

## AIRBORNE SDR MASTER NETWORK CENTRIC TRANSFORMATION

- All aircraft types, all missions
- Accelerating collaborative combat
- Extended V/UHF spectrum, high RF performance
- Coalition and National interoperability
- Advanced multi-service networking waveforms
- Multi-crypto, National, NATO Restricted and NATO Secret



RADIOCOMMUNICATION PRODUCTS AND SOLUTIONS

## SYNAPS-A Airborne V/UHF SDR





## RADIOCOMMUNICATION PRODUCTS AND SOLUTIONS

# SYNAPS-A

## Airborne V/UHF SDR

SYNAPS-A is the Airborne member of the SYNAPS Networking Software Defined Radio family providing an easy and adaptable radio solution for network centric transformation of all Forces.

SYNAPS SDR technology offers exceptional operational flexibility and answers to customer independence aspiration.

### MULTI-MISSION

SYNAPS-A is the ideal communication brick to build the flexible multi-channel V/UHF communication system required by all types of aircraft, whatever their missions and contexts of operation.

SYNAPS-A is capable to operate a comprehensive set of interoperability waveforms for Legacy, Coalition, US and NATO radios. It can handle NR traffic, as well as NS traffic with the optional NS Crypto Appliqué.

### MULTI-SERVICE

SYNAPS-A is part of a unified SYNAPS network that allows seamless end-to-end connectivity with a wide variety of differentiated user services such as combat voice, messaging with reliable forwarding, Communities of Interest, chat, SMS, geographical BFT (Blue Force Tracking) and warnings.

**AIRPOWER and MANOEUEVER** unique waveforms allow automatic join/leave, split/merge, ad hoc/relaying and cross banding, with extended range and frequency spectrum savings mechanisms.

SYNAPS-A is easily integrated in the SYNAPS network using a simple and automated network planning and mission management tool.

### EASY INTEGRATION AND OPERATION

SYNAPS-A provides high RF performances matching the real field operations: high output power, high sensitivity, SIMO (Dual Rx/Antenna diversity) to achieve extended communication range and spatial coverage.

Embedded agile co-site filters facilitate EMC integration and allow simultaneous multi-channel operations.

In addition, ATC developed in accordance with DAL C facilitates Aircraft safety certification.

## Main Features

### General Characteristics

ESSOR SCA architecture – SCA 2.2.2 compliant, SCA 4.1 ready

Frequency range: V/UHF 30-600 MHz, L-Band IF

RF output power: 20 W AM/30 W FM

Channelization: 8.33 kHz, 12.5 kHz, 25 kHz, 250 kHz, 500 kHz, 1.25 MHz (others on demand)

SIMO UHF feature

Embedded multi-guard receiver

Embedded agile co-site filters

NATO restricted

Embedded programmable crypto

Optional NS programmable Crypto-Appliqué

### SYNAPS-WAVE (Waveform Library)

Advanced national networking waveforms

- MANOEUEVER Command-Combat, Geo
- AIRPOWER -I (Intraflight), -T (Theater) (future)

PR4G and NextW@ve native interoperability

- Including GeoMux, GeoMux HD and UHF-FFH

International and NATO waveforms

- VHF ATC iaw ICAO regulations/ED23C
- VHF Maritime iaw IMO regulations
- Tactical VHF and UHF-MIL iaw Stanag 4204 and 4205
- EPM HQI/II and SATURN, SEDR (future)
- L11 and L22 compatible (external modem)
- ESSOR HDR
- NBWF (future), COALWNW (future)

### Interfaces

Control: MIL-Bus 1553, ARINC429, Ethernet

Voice: standard analog and digital

Data: standard serial and ethernet/IP

Parameter loading: DS101/DS102

GPS: iaw ICD GPS 060/Stanag 4430

Power supply: 28 V DC iaw MIL-Std-704E

### Physical and Environmental

Weight and format < 7.5 kg, ARINC 600/3MCU

Environmental and EMC: MIL-Std-810G, MIL-Std-461F

### Ancillaries

Remote Control Unit (RCU)

Mounting tray



RCU