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# **pyavb Documentation**

***Release 0.1.0***

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# CHAPTER 1

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## Overview

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



## CHAPTER 2

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### Notice

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# CHAPTER 3

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## Installation

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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

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## 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.

    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
foreground_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
foreground_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.AVBOObject
```

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
sessionAttrs	reference
precomputed	reference
paramList	reference
length	int32
interpKind	int32
controlPoints	list

#### ControlPoint

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

Properties:

name	type
offset	rational
timeScale	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_attr	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
sessionAttrs	reference
precomputed	reference
paramList	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
sessionAttrs	reference
precomputed	reference
paramList	reference
length	int32
interpKind	int32
valueType	int16
extrapKind	int32
controlPoints	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
sessionAttrs	reference
precomputed	reference
paramList	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
sessionAttrs	reference
precomputed	reference
paramList	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
sessionAttrs	reference
precomputed	reference
paramList	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
sessionAttrs	reference
precomputed	reference
paramList	reference
length	int32
relative_scope	int16
relative_track	int16

#### 4.1.1.4 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.CCDCIDescriptor(*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	UIID
essence_element_size_kind	uint8

Continued on next page

Table 1 – continued from previous page

name	type
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

Continued on next page

Table 2 – continued from previous page

name	type
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

## DataDescriptor

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

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
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	UIID
essence_element_size_kind	uint8

Continued on next page

Table 3 – continued from previous page

name	type
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
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
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 4 – continued from previous page

name	type
transfer_characteristic	UUID
color_primaries	UUID
coding_equations	UUID
essence_compression	UIID
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
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

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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

#### 4.1.1.5 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.AVBOObject`

Properties:

name	type
uid_high	int32
uid_low	int32
name	string
name_utf8	string

##### **CFUserParam**

**class** `avb.misc.CFUserParam(*args, **kwargs)`

Bases: `avb.core.AVBOObject`

Properties:

name	type
byte_order	uint16
uuid	UUID
data	bytes

##### **ColorCorrectionEffect**

**class** `avb.misc.ColorCorrectionEffect(*args, **kwargs)`

Bases: `avb.core.AVBOObject`

Properties:

name	type
color_correction	bytes

## DIDPosition

```
class avb.misc.DIDPosition(*args, **kwargs)
    Bases: avb.misce.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.AVBOObject
```

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
spill_gain2	int16
spill_gain	int16
spill_soft2	int16
spill_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.AVBOObject
```

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

#### 4.1.1.6 avb.trackgroups

##### ASPIPlugin

**class** `avb.trackgroups.ASPIPlugin(root)`

Bases: `avb.core.AVBOObject`

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.AVBOObject`

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
sessionAttrs	reference
precomputed	reference
paramList	reference

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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
sessionAttrs	reference
precomputed	reference
paramList	reference
mcMode	int8
length	int32
numScalars	int32
tracks	list
phaseOffset	int32
isDouble	bool
maskBits	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
sessionAttrs	reference
precomputed	reference
paramList	reference
mcMode	int8
length	int32
numScalars	int32
tracks	list
lastModified	int32
mobType_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
sessionAttrs	reference
precomputed	reference
paramList	reference
mcMode	int8
length	int32
numScalars	int32
tracks	list
repSetType	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

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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
sessionAttrs	reference
precomputed	reference
paramList	reference
mc_mode	int8
length	int32
numScalars	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
sessionAttrs	reference
precomputed	reference
paramList	reference
mcMode	int8
length	int32
numScalars	int32
tracks	list
isGanged	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
sessionAttrs	reference
precomputed	reference
paramList	reference
mcMode	int8
length	int32
numScalars	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
sessionAttrs	reference
precomputed	reference
paramList	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
```

Properties:

name	type
left_bob	reference
right_bob	reference
media_kind_id	int16
edit_rate	fexp10
name	string
effect_id	string
attributes	reference
sessionAttrs	reference
precomputed	reference
paramList	reference
mc_mode	int8
length	int32
numScalars	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
sessionAttrs	reference
precomputed	reference
paramList	reference
mcMode	int8
length	int32
numScalars	int32
tracks	list
cutpoint	int32
leftLength	int32
rightLength	int32
infoVersion	int16
infoCurrent	int32
infoSmooth	int32
infoColorItem	int16
infoQuality	int16
infoIsReversed	int8
infoAspectOn	bool
keyframes	reference
infoForceSoftware	bool
infoNeverHardware	bool
trackman	reference

# CHAPTER 5

---

## Indices and tables

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- 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
```



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