decsystem10

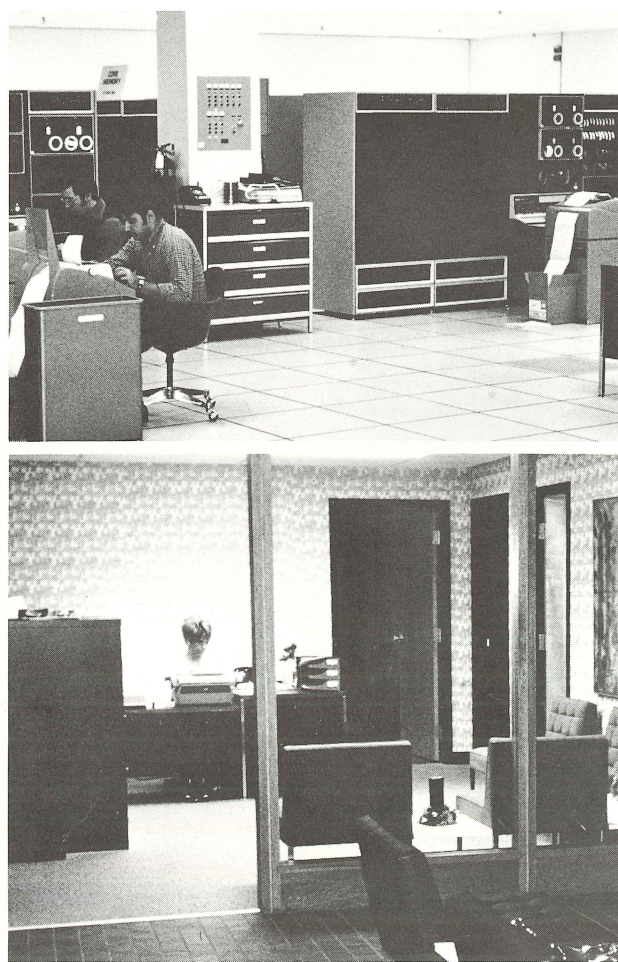## DECsystem-10 at the University of Pittsburgh

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About the Cover...

In 1925, University of Pittsburgh Chancellor John Gabbert Bowman launched a campaign for a new building to be symbolic of education's high aspiration and eternal reach. "The building," he said, "must be more than a schoolhouse. It must be a symbol of the life that Pittsburgh has wanted to live." On September 27, 1926, ground was broken for the 42-story Gothic structure, *The Cathedral of Learning,* the tallest school building in the world and the University's landmark.

A Change...

The Digital Equipment Corporation PDP-10 [DECsystem-10] has been selected to expand the computing capacity of the Computer Center. In choosing new equipment, the [selection] committee had a number of criteria. For example, they felt it was necessary to increase the computer power available to users by a substantial amount. Second, a machine with a proven record in either timesharing or batch processing (and a good start on the other) was necessary to allow for the integration of all services on a single type of machine. These goals had to be met within the budget constraints imposed by the University. It was felt by the committee that the PDP-10 [DECsystem-10] met these criteria better than any other machine which was evaluated. In addition, it allowed for considerable expansion of both quality and quantity of services available.

From READOUT, a publication of the Computer Center of the University of Pittsburgh.
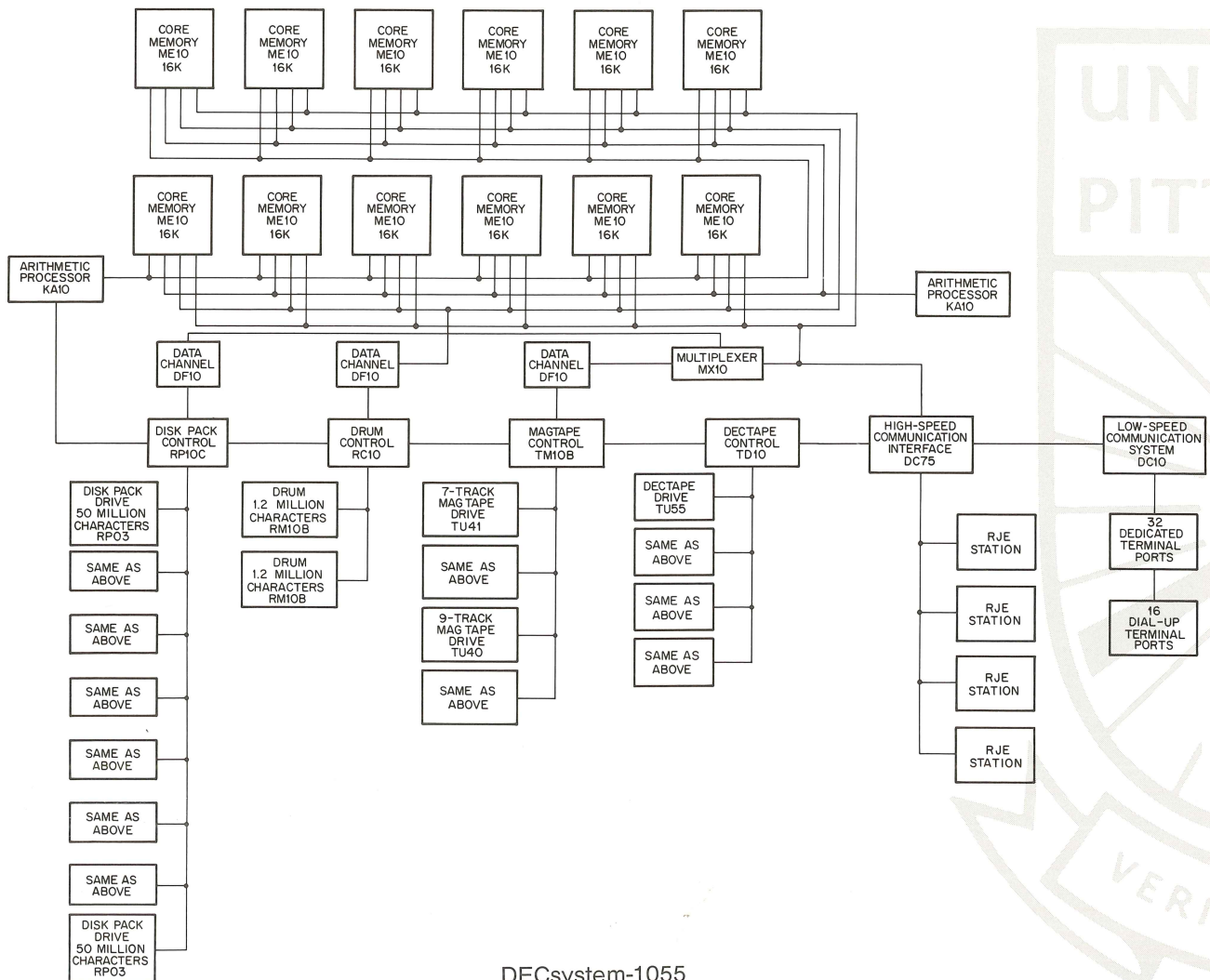
A New Computer Center...

The University of Pittsburgh Computer Center was originally located in the Cathedral of Learning. But space there was limited, making system upgrading and expansion impossible. When alternative campus locations weren't available, the decision was made to move off campus. The success experienced by the Center in offering remote services, and plans for increasing such services, geographically freed location of the central computer, and the relatively low cost and availability of the newly chosen site were too good to overlook.

The Computer Center is in a new building in an industrial park in O'Hara Township, ten miles from the Pitt campus. It has a total of 20,000 square feet of floor space, half of it devoted to the computer room. The Center provides remote services to the campus via timesharing terminals and remote job entry stations. A microwave transmission facility will handle high-speed communication between the Center and the main campus, improving service at a considerable cost savings.

Computing Activity at Pitt...

The Computer Center processes as many as 3500 batch jobs a day and averages better than 50 simultaneous timesharing users. The job mix consists not only of languages offered by DIGITAL—FORTRAN IV, ANSI COBOL, MACRO-10 (assembly language for DECsystem-10), BASIC, LISP (a list-processing language developed at MIT), and SNOBOL (a string-processing language developed at Bell Labs.)—but also includes three processors developed at Pitt. The Pitt processors are PIL, a JOSS extended language; CATALYST, a computer-assisted instruction language which makes use of PIL subroutines; and EDITOR, a convenient-to-use, reasonably powerful text editor. All of the above software are available for both interactive and batch computing.

Sixty academic departments within the University use the Computer Center's DECsystem-10, and the library is developing on-line circulation capabilities with the system. A growing number of area schools, members of the Pennsylvania Regional Instruction System for Education (PRISE), are also making use of Pitt's wide variety of computing capabilities.

DECsystem-1055

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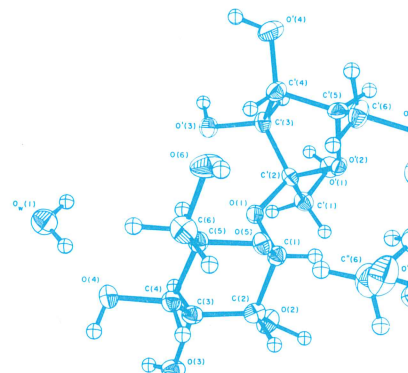entry stations. A
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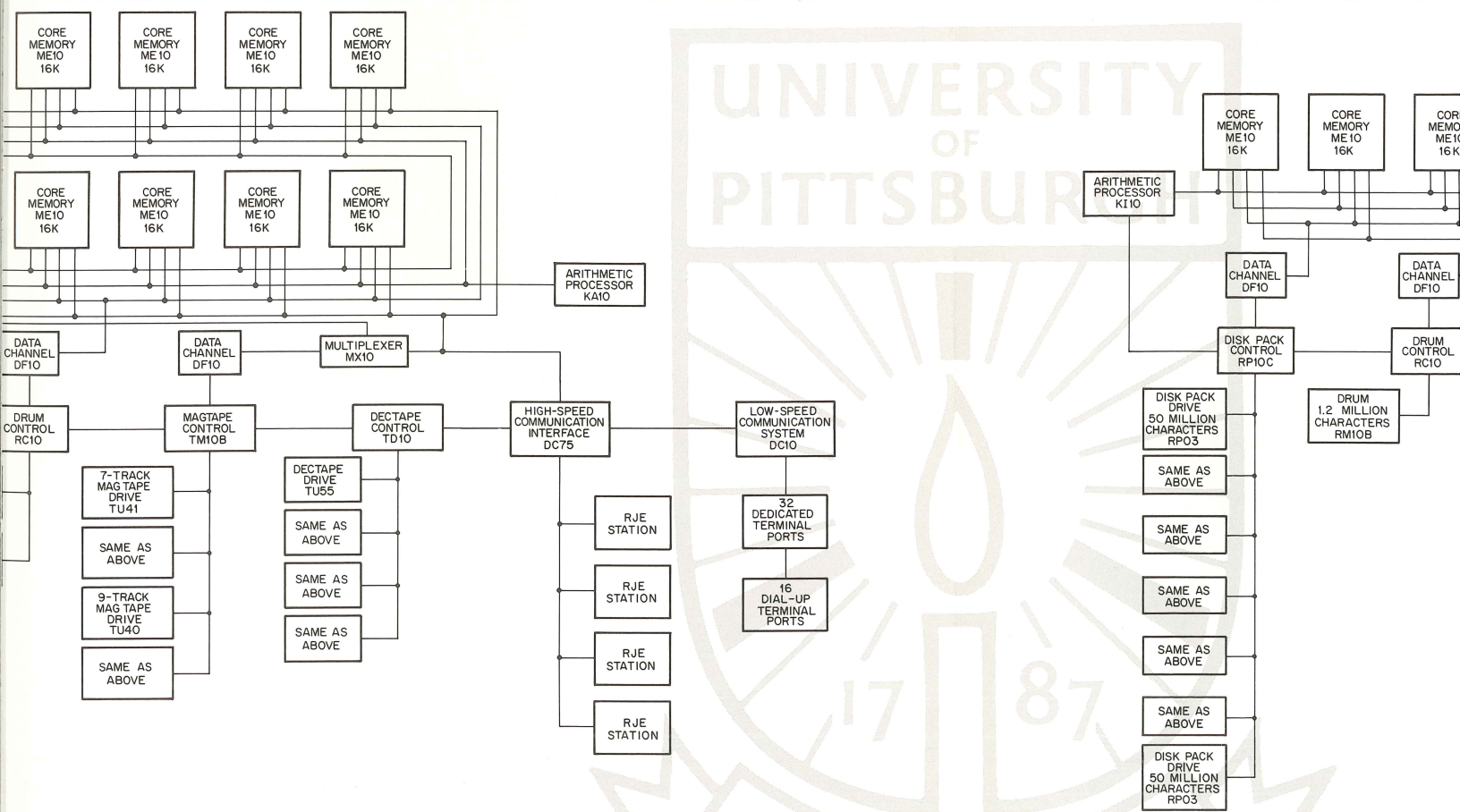
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A computer plot showing a carbohydrate molecule performed o

DECsystem-1055

Crystallography Department Plots Molecular Structure…

Pittsburgh's Crystallography Department makes extensive use of the DECsystem-10 in determining the structure of crystals. Among others, six major programs are used to solve the crystal structure, produce electron density maps, refine the atomic coordinates of the molecule, calculate such molecular parameters as bond lengths and bond angles, and finally, produce a picture of the molecule on the CALCOMP Plotter.
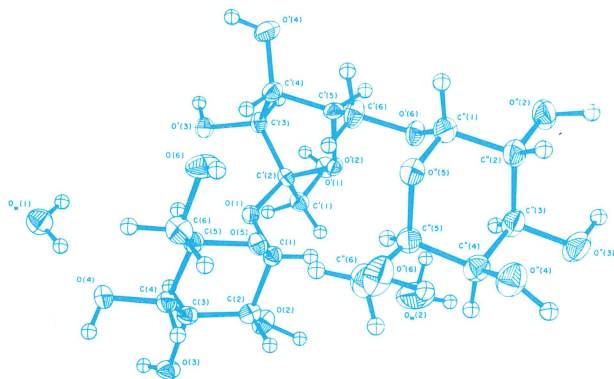

A computer plot showing a carbohydrate molecule performed on the DECsystem-10 computer.

Another DECsystem-10 at Pittsburgh Med…

In addition to the DECsystem-10 timesharing and batch processing systems at the Computer Center, the University's School of Medicine has been using their own DECsystem-10 since early 1969. Managed by the Medical School's Department of Radiology, this system's primary function is to calculate doses for patients undergoing radiation therapy.

The DECsystem-10 Configuration…

By the end of 1972, the hardware systems shown here will be combined into one large dual-processor DECsystem-1077, taking advantage of the speed and improved capabilities of DIGITAL's new KI10 Arithmetic Processor.
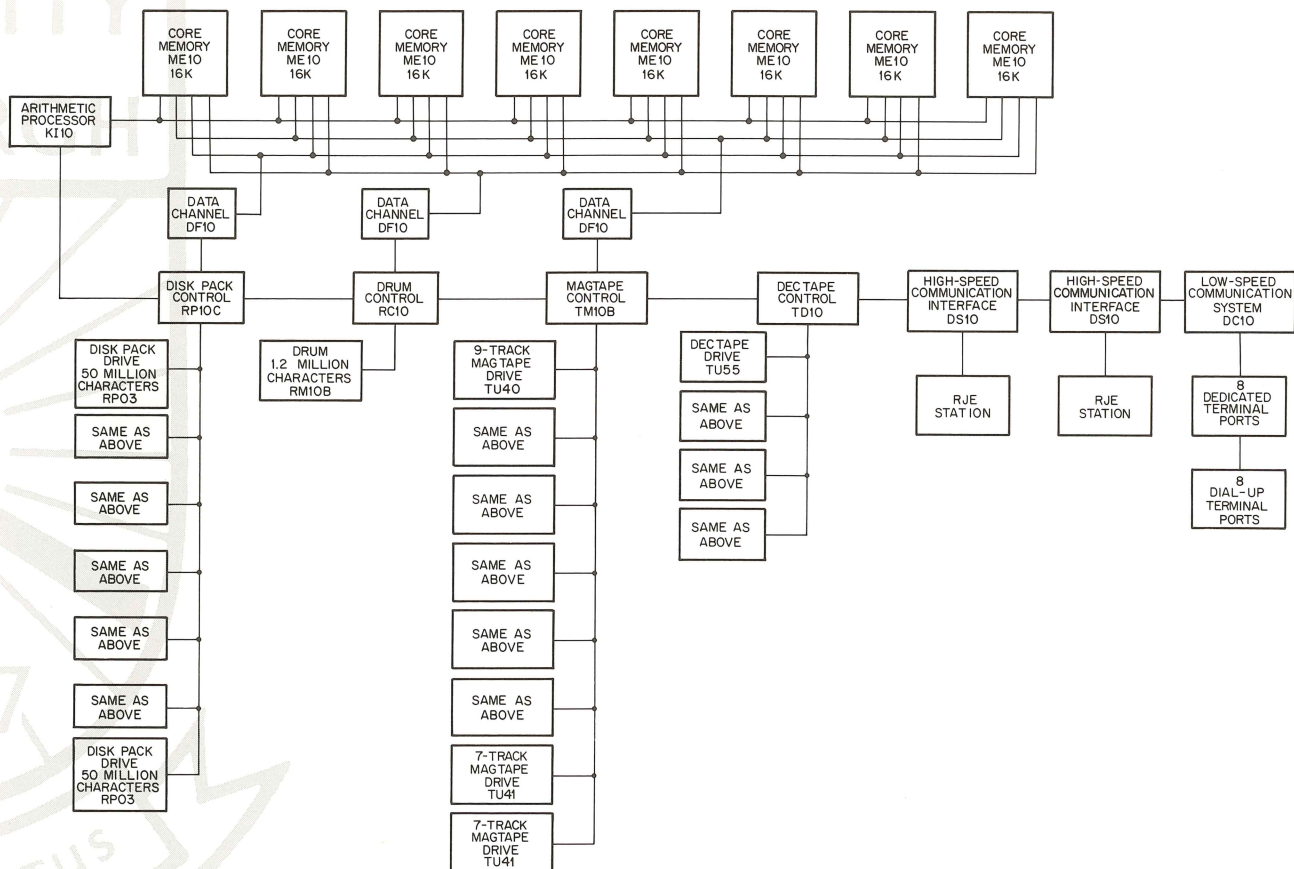
DECsystem-1070

Area Colleges Interact…

In August, 1971, the University of Pittsburgh Computer Center was awarded a grant by the National Science Foundation for the purpose of supplying smaller area colleges with computer time and assisting them in curricular computing. Data lines have been installed between the Pittsburgh Computer Center and five PRISE colleges, and interest in the program is expanding among the remaining 14 PRISE members.

At Gannon College in Erie, an English professor without previous computer experience used Pitt's -10 to write an interesting program of sentence variation. The program, which will be used in a creative writing course, makes use of alphanumeric data files and a random number generator. In addition to the use of the computer in English, speech, and drama courses, Gannon College will be using the DECsystem-10 to aid in solving accounting problems such as depreciation and bond schedules as well as engineering problems.

At Mercyhurst College in Erie, terminals linked to Pitt's Computer Center are used for a course in programmed learning. This course makes use of the language CATALYST which was written at the University of Pittsburgh. Other computer usage at Mercyhurst is in the Physics Laboratory and in the Mathematics Department.

Users at Slippery Rock State College have the DECsystem-10 write programs for use in such courses as Educational Psychology, Evaluative Techniques and Educational Statistics, and College Algebra and Elementary Mathematics.

Computer Science students at Westminster College in New Wilmington are being introduced to timesharing and the BASIC language of Pitt's DECsystem-10. In addition, Westminster's Biology Department will be running genetics programs on the -10.
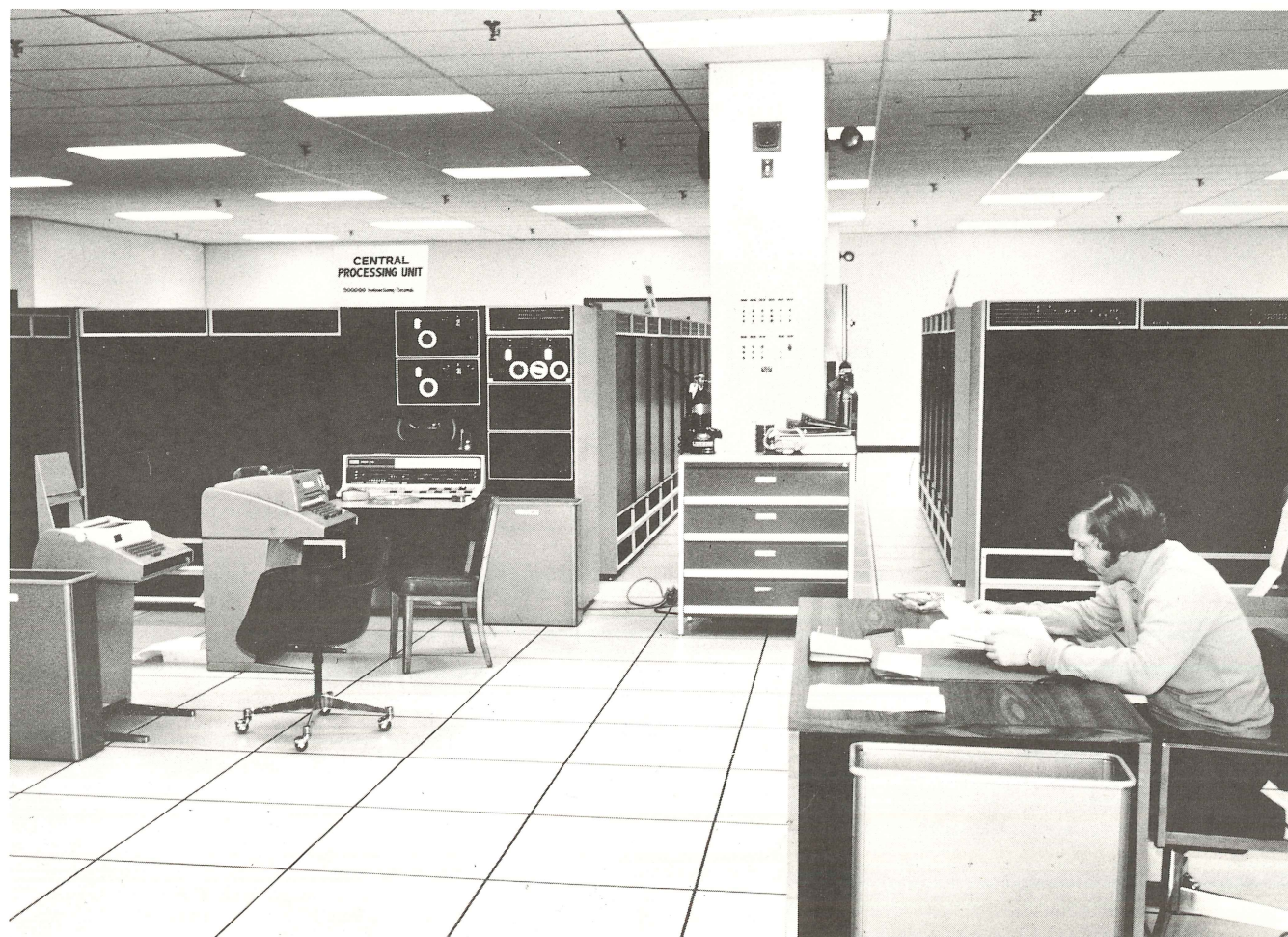
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