TACTICAL VEHICULAR RADIO STATION
MASTER NETWORK CENTRIC TRANSFORMATION

- NATO, Coalition and National missions
- Accelerating Collaborative Combat
- Secure High Data Rate networking
- Multi-service, open interfaces, BMS/C2 ready
- Large robust graphical touch screen – Icon-based

SYNAPS-T
Vehicular Station V/UHF SDR 50 W
RADIOCOMMUNICATION PRODUCTS AND SOLUTIONS

SYNAPS-T
Vehicular Station V/UHF SDR 50 W

SYNAPS-T V/UHF 50 W vehicular station is part of the SYNAPS Networking SDR Family designed for network centric transformation, enhanced situation awareness and collaborative combat.

SYNAPS-T provides High Data Rate secured against jamming, with frequency hopping both in VHF and UHF. SYNAPS-T is well-suited for fighting vehicles. Its reduced form-factor and embedded agile co-site filters allow easy mechanical and electromagnetic integration.

ENHANCED SITUATION AWARENESS – HIGH DATA RATE

Thanks to GeoMux HD (VHF) and ESSOR (UHF) High Data Rate MANET waveforms, SYNAPS-T provides the users on the field with simultaneous, independent and secure services such as combat voice, video, IP data, messaging, chat, SMS, geographical BFT (Blue Force Tracking) and alerts. Each of these MANET waveforms allows automatic split/merge and late entry to match with operational battlefield requirements. Unique GeoMux transverse BFT capability shared over different VHF nets avoids friendly fires between adjacent units.

MANEUVER WAVEFORMS FOR COLLABORATIVE COMBAT

With MANEUVER GEO (VHF) and COMMAND/COMBAT (UHF) waveforms, SYNAPS-T provides simultaneous hierarchical and time-wise/low latency geographical user services, the latter for collaborative combat. SYNAPS-T ensures simultaneous end-to-end services including multiple combat voice channels, messaging with reliable forwarding. Communities of Interest (CoI) as well as IP broadband data, video, chat, SMS, BFT and alerts, hierarchically and geographically. Thanks to SYNAPS MANEUVER waveforms shared over the SYNAPS family and SYNAPS-V 2-channel radio, SYNAPS-T users can access to all other SYNAPS users in a secure way, without deciphering, whatever they are in MANEUVER VHF or UHF waveforms. SYNAPS-T thus displays extended operational range and battlefield transverse and geographical connectivity. MANEUVER waveforms include automatic insertions of combat and co-site filters among different VHF nets and late entry. Task force reorganization (unit reinforcement, attachement/ detachment) is now possible without radio re-programming.

INTEROPERABILITY

SYNAPS-T is multi-mission ready for both in national operations or international coalition. SYNAPS-T can operate a comprehensive set of interoperability waveforms for Legacy, Coalition and NATO radios, including PR4G and GeoMux waveforms for smooth migration path as well as ESSOR High Data Rate waveform and NATO narrow band waveform for Coalition. With GeoMux, AIRPOWER and HaveQuick waveforms, SYNAPS-T natively supports national and coalition Ground-Air coordination with helicopters for fire support as well as DaCAS.

EASY TO INTEGRATE, SETUP AND OPERATE

SYNAPS-T can be easily integrated with combat mission systems thanks to IP open interface and a suite of advanced radio services. SYNAPS EASY mission preparation graphical tool allows simple and automated network planning based on order of battle and information exchange requirements.

SYNAPS-T is easy to operate, thanks to a large robust graphical touchscreen, icon based. Web server feature allows remote control and monitoring of the radio.

Main Features

General Characteristics

ESSOR SCA architecture – SCA 2.2.2 compliant, SCA 4.1 ready
Frequency range: VHF 30-108 MHz - UHF 225-512 MHz
RF output power: 50 W
Channelization: 8.33 kHz, 12.5 kHz, 25 kHz, 50 kHz, 75 kHz, 250 kHz, 500 kHz, 1.25 MHz (others on demand)
Built-in GNSS receiver
Embedded agile co-site filters
NATO Restricted product variant
Embedded programmable crypto module for national algorithms

SYNAPS WAVE (Waveform Library)
Advanced national networking waveforms
- ESSOR HDR – UHF Wideband
- GeoMux (incl. High Data Rate – up to 160 kbps) - VHF
- MANEUVER GEO – VHF
- MANEUVER COMMAND/COMBAT – UHF
- AIRPOWER-I (Ground-to-Air) (future) – UHF

PR4G, F@stnet and NextW@ve native interoperability
International Coalition and NATO waveforms
- Tactical VHF and UHF, Stanag 4204 and 4205
- ESSOR HDR – UHF Wideband
- EPM HQI/II (future), SATURN (future)
- NATO NBWF (future), COALWNW (future)

SDR Lab for waveform development and porting

Interfaces

Large robust graphical touchscreen - Icon based
Voice: standard analog and digital (VoIP)
Data: USB Host device and ethernet/IP
Control: SNMP v3 – Web server
GPS: embedded + external MIL GPS connection
Power supply: 28 V DC (18-33 V DC) - MIL-Std-1275D

Physical and Environmental

Weight: 15 kg
Size (WxHxD): 221 x 148 x 380 mm
Environmental and EMC: MIL-Std-810G, MIL-Std-461F

Ancillaries

Mounting tray
Dual band V/UHF antennas
Windows/Android remote control