Medium Systems

The markets served by our medium-scale computers cover a very broad cross-section of business and government activity. Large numbers of these systems are used in manufacturing, wholesaling, distributing, education, transportation, government agencies, and in utilities and financial institutions.

In May, 1972, we expanded our medium computer systems range with the release of five powerful new models in the B 4700 series, the introduction of the B 3700 series with two models, and the B 2700 series with six models. The 13 models in these series incorporate the latest advances in operating system software, together with new, high-speed input/output sub-systems. They feature the use of a separate data communications processor, which allows the systems to accommodate large numbers of terminals in a data communications environment. They also utilize extensive disk storage sub-systems for large data base applications.

The B 4700 series, at the top of our medium computer range, has been an outstanding success since its introduction in October, 1971. The systems in this series provide high levels of performance in both commercial and scientific data processing applications.

The speed of the new B 4700 systems' central processor is four million cycles per second. Combined with an input/output sub-system which can transfer data at four million bytes per second, this provides very powerful throughput performance, particularly in a multi-programming environment where a large number of individual programs are being processed concurrently.

The new B 3700 series in our medium-scale computer range utilizes advanced integrated circuit main memory.

B 4700 systems are available with one, two, three, or four independent central processors, and up to four input/output sub-systems. Main memory capacity of the B 4700 series ranges up to 500,000 bytes for each processor to give a total of two million bytes arranged in independent sub-systems.

The B 3700 is a new series of powerful multiprogramming systems, available with one or two independent central processors. The central processors operate at three million cycles per second, and are up to 70 percent more powerful than our very successful B 3500 series of medium computers. The power of the B 3700 is optimized, in terms of system throughput, by an advanced input/output sub-system which can transfer data at three million bytes per second—up to 50 percent faster than the B 3500 series.

Advanced integrated circuit main memory is utilized by the B 3700 series. This memory is in modular form, and can be expanded from the minimum of 100,000 bytes up to a maximum of 300,000 bytes for each independent processor, providing a total of 600,000 bytes in a dual-processor system.

The B 2700 series represents an evolutionary advance of our very popular B 2500/B 3500 systems' design. The new systems offer outstanding and highly cost/effective data processing performance in comparison with competitive equipment in the medium computer market.

The six models in the B 2700 series range from a single processor system operating at 670,000 cycles per second, and with 30,000 to 60,000 bytes of main memory, up to a parallel multi-programming system consisting of two independent central processors operating at two million cycles per second each, and with a combined capacity of 600,000 bytes of main memory arranged in independent sub-systems.

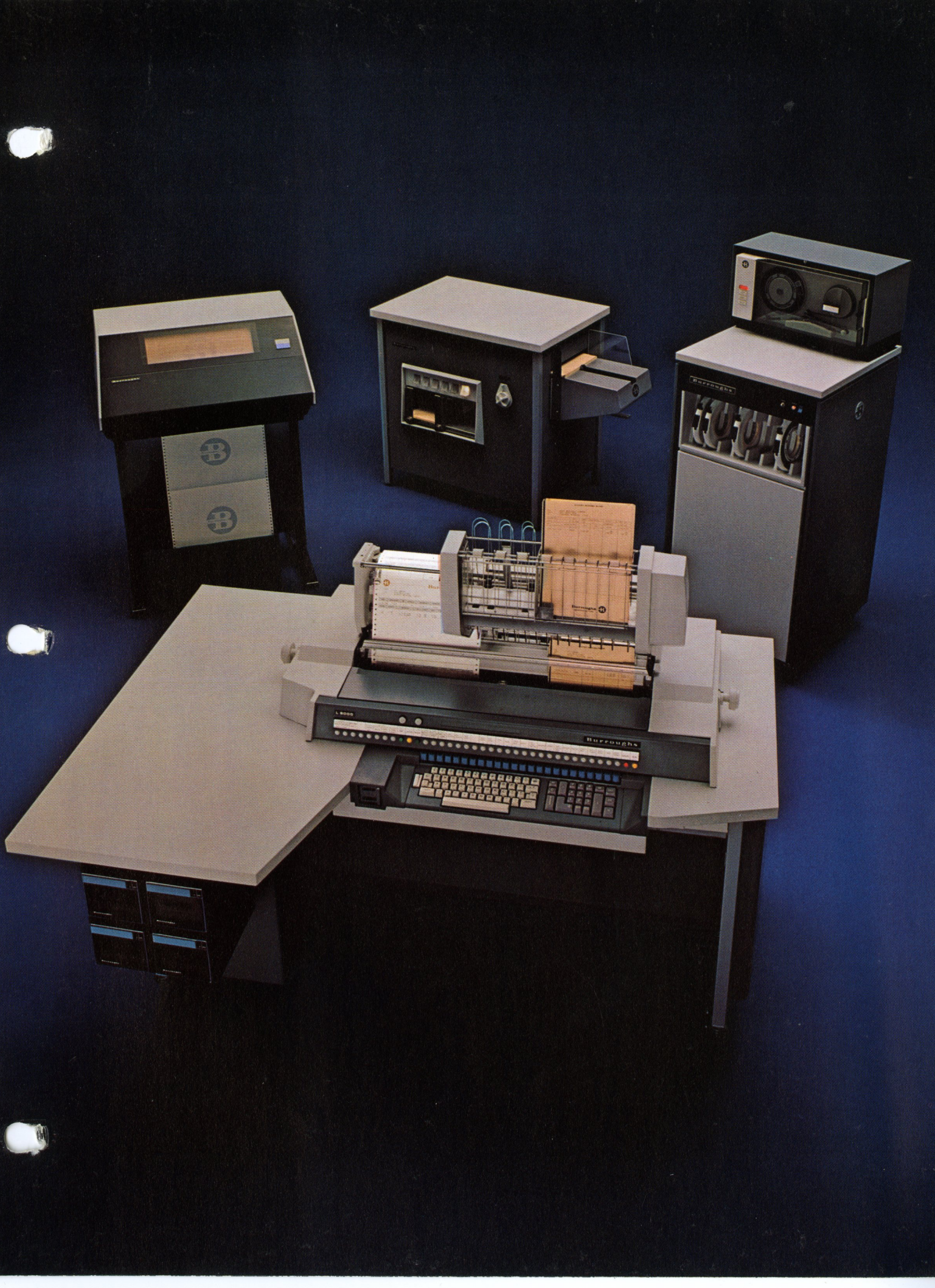
In the multiple processor models of the B 4700, B 3700, and B 2700 series, independent central processors can simultaneously share a common disk file sub-system. As a result, users can benefit from significantly greater processing power without a corresponding increase in secondary data and program storage. In addition, performance is enhanced by allowing the independent processing of programs which use common information.

In June, 1972, we introduced the smallest system in our medium-scale range—the B 1726. This system incorporates an advanced medium-scale integrated circuit processor which operates at six million cycles per second. The system's main memory utilizes the latest large-scale integrated circuitry and is expandable from a minimum of 24,000 bytes up to 98,000 bytes. In addition, the B 1726 has a special integrated circuit control memory, which operates at four times the speed of main memory, for significantly faster program execution. In a data communications environment, the B 1726 can interface with larger Burroughs computer systems or with a wide variety of terminals.

The B 1726 is one of the B 1700 series of fourth generation computers whose very advanced features and characteristics are described in fuller detail in the following "Small Computer Systems and Business Mini-Computers" section.

We have been very successful in the medium-scale computer market, and we anticipate that the technologically advanced systems added to our medium-scale range during 1972 will significantly expand our position in this market sector.


Burroughs
B 1700
Burroughs
Burroughs
Burroughs


Burroughs
L9000
Burroughs

Small Computer Systems and Business Mini-Computers

Revenues from this product group amounted to $183.3 million in 1972, an increase of 42 percent over the $128.8 million for 1971.

These products cover a large and rapidly growing sector of the market which is characterized by three categories of users. First, there are the many thousands of smaller companies and organizations throughout the world which are entering the data processing market for the first time. Second, there are significant numbers of existing users of small systems who want greater productivity, and increased management information and control capability from their computers. And third, there are the larger users of computer systems with decentralized data processing requirements.

We are able to offer these users a very broad choice of data processing options. Our range in this product category extends from entry-level business minicomputers to advanced small-scale data processing systems with very high throughput and complete management reporting and control capabilities.

The B1700 series brings to users of small-scale computer systems the opportunity for efficient management reporting and control that has been available to users of larger systems.

Small Systems

The B1700 computer systems, which were released in June, 1972, represent one of the most significant series of products ever to be introduced by our Company. These compact, fourth generation computers bring the advanced technology of larger computers to the small system market, and allow the user to benefit from such features as self-regulation by means of a Master Control Program, automatic multiprogramming, and virtual memory.

Of special significance was the introduction with the B1700 series of the extensive BMS™ library of complete Business Management Systems. These ready-to-use application program products provide smaller businesses with the management information and control capability that is available to users of larger computers.

The B1700 systems also achieved an important advance in terms of efficient multi-language processing. Until the introduction of the B1700 series, computers generally had been designed to process only one programming language at optimum efficiency, and other languages at varying degrees of efficiency. Employing the concept of variable micrologic in a new manner, the B1700's logic is altered dynamically to create the optimum environment for any programming language for which interpreters have been written, including programs written for other systems.

Currently, there are interpreters available on all B1700 systems for the higher level languages of COBOL, FORTRAN, BASIC, and RPG. Interpreters are also available on the B1726 to emulate Burroughs B200, B300, and B500 systems. These interpreters are highly efficient and provide processor performance which is 2.5 to 3.5 times the performance of the original computer systems.

The B1726 is the largest system in the series, and its operating performance has been described in the earlier "Large and Medium Computer Systems" section of this report. The two small-scale models in the series are the B1714 and B1712, which have central processor operating speeds of four million cycles per second and two million cycles per second respectively. The B1714 has a basic main memory of 16,000 bytes, which is expandable to 65,000 bytes, and the B1712 memory size ranges from 16,000 bytes to 41,000 bytes. In addition, the B1714 can be interfaced with larger Burroughs computer systems as well as terminals in a data communications network.

The small-scale B1700 systems are oriented to the use of high-capacity removable-cartridge, disk drive subsystems for the storage of program libraries, data files, and system software. They reduce the cost of on-line random access processing and offer unlimited off-line storage capabilities.

All B1700 central processors utilize high-speed medium-scale integrated circuit logic, and the systems' main memory uses large-scale integrated circuitry.

The technologically advanced features of the B1700 series provide an additional dimension in ease of operation and systems management to the user.

Business Mini-Computers

Our Series L business mini-computers make available the power of electronic data processing and management reporting and control to small businesses. They are also designed to satisfy the smaller data processing applications of larger organizations.

The first of our current series of business mini-computers, the L 2000, was introduced in 1969, and we have continued to expand this important and highly successful family of systems by the addition of new and more powerful models.These include the highly versatile L 3000, L 4000, L 5000, and L7000 series. The very popular L 5000 series and certain L7000 models provide additional data file capability through the use of magnetic memory records.

The latest addition to the range is the L 8000 series, which was introduced in October, 1972.The 12 models in the L 8000 series are the most powerful of our business mini-computers. They utilize very advanced metal oxide silicon (MOS) large-scale integrated circuit logic, which results in a very compact processor with up to 40 times the processing speed of the basic Series L systems. MOS large-scale integrated circuitry is also utilized in the systems' main memory which is expandable up to a total of 65,000 bytes.

The L 8000 incorporates up to four magnetic tape cassette sub-systems for data and program input and report generation. The cassettes also allow Dynamic Memory Overlay, which serves a function similar to virtual memory in our larger systems, and allows execution of user programs that are larger than available main memory.

The market served by small computer systems and business mini-computers is expected to be one of the fastest growth areas for our industry. The strength of our product range in this area provides Burroughs with a firm foundation for future revenue growth.

The new L 8000 series, with 12 models, further extends our range of business mini-computers which serve the needs of businesses throughout the world.

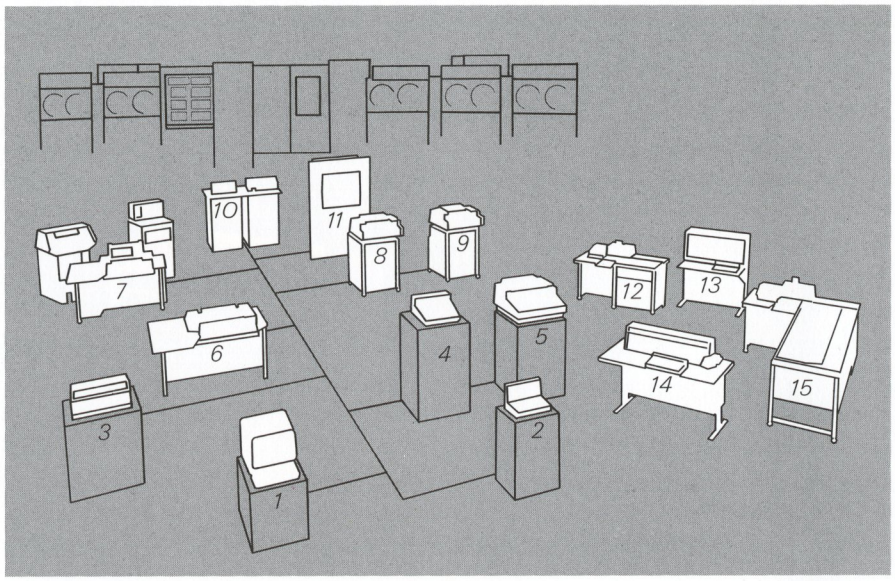
Data Preparation and Data Communications Terminal Equipment

The enormous amount of data which is generated by our modern society makes the use of automatic data processing equipment essential. This has led to the increased use of data preparation equipment to encode this information into computer acceptable form. Furthermore, data is often prepared at a number of remote locations and then transmitted to a central computer, which places great importance on the need for efficient and economical data preparation and data communications terminal equipment.

We market an extensive range of equipment for data preparation. Products in this range include our Series N magnetic tape encoders; the S100 single-pocket and S 200 multiple-pocket systems for magnetic ink and optical character document encoding and sorting; and a broad variety of paper tape punches, card punches, and exception item encoders. Among the advanced products introduced in 1972 was the PC 900 series of 96-column card data preparation equipment.

Pictured on the following page are representative products from Burroughs broad range of data preparation and data communications terminal equipment. The products in the picture are identified in the illustration below.

The central computer is shown in the background to illustrate the use of the terminal equipment in a data communications network for remote inquiry and data processing. All the terminal systems use Burroughs standard communications line procedures which permit them to share a common transmission line, as illustrated. This feature provides flexibility in data communications network design and offers significant savings in network costs.



DATA COMMUNICATIONS TERMINAL EQUIPMENT

1.	TD 800	Input and Display System
2.	TD 700	Input and Display System
3.	TU 300	Credit Authorization Terminal System
4.	TU 500	Commercial Teller Terminal System
5.	TU 700	Administrative Teller Terminal System
6.	TC 500	Terminal Computer System
7.	TC 3500	Terminal Computer System
8.	TC 1700	Financial Supervisor Terminal System
9.	TC 700	Savings Teller Terminal System
10.	DC 1000	Remote Data Controller/Concentrator
11.	RT 4000	Remote Full Service Teller System

DATA PREPARATION EQUIPMENT

12.	S 100	Single-pocket MICR/OCR Document Encoder/Sorter
13.	N 9000	Magnetic Tape Encoder
14.	PC 900	96-Column Card Data Recorder/Sorter
15.	S 200	Multiple-pocket MICR/OCR Document Encoder/Sorter


BURROUGHS

One of our major product strengths is in the area of data communications. In addition to our data communications oriented computer systems, we are able to offer users a broad variety of terminal equipment. Burroughs terminal systems include our TC Series of intelligent terminal computers; the TU Series of terminal systems for data collection and inquiry; the RT Series of remote cash dispensing and full service teller systems; the TD Series of input and display systems, and the DC Series of remote data controllers and concentrators.

Burroughs TC 500, introduced in 1968, was the industry's first intelligent terminal computer. Since then, we have continued to enlarge this family of products and, in 1972, the TC range was further expanded with the introduction of the TC 3500 series. The 15 models in the new series are the fastest and most powerful members of our TC family. They have been designed for high level throughput in an on-line, real-time data communications environment, and for efficient data collection and transmission in batch processing operations. A wide range of input/output controls and associated peripherals are available with the new terminal systems, including a magnetic tape cassette sub-system with up to four cassette stations.

A new feature, Automatic Passbook Reading (APR), was added to our TC 700 savings teller and TC 1700 financial supervisor terminal systems in 1972. The terminals read and transmit account information stored on a magnetic stripe on the back of a passbook to a central computer together with data on the current transaction. The terminal then posts the transaction in the passbook and encodes the new balance on the magnetic stripe.

At year end, our TU family of terminal systems was expanded by the introduction of the TU 700 series. The TU 700 is an administrative teller terminal system for use in commercial bank operations. This new system further reinforces Burroughs strength in the increasingly important electronic funds transfer market—an area in which we have already established a strong foundation with our TU 500 commercial teller terminal systems, TU 300 credit authorization terminal systems, and RT Series of remote teller systems.

Our RT Series was also expanded in 1972 with the addition of the RT 3000 and RT 4000 full service teller systems. The RT 3000 is an off-line system which allows a customer to use a magnetic striped cash card to obtain a full range of banking services. These include cash withdrawal from checking or savings accounts; cash deposits; transfers from one account to another; and commercial bill payments. The RT 4000 provides all these services while operating on-line to a central computer.

The TD 700 and TD 800 are low-cost input and display systems introduced in 1972. The TD 700 is a very compact system which utilizes a Burroughs 256-character Self-Scan® panel for alphanumeric information display. The TD 800 incorporates a cathode ray tube display, and is available with capacities of either 960 or 1,920 characters. The low cost and modular nature of the TD 700 and TD 800 will allow computer users to extend on-line data communications to a greater number of remote locations.

All Burroughs terminal systems use standard data communications line control procedures, which permit a variety of terminals to share the same communications line. This provides the user with flexibility of data communications network design, and offers significant savings in network costs.

Small Application Machines

Revenues from this product group were $124.8 million in 1972, a decrease of 21 percent from 1971 revenues of $157.5 million.

This group includes electronic calculators, electro-mechanical accounting machines, adding machines, and check signing, protecting, and disbursing equipment. The lower revenues in 1972 reflect the continuing shift of users from electro-mechanical accounting machines to electronic systems, although accounting machines continue to be widely used for those smaller applications for which they were originally designed.

Our range of office-quality electronic calculators was expanded in 1972 by the introduction of three new series. The machines incorporate the latest large-scale integrated circuitry, resulting in compact size and reliable operation.

The new C 2000 printing models combine the features of the listing/adding machine, which provide an easy-to-read audit record of calculation, with the high-speed computation and versatility of the electronic calculator.

The C 6000 series of printing models is a further enhancement of the C 2000, and includes the ability to perform, automatically, many business applications which normally require complex, step-by-step indexing.

The new C 5000 series uses a Burroughs Panaplex™ panel for information display, and offers a variety of computing, memory, and display capacities.

During 1972, we added three new series to our J family of adding and multiplying machines. The eight models in these series offer a broad choice of capacities, and have been designed for reliable performance.

Shown are three of the newest models in our broad range of electronic printing and display calculators.