



RANDOM-SEQUENTIAL COMPUTER SYSTEM

CGRAM

Card Random Access Memory

...an NCR exclusive



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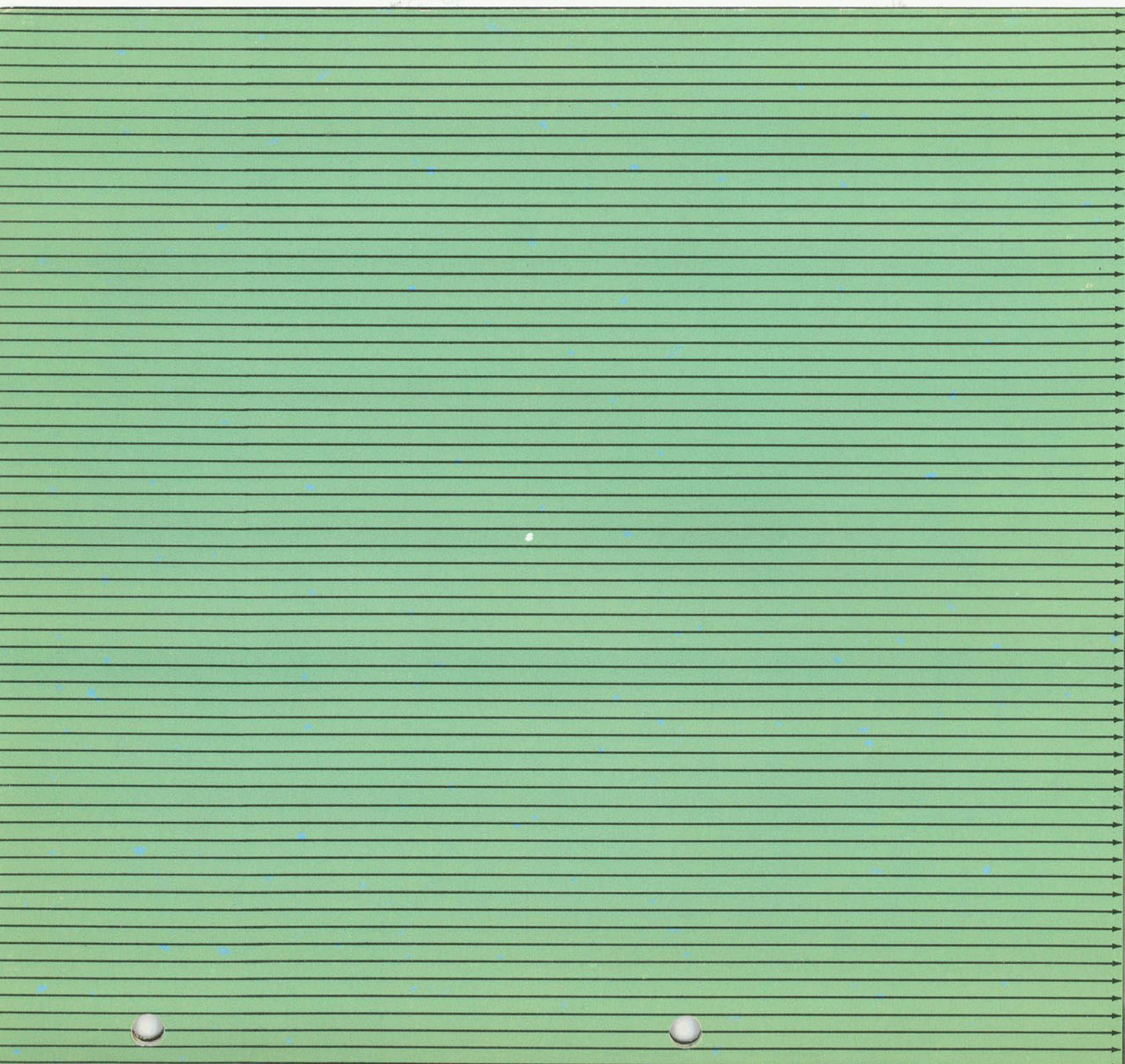
THE NCR 315

provides a practical Price-Performance Ratio

Price-Performance is the only accurate measure for evaluating computers. Transaction for transaction the NCR 315 does more work for less money . . . low-cost, high-performance is the cornerstone of design in the 315.

keeps system price down

- The 315 keeps system cost down with a unique magnetic file system . . . requires fewer files . . . reduces the cost of random type memory.
- The 315 keeps cost down through a high degree of expansibility . . . permits tailoring a system to your needs at the lowest possible cost.
- The 315 keeps cost down through efficient use of COBOL and other automatic coding techniques . . . reduces overall programming costs.
- The 315 keeps cost down through an attractive lease arrangement and a low purchase price.



DATE *Aug 5*

W. E. WILSON
YOUTOWN, U.S.A.

73-23
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DATE *Aug 7* 19*6*

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DOLLARS

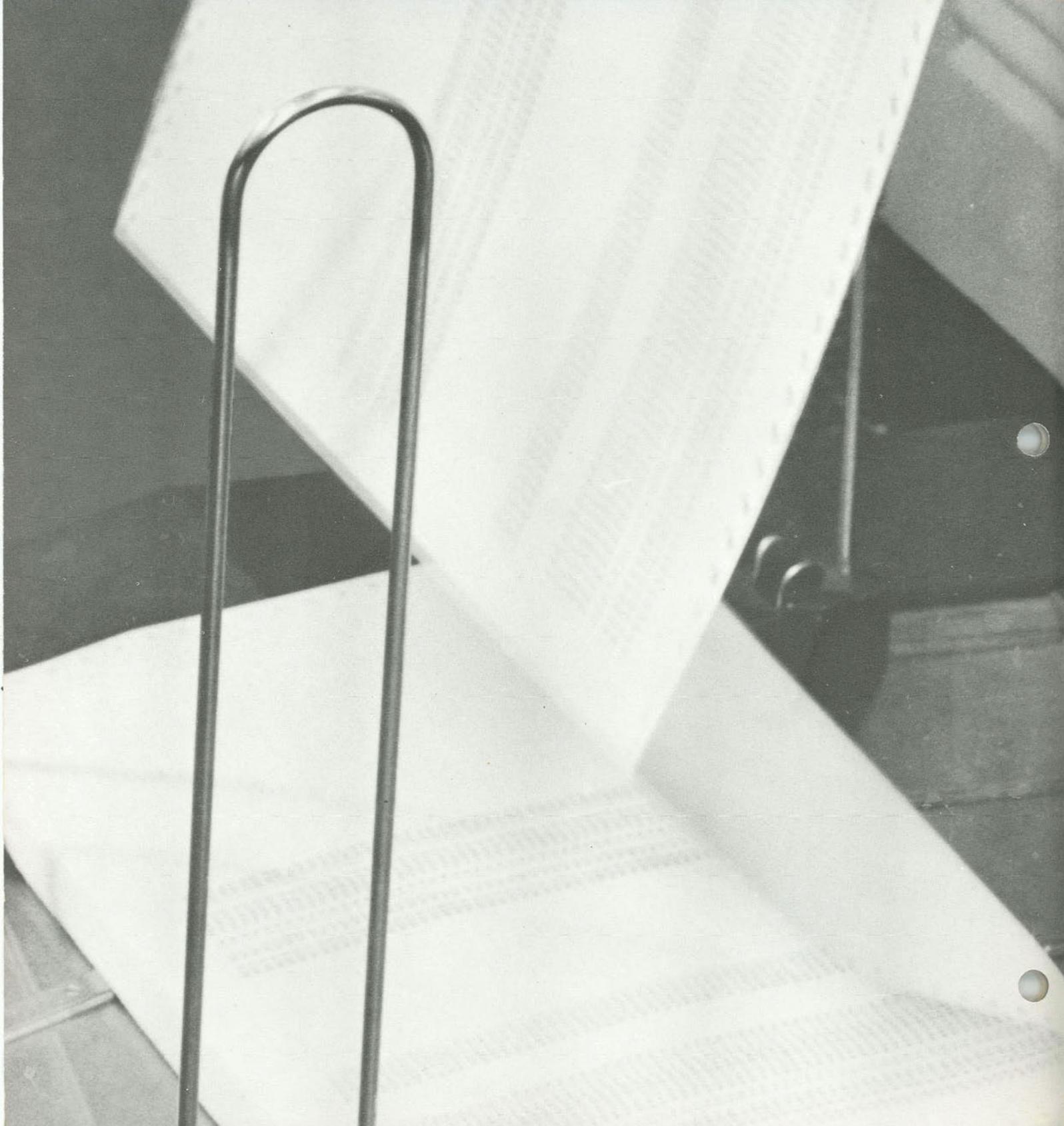
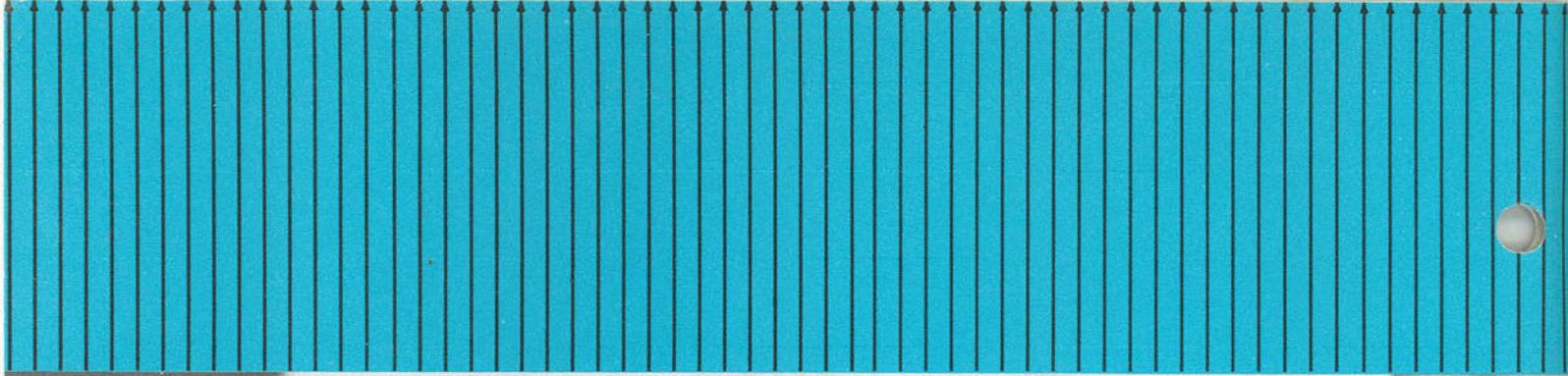
\$ *13.50*

DATE *Aug 7*

HARRY MILLER
YOUTOWN, U.S.A.

JOHN

PAY TO THE ORDER OF



keeps system performance up

- The NCR 315 keeps system performance up through unmatched processing flexibility...permits each application to be processed in the most efficient manner.
- The 315 keeps performance up through a high-speed internal operation, balanced by the proper combination of high-speed input-output units.
- The 315 keeps performance up through automatic program interrupt feature...keeps input-output units operating at maximum rate...results in more efficient utilization of processor time.
- The 315 keeps performance up through a powerful command structure...designed specifically for high-speed business data processing.

CRAM

Card Random Access Memory

a unique magnetic file system

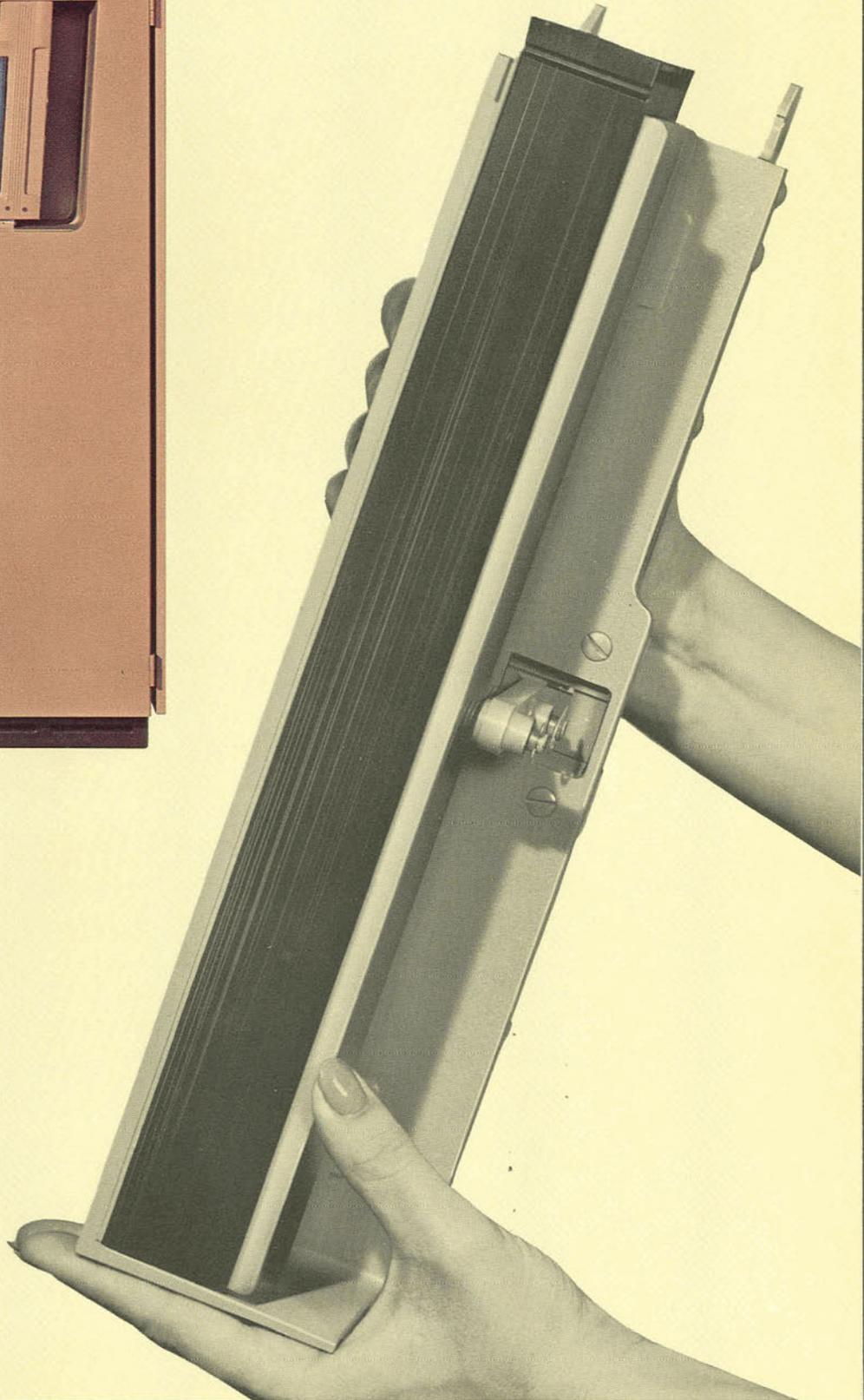
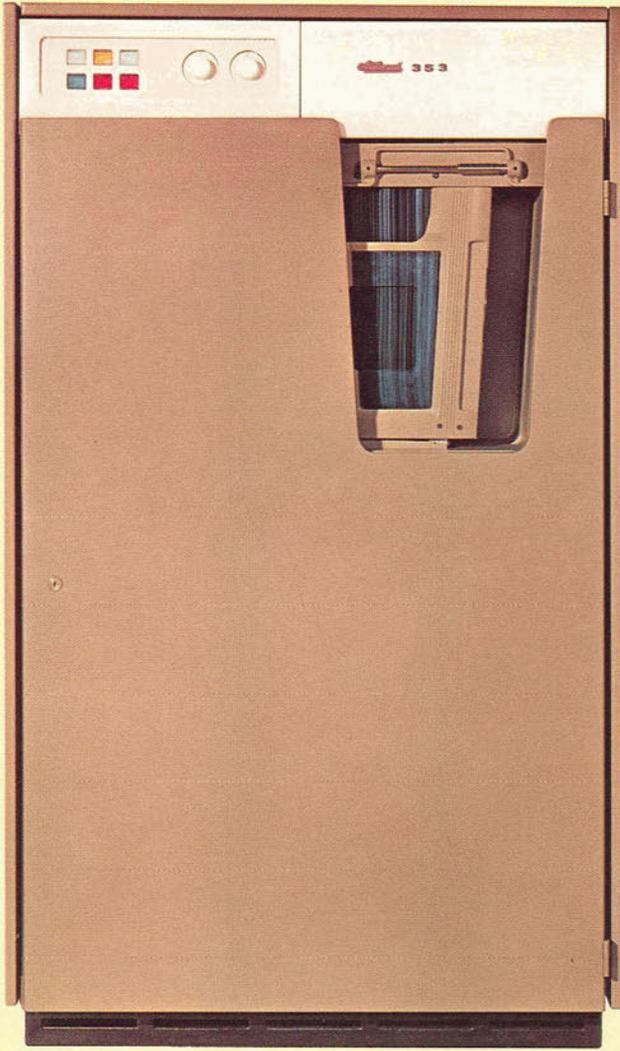
CRAM, an NCR 315 exclusive, uses mylar magnetic cards for data storage. In effect, seven 14-inch strips of magnetic tape have been placed side by side to form the magnetic card. Thus, each magnetic card has seven addressable data recording tracks. The cards have been uniquely notched in such a manner that they can be individually selected.

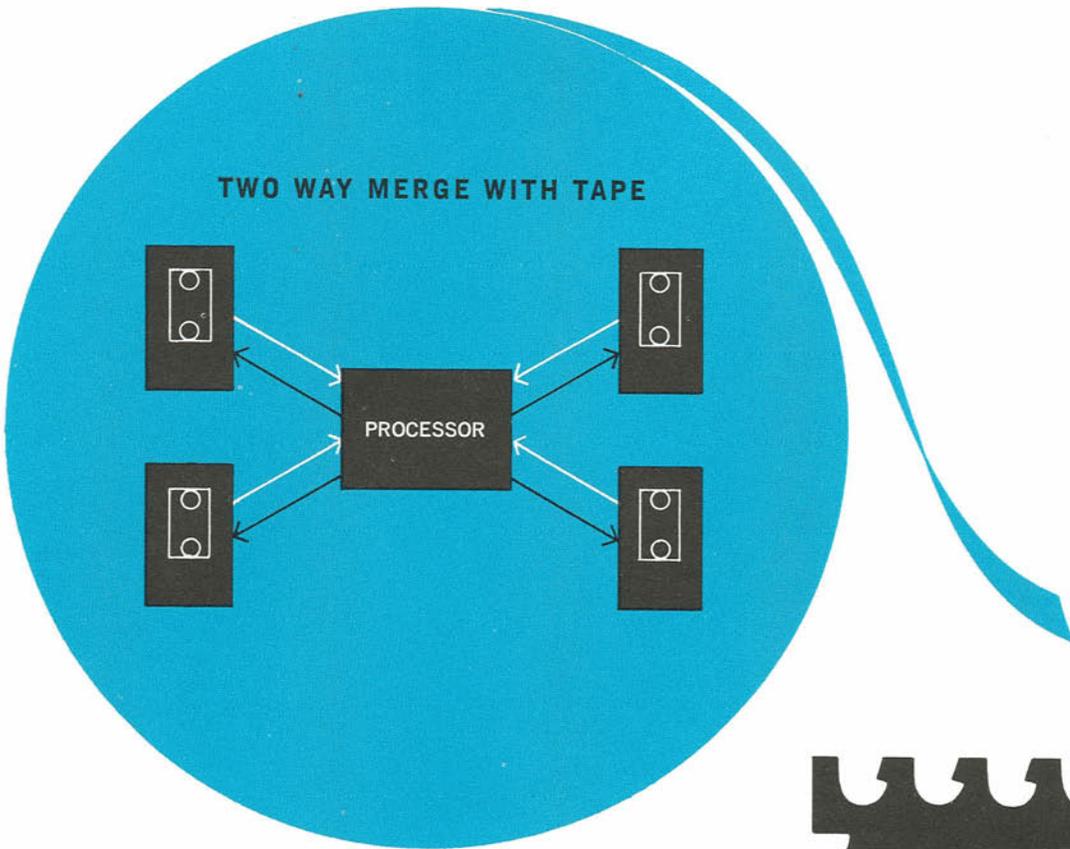
High-capacity Storage . . . A single magnetic card is capable of recording 21,700 alpha-numeric characters of information. A deck of 256 magnetic cards can be mounted on a single CRAM file . . . providing over 5.5 million characters of information. This represents more information than could be punched into 69,000 punched cards.

Easily Mounted and Removed . . . The magnetic cards are housed in quickly changeable cartridges. A deck of magnetic cards can be removed and a new deck mounted in approximately 30 seconds . . . providing unlimited off-line storage that can be quickly mounted for processing as required.

Quickly Accessible . . . A deck of magnetic cards provides 1,792 groups of information that can be effectively accessed in less than 200 milliseconds. Information can be transferred to or from the cards at the rate of 100,000 alpha-numeric characters per second.

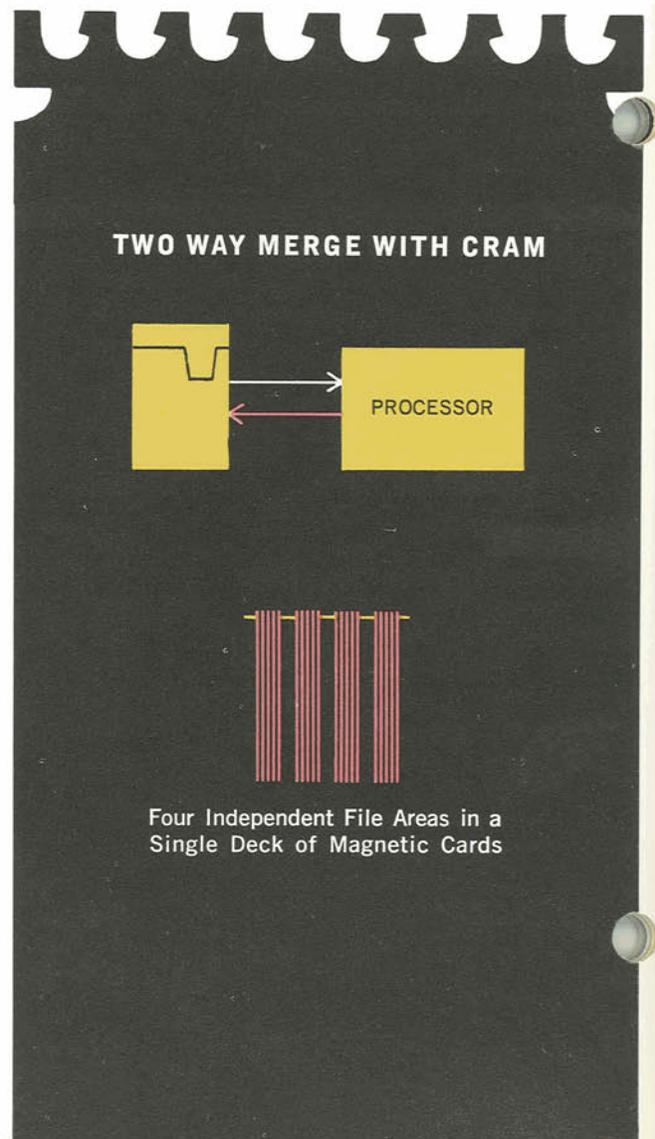
Multiple CRAM Files . . . Up to 16 CRAM files can be operated on-line with the 315 . . . providing over 88.8 million characters of random type memory . . . an unprecedented range of random memory that is expanded by unlimited off-line storage that can be quickly mounted.





CRAM...

Minimum Equipment Requirements



a flexible, economical magnetic file system

This unique concept of utilizing addressable magnetic cards for the external storage of data opens up a whole new generation of data processing techniques. The magnetic cards can be used like tapes, disks or drums . . . providing the ultimate in processing flexibility.

CRAM permits each application to be processed in the most efficient and economical manner. Information can be batched and processed sequentially, it can be processed in-line on a random basis, or it can be sorted and selectively recorded—serially processing only those records that are active, completely by-passing inactive records.

CRAM permits multiple types of data to be stored in a single cartridge of cards. Many routines that require two to eight magnetic tape handlers can now be performed on one or two CRAM units. CRAM eliminates the need for separate source and destination handlers, greatly reducing the cost of magnetic file storage.

CRAM provides fast access to an unprecedented range of information. In a single computer run, information can be sorted, all related records can be updated, report information can be generated and stored, additional program information read, and reports printed out. All accomplished without human intervention . . . this is true automation . . . all accomplished through the flexibility provided by CRAM.

Unique systems expansibility

The high degree of expansibility built into the NCR 315 permits tailoring the system to your needs at the lowest possible cost... at the same time it assures you that the system can grow with you to meet your future requirements.



Virtually an unlimited number of on-line accounting machines—over a thousand if necessary



Up to 128 Remote On-Line Inquiry Units

EXPANSIBLE INPUT



One Photo-Electric Paper Tape Reader

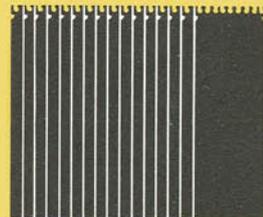


One of two Punched Card Readers

400 or 2,000 per minute card reader

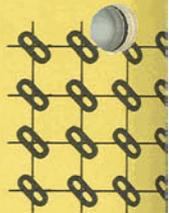


Up to 4 Magnetic Character Sorters



Up to 16 Magnetic Card Handlers

EXPANSIBLE STORAGE

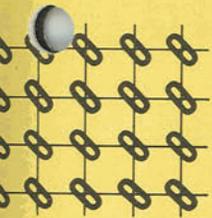


Interchangeable memory...ex higher degree of satellite



Magnetic Files
Up to 8 Magnetic Tape Handlers

STORAGE CAPACITY



Core Memory
Up to 100,000 digits of core
expandable to an even
higher capacity with compatible
processors



Virtually an unlimited
number of on-line ac-
counting machines—over
a thousand if necessary



Up to 128 Remote
Inquiry Units

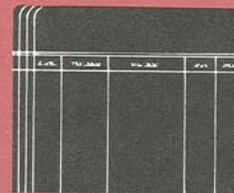
EXPANSIBLE OUTPUT



One Paper Tape Punch



Up to 4 Card Punch
Buffers



Up to 4 High-Speed
Line Printers

High-Speed Card Reader

Reads 2,000 cards per minute • standard or specialized punching configurations • features automatic interrupt.

Magnetic Character Sorter

Reads and sorts 750 magnetically encoded documents per minute • reads and sorts whole numbers or block numbers under control of the processor • performs digital sorting off-line • features automatic interrupt.

Magnetic Tape Handler

Transfers data at the rate of 24, 40 or 60 thousand characters per second.

Card Punch Buffers

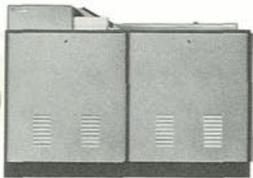
Controls 80 column cards at 100 or 250 per minute • features automatic interrupt.

On-Line Buffers

Permits remote accounting machines and inquiry units to communicate directly with the central processor • features automatic interrupt.

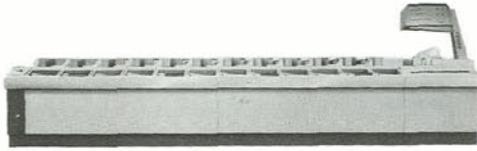


Central Processor 6 microsecond cycle time • 36 microsecond basic add time • 900 microsecond average multiply time



Magnetic Card Handler

Transfers data at the rate of 100,000 characters or 150,000 digits per second
• access time under 200 milliseconds • features automatic interrupt.



Combination Input-Output Unit

Card Reader

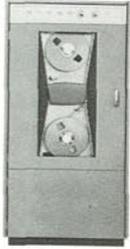
Reads 400 cards per minute • standard or specialized punching configurations • features automatic interrupt.

Photo-Electric Paper Tape Reader

Reads any 5, 6, 7, or 8 channel code at rate of 1,000 characters per second.

Paper Tape Punch

Punches any 5, 6, 7, or 8 channel code at the rate of 110 characters per second.



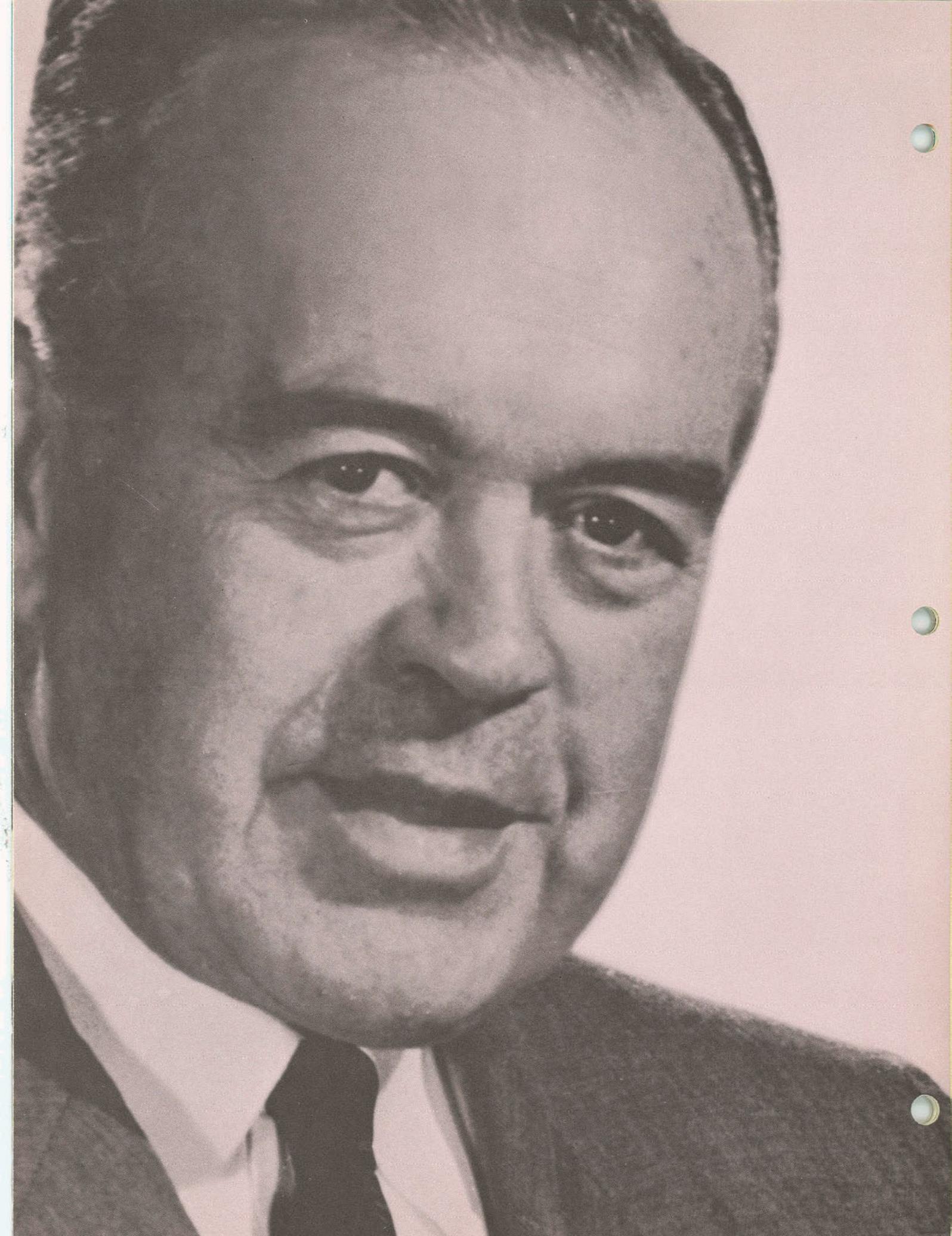
High-Speed Line Printer

Prints 680 alpha-numeric or 900 numeric lines per minute. Each line consists of 120 characters. Multiple Listing Attachment permits printer to operate as three independent listers with separate paper transport. Features automatic interrupt.



Complete systems balance

To make efficient use of the internal speed of the 315, it was designed to coordinate the operation of a wide variety of high-speed input-output units. A number of these peripherals have an automatic interrupt feature. This feature permits the unit to interrupt the processor when it requires attention, be reactivated, then continue operating off-line at its own independent operating speed. Thus, the 315 has the flexibility to provide efficient processing for a wide range of systems requirements.



Why Management should investigate the NCR 315

It's Powerful . . . Management today, more than ever before, requires a high-speed system capable of handling large volumes of paperwork. The 315 provides the power and speed necessary to furnish the facts and figures to management in time to be used in effecting sound decisions.

It's Economical . . . The 315 offers business an extremely efficient system without the high cost normally associated with speed and capacity. NCR offers an attractive lease plan that permits second and third shift utilization at a fraction of the basic monthly rental.

It's Modern . . . The 315 offers business the most advanced system available today. Card Random Access Memory is the greatest single advance in electronic data processing since the application of computers to business record-keeping. CRAM provides unmatched processing flexibility . . . sets new standards of efficiency in electronic data processing.

It's Expansible . . . The 315 offers business a system that is powerful and economical now and it will remain that way in the future. The high degree of expansibility built into the 315 assures management that the system they invest in today can grow with them to meet their future requirements.

Substantial savings

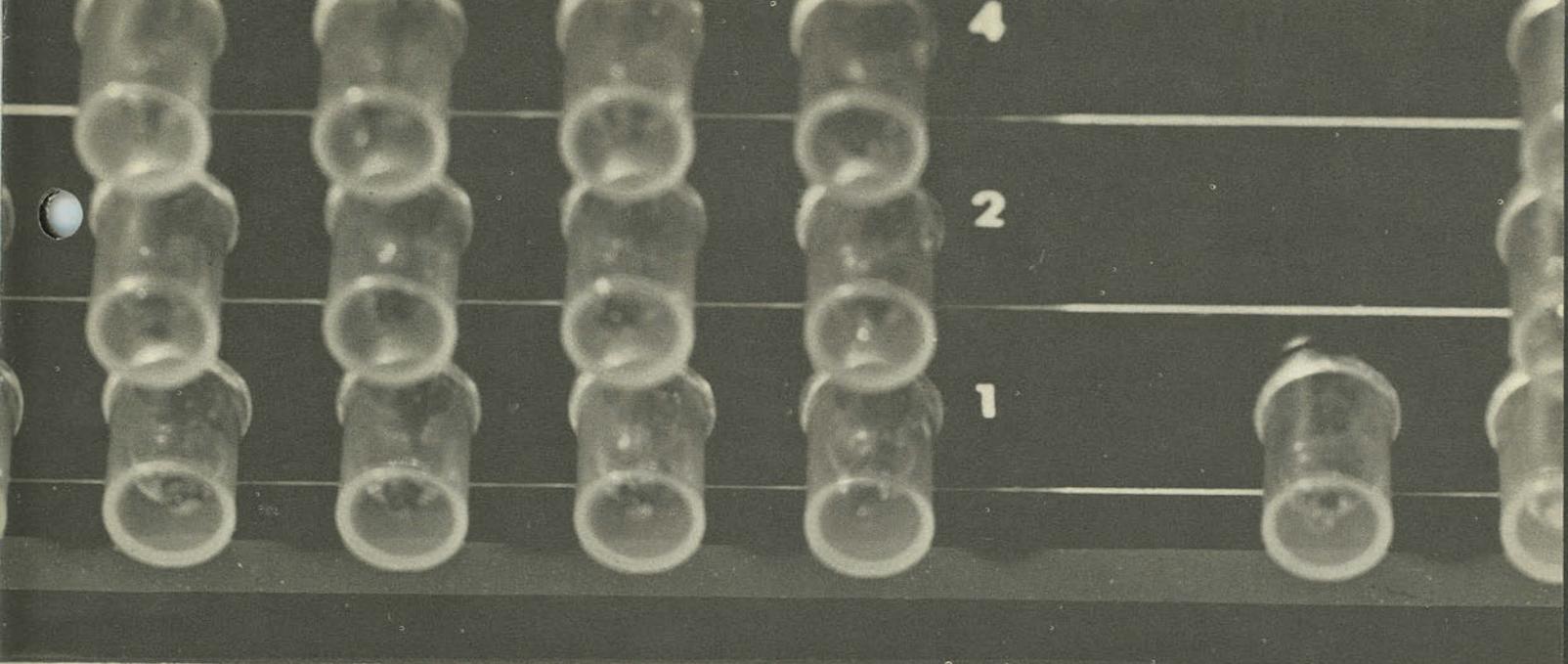
through reduced programming time

Basic intelligence, educational background, previous experience, and the ability to understand and follow instructions are all factors that determine how quickly and how costly a new employee can be trained to be productive.

The same can be said of computers. Contrary to some thinking, computers are not "Giant-Brains" . . . they must be "trained" to do the work that humans assign to them. This "training" in computers is commonly referred to as programming.

Programming cost represents an important item to every computer user . . . it cannot be overlooked in your complete evaluation of a computer system. The 315 can START to work for you in the shortest period of time at the lowest possible cost!

- NCR engineers have designed the 315 with superior hardware intelligence. That is to say, it has been designed with the speed and capacity to effectively control and process business data.
- NCR experienced programmers have "taught" the 315 to handle the routines and conventions that are common to all computer installations. A complete library of package programs is available, without cost, to all users for such routines as sorting, program linking, tape moving, code checking, etc.
- The NCR 315 computer has been taught to understand and carry out instructions that have been written in COBOL, the "near English" programming language. The COBOL Translator, available with the 315, will greatly simplify your programmers "teaching" job.



COMPUTE



At your service

Trained System Consultants

Available to assist you in every phase of your data processing . . . from preliminary investigation to final program preparation.

Professional Instructors

Provide courses for training both management and programming personnel to effectively utilize the 315.

Planning Engineers

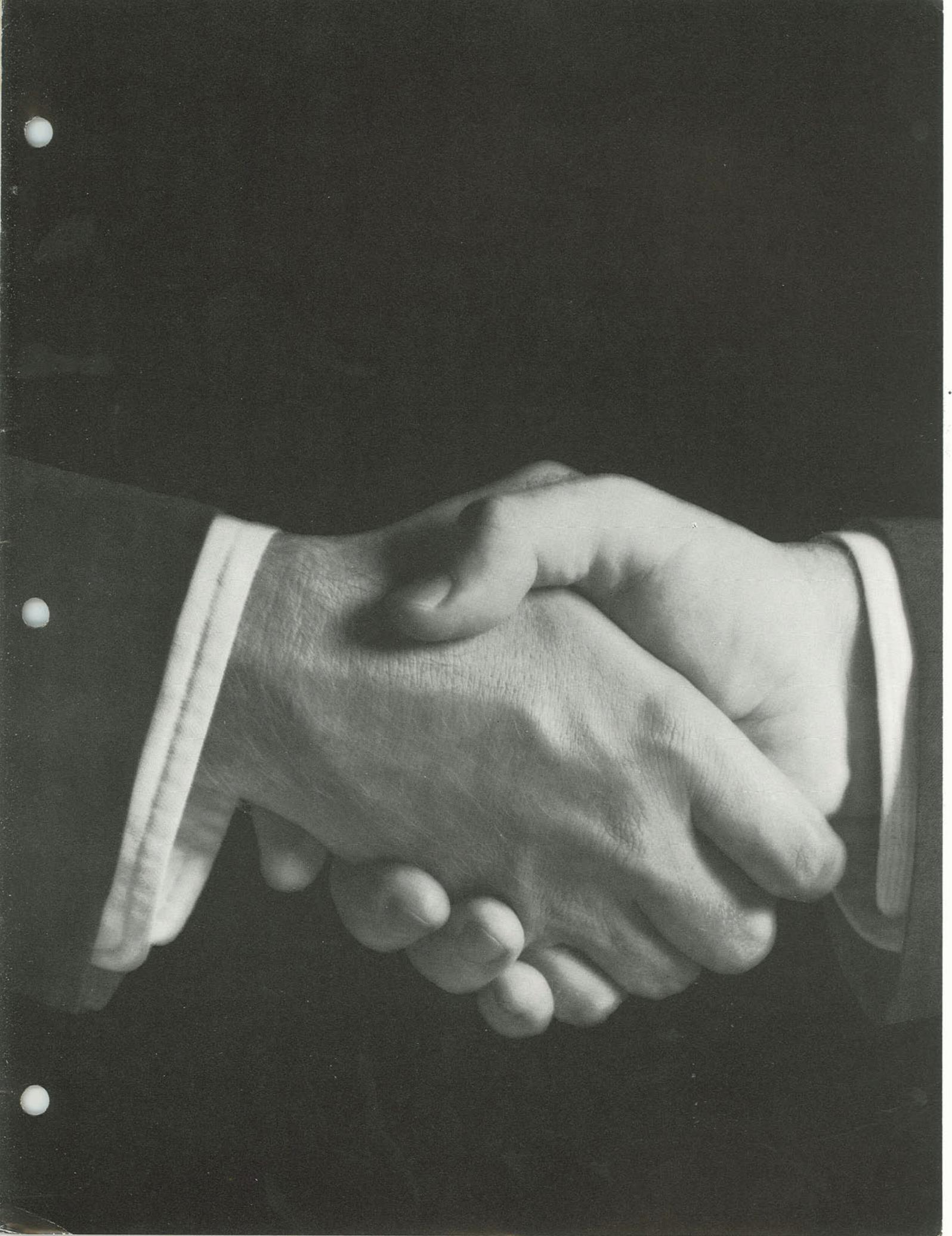
Assist in all areas of site preparation . . . from site selection and design to the final placement of the individual 315 units.

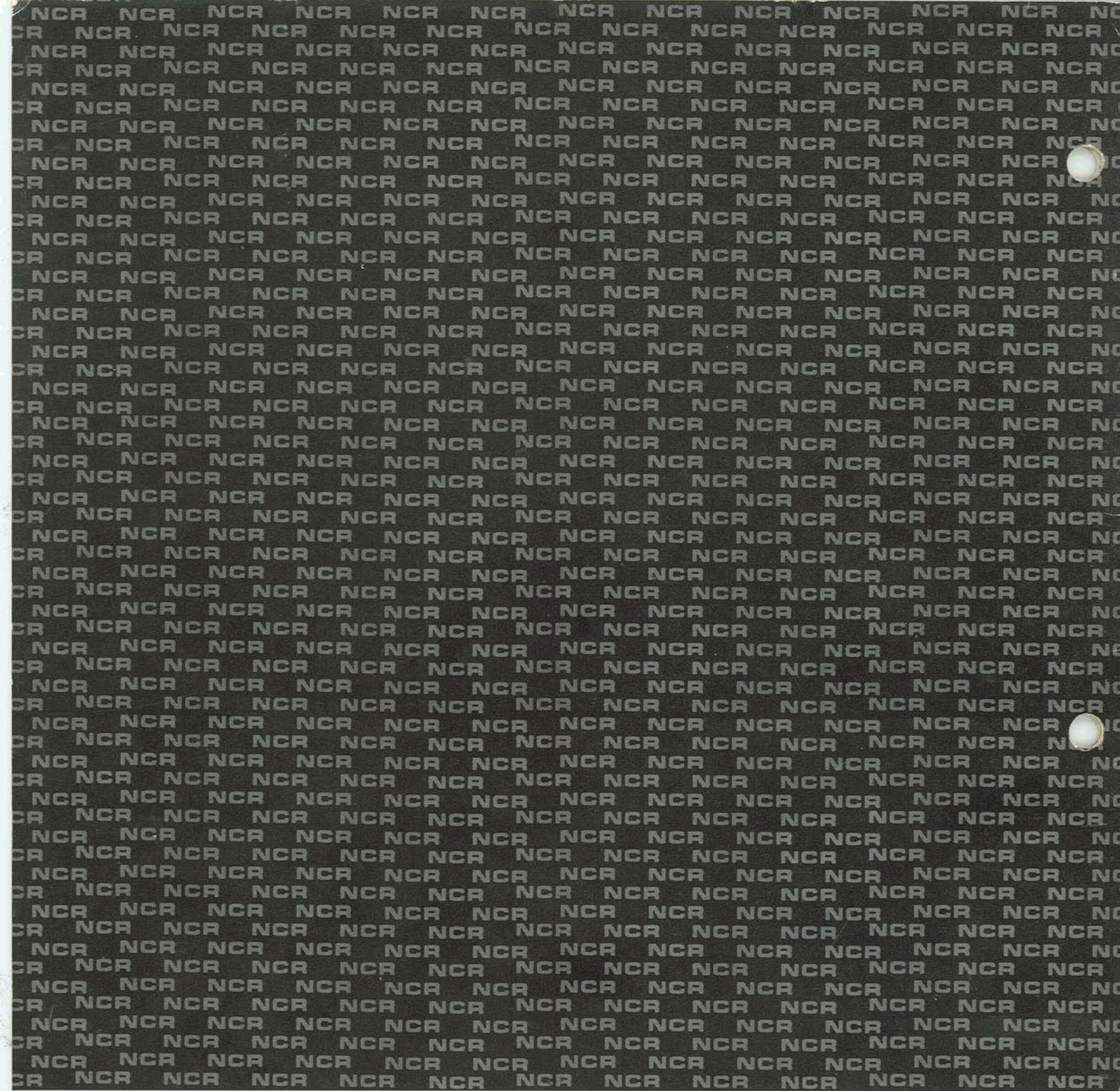
Qualified Technicians

Rendering preventive and corrective maintenance . . . maintaining the 315 at peak operating efficiency.

National Data Processing Centers

Available, without cost, for checking out your programs prior to the arrival of your NCR 315.





NCR PROVIDES TOTAL SYSTEMS—FROM ORIGINAL ENTRY TO FINAL REPORT—
 through Accounting Machines, Cash Registers or Adding Machines, and Data Processing
 The National Cash Register Company—1039 Offices in 121 Countries—78 Years of Helping Business Save Money

