GRETACODER® 805
MODULAR
HIGH SECURITY
OFF-LINE ENCRYPTION
SYSTEM
Microprocessor Controlled Off-line System with Unique Modular Design.

The GRETACODER 805 is an extremely flexible cryptographic off-line system. Its unique modular design allows configurations of comfortable stationary systems with all necessary peripheral equipment as well as small portable units in a handy suitcase.

The GRETACODER 805 system includes the following modules:

- Basic crypto unit, microprocessor controlled, with plaintext memory of 4000 characters, keyboard and electronic display, complete editing program for correcting stored messages.
- Samsonite suitcase or military type case for portable version.
- Column printer module for hardcopy on 6 cm wide paper.
- Acoustical coupler module for data transmission over telephone lines according to CCITT V.21.
- Desktop cabinet with V.24 (RS-232) interface for external terminals and/or modems.
- Thermal page printer unit for hardcopy on 21 cm wide paper.
- Papertape reader/perforator unit.
- Other accessories such as interface for tape cassette recorder etc. on request.

Besides the universality described above, the GRETACODER 805 system also offers a complete compatibility with the GRETACODER 905 pocket cipher unit.

To insure compatibility between present and future message switching requirements, the GRETACODER 805 has been designed to process both plain and cipher text either in Baudot Code (CCITT Nr. 2) or in ASCII-Code (CCITT Nr. 5).

The GRETACODER 805 may also be used in combination with a modem or acoustical coupler serving as ordinary correspondence terminal for exchange of plain text messages in full-duplex mode.

The cryptological concept of the GRETACODER 805 guarantees an extremely high level of security. The GRETAG-principle of three independent keys is applied: Secret structure and elementary key, both 100 percent customer programmable, and GRETAG-patented auxiliary key, which modifies the ciphering program for every message, in a truly random manner.

Special shielding and other measures minimize any information radiation of its electronic and mechanical modules.

The operation of the GRETACODER 805 is extremely simple. All operating instructions are displayed on its interactive electronic display.
The Portable Version
The portable version in a standard Samsonite case allows the travelling diplomat to process confidential messages wherever he has to send an information, e.g. by means of the acoustical coupler in a hotel room.

The Office Version
The desk top version is recommended when full operational facilities of the GRETACODER-805 systems have to be used. Any conventional modem or terminal can be interconnected by the built-in standard V 24/RS-232 interface.
System Configuration

Due to the modular design the GRETACODER-805 system meets almost any operational requirement. Thus, the whole functional advantages of this state-of-the-art ciphering system can be fully exploited.

1) Empty case to be used for desktop version  
   PN 40.69.51

2) Miniature column printer, output device for portable version  
   PN 40.67.70

3) Acoustical coupler, for transmission of ciphered messages through telephone lines  
   PN 40.69.30

4) Page printer  
   PN 40.69.80

5) Basic unit GRETACODER-805, with encryption electronics, plasma display and keyboard  
   PN 40.66.61

6) Desktop interface, for interfacing of basic unit and peripheral I/O device  
   PN 40.68.80

   PN 40.71.60

8) Standard Samsonite attaché case for portable version  
   PN 40.48.72

9) Military carrying case, with ruggedized, shock-proof construction  
   PN 40.69.70
Accessories

Protection Case
Specially designed protection cover of sturdy plastic material and a metal base plate on which the desk top version can be placed. Mechanical protection of the equipment while not in use is thus guaranteed.

Additional Secret Plug-in Units
The secret structure key is programmed in a standard EPROM. The use of several secret plug-ins makes key organization much more flexible.

Arabic Version
Due to the versatility of the microprocessor-based system, different alphabets can be implemented, e.g. arabic, only by changing the key-board module and a few plug-in PROM’s.

Programming Unit
EPROM programming unit to produce and copy new or existing key plug-in units. An UV-erasing unit is supplied with the programming unit for multiple reprogramming of the key plug-in unit.
Overall dimensions/weight:

a) suitcase version
   - 470 mm (wide), 95 mm (high)
   - 340 mm (deep), approx. 8 kg

b) Desktop version incl. page printer
   - 430 mm (wide), 180 mm (high)
   - 460 mm (deep), approx. 13 kg

c) Paper tape reader/perforator unit
   - 200 mm (wide), 180 mm (high)
   - 460 mm (deep), approx. 8 kg

Temperature range:

- Operating: 0° to 50° C
- Operating: -20° to +55° C (on request)
- Storage: -25° to +70° C

Power:

- 110/220 V ±15%
- 45 to 65 Hz
- 40 to 120 VA depending on version

Keyboard:

- Full size, automatic letter-figure shift, electronic interlock

Display:

- 37 digits, gas plasma display

Memory size:

- 4000 characters plaintext, battery-buffered during power failures
- 8 elementary keys

Operation/transmission speeds:

- Encryption/decryption: 300 ch/sec
- Page printer: 30 ch/sec
- Column printer: 50 ch/sec
- Papertape reader: 200 ch/sec
- Papertape perforator: 40 ch/sec
- Acoustical coupler: 300 bits/sec ≈ 30 ch/sec
- Terminal/modem: 50 to 9600 bits/sec

Cryptology:

- Sophisticated, non-linear cipher program generator for highest security level
- Automatic switch-over to GRETACODER 905 cryptology by exchanging secret structure key plug-in unit

Secret keys (selected by customer)

- 16 character elementary key
  - (8 different elementary keys may be stored in memory simultaneously)
- Structure key electronically stored in EPROM plug-in unit

Secret keys diversity:

- Elementary key $4,3 \cdot 10^{22}$ total
- Structure key $1,7 \cdot 10^{38}$ diversity $≈ 10^{60}$

Auxiliary key:

- 10 characters randomly generated with every message
  - Diversity $1,4 \cdot 10^{14}$

Continuous development and improvement is one of our policies. Therefore we reserve the right to change specifications without notice.
GRETAG SECURITY SYSTEMS
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