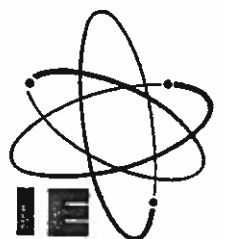


F A C S I M I L E C I P H E R U N I T

F C U - 8 0 4 5

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**INTER ELEKTRONIK A.G.**



F A C S I M I L E C I P H E R U N I T  
F C U - 8 0 4 5  
for CCITT Group 3 equipment

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The FCU - 8045 is a state-of-the-art Facsimile Cipher Unit designed with modern microprocessor technology to meet with high level security requirements of governmental services.

Outstanding features of the FCU - 8045 can be summarized as follows :

- \* Sophisticated modern key generator
- \* Compatible with most CCITT Group 3 Facsimile machines
- \* Designed to cope with modern facsimile communication traffic
- \* Built-in diagnostic program to verify proper operation (SELFTEST)
- \* Extremely easy to operate
- \* Small in dimensions

The cipher unit FCU - 8045 is especially designed for encryption of facsimile messages. The FCU - 8045 protects text, data and graphics against unauthorized access and interception on facsimile transmissions. Without the knowledge of the secret keys intercepted transmissions

cannot be interpreted. Utilizing most modern technology a milestone has been set with regard to both security and price/performance ratio.

Since the standardization of facsimile machines by CCITT more and more telefax are used worldwide to transmit private and confidential data. However without adequate protection of the transmitted document over public open channels it's like sending a letter without an envelope.

The FCU - 8045 offers an economic solution to enclose your valuable and private Fax message in a secure shell.

#### CIPHER CONCEPT

The FCU - 8045 incorporates a sophisticated electronic key generator which uses non-linear algorithms. The facsimile cipher unit FCU - 8045 is based on a stream cipher encryption comparable to the methods used in military and diplomatic applications.

#### CLEAR- CIPHER MODE

The facsimile cipher unit FCU - 8045 can be easily switched between clear and cipher mode. In the cipher mode a transmitted document is encrypted and the content is sealed from access of unauthorized eavesdropper.

The clear mode enables the sender to transmit a document in clear. This is essential in case the receiver is not equipped with a FCU - 8045 unit.

In any case it is the operator at the transmitting station who decides to send a message in clear- or cipher mode. On the receiving end ciphered or clear messages are automatically recognized. The receiving FCU - 8045 will either directly print out a clear fax message or decipher first the message and then reproduce a readable copy.

#### INTERCONNECTION to FACSIMILE SYSTEMS

The facsimile cipher unit FCU - 8045 has been developed for modern facsimile devices of the CCITT Group 3 recommendation and can be easily connected to most facsimile machines of this type.

#### KEY MANAGEMENT

The facsimile cipher unit FCU - 8045 algorithm is based on a multi-key philosophy. These secret keys can be generated in the FCU - 8045 device and stored in key modules. Key modules with identical key information are then distributed to authorized users. Using this method the key information is unknown even to the operators.

In the alternative the key is selectively determined on a partner to partner basis. In this case the specific key are entered via a keypad.

#### EASY to OPERATE

The FCU - 8045 facsimile cipher equipment has been specially

designed for easy operation. All functions and modes are selectable by the touch of a button. Special software routines monitor proper system operation. If an erroneous function is detected, the FCU - 8045 will alert the operator.

Due to straight forward mode selection, operator workload is reduced to an absolute minimum. USER FRIENDLINESS is the byword.

#### EASY MAINTENANCE

The FCU - 8045 facsimile cipher unit is equipped with diagnostic software routines which test all vital components of the system for proper operation. The selftest is activated when the FCU - 8025 is switched on. When a malfunction is encountered by the diagnostic program the FCU - 8025 will alert the operator.

#### HUMAN ENGINEERING

During the design great care was taken to achieve a good human engineering standard. Modular structuring philosophies have been observed for both hard- and software. Logical function groups have been combined to subsystems to facilitate the understanding of the system for repair and maintenance.

TECHNICAL PARAMETER FCU - 8025

Cipher concept : - Electronic Key Generator system

Cycle length : - greater than  $10^{17}$

System key : - in excess of  $7 \times 10^{16}$

Message key : - in excess of  $2 \times 10^{19}$

Random key : - in excess of  $7 \times 10^{16}$   
automatically generated at  
beginning of a facsimile transmission

Total key variable : - greater than

Number of key storage : - 256

Data rates : up to 19.2 Kbps synchronous

Clock : from modem of facsimile unit

Synchronization : error protected

Interface : - RS - 232C, CCITT V.24  
- customer specific interfaces  
for various facsimile units

Test : - Selftest at power on

Power : - 110 VAC +/- 10%  
220 VAC +/- 10%  
45 to 65 Hz

Temperature : - 0° C to + 50° C; operation  
- 20° C to + 70° C; storage

Humidity : - 90 % relative humidity, 25° C  
non-condensing

Dimensions : - 112 mm length  
222 mm depth  
64 mm height

Weight : - appr. 2 Kg

The manufacturer reserves the right to undertake modifications and changes of technical specifications which improve quality and function of the equipment without further notice.