv) Repair and maintenance training (factory level) should be arranged for about 10 working days to minimum 20 Technicians at OEM premises and operational training to 100 users.

Note- All firms are requested to provide the following.

1. Original Brochure of product by OEM.
2. Detail literature about the product.
3. Comprehensive comments for in corporation in the specifications.

The Sub-group has decided to upload the QRs on MHA and BSF website for 15 days to invite the views/ comments/ suggestions of prospective bidders to make the QRs more broad based.


 (Rishipal Singh)
 Dy Commandant (Mod)