RDS Version 2.1 Documentation

COLLABORATORS			

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	RDS Version 2.1 Documentation		
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RDS Version 2.1 Documentation

1.1   RDS Version 2.1 Documentation

```
                                     RDS version 2.1

                   Copyright 1994 Ben Sutter


   Read me! --->
                            Disclaimer

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               Stereograms - What the hell are they?

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             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

<div align="center">DISCLAIMER</div>

```
Again, this is pretty much a beta version. It runs on my machine, but it may
not run on yours. You have been warned. You are using RDS at your own risk.
```

1.3   Distribution & Copyright

```
                 RDS 2.1 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 payed 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 so
I can make sure you have the most recent version of the archive.


RDS 2.1 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 2.1
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.bm1  - 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

Expert Services   - for the *excellent* support of the Picasso II

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

Village Tronic   - for *making* the Picasso II; see Expert Services

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

1.6 Requirements

         RDS 2.1 has two requirements:

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

                 Compatibility

RTPatch users should be aware that my AutoRequest calls will look like
  hell if RTPatch has patched the intuition functions. To get around this,
  use the "nointuition" command line option. This may not apply to all
  verions of RTPatch.

AGA machines should have no problems with RDS. See also
                    AGA Support
                I know of no other compatibility issues or problems. RDS is polite ←
                    with all
system resources, so if there is a problem with a particular program, I
would guess that it's due to that program, and not RDS, but I WON'T swear
to that. Anyone can make mistakes, especially me!

1.7 Overview

I have only done work on the interface for this version. I have made
several improvements. Here is a short list:

  – Window position is saved in prefs instead of always centered on screen
  – Screenmode requester can be used
  – The contents of the stats window can now be put in the RDS window
  – All appropriate settings are saved in the prefs file

I have tried to document all the features for how to control RDS, but I'm
sure I have missed some. In general, I have tried to make RDS as intuitive
as possible. For example, when encoding/decoding, it can be aborted by the
close gadget on the update window, or by hitting escape. The display screen
can be quit by hitting space, or escape or by hitting the right mouse button
while the screen is active. Also, the screen is autoscroll so you can move
it around by the moving the mouse to the edges, or by using the arrow keys.
The main RDS window can be moved around with the arrow keys also.
You see the pattern........And if you have any suggestions let me know.

I would also like to know if there are any features in RDS that you don't
use. As my work on RDS progresses, it gets more time consuming, so if I am
wasting my time on features that nobody uses, the whole project is slowed
down.

1.8 Stereograms - What the hell are they?

              If you have a previous verison of RDS , 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, beacuase 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 eigth of the width of the
picture.

1.9 Menus

```
            Project

             Open

             Save

             Close

             Open Custom BitMap

             Close Custom BitMap
                Display Picture

             Use Prefs

             Default Screenmode

             Ask For Screenmode
                Display BitMap
```

```
                       Use Prefs

                       Default Screenmode

                       Ask For Screenmode

                       Stats

                       About

                       Quit
                    Stereogram
        Single Image

                       Encode

                       Decode
                    Settings

                       Seed

                       Width
                         IFF Compress

                       On

                       Off
                         Display Beep

                       On

                       Off
                         Stats In Window

                       On

                       Off
                         Ask Screenmode

                       On

                       Off

                       Load Settings

                       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
C-Link: Bench@911:6030/2.0

1.12 To Do

In highest to lowest priority:

  - Improve this Amigaguide doc file - (in progress)
  - Add 24 bit support (I have figured out a way to do this.
    I just haven't taken the time to code it yet. I also need
    to find docs on the IFF 24-bit format.)
  - Enhance the GUI even more
  - 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?

I am always open to suggestions for ways to change RDS.

1.13 History

version 2.1 Released 14-April-1994
    Screenmode Requester can be used
    Display Beep after operation can be disabled
    Stats can now be in main RDS window
    Window position is saved in prefs files
    All new features are save in prefs file

    I included the correct iff.library version this time!

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 optomization
    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-existant 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 an non-existant 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 Using Preferences

               This option will display the main picture or alternate bitmap ←
                    depending
on which menu was selected, and will open a screenmode requester if that
option is set to on.

See Also:
                AGA Support

1.20   Display Using Default Screenmode

               This option will display the main picture or alternate bitmap ←
                    depending
on which menu was selected, and will use the screenmode found in the IFF
ILBM file regardless of the Ask Screenmode setting.

See Also:
                AGA Support

1.21   Display Using Screenmode Requester

               This option will display the main picture or alternate bitmap ←
                    depending
on which menu was selected, and will open a screenmode requester to
determine the screenmode regardless of the Ask Screenmode setting.

See Also:
                AGA Support

1.22 Stats

```
Displays current info about the program and what's loaded
```

1.23 About

```
Displays info about the RDS program
```

1.24 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.
```

1.25 Encode Stereogram

```
Encode the current picture
```

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

1.26 Decode Stereogram

```
Decodes the current picture
```

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

1.27 Set Seed

```
Opens a CON: window to set the seed value
```

```
Default: uses a clock based seed
```

1.28 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
```

1.29 Set IFF Compress On

```
Turns IFF compression on when saving
```

1.30 Set IFF Compress Off

```
Turns IFF compression off when saving
```

1.31 Turn DisplayBeep on

```
The Intuition DisplayBeep() function is called after every encode
or decode operation.
```

1.32 Turn DisplayBeep off

```
The Intuition DisplayBeep() function won't be called.
```

1.33 Turn Stats Window on

```
The RDS window will show the stats found in the Stats window, so you
don't have to use the menu item every time you want to look at something.
```

1.34 Turn Stats Window off

```
The RDS window is shrunk down to a small size. The stats are still
available from the menus or by RIGHT-AMIGA-?.
```

1.35 Ask For Screenmode

```
A Screenmode requester will be opened when a display menu item is
selected.
```

1.36 Don't Ask For Screenmode

```
A Screenmode requester will not be opened when a display menu item is
selected. The default screenmode from the IFF ILBM file will be used.
```

1.37 Load RDS Settings

Load RDS settings from ENV:RDS.prefs

Settings are loaded from the prefs file and attributes within the program
are changed accordingly.

1.38 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
  location of RDS window.
  a custom seed, if selected
  a custom width, if selected
  whether or not to compress IFF files
  whether or not to beep after encodes and decodes
  whether or not to display stats in the RDS window
  whether or not to open a screenmode requester

NOTE: RDS 2.1 will read your 2.0 prefs file and use defaults for the new
      options where appropriate and save a 2.1 prefs file the next time you
      select use or save prefs.

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

1.39 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
  location of RDS window.
  a custom seed, if selected
  a custom width, if selected
  whether or not to compress IFF files
  whether or not to beep after encodes and decodes
  whether or not to display stats in the RDS window
  whether or not to open a screenmode requester

NOTE: RDS 2.1 will read your 2.0 prefs file and use defaults for the new
      options where appropriate and save a 2.1 prefs file the next time you
      select use or save prefs.

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

1.40   ASL Requesters

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

1) I like it. The ASL requester is very intuitive and easy to use. I don't
   like reqtools because it has a max width for the window and doesn't show
   datestamps for the files. Req.library is just plain out of the question,
   as is arp.library.

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
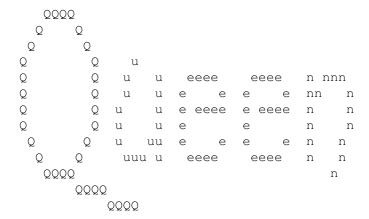   what requester to use, but so far, nobody has complained.

1.41   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.

I have attempted to support the new 96 bit as opposed to 12 bit palettes
from 3.x and above, if you are running it. Although, ALL I had was the
function prototypes, so I cannot guarantee what will happen in AGA
screenmodes or if the full palettes will be used when viewing a bitmap.

1.42   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    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      uuu u   eeee    eeee    n    n
      QQQQ                                   n
         QQQQ
             QQQQ
```


Freddie Mercury, rest in peace.