

RDS Version 2.0 Documentation

COLLABORATORS

	<i>TITLE :</i> RDS Version 2.0 Documentation		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		October 2, 2022	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

1	RDS Version 2.0 Documentation	1
1.1	RDS Version 2.0 Documentation	1
1.2	Disclaimer	2
1.3	Distribution & Copyright	2
1.4	Archive Contents	3
1.5	Acknowledgements	3
1.6	Requirements	3
1.7	Overview	4
1.8	Stereograms - What the hell are they?	4
1.9	Menus	5
1.10	Source Code	6
1.11	Need Help?	6
1.12	To Do	6
1.13	History	7
1.14	Open Main	7
1.15	Save Main	7
1.16	Close Main	7
1.17	Open Custom BitMap	7
1.18	Close Custom BitMap	8
1.19	Display Picture	8
1.20	Display Custom BitMap	8
1.21	Stats	8
1.22	About	8
1.23	Quit	9
1.24	Encode Stereogram	9
1.25	Decode Stereogram	9
1.26	Set Seed	9
1.27	Set Focal Width	9
1.28	Set IFF Compress On	9
1.29	Set IFF Compress Off	9

1.30 Use RDS Settings	10
1.31 Save RDS Settings	10
1.32 ASL File Requesters	10
1.33 AGA Support	10
1.34 Queen	11

Chapter 1

RDS Version 2.0 Documentation

1.1 RDS Version 2.0 Documentation

RDS version 2.0

Copyright 1994 Ben Sutter

Read me! --->

Disclaimer

Distribution & Coypright

Archive Contents

RDS Source Code

Acknowledgements

Requirements

Overview

Stereograms - What the hell are they?

Menus

Need Help?

To Do

History

As a Libertarian, I share with you my feelings about the U.S. ↔
Government:

"You suck my blood like a leech
You break the law and you breach
Screw my brain till it hurts
You've taken all my money - you still want more,"

Queen
, 1975

1.2 Disclaimer

DISCLAIMER

This is a beta version. It runs on my machine, but it may not run on yours. You have been warned, use RDS at your own risk.

I am doing it this way because I am having a hard time getting people to beta test it locally. Please, only send bug reports during the first two weeks of RDS 2.0's distribution. I do not want to get floods of bug reports for the next year, every time someone "discovers" RDS 2.0 and encounters a huge bug. That means, only send bug reports for this version until March 7, 1994. A short time after that, I will release a version with any necessary bug fixes.

I realize these docs are rather terse. After I get an initial response from this version, and have 2.1 ready with any bug fixes etc, I will make these docs more complete.

```
*****
*
*           A REMINDER:
*
*   DO NOT send bug reports for this version of RDS after
*   March 7, 1994. If you do, you will not get a response.
*   You will only have irritated the hell out of me.
*
*
*
*****
```

1.3 Distribution & Copyright

RDS 2.0 is Copyright ©~1994 by Ben Charles Sutter. I, Ben Sutter, retain full Copyright to the executable, documentation, and source code.

. This archive may not be altered in any way. This includes adding ad files for BBS's to the archive. RDS may be distributed through BBS's, Internet, software collections, etc. A copying fee may be charged, but be aware, if you paid money for this, you could have gotten it free of charge. Although RDS may be included in re-distributable software collections and magazine disks, no Copyright for RDS may be claimed by such groups. Additionally, I always appreciate being informed of any such inclusions.

RDS 2.0 is Shareware. I will not set a price for RDS or make threats like,

"You may use RDS for 14 days and 6 hours free of charge but then you MUST send me \$50 to become a registered user."

I will simply ask you to, if you choose, send me whatever you think RDS is worth to you. This does not have to be money. It can be programs of your own, your own stereograms you've created, or whatever else you can think of. The future of RDS will depend on what kind of response I get.

1.4 Archive Contents

NOTE: The archive may not be modified in ANY way. This includes adding ad files for BBS's. If you see RDS posted somewhere with any additional files, please let me know so I can have a correct version put in its place.

```
RDS/RDS      - executable version 2.0
RDS/RDS.info - icon if needed
RDS/RDS.guide - this file
RDS/libs/iff.library - iff.library version 23.2 (required in LIBS:)
RDS/pics/mand - an example source picture of a Mandelbrot
RDS/pics/dips - an example picture, a bunch of dips
RDS/bitmaps/mand.bmx - example alternate bitmaps to use with mand
RDS/bitmaps/dips.bml - example alternate bitmap to use with dips
```

1.5 Acknowledgements

In alphabetical order...

Warren Block - for the reference books, suggestions,
tapes of the Simpsons, and moral support

Dr. Ed Corwin - for lending me the book on 68000 assembly
and for being my favorite professor!

Pete Covert - for the 68000 assembly suggestions, and for
being my one-and-only pseudo beta tester

SAS Institute - for making a wonderful C compiler. 6.5 is great!

Jim Sinks - for being a test subject for all of the
pictures I made with this program

Cristian A. Weber - for writing a terrific iff library, without
which this program would not exist

1.6 Requirements

RDS 2.0 has two requirements:

- 1) Amiga Kickstart v36 or better
- 2) iff.library v23 or better in LIBS:

1.7 Overview

As you will soon notice, if you have not already, the biggest change for RDS is the new GUI. All the new features are discussed later in the description of the menus.

This version of RDS was written mostly in C, and compiled with SAS C/C++ version 6.5. The routines for encoding random dot and bitmap stereograms are still written in complete assembly code. The decode routine is in C. Hopefully by the next version it will be in assembly again. The C compiler is mainly just to make my life easier for writing the GUI and other miscellaneous non-time-intensive routines.

1.8 Stereograms - What the hell are they?

If you have RDS 1.0 or 1.1, you already know this section. It is included only for the benefit of those who have never heard of random dot stereograms.

A random dot stereogram is a picture that looks like snow on a TV. By training your eye muscles to behave in a certain way, a 3-D image will magically appear. I do not know the specific optical properties that cause this to work. All I know is that it does.

First, a little background on how our eyes work. Our eyes are focusing instruments, just like a camera lens, or the Hubble Telescope (except the Hubble can't see as far). If you stand on the sidewalk and look at your house, and then hold your finger at eye level with your arm fully extended. Now, close one eye. You can now focus your open eye so that your finger will be clear, but your house will be blurry. You can then make the house clear, and your finger will become blurry. This is called focus.

The way we perceive depth is by the angle between our eyes. In other words, the further an object is from you the closer the line of site of your eyes is to being parallel.

To see the stereogram, you need to angle your eyes as though you are looking at something twice as far away as the paper (or monitor). BUT, your eyes need to be focused at the surface of the paper, because when it comes right down to it, that is where the image actually is, on the paper.

It will take some practice. Your eye muscles aren't doing anything they haven't before, you just need to train them.

Some of you may have seen these in magazines, or malls, where there were two dots above the image. These can be a big help. Hold your finger behind

the paper just above the dots. Slowly pull your finger away, keeping your eyes focused on your finger, until the two dots turn into four dots and then the two middle dots merge into one, so you see three dots. Keep in mind that you must keep your eyes focused on your finger. You will see the two, or three or four, dots in your peripheral vision. When you have the three dots, you should see the image from your peripheral vision. Then you can slowly move your eyes down the page to see the rest of the image.

A note about the dots: If you look at the image, you will see a pattern repeating itself several times across the page. The space between the two dots corresponds to the width of the repeating pattern. In the pictures generated by RDS, this distance is always one eighth of the width of the picture.

1.9 Menus

```

Project
  Open
  Save
  Close
  Open Custom BitMap
  Close Custom BitMap
  Display Picture
  Display BitMap
  Stats
  About
  Quit
Single Image
  Stereogram
  Encode
  Decode
    Left & Right - not implemented
  Encode - not implemented
  Decode - not implemented
Red & Blue
  Encode - not implemented
  Decode - not implemented
Settings
  Seed
  Width

```

IFF Compress
On
Off
Use Settings
Save Settings

1.10 Source Code

The source code is not available. I have not released, and probably will not release it. Please don't write or call asking for the source code or the algorithm. Your local library may have helpful books. Or, if you have access to Internet and CARL, you will find a lot of documentation on random dot stereograms.

1.11 Need Help?

Sometimes it's easier to see these when they are on paper. If you are having difficulty seeing these, try printing them out on an 8.5 x 11 page. It helps some people to have the two dots at the top of the page. After some practice, you probably won't even need the dots.

If you are stuck, but are still interested, send me a self-addressed, stamped envelope, and I will send you a couple of my printouts.

If you still need more help, or have suggestions, comments, bug reports, or anything to say, I can be reached in several ways:

Snail Mail: Ben Sutter
2415 Minnewasta Rd
Rapid City, SD 57702-5156
USA

Voice Phone: (605)343-5121

Internet: bcs8624@silver.sdsmt.edu

1.12 To Do

In highest to lowest priority:

- Improve this Amigaguide doc file
 - Command line arguments so RDS can be used in scripts
 - Replace CON: input with string, bool, and slider gadgets
 - ARexx interface (maybe)
 - Make and process Left/Right and Red/Blue stereo images
 - Possibly use Imagine objects as sources - do you like that one?
-

1.13 History

version 2.0 Released 14-February-1994

RDS now has a GUI!!!!

Random dots can be replaced with a custom bitmap

Custom seed can be used

Custom focal width can be used

Decode and encode are now included in one executable

Preferences can be saved

version 1.1 Released 4-June-1993

Added some minor optimization

Included UnRDS, a stereogram decoder

RDS no longer requires version 18 or better of iff.library

version 1.0 Released 20-May-1993

Initial Release

1.14 Open Main

Opens an

ASL file requester

and attempts to load the selected file

If an non-existent file or bad ILBM file is selected, an appropriate error message is given.

1.15 Save Main

Opens an

ASL file requester

and attempts to save the main picture as the

selected file

If the file already exists, a selector will appear.

1.16 Close Main

De-allocates the main bitmap. If it has been encoded or decoded but not saved, a selector will appear.

1.17 Open Custom BitMap

Opens an

ASL file requester

and attempts to load the selected file

If a non-existent file or bad ILBM file is selected, an appropriate error message is given.

When a custom bitmap is loaded, it is used to replace the repeating pattern of random dots. When the custom bitmap is closed, random dots will be used.

The custom bitmap will be cropped or tiled as necessary to fill the needed space.

1.18 Close Custom BitMap

When a custom bitmap is loaded, it is used to replace the repeating pattern of random dots. When the custom bitmap is closed, random dots will be used.

The custom bitmap will be cropped or tiled as necessary to fill the needed space.

1.19 Display Picture

This menu item will display the main picture on a custom screen. ↔

If you

try to display a bitmap that is out of the capabilities of your machine, the results can be rather weird.

See Also:

AGA Support

1.20 Display Custom BitMap

This menu item will display the alternate bitmap on a custom screen. ↔

If

you try to display a bitmap that is out of the capabilities of your machine, the results can be rather weird.

See Also:

AGA Support

1.21 Stats

Displays current info about the program and what's loaded

1.22 About

Displays info about the RDS program

1.23 Quit

I can't believe you pressed this button! What are you, a dummy?
Just kidding, this option exits the program.

If the main picture has been encoded or decoded but not saved, a selector will appear.

1.24 Encode Stereogram

Encode the current picture

If no custom bitmap is loaded, it uses random dots. Otherwise, the custom bitmap will be used.

1.25 Decode Stereogram

Decodes the current picture

If a normal un-encoded picture is in memory, the results will be complete garbage.

1.26 Set Seed

Opens a CON: window to set the seed value

Default: uses a clock based seed

1.27 Set Focal Width

Opens a CON: window to set the focal width

Default: uses a width of 1/8 the width of the main picture

1.28 Set IFF Compress On

Turns IFF compression on when saving

1.29 Set IFF Compress Off

Turns IFF compression off when saving

1.30 Use RDS Settings

Saves RDS settings to ENV:RDS.prefs

Settings that are saved in the prefs file include:

- location, size, directories, and patterns of all file requesters
- a custom seed, if selected
- a custom width, if selected
- whether or not to compress IFF files

Defaults are hard-coded into the program if no prefs file is found.

1.31 Save RDS Settings

Saves RDS settings to ENV:RDS.prefs and ENVARC:RDS.prefs

Settings that are saved in the prefs file include:

- location, size, directories, and patterns of all file requesters
- a custom seed, if selected
- a custom width, if selected
- whether or not to compress IFF files

Defaults are hard-coded into the program if no prefs file is found.

1.32 ASL File Requesters

I chose to use the ASL file requesters for a few reasons.

- 1) I like it. The ASL requester is very intuitive and easy to use.
- 2) using the Commodore standard file requester helps to promote ONE standard file requester instead of having who knows how many different libraries each with its own file requester. If a significant number of people don't like it, I may add in a later version an option to select what requester to use.

1.33 AGA Support

At this time, I cannot guarantee if any AGA screenmodes will work. Once AmigaDOS 3.1 is released (if it is EVER released), I can emulate most AGA screenmodes on my Picasso board, so I can at least test these modes to see if they work.

Even with that, other than source code I happen to run across, I have no documentation on AGA modes or palettes, so all RDS will be able to do is open an 8 bit screen with a 12 bit palette (4 bits per R,G,& B).

1.34 Queen

This is my tribute to, in my opinion, the greatest band of all time,

```

      QQQQ
     Q   Q
    Q   Q
   Q   Q   u
  Q   Q   u   u   eeee   eeee   n nnn
 Q   Q   u   u   e   e   e   e   nn   n
 Q   Q   u   u   e eeee   e eeee   n   n
 Q   Q   u   u   e       e       n   n
  Q   Q   u   uu   e   e   e   e   n   n
   Q   Q   uu   u   eeee   eeee   n   n
     QQQQ
      QQQQ
       QQQQ

```

Freddie Mercury, rest in peace.
