

1970s

Development and evolution of microprocessors

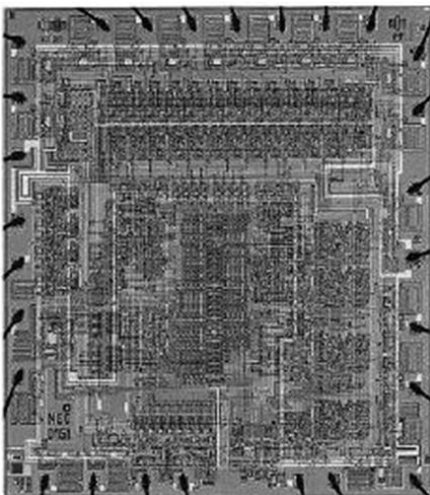
~ Integrated Circuit ~

Intel released the world's first 4-bit microprocessor 4004 in 1971, then released the 8-bit microprocessor 8008 in 1972, and 8080 in 1974. It released the 16-bit microprocessor 8086 in 1978. Domestic semiconductor companies such as NEC, Toshiba and Hitachi also developed and mass-produced 4-bit microprocessors, 8-bit and even 16-bit microprocessors following Intel. Especially NEC developed a 4-bit microprocessor μ PD700 in 1972, announced 4-bit microprocessor μ COM-4 (μ PD751) in 1973, and further developed the 8-bit μ COM-8 and the 16-bit μ COM-16 in 1974. In 1973, Toshiba developed TLCS-12, a 12-bit microprocessor for engine control for automobiles.

Since the use of the microprocessor involves software development, the microprocessor kit was provided from each company. TK-80 from NEC and H68/TR board from Hitachi were offered.

Although microprocessors were initially used for industrial applications, their use expanded to office equipment, home appliances, terminal equipment, automobiles, industrial equipment, etc., and eventually expanded to digital consumer applications such as VCRs and electronic gaming devices.

In the microprocessor in the 1970s, the CPU and the peripheral IC were offered as separate chips, and convenient peripheral ICs were developed one after another as dedicated control LSIs by applications. Hitachi's CRT (Cathode Ray Tube) controller, NEC's floppy disk controller, etc. became industry standard products. Meanwhile, in the late 1970s, a single-chip microcontroller (MCU) appeared with CPU and peripheral ICs integrated into one chip.



Picture: NEC's μ COM-4

It was commercialized in 1973.

The manufacturing process technology was 7.5 μ m, operating speed of 2 MHz, and 2500 transistors were integrated on one chip.