Satellite Communication System Solutions
FEATURES

- Communication opportunity in the whole coverage of satellite in X-Ku-Ka Band
- Solutions for all types of platforms: Land, Naval, Airborne
- Supports Automatic and Dynamic Network Management
- Communication in all types of terrain conditions
- Flexible infrastructure which can be extended as per user requirements
- Common sub unit/equipment and standard interface
- IP Based, Secure/Non-secure voice, data, video teleconferencing and fax communications
- High security and availability
- Connection with military/civilian terrestrial networks
CAPABILITIES

• Constructing Satellite Communication System Solutions as per user needs
• Satellite Communications System Design
• Design of Network Control Stations, Satellite Communication Ground Terminals and Units
• Integration to Land, Naval and Airborne platforms
• Satellite Communication Systems Integrated Logistics Support
LAND PLATFORM SOLUTIONS
MANPACK SATELLITE COMMUNICATION TERMINAL

- Lightweight, suitable for one man transportation
- Fast and easy deployment
- X Band or Ku Band Solutions
- Antenna Size: 70-90 cm
- Power Output: up to 20 W
- Configurable aggregate voice/data rate according to user requirements
- Mobile communication via satellite
- Communication with other ground terminals via Network Control Center
- IP Based, Secure/Non-secure voice, data, video teleconferencing and fax communications
* Features of the terminals may vary according to the system solutions.

FLYAWAY SATELLITE COMMUNICATION TERMINAL

- Compact design with transportable cases
- X Band or Ku Band Solutions
- Antenna Size: 1.2-1.8 m
- Power Output: up to 200 W
- Configurable aggregate voice/data rate according to user requirements
- Mobile communication via satellite
- Communication with other ground terminals via Network Control Center
- IP Based, Secure/Non-secure voice, data, video teleconferencing and fax communications
* Features of the terminals may vary according to the system solutions.
LAND PLATFORM SOLUTIONS

VEHICULAR SATCOM ON THE PAUSE VEHICULAR SATELLITE COMMUNICATION TERMINAL

- Communication in all terrain and weather conditions via satellite
- Easy set-up and support high mobility by means of automatic antenna mounted on a tactical vehicle
- X Band or Ku Band Solutions
- Antenna Size: 1.2-1.5 m
- Power Output: up to 200 W
- Configurable aggregate voice/data rate according to user requirements
- Mobile communication via satellite
- Communication with other ground terminals via Network Control Center
- IP Based, Secure/Non-secure voice, data, video teleconferencing and fax communications

* Features of the terminals may vary according to the system solutions.

VEHICULAR SATCOM ON THE MOVE VEHICULAR SATELLITE COMMUNICATION TERMINAL

- Communication in all terrain and weather conditions via satellite
- 2-Axis Stabilized Automatic Tracking
- X Band or Ku Band Solutions
- Antenna Size: 50 cm
- Power Output: up to 20 W
- Configurable aggregate voice/data rate according to user requirements
- Mobile communication on the move via satellite
- Communication with other ground terminals via Network Control Center
- IP Based, Secure/Non-secure voice, data, video teleconferencing and fax communications

* Features of the terminals may vary according to the system solutions.
NAVAL PLATFORM SOLUTIONS
SHIPBORNE SATELLITE COMMUNICATION TERMINAL

- IP Based, Secure/Non-secure voice, data, video teleconferencing and fax communications via satellite
- Communication with other ground terminals via Network Control Center
- 3-Axis Stabilized Automatic Tracking
- X Band or Ku Band Solutions
- Antenna Size: 1-1.8 m
- Power Output: up to 200 W
- Configurable aggregate voice/data rate according to user requirements
- Configurable for different Shipborne platforms according to the user requirements
* Features of the terminals may vary according to the system solutions.

SUBMARINE SATELLITE COMMUNICATION TERMINAL

- IP Based, Secure/Non-secure voice, data, video teleconferencing and fax communications via satellite
- Communication with other ground terminals via Network Control Center
- 2-Axis Stabilized Automatic Tracking
- X Band or Ku Band Solutions
- Antenna Size: 38 cm
- Power Output: up to 200 W
- Configurable aggregate voice/data rate according to user requirements
- Silent, low power operation, compatible with underwater conditions
* Features of the terminals may vary according to the system solutions.
AIR PLATFORM SOLUTIONS
AIRBORNE SATELLITE COMMUNICATION TERMINAL

- IP Based, Secure/Non-secure voice, data, video teleconferencing and fax communications via satellite
- Configurable aggregate voice/data rate according to user requirements
- Compact and lightweight designs
- SATCOM on the move
- Compatible with EMI/EMC and environmental standards
- Antenna Subsystems
  - X-Band, Ku-Band or Ka-Band Solutions
  - Composite Reflector
  - ITU and FCC compliant
- Antenna Control Subsystem
  - Composite Pedestal
  - 2 axis stabilization
    - 360° azimuth
    - +5°, -85° elevation
  - Polarization Tracking
    - ±135° Polarization
  - Direct Drive (stiffness)
  - Satellite Tracking Accuracy (Tracking with beacon signal and INS data)
  - Fine antenna balance
- Airborne Satellite Modem
  - Data transfer rate up to 20 Mbps
  - Customisable Waveform Design
  - Efficient spectrum usage
    - Adaptive coding and modulation
    - Dynamic channel management
    - IP throughput optimization
  - DAMA / PAMA management
  - Airborne Beacon Receiver
- National developed and suitable for needs encryption algorithms
- TRANSEC
- Radome Solutions

* Features of the terminals may vary according to the system solutions.
SURVEILLANCE & RECONNAISSANCE
SATELLITE GROUND STATIONS

- Satellite Ground Station Development and Integration
  - Fixed/Mobile Antenna Subsystems (S/X Band)
  - User Subsystem Services (Image Exploitation, Catalogue Archiving and Dissemination Services)
  - Mobile Ground Stations Shelter and Auxiliary Services
NETWORK CONTROL STATION

- Switching infrastructure of satellite terminals’ connection to Terrestrial Networks
- Switching infrastructure for inter-terminal satellite communication
- Encryption, Acceleration, Compression Services
- Redundant Operation of Main and Standby Network Control Stations
- Management and Monitoring of Satellite Terminals and Satellite Frequency Band
- Management and Monitoring of Satellite Terminals’ connection to Terrestrial Networks
- Management of Satellite Terminals’ Channel Requirement and Network Access
  - Centralized and Dynamic Channel Planning and Management of Access Techniques (DAMA, PAMA, MF-TDMA etc.)
  - Remote Management of Satellite Terminals
- Interfaces for connection to national and corporate communication networks
- Secure connections to military networks via encryption equipment
- Standard interfaces for connection to communication networks
SYSTEM MANAGEMENT SOFTWARE

- Tools for planning, management and monitoring of satellite communication network
- High system availability (redundant system entry channels)
- Scalable from small to large networks
- Customizable upon customer needs
- Planning Features:
  - Centralized and automated capacity management
  - Efficient and dynamic carrier planning
  - Supports multiple transponders and satellites
- Management Features:
  - Easy configuration and management of satellite communication terminals
  - Advanced auditing and logging facilities
  - Supported remote control protocols: SNMP, TCP/UDP, Serial etc.
- Monitoring Features:
  - Traffic monitor and usage statistics to support better capacity and operational planning
  - Carrier and Spectrum Monitoring (CSM) software for analyzing RF carrier performance
  - Schedule repetitive RF measurements to ensure system stability
  - Automatic detection of carrier anomalies and unwanted carriers (jammers etc.)

TERMINAL MANAGEMENT SOFTWARE

- Tools for easy configuration and management of satellite communication terminals
- Software solutions for Land, Shipborne and Airborne satellite communication terminals
- Compatible with System Management Software and Dynamic Carrier Planning
- Control & Monitoring of terminal RF and modem parameters
- Advanced auditing, logging and alarm management facilities
- Capable of monitoring satellite link parameters
- Supports multiple transponders and satellites
- Supported remote control protocols: SNMP, TCP/UDP, Serial etc.
- Customizable upon customer needs