V4L2_PIX_FMT_IPU3_SBGGR10 ('ip3b'), V4L2_PIX_FMT_IPU3_SGBRG10 ('ip3g'), V4L2_PIX_FMT_IPU3_SGRBG10 ('ip3G'), V4L2_PIX_FMT_IPU3_SRGGB10 ('ip3r')

10-bit Bayer formats

Description

These four pixel formats are used by Intel IPU3 driver, they are raw sRGB / Bayer formats with 10 bits per sample with every 25 pixels packed to 32 bytes leaving 6 most significant bits padding in the last byte. The format is little endian.

In other respects this format is similar to :ref:`V4L2-PIX-FMT-SRGGB10`. Below is an example of a small image in V4L2_PIX_FMT_IPU3_SBGGR10 format.

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\(linux-master)(Documentation)(userspace-api)(media)(v4l)pixfmt-srggb10-ipu3.rst`, **line 24);** *backlink*
>
> Unknown interpreted text role "ref".

Byte Order. Each cell is one byte.

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\(linux-master)(Documentation)(userspace-api)(media)(v4l)pixfmt-srggb10-ipu3.rst`, **line 34)**
>
> Unknown directive type "tabularcolumns".
>
> ```
> .. tabularcolumns:: |p{0.8cm}|p{3.3cm}|p{3.3cm}|p{3.3cm}|p{3.3cm}|
> ```

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\(linux-master)(Documentation)(userspace-api)(media)(v4l)pixfmt-srggb10-ipu3.rst`, **line 36)**
>
> Unknown directive type "flat-table".
>
> ```
> .. flat-table::
>
>     * - start + 0:
>       - B\ :sub:`0000low`
>       - G\ :sub:`0001low`\ (bits 7--2)
>
>         B\ :sub:`0000high`\ (bits 1--0)
>       - B\ :sub:`0002low`\ (bits 7--4)
>
>         G\ :sub:`0001high`\ (bits 3--0)
>       - G\ :sub:`0003low`\ (bits 7--6)
>
>         B\ :sub:`0002high`\ (bits 5--0)
>     * - start + 4:
>       - G\ :sub:`0003high`
>       - B\ :sub:`0004low`
>       - G\ :sub:`0005low`\ (bits 7--2)
>
>         B\ :sub:`0004high`\ (bits 1--0)
>       - B\ :sub:`0006low`\ (bits 7--4)
>
>         G\ :sub:`0005high`\ (bits 3--0)
>     * - start + 8:
>       - G\ :sub:`0007low`\ (bits 7--6)
>
>         B\ :sub:`0006high`\ (bits 5--0)
>       - G\ :sub:`0007high`
>       - B\ :sub:`0008low`
>       - G\ :sub:`0009low`\ (bits 7--2)
> ```

B\ :sub:`0008high`\ (bits 1--0)
* - start + 12:
  - B\ :sub:`0010low`\ (bits 7--4)

    G\ :sub:`0009high`\ (bits 3--0)
  - G\ :sub:`0011low`\ (bits 7--6)

    B\ :sub:`0010high`\ (bits 5--0)
  - G\ :sub:`0011high`
  - B\ :sub:`0012low`
* - start + 16:
  - G\ :sub:`0013low`\ (bits 7--2)

    B\ :sub:`0012high`\ (bits 1--0)
  - B\ :sub:`0014low`\ (bits 7--4)

    G\ :sub:`0013high`\ (bits 3--0)
  - G\ :sub:`0015low`\ (bits 7--6)

    B\ :sub:`0014high`\ (bits 5--0)
  - G\ :sub:`0015high`
* - start + 20
  - B\ :sub:`0016low`
  - G\ :sub:`0017low`\ (bits 7--2)

    B\ :sub:`0016high`\ (bits 1--0)
  - B\ :sub:`0018low`\ (bits 7--4)

    G\ :sub:`0017high`\ (bits 3--0)
  - G\ :sub:`0019low`\ (bits 7--6)

    B\ :sub:`0018high`\ (bits 5--0)
* - start + 24:
  - G\ :sub:`0019high`
  - B\ :sub:`0020low`
  - G\ :sub:`0021low`\ (bits 7--2)

    B\ :sub:`0020high`\ (bits 1--0)
  - B\ :sub:`0022low`\ (bits 7--4)

    G\ :sub:`0021high`\ (bits 3--0)
* - start + 28:
  - G\ :sub:`0023low`\ (bits 7--6)

    B\ :sub:`0022high`\ (bits 5--0)
  - G\ :sub:`0023high`
  - B\ :sub:`0024low`
  - B\ :sub:`0024high`\ (bits 1--0)
* - start + 32:
  - G\ :sub:`0100low`
  - R\ :sub:`0101low`\ (bits 7--2)

    G\ :sub:`0100high`\ (bits 1--0)
  - G\ :sub:`0102low`\ (bits 7--4)

    R\ :sub:`0101high`\ (bits 3--0)
  - R\ :sub:`0103low`\ (bits 7--6)

    G\ :sub:`0102high`\ (bits 5--0)
* - start + 36:
  - R\ :sub:`0103high`
  - G\ :sub:`0104low`
  - R\ :sub:`0105low`\ (bits 7--2)

    G\ :sub:`0104high`\ (bits 1--0)
  - G\ :sub:`0106low`\ (bits 7--4)

    R\ :sub:`0105high`\ (bits 3--0)
* - start + 40:
  - R\ :sub:`0107low`\ (bits 7--6)

    G\ :sub:`0106high`\ (bits 5--0)
  - R\ :sub:`0107high`
  - G\ :sub:`0108low`
  - R\ :sub:`0109low`\ (bits 7--2)

    G\ :sub:`0108high`\ (bits 1--0)
* - start + 44:
  - G\ :sub:`0110low`\ (bits 7--4)

    R\ :sub:`0109high`\ (bits 3--0)

```
      - R\ :sub:`0111low`\ (bits 7--6)

        G\ :sub:`0110high`\ (bits 5--0)
      - R\ :sub:`0111high`
      - G\ :sub:`0112low`
  * - start + 48:
    - R\ :sub:`0113low`\ (bits 7--2)

      G\ :sub:`0112high`\ (bits 1--0)
    - G\ :sub:`0114low`\ (bits 7--4)

      R\ :sub:`0113high`\ (bits 3--0)
    - R\ :sub:`0115low`\ (bits 7--6)

      G\ :sub:`0114high`\ (bits 5--0)
    - R\ :sub:`0115high`
  * - start + 52:
    - G\ :sub:`0116low`
    - R\ :sub:`0117low`\ (bits 7--2)

      G\ :sub:`0116high`\ (bits 1--0)
    - G\ :sub:`0118low`\ (bits 7--4)

      R\ :sub:`0117high`\ (bits 3--0)
    - R\ :sub:`0119low`\ (bits 7--6)

      G\ :sub:`0118high`\ (bits 5--0)
  * - start + 56:
    - R\ :sub:`0119high`
    - G\ :sub:`0120low`
    - R\ :sub:`0121low`\ (bits 7--2)

      G\ :sub:`0120high`\ (bits 1--0)
    - G\ :sub:`0122low`\ (bits 7--4)

      R\ :sub:`0121high`\ (bits 3--0)
  * - start + 60:
    - R\ :sub:`0123low`\ (bits 7--6)

      G\ :sub:`0122high`\ (bits 5--0)
    - R\ :sub:`0123high`
    - G\ :sub:`0124low`
    - G\ :sub:`0124high`\ (bits 1--0)
  * - start + 64:
    - B\ :sub:`0200low`
    - G\ :sub:`0201low`\ (bits 7--2)

      B\ :sub:`0200high`\ (bits 1--0)
    - B\ :sub:`0202low`\ (bits 7--4)

      G\ :sub:`0201high`\ (bits 3--0)
    - G\ :sub:`0203low`\ (bits 7--6)

      B\ :sub:`0202high`\ (bits 5--0)
  * - start + 68:
    - G\ :sub:`0203high`
    - B\ :sub:`0204low`
    - G\ :sub:`0205low`\ (bits 7--2)

      B\ :sub:`0204high`\ (bits 1--0)
    - B\ :sub:`0206low`\ (bits 7--4)

      G\ :sub:`0205high`\ (bits 3--0)
  * - start + 72:
    - G\ :sub:`0207low`\ (bits 7--6)

      B\ :sub:`0206high`\ (bits 5--0)
    - G\ :sub:`0207high`
    - B\ :sub:`0208low`
    - G\ :sub:`0209low`\ (bits 7--2)

      B\ :sub:`0208high`\ (bits 1--0)
  * - start + 76:
    - B\ :sub:`0210low`\ (bits 7--4)

      G\ :sub:`0209high`\ (bits 3--0)
    - G\ :sub:`0211low`\ (bits 7--6)

      B\ :sub:`0210high`\ (bits 5--0)
    - G\ :sub:`0211high`
    - B\ :sub:`0212low`
```

```
* - start + 80:
  - G\ :sub:`0213low`\ (bits 7--2)

    B\ :sub:`0212high`\ (bits 1--0)
  - B\ :sub:`0214low`\ (bits 7--4)

    G\ :sub:`0213high`\ (bits 3--0)
  - G\ :sub:`0215low`\ (bits 7--6)

    B\ :sub:`0214high`\ (bits 5--0)
  - G\ :sub:`0215high`
* - start + 84:
  - B\ :sub:`0216low`
  - G\ :sub:`0217low`\ (bits 7--2)

    B\ :sub:`0216high`\ (bits 1--0)
  - B\ :sub:`0218low`\ (bits 7--4)

    G\ :sub:`0217high`\ (bits 3--0)
  - G\ :sub:`0219low`\ (bits 7--6)

    B\ :sub:`0218high`\ (bits 5--0)
* - start + 88:
  - G\ :sub:`0219high`
  - B\ :sub:`0220low`
  - G\ :sub:`0221low`\ (bits 7--2)

    B\ :sub:`0220high`\ (bits 1--0)
  - B\ :sub:`0222low`\ (bits 7--4)

    G\ :sub:`0221high`\ (bits 3--0)
* - start + 92:
  - G\ :sub:`0223low`\ (bits 7--6)

    B\ :sub:`0222high`\ (bits 5--0)
  - G\ :sub:`0223high`
  - B\ :sub:`0224low`
  - B\ :sub:`0224high`\ (bits 1--0)
* - start + 96:
  - G\ :sub:`0300low`
  - R\ :sub:`0301low`\ (bits 7--2)

    G\ :sub:`0300high`\ (bits 1--0)
  - G\ :sub:`0302low`\ (bits 7--4)

    R\ :sub:`0301high`\ (bits 3--0)
  - R\ :sub:`0303low`\ (bits 7--6)

    G\ :sub:`0302high`\ (bits 5--0)
* - start + 100:
  - R\ :sub:`0303high`
  - G\ :sub:`0304low`
  - R\ :sub:`0305low`\ (bits 7--2)

    G\ :sub:`0304high`\ (bits 1--0)
  - G\ :sub:`0306low`\ (bits 7--4)

    R\ :sub:`0305high`\ (bits 3--0)
* - start + 104:
  - R\ :sub:`0307low`\ (bits 7--6)

    G\ :sub:`0306high`\ (bits 5--0)
  - R\ :sub:`0307high`
  - G\ :sub:`0308low`
  - R\ :sub:`0309low`\ (bits 7--2)

    G\ :sub:`0308high`\ (bits 1--0)
* - start + 108:
  - G\ :sub:`0310low`\ (bits 7--4)

    R\ :sub:`0309high`\ (bits 3--0)
  - R\ :sub:`0311low`\ (bits 7--6)

    G\ :sub:`0310high`\ (bits 5--0)
  - R\ :sub:`0311high`
  - G\ :sub:`0312low`
* - start + 112:
  - R\ :sub:`0313low`\ (bits 7--2)

    G\ :sub:`0312high`\ (bits 1--0)
  - G\ :sub:`0314low`\ (bits 7--4)
```

```
      R\ :sub:`0313high`\ (bits 3--0)
    - R\ :sub:`0315low`\ (bits 7--6)

      G\ :sub:`0314high`\ (bits 5--0)
    - R\ :sub:`0315high`
  * - start + 116:
    - G\ :sub:`0316low`
    - R\ :sub:`0317low`\ (bits 7--2)

      G\ :sub:`0316high`\ (bits 1--0)
    - G\ :sub:`0318low`\ (bits 7--4)

      R\ :sub:`0317high`\ (bits 3--0)
    - R\ :sub:`0319low`\ (bits 7--6)

      G\ :sub:`0318high`\ (bits 5--0)
  * - start + 120:
    - R\ :sub:`0319high`
    - G\ :sub:`0320low`
    - R\ :sub:`0321low`\ (bits 7--2)

      G\ :sub:`0320high`\ (bits 1--0)
    - G\ :sub:`0322low`\ (bits 7--4)

      R\ :sub:`0321high`\ (bits 3--0)
  * - start + 124:
    - R\ :sub:`0323low`\ (bits 7--6)

      G\ :sub:`0322high`\ (bits 5--0)
    - R\ :sub:`0323high`
    - G\ :sub:`0324low`
    - G\ :sub:`0324high`\ (bits 1--0)
```