INSIDE: Photo of the Incredible Two-headed BTL Researcher

Singing Wires
The Journal of Telephone Collectors International

TELEPHONE COLLECTORS INTERNATIONAL, INC.
A HISTORICAL SOCIETY

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THE REBIRTH OF AN OAK MANHATTAN 3-BOX BLAKE MAGNETO PHONE

by Walt Aydelotte

Several years ago I acquired the carcass of a great old 3-box wall phone that I just could not pass up at the time. My thoughts were: This would make a nice project for sometime when I have more time to spend. Thus, it became one of several unfinished phones squirreled away for later resurrection. This past year it was finally time to dig it out and figure out how to bring it back to life.


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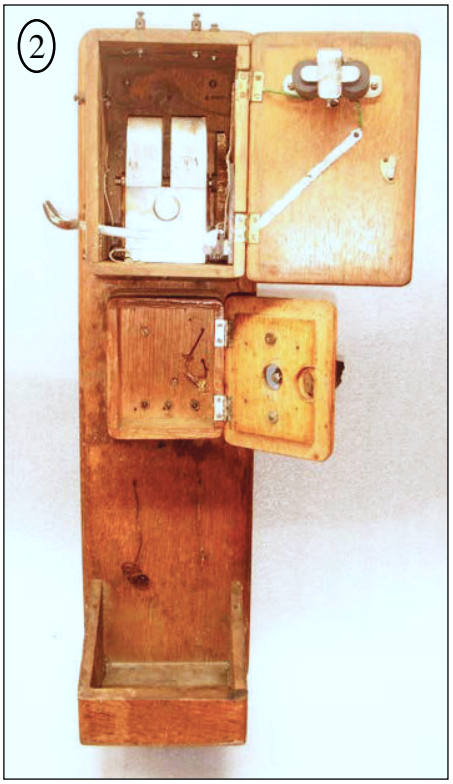

2

I quickly determined that it (Figs. 1 & 2) was, in fact, a phone manufactured by Manhattan Electric Supply Co (MESCO). This was determined based on the silver painted magneto and ringer and the number "10" stamped on the lower front edge of the top box, when viewed with the door open. The Whitman & Couch transmitter just "didn't look right" (Fig. 3), so I removed it and discovered that this phone originally had a Blake type transmitter, as evidenced by the tapered round "speaking hole" that was present underneath the current W&C transmitter, and the extra holes visible on the inside of the door. I quickly determined to convert it back to its original Blake configuration and to "save" the original Blake transmitter door, yet hide the extra holes that had been drilled in order to attach the W&C transmitter unit. While one can use tapered horizontal grain wood plugs cut on a lathe to plug holes in an exposed face, the chances of matching the original quarter sawn oak rays (stripes) in the wood are slim to none. When faced with this issue, I have usually determined it is better to retain the original wood, while installing a veneer of quarter sawn white oak on the face of the door, while retaining the original Blake speaking hole. To me, this is not misrepresenting anything; it is restoring the phone to the way it was originally. When done properly, the use


3

Continued on page 10.

In This Issue

THE PRESIDENT'S COLUMN

From a Recent News Item

by Paul Wills, TCI President

In response to an appalling lack of knowledge of the history of telecommunications technology demonstrated by US children, Senator I. M. Phogbound (I) of southern North Dakota has introduced a bill that would require the Department of Education to develop a program to insure that students acquire a consistent, clear understanding of the history of telecommunications technology in the US. "Today's children take everything for granted," said the Senator. "They do not realize how much blood, sweat, and tears went into developing the communications infrastructure that exists today. We want students to know that the time before smartphones was not full of ignorance and superstition. Some of those people were pretty darned smart."

The program called "Common Bellcore" would define a set of grade specific requirements for what is taught about historic telecommunications technology. These requirements would include elements of both technological and social history with an emphasis on practical application. A summary of the proposed requirements follows:

1) Elementary School – Who invented the telephone, the meaning of the various call progress tones, describe the role of a switchboard operator, how to use a magneto telephone, how to use a dial, and how to use a payphone.

2) Middle School – Explain who Almon Strowger was and what he did to change the telephone industry. Describe party lines and their proper use. Explain why one was not allowed to never, ever, ever, connect "non-Bell" equipment to a Bell System line (and how to get around it without being caught.) Extra credit will be given to who knows who had the first dial tone.

3) High School – Explain who Theodore Vail was and what he did for the American telecommunications infrastructure. Explain the different types of telephone switching (e.g. SxS, Panel, Crossbar, ESS). Explain carrier systems (analog and digital), signaling schemes, and how to use a Captain Crunch whistle and Blue Box to (ahem) explore the telephone network.

A panel of educational and telecommunications experts have already been identified and will serve on a special committee that will report to Secretary of Education, Arne Duncan. Because of his extensive experience as an educator and his knowledge of telephone history, Gary Goff will chair the committee.

When asked about his current position as Membership Chairman of Telephone Collectors International, Mr. Goff reported that Mr. Duncan, realizing the vital function that TCI performs for the country, has already created a department of twenty paid staff to take over Mr. Goff's duties. Mr. Goff had concerns about the size of the department but was assured that additional staff would be added if the workload got too large.

When asked about the program, Paul Wills, President of TCI, replied that, "We homeschool so it will have little effect

on my family. Besides, all my children could use a rotary phone since they were three."

Implementation of the program has already started on April 1, 2014.

Of course, TCI Board of Directors intends to lend its full support to this important program. ☎

PHONE OF THE MONTH: GTE MICRO-FONE

by Jan Verhelst, Belgium

At the end of the 1970s VISA was automating their credit card verification process to avoid fraud.

They came in touch with GTE, who wanted to offer VISA a phone with a built-in credit card reader. GTE subcontracted

the whole project to their subsidiary GTE ATEA in Belgium. In a few months a phone was designed (Fig. 1) from scratch, with

- a built in credit card reader,
- a 300 baud modem, and
- a Motorola 6802 processor.

The whole software program was contained in 4 KB ROM! So credit card verification could be done over a telephone line (Fig. 2), without the necessity of a person at the other side.

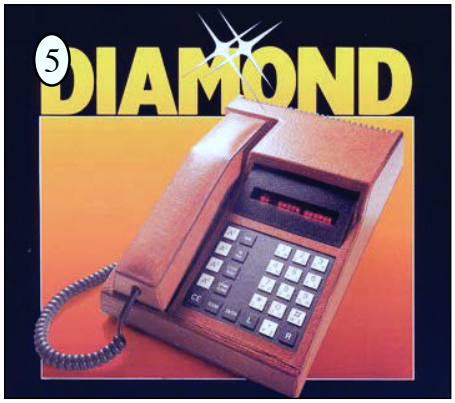
Motivation for GTE was to "generate" traffic for their brand new X.25 packet switching network.

And what was unusual in those days: phone numbers could be stored in the phone's memory! It featured a separate REDIAL memory (not the more familiar last number redial memory) and four one-button PRIORITY calling numbers (Fig. 3).

Alphanumeric and numeric input could be given in a rather unusual way using the internal magnetic stripe reader.

Optional PIN-pad, printer (Fig. 4) and light pen reader were used in point of sale, electronic verification and electronic funds transfer applications, among others.

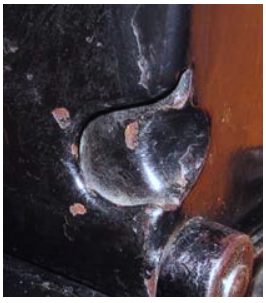
The first systems were marketed in the US under the name GTE MICRO-FONE. GTE was the only supplier in the US for up to 2 years. Derived versions of this phone were delivered worldwide under different names such as DATEA2000, DIAMOND,



DATEAPLUS, Cliniphone, etc. Some of them were feature phones.

The DIAMOND was marketed to executives. It included a clock with appointment reminder and stopwatch, and came in either ivory plastic or leather (Fig. 5).

A transparent version was made for demonstrations (Fig. 6). Marketing literature and more photos are in the Bonus Pages. ☎



COMING IN MAY

Here is a sneak peak at a unique part of the Phone of the Month selection for May, 2014. Some of you will no doubt recognize the part, but we suspect that the majority will not. If you have a unique telephone, please send us a photo or two and we will be in touch with you right away. Everyone enjoys surprises from time to time and readers would like to see phones from your collection.

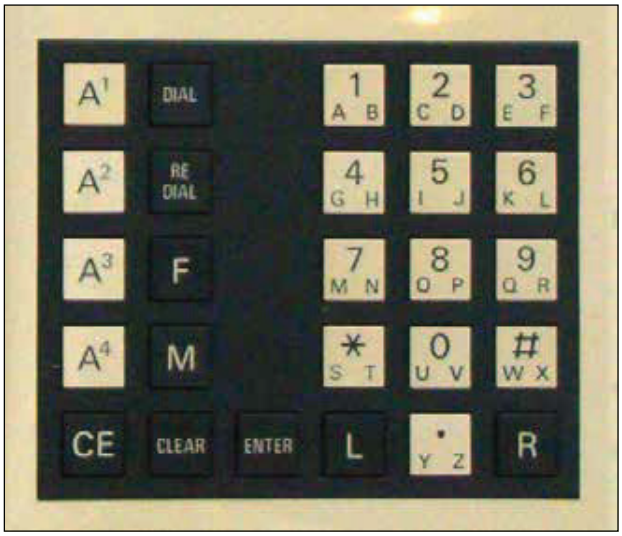
APRIL PHONE OF THE MONTH: GTE MICRO-FONE

by Jan Verhelst, Belgium

The credit card information was read using the magnetic stripe reader, but alphanumeric and numeric input was given by the keyboard. Any key on the keyboard had two letters assigned, i.e. (see figure 3) the "1" key has an A and a B. If you needed the "A", you had to press the L key at the bottom, followed by the 1 key. If you needed the B, you had to press the R key; followed by the 1 key.

Here are a few more photos, plus marketing literature including:

- Three one page ads highlighting the phone and extra features,
- A two page ad showing the pin pad and printer,
- A six page DATEA 2000 brochure, and
- A four page Diamond brochure.



500 electronic specialists identified by the DATEA 2000

At a technological exhibition held in Leuven, Belgium the admission of all the participants were electronically monitored in the space of just a few seconds. That this operation went off without a hitch was due to the DATEA 2000, GTE ATEA's latest data terminal which also functions as an multi-feature telephone instrument. The many electronic specialists present at the exhibition were able to see at first hand the various possibilities offered by this versatile and ingenious instrument.

Furthermore, they all agreed about one thing: anyone can learn how to work with the DATEA 2000 within a few minutes a plus feature not to be under estimated. In the near future the DATEA 2000 will be the reliable tool of every retail shopkeeper, providing a check on bank and credit cards electronically as tendered by the customers. Payment is made via a link-up with the data networks in operation at banks and credit institutions.

The data input is via a magnetic card reader at the rear of the terminal. With the pressing of a key, all the necessary information is flashed up on the screen in alphanumeric format. No more fraudulent transactions! It's no wonder that even experienced electronic specialists sat back with surprise.

Over the last 90 years, GTE ATEA's position as leader in the field of advanced telecommunications technology research and development has been unchallenged. A whole series of telecommunications products are available, ranging from ordinary telephone sets to computerized telephone exchange systems.

DATEA 2000, CREDIT VERIFICATION IN A FEW SECONDS

GTE ATEA

YOUR DATEA 2000 WITH A BAR CODE READER

A BAR CODE READER WITH TELEPHONE CAPABILITIES

The DATEA 2000 is a micro-processor driven terminal. The built-in modem, card reader, display and standard interface makes the DATEA 2000 the heart for different applications. You can connect a barcode reader, but don't forget you have on top of this an intelligent telephone, capable of dialling automatically your preprogrammed telephone numbers.

A WIDE RANGE OF DIFFERENT BAR CODE APPLICATIONS

The automatic host calling procedure and the modem opens in combination with the bar code reader different facilities: fast ordering, central stock control, requiring inventory details, asking price information. You are not limited to one data bank, while using the bar code reader prevents human of data entry.

HOW?

Select on the DATEA 2000 the data bank, you want to inform. Indicate the covert articles or numbers with the bar code reader. And wait for the right host answer, which will appear a few seconds later on the display, or even on a printer.

A DATEA 2000 INTERFACING WITH A BAR CODE READER, A COMBINATION WHICH SAVES TIME AND EFFORTS

INDUSTRIEPARK KLEIN GENT / B-2410 HERENTALS / BELGIUM / TEL: 014-214927

GTE ATEA

BRINGS PEOPLE TOGETHER

YOUR DATEA 2000 WITH CASH REGISTER FACILITIES

ENHANCE YOUR CASH REGISTER WITH TELEPHONE CAPABILITIES

The DATEA 2000 is an intelligent telephone and multifunctional terminal. As a telephone the DATEA will dial your preprogrammed telephone numbers. As a terminal, its card reader, its display and its interface opens a number of applications. So, why not connecting the DATEA to your CASH REGISTER?

YOUR CASH ELECTRONICALLY REGISTERED

Easy, efficient and highly secure. That's the way how money of the customer can be transferred to your personal bank amount. You have all the advantages of Electronic Funds Transfer by interfacing a DATEA 2000. No more problems with stolen cards, no management of cheques and eliminated risks of stolen cash out of the till.

HOW?

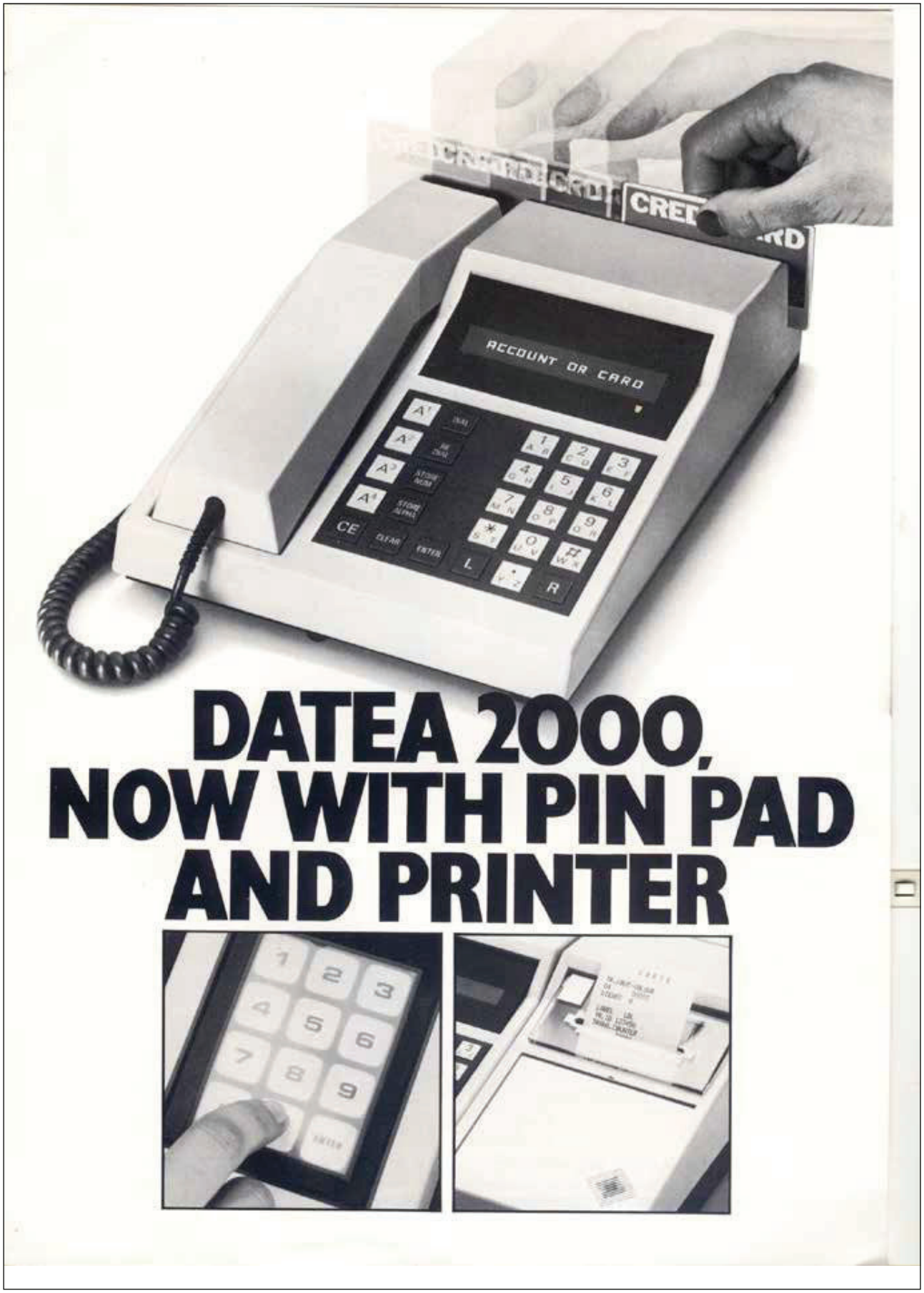
Select the bank of the customer on the DATEA 2000 and wipe his card through the reader. The cash register automatically adds the total amount of the bill. The customer affirms by entering his personal identification numberon the pinpad and this electronic signature puts a few seconds later the money on your account.

THE INTEGRATION OF DATEA 2000, WITH PINPAD AND CASH REGISTER OFFERS YOU A COMPLETE P.O.S. PAYMENT SYSTEM

INDUSTRIEPARK KLEIN GENT / B-2410 HERENTALS / BELGIUM / TEL: 014-214927

GTE ATEA

BRINGS PEOPLE TOGETHER


ACCOUNT OR CARD
CE
CLEAR
ENTER
L
R
DATEA 2000,
NOW WITH PIN PAD
AND PRINTER

DATEA 2000, the data-telephone terminal with limitless possibilities

The standard design of the microprocessor-controlled DATEA 2000 features a magnetic stripe reader, an alphanumerical display and a memory. It can be linked directly up to data banks to control the credit worthiness of bank- and credit cards. And the future of the DATEA 2000 is even more promising: stock control, flex-time applications are just two examples of the vast number of its practical applications. And what is more the DATEA 2000 can now be equipped with a PIN-Pad and Printer.

The PIN-Pad opens up new future perspectives

With the PIN-Pad (Personal Identification Number) the existing applications of the DATEA 2000 are ever increasing: bank terminal, EFT (Electronic Funds Transfer), home banking, etc.

Anybody can key their secret number into the PIN-Pad. In this way purchases can be securely and directly debited or credited in a matter of seconds. No simpler or surer method of transaction exists.

The printer: electronic payment with classical proof of payment

It is now possible to print out a classical proof of payment even when payment itself is made by ultra-rapid, secure electronic methods. The Printer gives you a black-on-white proof of your electronic payment for each and every transaction you make.

GTE ATEA

SURE OF YOUR BUSINESS IN A MATTER OF SECONDS

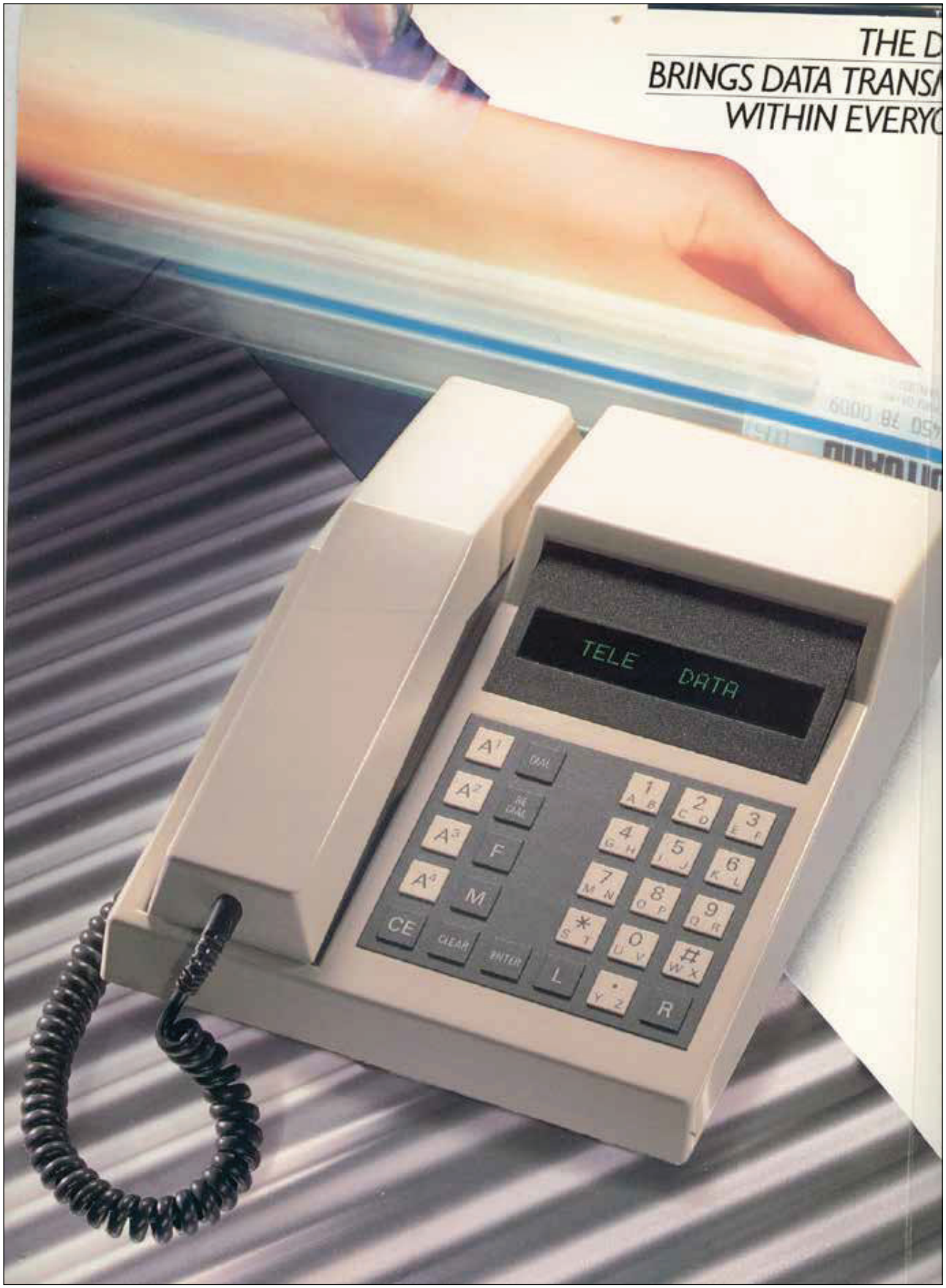
INDUSTRIEPARK KLEIN GENT / B-2410 HERENTALS / BELGIUM / TEL: 014-214927 / TELEX 33695 ATEAGT-B

GTE ATEA

THE DATEA 2000

THE DATEA 2000
A SURE DEAL
IN SECONDS

THE DATEA 2000, A GTE ATEA QUALITY PRODUCT


THE D
BRINGS DATA TRANS
WITHIN EVERY
TELE DATA
DIAL
F
M
CE
CLEAR
ENTER
L
R

DATEA 2000
SMISSION
YONE'S REACH

A HIGHLY VERSATILE COMMUNICATION DEVICE

The DATEA 2000 is a data-terminal telephone developed by GTE ATEA. This microprocessor-controlled unit handles voice

signals as well as computer data. Data is sent over normal telephone lines or via the data network. Thanks to its magnetic card reader, the DATEA 2000 can also be used for Electronic Funds Transfer (EFT) or electronic verification of credit cards or other cards with magnetic coding.

THE COMPACT DATEA 2000 IS A HANDY INTERACTIVE TERMINAL

The DATEA 2000 is equipped with 26 pushbuttons for dialing, entering data and programming. It has a programmable memory, a 16-character display, a built-in modem (half-duplex at 300 bps), a magnetic card reader and a buffer memory for data transmission and reception. In short, the DATEA 2000 is designed to carry out a wide range of functions.

The DATEA 2000 can interact with "intelligent" machines, thus enabling it to consult one or more data banks automatically and obtain data in a matter of seconds, for display on the alphanumeric display. This capability gives the DATEA 2000 innumerable applications: it can be used for stock control, obtaining share prices, consulting data files, and many more uses besides. The DATEA 2000 is the ideal communications aid for salesmen, branch managers, insurance agents, pharmacists, etc.

The DATEA 2000 sends data entered on it straight to the central computer of your choice. In shops, for instance, the DATEA 2000 can be used at the end of the day to send the sales figures to a central computer.

The DATEA 2000 naturally saves you a whole lot of time. But that's not all. Direct automatic connection cuts out a large number of possible errors, and puts up-to-date information constantly at your disposal.

THE DATEA 2000 IS VERY USER-FRIENDLY

The DATEA 2000 is so simple to operate that anyone can learn to use it in just a few minutes. All preparatory operations are performed off-line. At each stage, the DATEA 2000 display asks for all the information required for keying the transaction. The alphanumeric readout enables you to check that all data has been correctly entered. The connection with the host computer is not made until the DIAL button is pressed, and the whole transaction then takes only a few seconds.

This method of data transmission is therefore very economical.

BUILT-IN MAGNETIC CARD READER

The DATEA 2000 is equipped with a magnetic card reader for electronic card verification. Magnetically-coded cards such as credit cards or bank cards are read automatically by sliding them through a slot in the machine.

Electronic verification is especially useful for preventing fraudulent use of cards in cashless methods of payment. But of course, other verification applications such as access control are also perfectly possible. Then there are registration applications, such as recording the number of meal entitlements used up in student restaurants or truck stops, registering patients in hospitals, and so on.

LARGE NUMBER OF PERIPHERAL EQUIPMENT APPLICATIONS

The DATEA 2000 can be used in combination with a wide range of peripheral devices, thus greatly extending the number of potential uses. You can connect it to your home computer, an electronic cash register, a printer, a light pen, a

PIN-pad and many more devices. To give just a few examples:

Home computer

Connecting your DATEA 2000 to your home computer or an ASC II terminal puts a real bank terminal at your disposal. This enables you to carry out a whole range of transactions at home, such as transfers, savings operations, or simply checking how much is in your account. What's more, your «home bank» is open 24 hours a day, 7 days a week. With the DATEA 2000, you can settle your financial affairs in the comfort of your own home, whenever it suits you!

PIN pad

When combined with a Personal Identification Number-pad, the DATEA 2000 is the most conven-

TRANSM

ient method of EFT (Electronic Funds Transfer). Using the PIN-pad, you enter your secret "personal identification number" into the DATEA 2000, enabling you to credit your account directly, or debit it for making purchases. There's no faster or safer system of managing your financial affairs!

Printer

With the addition of a printer, you can obtain conventional, written confirmation of all transactions carried out electronically. And of course there are many other possible uses for the printer.

Light pen reader

This simple device makes it easy to take orders and send them on. The light pen reads the bar code for any product in a jiffy. To order the product, all you have to do then is enter the quantity you want on the keypad. When you give the signal, the DATEA 2000 automatically sends the order to your supplier's central computer. The DATEA 2000 automatic connection and electrical coupling exclude all possibility of a transmission fault. And if you yourself make a mistake and enter incorrect data, the DATEA 2000 automatically asks for confirmation.

THE DATEA 2000 IS ALSO A SUPER-HANDY TELEPHONE

The DATEA 2000 is more than just an ordinary telephone.

As well as all the normal telephone facilities, it can store up to 40 names and telephone numbers in its memory. These numbers can then be dialed automatically by entering a short code, even for dialing long, international numbers. At the same time, the name of the person you are calling appears on the display. Pushing a special button automatically redials the last number you called.

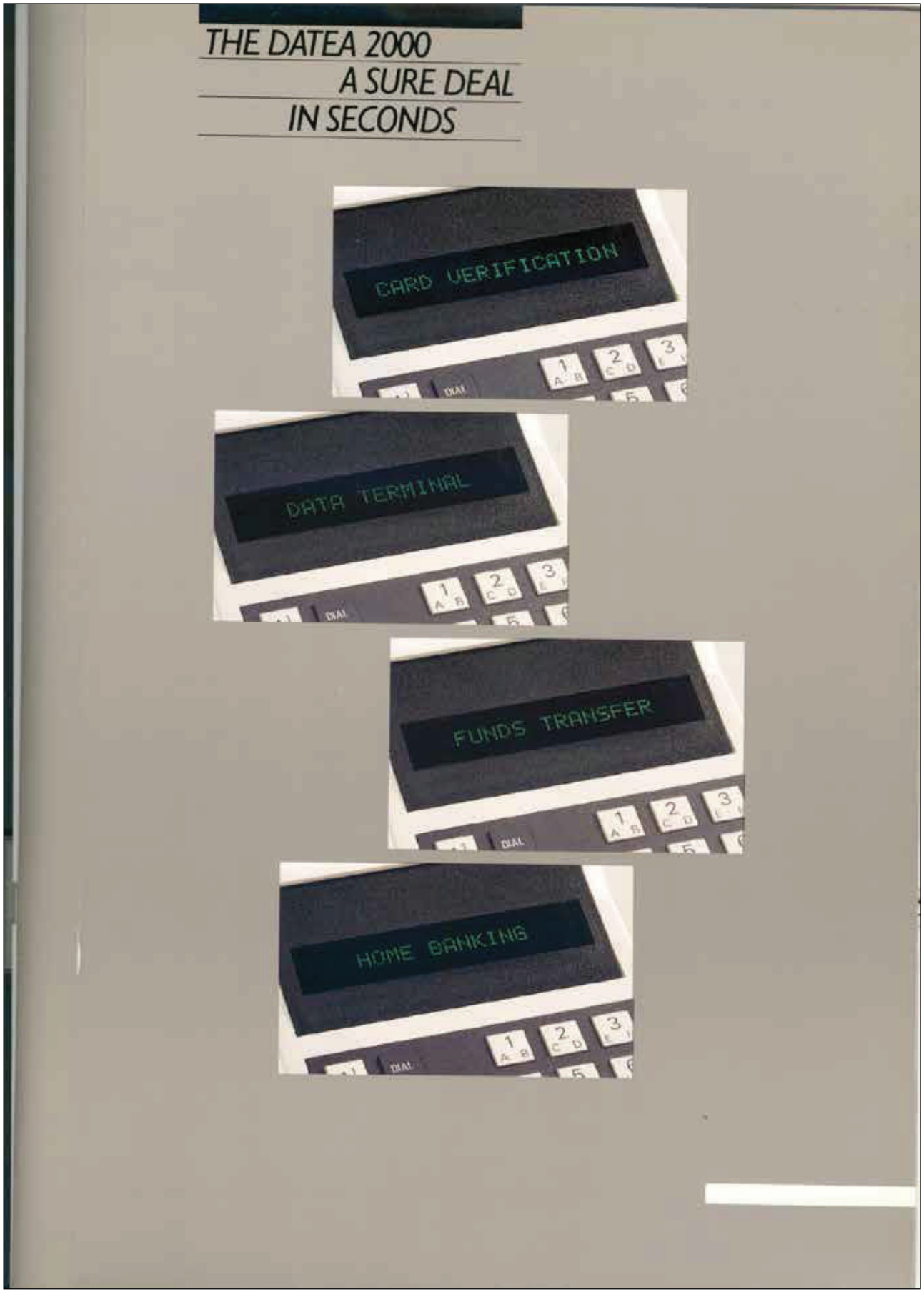
KEEP UP WITH THE TIMES

The chances are that a DATEA 2000 is a good investment for you, one that will soon pay for itself. And the home-banking, EFT, card verification and data transmission facilities possible with the DATEA 2000 offer a host of advantages for non-professional as well as professional users.

Why deny your business the benefit of all these practical advantages?

VOICE AND DATA
MISSION VIA A SINGLE
HANDY TELEPHONE SET

THE DATEA 2000 A SURE DEAL IN SECONDS



TECHNICAL INFORMATION

Keyboard
- 26-key keyboard. Function keys separated from data entry keys.
- All keys full-sized with tactile feedback.
- Keys are used for dialing, data entry and programming.

Display
- Single line, 16 characters, 5 x 7 dot matrix VF.
- Alphabetic and numeric character set (64).
- Alpha (word) labels for all automatically dialed numbers.
- Step by step prompts in plain English (or any other language).

Communications
- Up to 300 bps asynchronous, half duplex.
- Telephone network interface by standard telephone jack.
- Operates over the public telephone network or over packet switched data networks.
- Integrated modem (compatible with CCITT-V21).

Interface
- V24 (RS 232-C).
- 300 or 1200 baud.

Memory
- Control program stored in Read-Only Memory (EPROM).
- Storage of up to 40 telephone numbers with associated word labels for automatic dialing.
- Last number Redial: stores last number dialed.
- Storage of all identification numbers to identify the terminal and the user to the host computer.

Magnetic stripe reader
- Reads magnetically encoded data from ABA Track 2. Cards are manually wiped through the reader.

Dimensions
- Compact (190 mm x 83 mm x 273 mm) telephone terminal with keyboard, 16-character display and card reader.

GTE ATEA INDUSTRIEPARK KLEIN GENT / B-2480 HERENTALS / BELGIUM / TEL: 014-21 49 27 / TELEX 33695 ATEAGT-B

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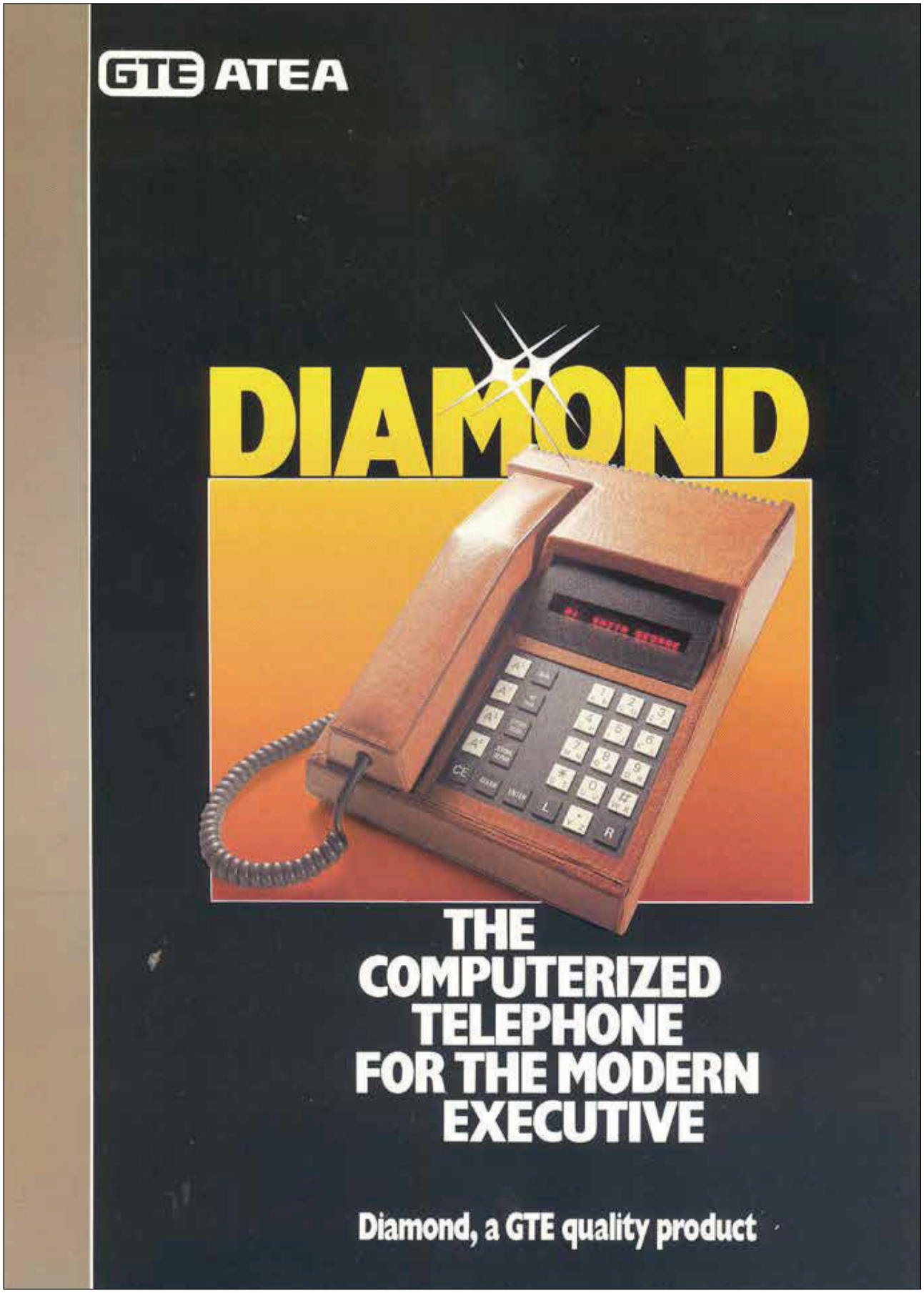
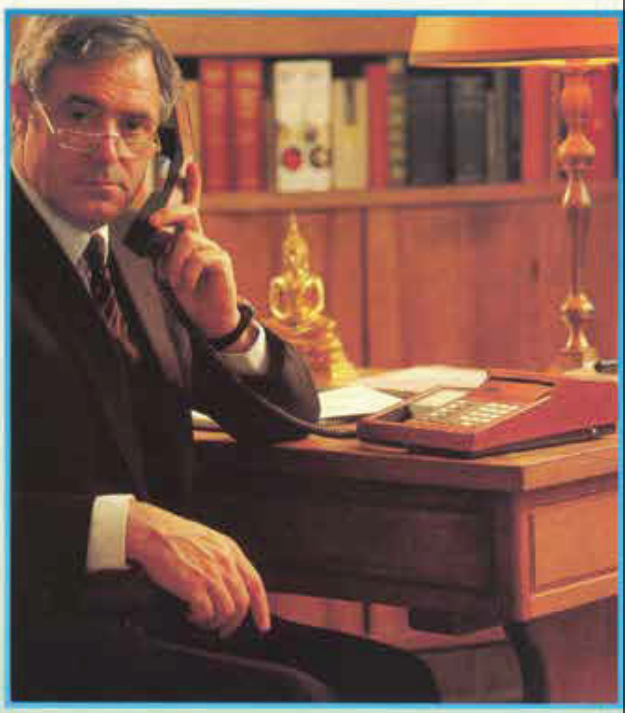

GTE ATEA
DIAMOND
THE COMPUTERIZED TELEPHONE FOR THE MODERN EXECUTIVE
Diamond, a GTE quality product



There is no denying that busy executives lose a good deal of time in putting through telephone calls.

First looking up the number, then dialling it, waiting. The line is engaged. Try again — wrong number! Third attempt... How many valuable minutes has this cost you or your secretary?

To reduce precious minutes to seconds, GTE ATEA has designed the DIAMOND.

A real gem of modern electronics. A computerized telephone so versatile that each passing moment you will discover new uses for it.

The DIAMOND from GTE ATEA.

Your personal directory

The DIAMOND's memory can store up to 25 names with their corresponding telephone number, whether local or international; for example: your subsidiaries at home and abroad, your main clients and suppliers, your friends, your doctor, your garage...

Names and numbers are simply entered into the memory by using the alphanumeric keypad. They can of course be altered or replaced as desired.

Tokyo as easy to reach as Antwerp

The touch of one key lights up on the display screen the name of the party you wish to call. All you have to do now is press DIAL and the desired number is dialled automatically. No need to lift the receiver until you hear a double beep which means that your number is completely outpulsed.

No more wrong numbers

The advantage of the DIAMOND is that both the name and the number appear on the screen. Don't worry if you have forgotten the code for a particular name. By simply pressing ENTER you can rapidly run through your "personal directory".

In swift succession each of the names of your list will come up on the screen. So, no more wrong numbers.

Line engaged? The DIAMOND will hold the call

If the number your are calling is engaged you don't have to waste your

time trying it again and again. Just enter it into the DIAMOND's memory and when you later press REDIAL your call will automatically be put through, even if you have made other calls in the meantime.

This system can also be used at home, when a temporary number must frequently be called (your holiday address for instance), or to register the number where the baby-sitter can reach you.

Important numbers at the touch of a single key

Four keys can be programmed with priority numbers, numbers you call frequently or need to have at your finger tips: home, parents, the big boss at head office, the police, the fire brigade, your doctor... the choice is yours. These numbers can, of course, be changed any time.

Built-in clock with date, time... and appointments

When the telephone is not in use, the date and time in hours, minutes seconds are displayed on the screen.

You can also programme your DIAMOND to beep at a pre-set time to remind you of a conference or appointment, or to put through that all-important call to head office at 4.30 a.m. precisely.

Built-in stopwatch

Nothing could be easier: as soon as your party answers you press ENTER and the clock becomes a stopwatch and automatically times the duration of your conversation in hours, minutes and seconds.

This enables you to record accurately the amount of time you have spent with a client and to charge him accordingly.

It is also an excellent way of keeping an eye on telephone bills!

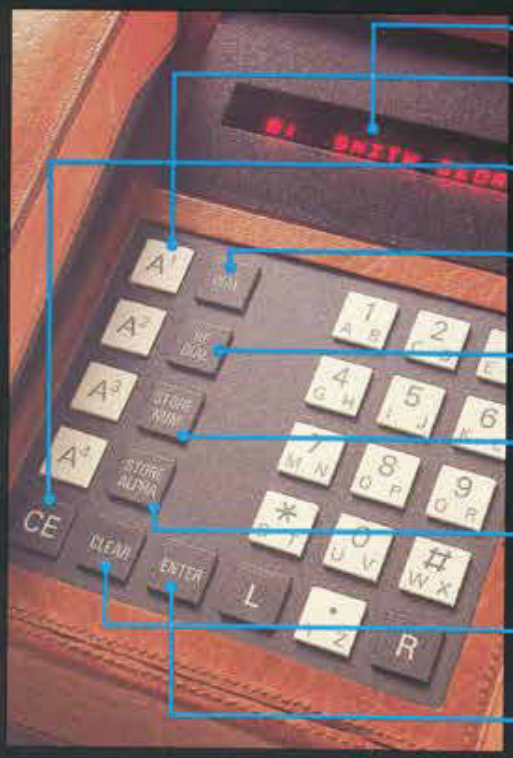
Two models

The DIAMOND belongs on the desk of every successful executive. There is a choice of two models: classic style in ivory-coloured synthetic material or a particularly distinctive version covered in real leather.

Because your time is precious.

Technical data

- Dimensions: 190 x 83 x 273 mm.
- Simple installation with two connections: one for transmission and one for the mains supply.
- Either Dial Pulse (DP) or Dual Tone Multi Frequency (DTMF) or a combination of both can be used.
- Mains supply: 110 V or 220 V/50 Hz or 60 Hz.
- In the event of power failure, built-in long-live batteries sustain all memory.



display with 16 letters and numerals

A (1-4) for direct dialling

CE to cancel last entry

DIAL to call a selected number

RE DIAL to re-call a number entered into memory

STORE NUM to programme a number

STORE ALPHA to programme a name

CLEAR to cancel operation in progress and resume original position

ENTER for directory read-out and/or to time duration of conversation

GTE ATEA NV. SA

Industriepark Klein Gent
B-2410 Herentals Belgium
Tel.: 014-21 49 24
Telex 33695 ATEAGT-B

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