
Subject: reading wav files

Posted by [jnettle1](#) on Tue, 16 Jan 2001 01:38:48 GMT

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Does anyone have a routine/set of routines to read *.wav files in IDL? And if so, do you feel like sharing it?? :)

Thanks for your time!

Jeff Nettles

(jnettle1@utk.edu)

Subject: Re: Reading Wav files

Posted by [David Fanning](#) on Wed, 21 Aug 2002 16:59:09 GMT

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Mike Alport (alport@nu.ac.za) writes:

```
> This seems a trivial problem: the IDL 5.5 documentation gives the following
> syntax for reading sound .wav files:
> Result = READ_WAV ( Filename [, Rate] )
> So, when I try it, I get:
> IDL> Result = READ_WAV( "ramsay0150.wav" )
> % Variable is undefined: READ_WAV.
>
> Have they switched the calling procedure name on us?
```

No, it is definitely a function. Try this:

```
IDL> .compile read_wav
IDL> Result = READ_WAV( "ramsay0150.wav" )
```

Cheers,

David

--

David W. Fanning, Ph.D.

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Reading Wav files

Posted by [JD Smith](#) on Wed, 21 Aug 2002 20:24:41 GMT

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On Wed, 21 Aug 2002 09:08:35 -0700, Mike Alport wrote:

```
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> following syntax for reading sound .wav files: Result = READ_WAV (
> Filename [, Rate] ) So, when I try it, I get: IDL> Result = READ_WAV(
> "ramsay0150.wav" ) % Variable is undefined: READ_WAV.
>
> Have they switched the calling procedure name on us? Thanks, Mike Alport
```

This is probably related to the ()/[] degeneracy in IDL array indexing.
I can replicate your error:

```
IDL> result = read_wav('/usr/share/licq/sounds/fun/Auth.wav')
% Compiled module: READ_WAV.
IDL> read_wav=2
IDL> result = read_wav('/usr/share/licq/sounds/fun/Auth.wav')
IDL> help,result
RESULT      BYTE      = Array[5400]
```

No problem thus far.. but what if I start IDL again with:

```
IDL> read_wav=1
IDL> r=temporary(read_wav)
IDL> help
% At $MAIN$
I      INT      =    167
R      INT      =     1
READ_WAV      UNDEFINED = <Undefined>
```

Uh, oh, an "undefined variable" READ_WAV exists. You can imagine what will happen now:

```
IDL> result = read_wav('/usr/share/licq/sounds/fun/Auth.wav')
% Variable is undefined: READ_WAV.
% Execution halted at: $MAIN$
```

IDL thinks you're trying to index an undefined variable! The problem is, variables sometimes exists as "undefined" zombies, even after you think they're gone. In this state, that can still "shadow" or overlap with function calls. A few options for solving the problem:

1. Find out where the undefined variable READ_WAV is getting created, and eliminate that.
2. Use "compile_opt STRICTARR" at the beginning of your procedure, or at the main level:

```
IDL> compile_opt STRICTARR
```

```
IDL> result = read_wav('/usr/share/licq/sounds/fun/Auth.wav')
% Compiled module: READ_WAV.
```

3. Use "forward_function READ_WAV" to declare it a function.
4. Clamor for RSI to make STRICTARR the default (though duck as Craig throws an eraser at your head.)

You could also just put "compile_opt STRICTARR" in your startup file, and I think it then applies to all routines and interactive commands (anybody know for sure?).

Good luck,

JD

Subject: Re: Reading Wav files
Posted by [Mike Alport](#) on Thu, 22 Aug 2002 08:21:47 GMT
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Thanks guys - both your suggestions have worked. When I was first playing around with read_wav, I must have inadvertently made it a variable. An explicit ".compile read_wav" then seems override that earlier definition. I have now also learnt about STRICTARR.
Thanks again,
Mike

PS - now I just need to play .wav files from IDL - I see that Matt Feinstein asked the same question a few days ago wrt IDL_Tools.

"JD Smith" <jdsmith@as.arizona.edu> wrote in message news:pan.2002.08.21.20.24.41.192394.2937@as.arizona.edu...
> On Wed, 21 Aug 2002 09:08:35 -0700, Mike Alport wrote:
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```

> IDL> read_wav=2
> IDL> result = read_wav('/usr/share/licq/sounds/fun/Auth.wav')
> IDL> help,result
> RESULT      BYTE      = Array[5400]
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> No problem thus far.. but what if I start IDL again with:
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> IDL> read_wav=1
> IDL> r=temporary(read_wav)
> IDL> help
> % At $MAIN$
> I      INT      =    167
> R      INT      =     1
> READ_WAV      UNDEFINED = <Undefined>
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> Uh, oh, an "undefined variable" READ_WAV exists. You can imagine what
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> think they're gone. In this state, that can still "shadow" or overlap
> with function calls. A few options for solving the problem:
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>    and eliminate that.
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> 2. Use "compile_opt STRICTARR" at the beginning of your procedure, or
>    at the main level:
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> IDL> result = read_wav('/usr/share/licq/sounds/fun/Auth.wav')
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>    throws an eraser at your head.)
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> You could also just put "compile_opt STRICTARR" in your startup file,
> and I think it then applies to all routines and interactive commands
> (anybody know for sure?).
>
> Good luck,
>

```

> JD

Subject: Re: reading wav files

Posted by [wem](#) on Thu, 03 Nov 2005 10:51:10 GMT

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rlayberry@hotmail.com wrote:

> I want to be able to read .wav audio files in IDL, such that after
> stripping the header I can look at the actual values. I can't find a
> website with the actual binary format of wav files explained. I
> remember doing something like this years ago. I read wav files and
> then displayed them and processed them etc (I was comparing wav files
> before and after being sent VOIP) - just cant remember how I did it. I
> was also using PV-WZVE before which may have had a wav file reader?
>
> thanks
>
> russ
>

You want something like this?:

<http://www.borg.com/~jglatt/tech/wave.htm>
