83D

CLASS

Convoy Location Awareness and Situation Status

OPERATIONAL PROBLEM

Convoys operating across remote terrain face:

- Communication blackouts in dead zones
- Loss of formation integrity (“ghosting”)
- Infrastructure dependency
- Delayed HQ visibility

This increases vulnerability to ambush and logistical disruption.

THE CLASS SOLUTION

- Mesh networking with long-haul radio connectivity
- Ensures continuous visibility and command links
- Maintains connectivity across all terrain
- Enables seamless convoy coordination
- OODA loop compressed to 2–5 seconds for rapid awareness

CORE CAPABILITIES

- Hybrid dual-link architecture (Mesh + HX/HS radio)
- Dead-zone resilient communication
- High refresh-rate vehicle positioning
- Unified command dashboard
- Speed, fuel & proximity monitoring
- Infrastructure-independent deployment

OPERATIONAL ADVANTAGE

- Continuous convoy visibility
- Elimination of ghost positioning
- Secure command connectivity to HQ
- Formation integrity assurance
- Increased convoy survivability

HOW THE SYSTEM WORKS

1

- Situational Communication System
- Digital Radio Device + Android display + App + HS/SDR
- See live location of each other
- Text to All OR 1 to 1
- Send Tact symbols/Markers in Group / 1 to 1
- Users: Armed forces, NSG, Spl Forces

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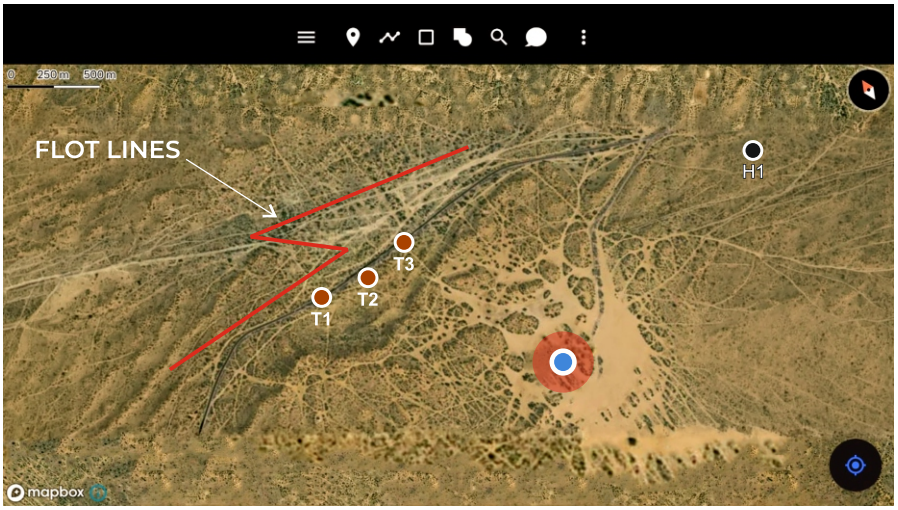

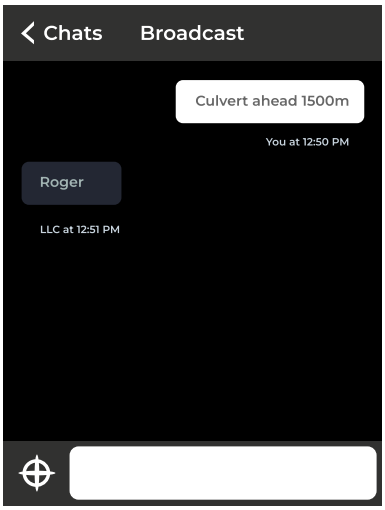

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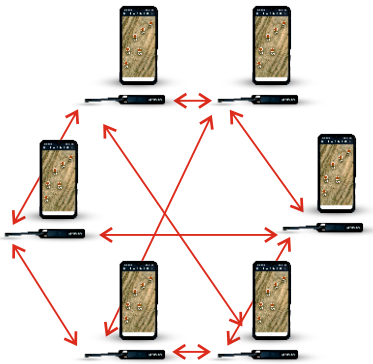


INDUCTED IN

• Northern Command • Western Command • Eastern Command • Special Forces (Para SF) • Central Command • Cobra, CRPF • ARTRAC

1. Physical Characteristics

Connection with PDA: Situational Awareness App
Security: AES256 or higher
Data Transfer: Information overlay exchange for line diagrams, circles, symbols, and messaging within app
Map: Satellite map and map download
Protocol: Mesh Networking
Hop Limit: 6
Bluetooth Connectivity: BLE 4.0+ or higher
Weight (including battery): ≤ 100 gm
USB Port: Micro USB 2.0 or higher
Ingress Protection: IP68 or better

2. Tech Specification

A) Receiver

Frequency:
UHF 445 to 480 MHz (User selectable)
Channel Spacing:
7.28 KHz, 11.8 KHz (User selectable)
Frequency Stability (-30°C to +60°C):
2.5 ppm or better
Digital Sensitivity (1% BER, 6.25 KHz):
-116 dBm or better
Sensitivity (1% BER, 25 KHz):
-107 dBm or better

(B) Transmitter

Power Output: 0.5W to 5W (27dBm, 30dBm, 37dBm) – User selectable
Digital Modulation: 4GFSK or better

(C) Environmental Specification

Operating Temperature: -20°C to +35°C

(D) Battery

Type: Lithium Based
Backup (Standby): 30 hours or higher
Backup: Up to 9 hours or higher
Capacity: 450 mAh, 3.51 Whr or higher
Charging Time: Minimum 3.5 hours
Battery Bank: Minimum 20000 mAh

(E) SAS-PDA

Display: 1080 × 2408 pixels (6.6 inches), PLS LCD
RAM: Minimum 4 GB
Weight: Less than 200 gm
Battery: Minimum 4000 mAh
OS: Android 12 or above
CPU: Octa-core
Internal Memory: Minimum 64 GB
Camera: Minimum 50 MP
Connectivity Support: WiFi, Bluetooth & LE
Charger: Type-C & Micro USB support
Additional Sensors: Accelerometer & Compass

(F) HS/HX Radio

Any ultra long range (SKYWAVE) Radio with Data Capability

(G) Deployment Box

Weight (Empty): Maximum 12 kg
Function: Storage & charging of 30 radio sets

Battery

Backup: Minimum 1.5 hours (20 fully discharged radio sets)
Charging Time: Max 10 hours
Type: Lithium based
Power Input: 110/220V AC
Auxiliary Input: 10–18V DC (Car charger port)

Additional Features

Display: Minimum 7" (Touchscreen)
Resolution: 1280 × 720 or better
Capabilities:
- Config & issue of soft frequencies
- Encryption key generation
- Team location tracking
- Messaging
- Device status
- Distance tracking (commander to team member)
- Overlay lines/objects sharing

USB Ports: Minimum 3
Internal Storage: Minimum 32 GB
External Storage: Micro SD slot
Connectivity: WiFi

(H) Additional Specification

Mesh Networking Protocol: Aspen Grove
Hop Limit: Minimum 6 or higher
Jamming Resistance: Highly resistant within its band
Spectrum: Built-in spectrum
Graphical UI: Displays graphical image on PDA
GPS: PDA has GPS information
SW Color Coding: Color coding for users (IFF identification)
Compatibility: Compatible with Indian Army radios (Harris, StarsV, etc.) for data transmission & screen recreation

OUR OTHER PRODUCTS

Expanding the Tactical Ecosystem

INFANTRY : SIVAS (Situational Intelligence Visualization & Awareness System)

A secure, infrastructure-independent battlefield communication and awareness platform. Designed for real-time asset tracking, encrypted team coordination, and tactical visualization, it delivers resilient performance in contested, remote, and GPS-denied environments.

INTELLIGENCE : NETRA (Networked Electronic Tactical Reconnaissance & Awareness)

A covert, infrastructure-independent communication and tracking system designed for intelligence and surveillance operations. NETRA enables secure team coordination, real-time asset visibility, and low-signature data exchange through resilient mesh networking, ensuring reliable performance in denied, urban, and high-risk environments.

SPL FORCES : NISAN (Networked Intelligence Situational Awareness & Navigation)

A low-signature tactical coordination system for special operations forces. NISAN delivers real-time team tracking, encrypted communication, and structured threat awareness in denied and high-risk environments, ensuring secure mission execution without infrastructure dependence.

ENGINEERS : LEGS (Logistics & Engineering Geo-navigation System)

A terrain intelligence and logistics-support system designed for combat engineering units. LEGS enables real-time hazard marking, route validation, material tracking, and stores management, improving safety, efficiency, and operational control in complex environments.

ARTILLARY/AAD : RANN (Real-time Artillery Network & Navigation)

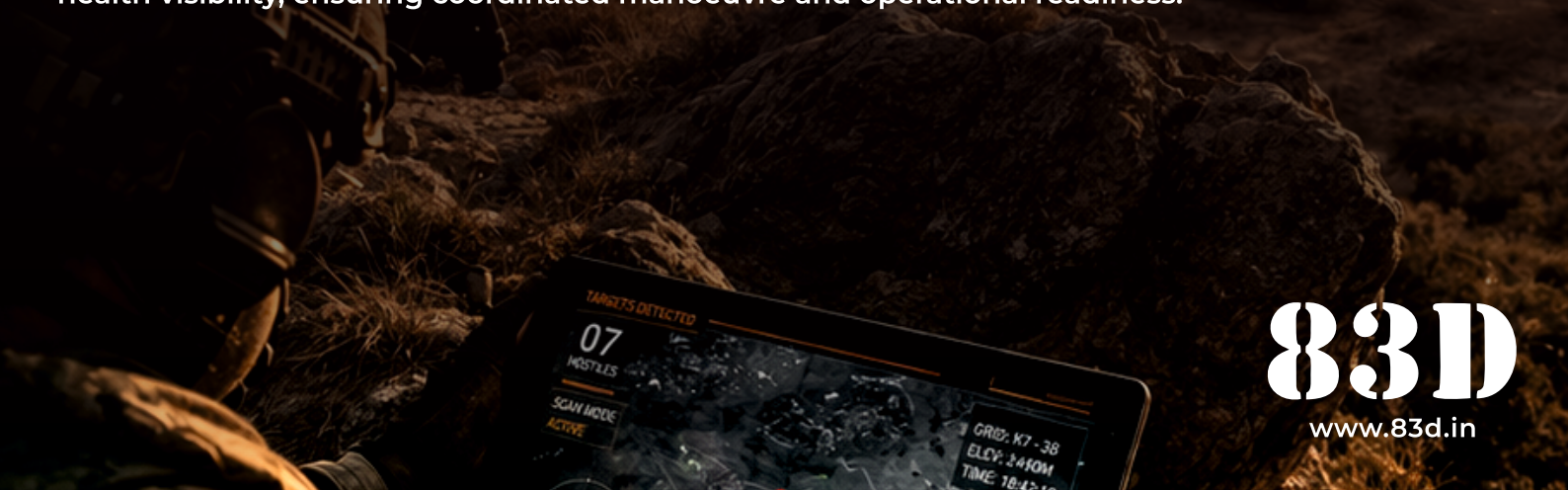
A digitized fire coordination and artillery networking solution that connects OPs, CPs, and gun systems into a unified operational picture. RANN enhances precision targeting, fire correction workflows, secure messaging, and real-time friendly-force awareness.

EME/ASC : ARV–SAS (Armoured Recovery Vehicle – Situational Awareness System)

A dedicated recovery and sustainment platform for armoured formations, ARV-SAS enables real-time tracking of disabled vehicles, coordinated recovery operations, and seamless integration with EME and TRAC units. It enhances battlefield resilience by ensuring rapid recovery, efficient repair workflows, and continuous operational readiness in contested environments.

ARMOURED/MECH : RANA (Real-time Armoured Navigation & Awareness)

An integrated mobility and vehicle-status platform built for armoured and mechanized formations. RANA provides real-time fleet tracking, geofencing alerts, command synchronization, and vehicle health visibility, ensuring coordinated manoeuvre and operational readiness.



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