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

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 MANOEUVER** 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.

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**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
  - MANOEUVER 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