PHILIPS USFA BV

PRODUCT INFORMATION

UA 8295

SECURE COMMUNICATION

PHILIPS

The risk of data interception in governmental and business traffic

Society today is more reliant on international contact than ever before. Information exchange is multiplying daily, with more offices acquiring communications techniques/equipment. Yet much of this information, or data that is in transit, is susceptible to interception. Electronic eavesdropping is now all too common.

'Hackers' intruding into systems and retrieving 'confidential' information have often made headlines. But the computer and data transmission intrusion that results in fraud is rarely publicised, since victims are often too embarrassed to allow the public to know how easily their security systems have been penetrated.

These problems are not only restricted to computer data. They present a problem in commodities trading where takeover bids are being arranged, or in the stock market when a 'dawn raid' is being planned. In any of these cases, one single indiscretion, or the sight of a message meant to be kept confidential can have immense, costly and irreversible repercussions.

And so secure data transmission becomes essential for a variety of applications, including the security services.

In everyday business, can you be sure that communications from trusted staff members in one location reach their colleagues elsewhere without interception? Your answer has to be 'No', unless you are in a position – and can afford the time – to employ sealed-bag courier systems.

So how can you be sure that messages reach their recipients, unseen by intruders into public data systems?

Usfa has the answers
Philips Usfa, a high technology company with extensive experience in secure communications, offers the perfect solution – the UA 8295, a compact and versatile crypto system, specially developed to meet the stringent demands of users.

Confidential intelligence relating to stock and commodity markets worldwide is susceptible to interception and abuse.

The UA 8295: What is it?
In essence it is a system using a typewriter keyboard as the operator interface, or interfacing with other data sources like computers, floppy disk readers etc. It accepts text, figures etc. in plain language, and then, through a highly sophisticated algorithmic method renders the data into an encrypted form for transmission.

The data transmitted is completely transparent, or to put it another way, the message that is sent is complete nonsense to the intruder. And even if the intruder has the massive resources needed to attempt breaking the cryptogram (resources on a scale available to only a few nations), it would take an incredibly long time even to begin cracking the code. So, for all practical purposes, the encrypted message is completely secure.

How does it work?
In a word, automatically. The complex processes of encryption and decryption are controlled by advanced microprocessors, and the operator requires no specialist skills.

Configuration
Sending and receiving parties can communicate if both have similar Usfa encryption terminals, (either the UA 8295 or the smaller UA 8296). Secure one-to-one links, multi-terminal messaging or conferencing can also take place, provided that the public telephone system allows conferencing.

Information about high-value shipments, such as the transit of gold bullion, can be kept secure.

Communication system
The UA 8295 is generally used to send messages over public telephone and telegraph systems. In addition the units work equally well on private landlines, radio microwave links, or via satellite. Any medium currently carrying voice or data can accept and transmit the output from an Usfa terminal. And since transmission is high speed, the UA 8295 minimises telecommunication costs.

Description
The UA 8295 terminal is self-contained and extremely compact. It runs on rechargeable D-size batteries or on a mains supply with adaptor.

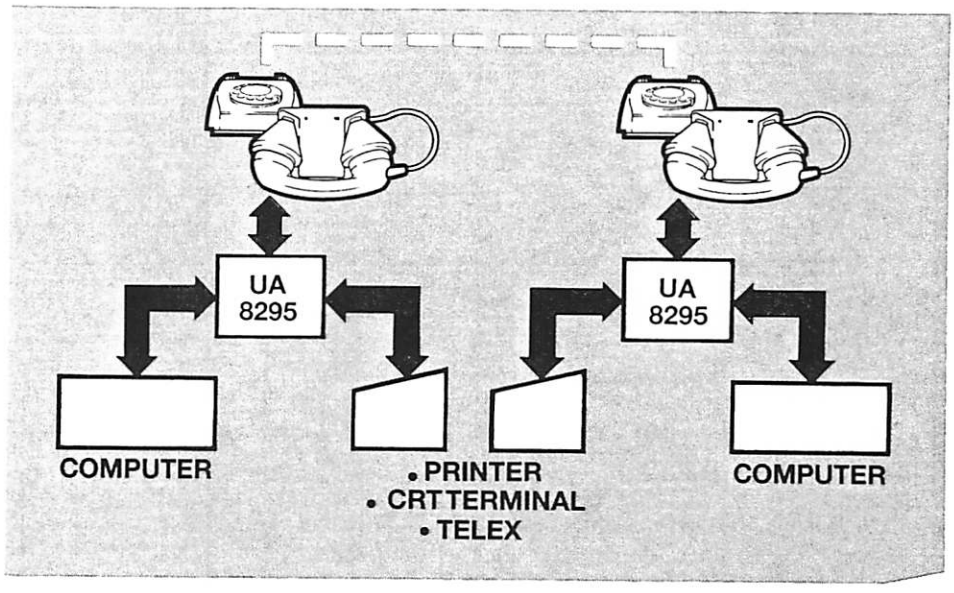
Keyboard and display
The 55 key keyboard is in the standard qwerty format, and the keys have a positive tactile action. The 32 character LED display, with brightness control, enables input review or access of information already in the memory.

Memories
The receive memory can hold 2000 characters in 8 separate messages, and the two transmit memories can hold 2000 and 250 characters respectively.

Exceptionally flexible interfacing
The UA 8295 interfaces directly with an acoustic coupler for transmission via an ordinary telephone handset. In addition, the terminal can interface directly with radio equipment, working at voice-grade speeds of 150 to 600 Baud. The built-in modem allows direct connections to HF, UHF or VHF radio.

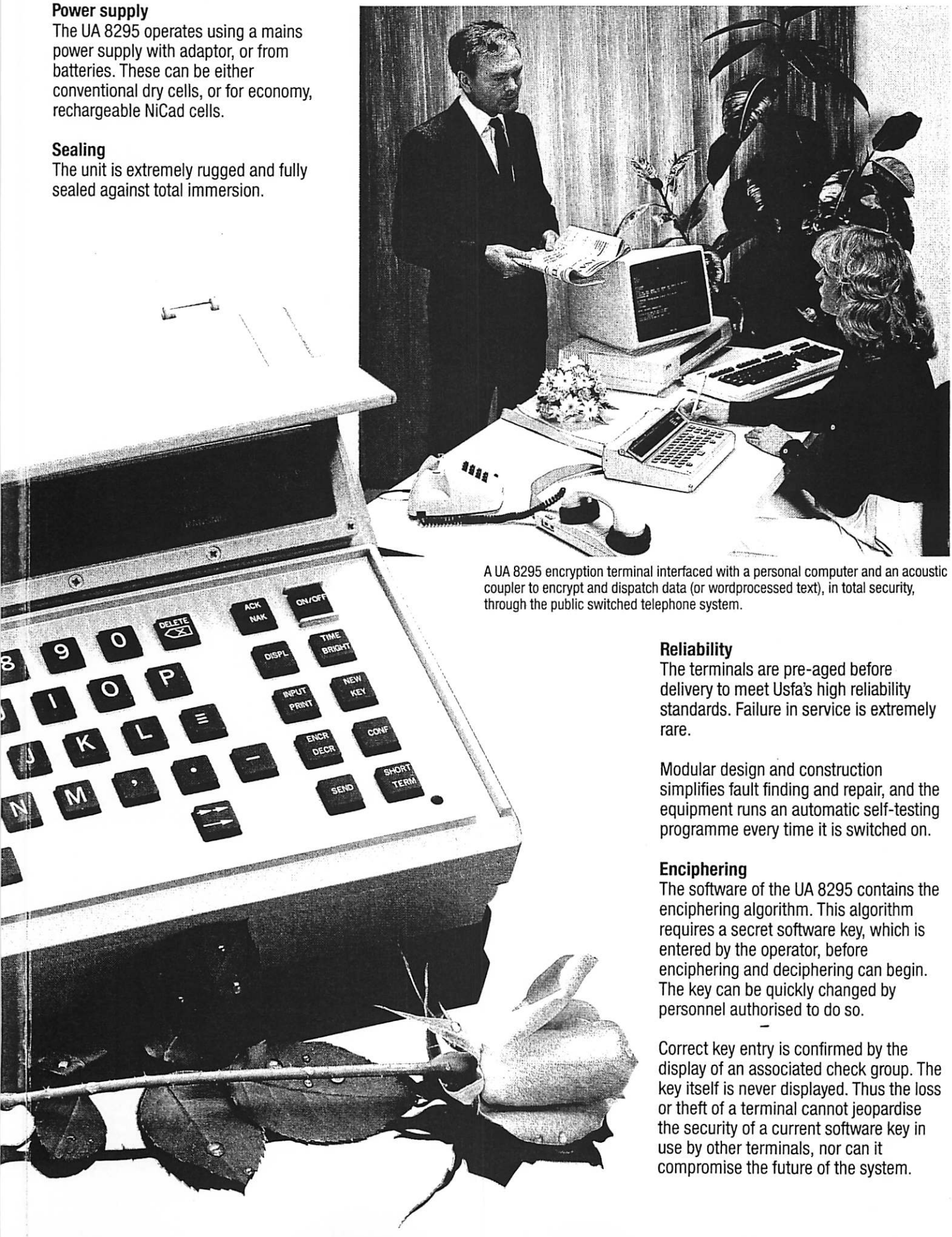
The terminal can also interface with home computers, personal computers and mainframes. An RS 422 interface communicating at between 110 and 1200 Baud enables the entry of data into computers.

For printing, an RS 232C interface connects with most types of printer, at speeds of between 50 and 1200 Baud.



Power supply
The UA 8295 operates using a mains power supply with adaptor, or from batteries. These can be either conventional dry cells, or for economy, rechargeable NiCad cells.

Sealing
The unit is extremely rugged and fully sealed against total immersion.



A UA 8295 encryption terminal interfaced with a personal computer and an acoustic coupler to encrypt and dispatch data (or wordprocessed text), in total security, through the public switched telephone system.

Reliability
The terminals are pre-aged before delivery to meet Usfa's high reliability standards. Failure in service is extremely rare.

Modular design and construction simplifies fault finding and repair, and the equipment runs an automatic self-testing programme every time it is switched on.

Enciphering
The software of the UA 8295 contains the enciphering algorithm. This algorithm requires a secret software key, which is entered by the operator, before enciphering and deciphering can begin. The key can be quickly changed by personnel authorised to do so.

Correct key entry is confirmed by the display of an associated check group. The key itself is never displayed. Thus the loss or theft of a terminal cannot jeopardise the security of a current software key in use by other terminals, nor can it compromise the future of the system.

Messages are typed in, as on an ordinary typewriter or wordprocessor keyboard, in plain language. These messages are then automatically encrypted to form meaningless 5-letter groups for transmission. Similarly, incoming encrypted messages are decrypted automatically before being displayed in plain language.

Formatting
Since so much data and business intelligence can be of a repetitive nature, the software permits fixed formats to be programmed. Thus a particular format may be accessed by keying in its identification. As each segment of the format is displayed, the operator can enter the variables (for example, nature of shipment, airline bill number, value and client details). The terminal automatically checks the message format.

Automatic acknowledgement
An automatic 'message received' acknowledgement can be displayed if required. This may be disabled at will.

Clock function
An integral real-time clock acts as an additional security feature, by detailing transmission or reception times.

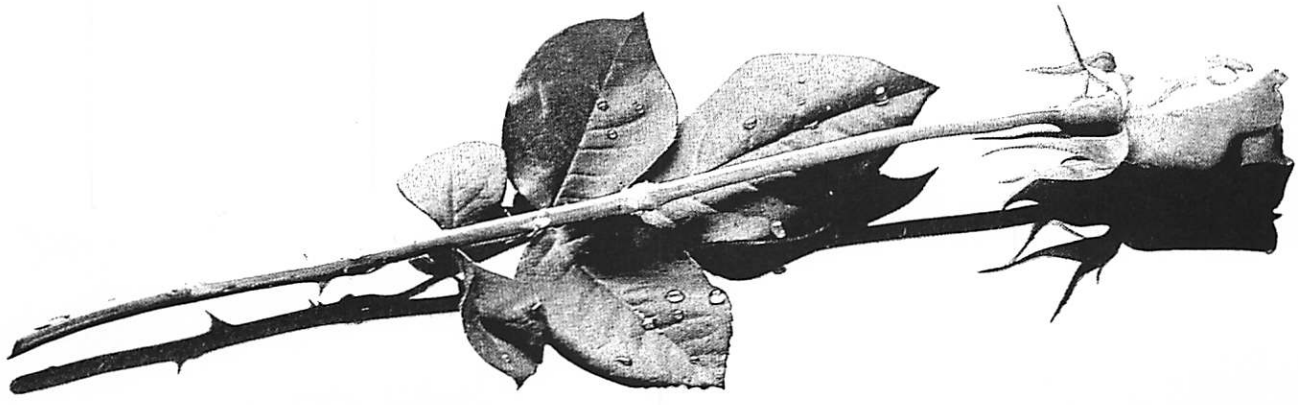
UA 8296 Portable mini-terminal
An even smaller and lighter version of the terminal, the UA 8296, is also available. It enables a travelling executive or negotiator to send and receive secure messages, even when using the 'hostile' party's telephone equipment. With the UA 8296 a secure communications link can be set up instantly from any telephone in the world.

The UA 8295 can encrypt many forms of data normally sent by telephone. Here a document facsimile machine is sending a fax transmission, via UA 8295 terminals and acoustic couplers, through the public switched telephone system, in total security.

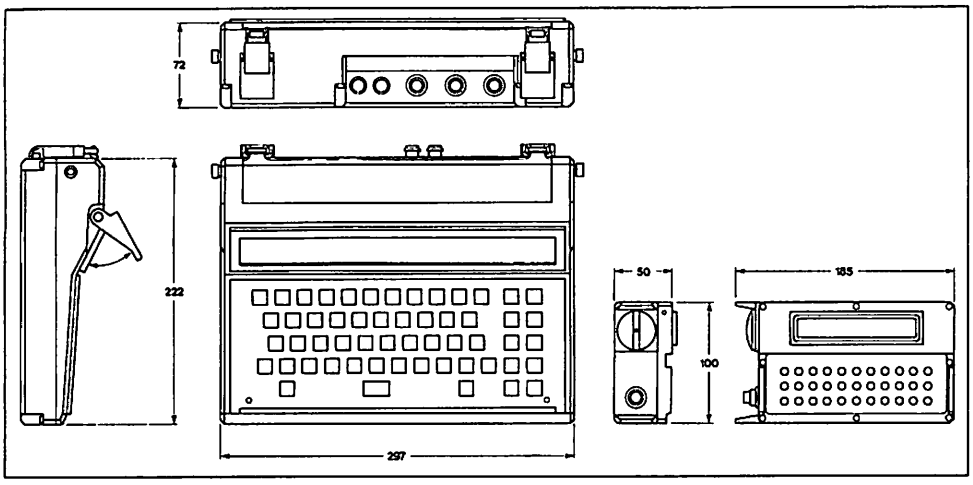
The UA 8296 has a condensed keyboard with only 33 keys, and a 16 character LED display. It has the same memory capacity as the UA 8295, but cannot interface with printers and computers.

The UA 8296 uses either a mains supply with adaptor, or six small (AA-size) cells. To conserve battery power, the unit turns itself off automatically, 30 seconds after the last key stroke. On pressing any key, the unit turns on again.

This terminal is as rugged and as waterproof as the larger unit.



Technical data



UA 8295 Desktop terminal

Display	:	32 characters LED	
Keyboard	:	55 key, silicone rubber	
Memory capacity	:	Transmit	i) 2000 characters ii) 250 characters
		Receive	2000 characters, total 8 messages
Interfaces	:	Communication equipment	Voice-grade 150 and 600 Bd
		Printer	RS 232C, 50-1200 Bd
		Computer	RS 422, 110-1200 Bd
Power source	:	Four D-size cells, normal operating life	24 h
		Mains supply with adaptor	10 to 30 V dc
Dimensions	:	297x222x72 mm	
Weight excluding batteries	:	3 kg	

UA 8296 Portable terminal

Display	:	16 characters LED	
Keyboard	:	33 key, silicone rubber	
Memory capacity	:	Transmit	2000 characters
		Receive	2000 characters, total 8 messages
Interfaces	:	Communication equipment	Voice-grade 150 and 600 Bd
Power source	:	Six AA-size cells, normal operating life	20 h
		Mains supply with adaptor	10 to 30 V dc
Dimensions	:	185x100x50 mm	
Weight excluding batteries	:	1 kg	

The UA 8295 and UA 8296 terminals are tested to extremely high standards for resistance to vibration, shock, ingress of liquid and change in environmental conditions.

Company profile

Philips Usfa B.V. has more than 35 years experience in the development and manufacture of electronic and electro-optical military equipment. It has direct access to the high level expertise and advanced technology of the entire Philips Concern, including the facilities of the Philips Research laboratories.

Recent technological developments include advanced thermal imaging devices and special high-energy, long storage batteries.

Comprehensive facilities, together with experience and craftsmanship, provide an ideal environment for modern, project-oriented development, manufacture, repair and maintenance operations. Current projects include contributions to large military programmes as fully qualified subcontractor.

Philips Usfa B.V. meets NATO AQAP-1 quality control system requirements for industry, as laid down in STANAG-4108, which is generally recognised as one of today's most stringent quality-assurance programmes for military equipment.

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