

Eindhoven  
Nederland

**Philips Usfa B.V.**

# Picoflex

Miniaturized Off-Line Encryption Device



## DESCRIPTION

PICOFLEX is a low-cost, high-grade security device for the encryption and decryption of written messages. It is equipped with a typewriter keyboard and a strip printer. The text is put in by means of the keyboard, with instant monitoring on the strip printer, whilst the result is printed on the same printer in a second operation. The light-weight, compact equipment is smaller than a normal sheet of paper (DIN A4) and has a storage capacity of some 900 characters. The strip printer uses replaceable cassettes, filled with a strip of metallized paper of sufficient length for about 60 000 characters.

It is a joint Netherlands-German venture: electronics (crypto and processing) by Philips Usfa + keyboard, printer and modems by A.E.G.-Telefunken.



## CRYPTOGRAPHIC FEATURES

PICOFLEX is equipped with a high-grade key generator which requires a key setting of 24 characters, inserted by means of the keyboard. As soon as the last character of the keysetting has been inserted, a control group is produced automatically to provide an instant check on the proper operation of the machine itself and the keysetting. For each message, a random message key is generated automatically. The crypto output takes the form of 5-letter groups of the English alphabet. It is possible to correct the crypto input without losing cryptosynchrony. PICOFLEX does not require any "hard copy" keying material (the keysetting can be mnemonic if required) and it will be classified as "RESTRICTED" only.

## PHYSICAL DATA

Miniaturized equipment: 21 × 20 × 5 cm, less than 0,8 kg

Provided with protective cover or transport case

Operating temperature: -20 °C to +55 °C

Strip printer: 5 × 7 dot matrix formed by sparking, burnable strip, printing speed approx. 10 characters/second

## OPERATION

PICOFLEX is very easy to operate, with only 4 main operating controls and printout of equipment status and mode of operation whenever required. The 4 controls are: KEY setting, ENCIphering, DECIphering, and OUTPUT. Secondary controls are: CORRECTION of input, CLEAR MEMORY, ZEROIZE KEY, Paper Feed and Stand by/Full operation.

PICOFLEX operates off rechargeable batteries or dry cells and can remain for 24 hours on stand by with 1 full hour of full crypto operation.



## Employment

- As ship-borne equipment for M.E.R.C.S., supported by a central computer system in the shore stations
- As general purpose encryption device for general battlefield use in command posts, forward artillery observers
- As device for preparing and receiving encyphered burst transmissions
- As communications-security for police command posts and headquarters
- For travelling diplomats, executives and officials, when equipped with modem for fast transmission and reception of cryptograms over telephone lines

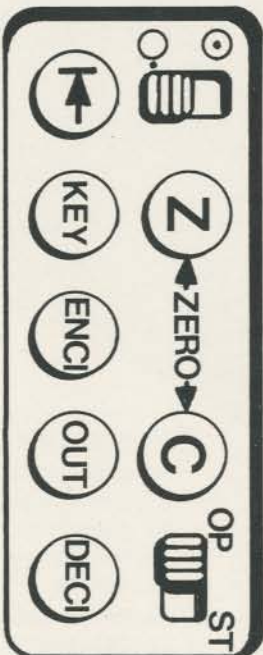
## TYPES

- PICOFLEX 1: without Modem, for written messages only  
PICOFLEX 2: with 200 bits/second modem for use over telephone lines, acoustically coupled  
PICOFLEX 3: with 50 bits/second c.w. adaptor for SSB radio  
PICOFLEX 4: with 200 bits/second adaptor for VHF radio



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picoflex



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further information available from:

**Philips Usfa BV**  
Meerenakkerweg 1  
Eindhoven - Netherlands  
tel.: (0)40-72 26 00  
telex: 51732 USFAE NL