

StatRam

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Chapter 1

StatRam

1.1 StatRam

StatRam 3.1

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1.2 introduction

StatRam is a recoverable ram drive.

It works on any Amiga using V2.04 or greater of the OS. It handles any filesystem (either Amiga or foreign, like e.g. CrossDOS(tm)), has ten units and may be layed out like a floppy disk for quick diskcopies.

It is dynamic, that is it allocates and frees memory as files are copied and deleted, and is probably the most recoverable ram drive available. Even the worst system crash will not erase it, as long as the portion of memory where it resides is not corrupted.

1.3 installation

This section explains the basic installation, which will leave you with a working StatRam volume. The setup may be modified to change the volume size or use different filesystems; refer to section Configuration .

Workbench 2.0
Workbench 2.1 or later

1.4 Installation on Workbench 2.0

- Copy statram.device to DEVS:
- Join the file named "mountlist" to DEVS:Mountlist
- Add the command
Mount SD0:
to S:user-startup
- Reboot.

1.5 Installation on Workbench 2.1+

- Copy statram.device to DEVS:
- Drag the icon SD0 to DEVS:DOSDrivers
- To mount the volume, double click on the SD0 icon or just reboot.

1.6 configuration

You may control various aspects of StatRam volumes:

- Their size
- The filesystem they use
- Which type of memory they use to store the data

These changes are performed modifying some parameters in the mount information.

If you are using Workbench 2.04, you have to edit DEVS:Mountlist by hand; otherwise, modify the ToolTypes in the icon contained in DEVS:DOSDrivers.

You may mount up to ten volumes at the same time; to create a new volume, just duplicate one of the sample entries (SD0 for DOS volumes, PC4 for CrossDOS volumes), change the UNIT field and modify the other parameters to obtain the desired result.

Modifiable parameters are:

UNIT

This is the statram.device unit that the volume shall use. It can be any value from 0 to 9.

Make sure to change the UNIT field of every mountfile so that there are no two volumes using the same unit.

HIGHCYL

BLOCKSPERTRACK

These two determine the maximum size of SD0. The device will dynamically allocate memory only when it's needed, growing and shrinking as you copy and delete files in it.

(Note: the dynamic allocation is available for any filesystem; dynamic deallocation, however, is available only for Amiga filesystems. Therefore, a CrossDOS volume will grow as you copy files in it, but will not shrink when you delete them).

The total size in kilobytes of the volume is $(HIGHCYL+1)*BLOCKSPERTRACK$.

Remember that it is much better to fill the disk than to run out of memory. Make sure not to oversize the volume, or you'll get write errors when you run out of free memory.

Using appropriate values, you may DiskCopy from floppies to ram, and vice versa; this is great for many purposes, like making multiple copies of a disk, or preparing distribution disks.

Appropriate values are:

	Size	HIGHCYL	BLOCKSPERTRACK
Amiga Double Density	880K	79	11
Amiga High Density	1760K	79	22
CrossDOS Double Density	720K	79	9
CrossDOS High Density	1440K	79	18

BUFMENTYPE

This value determines which type of memory StatRam should use to store the volume data. Possible values are:

- 1 Use Fast memory first, Chip memory last
- 3 Use only Chip memory
- 5 Use only Fast memory

DOSTYPE

(This field is available for AmigaDOS volumes only)

This tells the system which file system to use. Possible values are:

0x444F5300	Old File System
0x444F5301	Fast File System
0x444F5302	Old File System International
0x444F5303	Fast File System International
0x444F5304	Old File System - Directory Cache (OS 3.0 only)
0x444F5305	Fast File System - Directory Cache (OS 3.0 only)

You will most probably leave this field to its default value.

Note that there is really no point in using the Directory Cache file systems on a ram disk - they will actually slow it down.

1.7 fixpctask

The PC emulator PC-Task by Chris Hames greatly benefits from a ram drive. StatRam is compatible with PC-Task (just use a suitable mountlist, like the supplied PC4).

You can even use a StatRam volume as drive A:, for extra-fast boots.

Unfortunately, versions 2.00 through 2.03 of PC-Task have a bug which prevents them from booting from a fast device like StatRam. The bug is already fixed in the French and German language versions, and will be fixed in the next release.

In the meantime, we have provided a workaround. The patch is called FixPCTask. All you have to do is execute it from S:user-startup, and PC-Task will happily boot from a StatRam volume.

1.8 remsd0

If you need memory for other tasks, StatRam volumes may be instantly removed from the system:

RemSD0 removes the first StatRam unit

RemSD0 name: removes the StatRam unit of given name

1.9 Hints and Tips

Some people like to completely replace the standard RAM: volume with the recoverable ram disk. This can be easily done by changing the name of the mount entry from SD0 to RAM, and adding the following lines at the beginning of the startup-sequence, before any reference to RAM: (but after SetPatch):

```
Assign ENV: SYS:
Assign RAM: DISMOUNT
Mount RAM:
```

(the Assign ENV: SYS: line is necessary because some versions of Mount would otherwise pop up a "Please insert volume ENV:" requester. ENV: is assigned to RAM:ENV later in the startup-sequence).

Now find this line in the startup-sequence:

```
C:MakeDir RAM:T RAM:Clipboards RAM:ENV RAM:ENV/Sys
```

And replace it with:

```
C:MakeDir >NIL: RAM:T RAM:Clipboards RAM:ENV RAM:ENV/Sys
```

1.10 Questions and Answers

Q. I sometimes get read/write errors while WRITING to SD0:.

A. You are probably running out of memory, because the ram disk is too large. Lower the HIGHCYL parameter.

Q. I sometimes get read errors while READING from SD0:.

A. This means that the memory used by static.device to store the sector data has been corrupted. Three possible causes are:

- You had previously ran out of memory, and StatRam reported a write error. Subsequent accesses to sectors which couldn't be written due to an out of memory error cause a read error. To fix the error, you may use a disk repair utility like DiskSalv 2 by Dave Haynie (the Validate function is the most appropriate).
- You have used a defective program which has trashed the memory used by StatRam to store the volume data.
- One of your ram chips is broken. Check your memory with a diagnostic program. Note: the programs supplied with memory boards often don't spot small faults like a single bit not keeping its state.
Don't think it cannot happen to you! It happened to ME!

1.11 update

StatRam 3.0 is a completely new program. Even the device name has changed. Therefore, if you are upgrading from a previous version, delete the old device (static.device), KillSD0 and the mountlist, and restart installation from scratch.

1.12 authors

StatRam was originally based on VD0:, a popular recoverable ram drive by Perry S. Kivolowitz.

Since then it has been refined and rewritten by :

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1.13 distribution

This software is FreeWare. It is freely distributable as long as the archive remains intact, and only a nominal fee is charged for its distribution.

This software is provided "AS IS" without warranty of any kind, either expressed or implied. By using it, you agree to accept the entire risk as to the quality and performance of the program.

1.14 acknowledgements

Many thanks to the Beta testers :

Ian Moran
Mark Fisher
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Bob Adams

1.15 history

Version 3.1

- Fixed problem with the disk compressor Zoom. When uncompressing a .zom file over a floppy-like StatRam volume, the automatic memory expunge was done too soon, causing data corruption.
 - Can now be used with PFS by Michiel Pelt, just set the FileSystem and DosType fields appropriately. Automatic memory expunge is not available, just like with CrossDOS. The disk will grow as data is written to it and never shrink.
 - At last, found and fixed the pyrotecnic crash which sometimes occurred when trying to remount a volume after its blocktable had been overwritten by another volume.
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