

3Dots

COLLABORATORS

	<i>TITLE :</i> 3Dots		
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Chapter 1

3Dots

1.1 3Dots Documentation

```
*****
                               3Dots V1.0
                               Written in Blitz Basic 2 by Don Finlay

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*****
```

WHAT IS IT?

THE COMMANDS

DRAWING YOUR OWN PICTURE

HOW DOES IT WORK?

HOW TO SEE THE 3D

1.2 What have we here, then?

WHAT IS THIS PROGRAM AND WHAT THE HELL DOES IT DO?

3Dots is another of those programs which have been showing up lately to transform an IFF picture into a screen full of apparently randomly located dots. Why would anyone want a screen full of dots? Because if you look at the dots just right you can see the original picture again but it is now in three dimensions. Weird!

As I mentioned, there are other programs about which do the same thing as 3Dots, so why have I bothered to re-invent the wheel? Mainly because I wanted to work out how it was done and see if I could do it. The only advantage 3Dots may have over the other programs is, as far as I know, it is the only one which is menu driven.

There is an example picture included in the 3Dots drawer for you to fool about with, but any eight color IFF picture will work so you can do your own thing. For those of you not all that familiar with picture files and drawing programs, I will go into all that a bit more later.

1.3 To quit or not to quit, that is the question.

THE COMMANDS

When you run 3Dots you will first be greeted by the title screen. By placing your screen pointer into the title bar of the title screen and pressing the right mouse button you will reveal the menu. There is only one section to the menu and it only has two commands. Load and Quit. I won't bother to explain "Quit" but probably should say a few words about "Load". By choosing the Load command you will bring up a requester from which you can select the picture you wish to 3Dot. 3Dots will not accept a picture with a palette of more than eight colors! If you try to load a picture with more than eight colors you will get an error message. It would be very easy to fine tune the code of 3Dots to accept more than eight colors, but the finished 3D picture would not be as distinct so for the time being I will stick to eight colors.

Once you have selected and loaded the picture you want to 3Dot, pressing the right mouse button will reveal another menu. This menu gives you a few more choices, but not many.

```
@{ "MAKE 3D      " link MAKE_3D}
@{ "SAVE SCREEN  " link SAVE_SCREEN}
@{ "PRINT        " link PRINT}
@{ "QUIT         " link QUIT}
```

1.4 This is what it is all about!

MAKE 3D

Selecting this command will start changing your screen picture. Right before your eyes, your carefully planned and well organized eight color picture will, line by line, be changed into a screen full of garbage. Panic not! There is still a picture in there. Really! This is not a joke! It is there. With a little luck and a bit of practice you will even be able to see it. I will give you a bit of help on that in a bit.

1.5 save_screen

SAVE_SCREEN

This one does just what it says. It will bring up a requester from which you can name your picture file and let the program know where you want it saved. This command will save what ever is on the screen. If you select save screen before you select "make 3d" you will find yourself with two identical picture files neither of which will be 3Dotted.

1.6 print

PRINT

Dumps the screen to the printer. Again, this works on what ever is on the screen at the time the command is invoked so do "Make 3d" first.

Be sure your printer is connected and on and you will have a hard copy of the confused mess your screen has become.

I have to say here that the program is set up for my printer but as it prints through the PRT: device it should work for what ever printer is in your prefs. If you have any trouble or want a larger printout just save your 3dot picture, load it into a paint program and print from there. A good dark ribbon would not go amiss.

1.7 quit

QUIT

Work this one out for yourself.

1.8 Sure you can!

HOW TO DRAW PICS FOR 3DOTS

As mentioned before, 3Dots is set up to work with pictures of eight colors or less, so the best way to go about doing your own pic is to set your drawing program to use a palette of eight colors. I find the easiest way to keep track of things is to set up a range of colors (In DPaint.) ranging from black to white.

For those of you who might still be on the low end of the computer learning curve a bit of further information might be in order here. Computers don't count like people. If a person

was counting three apples he would count "One, two, three". Computers don't start counting at one. Computers start at zero. The three apples for the computer would be "Zero, one and two". By the same token the eight colors in our drawing program would be numbered color 0, color 1, color 2, color 3, color 4, color 5, color 6, and color 7. These are called the color register numbers. Most drawing programs use color 0 as the background. In DPaint the colors sit in their little boxes in the following order:

|_0_|_4_|

|_1_|_5_|

|_2_|_6_|

|_3_|_7_|

Why is this important to know? Because, when 3Dots changes your masterpiece into a jumble of dots to make a 3 dimensional picture it arranges the colors with the lowest numbers to be the ones which look the furthest away. In other words, color 0 will be the back wall and color 7 will look closer to the viewer than color 5. It does not matter a fig what colors you use, 3Dots will know them only by number and will change them all to black and white dots.

So endith the lesson on computer counting of colors.

To draw your own picture for 3Dots, simply use a paint program set to eight colors and be sure that the things you want to look closer are drawn with the colors with the higher numbers. Save the finished picture, load it into 3Dots and you are away.

1.9 It's magic!

HOW DOES IT WORK?

I do not intend here to explain how the program works. If you want to understand that, look at the code. What I will attempt to explain is how the visual effect of three dimensions is accomplished.

The basic principle of the whole thing is that there are actually two pictures composed of matching colored dots. One picture is for the left eye and one is for the right. These two pictures are superimposed one upon the other with the one for the right eye a certain distance to the right of the one for the left eye. The basic distance to the right is what is changed to get the effect of depth. As I said in the little bit about computer color registers, color 4 will look closer than color 3. This is because two matching dots which are used to represent color 3 will be placed further apart than two matching dots used for color 4. It does not matter if the two matching dots are both white or both black just as long as they are the same. It has to do with the fact that our eyes have a

distance between them so we see things slightly differently with each eye. Hold up your finger and look at it with only the right eye. Quickly close your right eye and look at the finger with only the left eye. You will see the finger appear to move. I recommend that you try all this when no one is watching. I'm sure that it would all be a lot easier to understand if you could see my hands as I explain.

1.10 It's all in the way you look at things.

HOW TO SEE THE 3D ILLUSION

O.K. so now you have drawn something, 3Dots has worked its magic upon it and you would now like to actually see something other than a jumble of dots. Now is the time to prove to yourself that this whole exercise is more than an elaborate sick joke.

The basic idea is to focus your eyes about as far behind the picture as you are in front of it. What?? Don't panic, there are a couple of tricks to help you. Some people can see the effect by looking at the picture on the computer screen. I am not one of them. I find that I have to print out a hard copy of the picture to have any luck at all. What I do is to take the print out of the picture and hold it right up to my face. So my nose is almost touching the paper. I then let my eyes relax and go slightly out of focus. Then I move the paper slowly away from my face but try not to change the focus of my eyes as I do so. Slowly, the image will start to form. When you start to see something forming out of the dots you will soon get the hang of making the image sharper and clearer.

Another trick is to put the print out behind glass. Tape it up on the other side of your ranch slider or a window. Now, look at the picture through the glass, but don't focus on the picture. Focus your eyes on the reflection of yourself in the glass. Again, when the focus of your eyes is right, you will start to see things happening to the picture.

If neither of these tricks works I don't know what to tell you except to keep trying or send me a nasty letter. If you wear glasses try looking at the picture with your glasses off. If you don't wear glasses, borrow some. Let me know how you make out. My name is Don Finlay and I can be reached at 105 Norwood Rd. Bayswater, Auckland, New Zealand. On CompuServe my address is 100033,655. Have fun. 8-)>