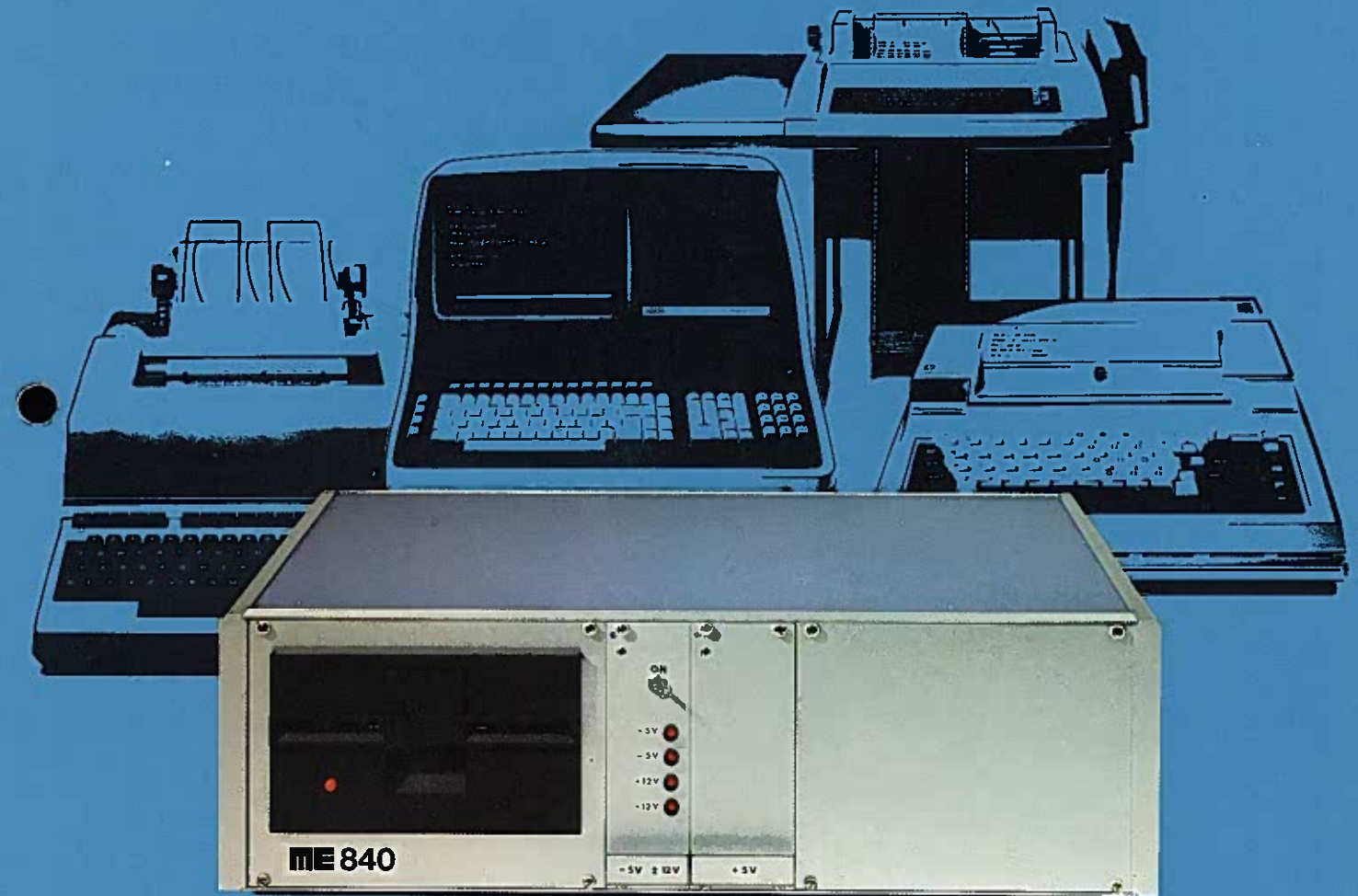


System configurations

Peripheral devices:

	Option 1	Option 2	Option 3
CRT-terminal	●		
Printing terminal	●	●	
Papertape reader	●	●	●
Papertape perforator	●	●	●
Telex machine terminal			●
Microprocessor controlled ON/OFF function of the printer, perforator and reader	●	●	
Manual control of perforator and reader			●
Full text editing	●		
Limited text editing		●	●
Paperroll feed	●	●	●
Single papersheet feed (on request)	●	●	
Cryptologically compatible with other options	●	●	●
Automatical error recognition during cipher text entry	●	●	●
Random key sequence carrier: Mini Floppy Disk	●	●	●
Cipher principle: Random sequence	●	●	●
Electronic code generator, optional	●	●	●
Cipher text output format: five letter groups	●	●	●
other format on customer request	●	●	●



ME 840

Off-Line Telex Cipher System

MILS ELEKTRONIK
A-6060 HALL I.T./AUSTRIA POB 26

PHONE (5223) 7710
TELEX 5/3009

MILS ELEKTRONIK GES.M.B.H. + Co. K.G.



The ME 840 is our second generation the simplest and easiest way to transmit

One Time Key-System which offers a telex message in absolute security.

Ciphering with the

Top security:

The system is the only truly unbreakable cipher system both in theory and in practice. The One Time Key information is based on a random noise source which produces continuous key information with the following properties:

no repetition
no mathematical recursion formula
absolutely stochastic
infinitely long

Operational simplicity and flexibility:

The off-line cipher system ME 840 operates with a dialogue operator guidance; hence any authorized operator can use the system without undergoing extensive training.

(Option: The dialogue language can be specified, standard factory language is English)

Complex programs, such as the text editor or the complete cipher routine, are performed automatically by the ME 840 system.

High encipher/decipher throughput:

A high throughput capability is necessary in a crypto center with a high volume of traffic. Thus, the throughput capability of each cipher system influences the decision as to how many systems are required.

Reliability:

All components and parts are subjected to a lengthy series of tests to establish their reliability. Only after an item has passed all of the tests and fulfills our high quality requirements,

System flexibility:

The ME 840 cipher system employs a modular software which allows efficient modification to specific customer requirements. There are three option versions available as standard production units.

Each option uses different peripheral devices.

Option 1: Printer and CRT – terminal
Option 2: Printing terminal only
Option 3: Standard telex terminal

No adaptation problems

ME 840 system means:

One Time Key cipher system

To encipher, for example, 500 plaintext characters the ME 840 system requires the same number of key characters. This means that the key to encipher a message always has exactly the same length as the plaintext.

A special computer program in the ME 840 ensures that a key sequence used to encipher a message is used once and only once. A once – used key sequence will be erased automatically.

Microprocessor controlled

Erroneous or non-permissible entries are detected and indicated to the operator but not executed.

All text entries are temporarily buffered in a memory. After completion of any necessary text corrections the memory content will be enciphered or deciphered with the One Time Key-System sequence which is stored on a Mini-Floppy-Disk.

up to 120 characters per second

The cipher system ME 840 can handle transmission speeds from 50 up to 1200 baud depending on the options selected, which corresponds to between seven and 120 characters per second.

tight quality control

will be used in serial production.

This procedure for screening components and parts ensures high quality products with a long lifetime of trouble-free operation.

System options can be added easily at any time

The central unit containing the microprocessor is identical in all three versions and hence the systems are cryptologically fully compatible.

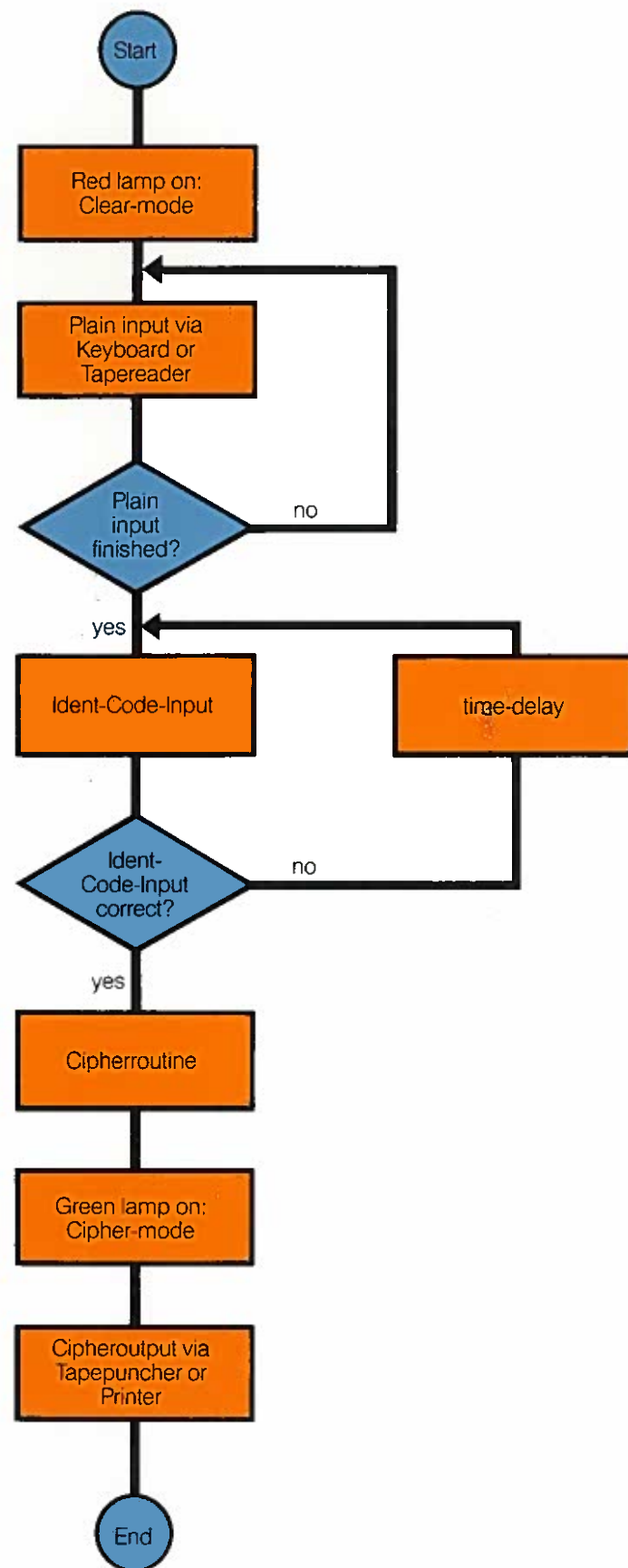
The modular software structure offers optimal solutions for different application problems. Expansions can be made step by step at any time – in short:

The system grows according to the requirement

No PTT approval required

Flowchart

A flowchart illustrates the organisational program sequences. It shows in principle the software modules which are used in the program respectively their job functions. This graphic shows as an example the principle structure of the cipher routine.



Option 1:

Installation for medium to high message traffic



In this installation, a CRT-terminal and a printer with papertape perforator/reader are connected to the central cipher computer. This configuration offers a very flexible operation with highly automated traffic flow.

Text entry (plain or cipher text) is performed via the CRT-terminal keyboard. Full text editing is available enabling the operator to add or delete any given textpart. A special computer program ensures that no word is divided at the end of a line. The program will search for the last space and will automatically insert the required line feed and carriage return.

Text entry can also be performed via the tape reader by giving the required command. In this mode, entry speed can be up to 120 characters per second. Large amounts of text can be processed by one system in a relatively short period of time.

The text output (cipher or plaintext) given by the tape perforator is in the international telex code. In the standard installation, the text can also be printed out by the hardcopy printer.



Hence, it is not only possible to transmit a cipher text by telex but also to send it as a letter. Basically, the cipher text consists of groups of five letters and 10 groups per line. (Any other format is available at customer's request)

The decipher process of a cipher text is done semi-automatically, since in most cases, a telex tape will be available. The cipher system ME 840 will check for transmission errors and automatically maintain synchronization of the key information.

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Option 2:

Installation for medium message traffic



This installation has a printing terminal with a keyboard and no CRT-terminal.

Further the text editing feature is limited (see also Option 3). Otherwise, all functions are equivalent to the Option 1 installation.



Option 3:

Installation for low message traffic



In this installation a telex terminal is connected to the central cipher computer. Since any standard telex can be used, this installation offers an economic solution for high quality autonomous cipher system. The comfort of the installation depends on the model of telex machine used.

Text entry is performed via the telex machine keyboard. A special program allows text editing in the last entered line. If the telex is equipped with a tape reader, the plain or cipher text can be entered by this device. The input speed is limited by the telex machine to approximately 13 characters per second with newer models and to about seven characters per second with older types.

The text output appears on the telex printer. If a tape perforator is connected in parallel, a perforated tape can also be obtained.



Output format, encipher and decipher routines, operational procedures and system organization are identical to the equivalent functions described under Option 1 and Option 2. Expansion of the system ME 840 does not require any retraining of the operator.