



HF INTERNET - MULTIMEDIA RADIO COMMUNICATIONS

HF Internet is the Selex Sistemi Integrati solution which provides Internet services over HF radio networks.

PRODUCT DESCRIPTION

A reliable communications network is a key element in any critical operational scenario when usual networks are not available. Typical scenarios include out-of-area operations or civil emergency situations, like natural disasters, when setting up or restoring communications rapidly is essential.



In these contexts, HF radio communications could represent an ideal solution because:

- it's quickly deployable and always available with a worldwide reach;
- it's cheap, since there's no service cost as in case of satellite communications;
- it can be used everywhere, even in areas of high signal attenuation like for example heavy wet jungle;
- it is secure, with low risk of geo-location and jamming.

The advantages of radio communications are the basis of the HF Internet system developed by Selex Sistemi Integrati, which is able to provide Internet services such as e-mails, fax, short messages, etc, both in-clear and encrypted.

Users can benefit from a reliable, flexible and rapidly deployable network which guarantees ordinary communications in areas not covered by other networks, like remote zones. In addition, HF Internet is a valuable solution for any organization requiring back-up communications network able to ensure communications flow in case of network failures due for example to terrorist attacks.

The HF Internet solution guarantees maximum flexibility, in fact the system is hardware independent and works with any type of radio system.



HF Internet can be configured in several modes according to the different operational requirements, from a simple audio communication system point-to-point, without local intelligence, up to a node able to perform data routing in a complex network. The structure is flexible and modular, every node can easily assume different levels and roles, allowing a very quick network reconfiguration. Ease of use is another key asset of the HF Internet, the system can be configured with a human computer interface similar to standard communications tools, which implies a higher familiarity with the system.

The main services provided by HF Internet are:

- E-mail: easily sent through standard e-mail applications like MS Outlook, Thunderbird or Eudora. Attachments are also supported.
- Voice transmission – through an IP based voice communications client software.
- Positioning – HF internet allows the localization of up to 500 vehicles. Geographical coordinates are obtained from a GPS receiver and made available to the HF transceiver via a specific communication interface. Vehicles positions and tracking data are plotted on geo-referenced maps of the relevant territory. The vehicle telemetry data, consisting of signals from motor equipment sensors, are acquired and stored in a data buffer together with the position data.
- Short messages: sent to one or group of recipients and displayed on the transceiver front panel.
- Fax and Images transmission: carried out through a software application similar to commercially available fax solutions for PC such as Winfax™.

HF Internet has recently been used to set up the Italian Government Radio Network, a back-up communications network connecting Prefectures and Police Headquarters. It has also been installed on the Italian Police and Coastguard patrol boats and on the vehicles of the Italian 1st Regiment Paratroopers Carabinieri Tuscany.

It is used by the Italian Armed Forces in the most relevant out-of-area missions by Italian Air Force in Afghanistan, Carabinieri and State Police in Kosovo, Carabinieri in Iraq. At international level it is used by the UNMIK forces in Kosovo, by the Kosovo Police for the border control network and by the Ministry of Defence in Tunisia.

TECHNICAL SPECIFICATIONS

- Radio station remote control is guaranteed by the processing system through an intuitive and self-explanatory graphical user interface;
- ALE function automatically selects the best available channel, in terms of signal to noise ratio, without any operator's support;
- Encryption algorithms are selected from standard libraries (AES, DES-EDE2, DES-EDE3) with custom keys.

CONFIGURATIONS

- Modular configuration – Computer, Modem and Radio; encrypted transmission of voice and data;
- Integrated configuration - Computer and Radio; encrypted data transmission; modem functions are included in the software; hardware independent, it can be used with any kind of radio.
- Different hardware configurations: portable, light and rack.

STANDARDS AND CERTIFICATIONS:

- STANAG 5066 (NATO HF standard); STANAG 4285 (75-2400 baud NATO); STANAG 4539 (75-2400 baud NATO)
- MIL-STD-188-141 ALE (NATO HF standard); MIL-STD-188-141 ALE
- OFDM (75-9600 bits/s OFDM SSB)
- Suitable to be used with VHF/UHF transceivers.

