

# IBM 1401 Data Processing Systems



*Much More for your data processing dollar!*



**Fast...Powerful...**  
**Compact...Versatile**  
**IBM 1401**  
**Data Processing Systems**

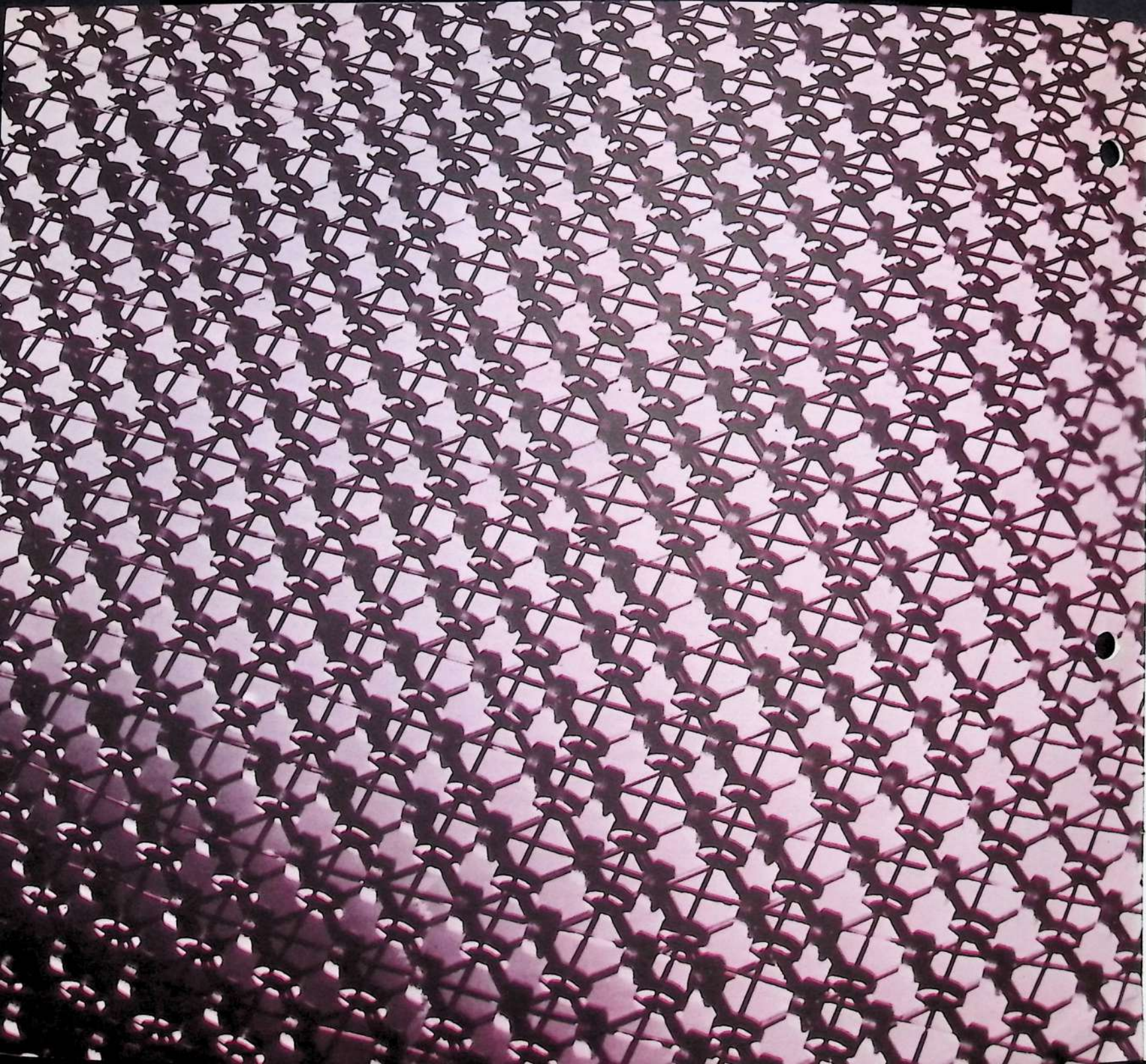
Never before has so much powerful data processing ability been built into such low-cost systems!

For the first time, IBM 1401 Systems bring to IBM punched card processing all the advantages of stored programming.

Equally important, they afford the opportunity to add magnetic tape input and output with a minimum of reprogramming and conversion costs.

Truly, 1401 Systems give you *much more* for your data processing dollar!







## **New features... new abilities**

*Faster input, faster output, faster and more powerful arithmetical and logical ability . . . these can all be yours with a basic IBM 1401 Data Processing System consisting of these three new low-cost units:*

- *1401 Processing Unit*
- *1402 Card Read Punch*
- *1403 Printer*

This exciting new combination of features is common to all IBM 1401 Data Processing Systems:

- Magnetic core storage—1400, 2000 or 4000 positions.
- New techniques provide for more efficient use of storage.
- Simple, easy-to-learn stored programming.
- Faster card reading—up to 800 cards per minute.
- Faster card punching—up to 250 cards per minute.
- Faster printed output— at the rate of 600 lines per minute.
- Faster movement of paper.
- Number and size of totals limited only by number of available storage positions.
- Completely transistorized for reliability and compactness.
- Automatic checking of input, output and internal data flow.

## The 1401 Card System

Under control of a stored program, the 1401 Card System performs work previously done by a combination of accounting machine, summary punch and calculator but with far greater speed!

Cards are read at a rate of up to 800 cards per minute by the Card Read Punch. Output can be printed at a rate of 600 lines per minute on the Printer and punched into cards at up to 250 cards per minute. Printing is completely alphameric in all 100 (or 132 optional) positions.

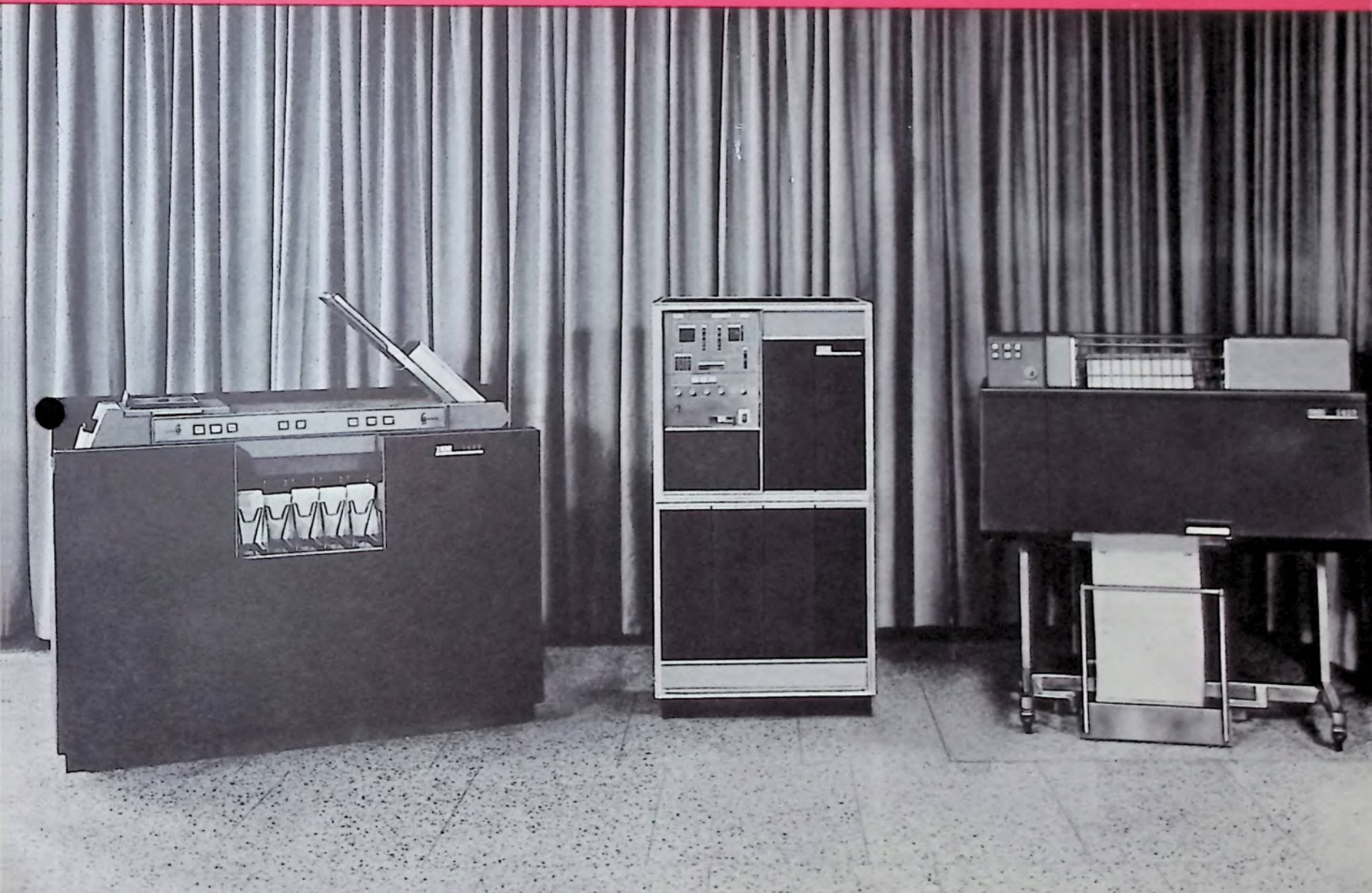
The 1401 accepts data and instructions of variable length, making possible the most efficient use of storage. Models with 1400, 2000 or 4000 positions of magnetic core storage are available.

The fully transistorized arithmetical and logical circuits of the Processing Unit are extremely fast and require a minimum of programming steps. Because of its "add-to-storage" logic, the number or size of totals is limited only by the number of available positions in storage.

The versatility of the 1401 greatly reduces the need for manual card handling by combining multiple machine operations into a single processing step. Automatic internal checking of both input and output provides reliable operation.

As volume grows, magnetic tape units can be added to greatly increase the scope, as well as the input and output speeds, of the system.





## The 1401 Magnetic Tape System

For handling large volumes of work at high input and output speeds, up to six IBM 729 II or 729 IV Tape Units may be added to the 1401.

Record length on tape is virtually unlimited. Files of varying record length may be merged for simultaneous processing.

Greater speed is obtained in tape sorting and merging and in the summarizing of data. Use of tape results, too, in substantial savings in record storage space.

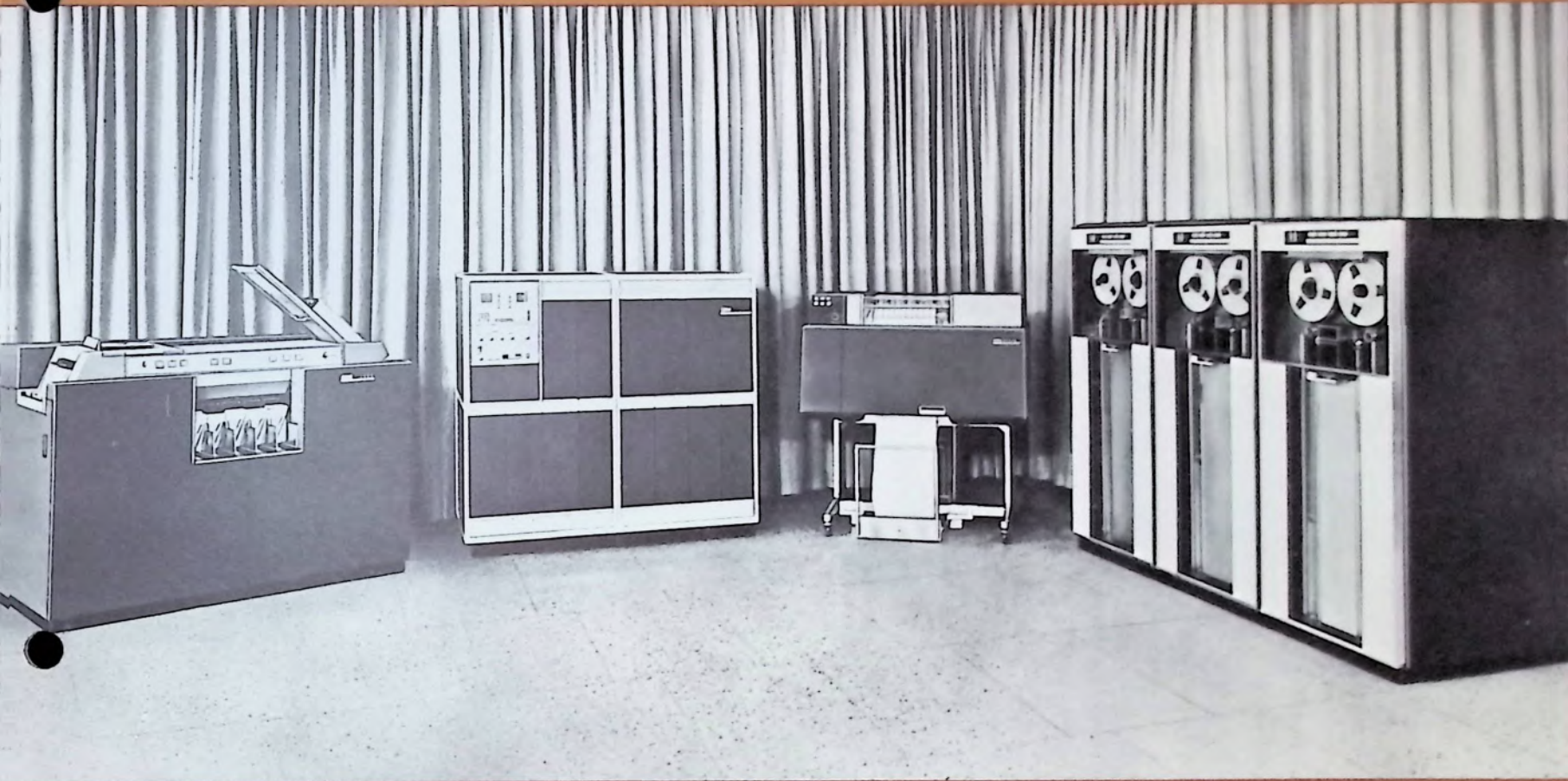
A unique feature of the 1401 is its powerful print editing ability. Under control of the stored program, output data is assembled in storage and prepared for printing by the insertion of dollar signs, decimal points, commas, asterisks and other signs, in their proper places. The assembled data is also arranged in the order in which it is to be printed. Printing can be done at the rate of 600 lines per minute.

Automatic internal checking, combined with reduced handling of records, results in a high degree of accuracy.

Complete inter-system communication is provided by the 1401 Tape System since it can prepare BCD (binary coded decimal) tape for, and accept BCD tape from, any other IBM tape system.

*IBM 1401 Tape Systems are extremely valuable as off-line and print editing auxiliaries to the IBM 7070, 7090 and other large data processing systems. These applications are covered in a separate brochure.*







## Components



### IBM 1402 Card Read Punch

*Rated reading speed 800 cards per minute when group printing, 400 cards per minute when detail printing.*

*Punches up to 250 cards per minute.*

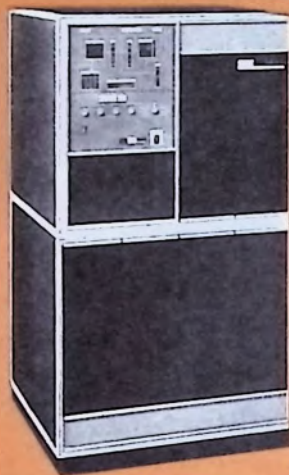
*Summary punches many times faster than previously possible.*

*Has five 1000-card capacity, non-stop-unloading radial stackers.*

*Cards may be segregated in stackers under stored program control.*

*Card reading and punching is checked for accuracy.*

*A 3000-card File Feed is standard on the read unit.*



### IBM 1401 Processing Unit

*Contains all arithmetical, logical and input/output control functions.*

*1400 (2000 or 4000 optional) positions of core storage.*

*Visual display through console.*

*Unique one step print editing ability.*

*Number or size of totals restricted only by number of available storage positions.*

*Variable word length permits full use of core storage positions.*

*Fast internal processing speeds:*

*Add two 8-position fields:  
0.31 milliseconds*

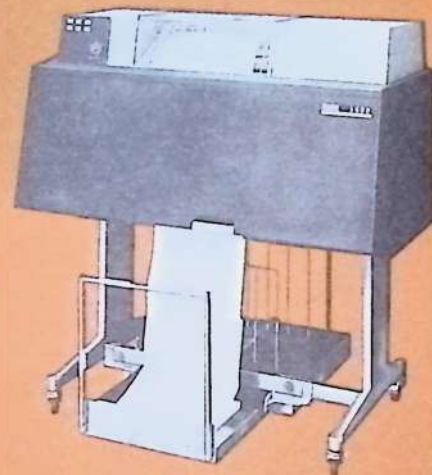
*Multiply a 6-position field by a 4-position field—on a standard model: 15 milliseconds.*

*Using Direct Multiply-Divide option:  
2.4 milliseconds (average)*

*Compare two 6-position fields:  
0.24 milliseconds*

*All data flow is parity checked.*

*Presents a completely edited line to the printer.*



### IBM 1403 Printer

*600 lines-per-minute printing rate.*

*100 (or 132) printing positions per line; 10 to the inch.*

*48 characters per printing position (12 special characters).*

*Printing and carriage are under stored program control.*

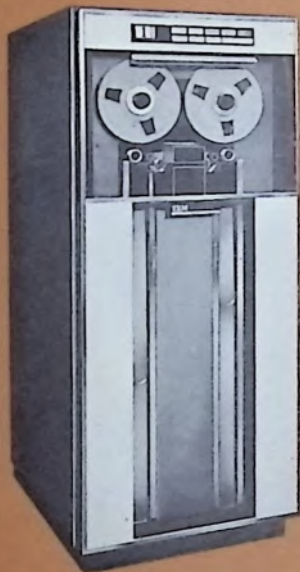
*Line spacing 6 or 8 lines per inch.*

*Spacing (8 lines or less) at 33 inches per second.*

*Skipping or ejecting (9 lines or more) at 75 inches per second is a standard feature of most models.*

*Operation is electronically checked.*





### **IBM 729 Magnetic Tape Unit**

*High-speed, large-capacity magnetic tape input and output for the 1401 is provided by 729 II or IV units.*

*Any one of four speeds may be specified:*

*729 II—15,000 characters per second*

*41,667 characters per second*

*729 IV—22,500 characters per second*

*62,500 characters per second*

*Data is completely checked before it enters the system.*

*Completely transistorized units.*

*Same units are used with IBM 7070 and 7090 Data Processing Systems.*

## **Available Programs**

The following programs and subroutines will be available for use with the 1401:

Load Cards Programs

Clear Storage Program

Print Dump Program

Reloadable Punch Dump Program

Multiply Subroutine

Divide Subroutine

Symbolic Programming System

IBM 1401 Data Processing Systems  
are available through lease, purchase,  
or lease-purchase option.

For further details, contact the  
IBM branch office in your community, or

**IBM**

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590 Madison Avenue, New York 22, N. Y.