

## Recording and editing 360° videos

This guide will walk you through the complete process of creating and uploading your own 360° videos to be displayed through the Broomx immersive projection systems. It is designed for beginners and doesn't require previous technical knowledge. The 360° videos produced are then played back through the Broomx projector using a USB memory stick, to ensure privacy and easy management.

### OVERVIEW

#### 360° camera model

To start recording your own 360° videos, you'll first need a 360° camera. This guide refers to the models: Insta360° X3, X4 and X5.

Both models are available for purchase as accessories which can be added to your order of the [MK](#) and [MK2](#) immersive projectors.

Other 360° camera brands and models may be compatible with the required media specifications (see below), but Broomx cannot guarantee or provide support.

#### What you'll need

- Insta360 camera
- SD memory card
- SD memory card reader for PC
- Insta360 invisible selfie stick or tripod (optional)
- Lens wipes or lens cleanser cloth
- PC for editing the videos
- USB memory stick 64Gb

### RECORDING 360° VIDEOS

#### Preparing the camera

1. Make sure the battery is fully charged.

2. Make sure the SD memory card is correctly formatted and has enough free space.
3. Clean the lenses with a soft lens cleanser cloth or a lens wipe.
4. Configure the camera as follows:
  - **Mode:** 360° video
  - **Resolution:** Highest available starting 4K.
  - **Framerate:** 30fps.
  - **Image stabilization:** enabled (by default)

## Recording a 360° video

1. Insert the SD memory card into the Insta360 camera.
2. Attach the Insta360° to the selfie stick or tripod.
3. Power on the camera.
4. Press the Play button to start the recording.
5. Press the Play button again to stop the recording.

## Recording tips

- 360° cameras capture the entire environment it is placed in: make sure all elements in its surroundings are taken in account.
- If you don't want to appear in the recording, you can leave the space / room after starting the recording, then edit out the beginning and end of the recording.
- Place the camera at eye height whenever possible.
- If recording while in movement, walk at a slow and steady pace to avoid excessive vibrations.
- Avoid objects too close to the camera lenses which will result in distortion. Maintain a 1m (3 feet) distance from the object or action you are recording.

## EDITING THE 360° VIDEOS

### Importing and editing the videos

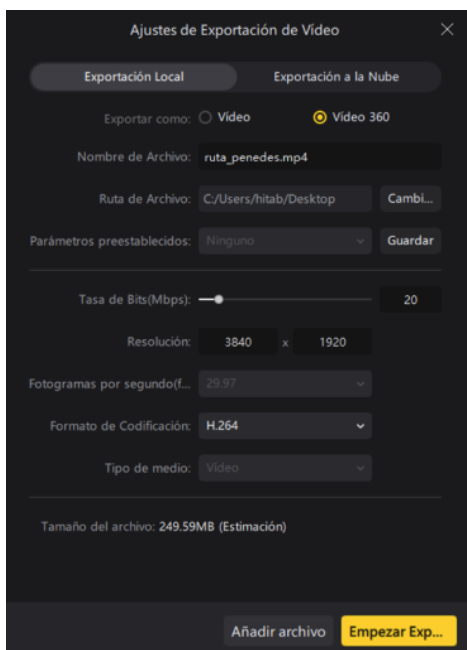
1. Remove the SD memory card from the Insta360 camera.
2. Connect the SD card reader to your PC, or use the built-in reader if available.
3. Download the videos to your local hard drive. If desired, make a backup copy of the raw videos to an external hard drive or a cloud based drive.
4. Download the [Insta360 SUDIO](#) software.
5. Open Insta360 STUDIO and import the 360° videos.

6. From the top menu, select the “Media” option (do not select “Project”).
7. Crop the video start and end if needed, further edit the clips according to your needs.
8. Apply the “Block direction” function to maintain the image leveled.
9. Apply the “Dynamic stitching” function to avoid seams in closer objects.
10. Apply the “Color Plus” feature by 30-50% depending on the video’s characteristics.
11. Adjust the brightness and contrast, as well as other parameters according to your needs and knowhow.
12. Enable “ND Movement” to smooth movements and reduce vibrations in the video.
13. Enable “Noise reduction” to improve the quality of audio.

\* In most cases, little image adjustment is required. Avoid over-tweaking the image.

## Exporting the videos

1. Once you’re happy with the results, click on “Export”.
2. Select the file name and folder for the export.
3. Enter the following parameters:
  - **Export as:** 360° video
  - **Bitrate:** 20 Mbps (35 Mbps if the videos are to be further edited in Adobe Premiere or Davinci Resolve).
  - **Resolution:** 3840x1920p
  - **Codec:** H.264
4. Click on “Start Export” and wait for the export to complete.
5. Repeat the process with the other videos.



## DISPLAYING THE 360° VIDEOS USING A USB PENDRIVE

### USB pen drive specifications

- **Format:** ExFat
- **Maximum size:** 64Gb
- **Device name:** specify a device name (don't leave blank or with special characters).
- **File structure:** add the videos you want to display - and only those videos - in the root folder of the USB pen drive.

### Playing back 360° videos from the USB pen drive

1. Power on the projector and CPU.
2. Connect the USB pen drive to a USB slot on the CPU.
3. Connect your smartphone / tablet / PC to the MK device WiFi network:
  - **Network:** MK#
  - **Password:** broomxnet
4. Open a web browser and enter the following URL:
  - [broomx.control](http://broomx.control) o [192.168.12.1](http://192.168.12.1)
5. In the top right menu, navigate to the "USB" section.
6. Select a video for playback.

### Privacy statement

The 360° videos are played back directly from the USB memory stick and are not downloaded to the projector's local hard drive. The 360° videos are available for playback only while the USB memory stick is connected to the projector.