NOW... from Burroughs Corporation
on-line disk file...full COBOL programing...modest cost

B 500

electronic data processing system

This is the new **Burroughs** B 500

. . . a versatile, high performance computer system that offers—

- random access disk file processing
- full COBOL programing
- on-line data communication operation
- fast, simple programing, operation and scheduling
- proven hardware and software design
- growth potential.

With the B 500, Burroughs Corporation brings the versatility of high speed random access processing and full COBOL programing well within the reach of many more firms than ever before possible. Like other Burroughs systems, the B 500 is modular in design. This makes it an ideal computer for the organization whose EDP planning anticipates growth in system size and capability.
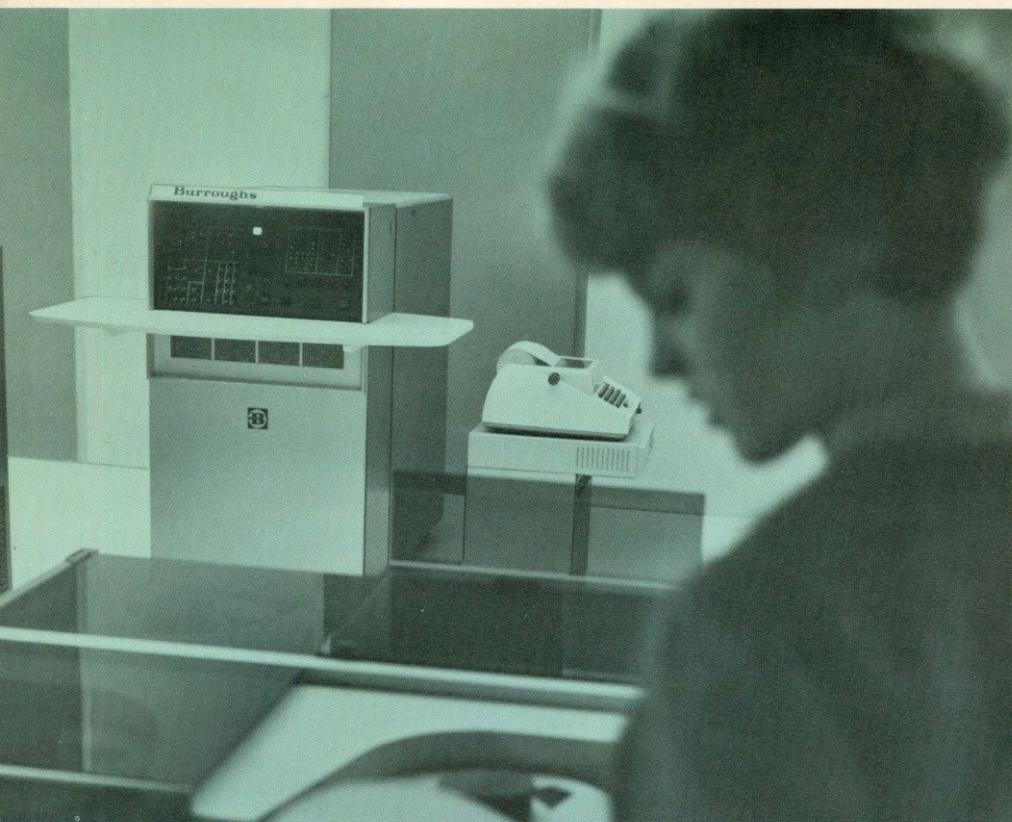
The B 500 is available in punched card, magnetic tape, disk file, and data communications configurations. And it comes with a broad line of cost-conscious peripherals that include a new printer and Burroughs unique "clustered" magnetic tape units.

The B 500 comes with excellent credentials, too. It's a further development of Burroughs highly successful B 100, B 200 and B 300 series computers, and takes advantage of their field-proven systems software and applicational programs.
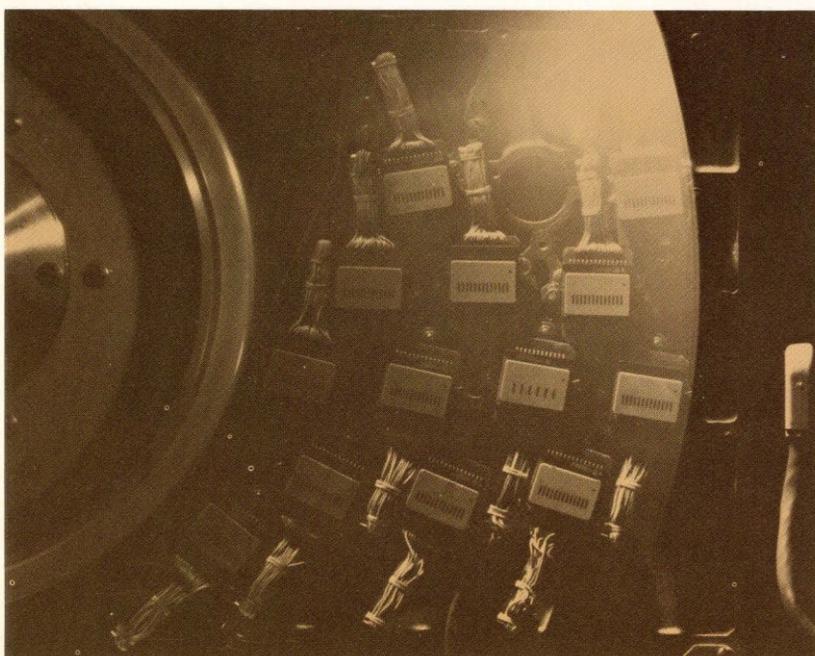
A special, compact disk file Systems Memory acts as a high speed on-line extension of the B 500's main memory. Each data track has its own read/write head. Data switching is completely electronic and is handled at many times the average speed of conventional disk files.

The on-line Systems Memory unit houses combinations of software elements such as the COBOL compiler, assembler programs, an operating system, the user's program library, and segments of working programs.

B 500 Systems Configurations

1

2

3

4
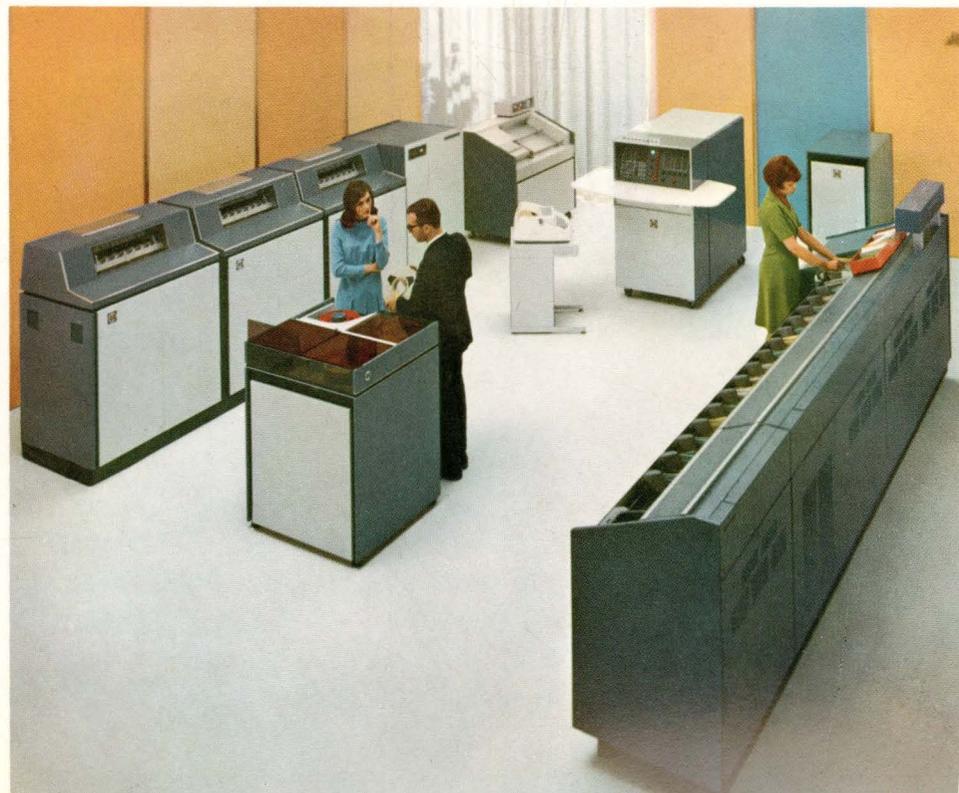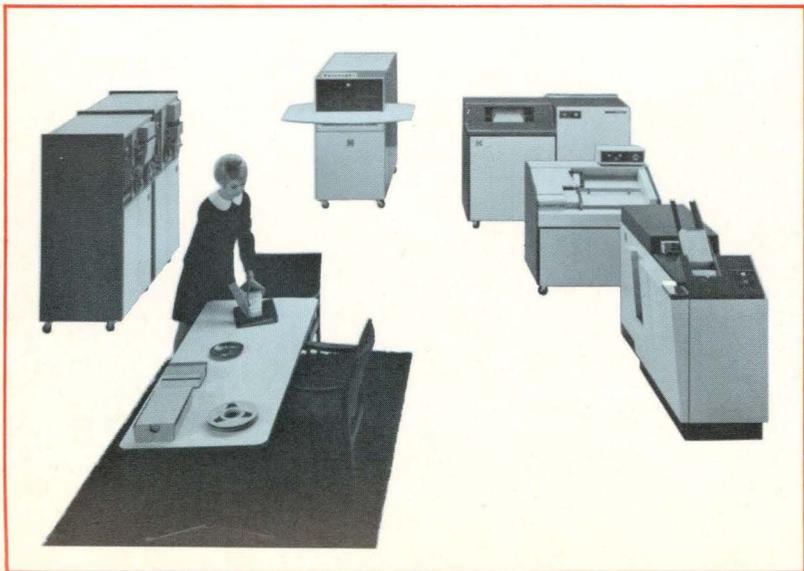
1. Magnetic Tape

B 500 magnetic tape systems can be equipped with up to six tape stations, plus single or dual card readers and line printers. The user may select from a variety of peripheral models including a new low cost printer and Burroughs unique multi-tape "cluster" units. A compact Systems Memory disk file can house the COBOL compiler, operating system, and other software elements.

2. Card and Paper Tape

Basic B 500 processing and data conversion systems are available with punched card and/or paper tape input and output, plus line printer output.

3. Satellite

The B 500 adapts easily to card/magnetic tape/printer-oriented satellite operations because of its ability to handle multiple data conversion tasks and regular production work concurrently.

4. Financial Systems

Bank versions of the B 500 offer a selection of high speed document sorter-readers and up to 18 high speed individually-controlled listing tapes to provide positive control and minimum average passes per item. Combining these proof-transit units with general purpose peripheral units broadens the B 500's power to serve the full range of banking applications.

5

7
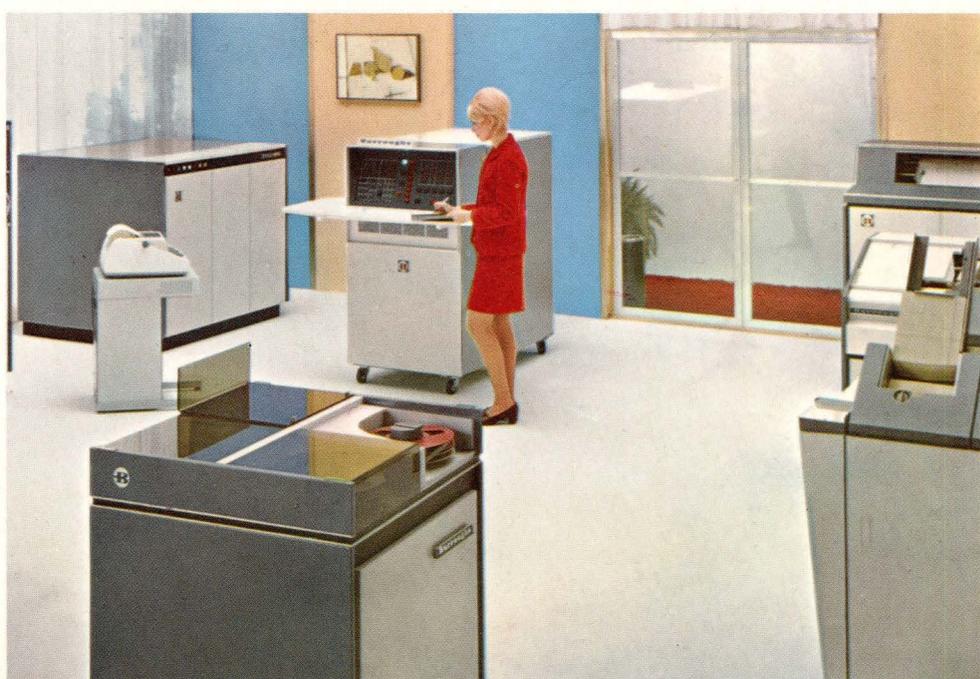
6

5. On-Line Data Communication

The B 500 will service up to 64 data communications lines which, in turn, will serve numerous remote stations of various types. All data communications control is exercised by hardware separate from the processor. This permits great flexibility in assembling an efficient, low cost on-line or data communications network.

Special terminal equipment is available for Burroughs on-line financial systems which permit a single B 500 processor to serve hundreds of remote teller's consoles.

6. General Purpose/Inquiry

Multiple-file random access processing is made practical by the uniquely fast access time and complete flexibility of the B 500's head-per-track disk file subsystem. All files affected by a new transaction are fully updated in a single pass of the data. Since all major files are maintained on-line and in current status, inquiries are handled instantly and provide up-to-the-minute information.

7. Satellite

The very high operating speed of the disk file subsystem, coupled with a tag sorting technique, enables random access B 500 computers to outperform far more expensive magnetic tape satellite systems. Data conversion tasks are handled with special utility software provided by Burroughs. With the computer in multiprograming mode, controlled by a flexible operating system, more work gets done, faster.

HARDWARE/SOFTWARE –
Efficient and Easy to Use . . . By Design

B 500 hardware and systems software are complementary. They were designed together to work together, resulting in the elimination of many conventional programing problems and system control considerations. B 500 programmers spend their time productively solving business problems, not equipment problems.

Here are some of the ways in which this complementary design philosophy makes the B 500 both productive and easy to work with:

B 500 Software Characteristics

COBOL

The B 500's COBOL compiler, based in the Systems Memory disk file, lets the user take full advantage of this higher level job-oriented language. B 500 COBOL permits program standardization and, according to user reports, can produce savings of 50 percent or more in programing time and costs. COBOL also provides the user with a direct route for growth into any of Burroughs larger 500 Systems.

Other Programing Languages

Burroughs report and sort generators provide a simple, flexible means of preparing many kinds of basic programs. More complex programs are readily prepared in Burroughs symbolic assembler languages. Because the B 500 operates with a limited but powerful instruction repertoire, its symbolic programing is easy to learn and use, and produces efficient object programs with minimal debugging.

Program Library

An extensive group of excellent field-proven programs are available for many applications ranging from finance to public service and general industry. These include, for example, a comprehensive set of banking programs, government and public utility programs, and some of the most advanced inventory management programs available for any EDP system.

Data conversion routines, sort program generators, and a large array of other proven programs, subroutines and programing aids—developed for or by B 100, B 200 and B 300 users—are available for direct use with the B 500.

Operating Systems

Supervisory control programs and operating system control programs are available for magnetic tape and disk file versions of the B 500. These offer superior control and efficiency for both sequential processing and multiprograming operation. Operating systems handle program loading, overlaying of program segments, monitoring and debugging, operator communications, peripheral unit control, and many other functions—automatically.

## B 500 Hardware Characteristics

Central Processor

The B 500's central processor is available with 9,600 or 19,200 individually-addressable characters of magnetic core main memory. It is a character-mode machine with three-address fixed word length instructions, which makes it very easy to program. Features such as buffers, high-low-equal compare, and multiply/divide are standard. Many other input/output control, command, and feature options permit an economical, modular expansion of central processor capability at any time.

Buffered input/output

Magnetic core buffers outside the processor's main memory compensate for differences between processor speed and input/output unit speeds. Operations are overlapped, enabling all buffered units to operate simultaneously at rated capacity. Buffering improves the system's "throughput", and eliminates complex input/output timing considerations from the programing job.

Separation of communication control

Burroughs communications terminals and control units, separate from the processor, handle many date communication problems—buffering, code translation, line discipline, error detection and correction—without programing. The B 500 central processor and the programmer are concerned only with computational aspects of transaction processing and problem solving.
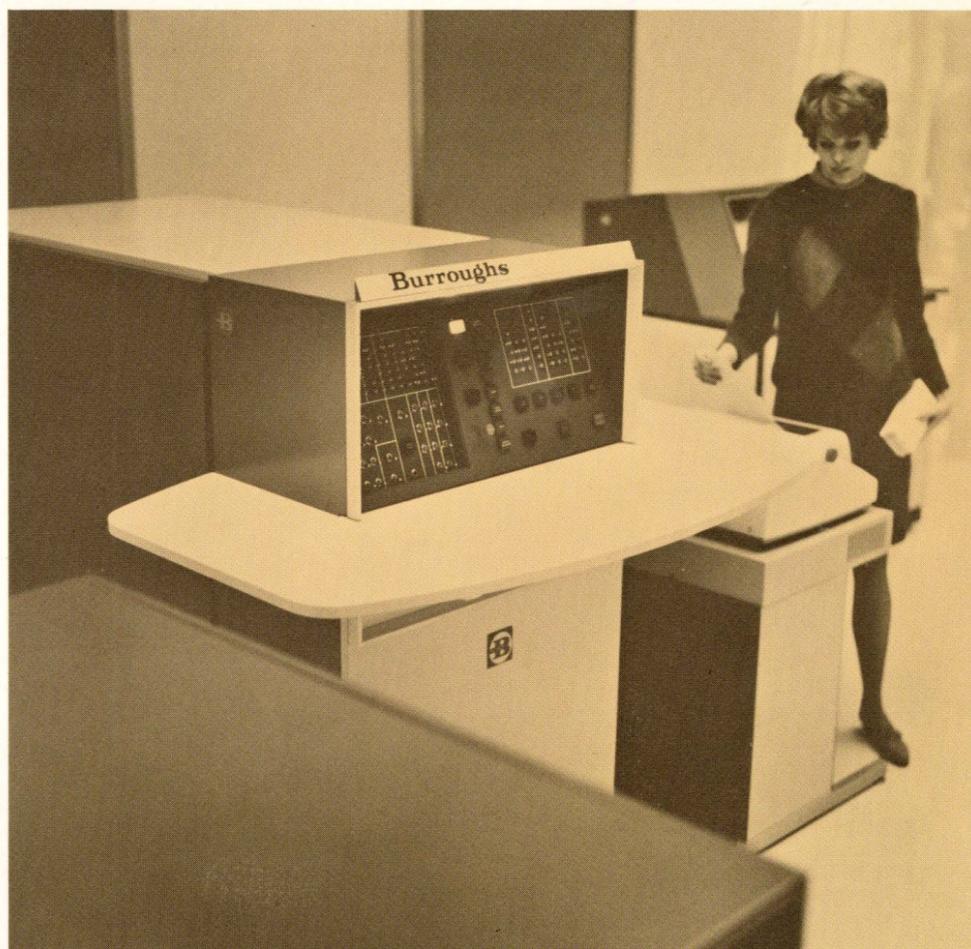
Peripheral Equipment

Systems Memory— a compact, head-per-track disk file. 2.4 million characters in 240-character segments. Average access time 23 ms.

Disk File Sub Systems —

on-line storage in 9.6 million character modules up to a maximum of 480 million characters/720 million digits. Head-per-track design, all-electronic access, with average access of 20 ms. As easy to program as a magnetic core system of equivalent size!

Data memory banks available in 19.2 million character modules with total capacity of 960 million characters/1.44 billion digits. 40 ms average access.

Data Communications—

terminal units, line adapters, and a broad choice of remote inquiry stations including Burroughs Input & Display consoles and monitors, financial On-Line Teller Consoles, and satellite systems.

Line Printers—

one or two printers, each with operating speeds of 700 to 1,040 lines per minute, and 120 or 132 print positions per line. Or, a new low cost 315 line per minute model.
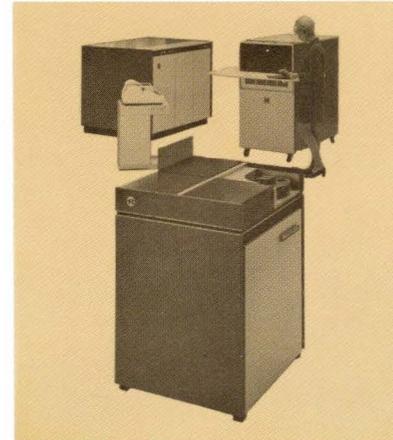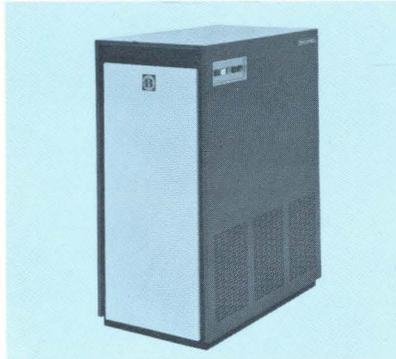
Magnetic Tape— free standing units with recording densities of 200, 556 and 800 characters per inch and data transfer rates of 18, 50 and 72KC. Or, Burroughs economical new multi-tape "clusters" with similar recording densities and transfer rates of 9, 25 or 36KC. Two to six tape stations per B 500 system.

Financial Document Sorter-Readers—

with 13 or 16 pockets, operating at 1,000 or at 1,565 items per minute.

Financial Tape Listers—

offering 6, 12 or 18 individually-controlled tapes, capable of printing up to 3 tapes simultaneously at full Sorter-Reader speed.

Card Readers—

one or two units each operating at 200, 800 or 1,400 cards per minute.

Card Punch—

operating at 100 or 300 cards per minute.

Paper Tape—

reader operating at 500 or 1,000 characters per second, selectable by operator. 100 character per second punch.

Burroughs 500 Systems

B 2500/3500 SERIES

B 8500 SUPERCOMPUTER

B 6500/7500 SERIES

B 5500

B 500

Wherever There's Business There's / **Burroughs**