

# V4L2\_META\_FMT\_RK\_ISP1\_PARAMS ('rk1p'), V4L2\_META\_FMT\_RK\_ISP1\_STAT\_3A ('rk1s')

## Configuration parameters

The configuration parameters are passed to the `ref:rkisp1_params <rkisp1_params>` metadata output video node, using the `:ctype:v4l2_meta_format` interface. The buffer contains a single instance of the C structure `:ctype:rkisp1_params_cfg` defined in `rkisp1-config.h`. So the structure can be obtained from the buffer by:

**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-meta-rkisp1.rst, line 14); [backlink](#)

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```
struct rkisp1_params_cfg *params = (struct rkisp1_params_cfg*) buffer;
```

## 3A and histogram statistics

The ISP1 device collects different statistics over an input Bayer frame. Those statistics are obtained from the `ref:rkisp1_stats <rkisp1_stats>` metadata capture video node, using the `:ctype:v4l2_meta_format` interface. The buffer contains a single instance of the C structure `:ctype:rkisp1_stat_buffer` defined in `rkisp1-config.h`. So the structure can be obtained from the buffer by:

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```
struct rkisp1_stat_buffer *stats = (struct rkisp1_stat_buffer*) buffer;
```

The statistics collected are Exposure, AWB (Auto-white balance), Histogram and AF (Auto-focus). See `:ctype:rkisp1_stat_buffer` for details of the statistics.

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The 3A statistics and configuration parameters described here are usually consumed and produced by dedicated user space libraries that comprise the important tuning tools using software control loop.

## rkisp1 uAPI data types

**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-meta-rkisp1.rst, line 50)**

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```
.. kernel-doc:: include/uapi/linux/rkisp1-config.h
```