Immervision Enables 2.0

Marker Info

Programmer's Guide

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Contents

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DESCRIPTION

This documentation lists the tags encoded in the Marks.

Immervision Enables 2.0 panomorph images contain marks that include some information. This information permits calibration and enables the dewarping functionalities and much more.
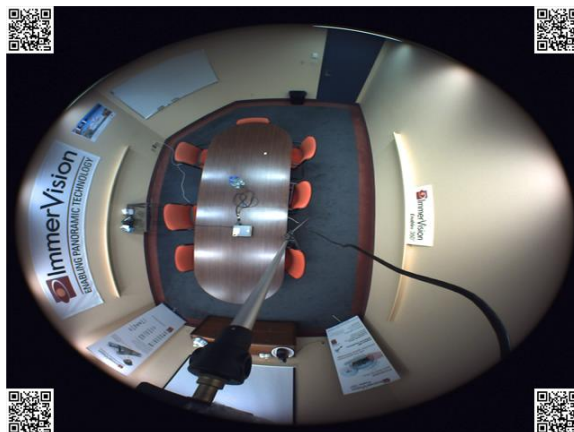
The Marks in the 4 corners contain awareness information of the captured environment

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SYSTEM TAGS LIST

CameraFixedOrientation

Tag	Unit	Format	Length
CameraFixedOrientation	enum	unsigned int	1

CameraFixedOrientation gives the information of the orientation of the camera.

RPL

Tag	Unit	Format	Length
RPL	String	Char *	6

RPL of the panomorph lens.
Ex: B0QQV, A1UST, A8TRT…

NavigationType

Tag	Unit	Format	Length
NavigationType	enum	unsigned int	1

NavigationType corresponds to the navigation mode defined by the enum eNavigationType.

OPTIONAL LIST

Acceleration

Tag	Unit	Format	Length
Acceleration	Metre per second square m/s^2	float	3

Acceleration vector

Altitude

Tag	Unit	Format	Length
Altitude	m	float	1

CameraLocationDescription

Tag	Unit	Format	Length
CameraLocationDescription	String	Char *	25 max.

CameraModel

Tag	Unit	Format	Length
CameraModel	String	Char *	25 max.

Copyright

Tag	Unit	Format	Length
Copyright	String	Char *	25 max.

Exposure

Tag	Unit	Format	Length
Exposure		Unsigned int	1

FrameID

Tag	Unit	Format	Length
FrameID		Unsigned int	1

This indicates the index of the frame

GPSAltitude

Tag	Unit	Format	Length
GPSAltitude	m	float	1

GPSAltitudeRef

Tag	Unit	Format	Length
GPSAltitudeRef	-	bool	1

0 = Above sea level - Default
1 = Below sea level

GPSDirection

Tag	Unit	Format	Length
GPSDirection	Degrees	float	1

Indicates the direction of GPS receiver movement.
The range of values is from 0.00 to 359.99.

GPSDirectionRef

Tag	Unit	Format	Length
GPSDirectionRef	Char	char	1

'T' = True direction - Default
'M' = Magnetic direction

GPSLongitude

Tag	Unit	Format	Length
GPS	DD	float	1

World Geodetic System 84 (WGS 84)

GPS is represented by 2 DD (Decimal Degrees).

GPSLongitudeRef

Tag	Unit	Format	Length
GPS	DD	float	1

Indicates whether the longitude is east or west longitude.
'W' = True direction - Default
'E' = Magnetic direction

GPSLatitude

Tag	Unit	Format	Length
GPS	DD	float	1

World Geodetic System 84 (WGS 84)
GPS is represented by 2 DD (Decimal Degrees).

GPSLatitudeRef

Tag	Unit	Format	Length
GPS	DD	float	1

Indicates whether the latitude is north or south latitude.
'S' = True direction - Default
'N' = Magnetic direction

OriginalImageResolution

Tag	Unit	Format	Length
OriginalImageResolution	enum	unsigned int	2

PulseRate

Tag	Unit	Format	Length
PulseRate	BPM	char	1

Speed

Tag	Unit	Format	Length
Speed	Meter per second m/s	float	3

Speed vector

TimeStamp

Tag	Unit	Format	Length
Timestamp	nanoseconds	Int64	1

Timestamp represents the time at which the event is recorded.

The format of this number is a timestamp representing the number of nanoseconds since 1/1/1970 0:00 UTC.

The timestamp is stored in a 64bits value.

TimeStamp32

Tag	Unit	Format	Length
Timestamp	nanoseconds	Int32	1

Timestamp represents the time at which the event is recorded.

This timestampe is stored on only 32 bits.

TravelSpeed

Tag	Unit	Format	Length
TravelSpeed	Km/hour	float	1

Global travel speed of the system.

VirtualCameraViewPoint

Tag	Unit	Format	Length
VirtualCameraViewPoint	Pan, Tilt, Zoom	float	3

Position of the virtual camera. Pan and Tilt are angles defining the position of the view point and zoom defines the Field of View of the virtual camera.

DYNAMIC MARKER TAGS LIST

DynamicMarkerSizeH

Tag	Unit	Format	Length
DynamicMarkerSizeH	Pourcentage	float	1

This value represents the height of the mark on Y-axis.
Example: if the marks is square and 220x220 pixels on a 1280x720 resolution image.
Then DynamicMarkerSizeH = 220/720 = 0.3055…

DynamicMarkerVersion

Tag	Unit	Format	Length
DynamicMarkerVersion	-	Unsigned char	1

Version of the code. QrCode = 0. More will come up.

DynamicMarkerPosition

Tag	Unit	Format	Length
DynamicMarkerPosition	-	Unsigned char	1

This indicates the position of the dynamicMarker. It helps user to know where is the marker with the dynamic information (changing information at each image)
0: Top Left position
1: Top Right position
2: Bottom Left position
3: Bottom Right position