A HISTORY OF ATEA

("Ateliers de Téléphone et Electricité Anversoise) Part I

by Jan Verhelst

Editor's Note: This article was first published in the Telecommunications Heritage Journal, Issue No. 78, Spring 2012 the quarterly publication of Telecommuncations Heritage Group www.thg.org.uk and is reproduced with THG permission. Jan Verhelst, who lives in Belgium, has recently become a member of TCI.

ATEA stands for "Ateliers de Téléphone et Electricité Anversoise", a French acronym for "Antwerp Telephone and Electrical Works", the first company name. For most of its history, ATEA was a subsidiary of Automatic Electric Company. Mr. Verhelst was employed for many years by ATEA and is not only an avid collector of antique phones but dedicates his efforts to the preservation of ATEA's rich history and its contributions to telephony throughout its long history. When he discovered that the ATEA heritage (phones, exchanges, documentation) was in danger of being destroyed, he started "The Friends of the ATEA Museum" together with some other former colleagues. This group was able to convince the Siemens Belgium management to transfer the ATEA heritage to a museum in Antwerp, Belgium.

ATEA 28, Steel, 1928

The Start of Telephony in the 19th Century.

Alexander Graham Bell filed his patent for telephony in 1876. Western Electric was a company which commercialized Graham Bell's invention. They wanted to expand business in Europe. Ultimately they chose Belgium since the Belgian government offered them the best conditions. The contract with the Belgian Government also required that the equipment be built in Belgium.

The establishment of **Bell Telephone Manufacturing Company** took place in 1882, and the offices and factory were located in Antwerp, Belgium.

Their objectives were *"the production, sale, purchase and leasing of equipment for telephony and telegraphy and everything directly or indirectly related to electricity."*

Country	Location	Remarks
Russia	Saint-Petersburg, Moscow, Kiev, Riga, Odessa	It´s still the time before the Russian Revolution of 1917!
Italy	Rome, Milan, Turin, Bologna, Como, Piacenza, Venice, Naples, Palermo-Sicily	
United Kingdom	Canterbury, Moorgate, Glasgow	
Poland	Warsaw , Lodz	
Germany	Bielefeld	
Mexico	Vera Cruz	

Figure 1

Year	Company Name	Brand Name
1892	The Antwerp Telephone and Electrical Works	ATEA
1919	The New Antwerp Telephone and Electrical Works	ATEA
1931	Automatique Electrique de Belgique	ATEA
1939	Automatique Electrique	ATEA
1962	Automatic Electric	ATEA
1970	ATEA	ATEA
1971	GTE ATEA	ATEA
1986	ATEA	ATEA
1995	Siemens ATEA	ATEA

ATEA stands for ´Ateliers de Téléphone et Electricité Anversoise´, a French acronym for ´Antwerp Telephone and Electrical Works´, the first company name.

Figure 2

The founders included:

- **Francis Welles**, delegate of the *American Western Electric Company*,
- **Louis De Groof**, representative of the *International Bell Telephone Company,* and
- A number of *local dignitaries*.

In 1890, *Western Electric* decided to buy out *International Bell Telephone*, so their representatives in the board of directors had to leave, among them *Louis De Groof*, and his brother *Jean-Corneille*.

A New Company was Founded

The brothers De Groof convinced a local director of the Bell Operating Company (called "*la Compagnie Belge du Téléphone Bell*") to join them in starting a new telephony business.

In April 1892, a new company named **"Antwerp Telephone and Electrical Works"** was created by these 3 people along with 5 local agents providing some of the venture capital. They started their business in Berchem, a suburb of Antwerp.

ATEA 1065, Wood, early 1920s

The mission of the company was manufacturing, purchase, sales and rent of equipment concerning telephony, telegraphy and electricity.

They delivered, among other items, manual exchanges and telephones all over Europe. Besides Belgium and the Netherlands, customers were found in a lot of places, even before World War I. A few examples are shown in figure 1.

If we look at the catalogues of the phones, we see a lot of resemblance with phones of other suppliers.

The late Bob Estreich told me the following about this:

"Many phone companies of this per*iod used parts from Siemens and Ericsson until they could build their own. The companies doing this included BTMC in Belgium, Sterling and Peel Conner in Britain, Elektrisk Bureau in Norway, Mollers in Denmark, and many of the smaller French companies. Many of these companies were using just almost all brought-in parts except woodwork, then they gradually started introducing their own metalwork, as the company grew."*

Despite numerous company name changes, the products always retained the ATEA brand name. Figure 2 gives you an overview to avoid confusion.

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A New Start After World War One.

Business went slow during World War I, and the company virtually went broke. In 1919, a new and reborn company was founded **"The New Antwerp Telephone and Electrical Works".** The business was restarted, with the following shareholders:

- The "Banque d'Outremer" representing a group (I have not been able to figure who or what this group represented) bringing in new venture capital,

ATEA 1078, Bakelite, c. 1931

- The former "Antwerp Telephone and Electrical Works", (represented by a lawyer) bringing in the real estate, tools, machinery and know-how of the former company.
- The members of the board were also minority stockholders.

Widening the product range with measuring equipment.

The product range was widened by starting up a division on measuring equipment (*watt meters, voltmeters, etc*) . They delivered measuring equipment as OEM products for Power plants, mines, ships…. ATEA was famous for customization of the meters. Kilowatt-hour meters were also a very popular product, with many of them purchased by the local power company. This product line was successful until the 1960s and early 1970s.

Telephony

After World War I, telephony automation became popular. The company got in touch with the **Relay Automatic Telephony Company** (RAT) of London, and obtained a license for

their automatic switch for the Benelux (*Belgium, the Netherlands and Luxemburg) and Spain*.

In 1926, they signed a contract with Greece, to automate their National telephone network, and they took a franchise on the Greek network.

The RAT technology, developed by Betulander was technically good but expensive, especially for bigger installations.

The "new Antwerp Telephone and Electrical Works" had to look for cost effective solutions. So they got in touch with **Automatic Electric** in Chicago to obtain a license in Strowger technology.

Associated Telephone and Telegraph, who owned Automatic Electric, took a "major interest" in the company. Through this relationship ATEA got access to the Strowger technology in 1926 and was supported by **Automatic Telephone Manufacturing Company** (ATM) of Liverpool. ATM already had expertise in Strowger technology before World War I; they delivered their first switch to British Post Office in 1912.

The local Belgian Operating Company was also interested in Strowger equipment, and deliveries of adapted switches started at the end of the 1920s.

The association with ATM had some side benefit; ATEA started to build and deliver **Traffic Light Controllers**, with some versions even containing Strowger technology. This product was very popular, especially in Belgium, where ATEA was market leader until the 1980s. Another product well known during these years were **Front Door Intercom Systems.**

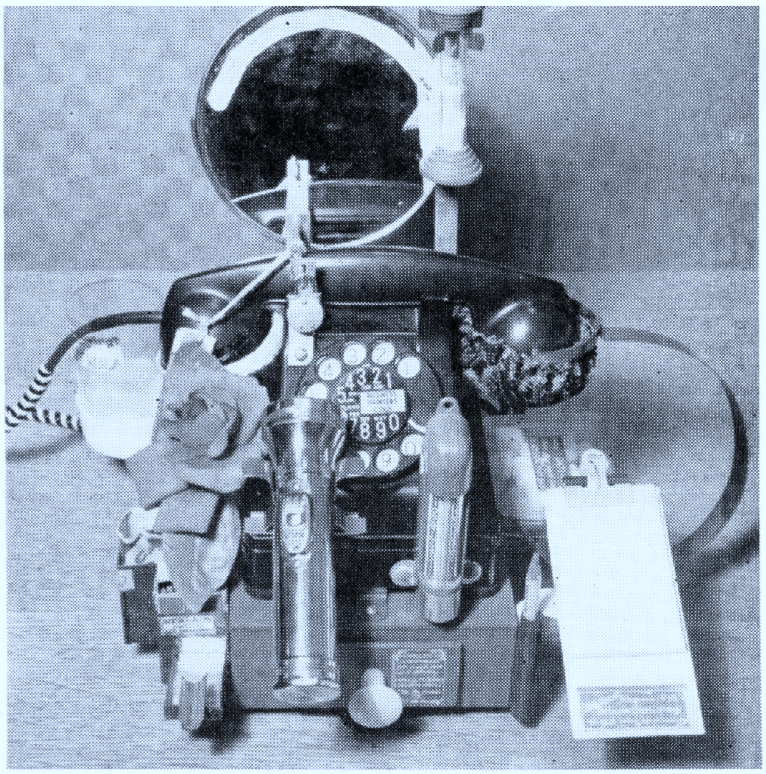

EXHIBIT introduced by company to illustrate to Federal District court in Oklahoma City what could happen if bars were let down on "foreign" attachments to telephone instruments. Case involved manufacturing and distribution of advertising novelties in violation of company's tariff and customer contract provision. Company won court decision.

Southwest Telephone News
May 1954, page 12

Front Door Intercom Systems

The alliance with Automatic Electric was an important step in the company's evolution, initiating a long period of stability. There were economic ups and downs, caused by external factors (*such as the 1930's crisis, World War II, etc*), but ATEA continued to grow since it was owned by Automatic Electric of Chicago.

Phone assembling was a very labor intensive task in the first quarter of the twentieth century. Around 1930 this started to be industrialized. After first using wood and ebonite, metal and Bakelite were later introduced in the 1930s. The styling was also influenced by the time when the phone was built; we see an important evolution in phone styling over the years. See the photos in this article for an overview at a glance. Additional photos are included in the Bonus Pages.

—End of Part 1—

Mr. Verhelst may be contacted at jan.verhelst@belgium-mail.com. *Watch for the second installment of this article in a future issue of Singing Wires.*

A HISTORY OF ATEA 1892-1999

Part 2

by Jan Verhelst

Part 1 was in the July Singing Wires.

Private switching and Telephone Key Systems

An important product line was the PAX and PABX business, not only for the local market, but also for export.

Key System 600

Important customers were also found overseas i.e. in former Belgian Congo. Some equipment such as phones and meters were adapted for survival in a tropical environment.

The Railway Company and the Army were big customers, and ATEA started to build up expertise in private networking.

ATEA had a big business in "Key Telephone Systems," especially after World War II. System 600 was very popular in the 1950s and 1960s, followed by the success of the System 800, which was very advanced for the time it was developed. Both phones and systems show up regularly on websites of online telephone museums and second hand shops such as eBay.

The 800 system was especially widespread in Europe, Latin America, the Middle East and Asia. After the end of its lifecycle (with more than 2 million phones installed) a production facility has been setup in Brazil.

Technological Evolution since 1960

The transistor was invented in 1948, but it was not until 1960 that electronic industrial applications showed up.

An early **semi-electronic switch**, the EAX-A1 was installed in 1967 in

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Hasselt, Belgium. The intelligence was done with wired logic on discrete components and a reed relay switching network. The basic technology was transferred from Automatic Electric, but the full design was done in Belgium.

The private network business also developed a similar system called PREX.

On request of the Telephone Operating Company RTT, the design of a stored program controlled switch was started, the A2PT system. The first switch of this generation was delivered to the customer in 1974.

The evolution of the technology increased rapidly, and ATEA's parent company Automatic Electric joined with GTE (General Telephone & Electronics) in 1955. ATEA became one of the many companies in the group in 1962, and was renamed to GTE ATEA in 1971. The company could benefit from being a part of GTE.

Key System 800

The central office system N2EAX, a Stored Program Control system with a huge central processor, was designed by Automatic Electric for the domestic market in the 1970s. It was an *electronic switch, but with a reed relay controlled switching network*. ATEA was, in cooperation with a sister company in Milan, Italy, responsible for the international version.

In private switching, the technology of the Automatic Electric's digital PABX GTD-120 and GTD-1000 was transferred to ATEA and adapted to international requirements. ATEA had the first digital PABX in Europe in 1978. The market (very much expanded through GTE International) was very fragmented, with many different customer requirements. A software controlled system using a set of 8080 microprocessors offered a good flexibility.

Systems were sold mainly in *Belgium, Denmark, Italy, the United Kingdom, South Africa,* but also in exotic countries such as Malaysia. In some countries, such

N2EAX Electronic Switching System

as the UK, joint ventures have been setup to facilitate business. Other countries such as China, India and the former unified Yugoslavia required local production through joint venture companies.

Soon the GTD had a successor, the OMNI-S (same architecture, newer technology) and later on the cost reduced OMNI 200 family. The main advantage of the European version of these PABX's was their flexible signalization, either on public or on private networks. A universal (table driven) Trunk program allowed easy adaptation to any network signaling system. Setting up a new signalization scheme was done in a couple of hours.

At the end of the 1970s a new style of telephone was very well received on the market.

Electronic Key systems such as 8000 and 8800 followed the same styling. These were sold in the UK as the "Rhapsody".

In the beginning of the 1980s Ferranti GTE was founded, but distribution in the mid 1980s was through a company called Norton, which was later taken over by Siemens.

The DATEA 2000, a telephone with credit *card verification capabilities* (and EFT, Electronic Fund Transfer), was a first step towards data communication and the internet.

In public switching, the N2EAX was soon followed by the GTD5 system a fully digital central office, and again ATEA was involved in the development of the system for international use.

There was a technological evolution from electro-mechanical to electronic switching in the 1960s and 1970s. This was followed soon by a second wave with the shift from hardware to software control. R&D investments, especially in software, increased dramatically, and GTE decided to move out of R&D and production of telephone equipment.

In 1986 ATEA was sold to Siemens. A dual product policy was worked out for PABXs. The Siemens ISDN PABX (HICOM) was sold where possible, but in some particular cases and special networks, the OMNI with its *flexible signalization* was still offered, until the phase out at the end of its lifecycle sometime in the 1990s.

The public exchange GTD5 was replaced by the Siemens EWSD, and adapted to Belgian requirements by ATEA. ATEA engineers joined Siemens people in designing mobile communication networks required for the mobile network boom of the 1990s. Siemens also assigned ATEA responsibility for markets in Africa and the Middle East. ATEA became active in mobile communication in 17 African countries.

OTN a remarkable optical transmission system, with a wide variety of interfaces, was conceived by ATEA, and is used any place where "distance" is involved. Typical customers are *mines, subways, military applications, pipelines,* etc. This product family, which is sold worldwide, was fully designed, manufactured and supported by an ATEA team.

On October 1st, 1999, after 107 years of existence, ATEA became fully integrated in the Siemens organization.

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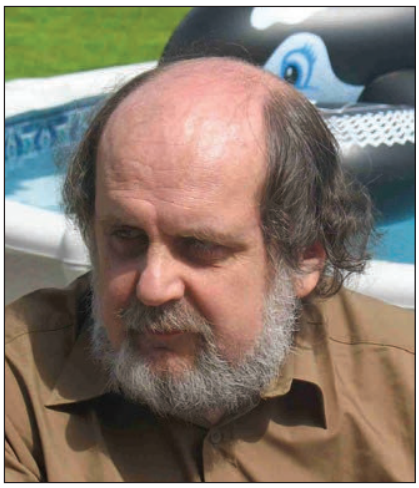
More ATEA phone pictures in the Bonus pages.

This is to correct an error in the email address of author Jan Verhelst at the end of the article "A History of the ATEA", on page 15 of the July issue of Singing Wires. The correct E-Mail address in this note should read: jan.verhelst@belgium-mail.com.

A HISTORY OF ATEA 1892-1999

Part II

by Jan Verhelst



Here are some additional photos of ATEA phones and equipment.

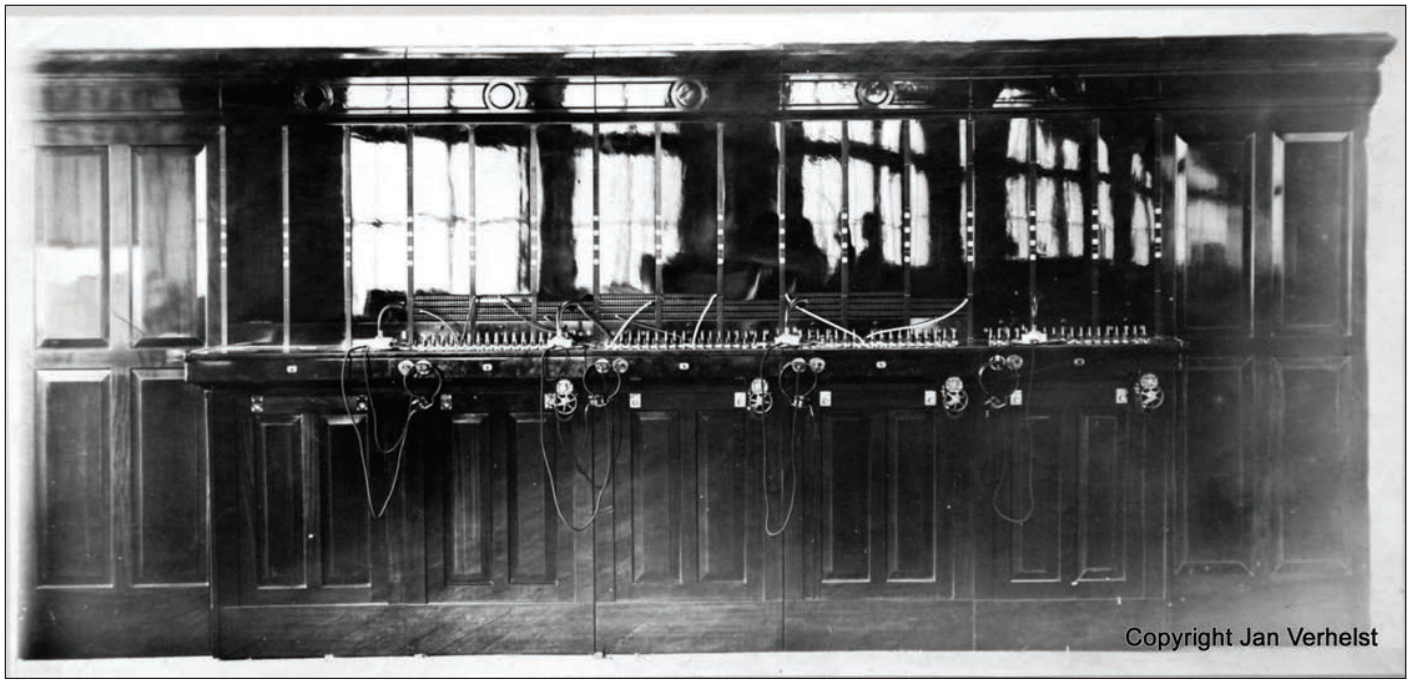


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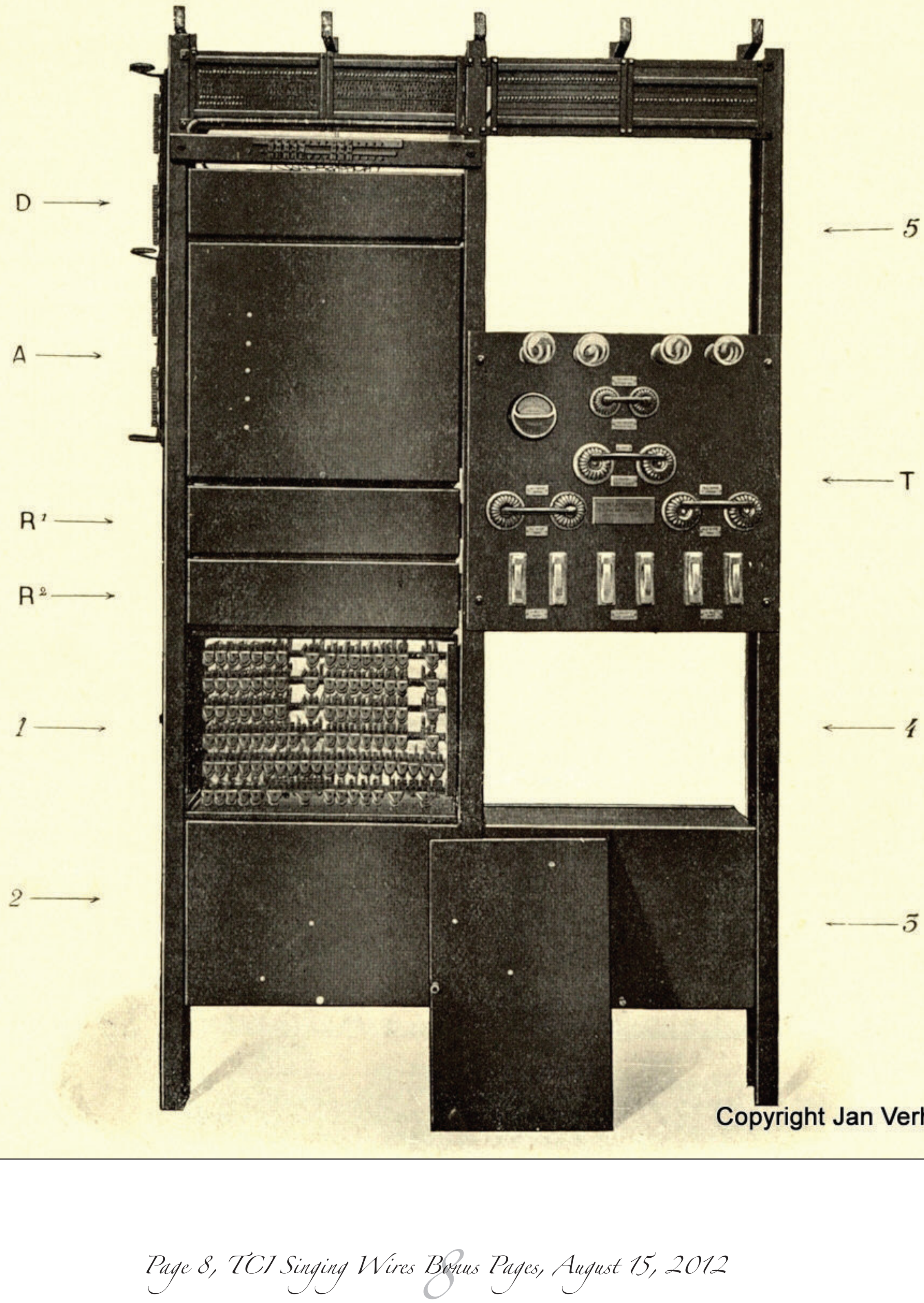
Fig. 8. — Bureau central automatique à relais pour 50 lignes, équipé pour 30.

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聯成實業有限公司

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Ⓐ

"ATEA600" 自動電話

"ATEA600" 係最新
六分機電話體系分
A 一外線制與
B 二外線制兩種
不用總機，使用簡單
可同時與內外線通話

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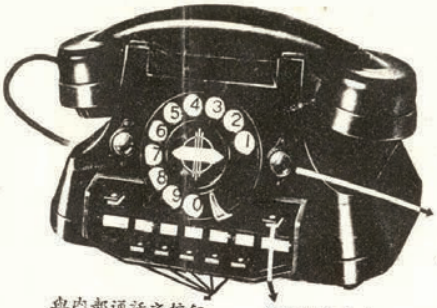


顯示外線在應用中之標記，任何一機應用此一外線時各機之此一標記均現白色。

與內部通話之按鈕

使用外線時先按此鈕

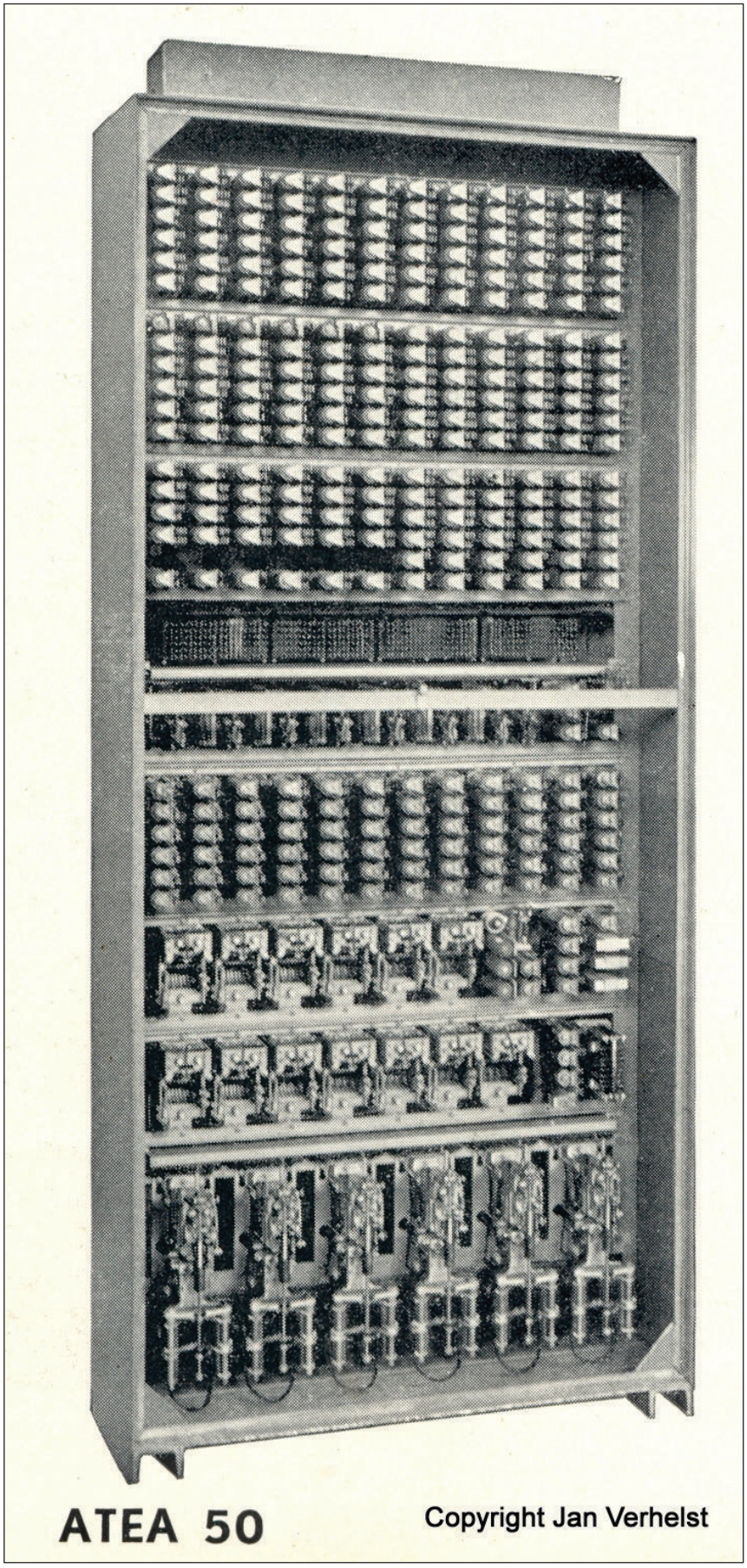
B二線制可同時連接二條外線，保持一線與另一線通話，或交互使用，而談話內容不被另一方聽得。

顯示分機①與②分別與外線通話中而分機④與⑥在內線通話

顯示分機②與外線通話中，而同時與內線通話，談話內容不被外線聽得。分機③並可將外線轉接分機④

任何一機均可同時與全部話機通話作會議之用

電信局核准使用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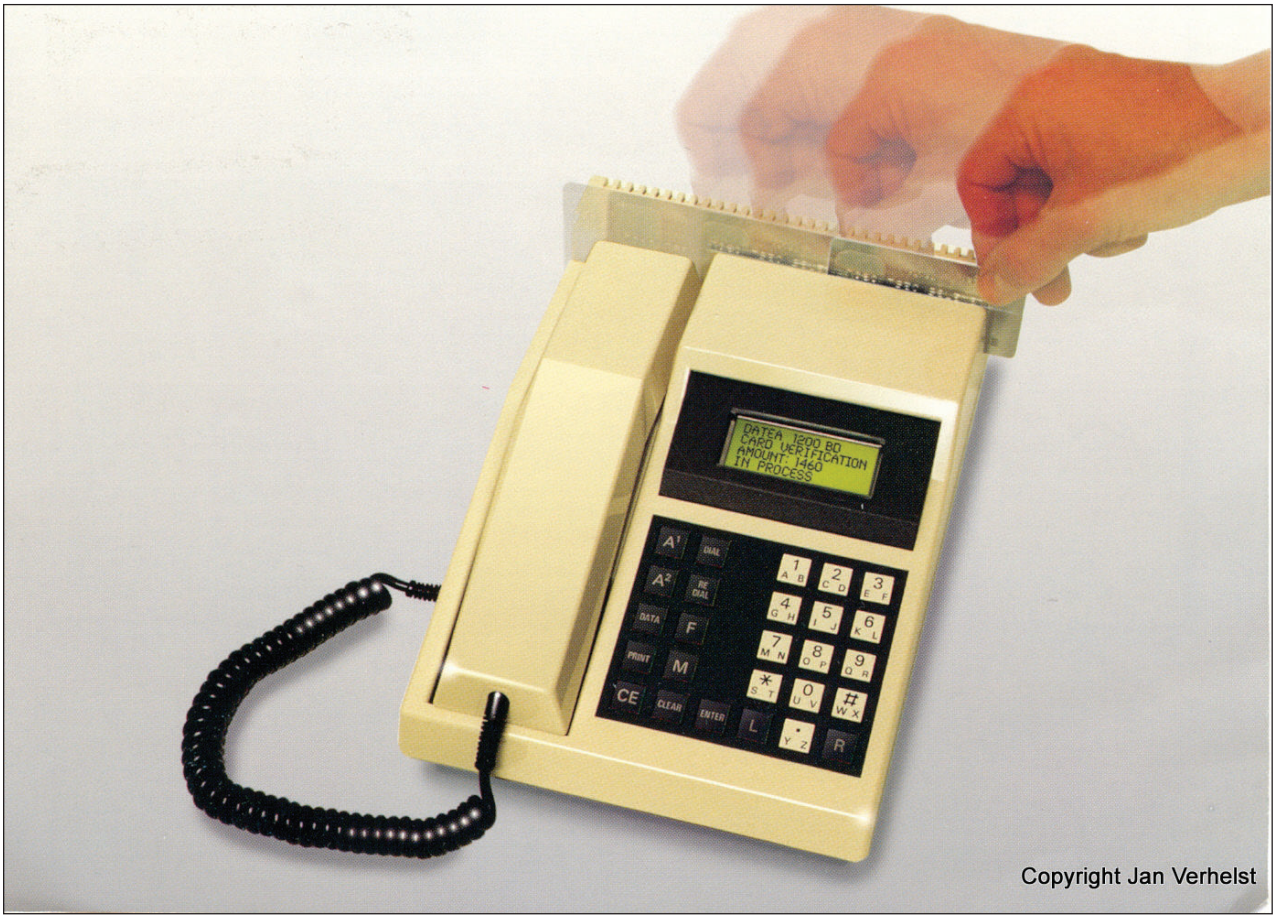
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