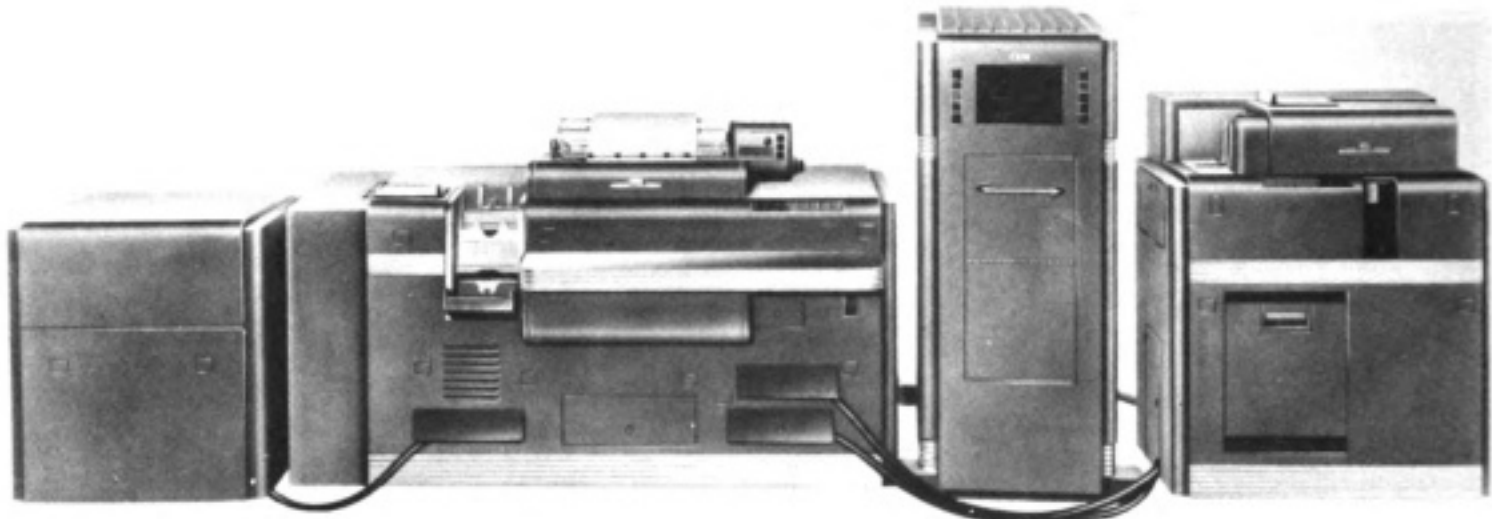


IBM CPC

Card Programmed Calculator

MANUFACTURER

International Business Machines Corporation



Picture by International Business Machines Corporation

APPLICATIONS

Manufacturer

Business and scientific calculating.

Government Sample

U. S. Army Ordnance, Frankford Arsenal

Along with a Burroughs E101 and 2 UNIVAC 120's, the following utilization is made: Field Service National Stock Accounting, Fire control instruments, gage accounting, production control, payroll accounting, internal arsenal accounting including fiscal, budget, property and cost accounting, scientific computations in the field of fluid dynamics, interior ballistics, theoretical physics and certain aspects of nuclear physics.

Industrial Sample

The Griscom-Russell Company

Used for both commercial and scientific work.

NUMERICAL SYSTEM

Internal number system	Binary coded decimal
Decimal digits per word	3 or 5
Arithmetic system	Fixed point
Instruction type	One to two address
Number range	Dependent upon programming

ARITHMETIC UNIT

Time	Microsec
Add (exclud. stor. access)	760
Mult (exclud. stor. access)	13,180 (average)
Div (exclud. stor. access)	15,480 (average)
Construction	Vacuum tubes
Rapid access word registers	4
Basic pulse repetition rate	50 KC
Arithmetic mode	Parallel
Timing	Synchronous
Operation	Sequential



Picture by University of California, Radiation Laboratory

STORAGE

Media	Words	Digits	Microsec Access
Electronic tubes	9	37	760
Accumulator (Mech)	6	80	400,000-800,000
Mechanical	48	480	400,000-1,200,000

INPUT

Media	Speed
Card reader	100-150 cards/min

OUTPUT

Media	Speed
Printed record	100 or 150 lines/min
Summary punch	50 cards/min

CIRCUIT ELEMENTS ENTIRE SYSTEM

Tubes	1,500
Tube types	4

CHECKING FEATURES

Checking may be performed through control panel wiring.

POWER, SPACE AND WEIGHT

Power, computer	9.57 KVA
Space, computer	375 cu. ft. 64 sq. ft.
Weight, computer	5,755 lbs

The above figures include the 412/418, 605, 527 Group. No special air conditioning is required.

PRODUCTION RECORD

Produced	693
In production	0
Operating	588
Delivery time	Discontinued

COST, PRICE AND RENTAL RATE

Manufacturer
Approximately \$2,200/month and up.

Industrial Sample
The Griscom-Russell Company
Basic system \$2,000/month, additional equipment \$1,000/month.

PERSONNEL REQUIREMENTS

Industrial Sample
The Griscom-Russell Company
One 8-hour shift requires 1 engineer and 3 technicians or operators.

RELIABILITY AND OPERATING EXPERIENCE

Manufacturer
Average service time for all machines is approximately 25 hours/month.

FUTURE PLANS

Industrial Sample
The Griscom-Russell Company
CPC to be replaced by a medium sized stored program computer within next few years.

INSTALLATIONS

Government Sample
U. S. Army Ordnance, Frankford Arsenal, Phila., Pa.
NACA, Langley Field, Virginia
Industrial Sample
Allis-Chalmers Manufacturing Company
Battelle Memorial Institute, Columbus 1, Ohio
Esso Standard Oil Company, New York 19, New York
The Griscom-Russell Company, Massillon, Ohio
Republic Aviation Corporation, Farmingdale,
Long Island, New York
United Aircraft Corporation, East Hartford 8,
Connecticut

ADDITIONAL FEATURES AND REMARKS

Manufacturer
The IBM Card-programmed Electronic Calculator solves problems involving any number of sequential steps to obtain a single solution. It is a combination of several units, including three standard IBM machines, and has many applications in engineering, scientific and actuarial computations. One standard unit is an electronic calculator capable of 2,174 additions and subtractions or 86 multiplications and divisions a second. Other units include an accounting machine for interpreting instructions and for accumulating and printing results, a storage unit for retaining data for later use in a problem and a punching unit for recording results in IBM cards. Numerical instructions in IBM cards direct the sequence of operations. These instructions tell the electronic calculator where to obtain factors; whether to add, subtract, multiply or divide, and what to do with the result -- print it, punch it, hold it for later use, or perform combinations of these possibilities. When not being used for this type of computation, the accounting machine and electronic calculator may be disconnected and used to perform standard accounting and computing operations.

