

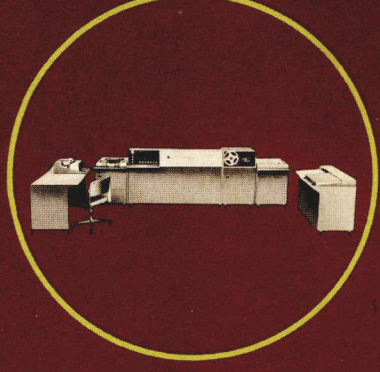
ROYAL PRECISION ELECTRONIC COMPUTING SYSTEMS

# COMBINED LINE CATALOG

ROYAL McBEE ELECTRONIC DATA PROCESSING PORT CHESTER NEW YORK



ROYAL PRECISION ELECTRONIC COMPUTING SYSTEMS





## **THE PERFECT PARTNERSHIP**

Early in 1956, Royal McBee in company with General Precision Equipment Corporation, an outstanding pioneer in the field of electronics formed a jointly owned company — Royal Precision Corporation.

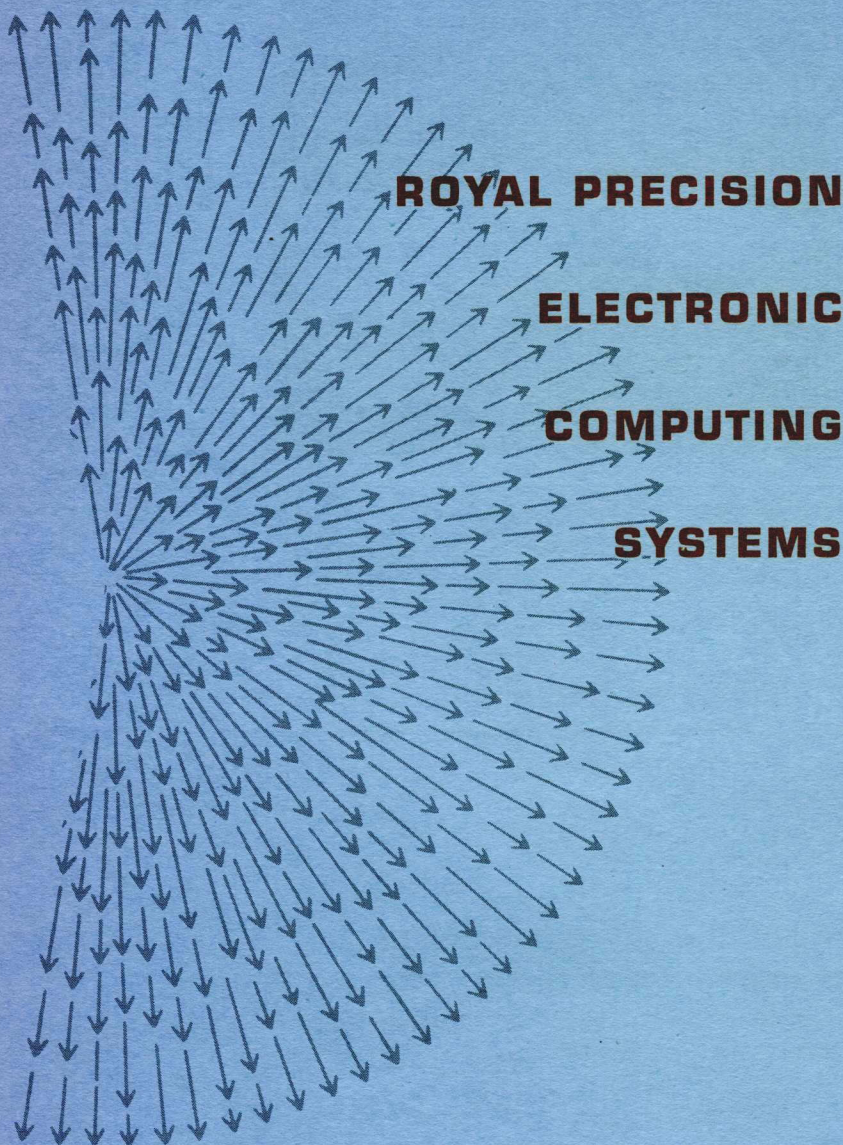
The result was a uniting of years of proven engineering and computer knowledge of the Librascope Division of General Precision Equipment Corporation, the systems design efficiency of trained Royal Precision personnel, and the world-wide marketing and customer service facilities of Royal McBee Corporation.

Tangible benefits of this combined talents relationship have been the development of the Royal Precision family of electronic computing systems marketed by Royal McBee. Each system has been scientifically designed to provide dynamic answers to the various and specific computing needs of industry, business, science and Government.

To you, the user, this Perfect Partnership means the very latest in computer technology backed by Royal McBee experience in all phases of computer applications and a profound belief in good customer relations . . . not only at time of purchase, but as long as Royal McBee personnel can be of service to you.

Royal McBee Electronic Data Processing . . . leader and trusted name in sensible automation.





**ROYAL PRECISION  
ELECTRONIC  
COMPUTING  
SYSTEMS**



**LGP-30 Electronic Computer**

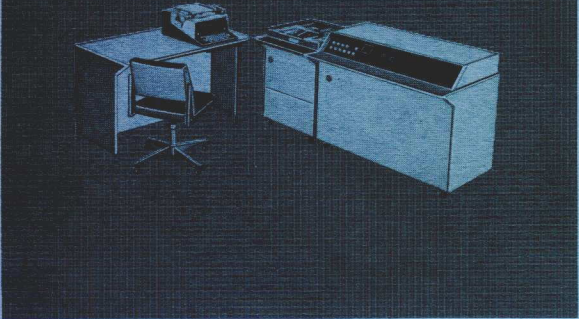
This desk-size, internally stored program electronic digital computer incorporates many capabilities normally associated with much larger equipment at a modest investment well within the reach of even the smallest company.

Smaller firms have been able to utilize the LGP-30 to both increase their operating efficiency and their competitiveness with other firms.

To the larger firm, the LGP-30 has meant the ability to exercise physical as well as managerial decentralization, and many firms and government agencies have found the LGP-30 the ideal peripheral computer to a large scale, centralized data processing system. To governmental agencies, it has and will continue to serve in vital defense projects.

Universities have installed LGP-30s as both research and instructional tools. Considering its inherent versatility, its popularity as the leading console, digital computer is understandable.





#### **RPC-4000 Electronic Computing System**

Priced just above the LGP-30, the fully transistorized desk-size RPC-4000 is designed for the user whose applications require the additional power, flexibility and speed inherent in this electronic internally stored program digital computer. A truly universal, general purpose system, the RPC-4000 may be applied to both scientific and data processing problems.

Its large internal memory and high operating speeds (up to 230,000 operations per minute) permit rapid solutions of problems of great magnitude and complexity.

Availability of high-speed auxiliary equipment provides to you the option of still greater input-output operating speeds. Up to 45 input-output devices may be connected on-line to the system permitting users to expand their system to keep pace with application requirements. The RPC-4000... a dynamic answer to your computing needs at but a fraction of the price of comparable systems.



#### **RPC-9000 Electronic Data Processing System**

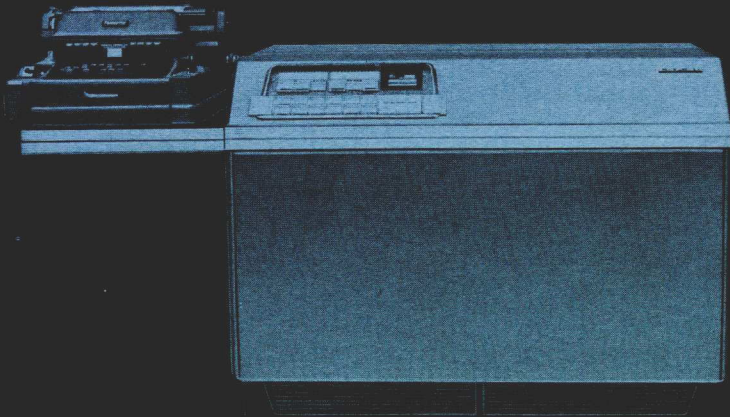
The RPC-9000 is a fully transistorized electronic data processing system employing a fresh new concept in automatic records-processing. Data are accepted at random and processed "in-line"—no sorting or special arrangement of input data is required.

Completely modular, there is available a wide variety of auxiliary equipment which may be selected to meet specific data processing requirements...and the system may be changed and expanded as the need may arise.

Many functions are performed simultaneously. The computer operates with multiple input, multiple search, and multiple output...and many different functions performed on the same "run"—at the same time.

Whether your company is considering automation or "upgrading"...whether your company is large or small...the RPC-9000 may be the answer to help increase your profit-margin picture.





Total access time per instruction:

Transfer time:

Addition-subtraction time:

Multiplication-Division time:

Weight:

Full:

Standby:

Memory capacity:

Word length:

Command Repertoire:

## ROYAL PRECISION LGP-30 ELECTRONIC COMPUTER SYSTEM

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### GENERAL CHARACTERISTICS:

The LGP-30 is a stored program, general purpose, electronic digital computer. Its unique integrated logical design utilizes fewer components through the application of advanced time-sharing principle. This has permitted substantial computer capacity to be housed in a desk-size unit — at an acquisition cost feasible when capital investment is a factor.

Mobile, the LGP-30 can be rolled directly to the work project. Easy to operate and program, it can be effectively used by both technical and non-technical personnel — computer specialists are not a requisite. Operates from a conventional wall outlet and requires no special site preparation.

Truly universal, the LGP-30 can be applied to solve a wide range of scientific, engineering, business and statistical problems of extreme complexity.



## COMPUTER & COMPUTER MODIFICATIONS

MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
301	LGP-30 (with Tapewriter)	\$49,500	\$29,700	\$1,100	\$880

### MODIFICATIONS AVAILABLE ON ONE TIME CHARGE BASIS

MODEL NO.	ITEM	ONE TIME CHARGE
301-01	Extension Cables	\$245
301-02	Flexowriter Jumper Cable (N. S.)	100
301-03	Memory Track Protection Circuit (Std. Starting with Ser. #263)	25 ea.
301-05	Double Access Track	350
301-07	Memory Power Failure Protection Circuit	300
301-08	Test for Overflow & Breakpoint Logic	600

\*Educational Pricing Policy applies to accredited universities and colleges using the LGP-30 for teaching and research purposes.

NOTE: To all prices quoted must be added any applicable taxes.

## AVAILABLE COMPUTER MODIFICATIONS

### Model 301-01 Extension Cables

These extension cables place the input-output socket outside the computer cabinet and facilitate changing of peripheral equipment by permitting changes without the need for raising the computer top cover. They were designed primarily for users who have two LGP-30s and one Model 341 or 342.

### Model 301-02 Tape Typewriter Jumper Cable

Tape Typewriter Jumper Cables, which connect the Tape Typewriter to the computer, are available in lengths above standard to a maximum of ten feet. The length between the connectors must be specified when ordering.

### Model 301-03 Memory Track Protection Circuit

A field modification—A toggle switch is mounted on one or more Matrix Driver Cards. When thrown, it prevents any data recording in the eight main memory tracks controlled by that Matrix Driver Card—preventing any alteration or erasure of data or instructions in the eight affected tracks.

### Model 301-05 Double Access Track

A second read head is added to track 62 resulting in a high-speed track to which a second access may be made in about one-fifth of each drum revolution. The second head is referred to as track 63; track 63 (original) is lost. Track 63 head trails track 62 head by 13 word spaces.

### Model 301-07 Memory Power Failure Protection Circuit

Automatically prevents loss of information *in computer's memory* during failure or loss of power:

1. At any point between source and outlet supplying computer,
2. In LGP-30 power cable owing to breakage or disconnection,
3. Due to activation of LGP-30 "Power Off" switch and regardless of settings of other LGP-30 switches.

### Model 301-08 Test for Overflow and Breakpoint Logic

By this test: If overflow occurs during addition, subtraction, or division, the computer—instead of stopping—sets an indicator and proceeds with computation. An indicator may be tested to cause program to proceed along either of two paths. Breakpoint switches are altered to allow setting or not setting indicator when examined by commands.



## TAPE TYPEWRITER & MODIFICATIONS

MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
360	Tape Typewriter (16" Carriage)	\$3,500	\$3,500	\$150	\$120
360A	Tape Typewriter, Special (20" Carriage)	3,525	3,525	150 (+\$25 one time Ch.)	120 (+\$25 one time Ch.)
360B	Tape Typewriter, Special (Edge Card Punch & Reader)	3,675	3,675	150 (+\$175 one time Ch.)	120 (+ one time Ch. of \$175)
360C	Tape Typewriter, Special (fitted to Accept Electric Line Finder)	3,575	3,575	150 (+\$75 one time Ch.)	120 (+ one time Ch. of \$75)

### MODIFICATIONS AVAILABLE ON ONE TIME CHARGE BASIS

MODEL NO.	ITEM	ONE TIME CHARGE
360-01	Rewinder & Chip Collector Assembly Std. for LGP-30 — Charge for Additional off-line equipment	\$120
360-02	Special Input Modes	400

## TAPE TYPEWRITER & MODIFICATIONS

### Model 360 Tape Typewriter

An electric typewriter equipped with paper tape reader and punch and used as basic LGP-30 input-output device. Input is from printing mechanism controlled by keyboard, either manually or from paper tape reader. Output is printing mechanism. A switch permits punching of keyboard data whether Tape Typewriter is controlled manually, from computer, or reader. Maximum operating speed—10 characters per second. One unit is provided as standard equipment for the LGP-30. Additional units may be used off-line for preparing input tapes or typing output tapes. Carriage length is 16".

### Model 360A Tape Typewriter Special

Same as Model 360, except equipped with 20" carriage.

### Model 360B Tape Typewriter Special

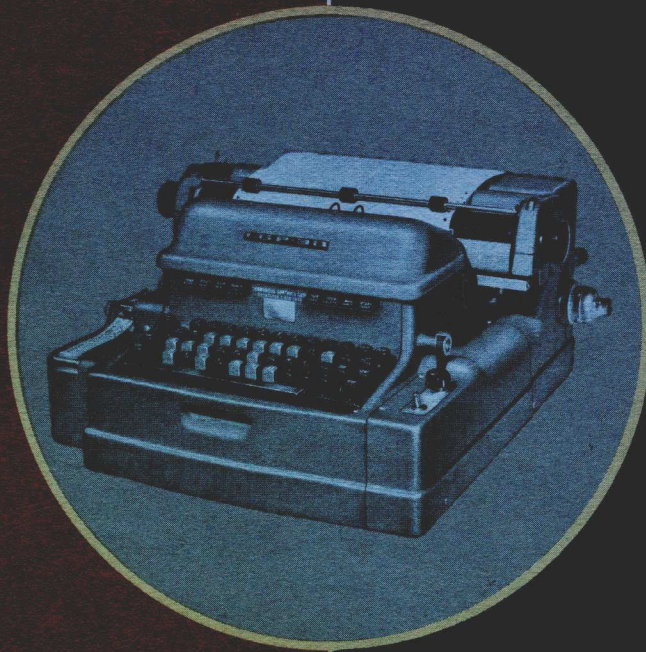
Similar to Model 360, except it is fitted with an Edge Card Punch and Reader in place of Tape Punch and Reader. The Punch and Reader utilizes continuous fanfold cards with sprocket holes pre-punched.

### Model 360C Tape Typewriter, Special

This model is fitted to accept an Electric Line Finder. The Line



MODEL 360 TAPE TYPEWRITER



Finder carriage itself should be purchased from Standard Register Corporation and installed by Representatives of Friden, Inc. The cost of Line Finder and installation are not included in this price schedule.

#### **Model 360-01 Rewinder and Chip Assembly**

Devices mounted to and below Model 360 paper tape punch/reader to wind tape coming from punch or reader on reel, collect chad, and mount rolls or tape being fed to reader. This is standard equipment for Model 360s supplied with basic LGP-30 system; charge applies when additional 360 equipment is purchased, or leased for off-line use.

#### **Model 360-02 Special Input Modes**

Provides four distinct input modes (to be switch selected):

1. As in standard Model 360.
2. Single character entry; tape reader automatically stopped after each tape frame and start signal sent to LGP-30. Only uninhibited characters enter.
3. All character entry: presently inhibited characters—carriage return, back space, color shift, upper and lower cases—enter accumulator. Stop codes are required. Standard characters also enter.
4. All character-single character entry: all characters enter with automatic stop code after each tape frame.

\*Educational Pricing Policy applies to accredited universities and colleges using the LGP-30 for teaching and research purposes.

**NOTE:** To all prices quoted must be added any applicable taxes.



**PHOTO ELECTRIC READER/PUNCH AND MODIFICATIONS**

MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
342	High Speed Reader/Punch	\$6,360	\$5,088	\$265	\$212
342A	High Speed Reader/Punch (For use with IBM 024 or 026 for Punched Card Input and our Model 321)	6,360+ (See Mod. 321)	5,088+ (See Mod. 321)	265+ (See Mod. 321)	212+ (See Mod. 321)

**MODIFICATIONS AVAILABLE ON ONE TIME CHARGE BASIS**

MODEL NO.	ITEM	ONE TIME CHARGE
342-01	Six or Eight Channel Punch	300
342-02	Switch box	1,500
342-03	Single Character Input Mode	500
342-04	Non Standard Jumper Cables LGP-30 to Control Box	175** (up to 12 ft.) 230*** (up to 36 ft.)
	Tape Typewriter to Control Box	175** (up to 12 feet)

## PHOTO ELECTRIC READER/PUNCH AND MODIFICATIONS

### **Model 342 High Speed Reader/Punch**

Photo electric paper tape reader with motorized paper tape punch. The switches are also provided so that Model 342 or Model 360 Tape Typewriter may be manually selected for input or output. Maximum read speed—200 characters per second; maximum punch speed—20 characters per second. Model 342 is equipped with Model 391 Paper Tape Hand Rewinder as standard equipment.

### **Model 342A High Speed Reader/Punch**

Similar to Model 342 except it

incorporates manual switching control to permit connection of card reader to LGP-30. The 342A may be used with either IBM 024 Key punch or 026 Printing Key punch plus Royal McBee Model 321 Punched Card Input Control Unit to allow direct punched card input to LGP-30. The input selector switch is a three position switch marked "Reader-Type-writer-Card."

### **Model 342-01 Six or Eight Channel Punch**

With this special feature the punch in the present Model 342 is modified to provide two modes of operation to be switch selected.

1. Standard six channel punching



PHOTO ELECTRIC READER / PUNCH



2. Eight channel punching under control of a special program.

#### **Model 342-02 Switch Box**

This device enables communication between Model 342 and either of two LGP-30 computers. The LGP-30 to which the Model 342 is connected is selected by a manual switch. When the 342 is switched to one computer, the other computer is automatically connected to its Model 360 Tape Typewriter.

#### **Model 342-03 Single Character Input Mode**

Special Model 342 modification which causes photo reader to stop after each character and start computer as though each character were

followed by a stop code. Normally, all characters will enter computer in this mode, but modification may be made so that certain characters may be inhibited. New mode is switch-controlled permitting standard operation. This modification is factory installed.

#### **Model 342-04 Non-Standard Jumper Cables**

LGP-30 to control box and Tape Typewriter to control box jumper cables for use with 342 — available in lengths above standard 12 feet, but not to exceed 84 feet. If, however, length of LGP-30 to control box jumper cable exceeds 36 feet, a computer modification is required.

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\*\*Plus \$1.30 per foot over 12 feet to a maximum length of 36 feet.

\*\*\*Plus \$1.30 per foot over 36 feet to a maximum of 72 feet.

**NOTE:** To all prices quoted must be added any applicable taxes.





**PHOTO ELECTRIC READER & MODIFICATIONS**

MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
		\$1,500	\$1,500	\$200	\$160
		\$1,000 (See Mod 321)	\$1,000 (See Mod 321)	\$100 (See Mod 321)	\$100 (See Mod 321)

**MODIFICATIONS AVAILABLE ON ONE ITEM CHARGE BASIS**

ITEM	ONE TIME CHARGE
Model 341-02	Same as 341-02
Model 341-03	Same as 341-03
Model 341-04	Same as 341-04

## PHOTO ELECTRIC READER AND MODIFICATIONS

### Model 341 High Speed Photo Electric Reader

Photo electric punch paper tape reader. Supplements, but does not replace Model 360 Tape Typewriter for input. Maximum read speed—200 characters per second. Receives all its power through LGP-30 computer. Model 341 comes with Model 391 Paper Tape Hand Rewinder as standard equipment.

### Model 341A High Speed Photo Electric Reader, Special

Similar to Model 341 except that 341A incorporates manual switching control to permit connection of a punched card reader to the LGP-30. Equipment used with 341A is IBM Models 024 or 026 plus Royal McBee Model 321 Punched Card Input Control Unit.

### Model 341-02 Switch Box

### Model 341-03 Single Character Input Mode

### Model 341-04 Non-Standard Jumper Cables

*(Same corresponding items for 342 on previous page.)*



MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
321	Punched Card Input Control Unit	\$4,000	\$4,000	\$100	\$100
322	Automatic Switching Unit	5,000	6,000	150	150
323	Universal Translator	4,000	4,000	100	100
323-01	Parity Checking and Teletype Precedence Code Translating for Universal Translator	400	400	10	10

**MODIFICATIONS AVAILABLE ON ONE ITEM CHARGE BASIS**

MODEL NO.	ITEM	ONE TIME CHARGE
391	Paper Tape Rewinder, Std. for Models 341 and 342, Charge for Additional Equipment	\$75

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NOTE: To all prices quoted must be added any applicable taxes.



## ADDITIONAL SPECIAL EQUIPMENT

### Model 321 Punched Card Input Control Unit

Mounted entirely within IBM 024 or 026 unit. Converts signals to form suitable for entering information on 80 column punched cards into LGP-30. Operating speeds—20 columns per second while reading 80 columns per second while skipping. Connection of unit to LGP-30 requires use of Model 341A, 342A or 322. Covers only punched card input, not output.

### Model 322 Automatic Switching Control Unit

Enables LGP-30 to make programmed selection of input-output devices. All devices plug into Model 322, which plugs into LGP-30. Accommodates up to six of any existing LGP-30 peripheral equipment (Dual function devices, i.e. reader/punch count as two). Each is assigned plugboard address on Model 322. Only one device may be operating at a time.

### Model 323 Universal Translator

A universal, switch controlled code translator for use with LGP-30 Readers. Reader itself accepts 5, 7, or 8

channel paper tape widths. Translator itself decodes any 50 codes (or less) up to 8 channels to any 50 codes (or less) up to 6 channels (no parity check). Reader, however, provides circuitry for 7 channel input to translator. Translator recodes any 50 "foreign" characters into the 43 LGP-30 codes.

### Model 323-01 Parity Checking and Teletype Precedence Code Translating for Universal Translator

Expands capabilities of Model 323 Universal Translator; adds parity checking and ability to translate Teletype precedence codes. Any one of tape channels (up to seven) may be parity level. May be wired odd or even parity. Detection of parity error stops computer and turns on indicator light.

### Model 391 Paper Tape Rewinder

Hand cranked rewriter for rewinding rolls or paper tape. Reel capacity is 200 feet and supplied as standard equipment with all Model 341s and Model 342s.





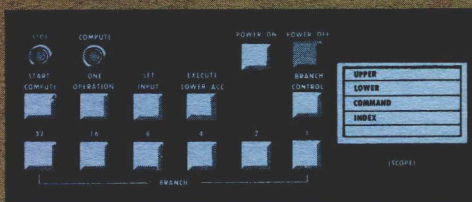
## RPC-4000 ELECTRONIC COMPUTING SYSTEM

The RPC-4000 is a fully transistorized, general purpose, internally binary, straight serial, stored program, fixed point, magnetic drum computer. The basic system consists of the RPC-4010 computer and the RPC-4500 Tape Typewriter System.

As many as 45 input-output devices (60 with minor modifications) may be connected on-line with the computer. There is automatic checking (parity) of input information.

A significant break-through in computer design has provided an unusually large internal storage capacity for programs and data, high operating speeds and complete flexibility of input and output...all in a compact unit at low cost.

The RPC-4000 is suitable for *both* scientific and management control applications.



Operational control of the computer is effected through the control panel of the 4010 computer. The location, arrangement, and components of this panel provide operator convenience in system control and supervision.



MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
RPC-4000	RPC-4010 Computer with RPC-4500 Tape Typewriter System	\$87,500	\$35,000** For First System	\$1,750	\$1,400

**SPECIAL EDUCATIONAL PRICING POLICY FOR THE RPC-4000 E.C.S.**

NUMBER OF MACHINES	EDUCATIONAL* PRICE	CUMULATIVE % (Donation) OFF COMMERCIAL PRICE
1	\$ 35,000	60
2	87,500	50
3	139,125	47
4	192,500	45
5	245,000	44

\*Educational Pricing Policy applies to accredited universities and colleges using the RPC-4000 for teaching and research purposes.

NOTE: To all prices quoted must be added any applicable taxes.

\*\*For the first RPC-4000 purchased—Royal McBee will donate 60% of the purchase price or a net purchase price of \$35,000. For each subsequent RPC-4000 installed by the same institution 40% of the purchase price will be donated, or a net purchase price of \$52,500. (See chart for single and multiple installation charges.)

**The RPC-4000 System Specifications**

The basic system consists of the RPC-4010 Computer and the RPC-4500 Tape Typewriter System.

**RPC-4010 Computer**

Storage Capacity:  
7,872 words main storage  
128 words dual access storage  
8 words high-speed line storage  
8,008 words total storage

Commands:  
32 basic commands with many variations

Registers:  
1 word upper accumulator  
1 or 8 word lower accumulator  
1 word command register  
1 word index (and repeat control register)

**Access Time**

Main Storage:  
17 milliseconds maximum  
8.5 milliseconds average

High-Speed Line:  
2.0 milliseconds maximum  
1.0 milliseconds average

**Dual Access Tracks:**

A second access to a word in dual access storage may be made in either 4 milliseconds or 6 milliseconds after the first access

**Command Execution Times**

(including minimum access):  
Addition, Subtraction  
1.0 milliseconds (in repeat operations, 0.25 milliseconds for each execution after the first).

Multiplication, Division  
18.0 milliseconds

Shift Normalize  
1.0 milliseconds plus 0.25 milliseconds for each binary shift.

Memory Search Speed:  
3,000 words per second—average

**Physical Dimensions**

	Length	Width	Depth
4010 General Purpose Computer	46¾"	27"	34¾"
4500 Tape Typewriter System			
R/P	23¾"	27½"	31¾"
Typewriter Desk	46¾"	27¾"	29½"





**Advanced Computer Design**—The heart of the RPC-4000 Electronic Computing System is the RPC-4010 Computer, a fully transistorized, internally binary, stored program, magnetic drum computer that incorporates the most modern design features.

**Memory**—The main memory is non-volatile. The entire magnetic drum memory section is protected from dust particles or accidental damage by a metal case. Physical size has been kept to a minimum by the use of miniaturized heads. The memory has a storage capacity of 8,008 words (word length is 32 bits, accommodating any 9 decimal digit number), allowing great problem-solving flexibility. Average access time to the main storage is 8.5 milliseconds. Memory may be searched for full or partial words (through special masking feature) at a sustained rate of 180,000 words per minute. Three thousand words of memory may be scanned in less than one second for equality to a key word, or the search may be set up as a greater than or equal condition to a key word. Switches allow information to be locked in the main memory in increments of 1024 words—so that it cannot be altered by program or operator error.

The 7,872 words of main storage are contained in 123 tracks with 64 sectors (words) to each track. Tracks are numbered from 000 to 127. Two tracks (128 words) in the RPC-4000 are dual access. Two heads on each track provide quick access to data. An additional high-speed track is reserved for an 8-word storage. This reduces access time by a factor of eight.



**Registers**—The RPC-4000 contains four working registers—upper accumulator (U), lower accumulator (L), Command register (C), Index register (I). The arithmetic and control section of memory includes three one-word registers, and one “one-or-eight” word register provides for block arithmetic and block transfer without special commands.

**Upper Accumulator**—The U accumulator is an arithmetic register for performing computations. Most test or compare instructions apply to the U register. The U register contains the multiplier and quotient for multiply and divide operations.

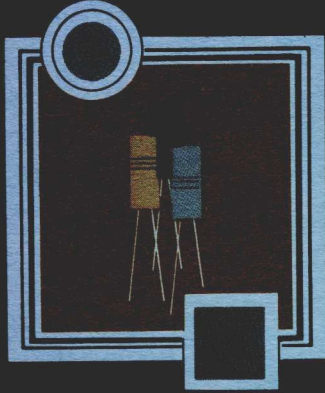
**Lower Accumulator**—The lower accumulator is also an arithmetic register in which computations are performed. It can be extended to eight one word accumulators under program control. For example, eight summations can be carried on with one set of instructions. Block transfer up to 8 words at a time also becomes available through this feature.

**Command Register**—The Command Register holds the instruction that is being executed.

**Index Register**—The index register, under program control, performs the following three functions:

1. Modifies addresses in the operand portion of the instruction word.
2. Controls the number of times an instruction is to be repeated.
3. Stores the location of the operand when a successful comparison has been made.

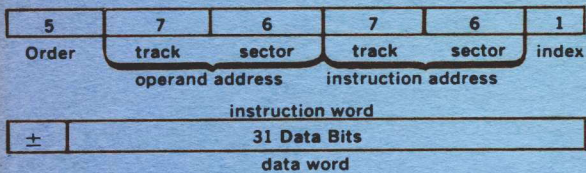




**Word Structure**—Each word, the basic unit of information, contains 32 binary bits which may be represented either as a zero or a one on the magnetic drum.

**Instruction Word**—The RPC-4000 uses a “one-over-one” address system. The first address (known as the operand address) contains the location of the operand. The second address gives the location of the next instruction to execute. The principal benefit of this system is that the programmer can optimize his program easily and is not restricted to a sequential order of instructions specified by the machine.

The least significant bit of the instruction word contains a reference to the index register. A zero will mean the index register has no effect on the instruction being executed. If a one is present, the actual address of the instruction being executed will be the sum of the operand address of the instruction and contents of the index register. Thus, a programmer may modify an address by merely modifying the contents of the index register.

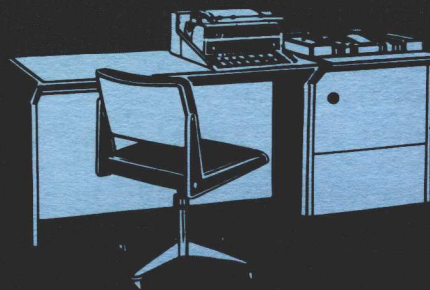


**Power Requirements**—115V.

**Data Word**—A data word contains 31 binary bits, plus sign bit. This is sufficient to hold any 9-digit number.

**The RPC-4500 Tape Typewriter System** consists of an input-output Royal Electric typewriter complete with specially designed desk and chair, plus a console housing a combination punched paper tape reader and punch. The typewriter, punch and reader may be interconnected in any combination for both on-line and off-line operations. Special error-correcting and tape handling features are incorporated.

**Typewriter speed:** 10 characters per sec.  
**Reader speed:** 60 characters per sec.  
**Punch speed:** 30 characters per sec.  
**Code level:** 7 channels.







MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
RPC-4600	Auxiliary Tape Typewriter System	\$5,000	\$5,000	\$150	\$150
RPC-4480	Auxiliary Tape Typewriter	2,500	2,500	75	75
RPC-4431	Auxiliary Punch and Reader	2,500	2,500	75	75

\*Educational Pricing Policy applies to accredited universities and colleges using the RPC-4000 for teaching and research purposes.

NOTE: To all prices quoted must be added any applicable taxes.



### Model RPC-4600 Auxiliary Tape Typewriter System

This system includes:

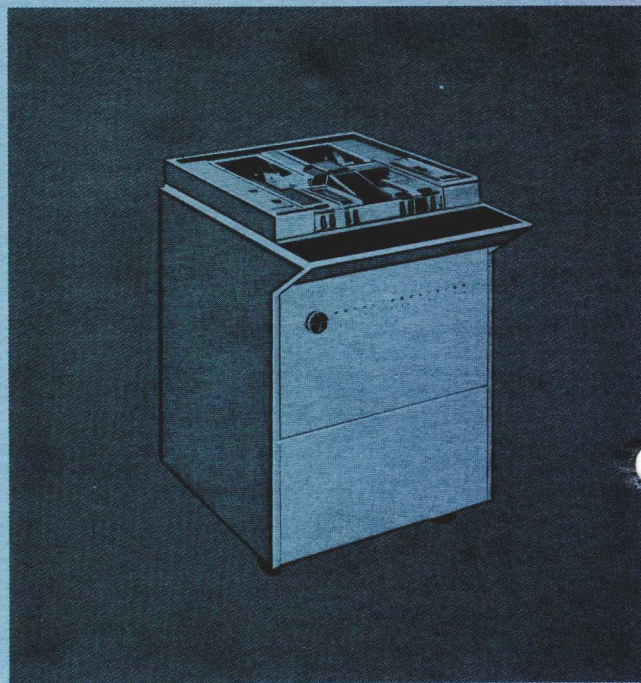
- 1 (One) Model RPC-4480 Tape Typewriter
- 1 (One) Model RPC-4431 Auxiliary Punch & Reader

It may be connected into the RPC-4000 System and operated on-line or off-line as an *additional* Tape Typewriter System. It then functions operationally, precisely like the RPC-4500 Tape Typewriter System, but cannot be used to replace the RPC 4500 as it does *not* incorporate input-output controls.

It may be used off-line for operation as a Tape Typewriter System, remote from the computer.

### Model RPC-4480

This is an electric code communicating typewriter capable of communicating with the RPC 4010 com-



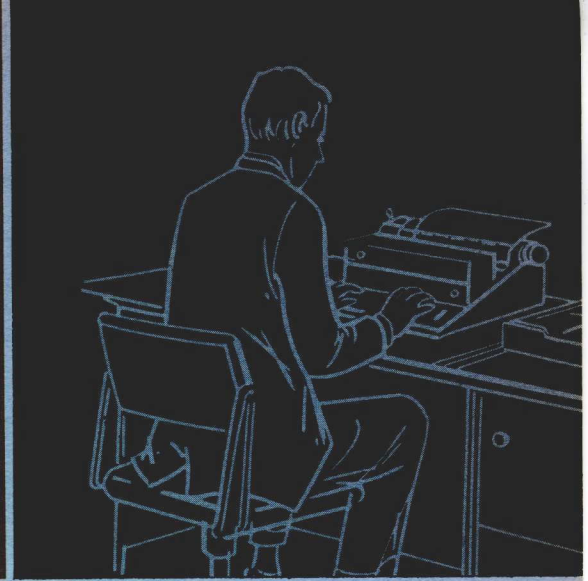
puter and/or the RPC-4430 or RPC-4431. Type speed is 10 characters per second. The RPC-4480 includes a typewriter console and operator's chair.

Each model 4430 or 4431 used in an RPC-4000 computer system provides for a connection of up to two Model 4480 typewriters. However, only the primary 4480 may be used off-line when two are connected to a 4430 or 4431.

### Model 4431

This punch and reader is similar to the Model 4430 except that it does *not* include input-output system controls. Each RPC-4000 computer system requires only *one* RPC 4430 regardless of the number of input-output units in the system. When additional punch and reader units are required, the Model RPC 4431 must be used.





**Model RPC-4440 High Speed Paper Tape Punch**

This is a fully perforating 300 characters per second paper tape punch—for users who desire to require added output speeds. It is equipped with full tape handling facilities. The Model 4440 may be selected manually or automatically by the computer.



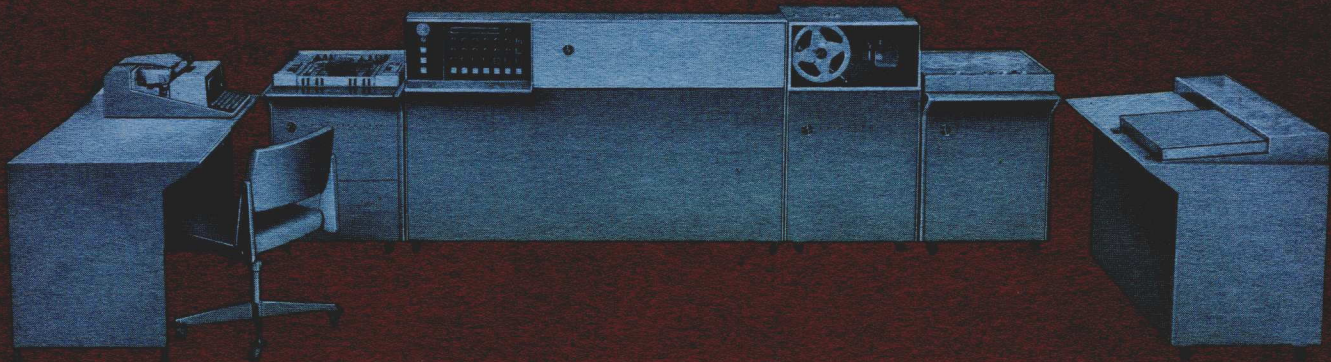
**Model RPC-4410 High Speed Paper Tape Reader**

For those users requiring rapid input read speeds—a 500 characters per second photo electric reader is available. Tape can be run in either direction. Model 4410 is equipped with full servo reel system for tape handling. It may be selected manually or automatically for use by the computer.

®Educational Pricing Policy applies to accredited universities and colleges using the RPC-4000 for teaching and research purposes.  
**NOTE:** To all prices quoted must be added any applicable taxes.

MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
RPC-4440	High Speed Punch	\$20,000	\$15,000	\$400	\$320
RPC-4410	Photo Electric Reader	15,000	10,000	300	240





# RPC-9000 ELECTRONIC DATA PROCESSING SYSTEM

## GENERAL SPECIFICATIONS:

**Numeric System:**  
Binary Coded Decimal

**Word Length:**  
Fixed-12 Alphanumeric Characters

**Block Length:**  
8 Words 96 Alphanumeric Characters

**Character Code:**  
Binary Excess 3

**Circuit Elements:**  
Transistors

**Timing:**  
Synchronous

**Pulse Repetition Rate:**  
364KC

**Circuitry:**  
Serial by Character and Bit

**Instruction Code:**  
Single Character Command  
Single Character Address

**Operation:**  
Serial, Fixed Point

**Power Requirement:**  
115V

The RPC-9000 is a fully transistorized, internally stored program, fully automatic *data processing* system. An in-line system, it processes and up-dates records from start to finish in one continuous flow, with processing performed in random order. *Batching is not necessary or required.*

A modular system, it can be molded to the specific needs of the user.

A decimal machine, it handles both alphabetic and numeric data with equal facility.

Since all data input and output is completely buffered, all phases of system's operation may function concurrently (maximum overlap). Simultaneous input and output is possible with up to 32 separate on-line devices.

It utilizes nickel wire, magneto-strictive delay lines for internal storage; magnetic tape for general file storage—providing rapid operating speeds, system reliability and economy.

MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
RPC-9010	RPC-9010 computer including one input and one output control.	\$60,000	\$36,000	\$1,200	\$960

## ADDITIONAL INTERNAL COMPUTER MEMORY AVAILABLE

RPC-9210	Input control unit.	\$5,000	\$3,000	\$100	\$80
RPC-9215	High speed input control unit.	6,000	3,600	120	96
RPC-9220	Output control unit.	2,500	1,500	50	40
	Buffer units required for each piece of peripheral equipment added to basic system (except magnetic tape units and line printers.)**				
RPC-9230	32 word memory unit. (Up to 8 units.)	2,500	1,500	50	40

## ADDITIONAL BUFFER CAPACITY AVAILABLE

RPC-9211	Auxiliary input control unit.	\$1,250	\$750	\$25	\$20
RPC-9221	Auxiliary output control unit.	1,250	750	25	20

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\*\*Input devices (only) utilize RPC 9210.  
Output devices (only) utilize RPC 9220.  
Input-Output devices may require both units.

**NOTE** To all prices quoted must be added any applicable taxes.

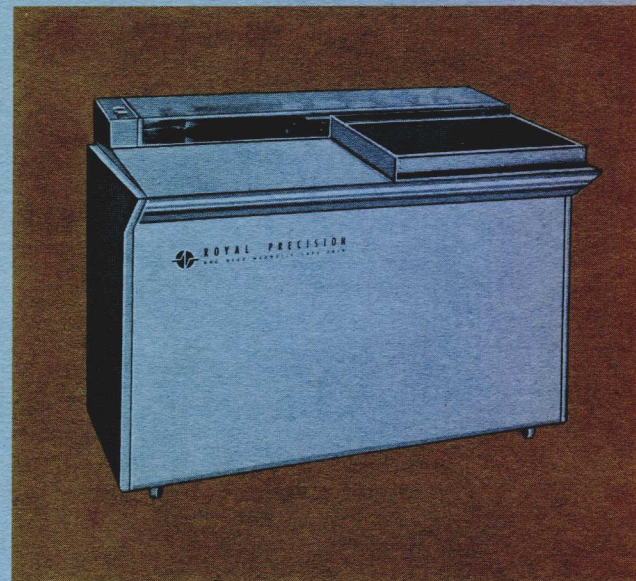


## RPC-9100 MAGNETIC TAPE STORAGE UNIT:

This is the main memory, or data storage element. It is able to make 100% use of its capacity of 1,000,000 alpha-numeric characters per cartridge. Each magnetic tape contains data either in random order or in any desired sequence. The endless loop of magnetic tape moves at high speed in one direction, with reading and recording performed at separate stations. As tape movement is constant, there is no necessity for slowdown, halt, rewind or resumption of motion.

Several magnetic tape units may be operated simultaneously on-line.

Up to seven Auxiliary Magnetic Tape Storage Units (Model RPC-9101) may be connected to each Model 9100, utilizing the internal control circuitry of the master unit.



MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
RPC-9100	Magnetic Tape Storage Unit	\$50,000	\$30,000	\$1,000	\$800
RPC-9101	Auxiliary Magnetic Tape Storage Unit	20,000	12,000	400	320

### ADDED BUFFER STORAGE AVAILABLE WITH RPC 9100

RPC-9260	Auxiliary Read Buffer pre-synch	\$1,250	\$ 750	\$ 25	\$20
RPC-9261	Auxiliary Read Buffer post-synch	1,250	750	25	20
RPC-9262	Auxiliary Record Buffer	1,250	750	25	20
RPC-9265	Additional Search Registers	5,000	3,000	100	80
RPC-9270	Auxiliary Magnetic Tape Storage Control	2,500	2,500	50	50

The above furnish additional capacity for magnetic tape buffer units and are used in those cases where their application can facilitate more rapid problem solution.

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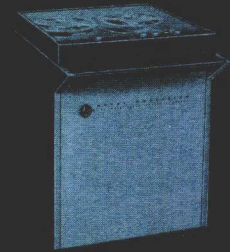


RPC-9410 Photo Reader	\$15,000	\$12,000	\$300	\$240
RPC-9430 Punch and Reader	2,500	2,500	75	75
RPC-9460 Punched Card Reader	20,000	16,000	400	320

## RPC-9000 INPUT EQUIPMENT

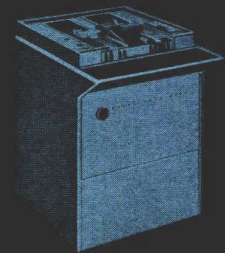
### Model RPC-9410 Photo-Reader

A high-speed photo electric paper tape reader with a rated speed of 500 characters per second. It is bidirectional, is equipped with full servo tape handling facilities and may be selected automatically by the computer. It is offered for those data processing users whose input volume requires more rapid read speeds. Multiple units may be used on-line.



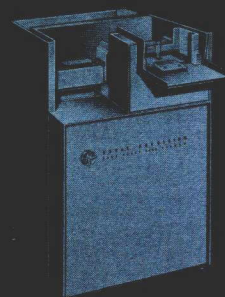
### Model RPC-9430 Punch and Reader

This unit consists of a 60 characters per second reader and 30 characters per second punch. Tape may be on reels or in strip form. Multiples of these units may be operated on-line with the computer.



### Model RPC-9460 Punched Card Reader

A high-speed photo-electric punched card reader input unit for the RPC-9000 Electronic Data Processing System. Its rated speed is 400 cards per minute – hopper capacity, 600 cards—stacker capacity, 600 cards. Designed to facilitate conversion of data presently on punched cards to input for RPC-9000.



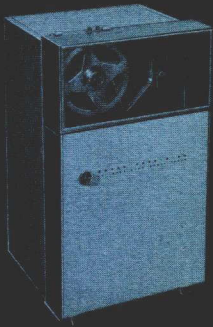


## RPC-9000 OUTPUT EQUIPMENT

MODEL NO.	ITEM	SALE PRICE		MONTHLY RENTAL	
		COMM.	EDUC.*	COMM.	EDUC.*
RPC-9440	High Speed Tape Punch	\$20,000	\$16,000	\$ 400	\$320
RPC-9450	Line Printer	50,000	40,000	1,000	800
RPC-9500	Tape Typewriter Input— Output System	5,000	5,000	150	150

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NOTE: To all prices quoted must be added any applicable taxes.



### Model RPC-9440 High Speed Tape Punch

A high-speed tape perforating unit with a rated punching speed of 300 characters per second. Tape length capability is 1,000 feet. Model 9440 has full tape handling facilities. It may be selected automatically for use by computer. Multiple units may be utilized on-line.



### Model RPC-9450 Line Printer

A 150 lines per minute printer provides rapid output of information in any desired printed format. Line length is 120 characters. Has skipping rate of 24 inches per second, prints 6 lines to the inch vertically.



### Model RPC-9500 Tape Typewriter Input/Output System:

A multi-function, multi-purpose input-output system designed for either "on-line" or "off-line" operation. The unit consists of a 60 characters per second reader, 30 characters per second punch and special Royal electric typewriter with a speed of 10 characters per second. A specially designed operator's chair is supplied at no extra charge.





## MAGNETIC TAPE LOOPS (WITH RPC-9240 TAPE CARTRIDGE)

Model No. 9240 Magnetic Tape Cartridge Complete  
With Factory Installed Tape of Varying Lengths:

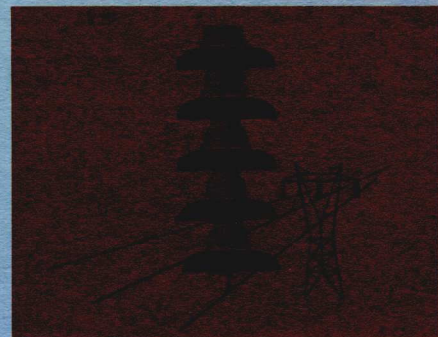
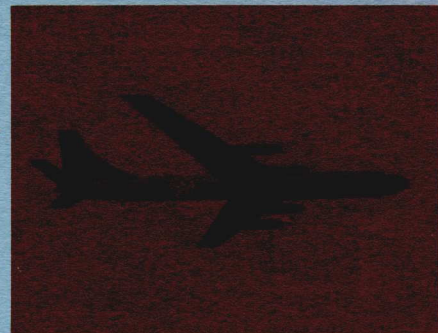
DESCRIPTION	ONE TIME CHARGE
10,000 Records Length 250 Feet	\$112.50
9,500 Records Length 238 Feet	110.50
9,000 Records Length 225 Feet	108.75
8,500 Records Length 213 Feet	106.75
8,000 Records Length 200 Feet	105.00
7,500 Records Length 188 Feet	103.00
7,000 Records Length 175 Feet	101.25
6,500 Records Length 163 Feet	99.25
6,000 Records Length 150 Feet	97.50
5,500 Records Length 138 Feet	95.50
5,000 Records Length 125 Feet	93.75
4,500 Records Length 113 Feet	91.75
4,000 Records Length 100 Feet	90.00
3,500 Records Length 88 Feet	88.00
3,000 Records Length 75 Feet	86.25
2,500 Records Length 63 Feet	84.25
2,000 Records Length 50 Feet	82.50
1,500 Records Length 38 Feet	80.50
1,000 Records Length 25 Feet	78.75

**NOTE:** To all prices quoted must be added any applicable taxes.



## SUPPORT SERVICES

<b>PROGRAMMING SCHOOLS</b> New York Chicago Los Angeles Washington, D.C.	N.C.
<b>ROUTINE LIBRARIES</b>	N.C.
<b>USERS ORGANIZATION</b> National Government	N.C.
<b>TRAINED ANALYSTS</b> EDPS Scientific Engineering	N.C.
<b>MAINTENANCE SCHOOLS</b>  <b>LGP-30</b> 6 weeks school located in Chicago, Ill. Tuition cost \$100. per week.	\$600
<b>RPC-4000</b> 7-9 weeks (dependent upon peripheral equipment training). Tuition cost \$100. per week.	\$700-\$900
<b>RPC-9000</b> 10-18 weeks (dependent upon peripheral equipment training). Tuition cost \$100. per week.	\$1000-\$1800



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**ROYAL M<sup>c</sup>BEE • ELECTRONIC DATA PROCESSING**