
Subject: SX64-Drive: reading ok, writing fails sometimes
Posted by [Rudolf Harras](#) on Mon, 04 Nov 2013 23:49:10 GMT
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Hi!

Recently I noticed some strange misbehaviour of the inbuilt floppy drive of my Commodore SX64.

I didn't notice any problem for a long time. All the games worked fine, even I didn't notice any problem with saving highscores.

The problems started when I tried to copy a disk image from my 1541U to a disk in the internal 1541. This failed, the directory was always corrupted (wrong number of free block, font turning to white). After some while i noticed that the same disks worked fine with other drives.

So, there seems to be an error when writing on the disk, no matter which programme I use for copying things. The problems seem to start when files are bigger and/or when writing above some sector. As long as the disk is empty and files are not big there doesn't seem to be any problem.

Would be great if someone could give me a hint what this could be or where to start searching.

Subject: Re: SX64-Drive: reading ok, writing fails sometimes
Posted by [Ray Carlsen](#) on Tue, 05 Nov 2013 04:38:27 GMT
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> Recently I noticed some strange misbehaviour of the inbuilt floppy
> drive of my Commodore SX64. I didn't notice any problem for a long
> time. All the games worked fine, even I didn't notice any problem
> with saving highscores.

<snip>

> So, there seems to be an error when writing on the disk, no matter
> which programme I use for copying things. The problems seem to start
> when files are bigger and/or when writing above some sector. As long
> as the disk is empty and files are not big there doesn't seem to be
> any problem.

Hi Rudolf,

A very common problem with the ALPS mechanism in the SX drive is sticky rails, a purely mechanical problem that masquerades as misalignment. The ALPS mechanism seems prone to that failure more than the Newtronics (twist door latch) type. Because of old sticky lube, the sliders that ride on those two metal rods under the head assembly don't follow the tracks accurately enough, especially at the ends of travel

where large programs store information.

When I get an SX on the bench, before I do anything else, I clean the drive rails with solvent, slide the head assembly back and forth and swab the rails repeatedly until no more residue is seen and the assembly moves easily. Don't forget to clean the spring-loaded block just to the right that holds tension on that metal band. The block should also be free to move but is usually stuck because the grease used at the factory turned to "honey" and locks it in place. After cleaning, the drive can be run "dry" as re-lubing will usually attract dust and get sticky again eventually. One drop of lube in the spindle clamper will keep it working but if it starts to stick or make noise, it may have to be taken apart and cleaned before it's re-lubed. Of course all this requires the drive be removed from the SX. Swapping the mechanism with a Newtronics is not possible because its door latch sticks out too far to allow the keyboard to be put back in place on the front panel.

Ray

Subject: Re: SX64-Drive: reading ok, writing fails sometimes
Posted by [address_is](#) on Tue, 05 Nov 2013 17:46:24 GMT
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Rudolf Harras <rudi007@temporaryforwarding.com> wrote:

- > The problems seem to start when
- > files are bigger and/or when writing above some sector. As long as the
- > disk is empty and files are not big there doesn't seem to be any problem.

When the disk is freshly formatted it saves around track #18. When there are more files, it needs to move the head further away from the centre. The same if the files are long. Check if you can properly format the disk with this drive (and use it in another drive) and if the head carrier moves freely, without being "sticky". If needed clean the rails and lubricate with proper "clockwork" type of lubricant. HTH.

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SD!

Subject: Re: SX64-Drive: reading ok, writing fails sometimes
Posted by [Rudolf Harras](#) on Tue, 05 Nov 2013 18:39:18 GMT
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Am 05.11.2013 18:46, schrieb [address_is@invalid.invalid](#):

- > When the disk is freshly formatted it saves around track #18. When there
- > are more files, it needs to move the head further away from the centre. The
- > same if the files are long. Check if you can properly format the disk with

- > this drive (and use it in another drive) and if the head carrier moves
- > freely, without being "sticky". If needed clean the rails and lubricate
- > with proper "clockwork" type of lubricant. HTH.

No, formatting without error is not possible.

But if this happens because of this, why would the head read from all disks without any problem?

Subject: Re: SX64-Drive: reading ok, writing fails sometimes
Posted by [Spiro Trikaliotis](#) on Tue, 12 Nov 2013 20:07:20 GMT
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On 2013-11-05, Rudolf Harras <rudi007@temporaryforwarding.com> wrote:

- > Am 05.11.2013 18:46, schrieb address_is@invalid.invalid:
- >
- >> When the disk is freshly formatted it saves around track #18. When there
- >> are more files, it needs to move the head further away from the centre. The
- >> same if the files are long. Check if you can properly format the disk with
- >> this drive (and use it in another drive) and if the head carrier moves
- >> freely, without being "sticky". If needed clean the rails and lubricate
- >> with proper "clockwork" type of lubricant. HTH.
- >
- > No, formatting without error is not possible.
- >
- > But if this happens because of this, why would the head read from all
- > disks without any problem?

For reading, the drive retries if there are problems.

Wild guess: This might help in reading disks even with the above problem.

If the rail is not going properly, then the drive might end on another track than it expected. The read routines read in a sector header, find the track number (which is wrong) and correct their view of the current track.

IIRC, the floppy would retry to step the disk head.

I am not completely sure about that last part. However, if this is true, this might help in reading disks even with the above problem.

Regards
Spiro

Subject: Re: SX64-Drive: reading ok, writing fails sometimes
Posted by [<address_is](#) on Sat, 16 Nov 2013 18:26:12 GMT
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Rudolf Harras <rudi007@temporaryforwarding.com> wrote:

> Am 05.11.2013 18:46, schrieb address_is@invalid.invalid:
>
>> When the disk is freshly formatted it saves around track #18. When there
>> are more files, it needs to move the head further away from the centre. The
>> same if the files are long. Check if you can properly format the disk with
>> this drive (and use it in another drive) and if the head carrier moves
>> freely, without being "sticky". If needed clean the rails and lubricate
>> with proper "clockwork" type of lubricant. HTH.
>
> No, formatting without error is not possible.
>
> But if this happens because of this, why would the head read from all
> disks without any problem?

Good question. Reading is a somewhat different process from the 1541 point of view but I am not sure if different enough to make it the way you experience. Anyway, it was not a diagnosis. Just a hypothesis, a thing worth checking. If not in order to solve the problem, then at least to eliminate one potential cause of it. Please update us on the results.

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SD!
