ATEA using RAT technology

Jan Verhelst

Jan Verhelst is a member of the Friends of the ATEA-museum, Belgium

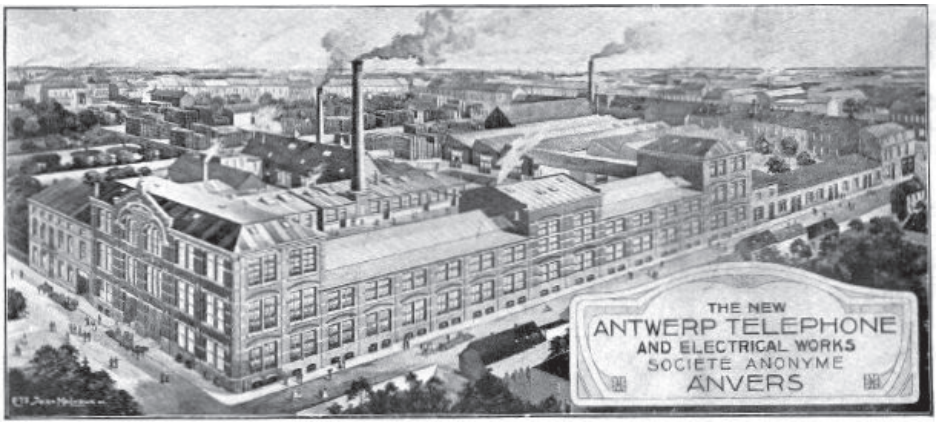

Fig. 1: ATEA in the 1920s [ATEA catalogue]

Introduction

ATEA was a small telephony company founded in Antwerp, Belgium in 1892. From 1892 until the beginning of the 1920s they manufactured primarily manual wooden telephones and manual telephone exchanges which were installed worldwide.

Need for Automatic Telephony in the 1920s

In the 1920s they became aware they had to follow the evolution in technology and had to switch to Automatic Telephony. They knew they were too small to design such a system from scratch, so they got in touch with Relay Automatic Telephony from London, UK.

In 1923 a contract was signed between ATEA and RAT allowing ATEA to “exploit the patents” as stated in the contract. Their geographical area was limited to Belgium, the Netherlands , Luxemburg and Spain.

Dials and phones

For space reasons we show phones with a dial only, but do know that for any phone with a dial, the company also had a version without a dial.

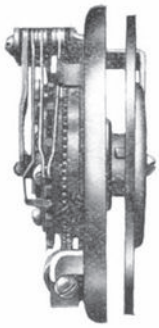

Fig. 2: R.A.T. dial, illustrated in a 1920s catalogue

ATEA made their own phones, based on their own designs. Since their customers were worldwide, their requirements could be quite different.

The company was considered as very flexible by their customers. They manufactured phones with or without a dial, with a handset or a separate mouth piece and earpiece. The dial ATEA used was the RAT dial.

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The pictures on Page 10 were taken from the catalogue “Postes et commutateur téléphonique à batterie centrale” from the mid-1920s.

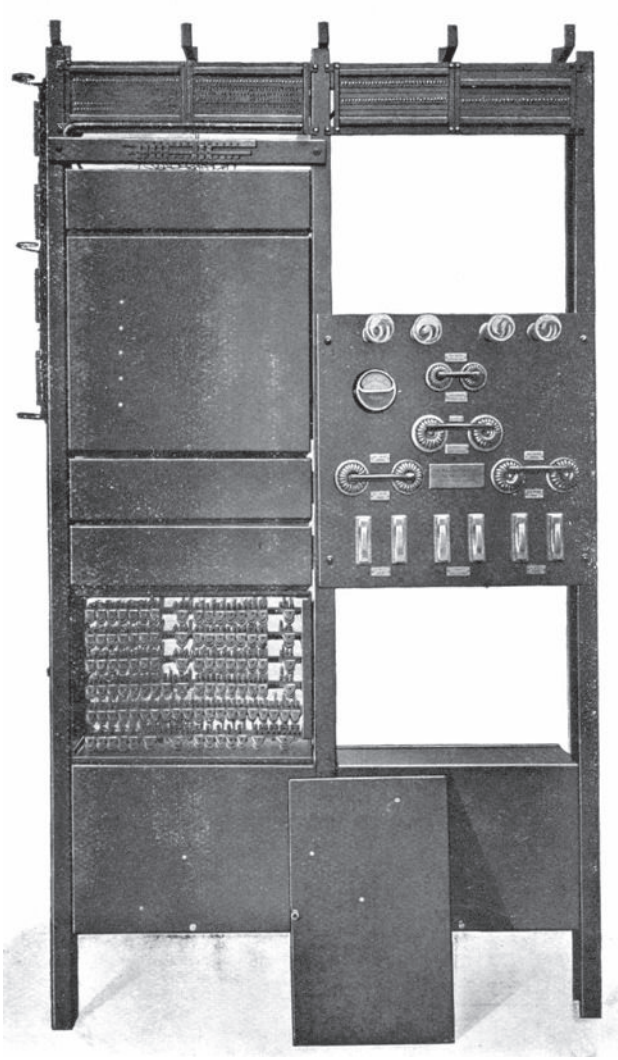

Fig. 3: 50-line RAT exchange equipped for 30

The exchanges

The system was a non-blocking system, and dial tone was not required. When a user went off-hook, the equipment was available.

Customers

The major ATEA customers were banks, insurance companies, mines, miscellaneous Works, and a variety of factories, mainly in Belgium and the Netherlands.

ATEA also installed the first automatic private exchange in Spain in the summer of 1923 at the location of a local government organization. It was a 20-line system, but had rather a symbolic value.

Siemens & Halske and Ericsson and ATEA did an offer in 1924 to obtain a contract for the automation of the Spanish network, but the contract was finally assigned by the Spanish government to ITT, who founded the Spanish company CTNE.

The 1925 ATEA customer reference list showed also RAT customers in the UK, the British Commonwealth and miscellaneous countries. Most installed exchanges were standalone systems, since in those days PTTs were not eager to connect PABXs to their network.

The switching network

The basic component was the RAT relay – see Fig. 5.

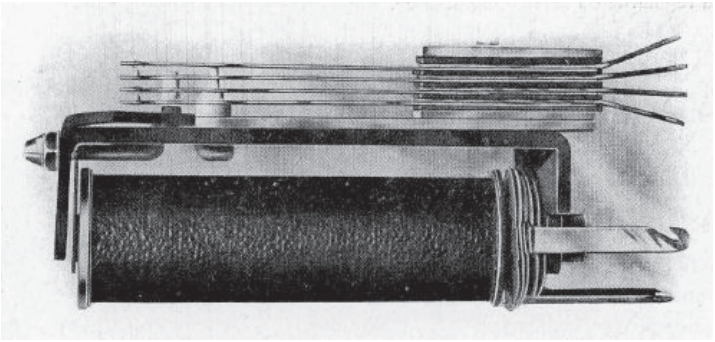

Fig. 5 RAT Relay

Evolution

The system's major drawback was that it only suited small exchanges. Because the system was arranged on a square grid, the number of crosspoints (and therefore relays), increased as the square of the number of lines. While ten lines have 100 crosspoints, twenty have 400 - quadruple the number.

Although the equipment was very reliable, it was also very expensive, especially in “bigger” systems it was not cost effective.

RAT, founded by the Swedish engineer Betulander was taken over by Marconi’s Wireless Telegraph Company sometime in the 1920s. (ATEA had historical ties with Marconi from before WW1. ATEA was the distributor of Marconi’s wireless products in Belgium and Belgian Congo)

In 1926 ATEA was trying to obtain a licence for the Greek public telephone network, and definitely needed a more cost effective solution. After carrying out market research ATEA made contact with Automatic Electric in Chicago regarding the use of the Strowger patents. After negotiations ATEA was taken over by Automatic Electric.

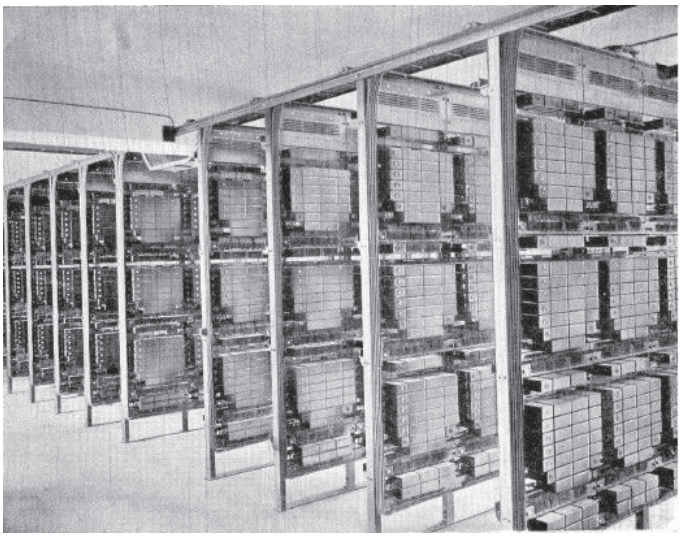

Fig. 4: 1000-line exchange in Stockholm

ATEA thereby gained access to the Strowger technology and they went on to design their own version of the Strowger system, which has been installed worldwide between the end of the 1920s and 1981.

In 1928 the contract between

RAT and ATEA was expanded to almost the whole world, excluding the British Commonwealth and Argentina.

The RAT dial was used between 1923 and 1925. In 1925 ATEA signed a contract with Siemens Brothers to use their dial. After the takeover in 1926 the AE Dial 24 was used.

Siemens Brothers Patent: see http://www.britishtelephones.com/dials/patent178936.htm

The RAT-ATEA contract was suspended in 1929 by RAT.

Sources

Mainly from the archives of the friends of the ATEA-museum:

- ATEA catalogues of the 1920s
  - Postes et commutateur téléphonique à batterie centrale
  - Téléphonie Automatique à relais
  - Téléphonie catalogue 1929
  - ATEA customer reference list 1925
- ATEA contracts with RAT, Siemens Brothers …
- Miscellaneous documents and pictures from our archives

Fig. 6: ATEA phone with Siemens Brothers dial - after 1925

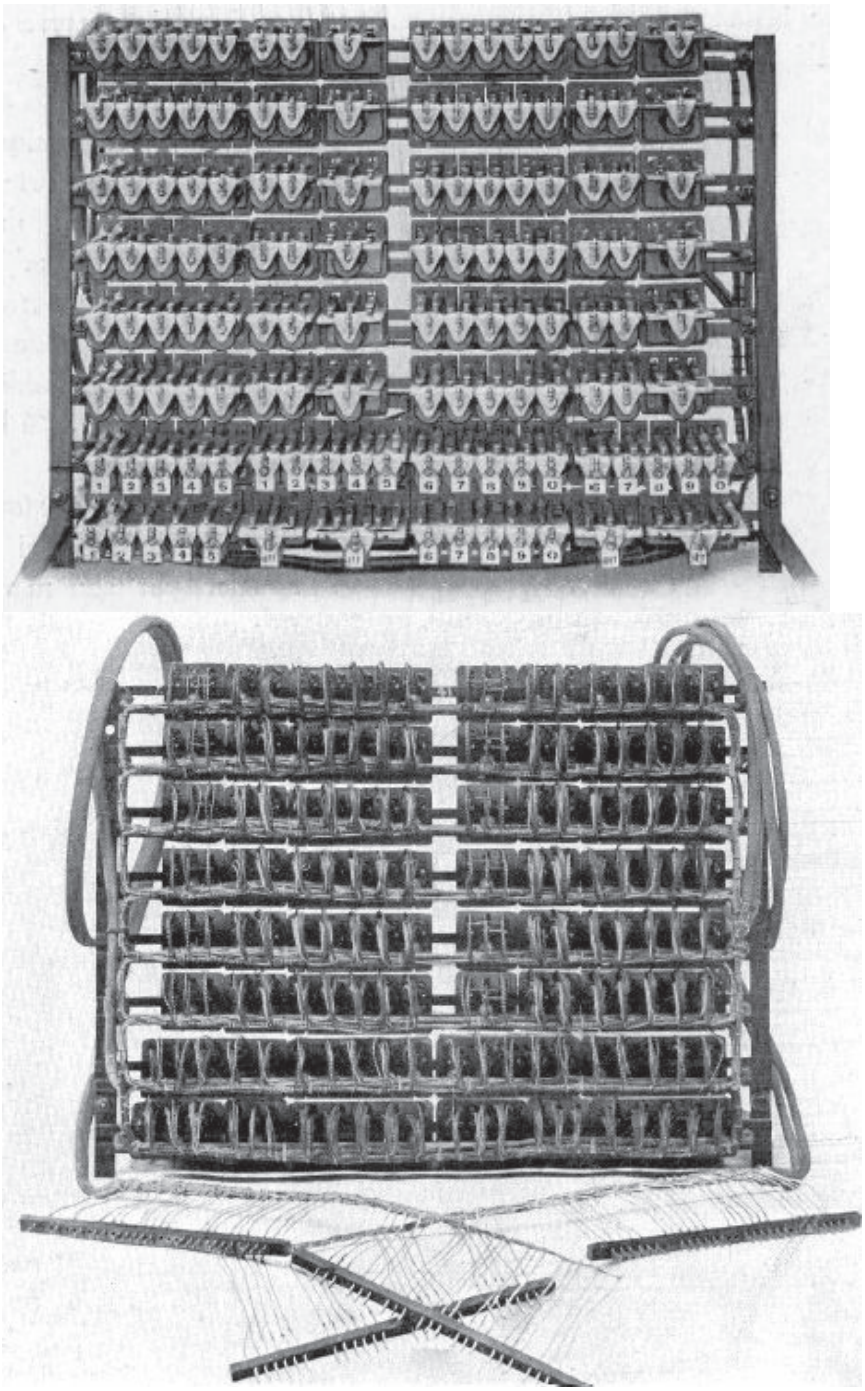

Fig. 7: Switching network, front & back

Information requested

THG member, Bob Lawson, is seeking the current status and information about a pre-war Siemens 25 line PAX that was in service on the Severn Valley Railway in the late 1960s. The exchange was relay-based and quite advanced for its time, being modular with four main units of which some could be jacked in/out. This exchange was replaced on the SVR in approx 1970 because of its limited capacity and sold to another heritage railway in the Leeds area. They subsequently sold it on, I believe, to a private collector. This exchange was the first implementation of the SVR's telephony network and I would like to confirm it still exists and to understand more about its design and the type's utilisation. If you are able to share any information, please contact Bob Lawson on bob.r.lawson@gmail.com or 07860 524004