IC-6000

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The IC-6000 embodies an entirely new computer design concept: machine language independence and multi-lingual capability. This user-oriented concept permits the use of existing program libraries with the IC-6000 without modifications or reprogramming. The user can conserve his investment in programming while he enjoys the benefits of advanced third-generation components: speed, economy, reliability, and a significant reduction in size.

Implicit in this concept was several design objectives. Among these were one-dimensional modularity to afford the system the greatest possible degree of flexibility; sufficient memory size to handle programs written for large-scale systems; the ability to interpret the most extensive instruction repertoire, and complete compatibility at every level of programming. The key to the successful implementation of these objectives in the IC-6000 is a unique construction that consists, in essence, of a computer within a computer. The inner computer, with its own memory and registers, acts as an interpreter; the outer computer, for all practical purposes, acts just as though it were the computer it is intended to model. This interpretative technique is based upon a hardware-software combination called MINIFLOW (for an explanation of how MINIFLOW works, see caption). MINIFLOW has several important advantages over conventional simulation and translation techniques. It does not take up space in main memory, since the inner computer has its own separate memory. It is much faster than other techniques because the MINIFLOW memory functions four times faster than the main memory, and the two memories operate in an overlap mode. Finally, because MINIFLOW is a hardware-software combination it affords a greater flexibility than pure hardware techniques and greater speed than software translators or emulators.

The MINIFLOW system results in complete compatibility of the IC-6000 with the computers it is programmed to model. Generalized input and output interfacing enables the IC-6000 to accept compatible data media such as cards and tapes created for the system it models, as though they were its own. Also, generalized console interfacing provides duplicate operating conditions.

The IC-6000 required two years of development work from the basic concept to the operating computer. Many innovations had to be introduced, perfected, and proved. Now the IC-6000 is demonstrable and in production.
The IC-6000 is a true third-generation computer. It features integrated circuit logic and a two-dimensional modular construction. Thousands of TTL (Complementary Transistor Logic) silicon monolithic integrated circuits are used to implement the logic circuitry of the IC-6000. This extensive use of IC's results in a considerable reduction in size. The computer is so small in relation to machines of comparable capacity, that it is often mistaken for a module. Integrated circuits also provide high speed and reliability at a reduced cost. The reason lies partly in the component themselves and partly in the reduced number of interconnections required, and shorter wire lengths.

The organization of the IC-6000 embodies a two-dimensional modular approach: each of the basic system modules is itself modular and divisible into sub-units. For example, the Central Processing Unit consists of a Register-Memory sub-unit, a Control-Memory sub-unit, an Arithmetic-Engine sub-unit, etc. The various sub-units can be selected to achieve an optimum cost/performance ratio. Three such optimum system combinations are available: the Model 19, the Model 29 and the Model 39. All three models have the same memory capacity and can execute the same programs with identical results.

The only difference is speed. Thus the user can select the IC-6000 model which has the processing performance he requires, with the assurance that the differences in performance levels will not affect the machine language capability of the machine. He buys, and pays for, only the performance he needs. The IC-6000 can easily assume the identity of large scale systems such as the series 7004 or the Series 7044. It has more than 300,000 bytes of core memory and accommodates the complete memory requirements of a 32,768 by 6-byte word system. It is capable of executing the most comprehensive instruction repertoire found in commonly used systems. These capabilities, common to all IC-6000 models, provide lower costs and superior cost/performance.
The most significant advantage offered by the IC-6000 is its ability to assume the identity of another system at a much lower cost. The IC-6000 can directly execute programs written for large-scale systems with no conversion or reprogramming. It can run programs directly from cards or tapes used by the machine it simulates. It can use IBSYS, FORTRAN, COBOL, or machine language with no modifications whatsoever. And it can do these things at a very low throughput cost.

What this means to the user is that he can conserve his investment in existing programs. He does not have to scrap his program library when he decides to convert to third-generation equipment. He does not have to reprogram, at considerable cost (see table, below). He does not have to emulate his old system on the new, at reduced efficiency and degraded performance. The IC-6000 offers a better, less expensive, alternative.

In installations where top priority programs are bottlenecked as they await batch processing, it is possible to substitute multiple IC-6000 computers. Computer time can then be assigned with greater flexibility to accommodate priority requirements.

But there are not the only benefits.

Additional advantages of the IC-6000 are integrated circuit reliability and small size. It occupies a fraction of the floor space required by computers with comparable capabilities, uses less power, and needs less air conditioning.

The advantages of the IC-6000 emanate from its basic design concepts. The reason is simple: from the very beginning it was designed to use existing software efficiently.
Standard Computer Corporation came into being in Phoenix, Arizona in March of 1965. It spent the initial period of its existence in developing and perfecting the IC-6000. Its engineering, marketing, and management talent consists of computer veterans from such companies as IBM, UNIVAC, General Electric, Texas Instruments, and others.

Late in 1966 Standard Computer Corporation moved its headquarters to a new plant in Santa Ana, California. Here it currently maintains total capabilities for design, fabrication, assembly, testing, and systems programming. Complete training facilities for field service engineers are also located here. Principal sales offices and demonstration facilities are located in Los Angeles and in New York.

In less than two years Standard Computer Corporation has created a unique new product and a complete support organization for its manufacture, sales and service. To find out more about the IC-6000 and the company behind it, call any of the offices listed on the back.