# MESM

MESM was conceived by S.A.Lebedev to be a model of a Big Electronic Computing Machine (BESM). At first it was called the *Model* of the Big Electronic Computing Machine, but ,later, in the process of its creation there appeared the evident expediency of transforming it in a small computer. For that reason there were added: the impute-output devices, magnetic drum storage, the register capacity was enhanced; and the word “*Model*” was changed for “*Malaya*” (Small).

S.A.Lebedev was proposed to head the Institute of Energetics in Kiev. After a year; when the Institute of was divided into two departments: the electronical one and the department of heat-and-power engineering, Lebedev became the director of the first one. He also added his laboratory of analogue computation to the already existing ones of the electronical type. At once he began to work on computer science instead of the usual, routine researches in the field of engineering means of stabilization and structures of automated devices. Lebedev was awarded the State Prize of the USSR. Since autumn 1948 Lebedev directed his laboratory towards creating the MESM. The most difficult part of the work was the practical creation of MESM. It might be only the many-sided experience of the researches that allowed the scientist to fulfill the task perfectly; whereas one inaccuracy was made: the hall at the ground-floor of a two-storied building was assigned for MESM and when, at last, the MESM was assembled and switched on, 6,000 of red-hot electronic lamps created the “tropics” in the hall, so they had to remove a part of the ceiling to decrease the temperature.

In autumn 1951 the machine executed a complex program rather stabile.

**ÒÍÅ MESM WITH SOME OF THE PERSONAL (KIEV, 1951)**

Finally all the tests were over and on December, 15 the MESM was put into operation.

If to remember those short terms the MESM was projected, assembled, and debugged - in two years - and taking into consideration that only 12 people (including Lebedev) took part in the creating who were helped by 15 engineers we shall see that S.A.Lebedev and his team accomplished a feat (200 engineers and many workers besides 13 main leaders took part in the creation of the first American computer ENIAC).

As life have showed the foundations of the computer-building laid by Lebedev are used in modern computers without any fundamental changes. Nowadays they are well known:

such devices an arithmetic and memory input-output and control ones should be a part of a computer architecture;

the program of computing is encoded and stored in the memory as numbers;

the binary system should be used for encoding the numbers and commands;

the computations should be made automatically basing on the program stored in the memory and operations on commands;

besides arithmetic, logical operations are used: comparisons, conjunction, disjunction, and negation;

the hierarchy memory method is used;

the numerical methods are used for solving the tasks.

**Bibliography**

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