

Audacious - OLD, PLEASE USE GITHUB DISCUSSIONS/ISSUES - Bug #762

“File → Settings → Audio → Amplify unmarked files” has no effect

January 03, 2018 03:33 - Thomas Uwe Grützmüller

Status:	Closed	Start date:	January 03, 2018
Priority:	Major	Due date:	
Assignee:		% Done:	100%
Category:	libaudcore	Estimated time:	0.00 hour
Target version:	3.10		
Affects version:	3.8.2		
Description <p>The bug can be reproduced with all sorts of unmarked files – in Ogg Vorbis, WAV and MP3 format. The bug causes greater inconvenience as some unmarked files play roughly 9 dB louder than correctly marked files.</p> <p>Analysis:</p> <p>From looking at src/libaudcore/output.cc it seems that default_gain (the value entered by the user to amplify unmarked files) is only used when s_gain is true.</p> <p>The variable s_gain is set to false in the function output_open_audio.</p> <p>In the function output_set_replay_gain, s_gain is set to true, if s_input is true, i.e. when the input plugin is connected. This seems wrong. This should always be the case when sound can be heard, so under normal circumstances, s_gain will never be false.</p> <p>I'm a bit puzzled as the ReplayGainInfo structure does not contain a field that tells us whether there is a RG tag at all. :- </p> <p>Happy new year! Thomas</p>			

History

#1 - January 04, 2018 02:55 - Thomas Uwe Grützmüller

Okay, here is the fix.

audacious-3.9/src/libaudcore/audio.h

```
1. BEFORE ###
struct ReplayGainInfo {
    float track_gain; /* dB /
    float track_peak; / 0-1 /
    float album_gain; / dB /
    float album_peak; / 0-1 */
};

1. AFTER ###
struct ReplayGainInfo {
    float track_gain; /* dB /
    float track_peak; / 0-1 /
    float album_gain; / dB /
    float album_peak; / 0-1 /
    int track_gain_is_set; / true or false /
    int album_gain_is_set; / true or false */
};
```

audacious-3.9/src/libaudcore/tuple.cc

```
1. BEFORE ###
EXPORT ReplayGainInfo Tuple::get_replay_gain () const {
    ReplayGainInfo gain {};
    [...]
    return gain;
}
```

```

1. AFTER ###
EXPORT ReplayGainInfo Tuple::get_replay_gain () const {
    ReplayGainInfo gain {};
    [...]
    gain.album_gain_is_set = (data->is_set (AlbumGain)) ? 1 : 0;
    gain.track_gain_is_set = (data->is_set (TrackGain)) ? 1 : 0;

    return gain;
}

```

audacious-3.9/src/libaudcore/output.cc

```

1. BEFORE ###
static bool s_gain; /* replay gain info set */

```

```

1. AFTER ###
// line removed

```

```

1. BEFORE ###
static void apply_replay_gain (Index<float> & data) {
    if (! aud_get_bool (0, "enable_replay_gain"))
        return;

    float factor = powf (10, aud_get_double (0, "replay_gain_preamp") / 20);

    if (s_gain) {
        float peak;

        auto mode = (ReplayGainMode) aud_get_int (0, "replay_gain_mode");
        if ((mode == ReplayGainMode::Album) ||
            (mode == ReplayGainMode::Automatic &&
             (! aud_get_bool (0, "shuffle") || aud_get_bool (0, "album_shuffle"))))
        {
            factor *= powf (10, gain_info.album_gain / 20);
            peak = gain_info.album_peak;
        }
        else
        {
            factor *= powf (10, gain_info.track_gain / 20);
            peak = gain_info.track_peak;
        }
    }
}

```

```

if (aud_get_bool (0, "enable_clipping_prevention") && peak * factor > 1)
    factor = 1 / peak;
}
else
    factor *= powf (10, aud_get_double (0, "default_gain") / 20);

```

```

if (factor < 0.99 || factor > 1.01)
    audio_amplify (data.begin (), 1, data.len (), & factor);
}

```

```

1. AFTER ###
static void apply_replay_gain (Index<float> & data) {
    if (! aud_get_bool (0, "enable_replay_gain"))
        return;

    float factor = powf (10, aud_get_double (0, "replay_gain_preamp") / 20);
    float peak;
    auto mode = (ReplayGainMode) aud_get_int (0, "replay_gain_mode");
    if (
        ((mode == ReplayGainMode::Album) ||
         (mode == ReplayGainMode::Automatic &&
          (! aud_get_bool (0, "shuffle") || aud_get_bool (0, "album_shuffle")))) &&
        (gain_info.album_gain_is_set)) {
        factor *= powf (10, gain_info.album_gain / 20);
        peak = gain_info.album_peak;
        if (aud_get_bool (0, "enable_clipping_prevention") && peak * factor > 1)

```

```

factor = 1 / peak;
}
else {
if (gain_info.track_gain_is_set) {
factor *= powf (10, gain_info.track_gain / 20);
peak = gain_info.track_peak;
if (aud_get_bool (0, "enable_clipping_prevention") && peak * factor > 1)
factor = 1 / peak;
}
else
factor *= powf (10, aud_get_double (0, "default_gain") / 20);
}

if (factor < 0.99 || factor > 1.01)
audio_amplify (data.begin (), 1, data.len (), & factor);
}

```

1. BEFORE ###

```
s_gain = s_paused = s_flushed = false;
```

1. AFTER ###

```
s_paused = s_flushed = false;
```

1. BEFORE ###

```
s_gain = true;
```

1. AFTER ###

```
// line removed
```

src/vorbis/vorbis.cc

1. BEFORE ###

```
static bool update_replay_gain (OggVorbis_File * vf, ReplayGainInfo * rg_info) {
const char *rg_gain, *rg_peak;
```

```
vorbis_comment * comment = ov_comment (vf, -1);
if (! comment)
return false;
```

```
rg_gain = vorbis_comment_query(comment, "REPLAYGAIN_ALBUM_GAIN", 0);
if (!rg_gain) rg_gain = vorbis_comment_query(comment, "RG_AUDIOPHILE", 0); /* Old */
rg_info->album_gain = (rg_gain != nullptr) ? str_to_double (rg_gain) : 0.0;
AUDDBG ("Album gain: %s (%f)\n", rg_gain, rg_info->album_gain);
```

```
rg_gain = vorbis_comment_query(comment, "REPLAYGAIN_TRACK_GAIN", 0);
if (!rg_gain) rg_gain = vorbis_comment_query(comment, "RG_RADIO", 0); /* Old */
rg_info->track_gain = (rg_gain != nullptr) ? str_to_double (rg_gain) : 0.0;
AUDDBG ("Track gain: %s (%f)\n", rg_gain, rg_info->track_gain);
```

```
rg_peak = vorbis_comment_query(comment, "REPLAYGAIN_ALBUM_PEAK", 0);
rg_info->album_peak = rg_peak != nullptr ? str_to_double (rg_peak) : 0.0;
AUDDBG ("Album peak: %s (%f)\n", rg_peak, rg_info->album_peak);
```

```
rg_peak = vorbis_comment_query(comment, "REPLAYGAIN_TRACK_PEAK", 0);
if (!rg_peak) rg_peak = vorbis_comment_query(comment, "RG_PEAK", 0); /* Old */
rg_info->track_peak = rg_peak != nullptr ? str_to_double (rg_peak) : 0.0;
AUDDBG ("Track peak: %s (%f)\n", rg_peak, rg_info->track_peak);
```

```
return true;
}
```

1. AFTER ###

```
static bool update_replay_gain (OggVorbis_File * vf, ReplayGainInfo * rg_info) {
const char *rg_gain, *rg_peak;
```

```
vorbis_comment * comment = ov_comment (vf, -1);
if (! comment)
return false;
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rg_gain = vorbis_comment_query(comment, "REPLAYGAIN_ALBUM_GAIN", 0);
if (!rg_gain) rg_gain = vorbis_comment_query(comment, "RG_AUDIOPHILE", 0); /* Old */
rg_info->album_gain = (rg_gain != nullptr) ? str_to_double (rg_gain) : 0.0;
```

```

AUDDBG ("Album gain: %s (%f)\n", rg_gain, rg_info->album_gain);
rg_info->album_gain_is_set = (rg_gain != nullptr) ? 1 : 0;

rg_gain = vorbis_comment_query(comment, "REPLAYGAIN_TRACK_GAIN", 0);
if (!rg_gain) rg_gain = vorbis_comment_query(comment, "RG_RADIO", 0); /* Old */
rg_info->track_gain = (rg_gain != nullptr) ? str_to_double (rg_gain) : 0.0;
AUDDBG ("Track gain: %s (%f)\n", rg_gain, rg_info->track_gain);
rg_info->track_gain_is_set = (rg_gain != nullptr) ? 1 : 0;

rg_peak = vorbis_comment_query(comment, "REPLAYGAIN_ALBUM_PEAK", 0);
rg_info->album_peak = rg_peak != nullptr ? str_to_double (rg_peak) : 0.0;
AUDDBG ("Album peak: %s (%f)\n", rg_peak, rg_info->album_peak);

rg_peak = vorbis_comment_query(comment, "REPLAYGAIN_TRACK_PEAK", 0);
if (!rg_peak) rg_peak = vorbis_comment_query(comment, "RG_PEAK", 0); /* Old */
rg_info->track_peak = rg_peak != nullptr ? str_to_double (rg_peak) : 0.0;
AUDDBG ("Track peak: %s (%f)\n", rg_peak, rg_info->track_peak);

return true;
}
-----

```

#2 - January 04, 2018 02:58 - Thomas Uwe Grützmüller

- File Patch added

Arrrgh, the bugtracker has messed up the formatting.

#3 - January 04, 2018 03:43 - John Lindgren

Can you please re-upload the patch in diff -ur format (or simply git diff if you have the repository cloned locally)?

#4 - January 04, 2018 05:01 - Thomas Uwe Grützmüller

- File *audacious_git.diff* added

- File *audacious-plugins_git.diff* added

All right...

#5 - January 04, 2018 06:29 - John Lindgren

- Status changed from New to Closed

- Assignee deleted (Thomas Uwe Grützmüller)

- Target version set to 3.10

- % Done changed from 0 to 100

Never mind, I committed a slightly different fix that doesn't break the plugin ABI.

Apparently this has been broken for a long time, at least back to 2010 and possibly before. Anyway, thank you for the report.

Files

Patch	6.66 KB	January 04, 2018	Thomas Uwe Grützmüller
audacious_git.diff	3.81 KB	January 04, 2018	Thomas Uwe Grützmüller
audacious-plugins_git.diff	1.06 KB	January 04, 2018	Thomas Uwe Grützmüller