

360° Video Cameras: the Garmin VIRB 360 and simple editing in VIRB Edit

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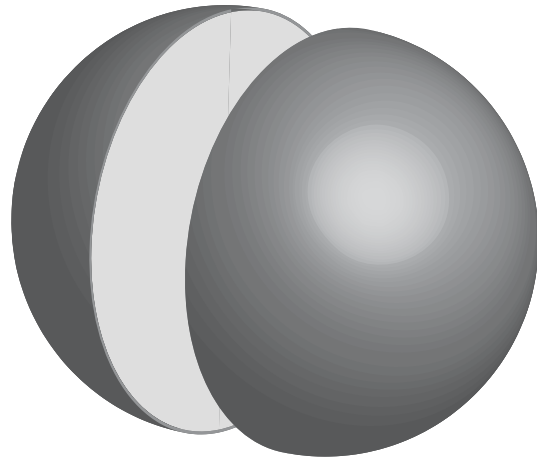
At the end of this session, you should be able to:

- Explain the limitations and capabilities of 360° cameras in general;
- Create a clip of 360° video using the Garmin VIRB;
- Download footage from Garmin VIRB to computer, make simple edits in VIRB Edit, and upload to YouTube;
- Use the Garmin VIRB mobile app to record, edit, and share footage;
- Describe some simple best practices in shooting 360° footage;
- Find resources to help with filming, editing, and uploading 360° video.

360° footage: experience & discuss

- tinyurl.com/video360RC
- tinyurl.com/video360COOK
- tinyurl.com/video360HIKE

360° footage: stitching



some important capabilities & limitations

- Capabilities:

- Produce video footage in which the user can look all around, up, and down

- Limitations:

- Stitch lines
- Blind spots (depending on the camera)
- Can be impossible to hide some elements of production, depending on how shot is set up (microphones, tripod, cameraperson)

- User cannot decide how to move around, or interact, only decide where to look
- Video creator can try to suggest where user looks, but has no control

Garmin VIRB 360: the kit



- Garmin VIRB 360 camera
- Data transfer / charging cable
- Battery charger & extra battery
- Lens cleaning paper
- Mini tripod

Garmin VIRB 360: controls



(hold) power / left



photo / (hold) timer / OK



(hold) WiFi on-off / right

Garmin VIRB 360: changing the battery



- Push this button to remove tripod mount
 - Don't hold the other end or it won't work



- Pull this catch up (towards the lens) with your fingernail to open door



- Pull this tab towards you to lift out battery

Garmin VIRB 360: reset your borrowed camera

Format (erase) SD card:

- Turn on (hold power).
- Right arrow (enter menu) repeatedly until get to Setup, then OK.
- Right arrow repeatedly until get to SD Card, then OK.
- OK to Format Card.
- Right arrow (select check), then OK.

Reset to default settings (standard 360° video):

- Turn on (hold power).
- Right arrow (enter menu) repeatedly until get to Setup, then OK.
- Right arrow repeatedly until get to System, then OK.
- Right arrow repeatedly until get to Factory Reset, then OK.
- Right arrow (select check), then OK.

Garmin VIRB 360: record

Front lens



Back lens



- Orient camera so when you stand "behind" the camera, "Garmin" on top is right side up.
 - First thing the user sees will be what the front lens is pointed at.

- Push the switch on right side towards the front lens to start recording.
- Pull switch back to stop recording.
- If power is off when switch is flipped, will use default settings.

VIRB app

- Install Garmin VIRB on your phone (Apple App Store or Google Play)
- Connect your phone to your camera
 - On the VIRB 360, press and hold the WiFi button
 - On your phone, connect to the VIRB WiFi network
 - Enter the password given on your camera
- Open the VIRB app
- Preview your shot
- Record
- Edit
- Share



VIRB Edit: import footage

- Turn on VIRB
- Plug in VIRB to computer with included cable
 - Door covering port is on left side of camera
- Launch VIRB Edit application
- Import footage from camera
 - This should also make a copy of the footage on your computer.
 - Make sure you still have access to your footage once you've unplugged the camera, before you return it!



VIRB Edit: edit video

- Select footage clips and drag them to the timeline to put them in your video
- Reorder clips by dragging
- Trim clips as desired
 - Play until playhead is where you want your cut
 - Select clip
 - Editing > Trim Left or Trim Right

VIRB Edit: export or share video

- Export
 - Produces an .mp4 video file on your computer
- Share
 - Uploads directly to YouTube or other platform

Technical best practices

- Use a **tripod** when possible – handheld makes a really bumpy video
- Record at **chest level**, not eye level, for people ([example video](#))
- Ideally, find or create flat **lighting**
- Plan your **stitch lines** in advance to be the least disruptive
- Mind your **battery time** – ~ 1 hour
- Maximize **resolution** – $\geq 4K$
 - User will only be looking at a small portion of the pixels in any given view, so will appear to be lower resolution than 4K non-360 video

Design best practices

- Think about **how to get out of the shot** if you don't want to be in it
- Keep your **video length** short
 - < 5 min
 - the amount of time an average user can engage with this content without disorientation is shorter than in normal video
- Keep your **time between cuts** (and thus your shots) long
 - > 20 sec
 - give the user enough time to experience the setting
- Points of interest
 - think about where you want the user to be looking and how to encourage them to do so
 - however, also have interest in multiple places around the field, otherwise why is this a 360 video?

Resources

- Best practices writeups
 - <https://wistia.com/learn/production/360-video-shooting-techniques>
- Garmin VIRB 360 specs & documentation
 - <https://explore.garmin.com/en-US/virb/>
- VIRB phone app
 - <https://buy.garmin.com/en-US/US/p/153276>
- VIRB Edit
 - <https://buy.garmin.com/en-US/US/p/573412>
 - <https://youtu.be/COItl8HDEko>
- Borrow a Garmin VIRB
 - Hillman Library Equipment Office
 - Ground Floor, G23
 - <https://pitt.libguides.com/equipment/home>