

PDLX 6141

NATO RESTRICTED

# CRYPTO COMMUNICATIONS SYSTEM AROFLEX II



Philips Crypto



**PHILIPS**

PDLX 6141

# TEMPEST Crypto Communications System with AROFLEX-interoperable mode

Philips Crypto's AROFLEX secure teletype terminal has earned an outstanding reputation and continues to give reliable service with every one of NATO's sixteen nations.

Like the original AROFLEX, Philips Crypto's PDLX 6141 system employs the latest in cryptographic technology to provide high-grade protection coupled with extreme reliability. However, this versatile new system is much more than a secure teletype terminal.

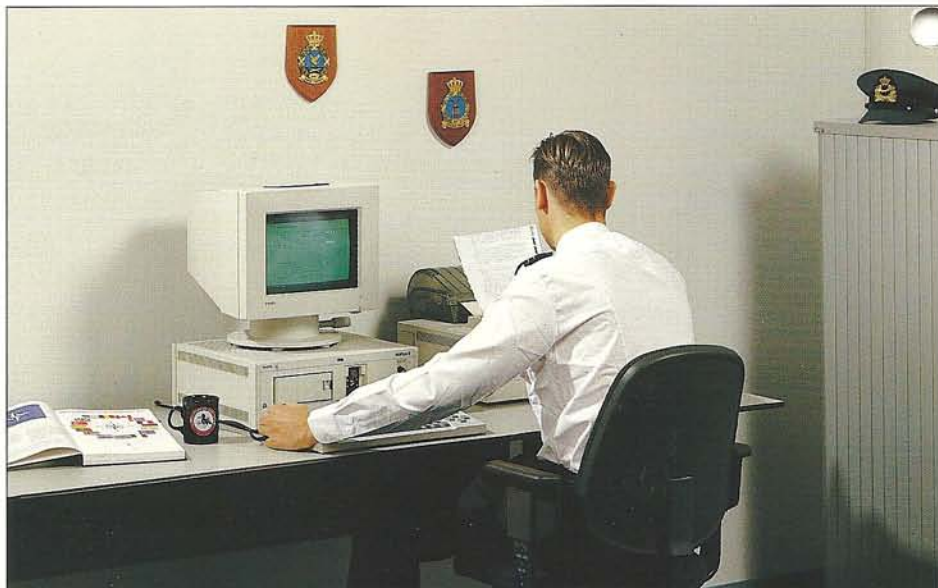
The PDLX 6141 is a multi-purpose secure communications system for use in radio links, telephone & telex systems and packet-switched data networks. Designed for use either on-line or off-line, it contains a host of state-of-the-art features including advanced key-management facilities, extensive self-test routines, built-in protection against unauthorised use, and a virus-proof word processor. Plus a second, separate crypto logic which makes it fully interoperable with its famous predecessor.

Philips Crypto's PDLX 6141 system therefore represents both a single, cost-effective solution to the problems of setting up new secure networks, and the ideal way to expand or upgrade existing AROFLEX networks progressively at minimum cost.

That's why we called it AROFLEX II.

As a TEMPEST-proof cryptographic terminal, AROFLEX II provides:

- On-line or off-line encryption and decryption (ITA No. 2 and IA No.5 character mode maximum 300 and 2400 baud respectively)



- Standard key-fill interface (DS102 and CSESD)
- 31 crypto net variables and 31 crypto reserve variables
- Automatic key selection
- Automatic and manual remote keying
- Local and remote update
- ZEROISE facility (erases all crypto variables and plain text)
- Crypto Ignition Key (CIK) to protect access to crypto functions
- Failsafe hardware and software design
- Anti-spoof facility
- Traffic flow security



*A high-grade Secure Communications System for use in military and public communication networks*

- Two separate crypto logics (native AROFLEX II and AROFLEX I interoperable)

As an advanced communications terminal, AROFLEX II provides:

- Simplex, Half-duplex and Full-duplex operation
- Automated, menu-driven transmission-handling:
  - communication reports
  - message chaining
  - sequence numbering
  - date/time labelling
- Formatting arrangements of 5-letter groups and ACP127 pages
- Connectable to TTY 15V/20mA, also 60V/40mA neutral current

(external supply) or packet switched data networks via PAD (X.28)

- Output to printer, diskette or paper tape puncher (optional), as plain or encrypted text
- User-friendly text editor for message-preparation and storage:
  - search function
  - tab function
  - text modules and short texts
  - forms processing
  - menu-driven text formatting (e.g. ACP127)
  - text storage in plain or encrypted mode
  - directory display, update and printout.



*Optional Papertape Puncher Reader*

## TECHNICAL DATA

### PERFORMANCE DATA

#### System control unit

- Program memory: 640 kB (locked)
- Main memory: 64 kB
- Message memory: 192 kB
- Diskette (for messages & forms): 3.5", 720 kB
- Crypto unit with two separate crypto logics

#### Keyboard

- 4-row typewriter keyboard (English assignment)
- 112 key positions (47 for functionkeys)
- 24 LEDs for status signalling
- Audible signal for operator errors
- Ergonomic design

#### VDU

- 12" monochrome screen
- Text black on white or vice versa
- 80 characters per line
- 27 lines
- Tilt & swivel mounting
- Brightness control

#### Printer

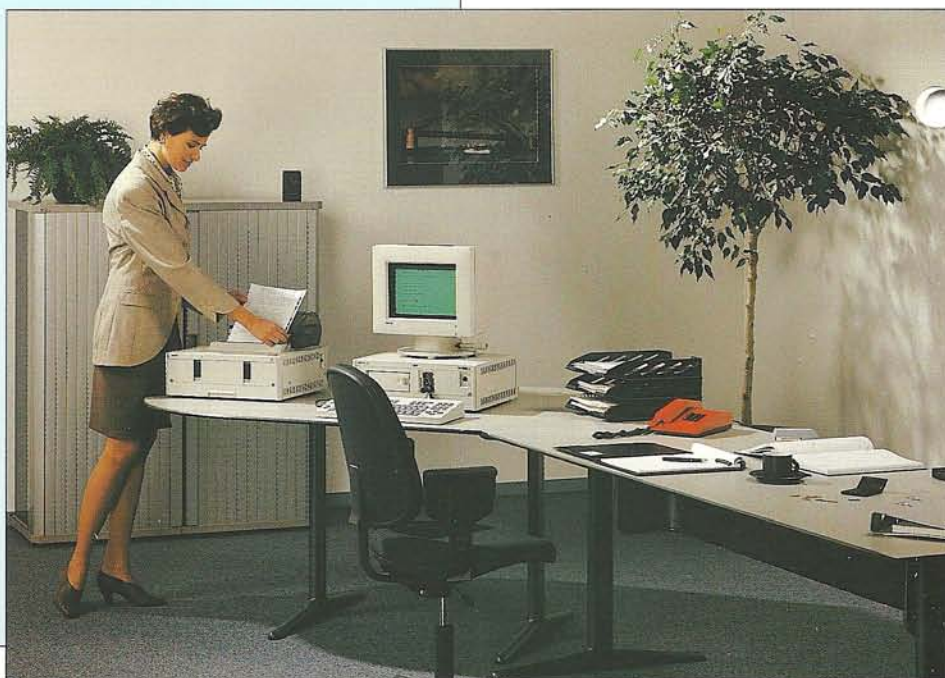
- 60 cps bidirectional
- Fibre-optics interface to system control unit
- Original + 2 copies
- Roll feed



*Access control by means of Crypto Ignition Key (CIK)*

#### Reliability

- MTBF per system unit: more than 10,000 hours
- BITE (Built-In Test Equipment) for error diagnostics



**COMMUNICATIONS DATA**Codes

- Asynchronous, start stop
- 5-unit code (ITA No. 2 and reduced ITA No. 2)
- 8-unit code (IA No. 5 and reduced IA No. 5)
- Automatic code-conversion

Transmission speed

- 50 to 2400 bit/s

Interfaces

- CCITT V.24/RS 232-C (level as per V.10/V.28) or MIL-STD 188-114 (asymmetrical)
- Operation on telephone lines via modem i.a.w. CCITT
- Connectable to packet-switched data networks via PAD (X.28)
- TTY 15V/20mA, also 60V/40mA neutral current (external supply)

**OPERATIONAL DATA**Power supply

- Protection: EN 60950; IEC 950
- Nominal line voltages 115V, 120V, 230V, 240V, 42 - 70 Hz or 400 Hz 24V DC nominal (19 - 32V)
- Automatic AC/DC switching without loss of data
- Message memory protected against power failure (72 hours minimum)
- Power consumption (operation)
  - system control unit:
    - AC: 60 VA approx.
    - DC: 50 W approx.

- printer: AC: 55 VA approx.  
DC: 45 W approx.
- tape punch/reader:
  - AC: 55 VA approx.
  - DC: 45 W approx.

Environmental conditions

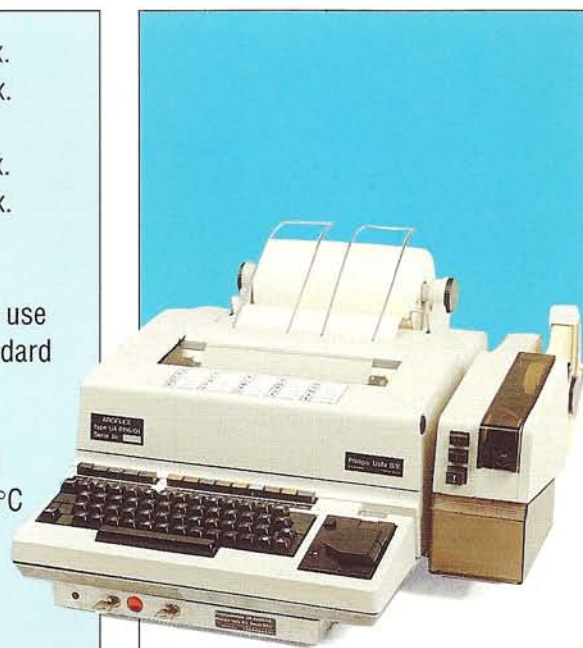
- Suitable for mobile military use
- Complies with military standard VG 95332
- Temperature ranges:
  - operation: 0°C to +40°C
  - storage: -40°C to +60°C
  - fireproof

Dimensions and weight

- System control unit:
  - 425 x 145 x 378 mm (w x h x d)
  - weight: 18 kg approx.
- VDU:
  - 348 x 365 x 340 mm (w x h x d)
  - weight: 13 kg approx.
- Keyboard:
  - 425 x 22/51 x 200 mm (w x h x d)
  - weight: 3 kg approx.
- Printer:
  - 425 x 145 x 378 mm (w x h x d)
  - (425 x 260 x 502 mm with paper cassette) weight: 21 kg approx.
- Tape punch/reader:
  - 361 x 145 x 378 mm (w x h x d)
  - (361 x 365 x 504 mm with paper tape) weight: 18 kg approx.

Emission security

- TEMPEST-proof i.a.w. AMSG720B (tape punch/reader i.a.w. AMSG788A)



*Full interoperability with its predecessor, the original AROFLEX*

© Philips Crypto B.V. 1993  
Data subject to change without notice  
All rights reserved

**Philips Crypto B.V.**  
P.O.Box 218  
Building BAH  
5600 MD Eindhoven  
The Netherlands  
Tel.: +31(0)40 - 722600  
Fax : +31(0)40 - 723658



**PHILIPS CRYPTO**

**PROTECTS**

**INFORMATION**

**IN TRANSIT**



**PHILIPS**