# OSVP Clip documentation

## Introduction

The OSVP Clip (clip) is a collection of metadata parameters sampled over a specified duration. Each parameter is either:

- static: the parameter has at constant value over the duration of the clip
- dynamic: the parameter is sampled at regular intervals over the duration of the clip

Each parameter is identified by a unique name. It also has a general description as well as a specific set of constraints.

## Parameters

### `activeSensorPhysicalDimensions`

#### Description

Height and width of the active area of the camera sensor

#### Units

micron

#### Sampling

Static

#### Constraints

The height and width shall be each be an integer in the range [0..2,147,483,647].

### `anamorphicSqueeze`

#### Description

Nominal ratio of height to width of the image of an axis-aligned square captured by the camera sensor. It can be used to de-squeeze images but is not however an exact number over the entire captured area due to a lens' intrinsic analog nature.

#### Units

0.01 unit

#### Sampling

Static

#### Constraints

The parameter shall be a integer in the range (0..2,147,483,647].

### `cameraFirmwareVersion`

#### Description

Version identifier for the firmware of the camera

#### Units

n/a

#### Sampling

Static

#### Constraints

The parameter shall be a Unicode string betwee 0 and 1023 codepoints.

### `cameraMake`

#### Description

Make of the camera

#### Units

n/a

#### Sampling

Static

#### Constraints

The parameter shall be a Unicode string betwee 0 and 1023 codepoints.

### `cameraModel`

#### Description

Model of the camera

#### Units

n/a

#### Sampling

Static

#### Constraints

The parameter shall be a Unicode string betwee 0 and 1023 codepoints.

### `cameraSerialNumber`

#### Description

Unique identifier of the camera

#### Units

n/a

#### Sampling

Static

#### Constraints

The parameter shall be a Unicode string betwee 0 and 1023 codepoints.

### `captureRate`

#### Description

Capture frame frate of the camera

#### Units

hertz

#### Sampling

Static

#### Constraints

The parameter shall be a rational number whose numerator is in the range [0..2,147,483,647] and denominator in the range (0..4,294,967,295].

### `duration`

#### Description

Duration of the clip

#### Units

second

**Sampling**

Static

**Constraints**

The parameter shall be a rational number whose numerator is in the range [0..2,147,483,647] and denominator in the range (0..4,294,967,295].

### `entrancePupilPosition`

**Description**

Position of the entrance pupil relative to the nominal imaging plane (positive if the entrance pupil is located on the side of the nominal imaging plane that is towards the object, and negative otherwise)

**Units**

millimeter

**Sampling**

Regular

**Constraints**

The parameter shall be a rational number where (i) the numerator is in the range [-2,147,483,648..2,147,483,647] and (ii) the denominator is in the range (0..4,294,967,295].

### `fStop`

**Description**

The linear f-number of the lens, equal to the focal length divided by the diameter of the entrance pupil.

**Units**

0.001 unit

**Sampling**

Regular

**Constraints**

The parameter shall be a integer in the range (0..2,147,483,647].

### `fdlLink`

**Description**

Unique identifier of the FDL used by the camera.

#### Units

n/a

#### Sampling

Static

#### Constraints

The parameter shall be a UUID URN as specified in IETF RFC 4122. Only lowercase characters shall be used. Example: `urn:uuid:f81d4fae-7dec-11d0-a765-00a0c91e6bf6`

### `focalLength`

#### Description

Nominal focal length of the lens. The number printed on the side of a prime lens, e.g. 50 mm, and undefined in the case of a zoom lens.

#### Units

millimeter

#### Sampling

Regular

#### Constraints

The parameter shall be a integer in the range (0..2,147,483,647].

### `focusPosition`

#### Description

Focus distance/position of the lens

#### Units

millimeter

#### Sampling

Regular

#### Constraints

The parameter shall be a integer in the range (0..2,147,483,647].

### `isoSpeed`

#### Description

Arithmetic ISO scale as defined in ISO 12232

#### Units

unit

#### Sampling

Static

#### Constraints

The parameter shall be a integer in the range (0..2,147,483,647].

### `lensFirmwareVersion`

#### Description

Version identifier for the firmware of the lens

#### Units

n/a

#### Sampling

Static

#### Constraints

The parameter shall be a Unicode string betwee 0 and 1023 codepoints.

### `lensMake`

#### Description

Make of the lens

#### Units

n/a

#### Sampling

Static

#### Constraints

The parameter shall be a Unicode string betwee 0 and 1023 codepoints.

### `lensModel`

#### Description

Model of the lens

#### Units

n/a

#### Sampling

Static

#### Constraints

The parameter shall be a Unicode string betwee 0 and 1023 codepoints.

### `lensSerialNumber`

#### Description

Unique identifier of the lens

#### Units

n/a

#### Sampling

Static

#### Constraints

The parameter shall be a Unicode string betwee 0 and 1023 codepoints.

### `shutterAngle`

#### Description

Shutter speed as a fraction of the capture frame rate. The shutter speed (in units of 1/s) is equal to the value of the parameter divided by 360 times the capture frame rate.

#### Units

degrees (angular)

#### Sampling

Static

#### Constraints

The parameter shall be an integer in the range (0..360000].

### `tStop`

#### Description

The linear t-number of the lens, equal to the F-number of the lens divided by the square root of the transmittance of the lens.

#### Units

0.001 unit

#### Sampling

Regular

#### Constraints

The parameter shall be a integer in the range (0..2,147,483,647].

## JSON Schema

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"$schema": "https://json-schema.org/draft/2020-12/schema",
"type": "object",
"properties": {},
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  "additionalProperties": false,
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  ],
  "properties": {
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      "maximum": 2147483647
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    "width": {
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      "minimum": 0,
      "maximum": 2147483647
    }
  }
},
"anamorphicSqueeze": {
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  "maximum": 2147483647
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```
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        "maximum": 4294967295
      }
    },
    "required": [
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      "denom"
    ],
    "additionalProperties": false
```

```
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  "entrancePupilPosition": {
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        "denom": {
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    }
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  "isoSpeed": {
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    "minimum": 1,
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  },
```

```
  "lensFirmwareVersion": {
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    "maxLength": 1023
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    "minLength": 1,
    "maxLength": 1023
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      "minimum": 1,
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    }
  }
}
```

## Reader coverage

The following table indicates the camera parameters supported by each of the readers.

| Reader | activeSensorPhysicalDimensions | anamorphicSqueeze | cameraFirmwareVersion | |
|---|---|---|---|---|
| RED | + | + | + | |
| ARRI | + | + | | |
| Venice | + | + | + | |
| Canon | | + | | |