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8 posts • Page **1** of **1**

[File Format Change in 5.6.x](#)

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[File Format Change in 5.6.x](#)

by [potto216](#) » Wed Apr 27, 2011 11:17 pm

Does anyone know if the rf file format changed when going from SonixRP 3.2.2 to SonixRP 5.6.5?

We have noticed that in the new format the first 19 int32 words of the files header seems the same in the old and new format, but the new format appears to have extra data at the end of the header and in between frames. So when we jump to frames with:

```
startByteOffsetInFile=(19*4);  
frameSizeBytes=(header.w*header.h)*2+(1*4);  
fPass=fseek(fid,frameSizeBytes*frameNumber+startByteOffsetInFile,SEEK_SET());
```

It appears to grab frames at the incorrect location.

Can anyone confirm this and what the fix would be?

The detail of the problem is below:

When we compare the bytes of the old and new rf files we see:

For the old file type you have the header then the tag and then the 16 bit rf data (columns shown as unsigned bytes):

Columns 1 through 17

16 0 0 0 230 4 0 0 33 0 0 0 16 5 0 0 16

Columns 18 through 34

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 35 through 51

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 52 through 68

0 2 0 0 0 128 150 152 0 0 90 98 2 176 1 0 0

Columns 69 through 85

64 0 0 0 0 0 0 0 104 5 0 0 168 250 27 0 40

Columns 86 through 102

5 165 6 92 4 250 255 7 252 156 250 176 251 223 255 30 3

However with the new rf format there appears to be extra header data of word size of 4 bytes before the 16 bit rf frame data starts around byte position 290:

Columns 1 through 17

16 0 0 0 214 4 0 0 33 0 0 0 32 5 0 0 16

Columns 18 through 34

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 35 through 51

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 52 through 68

0 2 0 0 0 128 150 152 0 0 90 98 2 20 2 0 0

Columns 69 through 85

64 0 0 0 0 0 0 0 0 0 0 0 0 0 246 255 233

Columns 86 through 102

255 229 255 247 255 238 255 247 255 0 0 0 0 0 0 0 0

Columns 103 through 119

0 0 0 0 238 255 229 255 247 255 0 0 0 0 0 0 0

Columns 120 through 136

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 137 through 153

0 0 0 0 0 0 0 0 0 0 0 0 236 255 246 255 0

Columns 154 through 170

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 171 through 187

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 188 through 204

0 226 255 241 255 0 0 0 0 0 0 226 255 241 255 0 0

Columns 205 through 221

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 222 through 238

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 239 through 255

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 256 through 272

0 0 0 0 0 222 255 239 255 0 0 0 0 0 0 0

Columns 273 through 289

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Columns 290 through 306

0 8 0 12 0 12 0 24 0 30 0 30 0 18 0 12 0

Columns 307 through 323

4 0 0 0 0 0 8 0 12 0 12 0 12 0 24 0 18

[potto216](#)

Posts: 21

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Re: rf file format change from SonixRP 3.2.2 to SonixRP 5.6.

by [corina](#) » Thu Apr 28, 2011 12:31 am

In 5.6.5, due to changes in the data blocks the 4 byte frame tag was removed so you should comment out the part to read for the frame tag.

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Re: rf file format change from SonixRP 3.2.2 to SonixRP 5.6.

by [potto216](#) » Thu Apr 28, 2011 7:50 pm

Thanks for the quick reply and a couple questions.

1. What is the best way to determine what the version of the .rf file is so we know whether to read the tag or not? Currently, we are comparing the total file size with the computed size based on the header size and number of frames to determine if it has tags, however this is not a robust solution.

2. Did any of the other file types remove the tags such as file type 2 (.bpr) or file type 4 (postscan B .b8)?

Thanks!

[potto216](#)

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Re: rf file format change from SonixRP 3.2.2 to SonixRP 5.6.

by [corina](#) » Thu Apr 28, 2011 8:16 pm

The frame tags are removed in all data types including .bpr, .b8..etc in version 5.6.x. So if you are using RP 5.6, ensure not to read for the frame tag or else the images read will be "shifted".

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Re: rf file format change from SonixRP 3.2.2 to SonixRP 5.6.

by [potto216](#) » Thu Apr 28, 2011 8:39 pm

okay thanks for the info.

We batch process rf files collected with the RP 3.2 and RP 5.6. What is the best way to determine what the version of the .rf file is so we know whether to read the tag or not? Currently, we are comparing the total file size with the computed size based on the header size and number of frames to determine if it has tags.

Cheers,

Paul

[potto216](#)

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Joined: Thu Feb 18, 2010 4:52 am

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[Re: rf file format change from SonixRP 3.2.2 to SonixRP 5.6.](#)

by [corina](#) » Mon May 02, 2011 10:05 pm

Comparing file size should be the best way to do this as we do not store the software version information in the files.

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[Re: rf file format change from SonixRP 3.2.2 to SonixRP 5.6.](#)

by [jochen](#) » Tue May 03, 2011 5:07 pm

Hi!

I want to suggest that Ultrasonix integrates a file-version byte in the header. That should avoid such confusions and one can adjust the reading methods in a backwards-compatible way. It's not that fun to guess the file format when reading old files.

Thanks!

Jochen

[jochen](#)

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[Re: rf file format change from SonixRP 3.2.2 to SonixRP 5.6.](#)

by [kris](#) » Tue May 10, 2011 12:57 am

Agreed, the 'core' development team restructured some of the software so that frame tags were eliminated in part of the internal pipeline, the research exporting routines never made the update to retrieve these tags, however this option will be added again soon.

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