


# ATARI® 820™

## PRINTER OPERATORS MANUAL



A Warner Communications Company 



## INTRODUCTION

**NOTE:** Please read this manual carefully and thoroughly before operating your ATARI® 820™ Printer. The Printer is a delicate machine and can be damaged by improper use.

The ATARI 820™ Printer provides printout for the ATARI 400™ and the ATARI 800™ Personal Computer Systems. Many combinations of hardware and software make use of the Printer. Application programs provide an option to print out results whenever appropriate. **BASIC** and **ASSEMBLY LANGUAGE** Cartridges include Printer commands, as does the **ATARI FILE MANAGER & DISK OPERATING SYSTEM (DOS)**, which is available for the ATARI 800.

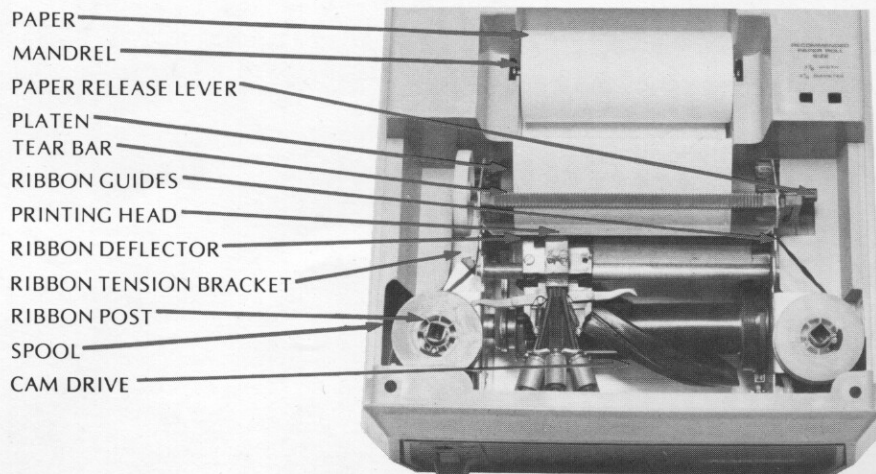


## UNPACKING

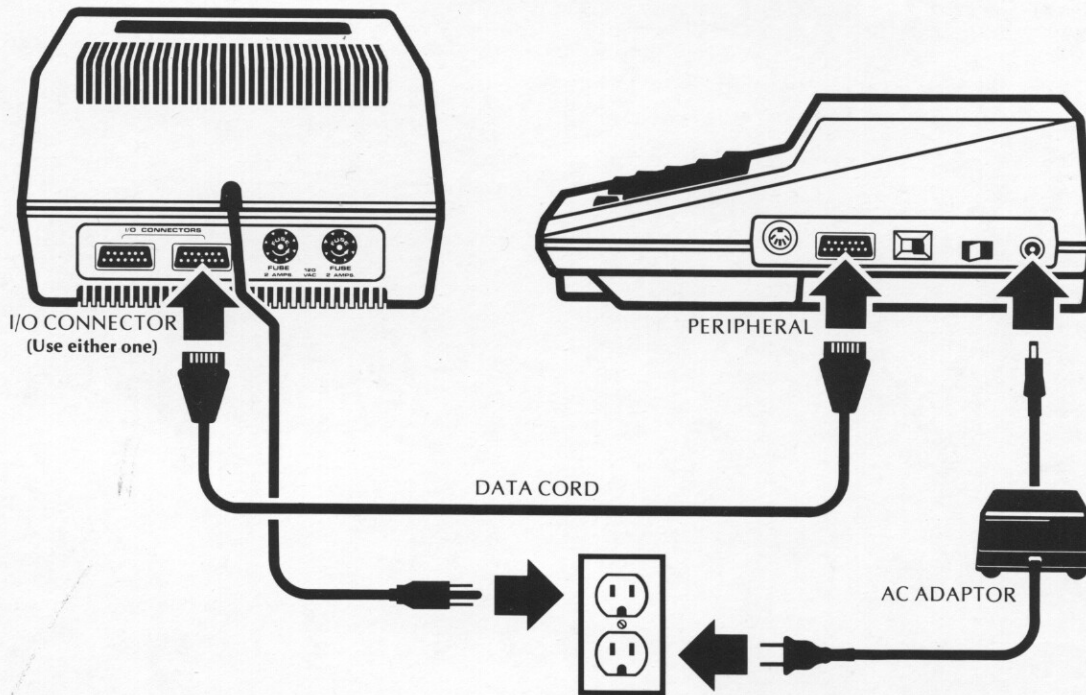
Your ATARI 820 Printer comes with:

- Printer
- Bond Paper Roll
- Paper Mandrel
- Ribbon
- Data Cord
- Instruction Manual
- Attached Power Cord

Save your original packing materials and reuse them if you need to ship your Printer or store it for long periods.



# SETTING UP THE PRINTER



Follow the steps below to set up your Printer and connect it to the computer. You will find detailed diagrams and instructions on the following pages.

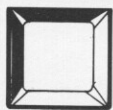
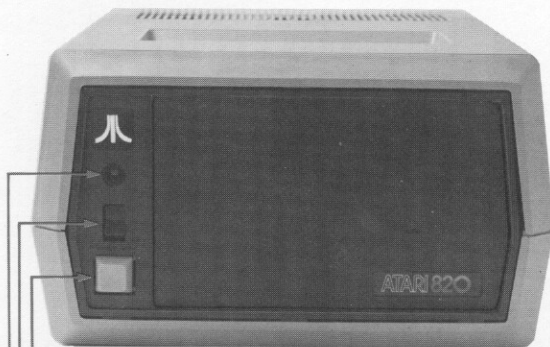
DO NOT OPERATE THE PRINTER WITHOUT RIBBON OR PAPER or you may damage the printing head solenoids.

1. Plug the power cord into a 110-115 volt AC outlet (with the power switch **OFF**).
2. Plug the data cord into the serial I/O port (labeled **PERIPHERAL** on the Console), or if another peripheral is in use, into the jack labeled **I/O CONNECTOR** on that peripheral. Plug the data cord into either jack labeled **I/O CONNECTOR** on the printer.
3. Turn the power switch (**PWR.**) ON.
4. Press the paper advance (**PAPER ADV.**) button once.
5. Open the printer cover and load the paper around the platen as shown in the photos on the following pages.
6. Check the ribbon for proper installation.

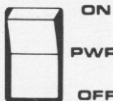
## PRINTER TIMEOUT

In order to prevent overheating, the Printer is equipped with an automatic timeout cycle which halts printing for approximately three seconds. During continuous use you will notice that the printer stops periodically and then continues. Frequent timeouts indicate that the Printer is operating **CORRECTLY**. Any attempt to override the timeout period is likely to damage your Printer.

## FRONT VIEW



**Paper Advance Button** - Advances paper automatically.



ON

**PWR. Power ON/OFF Switch**



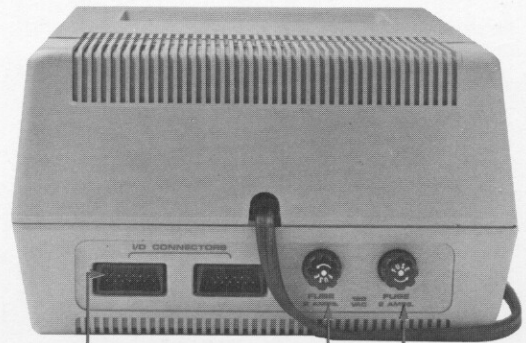
OFF



PWR. ON

**Power Indicator Light**

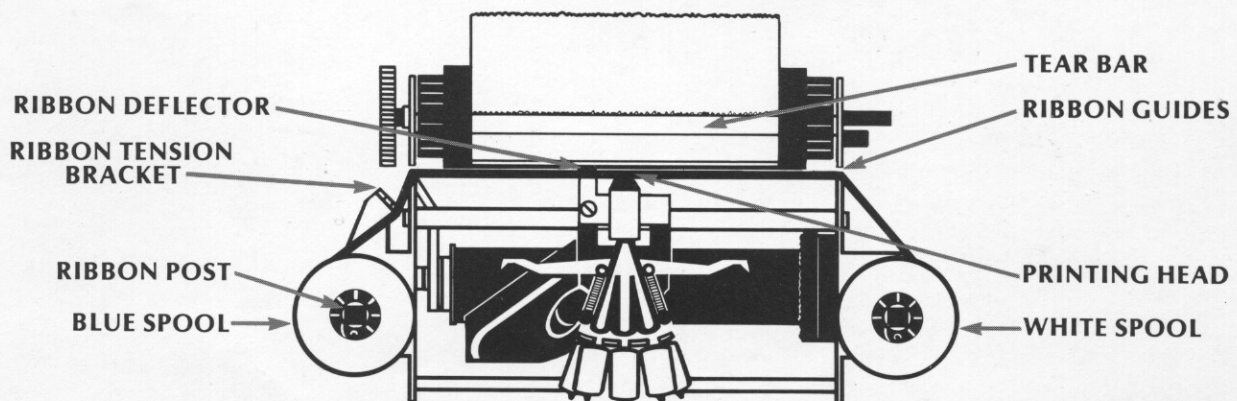
## BACK VIEW



**Fuse** - Twist in direction of arrow to remove and replace fuse.

**I/O Connectors** - Identical jacks accommodate data cords from Console or other peripheral components. Connections may be made in any order with either jack.

**IMPORTANT** - Always replace a fuse only with one that has the same electrical ratings. (2 AMP, Type 3AG)



## INSTALLING THE RIBBON

Remove the two ribbon spools from the package. The white spool (containing the new ribbon) fits on the right ribbon post; the blue spool (which is the empty one) fits on the left ribbon post. The ribbon must follow the same path as shown in the illustration. When properly installed, the ribbon is posi-

tioned in front of the ribbon tension bracket (the side closest to you), and around the two ribbon guides (the side farthest away from you).

Make certain the ribbon is installed correctly before operating the Printer.

# LOADING THE PAPER

Open the printer cover by pulling up on both sides. Check the printer mechanism — make sure the printing head is on the left side as shown in the illustration. If necessary, press the **PAPER ADV.** button to position the printing head properly. This must be done before attempting to load the paper and no attempt should be made to position the printing head manually.

**DO NOT ATTEMPT TO LOAD PAPER OR INITIATE PRINTING WHEN THE PRINTING HEAD IS IMPROPERLY POSITIONED OR YOU MAY DAMAGE THE PRINTER.**

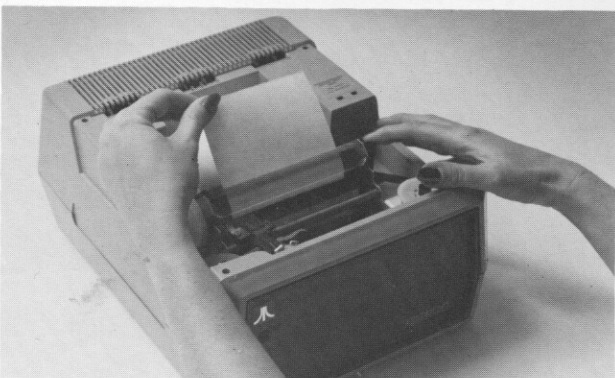
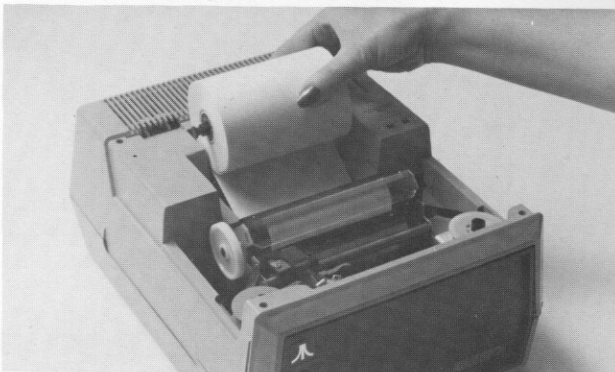
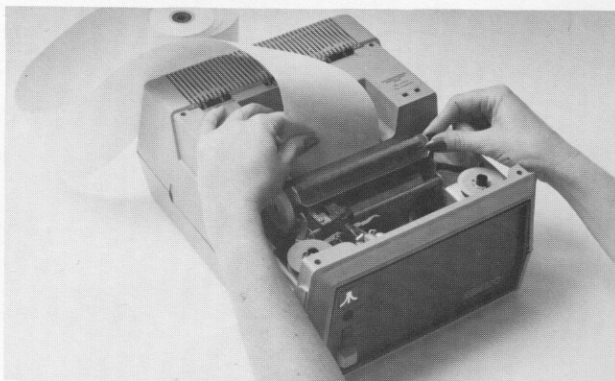
The manual paper advance should turn counterclockwise or away from yourself with moderate pressure. Turning the manual paper advance clockwise or toward yourself could damage it as could forcing it in any manner.

For easiest loading, cut off the end of the paper to create a smooth edge. You may want to leave the paper roll out of the Printer and off to the side when loading, or you may want to place the roll in the depression behind the platen, whichever is easiest for you. Slide the mandrel into the paper roll. If loading from the depression behind the platen, be sure the ends of the mandrel click into their slots in the printer case. When the paper is properly installed the Printer will close easily over a full roll (3¼-inch diameter).

The paper roll sits in the depression behind the platen. The paper passes over the metal bar which is visible below and behind the platen and is guided by two white nylon sliders on the bar. It feeds around the platen, under the clear plastic paper guide, the ribbon, and the tear bar, and then out the top of the Printer.

Feed the end of the paper over the bar and under the back edge of the platen. To advance the paper around the platen, press the **PAPER ADV.** button and hold it until the paper comes out from under the tear bar **OR** turn the manual paper advance counterclockwise (away from yourself). It may help to pull the **PAPER RELEASE LEVER** forward when loading the paper.

Always check to make sure the paper is straight. If you need to align the paper around the platen pull the **PAPER RELEASE LEVER** forward and pull up the paper roll a few inches.



# PRINTER COMMANDS

Each piece of software, whether cartridge, cassette, or diskette based, will have its own commands for activating the Printer. Consult the software manual which accompanies the software you wish to use with the Printer for complete Printer commands.

**BASIC** — When you are familiar with **ATARI BASIC** Computing Language you will know how to use the commands **PRINT** and **LIST**. To **PRINT** on the Printer instead of the screen, replace **PRINT** with **LPRINT** in your **BASIC** source programs. To **LIST** on the Printer, use **LIST"P:"** or **L"P** instead of **LIST**. (No closing quotation marks needed.) Here's an example: Type this **BASIC** Program into your computer:

*DO THIS*

**TYPE**

```
10 PRINT "THE PRINT COMMAND COMES OUT HE  
RE." RETURN  
20 LPRINT "THE LPRINT COMMAND COMES OUT  
HERE." RETURN
```

When you **RUN** this program each **PRINT** statement will appear on the screen like this:

*DO THIS*

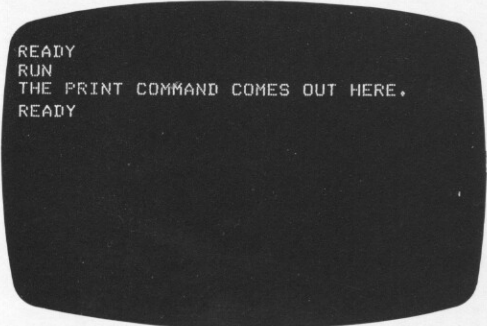
**TYPE**

**RUN**

**PUSH**

**RETURN**

*SEE THIS*



```
READY  
RUN  
THE PRINT COMMAND COMES OUT HERE.  
READY
```

Your Printer will print only the **LPRINT** lines like this:

THE LPRINT COMMAND COMES OUT HERE.

To see your program again:

*DO THIS*

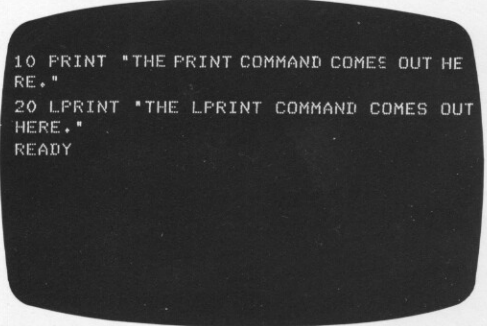
**TYPE**

**LIST**

**PUSH**

**RETURN**

*SEE THIS*



```
10 PRINT "THE PRINT COMMAND COMES OUT HE  
RE."  
20 LPRINT "THE LPRINT COMMAND COMES OUT  
HERE."  
READY
```

To get a printout of your program:

*DO THIS*

**TYPE**

**LIST "F"**

**PUSH**

**RETURN**

*SEE THIS*

```
10 PRINT "THE PRINT COMMAND COMES OUT HERE."
```

```
20 LPRINT "THE LPRINT COMMAND COMES OUT HERE."
```

The **ATARI BASIC REFERENCE MANUAL** contains a complete description of all **ATARI BASIC** Language commands. (Also see **News Bits** No. 2)

**ATARI FILE MANAGER & DISK OPERATING SYSTEM (DOS)** — The Disc Operating System Manual will provide you with complete instructions on using the DOS software to access the Printer and other peripheral components.

## TECHNICAL SPECIFICATIONS AND REORDER NUMBERS

### **ATARI 820 Printer**

- high resolution, 5 × 7 dot matrix, impact printer
- 40 characters per line
- horizontal and vertical alphanumeric characters
- power switch and indicator light
- paper advance button
- built-in microprocessor
- crystal controlled for data accuracy

#### **Standard Roll Paper**

- width, 3 7/8 inches × 3-1/4 inches diameter  
available at most stationary stores

#### **Mandrel Ribbon**

- ATARI part no. C014853
- 5/16-inch
- ATARI part no. C014854  
Addressograph/Multigraph part no.  
116-2395-366

#### **Printing Speed**

- approximately 1000 lines per minute

#### **Data Cord**

- ATARI part no. CA14122

#### **Fuses**

- 2 AMP type 3AG fast blow ATARI part no.  
46-2032001

#### **Locations for ordering inked ribbons:**

**AM OFFICE SUPPLY**  
7209 St. Clair Ave.  
Cleveland, OH 44103

(Or your nearest Addressograph/Multigraph (AM) dealer.)

**CALIFORNIA RIBBON & CARBON CO.**  
5816 Pine Avenue  
Maywood, CA 90270

**COLUMBIA RIBBON & CARBON MFG. CO., INC.**  
45 Executive Drive  
Plainview, NY 11803

**KLEEN STRIKE MFG. CO., INC.**  
8173 Main Street  
Ellicott City, MD 21043

# ENTRY LEVEL PRINTER & DISK DRIVE OPERATIONS IN BASIC

When the power is turned OFF on a computer, all programs or data stored in memory are lost. The 810 Disk Drive is used to store programs and to insert (load) programs back into the computer memory bank when required for use.

## Reference

### I. To store and retrieve programs on diskette:

- A. Power up disk unit
- B. Put diskette in disk unit
- C. Power up computer
- D. To save program on diskette—
  - 1. Type in program

## Sample Program

DO THIS

TYPE

```
100 REM*** INTEREST

110 PRINT "IF YOU TYPE THE AMOUNT OF P
RINCIPAL"
120 PRINT "AND THE INTEREST RATE PER Y
EAR, I WILL"
130 PRINT "SHOW YOU HOW YOUR MONEY GRO
WS, YEAR BY"
140 PRINT "YEAR. TO STOP ME, PRESS THE
BREAK KEY."

150 PRINT
160 PRINT "PRINCIPAL";
165 INPUT P
170 PRINT "INTEREST RATE";
175 INPUT R

180 LET N=1

190 PRINT
200 LET A=P*(1+R/100)^N
210 PRINT "YEAR = ";N
220 PRINT "AMOUNT = ";A
230 LET N=N+1
240 GOTO 190

RUN
```

SEE THIS

IF YOU TYPE THE AMOUNT OF PRINCIPAL  
AND THE INTEREST RATE PER YEAR, I WILL  
SHOW YOU HOW YOUR MONEY GROWS, YEAR BY  
YEAR. TO STOP ME, PRESS THE BREAK KEY.

PRINCIPAL? 1000  
INTEREST RATE? 6

YEAR = 1  
AMOUNT = 1059.99999

YEAR = 2  
AMOUNT = 1123.59997

YEAR = 3  
AMOUNT = 1191.01596

PUSH

**BREAK** to stop program.

DO THIS

TYPE

SAVE "D:INTEREST"

- 2. Type SAVE "D:NAME"
- 3. BASIC will save program NAME on diskette.

Above Program is recorded on Diskette.

## Reference

E. To retrieve program from diskette—

1. Type LOAD "D:NAME" →
2. Program can now be RUN, changed, etc.
3. Type LIST

## Sample Program

DO THIS

TYPE

LOAD "D:INTEREST"

SEE THIS

```
100 REM*** INTEREST
110 PRINT "IF YOU TYPE THE AMOUNT OF P
RINCIPAL"
120 PRINT "AND THE INTEREST RATE PER Y
EAR, I WILL"
130 PRINT "SHOW YOU HOW YOUR MONEY GRO
WS, YEAR BY"
140 PRINT "YEAR. TO STOP ME, PRESS THE
BREAK KEY."

150 PRINT
160 PRINT "PRINCIPAL";
165 INPUT P
170 PRINT "INTEREST RATE";
175 INPUT R

180 LET N=1

190 PRINT
200 LET A=P*(1+R/100)^N
210 PRINT "YEAR = ";N
220 PRINT "AMOUNT =";A
230 LET N=N+1
240 GOTO 190

RUN
```

F. To RUN program from diskette

1. Type RUN "D:NAME" →

DO THIS

TYPE

RUN "D:INTEREST"

SEE THIS

```
IF YOU TYPE THE AMOUNT OF PRINCIPAL
AND THE INTEREST RATE PER YEAR, I WILL
SHOW YOU HOW YOUR MONEY GROWS, YEAR BY
YEAR. TO STOP ME, PRESS THE BREAK KEY.

PRINCIPAL?
INTEREST RATE?
```

If you have a program that you wish to edit (change), use the commands listed below. Or, if you wish to save the original program, as well as the modified version, give the modified program a new name.

G. To save listed version on diskette—

1. Type LIST "D:NAME", N, M Lines N through M will be listed to diskette →

DO THIS

TYPE

LIST "D:INTEREST" 150,240

SEE THIS

H. To retrieve listed version on diskette—

1. Type ENTER "D:NAME"  
This will merge diskette file with data which is already in memory.
2. Type LIST

```
150 PRINT
160 PRINT "PRINCIPAL";
165 INPUT P
170 PRINT "INTEREST RATE";
175 INPUT R

180 LET N=1

190 PRINT
200 LET A=P*(1+R/100)^N
210 PRINT "YEAR = ";N
220 PRINT "AMOUNT =";A
230 LET N=N+1
240 GOTO 190

RUN
```

Change name of the revised program if you wish to retain both the original and revised programs.

NOTE: Numbers 100 to 140 were deleted from program.

## Reference

### II. To store and retrieve data on diskette from a program:

- A. Power up disk unit
- B. Put diskette in disk unit
- C. Power up computer
- D. To store data on diskette from program —
  1. OPEN #1, 8, 0, "D:DATA" —————→ tells computer to allow writing to diskette file named DATA
  2. PRINT #1; X; ","; Y; ","; Z —————→ writes a record that looks like: X, Y, Z (X, Y, & Z are numbers)
  3. CLOSE #1 —————→ When program is done this tells computer that file is finished.

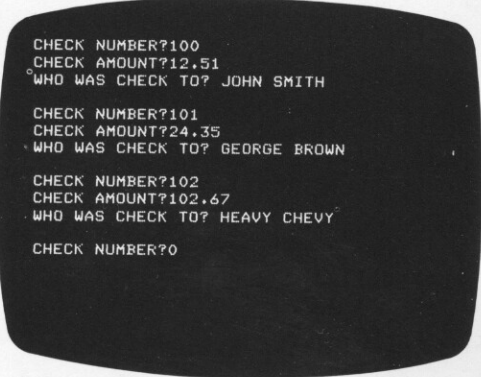
## Sample Program Write

### DO THIS TYPE

```
1 REM THIS PROGRAM WRITES A FILE OF  
CHECK NUMBERS AND THEIR AMOUNTS  
5 DIM CHECKNAME$(40)  
10 OPEN #1, 8, 0, "D:CHECKS"  
20 CHECKAMT=0: CHECKNAME$=""  
25 PRINT "CHECK NUMBER";  
30 INPUT CHECKNUM  
35 IF CHECKNUM=0 THEN 80  
40 PRINT "CHECK AMOUNT";  
50 INPUT CHECKAMT  
60 PRINT "WHO WAS CHECK TO";  
70 INPUT CHECKNAME$  
80 PRINT #1;CHECKNUM;" ";CHECKAMT;" ";CHECKNAME$  
90 IF CHECKNUM>0 THEN PRINT: GOTO 20  
100 CLOSE #1
```

This is RUN of above program:

### SEE THIS



```
CHECK NUMBER?100  
CHECK AMOUNT?12.51  
WHO WAS CHECK TO? JOHN SMITH  
  
CHECK NUMBER?101  
CHECK AMOUNT?24.35  
WHO WAS CHECK TO? GEORGE BROWN  
  
CHECK NUMBER?102  
CHECK AMOUNT?102.67  
WHO WAS CHECK TO? HEAVY CHEVY  
  
CHECK NUMBER?0
```

This is what the information looks like on disk:

```
100,12.51,JOHN SMITH  
101,24.34,GEORGE BROWN  
102,102.67,HEAVY CHEVY  
0,0
```

## Reference

E. To retrieve data from diskette from program —

1. OPEN #1, 4, 0, "D:DATA" —  
tells computer to allow reading from diskette file named DATA
2. INPUT #1, X, Y, Z —  
Reads a record like the one created in D above.
3. CLOSE #1 —  
Tells computer you are done with file.

## Sample Program Read

SEE THIS

```
1 REM THIS PROGRAM READS A FILE OF
CHECK NUMBERS AND THEIR AMOUNTS
5 DIM CHECKNAME$(40)
10 OPEN #1,4,0, "D:CHECKS"
15 PRINT "CHECK # AMOUNT WHO TO"
17 PRINT "-----"
20 INPUT #1;CHECKNUM,CHECKAMT,CHECKNAME$
30 IF CHECKNUM=0 THEN 100
40 PRINT CHECKNUM,"$";CHECKAMT,CHECKNAME$
50 GOTO 20
100 CLOSE #1
```

## PRINTER

### Reference

#### I. To Print to Printer:

- A. Power up computer and Printer
- B. Type LPRINT "HELLO" and HELLO will be typed on Printer
- C. Wherever you can use PRINT you can use LPRINT

## Sample Program Read and print

SEE THIS

```
1 REM THIS PROGRAM READS A FILE OF
CHECK NUMBERS AND THEIR AMOUNTS
5 DIM CHECKNAME$(40)
10 OPEN #1,4,0, "D:CHECKS"
15 LPRINT "CHECK # AMOUNT WHO TO"
17 LPRINT "-----"
20 INPUT #1;CHECKNUM,CHECKAMT,CHECKNAME$
30 IF CHECKNUM=0 THEN 100
40 LPRINT CHECK,"$";CHECKAMT,CHECKNAME$
50 GOTO 20
100 CLOSE #1
```

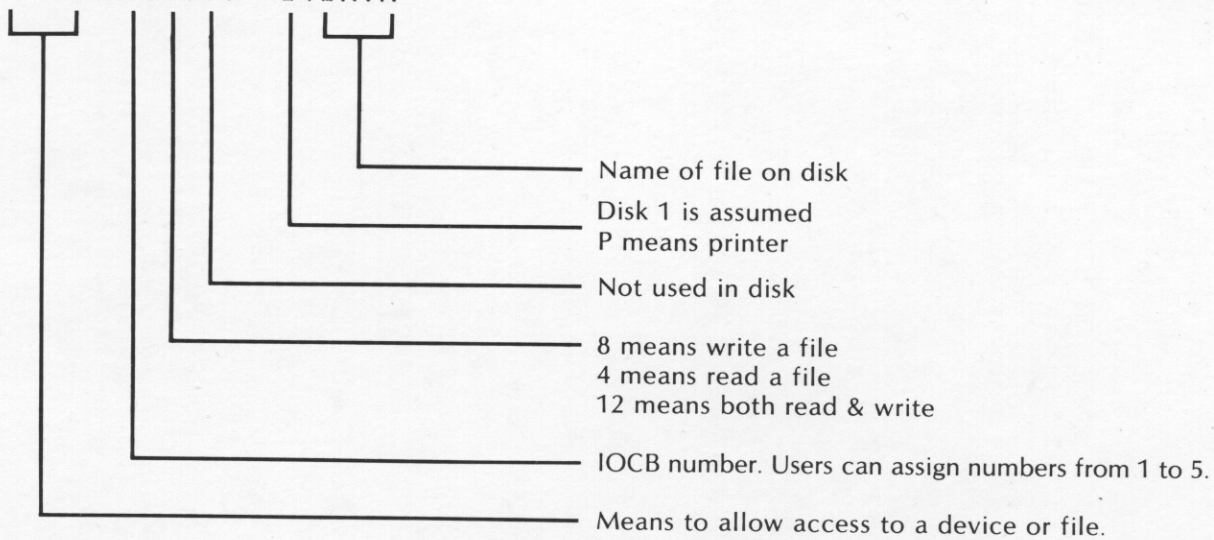
Print-Out of above program:

SEE THIS

CHECK #	AMOUNT	WHO TO
100	\$12.51	JOHN SMITH
101	\$24.35	GEORGE BROWN
102	\$102.67	HEAVY CHEVY

See the DISK OPERATING SYSTEM (DOS) manual for complete details.

OPEN #1,8,0, 'D:DATA'



# NOTES

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