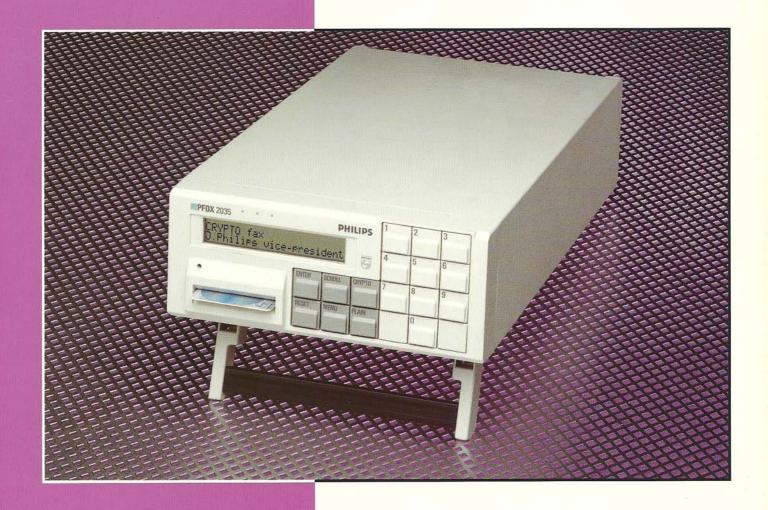
FAX ENCRYPTOR

PFDX 2035





PFDX 2035 Fax Encryptor for group 3 fax terminals

The 2035 is a stand-alone, fax-type independent, desktop unit which is simply connected between the fax terminal and the line, requiring no modifications to the fax equipment. It provides realtime user-to-user security for group 3 fax equipment conforming to CCITT Recommendation T.4, and also supports all normal fax functions. The unit has a 2 x 24-character LCD display and a keypad for entering functions such as the user's PIN-code, mode changes and programming.

The equipment adapts automatically to the standard fax facilities. Fax facilities and crypto settings are established by exchanging protocols, after which encryption/decryption commences automatically. For every secured transmission a unique session key will automatically be generated. These operations are carried out with the aid of Philips Crypto's advanced key management system PKMS 2000, in which each user's crypto key material is stored in a personal Smart Card* with PIN-code protection.

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In the more detailed description of the communication procedure which follows, the phases and protocols towards the fax are as defined in CCITT Recommendation T.30.

Phase A: Connection set-up.

During this phase the 2035 is transparent to the initial fax signals.

Phase B: Pre-message procedure. The 2035 monitors and adapts the facility protocol from

the fax terminal, extending it by adding crypto signalling in the 'non-standard facility' frame. This is done to check for the presence of a crypto unit at the other end of the link and to initiate the automatic key-selection procedure.

Phase C: Message transmission. In this phase all message data are encrypted and

decrypted by the 2035 units at the sending and receiving stations respectively.

Phase D: Post-message procedure. For a multi-document message, Phase B is repeated.

Encryption ceases when EQM is received from the facsimile equipment.

Phase E: Call release. The 2035 reverts to the passive state to await the next Phase A.

Technical data

Configuration

Interfaces

Power

Application • standard fax group 3, connected to automatic switched public/private networks and leased lines

proven operability on inmarsat A satellite communications

proven operability on initial sat A satellite communications

· stand-alone, desktop, built-in smartcard reader

· connected between fax equipment and line

no fax modifications required

no digital fax interface required

V21 modem for signalling

V27ter/V29 modem for message data

User facilities • unattended crypto operation

automatic user identification

all standard fax facilities retained
 user-programmable installation settings

Crypto • "high end" Philips proprietary algorithm in hardware

· customer-unique crypto algorithm (on request)

automatic encryption/decryption

key management: off line system based on smart cards

access control via PIN, 3 consecutive wrong PIN entries

disable the card

key generator cycle length:>1.000.000 years

key diversity: >10³⁶

fax: 2-wire half-duplex, 300 to 9600 bps. V21/V27ter/V29

line:see "fax "

voltage (nominal): 110 or 220 Vac

· frequency: 47-63 Hz

· power dissapation 15 VA max

