TRS-80®

Model 100 Portable Computer

BAR CODE DRIVERS

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Bar Code Drivers

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INTRODUCTION

The Bar Code Driver programs are designed to supplement the Bar Code Reader programs (Cat. No. 26-1183A or 700-2401). The programs contained on this cassette tape make it possible for you to read three additional bar code types and can be used with a BASIC program. The three new bar codes are, Interleaved 2 of 5 (I2OF5), Codabar (CDABR), and UPCEAN.

Note: Disk versions are I2OF5D, CDABRD, and UPCEAD.

This manual contains specific instructions for the driver programs on this cassette. Refer to your Bar Code Reader Owner's Manual for more detailed instructions for using the Bar Code Reader.

Required Equipment

- Model 100 Portable Computer
- AC Power Supply (Cat. No. 26-3804) or 4 AA batteries
- Cassette Recorder (CCR-81, Cat. No. 26-1208 is recommended)
- Bar Code Reader (Radio Shack Cat. No. 26-1183 or 26-1183A)
- Optional: Disk Video Interface (Cat. No. 26-3806)

Loading the Decoder Programs

When you turn on the power switch of your Model 100, after making the peripheral connections, the Main Menu is displayed on the screen. The cursor is positioned on the built-in application program, BASIC. Press (ENTER).

Rewind the tape; then press PLAY on the cassette recorder and set the volume control between 4 and 6.

Before the programs can be loaded into the computer's memory, space must be provided. To provide sufficient space, follow the instructions below that pertain to the program you want to load into the computer.

- For UPCEAN, type:
  CLEAR 110, 62765 (ENTER)
- For all other non-disk drivers, type:
  CLEAR 110, 61788 (ENTER)
- For UPCEAD, type:
  CLEAR 110, 56888 (ENTER)
- For all other disk versions type:
  CLEAR 110, 56920 (ENTER)

Now type **CLOADM "filename"** (where filename is the particular decoder program you want). Then press (ENTER). You may store all three decoder programs in your Model 100, or just the one you want to use. The three programs are stored on the tape in the following order: I2OF5 (Interleaved 2 of 5), CDABR (Codabar), and UPCEAN. There are two copies of each program on the tape.

While the computer is searching for the program on the tape, several messages appear on the screen to let you know the search status. A buzzing sound tells you that the specified program is being loaded into the Model 100 memory. When the program is loaded, the buzzing stops and the Ok prompt appears.

The filename you choose determines the message shown. The chart shows the following messages (with variations, depending on which version you are using):

I2OF5, CDABR	UPCEAN	DISK VERSIONS	UPCEAD
Skip: I2OF5 Found: CDABR Top: 61788 End: 62703 (62585 for I2OF5) Exe: 62814 Ok	61752 62765	56924	56888

The number labeled "Top" represents the place in the Model 100 memory where the specified machine language program begins. The "End" number is the ending address for the specified program. The last number (Exe) gives you the location at which that program begins execution.

After loading the decoder into memory from the cassette, you may save it in the directory by typing:

SAVEM ***"filename", Top address, End address, Exe address*** (ENTER) (all on one line)

Filename is the name of the decoder program (I2OF5, CDABR, or UPCEAN), and top, end, and execution address are the same numbers which appear on the screen when you load the program from tape. For the I2OF5 decoder, the command looks like this:

```
SAVEM "I2OF5",61788,62585,61824
```

The decoder program is now stored in the Model 100 and may be accessed by a simple BASIC program for reading bar codes.

USING THE BAR CODE DECODER WITH BASIC

The following BASIC program illustrates how simple it is to enter data into the computer with the Bar Code Reader.

Example 1

```
10  CLEAR 100, (insert 'CLEAR' number for the bar
    code you want to use)
20  RUNM "filename"
30  OPEN "WAND:" FOR INPUT AS 1
40  INPUT #1, A$
50  PRINT A$
60  IF A$ <>""THEN 40
70  CLOSE:CALL 61807
RUN
```

Line 10 clears 100 characters of string storage to read the data, and also sets HIMEM, the TOP address BASIC uses when you are running the program. (See CLEAR in Chapter 16 of the Model 100 Owner's Manual.)

Line 20 loads the decoder program, "filename," into the correct RAM location where it can be accessed by the BASIC program. The filename is the name of the particular decoder as you stored it in RAM (I2OF5, CDABR, UPCEAN). (See RUNM in Chapter 16 of the Model 100 Owner's Manual.)

Line 30 opens a file for the WAND as an INPUT device with buffer file number 1. (See OPEN in Chapter 16 of the Model 100 Owner's Manual.)

Line 40 inputs the data as a character string called A$. This instruction waits to receive a string of characters from the decoder program when a successful scan of a bar code is completed. The LINE INPUT # command may also be used. (See INPUT # and LINE INPUT # in Chapter 16 of the Model 100 Owner's Manual.)

Lines 10 through 40 are common to all bar code BASIC programs. After executing line 40, you will have a string of characters from the bar code decoder (A$) which you may use in your program in any way you wish. Line 50 prints the data string on the display, and line 60 loops back to wait for another scan from the Bar Code Reader. If you press (ENTER), the Ok prompt appears.

Important Note: You must enter the following commands at the end of your BASIC program:

```
CLOSE
CALL 61807
```

(In all disk versions, the call number is 56943.)

You must precede the CALL to 61807 (or 56943 for disk versions) with the CLOSE command. These instructions reset some of the system parameters and prevent an error condition.

To exit a bar code program, press (ENTER) instead of scanning a line of bar code. This returns a "null string" from the decoder. Your BASIC program can then test for a null string and GOTO an exit routine.

The following is an example of a BASIC program that lets you first select which type of code you want to read; it then reads and displays the code as it is scanned with the wand. When you have finished reading or want to read a different type of code, press (ENTER). The program then prompts you for a decision as to whether or not you want to continue reading. Press (N) or (BREAK) to return to the menu. Press (Y) to return to the "WAND READY:" prompt. The (BREAK) key also causes a return to the menu.

Note: This program is stored on your cassette tape. Its filename is "RDBC2." This version (Example 2) is to be used without a Disk Video Interface.

Example 2

```
10  MAXFILES=1:CLEAR 100, 61436:CLEAR
19  ' Set up the driver filenames for
    choice
20  F$(1)="I2OF5":F$(2)="CDABR"
    :F$(3)="UPCEAN"
30  CLS:PRINT:PRINT" 1. I 2 OF 5  2.
    Codabar  3. UPCEAN"
40  PRINT @240, "Please
    choose:";:A=INSTR("123",INPUT$(1)):
    IFA=0 THEN BEEP:GOTO 40 ELSE PRINTA;
50  RUNM F$(A)' run selected driver
60  ON ERROR GOTO 200' trap errors for
    orderly exit
70  CLS:OPEN "WAND:"FOR INPUT AS 1
79  'loop to here for more reads
80  PRINT"Wand ready: ";:INPUT #1,
    A$:PRINTA$
90  IF A$<>""THEN 80' get next read
    unless null input
100  'fall through to here if user
     pressed ENTER
110  CLS:PRINT"RESUME READING WAND?
     (Y/N) ";
119  ' Get response. Ask again if not y
     or n, else obey
120  Q$= INPUT$(1):PRINTQ$:ON INSTR
     (" YyNn",Q$)\2+1 GOTO 110,80,220
200  ' simple error trap and exit
210  PRINT:IF ERR=18THEN PRINT"BREAK
     pressed" ELSE PRINT"Error ";ERR;",
     Press any key.";INPUT (1)
220  CLOSE:CALL 61807:MENU
```

This version of the program (Example 3) is to be used with a Disk Video Interface. Its filename is "RDBCD2."

Example 3

```
10  MAXFILES=1:CLEAR 100, 56572:CLEAR
19  ' Set up the driver filenames for
    choice
20  F$(1)="I2OF5D":F$(2)="CDABRD":F$(3)=
    "UPCEAD"
30  CLS:PRINT:PRINT" 1. I 2 OF 5  2.
    Codabar  3. UPCEAN":
40  PRINT@240,"Please choose:";
    :A=INSTR("123,INPUT$(1)):
    IF A=0 THEN BEEP:
    GOTO 40 ELSE PRINTA;
50  RUNM F$(A) ' run selected driver
60  ON ERROR GOTO 200 ' trap errors for
    orderly exit
70  CLS:OPEN "WAND:"FOR INPUT AS 1
79  'loop to here for more reads
80  PRINT"Wand ready: ";:INPUT #1,
    A$:PRINTA$
90  IF A$<>""THEN 80' get next read
    unless null input
100  'fall through to here if user press
     ENTER
110  CLS:PRINT"RESUME READING WAND?
     (Y/N) ";
119  'Get response. Ask again if not y
     or n, else obey
120  Q$=INPUT$(1):PRINTQ$:ON INSTR
     (" YyNn",Q$)\2+1 GOTO 110,80,220
200  ' simple error trap and exit
210  PRINT:IF ERR=18THEN PRINT"BREAK
     pressed" ELSE PRINT"Error ";ERR;",
     Press any key.";INPUT$(1)
220  CLOSE:CALL 56943:MENU
```


In both of the above examples, lines 30 and 40 let you select the type of code you want to read.

The ON ERROR command in line 60 detects the BREAK key and, in this case, returns to the menu (line 220).

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