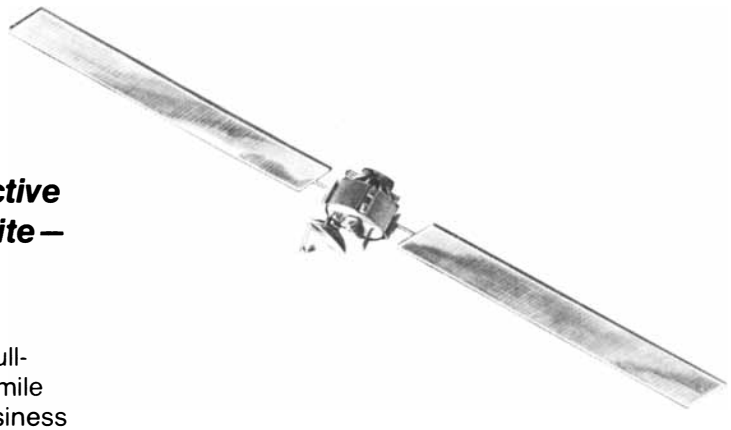
HP measurement and computer advances

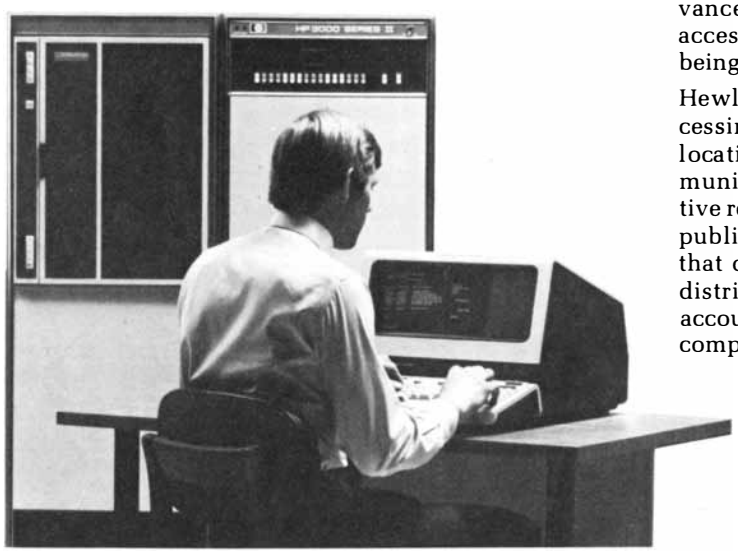


SBS extends frontiers in interactive data communications via satellite—with the help of HP computers.

Using a satellite to transmit data, voice, full-motion and freeze-frame video, and facsimile documents—all interactively—Satellite Business Systems (SBS) has undertaken a pace-setting experiment in advanced communications for geographically dispersed organizations. HP 3000 Series II computers were chosen for the data processing and operations management portions of the experiment.

Project Prelude, an experiment in advanced communications, has been successfully concluded by Satellite Business Systems in cooperation with host companies that included Rockwell International Corp., Texaco Inc., and Montgomery Ward & Co., Inc. The experiment demonstrated the feasibility of high-speed, low-cost intracompany communications via satellite among widely dispersed facilities.

Providing the link was the Communications Technology Satellite (CTS), an experimental communications satellite used jointly by NASA and the Canadian Department of Communications.



"This is the first CTS experiment to include small earth stations on customer premises and integrated audio/data/image communications in a digital format," says Tom Rush, SBS Project Coordinator. "This system was designed to explore large-scale economies and improved control in organizations with heavy information traffic among geographically dispersed facilities.

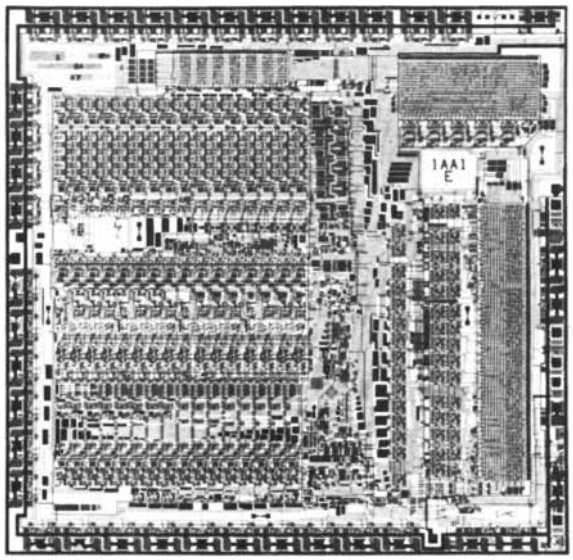
"We selected HP 3000 Series II computer systems because their standard software could handle the fast data rates, and they certainly had proven distributed data processing capability."

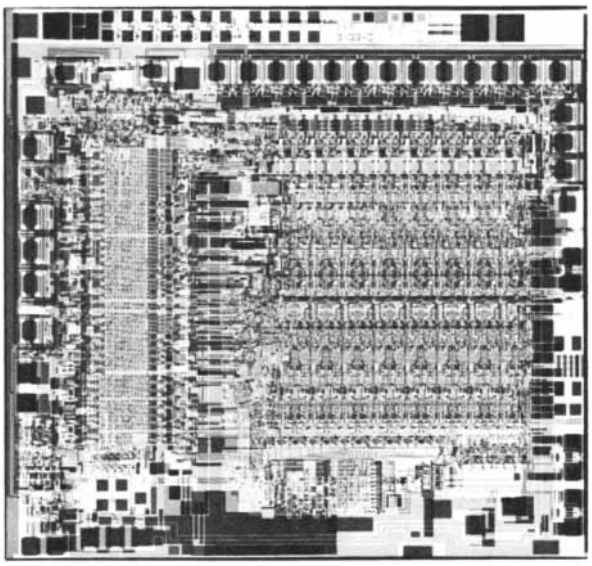
HP distributed processing could extend your possibilities.

HP's distributed processing capabilities stem from a generalized network architecture that can fit computer systems to your needs without reshaping your organizational structure. The availability of low-cost, high-performance computers and advanced systems network software can put easily accessible processing power wherever the work is being done.

Hewlett-Packard is committed to distributed processing as the sensible way to enable functional locations within an organization to process, communicate, and share information for a more effective response to changing conditions. We have just published an issue of the *Hewlett-Packard Journal* that deals with some of the technical niceties of distributed systems networks, including a fuller account of Project Prelude and satellite-linked computer networks. Mail the coupon for your copy.

extend your possibilities.





These photographic enlargements of two HP microprocessor chips—one with NMOS II large-scale integrated circuits at right and one with CMOS/SOS at left—illustrate a major reason for the rapid growth of digital circuits: increasing functional density at a decreasing cost. These chips contain as many as 10,000 transistors and are about this big ■

How to operate more confidently in an increasingly digital world.

While analog circuits generally convey data by a continuum of voltages, the digital world of microprocessors and LSI circuits relies on two voltage levels, conveying information by switching between them. Because of this fundamental difference, digital circuits pose a special set of problems for both designers and troubleshooters. And HP has some excellent solutions.

As the solid state revolution increases their functional density at a decreasing cost, digital circuits are infiltrating areas that previously relied on analog technology, and are cropping up in an endless procession of products that include microwave ovens, automobiles, home computers, process control (analog from its inception), telecommunications, and a range of industrial controls.

In short, the technical, industrial, and consumer worlds are turning digital. While this greatly extends possibilities, it also introduces some complications—most notably in the design, debugging, software development, and diagnosis of these functional leviathans in minnow-sized packages. While it may not be immediately obvious, this digital data domain requires special measurement tools. And here Hewlett-Packard is making significant strides, continually introducing new measurement approaches and instruments designed to make the digital revolution manageable, and thus enable technical people to operate more confidently.

If you are wrestling with any aspect of digital circuitry, you will be interested in reading the February issue of the *Hewlett-Packard Journal*, which explores HP's growing family of digital logic analysis test instruments at some length, and offers a few viewpoints of possible interest. Just mail the coupon, and we will be pleased to send you a copy.

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