



Tactical Radio Communications

- Voice ciphering
- Data ciphering
- Ciphered GPS
- Remote commands
- Remote access to database
- Universal Radio Interface

- Very high security
- IDEA and AES algorithms
- Robust synchronisation
- Excellent speaker recognition
- User exchangeable key generator
- No political considerations

The SEU-8210 is an advanced, high security, state-of-the-art voice and data ciphering unit. The SEU-8210 effectively secures voice/data communications from unauthorised monitoring. The SEU-8210 has been designed for military use in conjunction with fixed, mobile or man-pack radio stations. Its ruggedised design makes it ideal for applications involving environmentally extreme field conditions.

Based on a new digital processing technique, the SEU-8210 employs a speech encryption algorithm that surpasses known conventional methods.

The ciphering algorithm uses recently patented technology, making attacks impossible using current crypto-analytical analysis methods. The ciphered signal exhibits no residual voice. The deciphered signal has superb voice reproduction quality. The result is excellent speaker recognition coupled with high security.

Different ciphering algorithms and modulation schemes have been designed and incorporated into the SEU-8210 for use on VHF/UHF-FM channels. These can also be used on HF/SSB channels without any degradation of security or

synchronisation. An adaptive line equalisation algorithm automatically adjusts to momentary channel performance characteristics. This is a prerequisite for consistently high signal quality and robust synchronisation even with microwave links, repeater stations or under poor radio propagation conditions. This robust synchronisation system, integrated into the SEU-8210, allows point-to-point and multi-point communication including late entry capability. The SEU-8210 is compatible with complex radio networks such as multiple relay-repeaters and simulcast systems (carrier synchronous networks).

Extensive measures are employed to recognise and reject attacks by third parties. Integratable are user defined algorithms in the crypto generators and addressing schemes for identification purposes.

Analog and digital selcall are implementable; remote control, GPS and ciphered data transmission using error correction techniques widen the scope of applications. This unique combination of high-level security coupled with multi-functionality makes the SEU-8210 eminently suitable for tactical radio networks.



ENCRYPTION EQUIPMENT

for tactical HF/V/UHF Radios including:

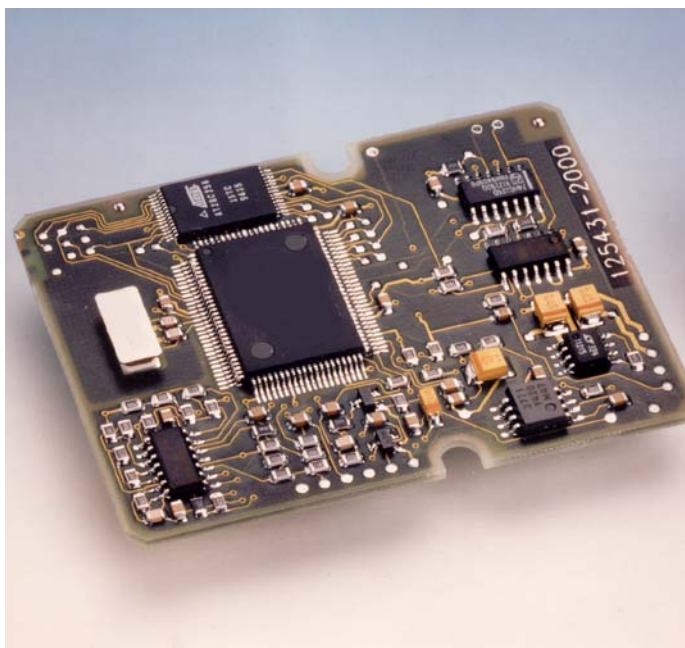
- PRC-77
- PRC-1060
- PRC-1070
- PRC-1077
- PRC-1099
- PRC-2150
- PRC-xxxx



SEU-8210

Encryption Unit
as add-on for:

- > Voice
- > Data, GPS
- > Commands



SEU-8201

Voice Encryption Module

for retrofitting tactical radios
or integrating into portable
or mobile radio equipment.

SEU-8210 VOICE & DATA CIPHERING TECHNICAL SPECIFICATIONS

Ciphering Technique:	High security ciphering algorithm controlled by a complex crypto generator.
Ciphering Algorithm:	IDEA, AES-128/256, customised
Cryptographic data:	Key length up to 256 bits
Key storage	up to 10 communication keys stored in battery buffered encrypted and tamper-proof keybanks containing up to 250 keys.
Key Loading	KPU-8200 Keyfill Device
Key and Parameter generation:	Menu driven process with Crypto Management System or with KPU-8200 Key Programming Unit.
Operating mode:	Voice: Semi-duplex (full duplex optional) Data: Transparent, point-to-point, multi-point; full duplex Commands: 8 single commands and 8 back indications
Coding delay (Voice):	30 ms (end to end)
Transmission Channel:	HF/SSB and V/UHF
Mode control (Voice):	Clear/Ciphered: Clear voice over-ride; Automatic reception of cyphered signal.
OTAR	Key selection (10 out of 255 key) over air using protected commands. Key change over air using secure asymm. authentication process.
Transmission channel requirements:	Bandwidth: 250 - 2550 Hz (adaptable to current channel characteristics) Offset: +/- 80 Hz for HF-SSB (opt.) Link-offset compensation: for Modem/Data mode
Audio Interface:	Standard handsets i.e.H-189/250
Communication interface:	Input: 10 mV to 5.0 V (rms) Output: 0.5 mV to 2.0 V (rms)
Data Interface:	RS232, USB (opt)
Diagnostics:	BITE
Environmental conditions:	MIL-STD-810F
Temperature:	Operating: -25 to +60°C Storage -40 to +85°C
Humidity:	95% RH (+60°C), non-condensing
Tightness:	Submersible to 1 meter
Vibration:	1 g/5 to 200 Hz random
Shock:	25 g/11 ms
EMI	Within MIL-STD-461B, Class A3
Power requirements:	External supplied: 9 to 36 VDC Internal supplied by rechargeable NiCd accumulator (opt.)
Power consumption:	3.0 W in cipher mode; 0.5 W in stand-by mode 3.5 W in data/remote mode
Size and weight:	255W x 37H x 220 (195)D mm; weight 1.5 kg
Options:	several options available