Poland – digital computer history – how it has begun ?
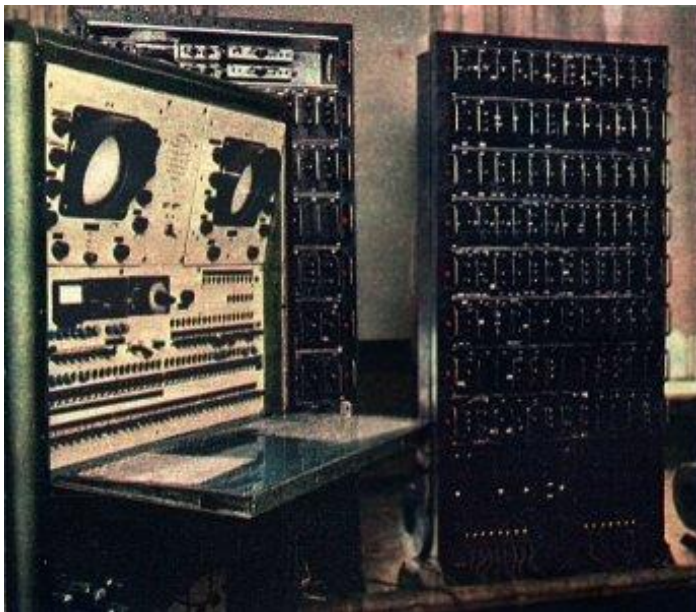
XYZ, ZAM, ODRA, RIAD ……

<u>XYZ – Polish premiere</u>

XYZ – the first Polish digital computer, fully designed and built in Poland; the decision to built it was taken at end of 1955, the computer began operating in 1958.
This task was done by the special unit of Polish Academy of Sciences, originally named "GAM" (Polish "Grupa Aparatów Matematycznych", established in 1950), later renamed to "ZAM" (Polish "Zakład Aparatów Matematycznych"), and finally – to "IMM" (Polish "Instytut Maszyn Matematycznych" – Institute of Mathematical Machines)

The XYZ computer was a serial, binary computer, built with vacuum lamps and germanium diodes (ca 400 lamps and 2000 diodes), programming was done in internal binary language, and in a symbolic addressing system SAS; after 1960 - also by SAKO – algorithmic language compiler (SAS and SAKO were original Polish software products, developed also in the IMM, highly appreciated by computing specialists at that time; both were used also for the ZAM series of computers). Input/output equipment – a card reader/punch (standard Hollerith punched card reproducer). Speed of this computer – ca 1000 arithmetic operations per second.

Picture 1

XYZ computer front panel, behind – two racks with electronic circuitry

The XYZ computer was an operational, very useful model. The experience gained from using it by several customers was crucial for further developments of the computers in the ZAM, and later IMM, where the team of mathematicians and engineers designed and built next series of digital computers, named ZAM-2, ZAM –21 and ZAM-41. These computers were manufactured by the small production unit established within the Institute. Total number of ZAM computers built was ca 30 pcs. ZAM 21/41 computers were equipped with line printers, magnetic tape units, paper tape input/output units.

Picture 2

ZAM 21 computer

The experience of Polish scientists, programmers, engineers gained in these early years in hardware and software design, in applications of digital computers in various fields of economy and science, led to the further development of the digital computer industry in Poland, with establishing various factories dedicated to this industry. The ELWRO factory, located in Wrocław, played a leading role since the year 1970, where ca 600 of ODRA family of computers were manufactured. The most important of this family were: ODRA 1204 (own design), and ODRA 1305/1325 (own design, but with full software compatibility with British ICL-1900 computer series, due to a cooperation agreement with British company ICT, later renamed ICL). Later also the RIAD family of computers was manufactured there.

The last ODRA 1305 computers were used successfully until 2005.

Picture 3

ODRA 1305 computer

S.J. July 8th, 2008