

# Media Bus Formats

## Media Bus Pixel Codes

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master [Documentation] [userspace-api] [media] [v4l] subdev-formats.rst, line 8)**

Unknown directive type "c:type".

```
.. c:type:: v4l2_mbus_framefmt
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master [Documentation] [userspace-api] [media] [v4l] subdev-formats.rst, line 10)**

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{2.0cm}|p{4.0cm}|p{11.3cm}|
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master [Documentation] [userspace-api] [media] [v4l] subdev-formats.rst, line 12)**

Unknown directive type "cssclass".

```
.. cssclass:: longtable
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master [Documentation] [userspace-api] [media] [v4l] subdev-formats.rst, line 14)**

Unknown directive type "flat-table".

```
.. flat-table:: struct v4l2_mbus_framefmt
:header-rows: 0
:stub-columns: 0
:widths: 1 1 2

* - u32
  - ``width``
  - Image width in pixels.
* - u32
  - ``height``
  - Image height in pixels. If ``field`` is one of ``V4L2_FIELD_TOP``, ``V4L2_FIELD_BOTTOM`` or ``V4L2_FIELD_ALTERNATE`` then height refers to the number of lines in the field, otherwise it refers to the number of lines in the frame (which is twice the field height for interlaced formats).
* - u32
  - ``code``
  - Format code, from enum :ref:`v4l2_mbus_pixelcode` <v4l2-mbus-pixelcode>.
* - u32
  - ``field``
  - Field order, from enum :c:type:`v4l2_field`. See :ref:`field-order` for details.
* - u32
  - ``colospace``
  - Image colorspace, from enum :c:type:`v4l2_colospace`. Must be set by the driver for subdevices. If the application sets the flag ``V4L2_MBUS_FRAME_FMT_SET_CSC`` then the application can set this field on the source pad to request a specific colorspace for the media bus data. If the driver cannot handle the requested conversion, it will return another supported colorspace. The driver indicates that colorspace conversion is supported by setting the flag V4L2_SUBDEV_MBUS_CODE_CSC_COLORSPACE in the corresponding struct :c:type:`v4l2_subdev_mbus_code_enum` during enumeration. See :ref:`v4l2-subdev-mbus-code-flags`.
* - union {
  - (anonymous)
* - u16
  - ``ycbcr_enc``
  - YCbCr encoding, from enum :c:type:`v4l2_ycbcr_encoding`. This information supplements the ``colospace`` and must be set by the driver for subdevices, see :ref:`colospaces`. If the application sets the flag ``V4L2_MBUS_FRAME_FMT_SET_CSC`` then the application can set this field on a source pad to request a specific YCbCr encoding for the media bus data. If the driver cannot handle the requested conversion, it will return another supported encoding. This field is ignored for HSV media bus formats. The driver indicates that ycbcr_enc conversion is supported by setting the flag V4L2_SUBDEV_MBUS_CODE_CSC_YCBCR_ENC in the corresponding struct :c:type:`v4l2_subdev_mbus_code_enum` during enumeration. See :ref:`v4l2-subdev-mbus-code-flags`.
* - u16
  - ``hsv_enc``
  - HSV encoding, from enum :c:type:`v4l2_hsv_encoding`. This information supplements the ``colospace`` and must be set by the driver for subdevices, see :ref:`colospaces`. If the application sets the flag ``V4L2_MBUS_FRAME_FMT_SET_CSC`` then the application can set this field on a source pad to request a specific HSV encoding for the media bus data. If the driver cannot handle the requested conversion, it will return another supported encoding. This field is ignored for YCbCr media bus formats. The driver indicates that hsv_enc conversion is supported by setting the flag V4L2_SUBDEV_MBUS_CODE_CSC_HSV_ENC in the corresponding struct :c:type:`v4l2_subdev_mbus_code_enum` during enumeration. See :ref:`v4l2-subdev-mbus-code-flags`.
* - }
* - u16
  - ``quantization``
  - Quantization range, from enum :c:type:`v4l2_quantization`. This information supplements the ``colospace`` and must be set by the driver for subdevices, see :ref:`colospaces`. If the application sets the flag ``V4L2_MBUS_FRAME_FMT_SET_CSC`` then the application can set this field on a source pad to request a specific quantization for the media bus data. If the driver cannot handle the requested conversion, it will return another supported quantization. The driver indicates that quantization conversion is supported by setting the flag V4L2_SUBDEV_MBUS_CODE_CSC_QUANTIZATION in the corresponding struct :c:type:`v4l2_subdev_mbus_code_enum` during enumeration. See :ref:`v4l2-subdev-mbus-code-flags`.
* - u16
  - ``xfer_func``
  - Transfer function, from enum :c:type:`v4l2_xfer_func`. This information supplements the ``colospace`` and must be set by the driver for subdevices, see :ref:`colospaces`. If the application
```

```

sets the flag ``V4L2_MBUS_FRAMEFMT_SET_CSC`` then the application can set
this field on a source pad to request a specific transfer
function for the media bus data. If the driver cannot handle the requested
conversion, it will return another supported transfer function.
The driver indicates that the transfer function conversion is supported by
setting the flag V4L2_SUBDEV_MBUS_CODE_CSC_XFER_FUNC in the
corresponding struct :c:type:`v4l2_subdev_mbus_code_enum`
during enumeration. See :ref:`v4l2-subdev-mbus-code-flags`.
* - _u16
  - ``flags``
  - flags See: :ref:`v4l2-mbus-framefmt-flags`
* - _u16
  - ``reserved`` [10]
  - Reserved for future extensions. Applications and drivers must set
    the array to zero.

```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master\Documentation\userspace-api\media\v4l\subdev-formats.rst, line 118)
Unknown directive type "tabularcolums".

.. tabularcolums:: |p{6.5cm}|p{1.6cm}|p{9.2cm}|
```

```
Unknown directive type "tabularcolumns".

.. tabularcolumns:: |p{6.5cm}|p{1.6cm}|p{9.2cm}|
```

```
.. tabularcolumns:: |p{6.5cm}|p{1.6cm}|p{9.2cm}|
```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master\Documentation\userspace-api\media\v4l\subdev-formats.rst, line 120)
Unknown directive type "flat-table".

.. flat-table:: v4l2_mbus_framefmt Flags
   :header-rows: 0
   :subheader-rows: 0
```

```
Unknown directive type "flat-table".

.. flat-table:: v4l2_mbus_framefmt Flags
   :header-rows: 0
   :stub-columns: 0
```

```
.. flat-table:: v4l2_mbus_framefmt Flags
:header-rows: 0
:stub-columns: 0
:widths: 3 1 4
```

```
* .. `mbus-framefmt-set-csc`:
- ``V4L2_MBUS_FRAMEFMT_SET_CSC``
- 0x0001
```

- ``V4L2\_MBUS\_FRAMEFMT\_SET\_CSC``
- 0x0001
- Set by the application. It is only used for source pads and is

- Set by the application. It is only used for source pads and is ignored for sink pads. If set, then request the subdevice to do colorspace conversion from the received colorspace to the requested colorspace values. If the colorimetry field ("colorspace", "xfer func", "ycbcr\_enc", "hsv\_enc" or "quantization") is set to "\*" DEFAULT, then that colorimetry setting will remain unchanged from what was received. So in order to change the quantization, only the "quantization" field shall be set to non default value ("V4L2\_QUANTIZATION\_FULL\_RANGE" or "V4L2\_QUANTIZATION\_LIM\_RANGE") and all other colorimetry fields shall be set to "\*" DEFAULT.

To check which conversions are supported by the hardware for the current media bus frame format, see :ref:`v4l2-subdev-mbus-code-flags`.

The media bus pixel codes describe image formats as flowing over physical buses (both between separate physical components and inside SoC devices). This should not be confused with the V4L2 pixel formats that describe, using four character codes, image formats as stored in memory.

While there is a relationship between image formats on buses and image formats in memory (a raw Bayer image won't be magically converted to JPEG just by storing it to memory), there is no one-to-one correspondence between them.

The media bus pixel codes document parallel formats. Should the pixel data be transported over a serial bus, the media bus pixel code that describes a parallel format that transfers a sample on a single clock cycle is used. For instance, both MEDIA\_BUS\_FMT\_BGR888\_1X24 and MEDIA\_BUS\_FMT\_BGR888\_3X8 are used on parallel busses for transferring an 8 bits per sample BGR data, whereas on serial busses the data in this format is only referred to using MEDIA\_BUS\_FMT\_BGR888\_1X24. This is because there is effectively only a single way to transport that format on the serial busses.

## Packed RGB Formats

Those formats transfer pixel data as red, green and blue components. The format code is made of the following information.

- The red, green and blue components order code, as encoded in a pixel sample. Possible values are RGB and BGR.
- The number of bits per component, for each component. The values can be different for all components. Common values are 555 and 565.
- The number of bus samples per pixel. Pixels that are wider than the bus width must be transferred in multiple samples. Common values are 1 and 2.
- The bus width.
- For formats where the total number of bits per pixel is smaller than the number of bus samples per pixel times the bus width, a padding value stating if the bytes are padded in their most high order bits (PADHI) or low order bits (PADLO). A "C" prefix is used for component-wise padding in the most high order bits (CPADHI) or low order bits (CPADLO) of each separate component.
- For formats where the number of bus samples per pixel is larger than 1, an endianness value stating if the pixel is transferred MSB first (BE) or LSB first (LE).

For instance, a format where pixels are encoded as 5-bits red, 5-bits green and 5-bit blue values padded on the high bit, transferred as 2 8-bit samples per pixel with the most significant bits (padding, red and half of the green value) transferred first will be named MEDIA\_BUS\_FMT\_RGB555\_2X8\_PADHI\_BE.

The following tables list existing packed RGB formats.

**System Message: ERROR/3** (b:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master\Documentation\userspace-api\media\v4l\subdev-formats.rst, line 211)

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{5.0cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}
```

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{5.0cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}
```

```
.. tabularcolumns:: |p{5.0cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|
```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l1\linux-master\Documentation\userspace-api\media\v4l1\subdev-formats.rst, line 221)
Unknown directive type "flat-table".

.. flat-table:: RGB formats
   :header-rows: 2
```

```
Unknown directive type "flat-table".

.. flat-table:: RGB formats
   :header-rows: 2
```

```
.. flat-table:: RGB formats
   :header-rows: 2
   :stub-columns: 0
   :widths: 36 7 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
```

```
* - Identifier
- Code
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- :cspan='31' Data organization
* -
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```



[illegible]



[illegible]

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- b\ :sub:`4`
- b\ :sub:`3`
- b\ :sub:`2`
- b\ :sub:`1`
- b\ :sub:`0`
- g\ :sub:`5`
- g\ :sub:`4`
- g\ :sub:`3`
* .. _MEDIA-BUS-FMT-RGB565-2X8-BE:
- MEDIA_BUS_FMT_RGB565_2X8_BE
- 0x1007
- 
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- r\ :sub:`4`
- r\ :sub:`3`
- r\ :sub:`2`
- r\ :sub:`1`
- r\ :sub:`0`
- g\ :sub:`5`
- g\ :sub:`4`
- g\ :sub:`3`
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- g\ :sub:`2`
- g\ :sub:`1`
- g\ :sub:`0`
- b\ :sub:`4`
- b\ :sub:`3`
- b\ :sub:`2`
- b\ :sub:`1`
- b\ :sub:`0`
* .. _MEDIA-BUS-FMT-RGB565-2X8-LE:
- MEDIA_BUS_FMT_RGB565_2X8_LE
- 0x1008
- 
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- g\ :sub:`2`
- g\ :sub:`1`
- g\ :sub:`0`
- b\ :sub:`4`
- b\ :sub:`3`
- b\ :sub:`2`
- b\ :sub:`1`
- b\ :sub:`0`
*
```

[illegible]





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- r\ :sub:'7'  
- r\ :sub:'6'  
- r\ :sub:'5'  
- r\ :sub:'4'  
- r\ :sub:'3'  
- r\ :sub:'2'  
- r\ :sub:'1'  
- r\ :sub:'0'  
  
* .. _MEDIA-BUS-FMT-GBR888-1X24:  
  
- MEDIA_BUS_FMT_GBR888_1X24  
- 0x1014  
  
-  
-  
-  
-  
-  
- g\ :sub:'7'  
- g\ :sub:'6'  
- g\ :sub:'5'  
- g\ :sub:'4'  
- g\ :sub:'3'  
- g\ :sub:'2'  
- g\ :sub:'1'  
- g\ :sub:'0'  
- b\ :sub:'7'  
- b\ :sub:'6'  
- b\ :sub:'5'  
- b\ :sub:'4'  
- b\ :sub:'3'  
- b\ :sub:'2'  
- b\ :sub:'1'  
- b\ :sub:'0'  
- r\ :sub:'7'  
- r\ :sub:'6'  
- r\ :sub:'5'  
- r\ :sub:'4'  
- r\ :sub:'3'  
- r\ :sub:'2'  
- r\ :sub:'1'  
- r\ :sub:'0'  
  
* .. _MEDIA-BUS-FMT-RGB888-1X24:  
  
- MEDIA_BUS_FMT_RGB888_1X24  
- 0x100a  
  
-  
-  
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-  
-  
-  
- r\ :sub:'7'  
- r\ :sub:'6'  
- r\ :sub:'5'  
- r\ :sub:'4'  
- r\ :sub:'3'  
- r\ :sub:'2'  
- r\ :sub:'1'  
- r\ :sub:'0'  
- g\ :sub:'7'  
- g\ :sub:'6'  
- g\ :sub:'5'  
- g\ :sub:'4'  
- g\ :sub:'3'  
- g\ :sub:'2'  
- g\ :sub:'1'  
- g\ :sub:'0'  
- b\ :sub:'7'  
- b\ :sub:'6'  
- b\ :sub:'5'  
- b\ :sub:'4'  
- b\ :sub:'3'  
- b\ :sub:'2'  
- b\ :sub:'1'  
- b\ :sub:'0'  
  
* .. _MEDIA-BUS-FMT-RGB888-2X12-BE:  
  
- MEDIA_BUS_FMT_RGB888_2X12_BE  
- 0x100b
```





```
* .. _MEDIA-BUS-FMT-RGB888-1X32-PADHI:
- MEDIA_BUS_FMT_RGB888_1X32_PADHI
- 0x100f
-
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- r\ :sub: `7`
- r\ :sub: `6`
- r\ :sub: `5`
- r\ :sub: `4`
- r\ :sub: `3`
- r\ :sub: `2`
- r\ :sub: `1`
- r\ :sub: `0`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
- b\ :sub: `1`
- b\ :sub: `0`
* .. _MEDIA-BUS-FMT-RGB101010-1X30:
- MEDIA_BUS_FMT_RGB101010_1X30
- 0x1018
-
-
-
- r\ :sub: `9`
- r\ :sub: `8`
- r\ :sub: `7`
- r\ :sub: `6`
- r\ :sub: `5`
- r\ :sub: `4`
- r\ :sub: `3`
- r\ :sub: `2`
- r\ :sub: `1`
- r\ :sub: `0`
- g\ :sub: `9`
- g\ :sub: `8`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
- b\ :sub: `9`
- b\ :sub: `8`
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
- b\ :sub: `1`
- b\ :sub: `0`
```

The following table list existing packed 36bit wide RGB formats.

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l1\[linux-master] [Documentation] [userspace-api] [media] [v4l1] subdev-formats.rst, line 1614)

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{4.0cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l1\[linux-master][Documentation][userspace-api][media][v4l1]subdev-formats.rst, line 1624)**

Unknown directive type "flat-table".

[illegible]

```

- 12
- 11
- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1
- 0
* .. _MEDIA-BUS-FMT-RGB121212-1X36:

- MEDIA_BUS_FMT_RGB121212_1X36
- 0x1019
-
- r\ :sub: `11`
- r\ :sub: `10`
- r\ :sub: `9`
- r\ :sub: `8`
- r\ :sub: `7`
- r\ :sub: `6`
- r\ :sub: `5`
- r\ :sub: `4`
- r\ :sub: `3`
- r\ :sub: `2`
- r\ :sub: `1`
- r\ :sub: `0`
- g\ :sub: `11`
- g\ :sub: `10`
- g\ :sub: `9`
- g\ :sub: `8`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
- b\ :sub: `11`
- b\ :sub: `10`
- b\ :sub: `9`
- b\ :sub: `8`
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
- b\ :sub: `1`
- b\ :sub: `0`

```

The following table list existing packed 48bit wide RGB formats.

**System Message:** ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master\Documentation\userspace-api\media\v4l\suddev-formats.rst, line 172)

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{4.0cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}
```

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{4.0cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p
```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l1\linux-master\Documentation\userspace-api\media\v4l1\subdev-formats.rst, line 1731)
Unknown directive type "flat-table".

.. flat-table:: 48bit RGB formats
   :header-rows: 3
```

Unknown directive type "flat-table".

```
.. flat-table:: 48bit RGB formats
   :header-rows: 3
   :stub-columns: 0
   :widths: 36 7 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
```

```
* - Identifier
- Code
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- :cspan:`31` Data organization
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- 47  
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- 11
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- 9
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- 6
- 5
- 4
- 3
- 2
- 1
- 0
* .. _MEDIA-BUS-FMT-RGB161616-1x48:
- MEDIA_BUS_FMT_RGB161616_1x48
- 0x101a
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- r\ :sub:`15`
- r\ :sub:`14`
- r\ :sub:`13`
- r\ :sub:`12`
- r\ :sub:`11`
- r\ :sub:`10`
- r\ :sub:`9`
- r\ :sub:`8`
- r\ :sub:`7`
- r\ :sub:`6`
- r\ :sub:`5`
- r\ :sub:`4`
- r\ :sub:`3`
- r\ :sub:`2`
- r\ :sub:`1`
- r\ :sub:`0`
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- q\ :sub:`15`
- q\ :sub:`14`
- q\ :sub:`13`
- q\ :sub:`12`
- q\ :sub:`11`
- q\ :sub:`10`
- q\ :sub:`9`
- q\ :sub:`8`
- q\ :sub:`7`
- q\ :sub:`6`
- q\ :sub:`5`
- q\ :sub:`4`
- q\ :sub:`3`
- q\ :sub:`2`
- q\ :sub:`1`
- q\ :sub:`0`
- b\ :sub:`15`
- b\ :sub:`14`
- b\ :sub:`13`
- b\ :sub:`12`
- b\ :sub:`11`
- b\ :sub:`10`
- b\ :sub:`9`
- b\ :sub:`8`
- b\ :sub:`7`
- b\ :sub:`6`
- b\ :sub:`5`
- b\ :sub:`4`
- b\ :sub:`3`
- b\ :sub:`2`
- b\ :sub:`1`
- b\ :sub:`0`
```

On LVDS buses, usually each sample is transferred serialized in seven time slots per pixel clock, on three (18-bit) or four (24-bit) differential data pairs at the same time. The remaining bits are used for control signals as defined by SPWG/PSWG/VESA or JEIDA standards. The 24-bit RGB format serialized in seven time slots on four lanes using JEIDA defined bit mapping will be named MEDIA BUS FMT RGB888 1X7X4 JEIDA, for example.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[\linux-master][Documentation][userspace-api][media][v4l]subdev-formats.rst, line 1901)**

Unknown directive type "flat-table".

```
.. flat-table:: LVDS RGB formats
:header-rows: 2
:stub-columns: 0

* - Identifier
  - Code
  -
  -
  :csplan:`3` Data organization
* -
  - Timeslot
  - Lane
  - 3
  - 2
  - 1
  - 0
* .. MEDIA-BUS-FMT-RGB666-1X7X3-SFWG:
```

```
- MEDIA_BUS_FMT_RGB666_1X7X3_SPWG
- 0x1010
- 0
-
- d
- b\ :sub: `1`
- g\ :sub: `0`
*
-
- 1
-
- d
- b\ :sub: `0`
- r\ :sub: `5`
*
-
- 2
-
- d
- g\ :sub: `5`
- r\ :sub: `4`
*
-
- 3
-
- b\ :sub: `5`
- g\ :sub: `4`
- r\ :sub: `3`
*
-
- 4
-
- b\ :sub: `4`
- g\ :sub: `3`
- r\ :sub: `2`
*
-
- 5
-
- b\ :sub: `3`
- g\ :sub: `2`
- r\ :sub: `1`
*
-
- 6
-
- b\ :sub: `2`
- g\ :sub: `1`
- r\ :sub: `0`
*
.. _MEDIA-BUS-FMT-RGB888-1X7X4-SPWG:
- MEDIA_BUS_FMT_RGB888_1X7X4_SPWG
- 0x1011
- 0
- d
- d
- b\ :sub: `1`
- g\ :sub: `0`
*
-
- 1
-
- b\ :sub: `7`
- d
- b\ :sub: `0`
- r\ :sub: `5`
*
-
- 2
-
- b\ :sub: `6`
- d
- g\ :sub: `5`
- r\ :sub: `4`
*
-
- 3
-
- g\ :sub: `7`
- b\ :sub: `5`
- g\ :sub: `4`
- r\ :sub: `3`
*
-
- 4
-
- g\ :sub: `6`
- b\ :sub: `4`
- g\ :sub: `3`
- r\ :sub: `2`
*
-
- 5
-
- r\ :sub: `7`
- b\ :sub: `3`
- g\ :sub: `2`
- r\ :sub: `1`
*
-
- 6
-
- r\ :sub: `6`
- b\ :sub: `2`
- g\ :sub: `1`
- r\ :sub: `0`
*
.. _MEDIA-BUS-FMT-RGB888-1X7X4-JEIDA:
- MEDIA_BUS_FMT_RGB888_1X7X4_JEIDA
- 0x1012
- 0
- d
- d
- b\ :sub: `3`
- g\ :sub: `2`
*
-
- 1
-
- b\ :sub: `1`
- d
```



```

- b\ :sub:`2`
- r\ :sub:`7`
*
-
- 2
-
- b\ :sub:`0`
- d
- g\ :sub:`7`
- r\ :sub:`6`
*
-
- 3
-
- g\ :sub:`1`
- b\ :sub:`7`
- g\ :sub:`6`
- r\ :sub:`5`
*
-
- 4
-
- g\ :sub:`0`
- b\ :sub:`6`
- g\ :sub:`5`
- r\ :sub:`4`
*
-
- 5
-
- r\ :sub:`1`
- b\ :sub:`5`
- g\ :sub:`4`
- r\ :sub:`3`
*
-
- 6
-
- r\ :sub:`0`
- b\ :sub:`4`
- g\ :sub:`3`
- r\ :sub:`2`

```

## Bayer Formats

Those formats transfer pixel data as red, green and blue components. The format code is made of the following information

- The red, green and blue components order code, as encoded in a pixel sample. The possible values are shown in [ref: bayer-patterns](#).

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master\Documentation\userspace-api\media\v4l\subdev-formats.rst, line 2104): *backlink*

Unknown interpreted text role "ref".

- The number of bits per pixel component. All components are transferred on the same number of bits. Common values are 8, 10 and 12.
- The compression (optional). If the pixel components are ALAW- or DPCM-compressed, a mention of the compression scheme and the number of bits per compressed pixel component.
- The number of bus samples per pixel. Pixels that are wider than the bus width must be transferred in multiple samples. Common values are 1 and 2.
- The bus width.
- For formats where the total number of bits per pixel is smaller than the number of bus samples per pixel times the bus width, a padding value stating if the bytes are padded in their most high order bits (PADHI) or low order bits (PADLO).
- For formats where the number of bus samples per pixel is larger than 1, an endianness value stating if the pixel is transferred MSB first (BE) or LSB first (LE).

For instance, a format with uncompressed 10-bit Bayer components arranged in a red, green, green, blue pattern transferred as 2 8-bit samples per pixel with the least significant bits transferred first will be named MEDIA\_BUS\_FMT\_SRGGB10\_2X8\_PADHI\_LE.

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[\linux-master][Documentation][userspace-api][media][v4l]subdev-formats.rst, line 2138)

Unknown directive type "kernel-figure".

```
.. kernel-figure:: bayer.svg
   :alt: bayer.svg
   :align: center

**Figure 4.8 Bayer Patterns**
```

The following table lists existing packed Bayer formats. The data organization is given as an example for the first pixel only.

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l1\[linux-master][Documentation][userspace-api][media][v4l1]subdev-formats.rst, line 2159)

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{6.0cm}|p{0.7cm}|p{0.3cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|
```

**System Message: ERROR/3** (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[\linux-master][Documentation][userspace-api][media][v4l]subdev-formats.rst, line 2165)

Unknown directive type "flat-table".

```

.. flat-table:: Bayer Formats
   :header-rows: 2
   :stub-columns: 0

   * - Identifier
     - Code
     - :cspan='15' Data organization
   * -
     - Bit
     - 15
     - 14
     - 13
     - 12
     - 11

```

```
- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1
- 0
* .. _MEDIA-BUS-FMT-SBGG8-1X8:

- MEDIA_BUS_FMT_SBG8_1X8
- 0x3001
-
-
-
-
-
-
-
-
-
-
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
- b\ :sub: `1`
- b\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGB8-1X8:

- MEDIA_BUS_FMT_SGB8_1X8
- 0x3013
-
-
-
-
-
-
-
-
-
-
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGR8-1X8:

- MEDIA_BUS_FMT_SGR8_1X8
- 0x3002
-
-
-
-
-
-
-
-
-
-
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SR8-1X8:

- MEDIA_BUS_FMT_SR8_1X8
- 0x3014
-
-
-
-
-
-
-
-
-
-
- r\ :sub: `7`
- r\ :sub: `6`
- r\ :sub: `5`
- r\ :sub: `4`
- r\ :sub: `3`
- r\ :sub: `2`
- r\ :sub: `1`
- r\ :sub: `0`
* .. _MEDIA-BUS-FMT-SBGG10-ALAW8-1X8:

- MEDIA_BUS_FMT_SBGG10_ALAW8_1X8
- 0x3015
-
-
-
-
-
-
-
-
-
-
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
- b\ :sub: `1`
- b\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGBG10-ALAW8-1X8:

- MEDIA_BUS_FMT_SGBG10_ALAW8_1X8
- 0x3016
-
-
-
-
-
-
-
-
-
-
- g\ :sub: `7`
```

```
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGRBG10-ALAW8-1X8:

- MEDIA_BUS_FMT_SGRBG10_ALAW8_1X8
- 0x3017
-
-
-
-
-
-
-
-
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SRGG10-ALAW8-1X8:

- MEDIA_BUS_FMT_SRGG10_ALAW8_1X8
- 0x3018
-
-
-
-
-
-
-
-
- r\ :sub: `7`
- r\ :sub: `6`
- r\ :sub: `5`
- r\ :sub: `4`
- r\ :sub: `3`
- r\ :sub: `2`
- r\ :sub: `1`
- r\ :sub: `0`
* .. _MEDIA-BUS-FMT-SBGG10-DPCM8-1X8:

- MEDIA_BUS_FMT_SBGG10_DPCM8_1X8
- 0x300b
-
-
-
-
-
-
-
-
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
- b\ :sub: `1`
- b\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGBG10-DPCM8-1X8:

- MEDIA_BUS_FMT_SGBG10_DPCM8_1X8
- 0x300c
-
-
-
-
-
-
-
-
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGRBG10-DPCM8-1X8:

- MEDIA_BUS_FMT_SGRBG10_DPCM8_1X8
- 0x3009
-
-
-
-
-
-
-
-
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SRGG10-DPCM8-1X8:

- MEDIA_BUS_FMT_SRGG10_DPCM8_1X8
- 0x300d
-
-
-
-
-
-
-
-
- r\ :sub: `7`
- r\ :sub: `6`
- r\ :sub: `5`
- r\ :sub: `4`
- r\ :sub: `3`
```



```
-
-
-
-
-
- b\ :sub: `1`
- b\ :sub: `0`
- 0
- 0
- 0
- 0
- 0
- 0
- 0
*
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
- b\ :sub: `9`
- b\ :sub: `8`
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
* .. _MEDIA-BUS-FMT-SBGG10-1X10:
- MEDIA_BUS_FMT_SBGG10_1X10
- 0x3007
-
-
-
-
-
-
-
-
-
-
- b\ :sub: `9`
- b\ :sub: `8`
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
- b\ :sub: `1`
- b\ :sub: `0`
* .. _MEDIA-BUS-FMT-SBGR10-1X10:
- MEDIA_BUS_FMT_SBGR10_1X10
- 0x300e
-
-
-
-
-
-
-
-
-
-
- g\ :sub: `9`
- g\ :sub: `8`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGRB10-1X10:
- MEDIA_BUS_FMT_SGRB10_1X10
- 0x300a
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
- g\ :sub: `9`
- g\ :sub: `8`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SRGB10-1X10:
- MEDIA_BUS_FMT_SRGB10_1X10
- 0x300f
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
- r\ :sub: `9`
- r\ :sub: `8`
- r\ :sub: `7`
- r\ :sub: `6`
- r\ :sub: `5`
- r\ :sub: `4`
- r\ :sub: `3`
- r\ :sub: `2`
- r\ :sub: `1`
- r\ :sub: `0`
* .. _MEDIA-BUS-FMT-SBGG12-1X12:
- MEDIA_BUS_FMT_SBGG12_1X12
- 0x3008
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
- b\ :sub: `11`
- b\ :sub: `10`
- b\ :sub: `9`
- b\ :sub: `8`
```

```
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
- b\ :sub: `1`
- b\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGBRG12-1X12:

- MEDIA_BUS_FMT_SGBRG12_1X12
- 0x3010
-
-
-
-
- g\ :sub: `11`
- g\ :sub: `10`
- g\ :sub: `9`
- g\ :sub: `8`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGRBG12-1X12:

- MEDIA_BUS_FMT_SGRBG12_1X12
- 0x3011
-
-
-
-
- g\ :sub: `11`
- g\ :sub: `10`
- g\ :sub: `9`
- g\ :sub: `8`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SRGG12-1X12:

- MEDIA_BUS_FMT_SRGG12_1X12
- 0x3012
-
-
-
-
- r\ :sub: `11`
- r\ :sub: `10`
- r\ :sub: `9`
- r\ :sub: `8`
- r\ :sub: `7`
- r\ :sub: `6`
- r\ :sub: `5`
- r\ :sub: `4`
- r\ :sub: `3`
- r\ :sub: `2`
- r\ :sub: `1`
- r\ :sub: `0`
* .. _MEDIA-BUS-FMT-SBGG14-1X14:

- MEDIA_BUS_FMT_SBGG14_1X14
- 0x3019
-
-
- b\ :sub: `13`
- b\ :sub: `12`
- b\ :sub: `11`
- b\ :sub: `10`
- b\ :sub: `9`
- b\ :sub: `8`
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
- b\ :sub: `1`
- b\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGBRG14-1X14:

- MEDIA_BUS_FMT_SGBRG14_1X14
- 0x301a
-
-
- g\ :sub: `13`
- g\ :sub: `12`
- g\ :sub: `11`
- g\ :sub: `10`
- g\ :sub: `9`
- g\ :sub: `8`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGRBG14-1X14:

- MEDIA_BUS_FMT_SGRBG14_1X14
- 0x301b
-
-
- g\ :sub: `13`
- g\ :sub: `12`
- g\ :sub: `11`
- g\ :sub: `10`
- g\ :sub: `9`
- g\ :sub: `8`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
```

```

- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SRGG14-1X14:

- MEDIA_BUS_FMT_SRGG14_1X14
- 0x301c
-
-
-
- r\ :sub: `13`
- r\ :sub: `12`
- r\ :sub: `11`
- r\ :sub: `10`
- r\ :sub: `9`
- r\ :sub: `8`
- r\ :sub: `7`
- r\ :sub: `6`
- r\ :sub: `5`
- r\ :sub: `4`
- r\ :sub: `3`
- r\ :sub: `2`
- r\ :sub: `1`
- r\ :sub: `0`
* .. _MEDIA-BUS-FMT-SBGG16-1X16:

- MEDIA_BUS_FMT_SBGG16_1X16
- 0x301d
-
-
- b\ :sub: `15`
- b\ :sub: `14`
- b\ :sub: `13`
- b\ :sub: `12`
- b\ :sub: `11`
- b\ :sub: `10`
- b\ :sub: `9`
- b\ :sub: `8`
- b\ :sub: `7`
- b\ :sub: `6`
- b\ :sub: `5`
- b\ :sub: `4`
- b\ :sub: `3`
- b\ :sub: `2`
- b\ :sub: `1`
- b\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGBG16-1X16:

- MEDIA_BUS_FMT_SGBG16_1X16
- 0x301e
-
-
- g\ :sub: `15`
- g\ :sub: `14`
- g\ :sub: `13`
- g\ :sub: `12`
- g\ :sub: `11`
- g\ :sub: `10`
- g\ :sub: `9`
- g\ :sub: `8`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SGRBG16-1X16:

- MEDIA_BUS_FMT_SGRBG16_1X16
- 0x301f
-
-
- g\ :sub: `15`
- g\ :sub: `14`
- g\ :sub: `13`
- g\ :sub: `12`
- g\ :sub: `11`
- g\ :sub: `10`
- g\ :sub: `9`
- g\ :sub: `8`
- g\ :sub: `7`
- g\ :sub: `6`
- g\ :sub: `5`
- g\ :sub: `4`
- g\ :sub: `3`
- g\ :sub: `2`
- g\ :sub: `1`
- g\ :sub: `0`
* .. _MEDIA-BUS-FMT-SRGG16-1X16:

- MEDIA_BUS_FMT_SRGG16_1X16
- 0x3020
-
-
- r\ :sub: `15`
- r\ :sub: `14`
- r\ :sub: `13`
- r\ :sub: `12`
- r\ :sub: `11`
- r\ :sub: `10`
- r\ :sub: `9`
- r\ :sub: `8`
- r\ :sub: `7`
- r\ :sub: `6`
- r\ :sub: `5`
- r\ :sub: `4`
- r\ :sub: `3`
- r\ :sub: `2`
- r\ :sub: `1`
- r\ :sub: `0`

```

## Packed YUV Formats

Those data formats transfer pixel data as (possibly downsampled) Y, U and V components. Some formats include dummy bits in some of their samples and are collectively referred to as "YDYC" (Y-Dummy-Y-Chroma) formats. One cannot rely on the values of these dummy bits as those are undefined.

The format code is made of the following information.

- The Y, U and V components order code, as transferred on the bus. Possible values are YUYV, UYVY, YVYU and VYUY for formats with no dummy bit, and YDYUYDYV, YDYVYDYU, YUYDYVYD and YVYDYUYD for YDYC formats.
- The number of bits per pixel component. All components are transferred on the same number of bits. Common values are 8, 10 and 12.
- The number of bus samples per pixel. Pixels that are wider than the bus width must be transferred in multiple samples. Common values are 0.5 (encoded as 0\_5; in this case two pixels are transferred per bus sample), 1, 1.5 (encoded as 1\_5) and 2.
- The bus width. When the bus width is larger than the number of bits per pixel component, several components are packed in a

For instance, a format where pixels are encoded as 8-bit YUV values downsampled to 4:2:2 and transferred as 2 8-bit bus samples per pixel in the U, Y, V, Y order will be named MEDIA\_BUS\_FMT\_UYVY8\_2X8.

ref: v4l2-mbus-pixelcode-yuv8' lists existing packed YUV formats and describes the organization of each pixel data in each sample. When a format pattern is split across multiple samples each of the samples in the pattern is described.

Unknown interpreted text role "ref".

The role of each bit transferred over the bus is identified by one of the following codes.

- $y_x$  for luma component bit number  $x$
- $u_x$  for blue chroma component bit number  $x$
- $v_x$  for red chroma component bit number  $x$
- $a_x$  for alpha component bit number  $x$
- for non-available bits (for positions higher than the bus width)
- $d$  for dummy bits

api] [media] [v4l] subdev-formats.rst, line 3012)

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{5.0cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master [Documentation] [userspace-api] [media] [v4l] subdev-formats.rst, line 3016)**

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[illegible]





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[illegible]







```
- \ :sub:`7`
- \ :sub:`6`
- \ :sub:`5`
- \ :sub:`4`
- \ :sub:`3`
- \ :sub:`2`
- \ :sub:`1`
- \ :sub:`0`
```

```

- y\ :sub:'7'
- y\ :sub:'6'
- y\ :sub:'5'
- y\ :sub:'4'
- y\ :sub:'3'
- y\ :sub:'2'
- y\ :sub:'1'
- y\ :sub:'0'

```

```
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
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```

```
-
- u\ :sub:`7`
- u\ :sub:`6`
```

[illegible]



[illegible]

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y\ :sub: `7`  
y\ :sub: `6`  
y\ :sub: `5`  
y\ :sub: `4`  
y\ :sub: `3`  
y\ :sub: `2`  
y\ :sub: `1`  
y\ :sub: `0`
```

```
- MEDIA_BUS_FMT_YUYV8_2X8
- 0x2008
```

```
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
```

```
- u\ :sub:`7`
- u\ :sub:`6`
- u\ :sub:`5`
- u\ :sub:`4`
- u\ :sub:`3`
- u\ :sub:`2`
- u\ :sub:`1`
- u\ :sub:`0`
```

- y\ :sub: `7`

[illegible]





[illegible]











\* .. \_MEDIA-BUS-FMT-VYUY12-2X12:

- MEDIA\_BUS\_FMT\_VYUY12\_2X12  
- 0x201d

- v\ :sub: `11`  
- v\ :sub: `10`  
- v\ :sub: `9`  
- v\ :sub: `8`  
- v\ :sub: `7`  
- v\ :sub: `6`  
- v\ :sub: `5`  
- v\ :sub: `4`  
- v\ :sub: `3`  
- v\ :sub: `2`  
- v\ :sub: `1`  
- v\ :sub: `0`

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- y\ :sub: `11`  
- y\ :sub: `10`  
- y\ :sub: `9`  
- y\ :sub: `8`  
- y\ :sub: `7`  
- y\ :sub: `6`  
- y\ :sub: `5`  
- y\ :sub: `4`  
- y\ :sub: `3`  
- y\ :sub: `2`  
- y\ :sub: `1`  
- y\ :sub: `0`

\*

- u\ :sub: `11`  
- u\ :sub: `10`  
- u\ :sub: `9`  
- u\ :sub: `8`  
- u\ :sub: `7`  
- u\ :sub: `6`  
- u\ :sub: `5`  
- u\ :sub: `4`  
- u\ :sub: `3`  
- u\ :sub: `2`  
- u\ :sub: `1`  
- u\ :sub: `0`

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- y\ :sub: `11`  
- y\ :sub: `10`  
- y\ :sub: `9`  
- y\ :sub: `8`  
- y\ :sub: `7`  
- y\ :sub: `6`  
- y\ :sub: `5`  
- y\ :sub: `4`  
- y\ :sub: `3`  
- y\ :sub: `2`  
- y\ :sub: `1`  
- y\ :sub: `0`  
* .. _MEDIA-BUS-FMT-YUYV12-2X12:
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- MEDIA_BUS_FMT_YUYV12_2X12  
- 0x201e
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- y\ :sub: `11`  
- y\ :sub: `10`  
- y\ :sub: `9`  
- y\ :sub: `8`  
- y\ :sub: `7`  
- y\ :sub: `6`  
- y\ :sub: `5`  
- y\ :sub: `4`  
- y\ :sub: `3`  
- y\ :sub: `2`  
- y\ :sub: `1`  
- y\ :sub: `0`  
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- u\ :sub: `11`  
- u\ :sub: `10`  
- u\ :sub: `9`  
- u\ :sub: `8`  
- u\ :sub: `7`  
- u\ :sub: `6`  
- u\ :sub: `5`  
- u\ :sub: `4`  
- u\ :sub: `3`  
- u\ :sub: `2`  
- u\ :sub: `1`  
- u\ :sub: `0`  
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- y\ :sub: `11`  
- y\ :sub: `10`  
- y\ :sub: `9`  
- y\ :sub: `8`  
- y\ :sub: `7`  
- y\ :sub: `6`  
- y\ :sub: `5`  
- y\ :sub: `4`  
- y\ :sub: `3`  
- y\ :sub: `2`  
- y\ :sub: `1`  
- y\ :sub: `0`  
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- v\ :sub:`11`
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- v\ :sub:`9`
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- v\ :sub:`5`
- v\ :sub:`4`
- v\ :sub:`3`
- v\ :sub:`2`
- v\ :sub:`1`
- v\ :sub:`0`
* .. _MEDIA-BUS-FMT-YVYU12-2X12:
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- 0x201f
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- y\ :sub:`11`
- y\ :sub:`10`
- y\ :sub:`9`
- y\ :sub:`8`
- y\ :sub:`7`
- y\ :sub:`6`
- y\ :sub:`5`
- y\ :sub:`4`
- y\ :sub:`3`
- y\ :sub:`2`
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- v\ :sub:`5`
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- y\ :sub:`7`
- y\ :sub:`6`
- y\ :sub:`5`
- y\ :sub:`4`
- y\ :sub:`3`
- y\ :sub:`2`
- y\ :sub:`1`
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- y\ :sub: `0`
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- u\ :sub: `11`
- u\ :sub: `10`
- u\ :sub: `9`
- u\ :sub: `8`
- u\ :sub: `7`
- u\ :sub: `6`
- u\ :sub: `5`
- u\ :sub: `4`
- u\ :sub: `3`
- u\ :sub: `2`
- u\ :sub: `1`
- u\ :sub: `0`
* .. _MEDIA-BUS-FMT-Y14-1X14:
- MEDIA_BUS_FMT_Y14_1X14
- 0x202d
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- y\ :sub: `13`
- y\ :sub: `12`
- y\ :sub: `11`
- y\ :sub: `10`
- y\ :sub: `9`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
* .. _MEDIA-BUS-FMT-UYYV8-1X1:
- MEDIA_BUS_FMT_UYYV8_1X16
- 0x200f
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- u\ :sub: `7`
- u\ :sub: `6`
- u\ :sub: `5`
- u\ :sub: `4`
- u\ :sub: `3`
- u\ :sub: `2`
- u\ :sub: `1`
- u\ :sub: `0`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
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- v\ :sub: `7`

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- y\ :sub:'7'  
- y\ :sub:'6'  
- y\ :sub:'5'  
- y\ :sub:'4'  
- y\ :sub:'3'  
- y\ :sub:'2'  
- y\ :sub:'1'  
- y\ :sub:'0'  
- v\ :sub:'7'  
- v\ :sub:'6'  
- v\ :sub:'5'  
- v\ :sub:'4'  
- v\ :sub:'3'  
- v\ :sub:'2'  
- v\ :sub:'1'  
- v\ :sub:'0'  
* , _MEDIA-BUS-FMT-YVYU8-1X16:  
- MEDIA_BUS_FMT_YVYU8_1X16  
- 0x2012  
  
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- y\ :sub:'7'  
- y\ :sub:'6'  
- y\ :sub:'5'  
- y\ :sub:'4'  
- y\ :sub:'3'  
- y\ :sub:'2'  
- y\ :sub:'1'  
- y\ :sub:'0'  
- v\ :sub:'7'  
- v\ :sub:'6'  
- v\ :sub:'5'  
- v\ :sub:'4'  
- v\ :sub:'3'  
- v\ :sub:'2'  
- v\ :sub:'1'  
- v\ :sub:'0'  
* , _MEDIA-BUS-FMT-YDYUYDyv8-1X16:  
- MEDIA_BUS_FMT_YDYUYDYv8_1X16  
- 0x2014  
  
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- y\ :sub:'7'  
- y\ :sub:'6'  
- y\ :sub:'5'  
- y\ :sub:'4'  
- y\ :sub:'3'  
- y\ :sub:'2'  
- y\ :sub:'1'  
- y\ :sub:'0'
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- u\ :sub:`9`
- u\ :sub:`8`
- u\ :sub:`7`
- u\ :sub:`6`
- u\ :sub:`5`
- u\ :sub:`4`
- u\ :sub:`3`
- u\ :sub:`2`
- u\ :sub:`1`
- u\ :sub:`0`
- y\ :sub:`9`
- y\ :sub:`8`
- y\ :sub:`7`
- y\ :sub:`6`
- y\ :sub:`5`
- y\ :sub:`4`
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- v\ :sub:`9`
- v\ :sub:`8`
- v\ :sub:`7`
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- v\ :sub:`5`
- v\ :sub:`4`
- v\ :sub:`3`
- v\ :sub:`2`
- v\ :sub:`1`
- v\ :sub:`0`
- y\ :sub:`9`
- y\ :sub:`8`
- y\ :sub:`7`
- y\ :sub:`6`
- y\ :sub:`5`
- y\ :sub:`4`
- y\ :sub:`3`
- y\ :sub:`2`
- y\ :sub:`1`
- y\ :sub:`0`
* .. _MEDIA-BUS-FMT-VYUY10-1X20:
- MEDIA_BUS_FMT_VYUY10_1X20
- 0x201b
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- v\ :sub:`9`
- v\ :sub:`8`
- v\ :sub:`7`
- v\ :sub:`6`
- v\ :sub:`5`
- v\ :sub:`4`
- v\ :sub:`3`
- v\ :sub:`2`
- v\ :sub:`1`
- v\ :sub:`0`
- y\ :sub:`9`
- y\ :sub:`8`
- y\ :sub:`7`
- y\ :sub:`6`
- y\ :sub:`5`
- y\ :sub:`4`
- y\ :sub:`3`
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- y\ :sub:`1`
- y\ :sub:`0`
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- u\ :sub:`9`
- u\ :sub:`8`
- u\ :sub:`7`
- u\ :sub:`6`
- u\ :sub:`5`
- u\ :sub:`4`
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- u\ :sub:`2`
- u\ :sub:`1`
- u\ :sub:`0`
- y\ :sub:`9`
- y\ :sub:`8`
- y\ :sub:`7`
- y\ :sub:`6`
- y\ :sub:`5`
- y\ :sub:`4`
- y\ :sub:`3`
- y\ :sub:`2`
- y\ :sub:`1`
- y\ :sub:`0`
* .. _MEDIA-BUS-FMT-YUYV10-1X20:
- MEDIA BUS FMT YUYV10 1X20

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- y\ :sub:`9`
- y\ :sub:`8`
- y\ :sub:`7`
- y\ :sub:`6`
- y\ :sub:`5`
- y\ :sub:`4`
- y\ :sub:`3`
- y\ :sub:`2`
- y\ :sub:`1`
- y\ :sub:`0`
- u\ :sub:`9`
- u\ :sub:`8`
- u\ :sub:`7`
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- u\ :sub:`5`
- u\ :sub:`4`
- u\ :sub:`3`
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- y\ :sub:`9`
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- y\ :sub:`7`
- y\ :sub:`6`
- y\ :sub:`5`
- y\ :sub:`4`
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- y\ :sub:`2`
- y\ :sub:`1`
- y\ :sub:`0`
- v\ :sub:`9`
- v\ :sub:`8`
- v\ :sub:`7`
- v\ :sub:`6`
- v\ :sub:`5`
- v\ :sub:`4`
- v\ :sub:`3`
- v\ :sub:`2`
- v\ :sub:`1`
- v\ :sub:`0`
* .. _MEDIA-BUS-FMT-YVYU10-1X20:
- MEDIA_BUS_FMT_YVYU10_1X20
- 0x200e
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- y\ :sub:`9`
- y\ :sub:`8`
- y\ :sub:`7`
- y\ :sub:`6`
- y\ :sub:`5`
- y\ :sub:`4`
- y\ :sub:`3`
- y\ :sub:`2`
- y\ :sub:`1`
- y\ :sub:`0`
- v\ :sub:`9`
- v\ :sub:`8`
- v\ :sub:`7`
- v\ :sub:`6`
- v\ :sub:`5`
- v\ :sub:`4`
- v\ :sub:`3`
- v\ :sub:`2`
- v\ :sub:`1`
- v\ :sub:`0`
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- v\ :sub: `7`
- v\ :sub: `6`
- v\ :sub: `5`
- v\ :sub: `4`
- v\ :sub: `3`
- v\ :sub: `2`
- v\ :sub: `1`
- v\ :sub: `0`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
* .. _MEDIA-BUS-FMT-UYVY12-1X24:
- MEDIA_BUS_FMT_UYVY12_1X24
- 0x2020
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- u\ :sub: `11`
- u\ :sub: `10`
- u\ :sub: `9`
- u\ :sub: `8`
- u\ :sub: `7`
- u\ :sub: `6`
- u\ :sub: `5`
- u\ :sub: `4`
- u\ :sub: `3`
- u\ :sub: `2`
- u\ :sub: `1`
- u\ :sub: `0`
- y\ :sub: `11`
- y\ :sub: `10`
- y\ :sub: `9`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
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- v\ :sub: `11`
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- v\ :sub: `9`
- v\ :sub: `8`
- v\ :sub: `7`
- v\ :sub: `6`
- v\ :sub: `5`
- v\ :sub: `4`
- v\ :sub: `3`
- v\ :sub: `2`
- v\ :sub: `1`
- v\ :sub: `0`
- y\ :sub: `11`
- y\ :sub: `10`
- y\ :sub: `9`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
* .. _MEDIA-BUS-FMT-VYUY12-1X24:
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- v\ :sub: `11`
- v\ :sub: `10`
- v\ :sub: `9`
- v\ :sub: `8`
- v\ :sub: `7`
- v\ :sub: `6`
- v\ :sub: `5`
- v\ :sub: `4`
- v\ :sub: `3`
- v\ :sub: `2`
- v\ :sub: `1`
- v\ :sub: `0`
- y\ :sub: `11`
- y\ :sub: `10`
- y\ :sub: `9`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
```

```
- y\ :sub:'5'
- y\ :sub:'4'
- y\ :sub:'3'
- y\ :sub:'2'
- y\ :sub:'1'
- y\ :sub:'0'
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- u\ :sub:'11'
- u\ :sub:'10'
- u\ :sub:'9'
- u\ :sub:'8'
- u\ :sub:'7'
- u\ :sub:'6'
- u\ :sub:'5'
- u\ :sub:'4'
- u\ :sub:'3'
- u\ :sub:'2'
- u\ :sub:'1'
- u\ :sub:'0'
- y\ :sub:'11'
- y\ :sub:'10'
- y\ :sub:'9'
- y\ :sub:'8'
- y\ :sub:'7'
- y\ :sub:'6'
- y\ :sub:'5'
- y\ :sub:'4'
- y\ :sub:'3'
- y\ :sub:'2'
- y\ :sub:'1'
- y\ :sub:'0'
* .. _MEDIA-BUS-FMT-YUYV12-1X24:
- MEDIA BUS_FMT_YUYV12_1X24
- 0x2022
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- y\ :sub:'11'
- y\ :sub:'10'
- y\ :sub:'9'
- y\ :sub:'8'
- y\ :sub:'7'
- y\ :sub:'6'
- y\ :sub:'5'
- y\ :sub:'4'
- y\ :sub:'3'
- y\ :sub:'2'
- y\ :sub:'1'
- y\ :sub:'0'
- u\ :sub:'11'
- u\ :sub:'10'
- u\ :sub:'9'
- u\ :sub:'8'
- u\ :sub:'7'
- u\ :sub:'6'
- u\ :sub:'5'
- u\ :sub:'4'
- u\ :sub:'3'
- u\ :sub:'2'
- u\ :sub:'1'
- u\ :sub:'0'
*
-
-
-
-
-
-
- y\ :sub:'11'
- y\ :sub:'10'
- y\ :sub:'9'
- y\ :sub:'8'
- y\ :sub:'7'
- y\ :sub:'6'
- y\ :sub:'5'
- y\ :sub:'4'
- y\ :sub:'3'
- y\ :sub:'2'
- y\ :sub:'1'
- y\ :sub:'0'
- v\ :sub:'11'
- v\ :sub:'10'
- v\ :sub:'9'
- v\ :sub:'8'
- v\ :sub:'7'
- v\ :sub:'6'
- v\ :sub:'5'
- v\ :sub:'4'
- v\ :sub:'3'
- v\ :sub:'2'
- v\ :sub:'1'
- v\ :sub:'0'
* .. _MEDIA-BUS-FMT-YVVU12-1X24:
- MEDIA BUS_FMT_YVVU12_1X24
- 0x2023
-
-
-
-
-
-
- y\ :sub:'11'
- y\ :sub:'10'
- y\ :sub:'9'
- y\ :sub:'8'
```

```

- y\ :sub: '7'
- y\ :sub: '6'
- y\ :sub: '5'
- y\ :sub: '4'
- y\ :sub: '3'
- y\ :sub: '2'
- y\ :sub: '1'
- y\ :sub: '0'
- v\ :sub: '11'
- v\ :sub: '10'
- v\ :sub: '9'
- v\ :sub: '8'
- v\ :sub: '7'
- v\ :sub: '6'
- v\ :sub: '5'
- v\ :sub: '4'
- v\ :sub: '3'
- v\ :sub: '2'
- v\ :sub: '1'
- v\ :sub: '0'
*
-
-
-
-
-
-
-
-
- y\ :sub: '11'
- y\ :sub: '10'
- y\ :sub: '9'
- y\ :sub: '8'
- y\ :sub: '7'
- y\ :sub: '6'
- y\ :sub: '5'
- y\ :sub: '4'
- y\ :sub: '3'
- y\ :sub: '2'
- y\ :sub: '1'
- y\ :sub: '0'
- u\ :sub: '11'
- u\ :sub: '10'
- u\ :sub: '9'
- u\ :sub: '8'
- u\ :sub: '7'
- u\ :sub: '6'
- u\ :sub: '5'
- u\ :sub: '4'
- u\ :sub: '3'
- u\ :sub: '2'
- u\ :sub: '1'
- u\ :sub: '0'
*
.. _MEDIA-BUS-FMT-YUV10-1X30:
- MEDIA_BUS_FMT_YUV10_1X30
- 0x2016
-
-
-
- y\ :sub: '9'
- y\ :sub: '8'
- y\ :sub: '7'
- y\ :sub: '6'
- y\ :sub: '5'
- y\ :sub: '4'
- y\ :sub: '3'
- y\ :sub: '2'
- y\ :sub: '1'
- y\ :sub: '0'
- u\ :sub: '9'
- u\ :sub: '8'
- u\ :sub: '7'
- u\ :sub: '6'
- u\ :sub: '5'
- u\ :sub: '4'
- u\ :sub: '3'
- u\ :sub: '2'
- u\ :sub: '1'
- u\ :sub: '0'
- v\ :sub: '9'
- v\ :sub: '8'
- v\ :sub: '7'
- v\ :sub: '6'
- v\ :sub: '5'
- v\ :sub: '4'
- v\ :sub: '3'
- v\ :sub: '2'
- v\ :sub: '1'
- v\ :sub: '0'
*
.. _MEDIA-BUS-FMT-UYYVYY10-0-5X30:
- MEDIA_BUS_FMT_UYYVYY10_0_5X30
- 0x2027
-
-
-
- u\ :sub: '9'
- u\ :sub: '8'
- u\ :sub: '7'
- u\ :sub: '6'
- u\ :sub: '5'
- u\ :sub: '4'
- u\ :sub: '3'
- u\ :sub: '2'
- u\ :sub: '1'
- u\ :sub: '0'
- y\ :sub: '9'
- y\ :sub: '8'
- y\ :sub: '7'
- y\ :sub: '6'
- y\ :sub: '5'
- y\ :sub: '4'
- y\ :sub: '3'
- y\ :sub: '2'
- y\ :sub: '1'
- y\ :sub: '0'
*

```

```

-
-
-
- v\ :sub: `9`
- v\ :sub: `8`
- v\ :sub: `7`
- v\ :sub: `6`
- v\ :sub: `5`
- v\ :sub: `4`
- v\ :sub: `3`
- v\ :sub: `2`
- v\ :sub: `1`
- v\ :sub: `0`
- y\ :sub: `9`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
- y\ :sub: `9`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
* .. _MEDIA-BUS-FMT-AYUV8-1X32:
- MEDIA_BUS_FMT_AYUV8_1X32
- 0x2017
-
- a\ :sub: `7`
- a\ :sub: `6`
- a\ :sub: `5`
- a\ :sub: `4`
- a\ :sub: `3`
- a\ :sub: `2`
- a\ :sub: `1`
- a\ :sub: `0`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
- u\ :sub: `7`
- u\ :sub: `6`
- u\ :sub: `5`
- u\ :sub: `4`
- u\ :sub: `3`
- u\ :sub: `2`
- u\ :sub: `1`
- u\ :sub: `0`
- v\ :sub: `7`
- v\ :sub: `6`
- v\ :sub: `5`
- v\ :sub: `4`
- v\ :sub: `3`
- v\ :sub: `2`
- v\ :sub: `1`
- v\ :sub: `0`

```

The following table list existing packed 36bit wide YUV formats.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master\Documentation\userspace-api\media\v4l\subdev-formats.rst, line 7217)  
Unknown directive type "tabularcolums".  
  
.. tabularcolums:: |p{4.1cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|

Unknown directive type "tabularcolumns".
<pre>.. tabularcolumns::  p{4.1cm} p{0.7cm} p{0.22cm} p{0.22cm} p{0.22cm} p{0.22cm}</pre>

```
.. tabularcolumns:: |p{4.1cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|
```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master\Documentation\userspace-api\media\v4l\subdev-formats.rst, line 722)
```

Unknown directive type "flat-table".

```
.. flat-table:: 36bit YUV Formats
   :header-rows: 2
```

```
Unknown directive type "flat-table".

.. flat-table:: 36bit YUV Formats
   :header-rows: 2
   :stub-columns: 2
```

```
.. flat-table:: 36bit YUV Formats
   :header-rows: 2
   :stub-columns: 2
```

```
* - Identifier
- Code
-
- :cspan:`35` Data organization
* -
-
- Bit
- 35
- 34
- 33
- 32
- 31
- 30
- 29
- 28
- 27
- 26
- 25
- 24
- 23
- 22
- 21
- 10
- 19
- 18
- 17
- 16
- 15
- 14
- 13
- 12
- 11
```

```

- Bit
- 35
- 34
- 33
- 32
- 31
- 30
- 29
- 28
- 27
- 26
- 25
- 24
- 23
- 22
- 21
- 10
- 19
- 18
- 17
- 16
- 15
- 14
- 13
- 12
- 11

```



```
- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1
- 0
* .. _MEDIA-BUS-FMT-UYVYY12-0-5X36:
- MEDIA_BUS_FMT_UYVYY12_0_5X36
- 0x2028
-
- u\ :sub: 11`
- u\ :sub: 10`
- u\ :sub: 9`
- u\ :sub: 8`
- u\ :sub: 7`
- u\ :sub: 6`
- u\ :sub: 5`
- u\ :sub: 4`
- u\ :sub: 3`
- u\ :sub: 2`
- u\ :sub: 1`
- u\ :sub: 0`
- y\ :sub: 11`
- y\ :sub: 10`
- y\ :sub: 9`
- y\ :sub: 8`
- y\ :sub: 7`
- y\ :sub: 6`
- y\ :sub: 5`
- y\ :sub: 4`
- y\ :sub: 3`
- y\ :sub: 2`
- y\ :sub: 1`
- y\ :sub: 0`
- y\ :sub: 11`
- y\ :sub: 10`
- y\ :sub: 9`
- y\ :sub: 8`
- y\ :sub: 7`
- y\ :sub: 6`
- y\ :sub: 5`
- y\ :sub: 4`
- y\ :sub: 3`
- y\ :sub: 2`
- y\ :sub: 1`
- y\ :sub: 0`
*
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-
- v\ :sub: 11`
- v\ :sub: 10`
- v\ :sub: 9`
- v\ :sub: 8`
- v\ :sub: 7`
- v\ :sub: 6`
- v\ :sub: 5`
- v\ :sub: 4`
- v\ :sub: 3`
- v\ :sub: 2`
- v\ :sub: 1`
- v\ :sub: 0`
- y\ :sub: 11`
- y\ :sub: 10`
- y\ :sub: 9`
- y\ :sub: 8`
- y\ :sub: 7`
- y\ :sub: 6`
- y\ :sub: 5`
- y\ :sub: 4`
- y\ :sub: 3`
- y\ :sub: 2`
- y\ :sub: 1`
- y\ :sub: 0`
- y\ :sub: 11`
- y\ :sub: 10`
- y\ :sub: 9`
- y\ :sub: 8`
- y\ :sub: 7`
- y\ :sub: 6`
- y\ :sub: 5`
- y\ :sub: 4`
- y\ :sub: 3`
- y\ :sub: 2`
- y\ :sub: 1`
- y\ :sub: 0`
* .. _MEDIA-BUS-FMT-YUV12-1X36:
- MEDIA_BUS_FMT_YUV12_1X36
- 0x2029
-
- y\ :sub: 11`
- y\ :sub: 10`
- y\ :sub: 9`
- y\ :sub: 8`
- y\ :sub: 7`
- y\ :sub: 6`
- y\ :sub: 5`
- y\ :sub: 4`
- y\ :sub: 3`
- y\ :sub: 2`
- y\ :sub: 1`
- y\ :sub: 0`
- u\ :sub: 11`
- u\ :sub: 10`
- u\ :sub: 9`
- u\ :sub: 8`
- u\ :sub: 7`
- u\ :sub: 6`
- u\ :sub: 5`
- u\ :sub: 4`
- u\ :sub: 3`
- u\ :sub: 2`
- u\ :sub: 1`
- u\ :sub: 0`
- v\ :sub: 11`
- v\ :sub: 10`
- v\ :sub: 9`
- v\ :sub: 8`
- v\ :sub: 7`
- v\ :sub: 6`
- v\ :sub: 5`
- v\ :sub: 4`
- v\ :sub: 3`
- v\ :sub: 2`
```

```

- v\ :sub: '1'
- v\ :sub: '0'

```

The following table list existing packed 48bit wide YUV formats.

**System Message:** ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\workspace-api\media\v4l\linux-master\Documentation\workspace-api\media\v4l\subdev-formats.rst, line 7405)

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{5.6cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}
```

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{5.6cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}
```

```
.. tabularcolumns:: |p{5.6cm}|p{0.7cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p
```

```
SystemMessage: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master\Documentation\userspace-api\media\v4l\subdev-formats.rst, line 7409)
Unknown directive type "flat-table".

.. flat-table:: 48bit YUV Formats
   :header-rows: 3
```

```
Unknown directive type "flat-table".

.. flat-table:: 48bit YUV Formats
   :header-rows: 3
```

```
.. flat-table:: 48bit YUV Formats
   :header-rows: 3
   :tbl_struct:
   - Row
     Format
     Description
```

```
* - Identifier
- Code
-
- :cspan:'31' Data organization
```

- Bit

- 31  
- 30

```
- MEDIA_BUS_FMT_YUV16_1X48
- 0x202a
```

- y\ :sub:`14`  
- y\ :sub:`13`

```
- y\ :sub:`11`
  \      \10`
```

```

- y\ :sub: `8`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
*
-
-
- u\ :sub: `15`
- u\ :sub: `14`
- u\ :sub: `13`
- u\ :sub: `12`
- u\ :sub: `11`
- u\ :sub: `10`
- u\ :sub: `9`
- u\ :sub: `8`
- u\ :sub: `7`
- u\ :sub: `6`
- u\ :sub: `5`
- u\ :sub: `4`
- u\ :sub: `3`
- u\ :sub: `2`
- u\ :sub: `1`
- u\ :sub: `0`
- v\ :sub: `15`
- v\ :sub: `14`
- v\ :sub: `13`
- v\ :sub: `12`
- v\ :sub: `11`
- v\ :sub: `10`
- v\ :sub: `9`
- v\ :sub: `8`
- v\ :sub: `7`
- v\ :sub: `6`
- v\ :sub: `5`
- v\ :sub: `4`
- v\ :sub: `3`
- v\ :sub: `2`
- v\ :sub: `1`
- v\ :sub: `0`
*
.. _MEDIA-BUS-FMT-UYVYV16-0-5X48:
- MEDIA_BUS_FMT_UYVYV16_0_5X48
- 0x202b
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
- u\ :sub: `15`
- u\ :sub: `14`
- u\ :sub: `13`
- u\ :sub: `12`
- u\ :sub: `11`
- u\ :sub: `10`
- u\ :sub: `9`
- u\ :sub: `8`
- u\ :sub: `7`
- u\ :sub: `6`
- u\ :sub: `5`
- u\ :sub: `4`
- u\ :sub: `3`
- u\ :sub: `2`
- u\ :sub: `1`
- u\ :sub: `0`
*
-
-
-
-
- y\ :sub: `15`
- y\ :sub: `14`
- y\ :sub: `13`
- y\ :sub: `12`
- y\ :sub: `11`
- y\ :sub: `10`
- y\ :sub: `9`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
*
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-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
- y\ :sub: `15`
- y\ :sub: `14`
- y\ :sub: `13`
- y\ :sub: `12`
- y\ :sub: `11`
- y\ :sub: `10`
- y\ :sub: `9`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
*
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-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-

```

```

-
-
-
-
-
-
-
- v\ :sub: `15`
- v\ :sub: `14`
- v\ :sub: `13`
- v\ :sub: `12`
- v\ :sub: `11`
- v\ :sub: `10`
- v\ :sub: `9`
- v\ :sub: `8`
- v\ :sub: `7`
- v\ :sub: `6`
- v\ :sub: `5`
- v\ :sub: `4`
- v\ :sub: `3`
- v\ :sub: `2`
- v\ :sub: `1`
- v\ :sub: `0`
*
-
-
-
- y\ :sub: `15`
- y\ :sub: `14`
- y\ :sub: `13`
- y\ :sub: `12`
- y\ :sub: `11`
- y\ :sub: `10`
- y\ :sub: `9`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`
- y\ :sub: `15`
- y\ :sub: `14`
- y\ :sub: `13`
- y\ :sub: `12`
- y\ :sub: `11`
- y\ :sub: `10`
- y\ :sub: `8`
- y\ :sub: `8`
- y\ :sub: `7`
- y\ :sub: `6`
- y\ :sub: `5`
- y\ :sub: `4`
- y\ :sub: `3`
- y\ :sub: `2`
- y\ :sub: `1`
- y\ :sub: `0`

```

Those formats transfer pixel data as RGB values in a cylindrical-coordinate system using Hue-Saturation-Value or Hue-Saturation-Lightness components. The format code is made of the following information.

- The following table lists existing HSV/HSL formats.

Unknown directive type "tabularcolumns".

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master\Documentation\userspace-api\media\v4l\snddev-formats.rst, line 7748)
Unknown directive type "tabularcolumns".

.. tabularcolumns:: |p{3.9cm}|p{0.73cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}|p{0.22cm}
```

Unknown directive type "flat-table".

[illegible]

```
- 12
- 11
- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1
- 0
* .. _MEDIA-BUS-FMT-AHSV8888-1X32:

- MEDIA_BUS_FMT_AHSV8888_1X32
- 0x6001
-
- a\ :sub:`7`
- a\ :sub:`6`
- a\ :sub:`5`
- a\ :sub:`4`
- a\ :sub:`3`
- a\ :sub:`2`
- a\ :sub:`1`
- a\ :sub:`0`
- h\ :sub:`7`
- h\ :sub:`6`
- h\ :sub:`5`
- h\ :sub:`4`
- h\ :sub:`3`
- h\ :sub:`2`
- h\ :sub:`1`
- h\ :sub:`0`
- s\ :sub:`7`
- s\ :sub:`6`
- s\ :sub:`5`
- s\ :sub:`4`
- s\ :sub:`3`
- s\ :sub:`2`
- s\ :sub:`1`
- s\ :sub:`0`
- v\ :sub:`7`
- v\ :sub:`6`
- v\ :sub:`5`
- v\ :sub:`4`
- v\ :sub:`3`
- v\ :sub:`2`
- v\ :sub:`1`
- v\ :sub:`0`
```

### JPEG Compressed Formats

Those data formats consist of an ordered sequence of 8-bit bytes obtained from JPEG compression process. Additionally to the `_JPEG` postfix the format code is made of the following information.

- The number of bus samples per entropy encoded byte.
- The bus width.

For instance, for a JPEG baseline process and an 8-bit bus width the format will be named `MEDIA_BUS_FMT_JPEG_1X8`.

The following table lists existing JPEG compressed formats.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master) [Documentation] [userspace-api] [media] [v4l]subdev-formats.rst, line 7858)**

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{6.0cm}|p{1.4cm}|p{9.9cm}|
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master) [Documentation] [userspace-api] [media] [v4l]subdev-formats.rst, line 7860)**

Unknown directive type "flat-table".

```
.. flat-table:: JPEG Formats
:header-rows: 1
:stub-columns: 0

* - Identifier
- Code
- Remarks
* .. _MEDIA-BUS-FMT-JPEG-1X8:

- MEDIA_BUS_FMT_JPEG_1X8
- 0x4001
- Besides of its usage for the parallel bus this format is
  recommended for transmission of JPEG data over MIPI CSI bus using
  the User Defined 8-bit Data types.
```

### Vendor and Device Specific Formats

This section lists complex data formats that are either vendor or device specific.

The following table lists the existing vendor and device specific formats.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master) [Documentation] [userspace-api] [media] [v4l]subdev-formats.rst, line 7891)**

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{8.0cm}|p{1.4cm}|p{7.9cm}|
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master) [Documentation] [userspace-api] [media] [v4l]subdev-formats.rst, line 7893)**

Unknown directive type "flat-table".

```
.. flat-table:: Vendor and device specific formats
:header-rows: 1
:stub-columns: 0

* - Identifier
- Code
```

```
- Comments
* .. _MEDIA-BUS-FMT-S5C-UYVY-JPEG-1X8:

- MEDIA_BUS_FMT_S5C_UYVY_JPEG_1X8
- 0x5001
- Interleaved raw UYVY and JPEG image format with embedded meta-data
  used by Samsung S3C73MX camera sensors.
```

Metadata Formats

This section lists all metadata formats.

The following table lists the existing metadata formats.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master [Documentation] [userspace-api] [media] [v4l]subdev-formats.rst, line 7916)**

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{8.0cm}|p{1.4cm}|p{7.9cm}|
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\linux-master [Documentation] [userspace-api] [media] [v4l]subdev-formats.rst, line 7918)**

Unknown directive type "flat-table".

```
.. flat-table:: Metadata formats
:header-rows: 1
:stub-columns: 0

* - Identifier
  - Code
  - Comments
* .. _MEDIA-BUS-FMT-METADATA-FIXED:

- MEDIA_BUS_FMT_METADATA_FIXED
- 0x7001
- This format should be used when the same driver handles
  both sides of the link and the bus format is a fixed
  metadata format that is not configurable from userspace.
  Width and height will be set to 0 for this format.
```