Rediscovering the Smaller Machine

The Calcolatrice Elettronica Pisana (CEP, Pisa Electronic Computer) has been so far considered the first computer built in Italy. The CEP was the final outcome of a project spanning from 1955 to 1961 and carried out by University of Pisa and Olivetti.

In fact, the CEP project delivered a first computer already in 1957, then nicknamed Macchina Ridotta (MR, Smaller Machine).

The impact of MR has been so far underestimated (often ignored) because all the previous research never attempted to recover and to study the technical documents of the CEP project. Exploring these details, in order to better understand the internal workings of Pisa early computers, revealed that the MR was a much more interesting machine than its later 1961 sister.

State of the Art Technologies

1. Parallel architecture. Many early 1950s machines processed the bits of the memory word sequentially. The MR performed it in parallel.

2. Ferrite core memory. Wrt. the available choices (Williams tubes...) the MR was an early adopter of the soon to be standard solution.

3. Microprogrammed control. Adopting a MIT Whirlwind technology, the MR realised an idea proposed by the EDSAC2 team for an easy implementation of instruction codes... the very first in Europe.

4. Very high raw performance. Compared with the Paris IBM 704, by then considered the most powerful machine in the Old Continent, the MR had a better KIPS.