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From the Dawn of Computers to the Mainframe

The devices used at the dawn of computers were vacuum tubes, parametrons, and transistors. Computers consisting of vacuum tubes and transistors will be mentioned here. As for parametron computers, see the previous on parametron computers.

In 1951, a group dominated by Hideo Yamashita at Tokyo University and Toshiba Corporation started the co-development of the TAC vacuum tube-type computer. In 1956, Toshiba Corporation withdrew from the project and TAC was completed by researchers and graduate students at Tokyo University in 1959. Bunji Okazaki, et al. at Fuji Photo Film Co., Ltd. completed FUJIC in March 1956 ahead of TAC. FUJIC employed 1,700 vacuum tubes and used ultrasonic mercury delay lines for memory and had a capacity of 255 words.

In 1956, the Electro Technical Laboratory (ETL) (currently the National Institute of Advanced Industrial Science and Technology) completed the ETL Mark III. This machine was said to be the world's first transistor-model computer and it consisted of about 130 point-contact transistors, about 1,800 germanium diodes, and a 128-word memory device with an ultrasonic delay element. Subsequently, in 1957, ETL developed the ETL Mark VI and this machine continued with the NEAC-2201 and HITAC 301.

From the 1960s, the mainstream of general-purpose computers had become large transistor computers and devices shifted to large-scale integration as well, from IC, LSI to VLSI. The mainframe computers of each company up to 1972 were as follows:

NEC: NEAC-2201 (1958), 2203 (1959), 2206 (1962), NEAC series 2200 (1965)

Hitachi: HITAC 301 (1959), 201 (1961), 4010 (1963), 2010 (1964), 5200 (1964), 8700 (1970)

Fujitsu: FCOM 22 (1961), 231 (1963), 230-30 (1964), 270 (1965), 230-60 (1968), 230-75 (1970),

Nippon Telegraph and Telephone Public Corporation, NEC, Hitachi, Fujitsu: DIPS-1 (1971).

Among others, FACOM 230-60 and DIPS-1 received IEICE achievement awards. The features of FACOM-230-60 were the full employment of monolithic IC, multi-processor (2CPU), and the mounting of hardware DIAC (diagnostic device) and the features of DIPS-1 were a multi-processor (4CPU), paging, and the adoption of NMOS-IC.

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Microcomputer Training Kit TK80

In August 1976, NEC Corporation launched the TK80 microcomputer training kit. This kit

was a 1-board microcomputer mounting Intel 8080 compatible processer μPD8080A, a hexadecimal keyboard and a hex number 8-digit display function with red LED and enabled machine language programming and execution. The following year, the function expansion board was released, and this enabled the connecting of BASIC to home televisions.
TK-80 became a hot-selling product, and resulted in the rise of the so-called microcomputer boys. In May 1979, NEC Corporation brought out the PC-8801 personal computer.