# Google+ How To:

## Host Broadcast Quality Hangouts On Air From Your TV Studio

Google+ Hangouts On Air (HOA) are enormously popular. Users, including President Obama, the Dalai Lama and the Muppets, among others have broadcast to worldwide audiences using HOA.

Creating a High Quality Hangout On Air, or HQ HOA, from your TV studio is as simple as it is powerful. By following a few easy steps and with minimal additional hardware you can add high quality production values to a Google+ Hangout On Air.



### Routing

Because this is a live computer stream you'll need a dedicated computer. A Mac mini with HD-SDI in and out is a good choice.

- Dedicate a Hangout *aux send* on your video mixer as the input to the Mac mini
- Route the *output* back to the video mixer as a Hangout channel
- Make sure the Hangout channel is not routed back through the Hangout aux or you will create an infinite loop

### Hangout Screens

Set up a monitor next to the camera that the host will talk into. This could be a teleprompter. The screen displays the live feed of the Hangout and allows the host to have a direct conversation with the Hangout participants. If your broadcast is taped in front of a live audience, set up additional screens facing the audience. Audio for the host should be routed through in-ear monitors or through speakers.

### Mirror Video

By default Hangouts mirror the local view of your video feed; viewers elsewhere don't see this. The mirror ability needs to be disabled, otherwise logos, background text or other identifiable set elements will appear backwards on camera.

### Suggested Hardware

- Mac mini
    - *Minimum Requirements: 2.0GHz Quad-Core Intel Core i7*
- HD-SDI input adapter
    - *Recommended: AJA Io XT Professional Thunderbolt I/O*
- HD-SDI output adapter
    - *Recommended: BrightEye Mitto HD Thunderbolt to SDI/HD-SDI*
- Audio Converter
    - *Recommended: Sound Devices USBPre 2*
- Enclosure (optional)
    - *Recommended: RackMac Mini*
- Bandwidth: 5Mbps up/down
    - *Dedicated to the machine. Avoid firewalls.*

### Google Chrome Remote



Instead of using KVM, which could potentially distort the aspect ratio, use Chrome Remote from another computer to control the Mac on your Chrome browser. Click here to install.