Torn Tape Relay Switching Centre

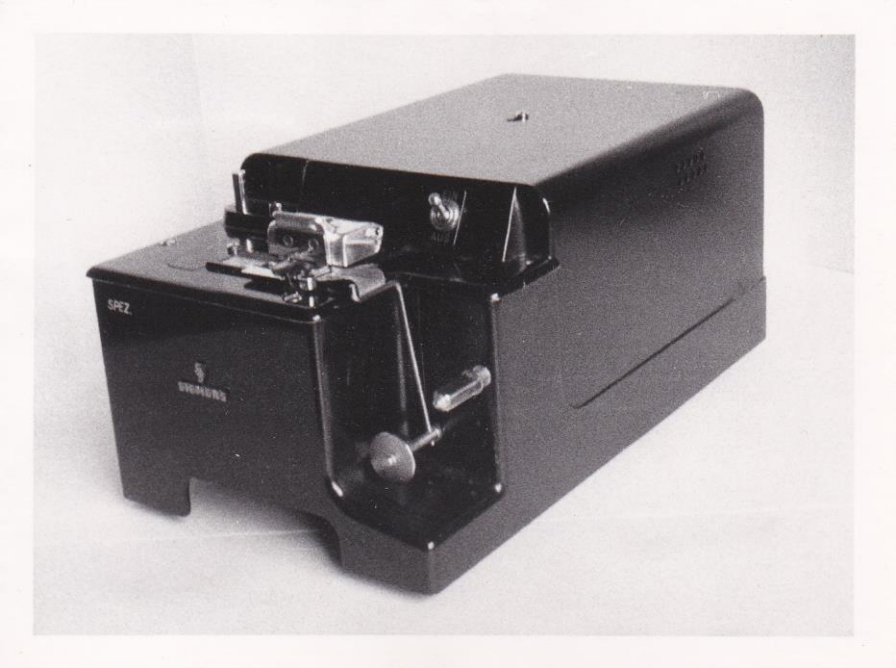
What is this ?

(some pictures from my photographic library with explanatory notes)

Torn Tape Relay Switching was the technology used in most of the SITA Centres in the early days of our existence. This was not **Morse Telegraphy** (by wire or wireless) as shown in the picture below.

Ours was the time of the **Teleprinter.** A device which looked like a typewriter with a keyboard and with which we are all familiar. The teleprinter was connected to a leased circuit (a datatransmission line). In typing letters and figures on the keyboard, these were translated into a 5-unit electric impluse code (the Baudot-Code, today replaced by the more powerful ASCI 7-unit Code) transmitted over the circuit. On the receive end there was another, similar teleprinter, which translated the received electric impulses activating the corresponding letter type lever printing the character on the paper.

Added to the teleprinter, at the left of the keyboard, was a **Tape Perforator** which produced a tape where the Baudot-signal was perforated accross the papertape. Thus a message was received in two ways, i.e. A printed copy on paper and a perforated papertape.



Another device was required to complete the torntape relay switching technology, i.e. a **Tape Transmitter.** Instead of retyping the message reived for transmission over the next circuit you use the tape transmitter with the perforated tape ensuring an « automatic » transmission at the highest possible speed (400 characters per minute).

These were the devices required to establish and operate a **Torn Tape Relay Switching Centre** :

- **leased circuits**
- **teleprinters with tape perforators**
- **tape transmitters**

The pictures show the Zurich SITA Centre during the period of 1954 to 1958. The equipment, leased from the Swiss PTT was essentialle of the Siemens 37 type, i.e. Equipment produced before the war.

Now, there was still a lot of manual work to be done by the « operators » (mostly girls) :

- take the incoming message and **torn off** the associated perforated tape
- decide the outgoing circuit to be used according to pre-determined rerouting instructions
- bring the message and the tape to the transmitter connected to the desired outgoing circuit
- in case of multiple addresses this could mean that the message had to be retransmitted over more than one outgoing circuit.

End of 1958 the Zurich Centre Operations Room contained about 60 Teleprinters. During the rush hour there was a considerable running around of the operators. One can imagine that the relay delays were not measured in seconds, a couple of minutes up to an hour was more likely.

Of all incoming and outgoing messages a copy was kept on paper. At the end of the day the paper was rolled up and labelled (date, incoming or outgoing circuit) for the archive. These copies were stored for two months in order to enable investigations in case of reported message loss. The staff took considerable pride if we could report 0-message loss over a month.

Contribution by Ruedi Bebie – 29/06/2016