

SEU-8210 Application Notes

[Ciphred data and voice](#)

[Remote access to local database](#)

[Ciphred using commercial transceivers](#)

[Remote command transmission](#)

[Ciphred transmission of GPS data](#)

Description

The SEU-8210 Auxiliary Ciphred Unit is a small radio accessory, allowing eavesdropping-secure, bidirectional transmission of ciphred voice, terminal data and GPS positioning data. Communication takes place with other subscribers or with base stations using existing radios. Addressed commands can be additionally transmitted to each unit. Ciphred data transmission allows secure access to local databases for data comparisons of persons, vehicles, etc.

Being an auxiliary unit, the SEU-8210 serves to expand the functionality of existing radios. The unit fulfils all relevant MIL standards and, as a rule, is used for tactical applications within military and paramilitary organisations. A special version is available for civilian applications.

The unit can be connected to manpacks or mobile devices. Owing to its universal interface, the unit can be connected to essentially all transceivers currently on the market. With the SEU-8210, existing radio infrastructures remain as they are, increasing overall efficiency.

For special applications, the SEU 8210 can be supplied with an integrated V/UHF transceiver (SEU-8220).

Ciphred Voice

The SEU-8210 is easily and simply connected between an H-1089/C handset (or similar) and the radio. Voice communication, ciphred at a very high security level, can then take place. Clear or ciphred operating mode is, of course, selectable. A received ciphred call is automatically deciphered independently of the operating mode selected and optically signalled. End-to-end delay in ciphred mode is only 30 ms, and is thus undetectable by users. As a result, ciphred also functions with full-duplex traffic because no disturbing echoes occur. Voice quality during ciphred operation is excellent, allowing outstanding speaker recognition.

Data Transmission

Data originating from an external terminal or other source are ciphred with a powerful algorithm and transmitted using a strong FEC protocol. This guarantees that unauthorised persons cannot obtain knowledge concerning data contents. Automatic error correction provides transparent correction of errors typically characteristic of channels, reducing airtime to the lowest level possible.

The data interface allows connecting terminals (laptops) using a conventional RS-232 interface. Thus no special, expensive terminals are necessary. There are several possibilities for transmitting data:

- **Standard file transfer**
A terminal program installed on the laptop allows editing and transmitting arbitrary texts
- **Access to databases**
Access to databases requires a database infrastructure. This is an essential part of the RADOS / RIPOL System available. This software allows database interrogations of data associated with a person or vehicle. Status interrogation as well as answers are also transmitted ciphred.
- **Fleet management**
The control centre can obtain the current status of all fleet vehicles using individual or automatic interrogation. In this way the operator knows which vehicles are currently operational and, owing to the GPS option, their momentary location. This information allows optimal utilisation of fleet infrastructure. Single vehicles can, of course, also be individually addressed for communication purposes or, alternately, for silent interrogation to determine status and position.

Remote Command

Remote control allows transmitting individually addressed and ciphred commands to any station. Such commands can activate contacts in order to initiate the various actions required of an application. Examples include activation of mobile jammers, transmission of directional finding commands, activation of vehicle warning lights, emergency shutdown of vehicles, control of microphones and transmitters for critical-mission monitoring, etc.

In addition to command outputs, the SEU-8210 has the same number of indication inputs, allowing transmission of checkback signals and alarms. All this information is transmitted ciphred.

GPS Receiver

A GPS receiver of the latest generation built-into the SEU-8210 automatically transmits its current position as soon as its transmitter is keyed. In this way, the communicating partner always has up-to-date position status information. This holds not only for voice communication, but also for all other types of data transmission or remote commands. The current position of vehicles or persons (using manpacks) can also be determined using silent interrogation. Such position interrogation can take place manually as well as automatically.

Special Interface

A special interface connector provides access to synchronous microwave links. This allows radios to serve as relay stations within a network having microwave links. Further, the same connector can be used to connect to an external fingerprint reader unit. The fingerprint data is then transmitted to a local database for cross checking.

Summary

Through consistent application of the latest technology in the area of communication and cryptology, the SEU-8210 Auxiliary Ciphred Unit creates a platform which, within wide limits, accommodates the most differing of requirements. Existing radio infrastructures can be inexpensively and functionally expanded, and brought up to current technological standards by introducing SEU-8210 Auxiliary Ciphred Units. This approach avoids the high costs associated with exchanging devices and modifying existing infrastructures.

Voice Encryptor | Data Encryption

http://hf-ssb-transceiver.at-communication.com/en/seu8210_app_notes.html