ARTCOM | 9681 HF-A

AIRBORNE RADIO

#MilitaryCommunication

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ArtCom 9681 HF-A Airborne Radio is a new generation high-performance digital radio covering 2-30 MHz HF Band. Software configurable architecture provides reliable secure voice and data communications by supporting various HF radio waveforms and EPM techniques. Beyond line of sight voice/data communication is achieved with the utilization of the most advanced HF technology covered in the related NATO STANAGs and Military Standards.

The radio does not have an MMI, therefore can be controlled remotely with a mission computer through MIL-STD-1553 or ARINC-429 Bus interfaces or by means of the Remote Control Unit through its RS-422 Serial Control Interface.

HF SDR Radio establishes reliable, fast and secure voice and data links with support of digital voice, built-in encryption and modem capabilities.

With the use of modern technologies such as 3rd Generation Automatic Link Establishment (ALE) and Automatic Channel Selection (ACS), these radios provide ease of use, reducing the need for well-trained and experienced HF radio operators. In addition to the features provided in 3G ALE mode, Manual ALE operation has been featured to the radios. In this context, ALE mode on radios provides capability to the user to create Manual channel and group for communication. The radios, which are equipped with the capability of link establishment with the radios in different networks, are able to be participated in different networks.

ArtCom 9681 HF-A radio enables encrypted voice and data communication in both fix frequency and frequency hopping modes.

ArtCom 9681 HF-A Radio configuration is composed of the following units:

- Receiver transmitter unit
- Remote control unit
- Antenna tuning unit
- HF antenna

User Services:

- Voice communication
  - Analog clear
  - Digital encrypted (600/1200/2400 STANAG 4591 MELPe Coded)
  - Digital encrypted frequency hopping
- Data communication: 75 to 12800 bps (MIL-STD 188-110 B & STANAG-4539)
  - SMS (short message service)
  - OPCODE (operation code)
- Automatic link establishment in compliance with STANAG 4538 (FLSU/CLC)
- Generation of manual channel and group in automatic link Establishment mode
- External modem connection
- External voice crypto connection
- EPM : Frequency hopping, built-in encryption
- Synchronization (FH, ALE): GPS, TOD, GPS+TOD

General Features:

- New generation software defined radio covering the HF band
- Frequency hopping capability
- Digital voice and data (synchronous/asynchronous/IP)
- Built-in digital modem with the latest HF technology
- Built-in encryption
- Emergency erase (zeroize)
- Automatic channel selection (ACS)
- Automatic gain control (AGC)
- Channel scanning
- Automatic link establishment (3G ALE)
- Modulation types: USB, LSB, ISB, CW, AM and AME
- Number of presets: 200 preprogrammed, 25 manually programmable
- Built-in-test (BITE): Power-up / continuous / user tests
- External interfaces:
  - 1553 bus
  - ARINC-429 bus
  - RS-422 serial control
  - Intercom
  - External data terminal, data encryption device
  - Data link (link-11, link-22)
  - GPS
  - Blanking interface
- User-friendly remote control unit
  - Compatible with night vision glasses (NVIS Green)
  - Control through central brightness

Technical Specifications:

- Frequency band : 2-30 MHz
- Frequency steps : 10Hz
- RF output power : 10 W / 25 W / 40 W / 65 W / 100W / 150W PEP (Selectable)
- Frequency stability : +/- 0,1 ppm (room temperature)
- Sensitivity for 10 dB SINAD
  - For SSB and CW : Typically -113 dBm
  - For AM and AME : Typically -100 dBm
- Channel bandwidth
  - 3 kHz (USB, LSB)
  - 6 kHz (ISB, AM, AME)
  - 500 Hz (CW)
- Environmental specifications : MIL-STD-810F
- EMI/EMC : MIL-STD-461E
- Dimensions (H x W x D)
  - Receiver transmitter : 20x19x36 cm
  - Remote control : 8x15x19 cm

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CALL CENTER +90 850 360 10 30 | P: +90 (312) 592 10 00 F: +90 (312) 354 13 02 | hbtmarketing@aselsan.com

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