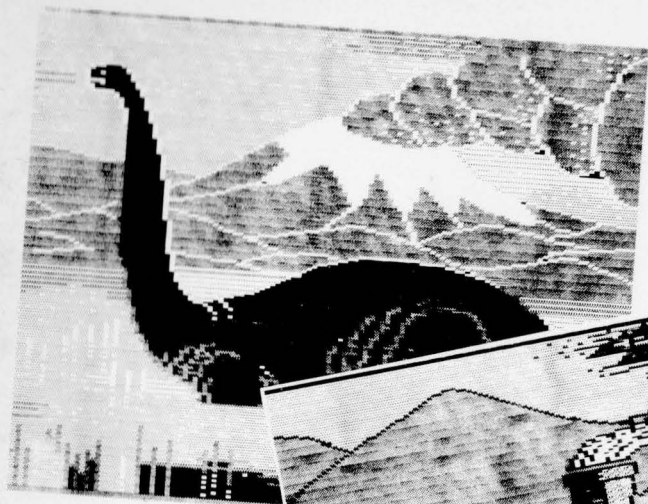


Hi-Res Screen Print Utilities

Cat. No.
26-3121



Radio Shack

TRS-80

**COLOR
COMPUTER**

TM



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Hi-Res Screen Print Utilities

Radio Shack

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FORT WORTH, TEXAS 76102

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Contents

Introduction	1
Required Equipment	2
Loading CODUMP or BWDUMP	3
Operation	4
Color Printing	4
Color Designation Keys	4
Monochrome Printing	5
Shade Selection Keys	6
Program Relocation	7
For Micropainter Users	8
For Mini Disk Drive Users	9

Contents

Introduction	1
The Great Experiment	1
Leadership: THE ART OF KNOWING	1
Organization	1
Team Building	1
Clear Language: Keys	1
Management Systems	1
Team Processes: Keys	1
Organizational Development	1
The Organizational Design	1
The Best Way to Learn	1

2

Organizational Design: Keys

Organizational Design: Keys

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Introduction

The tape provided with this package contains **CODUMP** (Color Dump Program) and **BWDUMP** (Black and White Dump Program), which let you print high resolution graphic displays (PMODE 3, and 4) from a TRS-80® Color Computer in four colors or in black and white (monochrome).

The programs load quickly, require minimum memory space, and execute easily.

After loading **CODUMP** or **BWDUMP**, you have the ability to produce hard copies of charts, graphs, logos, or any other type of graphic displays. **CODUMP** works especially well with Micropainter® and gives you the option of selecting a color-set for printing.

You'll discover that **CODUMP** and **BWDUMP** are valuable software additions that provide the useful and practical function of graphic display printing to your Color Computer.

Required Equipment

- Color Computer with at least 16K RAM and Extended Basic
- Standard television (color recommended)
- CCR-81 Computer Recorder (26-1207) or equivalent
- Printer Cable (26-3020)
- CGP-220 Ink-Jet Printer for color printings (26-1268), or any Radio Shack Dot Matrix Printer with Bit Image capabilities for monochrome printings: LPVIII, DMP 100, 110, 120, 200, 400, and 420.

Note: If your printer prints half-width pictures, check the printer's owner's manual for instructions on how to set your printer to the expanded print mode.

Loading CODUMP or BWDUMP

To load either program, follow this procedure:

1. Connect the cassette recorder to your Computer as outlined in the *Color Computer Operation Manual*.
2. Rewind the tape and then press the play button.
3. Type **CLEAR 200, 14848** and press **(ENTER)**.
4. Type:

CLOADM "name" (ENTER)

where "**name**" refers to either CODUMP, or BWDUMP. The **OK** prompt returns to the screen and the tape stops after the program has been loaded.

4. Type **EXEC** and press **(ENTER)**.

Note: CODUMP changes the baud rate automatically to 2400. The CGP-220 Ink-Jet Printer supports this rate. This is a desirable feature since color screen dumps require more data than monochrome printings. If a different baud rate is desired, address 150 must be POKEd as specified in the *GOING AHEAD WITH EXTENDED COLOR BASIC* manual (pg. 210). BWDUMP leaves the baud rate as is.

Operation

Having loaded either CODUMP or BWDUMP, you may use your Color Computer to execute a program that produces a high resolution graphic display (PMODE 3, or 4). Then, depending on which screen dump program you loaded, you may obtain a color or monochrome printing of the graphic image appearing on the screen.

Color Printing

1. Be sure that the computer is properly connected to the serial port of the CGP-220 Ink-Jet Printer.
2. Press the right arrow key (\rightarrow) and then one of the **color designation keys** — $\text{\textcircled{0}}$, $\text{\textcircled{1}}$, or $\text{\textcircled{2}}$. (See the section below.)

The key pressed displays momentarily on the screen, the cursor disappears, and printing begins. After printing is complete, the cursor resumes flashing.

To cancel printing, press **BREAK**. To print another picture, simply repeat step 2.

Color Designation Keys

Graphic displays may appear on your screen in one of three color-sets:

- Green, Yellow, Blue, and Red
- Buff, Cyan, Magenta, and Orange
- Black, Blue, Red, and White

With the color designation keys, $\text{\textcircled{0}}$, $\text{\textcircled{1}}$, and $\text{\textcircled{2}}$ — which correspond to each color set above respectively — you can keep the colors displayed on the screen or change to a different color-set for printing.

To keep the same color set, choose the color designation key that **matches** the color-set of your screen. That is, if the colors on the screen are Green, Yellow, Blue, and Red, use color designation key $\text{\textcircled{0}}$.

To send a different color set to the printer, press a color designation key that does *not* correspond to the colors on the screen. The graphic display is then printed in the newly assigned color set according to a **color conversion** scheme that is summarized by the table below:

Color Designation Key	Printed Colors			
①	Green	Yellow	Blue	Red
②	↓	↓	↓	↓
③	Buff	Cyan	Magenta	Orange
④	↓	↓	↓	↓
⑤	Black	Blue	Red	White

Color Conversion Table

For example, if you choose color designation key ① for a display that contains color set ①, the image is printed in Buff, Cyan, Magenta, and Orange. Similarly, if you specify color designation key ②, the image is printed in Black, Blue, Red, and White.

Consider color conversion when choosing a color designation key.

Monochrome Printing

The steps for creating monochrome (black and white) printings of graphic displays are just as simple as those for color screen dumps.

1. Be sure that the Color Computer is properly connected to a Radio Shack printer with Bit Image capabilities.
2. Press the right arrow key (→) and one of the shade selection keys, (A), (B), (C), or (D). (See the section below.)

The shade selection key you press displays momentarily on the screen, the cursor disappears, and printing begins. After printing is completed, the cursor resumes flashing on the screen.

To cancel printing, press (BREAK). To print another picture, repeat step 2.

Shade Selection Keys

In monochrome printings you also have some options as to the selection of varying shades of gray (or dark to light areas) for printing. This is accomplished by pressing one of the **shade selection keys** in step 2 above. The shade selection keys and their respective printed shades are listed below:

Shade Selection Keys	Display Colors	Printed Shades
(A) (4 color display)	green yellow blue red	light gray white black dark gray
(B) (4 color display)	buff cyan magenta orange	white black light gray dark gray
(C) (4 color display)	black blue red white	black dark gray light gray white
(D) (2 color display)	black green	black white

Program Relocation

Both CODUMP and BWDUMP are normally loaded at address 14848. For this reason, it is recommended that you load only the screen dump program you wish to use. However, it is possible to load both programs by moving one of them to a new address. For example, to load one of the programs to address 12288 follow the steps below:

1. Decide which program you wish to load at an address other than the default 14848.
2. Type **CLEAR 200, 12288** (ENTER).
3. With the cassette recorder set on play, type:

CLOADM "program", (50688 + new address)
(ENTER)


where "**program**" is either CODUMP or BWDUMP and "**new address**" is the substitute address to load the program. In this example, 12288 is the new address. (50688 simply resets the default address.)

3. Type **EXEC** and press (ENTER).
4. Load the other program in the usual way.
5. Type **EXEC** and press (ENTER).

When both programs are loaded, you can use either one in the usual way. That is, if you want to use CODUMP, simply press the right arrow key (→) and one of the color designation keys. On the other hand, if you want to use BWDUMP, press the right arrow key (→) and one of the shade selection keys.

For Micropainter Users

You can use both CODUMP and BWDUMP to print any pictures created with Micropainter that you may have saved on tape.

1. Load and execute CODUMP or BWDUMP.
2. Load the Micropainter picture to memory with the CLOADM command.
3. Dump the picture to the printer by pressing  and one of the color or shade designation keys, whichever applies.

When you load the Micropainter picture to memory, it is not displayed on the monitor. This does not prevent you from sending it to the printer. However, if you wish to see the picture before sending it, type **PMODE 3, 1** then enter and run the following program:

```
10 SCREEN 1, 0  
20 GOTO 20
```

If the picture was done in the Black, Blue, Red, White color set, add the following line to the above program:

```
15 POKE 65314, 248
```


For Mini Disk Drive Users

If your system is equipped with a Mini Disk Drive, you can easily convert CODUMP and BWDUMP to disk files. Follow these steps:

1. Load either of the screen dump programs from the tape into the Color Computer (as described in "Loading CODUMP or BWDUMP").
2. Save the loaded program to disk by typing:

SAVEM "name", 14848, 16127, 14848 (ENTER)

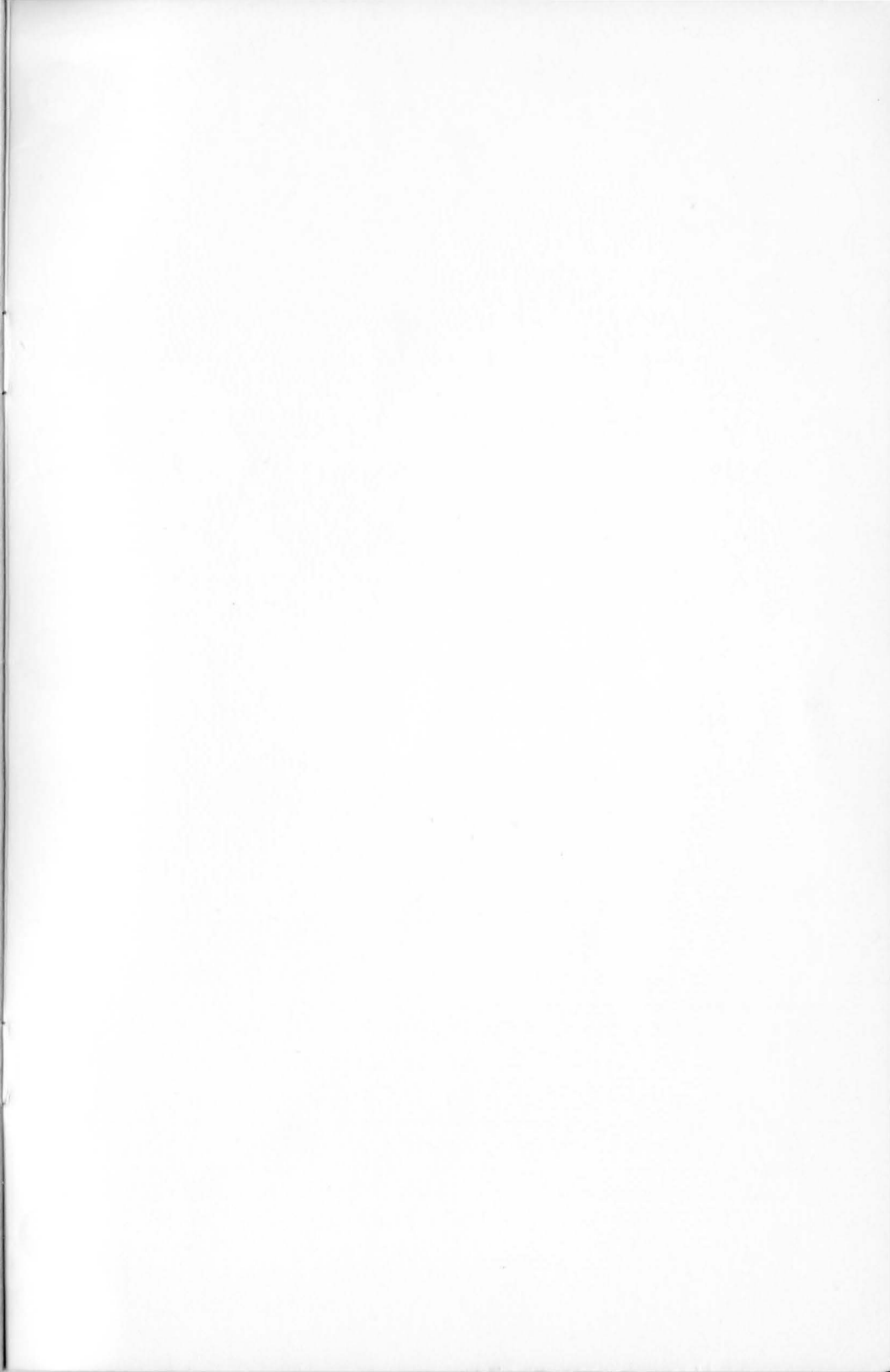
When the program is saved to disk, the **OK** prompt returns to the screen.

After either, or both of the programs have been saved to disk, you may use them as described in the **Operation** section. But remember, to load a program from disk, you must type:

LOADM "name"

where "**name**" is either CODUMP or BWDUMP.

Technical note: The starting memory address where both CODUMP and BWDUMP obtain picture data is stored in memory locations 186 and 187 as a two-byte address.



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