
ImageSource Documentation

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Contents:

The ImageSource Utils

karabo::utils namespace contains functions which are of common use for image source devices. This is the list of the currently provided ones:

```
void karabo::util::unpackMono12Packed(const uint8_t *data, const uint32_t width, const  
                                     uint32_t height, uint16_t *unpackedData)
```

Unpack the input MONO12PACKED data to MONO12.

In MONO12PACKED pixel data format, every 3 bytes contain data for 2 pixels, according to the following table:

Byte	Pixel - Data bits
B0	P0 11...4
B1	P1 3...0 P0 3...0
B2	P1 11...4
...	...
Bm	Pn 11...4

Parameters

- *data*: The pointer to the input packed data
- *width*: The image width
- *height*: The image height
- *unpackedData*: The pointer to the output unpacked data

The ImageSource class

The *ImageSource* class provides a base class to be used for all kind of image providing devices, for example image processors.

For the cameras a more specific class is provided, see [here](#).

The advantage of using this class, is that it can take care of creating the necessary output channels in the schema, and it provides functions to output images and End-of-Stream signals to them.

class `karabo::ImageSource`

Inherits from `karabo::core::Device<>`

Subclassed by *karabo::CameraImageSource*

Protected Functions

```
void updateOutputSchema (const      std::vector<unsigned    long    long>    &shape,  
                        const      karabo::xms::EncodingType    &encoding,    const  
                        karabo::util::Types::ReferenceType &kType)
```

```
void writeChannels (const karabo::util::NDArray &data, const karabo::util::Dims &binning,  
                  const unsigned short bpp, const karabo::xms::EncodingType &encoding,  
                  const karabo::util::Dims &roiOffsets, const karabo::util::Timestamp  
                  &timestamp, bool safeNDArray = false)
```

```
void signalEOS ()
```

The CameraImageSource class

The CameraImageSource class provides a base class to be used for all camera devices. In addition to the functionalities provided by its *base class*, this class provides a default scene for cameras.

class karabo::CameraImageSource
Inherits from *karabo::ImageSource*

CHAPTER 4

Indices and tables

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