pyavb Documentation

Release 0.1.0

Mark Reid

Jul 01, 2023

Contents:

1 Overview **1**

2 Notice **3**

3 Installation **5**

4 Quickstart **7**

4.1 avb package 7

4.1.1 Submodules 7

4.1.1.1 avb.attributes 7

4.1.1.2 avb.bin 8

4.1.1.3 avb.components 10

4.1.1.4 avb.core 15

4.1.1.5 avb.essence 15

4.1.1.6 avb.misc 28

4.1.1.7 avb.trackgroups 35

5 Indices and tables **47**

6 Further Reading **49**

Index **51**

CHAPTER 1

Overview

pyavb is a python module for reading and writing Avid Bin Files (AVB) files.

CHAPTER 2

Notice

This project is in no way affiliated, nor endorsed in any way with Avid, and their name and all product names are registered brand names and trademarks that belong to them.

CHAPTER 3

Installation

You can install pyavb via:

```
pip install pyavb
```

or clone the latest development git master:

```
git clone https://github.com/markreidvfx/pyavb
cd pyavb
python setup.py install
```

CHAPTER 4

Quickstart

Reading:

```
import avb

with avb.open("/path/to/file.avb") as f:

  for mob in f.content.mobs:
    print(mob.name)
    for track in mob.track:
        print(track.component)
```

4.1 avb package

4.1.1 Submodules

4.1.1.1 avb.attributes

Attributes

class avb.attributes.**Attributes**

Bases: avb.core.AVBPropertyData

clear() → None. Remove all items from od.

copy() → a shallow copy of od

pop(*k*[, *d*]) → v, remove specified key and return the corresponding value. If key is not found, d is returned if given, otherwise KeyError is raised.

ParameterList

class avb.attributes.**ParameterList**
Bases: *avb.core.AVBRefList*

TimeCrumbList

class avb.attributes.**TimeCrumbList**
Bases: *avb.core.AVBRefList*

4.1.1.2 avb.bin

Bin

class avb.bin.**Bin**
Bases: avb.core.AVBObject

Properties:

name	type
large_bin	bool
view_setting	reference
uid	uint64
items	list
display_mask	int32
display_mode	int32
sifted	bool
sifted_settings	list
sort_columns	list
mac_font	int16
mac_font_size	int16
mac_image_scale	int16
home_rect	rect
background_color	color
forground_color	color
ql_image_scale	int16
attributes	reference
was_iconic	bool

BinFirst

class avb.bin.**BinFirst**
Bases: *avb.bin.Bin*

Properties:

name	type
large_bin	bool
view_setting	reference
uid	uint64
items	list
display_mask	int32
display_mode	int32
sifted	bool
sifted_settings	list
sort_columns	list
mac_font	int16
mac_font_size	int16
mac_image_scale	int16
home_rect	rect
background_color	color
forground_color	color
ql_image_scale	int16
attributes	reference
was_iconic	bool
unknown_s32	int32

BinItem

class avb.bin.**BinItem**(**args*, ***kwargs*)

Bases: avb.core.AVBObject

Properties:

name	type
mob	reference
x	int16
y	int16
keyframe	int32
user_placed	bool

BinViewSetting

class avb.bin.**BinViewSetting**

Bases: avb.bin.Setting

Properties:

name	type
name	string
kind	string
attr_count	int16
attr_type	int16
attributes	reference
columns	list
format_descriptors	list

SiftItem

class avb.bin.**SiftItem**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
method	int16
string	string
column	string

4.1.1.3 avb.components

ControlClip

class avb.components.**ControlClip**(*edit_rate=25*, *media_kind=None*)
Bases: avb.components.Clip

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
length	int32
interp_kind	int32
control_points	list

ControlPoint

class avb.components.**ControlPoint**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
offset	rational
time_scale	int32
value	bool
pp	list

ControlPointProperty

class avb.components.**ControlPointProperty**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
code	int16
value	rational

Edgecode

class avb.components.**Edgecode**(*edit_rate=25*, *media_kind=None*)
Bases: avb.components.Clip

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
length	int32
header	bytes
film_kind	uint8
code_format	uint8
base_perf	uint16
start_ec	int32

Filler

class avb.components.**Filler**(*edit_rate=25*, *media_kind=None*)
Bases: avb.components.Clip

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
length	int32

ParamClip

class avb.components.**ParamClip**(*edit_rate=25*, *media_kind=None*)

Bases: avb.components.Clip

nearest_index(*t*)

binary search for index of point.time <= t

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
length	int32
interp_kind	int32
value_type	int16
extrap_kind	int32
control_points	list
fields	int32

ParamControlPoint

class avb.components.**ParamControlPoint**(**args*, ***kwargs*)

Bases: avb.core.AVBObject

Properties:

name	type
offset	rational
timescale	int32
value	number
pp	list

ParamControlPointProperty

class avb.components.**ParamControlPointProperty**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
code	int16
type	int16
value	number

Sequence

class avb.components.**Sequence**(*edit_rate=25*, *media_kind=None*)
Bases: avb.components.Component

nearest_component_at_time(*edit_unit*)
returns the nearest component to edit_unit and its start position

nearest_index_at_time(*edit_unit*)
returns the index of the nearest component to edit_unit and its start position

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
components	ref_list

SourceClip

class avb.components.**SourceClip**(*edit_rate=25*, *media_kind=None*)
Bases: avb.components.Clip

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
length	int32
track_id	int16
start_time	int32
mob_id	MobID

Timecode

class avb.components.**Timecode**(*edit_rate=25*, *media_kind=None*)
Bases: avb.components.Clip

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
length	int32
flags	int32
fps	int32
start	int32

TrackRef

class avb.components.**TrackRef**(*edit_rate=25*, *media_kind=None*)
Bases: avb.components.Clip

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
length	int32
relative_scope	int16
relative_track	int16

4.1.1.4 avb.core

AVBRefList

class avb.core.**AVBRefList**
Bases: list

append(*x*)
Append object to the end of the list.

clear()
Remove all items from list.

copy(*root*, *parent=None*)
Return a shallow copy of the list.

extend(*x*)
Extend list by appending elements from the iterable.

insert(*i*, *x*)
Insert object before index.

pop(*i=-1*)
Remove and return item at index (default last).

Raises IndexError if list is empty or index is out of range.

remove(*x*)
Remove first occurrence of value.

Raises ValueError if the value is not present.

reverse()
Reverse *IN PLACE*.

sort(*key=None*, *reverse=False*)
Stable sort *IN PLACE*.

4.1.1.5 avb.essence

AIFCDescriptor

class avb.essence.**AIFCDescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.MediaFileDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16
data_offset	int32
summary	bytes
data_pos	int32

ANCDataDescriptor

class avb.essence.**ANCDataDescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.DataDescriptor*

Properties:

CDCIDescriptor

class avb.essence.**CDCIDescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.DIDDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16
data_offset	int32
stored_height	int32
stored_width	int32

Continued on next page

Table 1 – continued from previous page

name	type
sampled_height	int32
sampled_width	int32
sampled_x_offset	int32
sampled_y_offset	int32
display_height	int32
display_width	int32
display_x_offset	int32
display_y_offset	int32
frame_layout	int16
aspect_ratio	rational
line_map	list
alpha_transparency	int32
uniformness	bool
did_image_size	int32
next_did_desc	reference
compress_method	bytes
resolution_id	int32
image_alignment_factor	int32
frame_index_byte_order	int16
frame_sample_size	int32
first_frame_offset	int32
client_fill_start	int32
client_fill_end	int32
offset_to_rle_frame_index	int32
frame_start_offset	int32
valid_box	bounds_box
essence_box	bounds_box
source_box	bounds_box
framing_box	bounds_box
reformatting_option	int32
transfer_characteristic	UUID
color_primaries	UUID
coding_equations	UUID
essence_compression	UIDD
essence_element_size_kind	uint8
frame_checked_with_mapper	bool
horizontal_subsampling	uint32
vertical_subsampling	uint32
component_width	int32
color_sitting	int16
black_ref_level	uint32
white_ref_level	uint32
color_range	uint32
frame_index_offset	uint64
alpha_sampled_width	uint32
ignore_bw	uint32

DIDDescriptor

class avb.essence.**DIDDescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.MediaFileDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16
data_offset	int32
stored_height	int32
stored_width	int32
sampled_height	int32
sampled_width	int32
sampled_x_offset	int32
sampled_y_offset	int32
display_height	int32
display_width	int32
display_x_offset	int32
display_y_offset	int32
frame_layout	int16
aspect_ratio	rational
line_map	list
alpha_transparency	int32
uniformness	bool
did_image_size	int32
next_did_desc	reference
compress_method	bytes
resolution_id	int32
image_alignment_factor	int32
frame_index_byte_order	int16
frame_sample_size	int32
first_frame_offset	int32
client_fill_start	int32
client_fill_end	int32
offset_to_rle_frame_index	int32
frame_start_offset	int32
valid_box	bounds_box
essence_box	bounds_box
source_box	bounds_box
framing_box	bounds_box
reformatting_option	int32

Continued on next page

Table 2 – continued from previous page

name	type
transfer_characteristic	UUID
color_primaries	UUID
coding_equations	UUID
essence_compression	UIDD
essence_element_size_kind	uint8
frame_checked_with_mapper	bool

DataDescriptor

class avb.essence.**DataDescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.MediaFileDescriptor*

Properties:

FilmDescriptor

class avb.essence.**FilmDescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.MediaDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference

JPEGDescriptor

class avb.essence.**JPEGDescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.CDCIDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16

Continued on next page

Table 3 – continued from previous page

name	type
data_offset	int32
stored_height	int32
stored_width	int32
sampled_height	int32
sampled_width	int32
sampled_x_offset	int32
sampled_y_offset	int32
display_height	int32
display_width	int32
display_x_offset	int32
display_y_offset	int32
frame_layout	int16
aspect_ratio	rational
line_map	list
alpha_transparency	int32
uniformness	bool
did_image_size	int32
next_did_desc	reference
compress_method	bytes
resolution_id	int32
image_alignment_factor	int32
frame_index_byte_order	int16
frame_sample_size	int32
first_frame_offset	int32
client_fill_start	int32
client_fill_end	int32
offset_to_rle_frame_index	int32
frame_start_offset	int32
valid_box	bounds_box
essence_box	bounds_box
source_box	bounds_box
framing_box	bounds_box
reformatting_option	int32
transfer_characteristic	UUID
color_primaries	UUID
coding_equations	UUID
essence_compression	UIDD
essence_element_size_kind	uint8
frame_checked_with_mapper	bool
horizontal_subsampling	uint32
vertical_subsampling	uint32
component_width	int32
color_sitting	int16
black_ref_level	uint32
white_ref_level	uint32
color_range	uint32
frame_index_offset	uint64
alpha_sampled_width	uint32
ignore_bw	uint32

Continued on next page

Table 3 – continued from previous page

name	type
jpeg_table_id	int32
jpeg_frame_index_offset	uint64
quantization_tables	bytes
image_start_align	int32

MPGADescriptor

class avb.essence.**MPGADescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.MediaFileDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16
data_offset	int32
channels	uint16
quantization_bits	uint16
sample_rate	fexp10
locked	Boolean
audio_ref_level	int16
electro_spatial_formulation	int32
dial_norm	uint16
coding_format	int32
bit_rate	uint32
sub_frame_alignment	uint64
origin	uint64

MPGIDescriptor

class avb.essence.**MPGIDescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.CDCIDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference

Continued on next page

Table 4 – continued from previous page

name	type
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16
data_offset	int32
stored_height	int32
stored_width	int32
sampled_height	int32
sampled_width	int32
sampled_x_offset	int32
sampled_y_offset	int32
display_height	int32
display_width	int32
display_x_offset	int32
display_y_offset	int32
frame_layout	int16
aspect_ratio	rational
line_map	list
alpha_transparency	int32
uniformness	bool
did_image_size	int32
next_did_desc	reference
compress_method	bytes
resolution_id	int32
image_alignment_factor	int32
frame_index_byte_order	int16
frame_sample_size	int32
first_frame_offset	int32
client_fill_start	int32
client_fill_end	int32
offset_to_rle_frame_index	int32
frame_start_offset	int32
valid_box	bounds_box
essence_box	bounds_box
source_box	bounds_box
framing_box	bounds_box
reformatting_option	int32
transfer_characteristic	UUID
color_primaries	UUID
coding_equations	UUID
essence_compression	UIDD
essence_element_size_kind	uint8
frame_checked_with_mapper	bool
horizontal_subsampling	uint32
vertical_subsampling	uint32
component_width	int32
color_sitting	int16

Continued on next page

Table 4 – continued from previous page

name	type
black_ref_level	uint32
white_ref_level	uint32
color_range	uint32
frame_index_offset	uint64
alpha_sampled_width	uint32
ignore_bw	uint32
mpeg_version	uint8
profile	uint8
gop_structure	uint8
stream_type	uint8
random_access	bool
leading_discard	bool
trailing_discard	bool
min_gop_length	uint16
max_gop_length	uint16
sequence_hdr	bytes

MediaDescriptor

class avb.essence.**MediaDescriptor**(**args*, ***kwargs*)

Bases: avb.core.AVBObject

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference

MediaFileDescriptor

class avb.essence.**MediaFileDescriptor**(**args*, ***kwargs*)

Bases: *avb.essence.MediaDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16
data_offset	int32

MultiDescriptor

class avb.essence.**MultiDescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.MediaFileDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16
data_offset	int32
descriptors	ref_list

NagraDescriptor

class avb.essence.**NagraDescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.MediaDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference

PCMADescriptor

class avb.essence.**PCMADescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.MediaFileDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16
data_offset	int32
channels	uint16
quantization_bits	uint16
sample_rate	fexp10
locked	bool
audio_ref_level	int16
electro_spatial_formulation	int32
dial_norm	uint16
coding_format	int32
block_align	int32
sequence_offset	uint16
average_bps	int32
has_peak_envelope_data	bool
peak_envelope_version	int32
peak_envelope_format	int32
points_per_peak_value	int32
peak_envelope_block_size	int32
peak_channel_count	int32
peak_frame_count	int32
peak_of_peaks_offset	uint64
peak_envelope_timestamp	int32
ebu_timestamp	int64
timecode_framerate	string

RGBADescriptor

class avb.essence.**RGBADescriptor**(**args*, ***kwargs*)
Bases: *avb.essence.DIDDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16
data_offset	int32
stored_height	int32
stored_width	int32
sampled_height	int32
sampled_width	int32
sampled_x_offset	int32
sampled_y_offset	int32
display_height	int32
display_width	int32
display_x_offset	int32
display_y_offset	int32
frame_layout	int16
aspect_ratio	rational
line_map	list
alpha_transparency	int32
uniformness	bool
did_image_size	int32
next_did_desc	reference
compress_method	bytes
resolution_id	int32
image_alignment_factor	int32
frame_index_byte_order	int16
frame_sample_size	int32
first_frame_offset	int32
client_fill_start	int32
client_fill_end	int32
offset_to_rle_frame_index	int32
frame_start_offset	int32
valid_box	bounds_box
essence_box	bounds_box
source_box	bounds_box
framing_box	bounds_box
reformatting_option	int32
transfer_characteristic	UUID
color_primaries	UUID
coding_equations	UUID
essence_compression	UIDD
essence_element_size_kind	uint8
frame_checked_with_mapper	bool
pixel_layout	list

Continued on next page

Table 6 – continued from previous page

name	type
palette	list
frame_index_offset	uint64
has_comp_min_ref	bool
comp_min_ref	uint32
has_comp_max_ref	bool
comp_max_ref	uint32
alpha_min_ref	uint32
alpha_max_ref	uint32

TapeDescriptor

class avb.essence.**TapeDescriptor**(**args*, ***kwargs*)

Bases: *avb.essence.MediaDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
cframe	int16

WaveDescriptor

class avb.essence.**WaveDescriptor**(**args*, ***kwargs*)

Bases: *avb.essence.MediaFileDescriptor*

Properties:

name	type
mob_kind	int8
locator	reference
intermediate	bool
physical_media	reference
uuid	UUID
wchar	bytes
attributes	reference
edit_rate	fexp10
length	int32
is_omfi	int16
data_offset	int32
summary	bytes

4.1.1.6 avb.misc

BOBPosition

class avb.misc.**BOBPosition**(**args*, ***kwargs*)
Bases: *avb.misc.Position*

Properties:

name	type
mob_id	MobID
sample_num	int32
length	int32
track_type	int32
track_index	int32

BinRef

class avb.misc.**BinRef**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
uid_high	int32
uid_low	int32
name	string
name_utf8	string

CFUserParam

class avb.misc.**CFUserParam**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
byte_order	uint16
uuid	UUID
data	bytes

ColorCorrectionEffect

class avb.misc.**ColorCorrectionEffect**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
color_correction	bytes

DIDPosition

class avb.misc.**DIDPosition**(**args*, ***kwargs*)
Bases: *avb.misc.BOBPosition*

Properties:

name	type
mob_id	MobID
sample_num	int32
length	int32
track_type	int32
track_index	int32
strip	int32
offset	uint64
byte_length	uint64
spos_invalid	bool

EffectParam

class avb.misc.**EffectParam**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
percent_time	int32
level	int32
pos_x	int32
floor_x	int32
ceil_x	int32
pos_y	int32
floor_y	int32
ceil_y	int32
scale_x	int32
scale_y	int32
crop_left	int32
crop_right	int32
crop_top	int32
crop_bottom	int32
box	list
box_xscale	bool
box_yscale	bool
box_xpos	bool
box_ypos	bool
border_width	int32
border_soft	int32
splill_gain2	int16
splill_gain	int16
splill_soft2	int16
splill_soft	int16
enable_key_flags	int8
colors	list
user_param	bytes
selected	bool

EffectParamList

class avb.misc.**EffectParamList**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
orig_length	int32
window_offset	int32
keyframe_size	int32
parameters	list

GraphicEffect

class avb.misc.**GraphicEffect**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
pict_data	bytes

MPGPosition

class avb.misc.**MPGPosition**(**args*, ***kwargs*)
Bases: *avb.misc.DIDPosition*

Properties:

name	type
mob_id	MobID
sample_num	int32
length	int32
track_type	int32
track_index	int32
strip	int32
offset	uint64
byte_length	uint64
spos_invalid	bool
trailing_discards	int16
need_seq_hdr	Boolean
leader_length	int16
fields	list

MSMLocator

class avb.misc.**MSMLocator**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
last_known_volume	string
domain_type	int32
mob_id	MobID
last_known_volume_utf8	string

MacFileLocator

class avb.misc.**MacFileLocator**(**args*, ***kwargs*)
Bases: avb.misc.FileLocator

Properties:

name	type
path	string
path_posix	string
path_utf8	string
path2_utf8	string

Marker

class avb.misc.**Marker**(**args*, ***kwargs*)
Bases: *avb.misc.MobRef*

Properties:

name	type
position	int32
mob_id	MobID
comp_offset	int32
attributes	reference
color	list
handled_codes	bool

MobRef

class avb.misc.**MobRef**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
position	int32
mob_id	MobID

ParameterItem

class avb.misc.**ParameterItem**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
uuid	UUID
value_type	int16
value	int32
name	string
enable	bool
control_track	reference
contribs_to_sig	bool

Position

class avb.misc.**Position**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
mob_id	MobID

ShapeList

class avb.misc.**ShapeList**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
shape_data	bytes

TrackerData

class avb.misc.**TrackerData**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
settings	bytes
clip_version	uint32
clips	ref_list
offset_tracking	uint32
smoothing	uint32
jitter_removal	uint32
filter_amount	double
clip5	reference
clip6	reference

TrackerDataSlot

class avb.misc.**TrackerDataSlot**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
tracker_data	ref_list
track_fg	bool

TrackerManager

class avb.misc.**TrackerManager**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
data_slots	reference
param_slots	reference

TrackerParameter

class avb.misc.**TrackerParameter**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
settings	bytes

TrackerParameterSlot

class avb.misc.**TrackerParameterSlot**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
settings	bytes
params	ref_list

URLLocator

class avb.misc.**URLLocator**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

WinFileLocator

class avb.misc.**WinFileLocator**(**args*, ***kwargs*)
Bases: avb.misc.FileLocator

Properties:

name	type
path	string
path_posix	string
path_utf8	string
path2_utf8	string

4.1.1.7 avb.trackgroups

ASPIPlugin

class avb.trackgroups.**ASPIPlugin**(*root*)
Bases: avb.core.AVBObject

Properties:

name	type
name	string
manufacturer_id	uint32
product_id	uint32
plugin_id	uint32
chunks	list

ASPIPluginChunk

class avb.trackgroups.**ASPIPluginChunk**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
version	int32
manufacturer_id	uint32
product_id	uint32
plugin_id	uint32
chunk_id	uint32
name	string
data	bytes

AudioSuitePluginEffect

class avb.trackgroups.**AudioSuitePluginEffect**(*edit_rate=25*, *media_kind=None*)
Bases: *avb.trackgroups.TrackEffect*

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference

Continued on next page

Table 7 – continued from previous page

name	type
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
left_length	int32
right_length	int32
info_version	int16
info_current	int32
info_smooth	int32
info_color_item	int16
info_quality	int16
info_is_reversed	int8
info_aspect_on	bool
keyframes	reference
info_force_software	bool
info_never_hardware	bool
trackman	reference
plugins	list
mob_id	MobID
mark_in	uint64
mark_out	uint64
tracks_to_affect	uint32
rendering_mode	int32
padding_secs	int32
preset_path	bytes

CaptureMask

class avb.trackgroups.**CaptureMask**(*edit_rate=25*, *media_kind=None*)

Bases: avb.trackgroups.TimeWarp

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
phase_offset	int32
is_double	bool
mask_bits	int32

Composition

class avb.trackgroups.**Composition**(*name='Mob'*, *mob_type='MasterMob'*)

Bases: *avb.trackgroups.TrackGroup*

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
last_modified	int32
mob_type_id	int8
usage_code	int8
descriptor	reference
creation_time	int32
mob_id	MobID

EqualizerBand

class avb.trackgroups.**EqualizerBand**(**args*, ***kwargs*)
Bases: avb.core.AVBObject

Properties:

name	type
type	int32
freq	int32
gain	int32
q	int32
enable	bool

EqualizerMultiBand

class avb.trackgroups.**EqualizerMultiBand**(*edit_rate=25*, *media_kind=None*)
Bases: *avb.trackgroups.TrackEffect*

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
left_length	int32
right_length	int32
info_version	int16
info_current	int32
info_smooth	int32
info_color_item	int16
info_quality	int16
info_is_reversed	int8
info_aspect_on	bool
keyframes	reference
info_force_software	bool
info_never_hardware	bool
trackman	reference
bands	list
effect_enable	bool

Continued on next page

Table 8 – continued from previous page

name	type
filter_name	string

EssenceGroup

class avb.trackgroups.**EssenceGroup**(*edit_rate=25*, *media_kind=None*)

Bases: *avb.trackgroups.TrackGroup*

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
rep_set_type	int32

MotionEffect

class avb.trackgroups.**MotionEffect**(*edit_rate=25*, *media_kind=None*)

Bases: avb.trackgroups.TimeWarp

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
phase_offset	int32
speed_ratio	rational
offset_adjust	double
source_param_list	reference
new_source_calculation	bool

PanVolumeEffect

class avb.trackgroups.**PanVolumeEffect**(*edit_rate=25*, *media_kind=None*)

Bases: *avb.trackgroups.TrackEffect*

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
left_length	int32
right_length	int32
info_version	int16
info_current	int32
info_smooth	int32
info_color_item	int16
info_quality	int16

Continued on next page

Table 9 – continued from previous page

name	type
info_is_reversed	int8
info_aspect_on	bool
keyframes	reference
info_force_software	bool
info_never_hardware	bool
trackman	reference
level	int32
pan	int32
suppress_validation	bool
level_set	bool
pan_set	bool
supports_seperate_gain	int32
is_trim_gain_effect	int32

Repeat

class avb.trackgroups.**Repeat**(*edit_rate=25*, *media_kind=None*)
Bases: avb.trackgroups.TimeWarp

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
phase_offset	int32

Selector

class avb.trackgroups.**Selector**(*edit_rate=25*, *media_kind=None*)
Bases: *avb.trackgroups.TrackGroup*

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
is_ganged	bool
selected	int16

StrobeEffect

class avb.trackgroups.**StrobeEffect**(*edit_rate=25*, *media_kind=None*)

Bases: avb.trackgroups.TimeWarp

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
phase_offset	int32
strobe_value	int32

Track

class avb.trackgroups.**Track**(**args*, ***kwargs*)

Bases: avb.core.AVBObject

Properties:

name	type
index	int16
attributes	reference
session_attr	reference
component	reference
filler_proxy	reference
bob_data	reference
control_code	int16
control_sub_code	int16
start_pos	int32
read_only	bool
lock_number	int16

TrackEffect

class avb.trackgroups.**TrackEffect**(*edit_rate=25*, *media_kind=None*)

Bases: *avb.trackgroups.TrackGroup*

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
left_length	int32
right_length	int32
info_version	int16
info_current	int32
info_smooth	int32
info_color_item	int16
info_quality	int16
info_is_reversed	int8
info_aspect_on	bool
keyframes	reference
info_force_software	bool
info_never_hardware	bool
trackman	reference

TrackGroup

class avb.trackgroups.**TrackGroup**(*edit_rate=25*, *media_kind=None*)
Bases: avb.components.Component

dependant_mobs()
Yields all mobs that this mob is dependant on in depth first order.

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list

TransitionEffect

class avb.trackgroups.**TransitionEffect**(*edit_rate=25*, *media_kind=None*)
Bases: *avb.trackgroups.TrackGroup*

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
session_attrs	reference
precomputed	reference
param_list	reference
mc_mode	int8
length	int32
num_scalars	int32
tracks	list
cutpoint	int32
left_length	int32
right_length	int32
info_version	int16
info_current	int32
info_smooth	int32
info_color_item	int16
info_quality	int16
info_is_reversed	int8
info_aspect_on	bool
keyframes	reference
info_force_software	bool
info_never_hardware	bool
trackman	reference

CHAPTER 5

Indices and tables

- genindex
- modindex
- search

CHAPTER 6

Further Reading

pyavb was initially started using these projects as reference

- AVBParser
- Media Decomposer

More datatypes and names have been discovered via this avid console command:

```
EnableBinXMLDump true
```

The xml dumping can be buggy, if it fails you might need to set this to disabled too:

```
SwitchBinSaveWorkflow
```

Index

A

AIFCDescriptor (*class in avb.essence*), 16
ANCDataDescriptor (*class in avb.essence*), 16
append() (*avb.core.AVBRefList method*), 15
ASPIPlugin (*class in avb.trackgroups*), 35
ASPIPluginChunk (*class in avb.trackgroups*), 35
Attributes (*class in avb.attributes*), 7
AudioSuitePluginEffect (*class in avb.trackgroups*), 35
AVBRefList (*class in avb.core*), 15

B

Bin (*class in avb.bin*), 8
BinFirst (*class in avb.bin*), 8
BinItem (*class in avb.bin*), 9
BinRef (*class in avb.misc*), 28
BinViewSetting (*class in avb.bin*), 9
BOBPosition (*class in avb.misc*), 28

C

CaptureMask (*class in avb.trackgroups*), 36
CDCIDescriptor (*class in avb.essence*), 16
CFUserParam (*class in avb.misc*), 28
clear() (*avb.attributes.Attributes method*), 7
clear() (*avb.core.AVBRefList method*), 15
ColorCorrectionEffect (*class in avb.misc*), 28
Composition (*class in avb.trackgroups*), 37
ControlClip (*class in avb.components*), 10
ControlPoint (*class in avb.components*), 10
ControlPointProperty (*class in avb.components*), 11
copy() (*avb.attributes.Attributes method*), 7
copy() (*avb.core.AVBRefList method*), 15

D

DataDescriptor (*class in avb.essence*), 19
dependant_mobs() (*avb.trackgroups.TrackGroup method*), 44
DIDDescriptor (*class in avb.essence*), 18
DIDPosition (*class in avb.misc*), 29

E

Edgecode (*class in avb.components*), 11
EffectParam (*class in avb.misc*), 29
EffectParamList (*class in avb.misc*), 30
EqualizerBand (*class in avb.trackgroups*), 38
EqualizerMultiBand (*class in avb.trackgroups*), 38
EssenceGroup (*class in avb.trackgroups*), 39
extend() (*avb.core.AVBRefList method*), 15

F

Filler (*class in avb.components*), 11
FilmDescriptor (*class in avb.essence*), 19

G

GraphicEffect (*class in avb.misc*), 30

I

insert() (*avb.core.AVBRefList method*), 15

J

JPEGDescriptor (*class in avb.essence*), 19

M

MacFileLocator (*class in avb.misc*), 31
Marker (*class in avb.misc*), 32
MediaDescriptor (*class in avb.essence*), 23
MediaFileDescriptor (*class in avb.essence*), 23
MobRef (*class in avb.misc*), 32
MotionEffect (*class in avb.trackgroups*), 39
MPGADescriptor (*class in avb.essence*), 21
MPGIDescriptor (*class in avb.essence*), 21
MPGPosition (*class in avb.misc*), 31
MSMLocator (*class in avb.misc*), 31
MultiDescriptor (*class in avb.essence*), 24

N

NagraDescriptor (*class in avb.essence*), 24

nearest_component_at_time() (*avb.components.Sequence method*), 13
nearest_index() (*avb.components.ParamClip method*), 12
nearest_index_at_time() (*avb.components.Sequence method*), 13

P

PanVolumeEffect (*class in avb.trackgroups*), 40
ParamClip (*class in avb.components*), 12
ParamControlPoint (*class in avb.components*), 12
ParamControlPointProperty (*class in avb.components*), 13
ParameterItem (*class in avb.misc*), 32
ParameterList (*class in avb.attributes*), 8
PCMADescriptor (*class in avb.essence*), 25
pop() (*avb.attributes.Attributes method*), 7
pop() (*avb.core.AVBRefList method*), 15
Position (*class in avb.misc*), 32

R

remove() (*avb.core.AVBRefList method*), 15
Repeat (*class in avb.trackgroups*), 41
reverse() (*avb.core.AVBRefList method*), 15
RGBADescriptor (*class in avb.essence*), 25

S

Selector (*class in avb.trackgroups*), 41
Sequence (*class in avb.components*), 13
ShapeList (*class in avb.misc*), 33
SiftItem (*class in avb.bin*), 10
sort() (*avb.core.AVBRefList method*), 15
SourceClip (*class in avb.components*), 13
StrobeEffect (*class in avb.trackgroups*), 42

T

TapeDescriptor (*class in avb.essence*), 27
Timecode (*class in avb.components*), 14
TimeCrumbList (*class in avb.attributes*), 8
Track (*class in avb.trackgroups*), 42
TrackEffect (*class in avb.trackgroups*), 43
TrackerData (*class in avb.misc*), 33
TrackerDataSlot (*class in avb.misc*), 33
TrackerManager (*class in avb.misc*), 33
TrackerParameter (*class in avb.misc*), 34
TrackerParameterSlot (*class in avb.misc*), 34
TrackGroup (*class in avb.trackgroups*), 44
TrackRef (*class in avb.components*), 14
TransitionEffect (*class in avb.trackgroups*), 44

U

URLLocator (*class in avb.misc*), 34

W

WaveDescriptor (*class in avb.essence*), 27
WinFileLocator (*class in avb.misc*), 34