

# AUTOMATIC ON-LINE CRYPTO UNIT for GROUP 3 FACSIMILE



Philips Crypto B.V.



# PHILIPS

## PFDX 2035

# On-line crypto unit for Group 3 fax terminals

Philips Crypto's PFDX 2035 unit provides cryptographic protection for facsimile messages carried over automatic switched telephone networks.

The PFDX 2035 is a stand-alone, desktop unit which is simply connected between the facsimile terminal and the line, requiring no modifications to the facsimile equipment. It provides on-line, half-duplex, end-to-end security for Group 3 facsimile equipment conforming to CCITT Recommendation T.4, and also supports all normal telephone and facsimile 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 facsimile facilities. The connection between sender and receiver is set up in the normal way, using the controls and functions of the facsimile terminal only; the PFDX 2035 needs no further operator action. Facsimile facilities and crypto settings are then established by exchanging protocols, after which the encryption/decryption operations commence. These operations are fully automatic and are carried out with the aid of Philips Crypto's PKMS 2000 automatic key-selection system, in which each user's crypto key material is stored in a personal Smart Card with PIN-code protection.

The start-up procedure aims at establishing a secure link; operation in 'plain' mode is selected manually if the remote station is not crypto-protected.

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

- Phase A: Connection set-up. During this phase the PFDX 2035 is transparent to the initial telephone and facsimile signals.
- Phase B: Pre-message procedure. The PFDX 2035 monitors and adapts the facility protocol from the facsimile 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 PFDX 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 EOM is received from the facsimile equipment.
- Phase E: Call release. The PFDX 2035 reverts to the passive state to await the next Phase A.

## Technical data

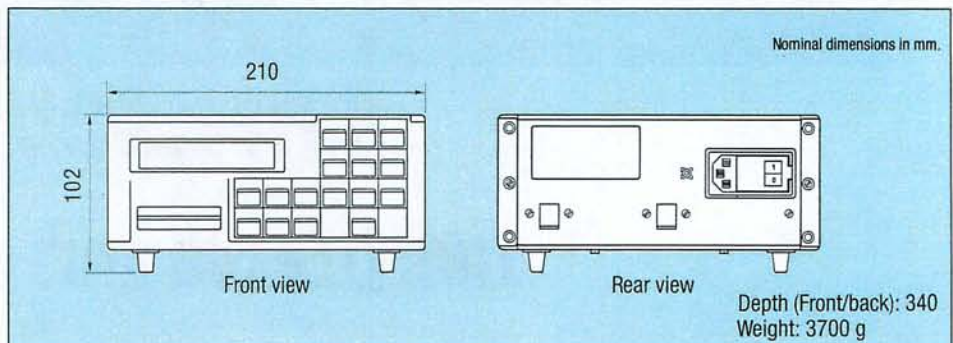
<b>Application</b>	<ul style="list-style-type: none"><li>• Standard facsimile Group 3, connected to automatic switched public and private networks and leased lines.</li></ul>
<b>Configuration</b>	<ul style="list-style-type: none"><li>• Stand-alone, desktop.</li><li>• Connected between facsimile equipment and line.</li><li>• no facsimile modifications required.</li><li>• no digital facsimile interface required.</li><li>• V21 modem for signalling.</li><li>• V27ter/V29 modem for message data.</li></ul>
<b>Features</b>	<ul style="list-style-type: none"><li>• Automatic adaptation to fax facilities.</li><li>• All telephone functions retained.</li><li>• All standard fax facilities retained.</li><li>• User-programmable installation settings.</li><li>• Plain mode for compatibility with non-crypto facsimile equipment.</li><li>• Unattended crypto operation.</li></ul>
<b>Crypto</b>	<ul style="list-style-type: none"><li>• Automatic encryption/decryption.</li><li>• Key generator cycle length: &gt; 10,000 years.</li><li>• Initial synchronisation for each page.</li><li>• PKMS 2000 automatic key-selection system.</li><li>• PIN-protected key storage on Smart Card.</li><li>• Key diversity: &gt; 10<sup>36</sup>.</li></ul>
<b>Option</b>	<ul style="list-style-type: none"><li>• Customer-unique crypto algorithm.</li></ul>
<b>Power supply</b>	<ul style="list-style-type: none"><li>• Voltage (nominal): . . . . . 110/220/240 Vac</li><li>• Frequency: . . . . . 50/60 Hz</li><li>• Power consumption: . . . . . 15 W max</li></ul>
<b>Interfaces</b>	<ul style="list-style-type: none"><li>• Facsimile: . . . . . 2-wire half-duplex, 300 to 9600 bps, V21/V27ter/V29</li><li>• Line: . . . . . see "Facsimile"</li></ul>

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**Philips Crypto B.V.**  
P.O. Box 218  
5600MD EINDHOVEN  
The Netherlands  
Tel: +31 (0)40 72 26 00  
Telex: 35000 phtc nl  
Fax: +31 (0)40 72 36 58

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