

# Lights, Webcamera, Action . . . How to Videoconference Like a Pro

**E**arlier this year, with the surging pandemic, people around the world scrambled to learn videoconferencing. In doing so, they pushed this form of communication into the mainstream for professional and personal use. Ophthalmologists are now using videoconferencing for telemedicine, business meetings, and scientific presentations, as well as for staying in touch with far-flung family.

**Create a Zoom room.** Sure, you can participate in a videoconference from your desk using a smartphone or a standard laptop; but with a few simple upgrades, you can create a Zoom room and look and sound like a polished communications professional.

**Start with a quiet space.** Find a quiet room in which the door can be closed to control external sound. If the windows can be covered, the lighting can be precisely controlled on the subject. You will need a setup area of about 10 feet by 10 feet.

**Five simple steps.** Each of the upgrades outlined below will improve the appearance or sound of the speaker. You can take one step at a time, or you can, as I did, plunge into the project and buy everything at once. (However, because of the millions of people working from home, some of this equipment may be backordered or out of stock.)

## 1. Upgrade Your Webcam

Laptops have notoriously poor built-in webcams. The built-in cameras of most

Apple MacBooks, for example, shoot a grainy 780p.

**Buy a high-definition external webcam.** I read a lot of reviews, and the most frequently mentioned camera was the Logitech c920, but there are many different makes from which to choose. I bought a Logitech c922 because that was the only model I could find in stock. This simple “plug-and-play” device produced a dramatic improvement in image quality.

**Cost.** \$115.

## 2. Improve Your Lighting

The better the lighting, the better the appearance of your video.

**Watch for shadows.** Desk lights or overhead lights will give the face unbecoming shadows.

**The basic single-light approach.** A single LED ring light on a tripod stand provides good illumination, and it costs between \$25 and \$100. Social media influencers have used this type of light for years.

**Three-point lighting works best.** Lighting quality increases when the light comes from different angles. Professional videographers often use three-point lighting: a key light, fill light, and back light.

**The key light is the brightest light.** The key light is placed in front of the subject about 45 degrees off center. However, if used alone, a key light will create shadows on one side of the subject’s face.

**The fill light removes the shadows.** Adding a fill light, placed 45 degrees off center on the opposite side of the key light, will remove the shadows. The fill light is a softer light, usually about 50% the intensity of the key light. With these two lights the subject will be brightly lit but will appear two-dimensional. To achieve the best effect, you should also use a back light.

**The back light makes the subject pop off the backdrop.** The back light illuminates the edge of the subject. This creates greater depth, which produces three-dimensionality. It is placed behind the subject, about 45 degrees off center on the same side of the key light. The backlight must shine down so that it hits the back of the subject’s shoulders and head.

**You will need three tripods.** These should have adjustable extensions so that you can place each one at the proper height, and will cost about \$20 each. Tripods for lights use a 1/4-inch screw size. (Camera tripods usually work with a 3/8-16 screw, and inexpensive 3/8-to-1/4 adapters are available online.)

**Light options.** Incandescent, fluorescent, and LED lights are available. I like LED lights because they do not generate heat and can be adjusted for intensity and for color. The color can look warm (3,200 K) or cold blue-white (5,600 K), and the color for the subject’s face and the backdrop can be adjusted. I bought three small lights from Lumecube (\$60 each). They are adequate, but next time I will buy larger lights.

**Cost.** \$240.

### 3. Use a Green Screen

I will admit to spying on my colleagues during Zoom meetings, enlarging the image to see what their office looks like. So be mindful of what is visible.

**Hide background clutter.** In order to hide the room, many videoconferencing programs let you upload a photo to use as a virtual background. For this to work well, you should use a plain, uniformly colored wall as a backdrop. The experts use a green screen. Why green? Software can easily distinguish between bright green and skin tones, allowing

#### PRESENTER INSTRUCTIONS

Whether you will be presenting live or recording ahead of time, the Academy will provide guidance on your audio and—if applicable—video needs ([aao.org/annual-meeting/presenter/guidelines](http://aao.org/annual-meeting/presenter/guidelines)).



programs to erase your background and replace that area with a photo or video (think of the television weather presenters). For it to work well, the green screen should not have wrinkles or shadows. I use a portable, retractable green screen.

**Cost.** \$125.

### 4. Upgrade Your Microphone

An external webcam usually contains a microphone of a higher quality than that built into your laptop. But I recommend buying a high-quality cardioid microphone that plugs into a USB port, such as those from Blue. I chose the Blue Yeti, partly because it was available and partly because it looks cool. The increase in voice quality makes me sound like a radio announcer.

**Cost.** \$130.

### 5. Add a High-Def Monitor

Tired of looking at tiny faces on a Zoom meeting with your laptop? Hook up a large monitor. You will find it

helpful to use both the laptop screen and the monitor. For example, some videoconferencing programs have a dual-screen option. This would allow you to use your laptop for speaker view, which might include your notes, and the large monitor for the audience view. I splurged and bought a HP Z27 4K monitor (Hewlett-Packard). It is gorgeous; but with the ultra-high definition, I now long for a better webcam.

**Cost.** \$540.

### Smile, You're On Camera

When I started, I knew nothing about video photography, lighting techniques, or fancy backgrounds. With a little research I created a Zoom room, spending \$540 for a monitor and \$610 for everything else. Videoconferencing will outlast the pandemic, and now I am ready to go live.

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