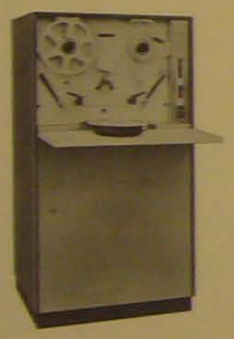
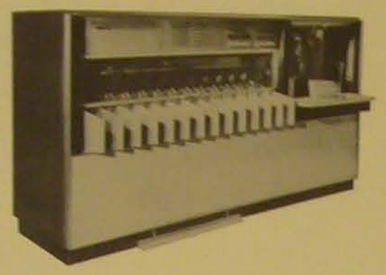
Additional Components for 1401 Systems

The IBM 1012 Tape Punch
punches either paper tape or MYLAR* tape output for transmission over existing wire network facilities. The stored program in the 1401 converts the system's BCD coding to the desired tape code. The 1012 automatically reads back each character punched for comparison with the original character in storage. Any errors are deleted or corrected.



The IBM 1011 Paper Tape Reader
provides direct paper tape input for the 1401 system. It reads 5-, 6-, 7-, or 8-track paper tape at a speed of 500 characters a second. Telegraphically transmitted data can be fed into the 1401 in paper tape form, eliminating the need for conversion to punched cards or paper tapes. A control panel provides complete output format flexibility.

*du Pont's trademark for its polyester film



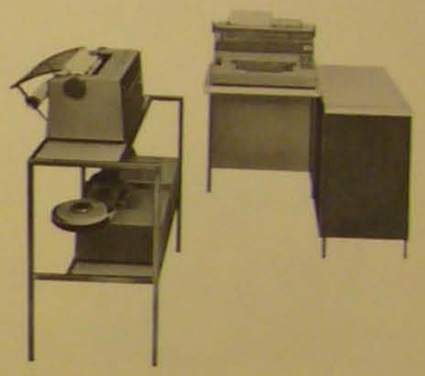
The IBM 1419 Magnetic Character Reader
reads approved American Bankers Association numerals and letters previously inscribed on magnetic ink documents and performs automatic sorting operations. Up to 1600 documents a minute are read and sorted on the 1419. Thirteen pockets permit sorting of documents either while reading into the 1401 or as an off-line operation.

The IBM 1412 Magnetic Character Reader reads and sorts at a rate of 950 documents a minute and performs all other functions of the 1419.

The IBM 1428 Alphameric Optical Reader
reads alphabetic and numeric data from a broad range of card and paper documents. Each of three models reads up to 400 documents a minute. Model 2 (shown) has thirteen output stackers permitting document sorting in numerical sequence either while reading into the 1401 or as an off-line operation. All models permit overflow stacking for continuous operation.
The IBM 1418 Optical Character Reader, with the exception of reading only numerical characters, performs all of the functions of the 1428.

The IBM 1009 Data Transmission Unit
allows your 1401 system to function as an IBM TELE-PROCESSING terminal for 2-way transmission of data over telephone and telegraph wires. Data to be transmitted can be fed into the 1401 from cards, paper tape or magnetic tape; or it can be read from paper or card documents by magnetic character reading or optical character reading. Data can be transmitted at 75, 150, 182.5, 250, or 300 characters a second, depending upon the communication facilities used.

The IBM 7710 Data Communication Unit
permits two 1401 systems to exchange data between their magnetic storages over long distances, at any speed for which common-carrier communication channels are available. At its higher speed of 5,100 characters a second, the 7710 transmits and receives data over broad-band transmission systems such as microwave and coaxial cable; at its lower speed ranges of 150, 250, or 300 characters a second, the 7710 uses ordinary voice-grade communication lines.

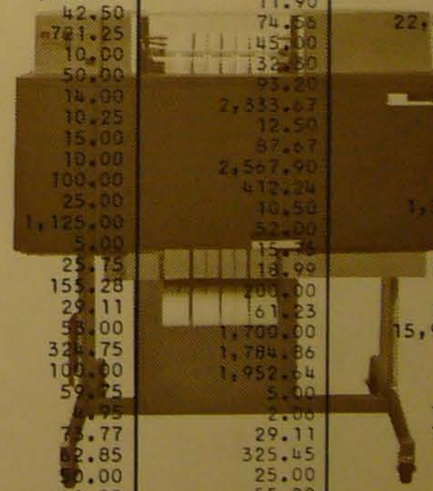


The IBM 1050 Data Communications System
transmits, receives, and records data in printed form, punched cards, paper tape and edge-punched documents from remote locations—over existing public or private communications lines—to your centrally located 1401. A keyboard permits two-way communications with other 1050s or directly with the 1401 for remote inquiry operations. This highly versatile TELE-PROCESSING system puts any field office, plant or warehouse of a decentralized organization in *direct* contact with other remote locations and your centralized computer operations. The 1050 eliminates costly delays encountered in ordinary methods of transferring information from distant sources to the home office. This makes possible dramatic new approaches to the solution of management control problems.

The IBM 1448 Transmission Control Unit regulates the flow of data between remote 1050s and an interconnected IBM 1440/1401 system. The 1448 sequentially scans up to 40 communication lines, on each of which several 1050s may be attached. All lines may be operating simultaneously. The 1448 addresses remote stations, assembles characters and feeds these characters to the 1440/1401 system where messages are assembled.

Selective Tape Listing Feature Speeds Bank Transit Operation

							0710-0110 *	
							45.00	
					0210-0395 *		126.78	
					150.00		33.33	
					5.67		9.50	
					21.30		450.62	
					24.75		32.32	
				0710-0481 *	75.00		5.00	
					321.56		54.54	
				10.00	10.00	1220-0381 *	89.54	1220-0201 *
		1220-0511 *		30.50	25.00		32.20	
		75.50		123.45	21.34	10.75	85.00	43.50
		210.98		32.32	1,345.90	220.00	500.00	24.40
		22.10		24.28	98.10	5.00	125.50	87.78
		65.00	1220-0391 *	190.00	23.12	21.76	33.60	75.40
		13.21		87.65	145.60	14.20	45.00	15.00
		1,234.87	132.82	25.00	11.10	10.00	25.00	29.89
		34.34	16.16	32.45	19.90	20.00	300.60	543.21
		87.65	45.00	43.68	91.99	3,000.00	58.55	125.00
		89.67	123.45	10.00	4.32	41.95	75.50	345.65
		980.76	5.00	9.88	87.00	22.00	200.65	20.00
		35.50	234.56	325.68	76.43	460.00	99.60	13.98
		245.60	33.23	32.45	33.21	75.00	55.00	56.02
		11.10	11.10	154.00	150.54	36.00	100.00	323.32
		22.10	222.11	150.00	5.00	112.50	32.81	30.00
		34.56	35.00	10.00	24.32	1,500.00	250.00	8.50
	1220-0385 *	200.64	22.20	324.76	17.68	31.52	100.00	24.40
	100.00	54.36	221.34	22.34	100.05	7.88	153.44	1,345.60
	70.00	32.77	23.50	4.56	19.91	12.50	25.00	115.85
	36.50	21.34	25.23	19.32	38.44	71.95	61.02	276.50
	41.95	18.54	350.00	77.63	243.56	11.50	25.00	5.50
	10.00	87.65	21.95	325.43	11.25	33.00	53.88	892.25
	10.00	324.89	324.76	81.32	50.00	111.50	15.00	551.88
	350.00	98.51	1,500.00	12.11	39.61	10.00	10.00	23.62
	19.10	63.20	150.00	28.56	1,333.47	1,500.00	27.50	6.10
	15.75	98.99	10.98	10.00	430.12	42.50	32.30	218.99
	28.90	22.36	21.50	45.00	30.00	721.25	11.90	33.00
	150.00	65.50	8.90	1,876.44	45.62	10.00	74.55	22,440.95
	76.10	62.78	2,345.90	435.68	54.30	50.00	45.00	538.67
	55.00	34.98	58.20	28.54	3,467.89	14.00	32.50	10.00
	27.15	2,398.75	32.30	86.53	38.96	10.25	93.20	100.50
	5.00	20.98	244.11	28.10	761.12	15.00	2,333.67	40.00
	85.00	10.00	55.65	97.00	123.32	10.00	12.50	7.65
	1,125.00	62.18	14.73	34.98	4,578.15	100.00	87.67	9.98
	5.00	43.87	278.65	20.00	43.20	25.00	2,567.90	42.56
	25.75	23.23	33.78	1,798.32	12.50	1,125.00	412.24	26.45
	155.28	35.76	42.16	32.46	32.75	5.00	10.50	1,343.00
	29.11	555.00	42.20	77.75	5.96	25.75	52.00	33.00
	53.00	150.76	90.53	10.05	4.50	155.28	15.48	71.94
	324.75	32.89	15.00	88.75	328.97	29.11	18.99	150.70
	100.00	11.98	154.00	90.90	29.90	53.00	700.00	87.26
	59.75	10.00	168.75	85.75	68.65	324.75	61.23	155.28
	4.95	54.60	19.90	43.20	75.00	100.00	1,700.00	15,912.00
	73.77	53.20	25.65	985.62	98.00	59.75	1,784.86	34.42
	62.85	98.95	763.20	75.00	11.12	4.95	1,952.64	2.56
	50.00	150.00	980.02	321.46	3.33	73.77	5.00	25.00
	61.00	25.90	20.50	7.98	15.50	62.85	2.00	100.00
	2.50	8.63	324.56	10.00	190.25	50.00	29.11	100.00
		300.50	32.32	346.97	45.60	61.00	325.45	15.00
				20.00	50.00	2.50	25.00	10.00
							55.00	15.75
							111.00	100.00

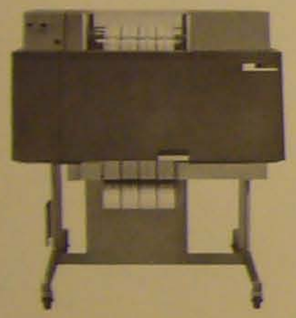


IBM

1401 System's Printer Doubles as an 8-Tape Cash Letter Lister

The same versatile combination of IBM 1401 Data Processing System and IBM 1419 Magnetic Character Reader which so efficiently performs a bank's Demand Deposit, Trust, Loan Accounting, Savings and other accounting operations now becomes an equally efficient Transit System.

This expanded versatility is made possible by an exciting new feature for the 1401's printer which converts it, whenever required, from a wide forms printer to an 8-tape lister for the automatic preparation of cash letter lists during a high-speed Transit operation.



An IBM 1419 Magnetic Character Reader sorts checks as directed by the IBM 1401 Data Processing System which simultaneously prints multiple cash letter lists. Magnetic tape units shown are an optional part of the system.

Designated as the Selective Tape Listing Feature, it enables the IBM 1403 Chain Printer to print individual, single-spaced lists of items being directed by the system's stored program to specific high-volume "kill" pockets of the attached Magnetic Character Reader.

This can be done during the initial machine sorting of items which have been inscribed on an IBM 1203 Unit Inscriber, making further handling of these items unnecessary. Thus many banks will be able to "kill" a high percentage of their transit sendings during a single pass of documents through the system. Items not killed can be processed on subsequent passes with similar savings of time.

Especially important is the fact that the installation of the Selective Tape Listing Feature does not incapacitate the 1403 for normal wide forms printing, such as journals and statements. In a matter of seconds the operator can snap out the tape guide plate and slide the tape spool assembly tray to the right, out of the way of wide forms feeding.

Sliding the tape spool tray from one position to the other causes an interlock switch to activate either the standard carriage control circuits or the tape-feeding circuitry installed in the 1401 Processing Unit as a part of this feature.

For customers using IBM 1401 Data Processing Systems, here is an advanced, easy-to-use method of testing 1401 programs on a continuous basis.

AUTO-TEST (for Automatic Testing) drastically reduces the time required to test new or revised programs on customer installed 1401's or those available at IBM Test Centers and Datacenters.

For Management, the unique capabilities of AUTO-TEST will:

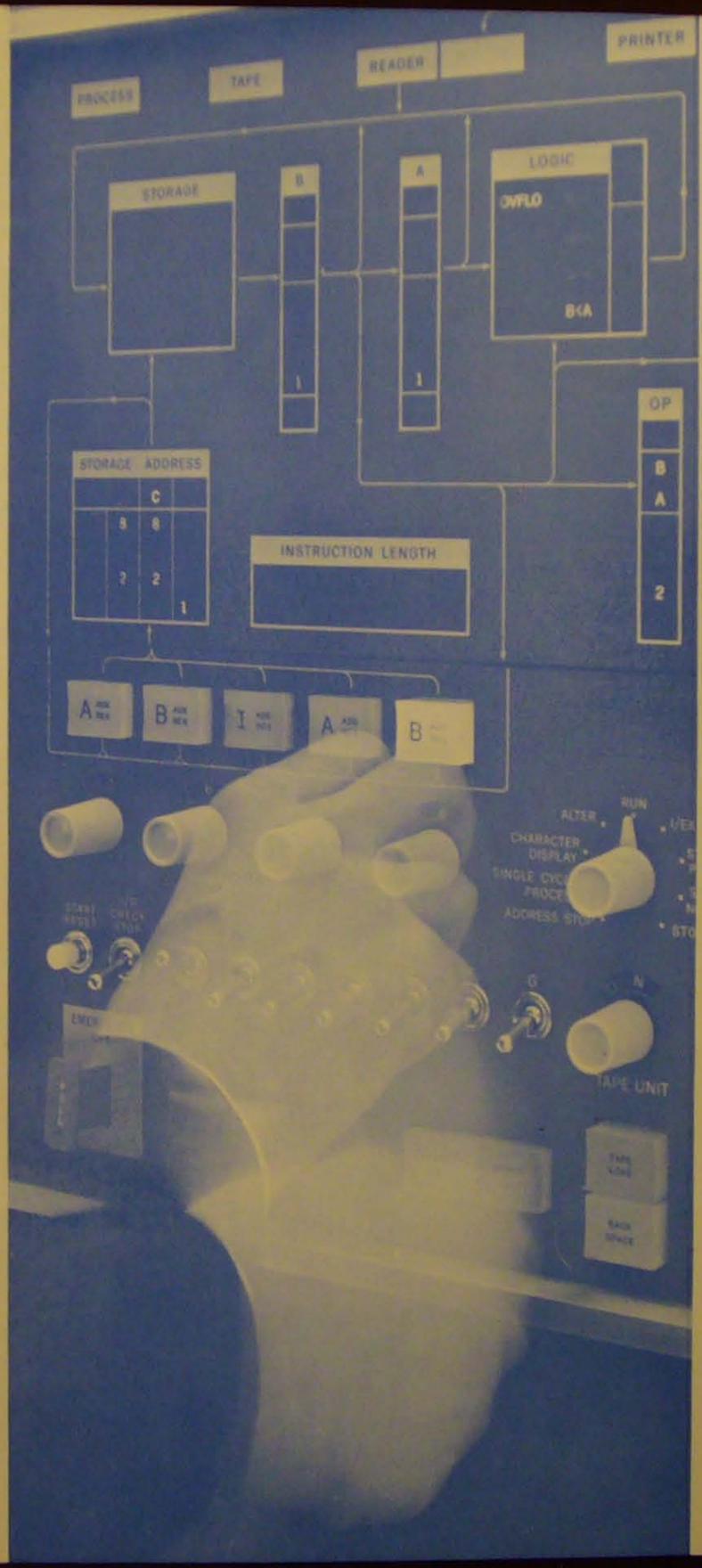
- provide maximum use of 1401 processing time
- increase overall program testing efficiency
- reduce costs of required program tests

How?

Because AUTO-TEST can insert, automatically, necessary corrections to programs, eliminate program modification prior to each test session and provide complete test documentation for program evaluation. It requires minimum manual intervention by the programmer once the program is started. AUTO-TEST can be learned and applied by any 1401 programmer in just a few hours.

What will AUTO-TEST mean to programmers?

Programmers are relieved of much of the routine, time-consuming testing functions. They can concentrate more fully on program development and application results.



AUTO-TEST has minimum requirements

Testing can be performed on 1401 Tape or Tape/RAMAC Systems that meet these basic requirements:

- 4,000 positions of core storage
- An IBM Magnetic Tape Unit
- An IBM 1402 Card Read Punch
- An IBM 1403 Printer
- High-Low-Equal Compare

Some of the outstanding features of AUTO-TEST are:

- Tape File Generation
- RAMAC® File Generation
- RAMAC File Trace Routine
- Automatic Patching of Program Addresses
- Tape Print-Out
- Core Storage Print-Out

IBM Programming Services include:

Programmed Applications Library

Pre-tested computer programs designed to handle various major data processing functions common to firms within a specific industry.

Programming Systems Support

To keep customers up-to-date on the availability and use of all new programming systems.

To assist the IBM programming staff in reflecting customer requirements in the specification of new programming systems.

Another new feature for the IBM *1401 Data Processing System*

This new optional feature increases throughput of a 1401 system by permitting the programmer to overlap with processing such input/output operations as:

- Tape reading or writing by IBM 7330 Magnetic Tape Units, in either high or low density, including start-stop time.
- Tape reading or writing by IBM 729 Magnetic Tape Units, in low density only, including start-stop time.
- Start-stop time of IBM 729 Magnetic Tape Units when reading or writing in high density.
- Card reading or punching by an IBM 1402 Card Read Punch.
- Reading or writing through the Serial I/O Adaptor Channel; e.g., reading by an IBM 1419 Magnetic Character Reader.

The degree to which the Processing Overlap feature will increase system throughput will vary with the operation.

For more details consult your IBM representative.

Processing Overlap

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International Business Machines Corporation
Data Processing Division
112 East Post Road White Plains New York

Printed in U.S.A. 520-1465