TACTICAL LAND RADIO NODE
MASTER NETWORK CENTRIC TRANSFORMATION

- Simultaneous 2-channel networking radio for mobile Command Posts
- Accelerating collaborative combat
- Coalition and national missions
- Multi-service, open interfaces
- ESSOR, PR4G interoperable

RADIOCOMMUNICATION PRODUCTS AND SOLUTIONS

SYNAPS-V
2-channel V/UHF SDR
SYNAPS-V is a 2-channel V/UHF radio member of the SYNAPS Networking SDR Family designed for network centric transformation, enhanced situation awareness and collaborative combat. SYNAPS-V displays unique extended operational range and connectivity on the battlefield, based on advanced radio protocols and RF performances with SIMO UHF feature. It is the lowest Size, Weight and Power integrated dual channel tactical radio node. With its embedded 50 W amplifiers and agile co-site filters in the format of the current TRC 9310 50 W PR4G F@stnet single channel, SYNAPS-V can be easily integrated into vehicular stations.

MANEUVER WAVEFORMS FOR COLLABORATIVE COMBAT
With MANEUVER GEO (VHF) and COMMAND/COMBAT (UHF) waveforms, SYNAPS-V is the only radio enabling collaborative combat with simultaneous hierarchical and time-wise/low latency geographical user services, the latter for collaborative combat. SYNAPS-V provides the users on the field with 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. These MANET VHF and UHF MANEUVER waveforms embed unique cross-banding capability ensuring automatic end-to-end connectivity into the secure domain over VHF/UHF heterogeneous networks for a combined-arms brigade wide deployment.

MANEUVER waveforms include automatic insertion of combat and helicopter fire support units with join/leave, split/merge and late entry features. Task force reorganization (unit reinforcement, attachment/detachment) is now possible without radio re-programming. MANEUVER waveforms are based on frequency hopping and orthogonalisation mechanisms maximizing frequency re-use and radio network cohabitation on the battlefield.

INTEROPERABILITY
SYNAPS-V is multi-mission ready for both in national operations or international coalition. SYNAPS-V 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 AIRPOWER and HaveQuick waveforms, SYNAPS-V natively supports national and coalition Ground-Air coordination with helicopters for fire support as well as DaCAS.

EASY TO INTEGRATE, SETUP AND OPERATE
SYNAPS-V 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-V is easy to operate, thanks to a large robust graphical screen, icon based. Web server feature allows remote control and monitoring of the radio.

SYNAPS-V Networking SDR
2-channel V/UHF SDR

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; L Band IF
RF output power: 50 W per channel
Channelization: 25 kHz, 50 kHz, 75 kHz, 250 kHz, 500 kHz, 1.25 MHz (others on demand)
SIMO UHF Feature
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
- 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 screen - 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: 21 kg
Size (WxHxD): 300 x 138 x 390 mm
Environmental and EMC: MIL-Std-810G, MIL-Std-461F

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