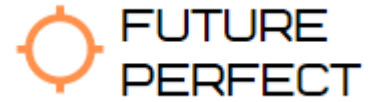


# Streaming Technology Kit for Speakers

*How to Look & Sound Great Online*  
*December 2020*

*Prepared by Jason Guille*  
*Stream of Consciousness*  
[www.streamofconsciousness.ca](http://www.streamofconsciousness.ca)



*A project undertaken  
in partnership with*



## Land Acknowledgement

*As organizations of provincial scope, we recognize that our members, and the local history and heritage they seek to preserve, occupy the lands and territories of B.C.'s Indigenous peoples. We ask our members to reflect on the places where they reside and work, and to respect the diversity of cultures and experiences that form the richness of our provincial fabric.*

*We acknowledge the support of  
the Canada Council for the Arts.*



Canada Council  
for the Arts

Conseil des arts  
du Canada

## PREAMBLE

Today there are more and more of us producing online events and conferences. And, we need our content to be a clean and professional reflection of ourselves, our work, our organizations. Where once looking great and sounding great in a Skype video call didn't matter that much due to its novelty, today's professional online environment demands a higher level of quality and greater attention to detail.

## PREAMBLE

The bad news is that it indeed takes time, intention and investment to reach a solid foundational level suited to producing high-quality online events and conferences. The good news is that it doesn't take as much time, effort or investment as one might fear.

With this white paper we focus on small-to-medium size events and production budgets. These type of online meetings and events tend to be comprised of single speakers, often at their home or home office, and often using video conferencing platforms like ZOOM (or similar).

# How to Read This Document

Based on our day-to-day event production practices, we present options that empower you to make the best decisions around the technical equipment for your particular needs. We present these options in a matrix:

- Beginner
- Intermediate
- Advanced



***Equipment List***  
***Microphones, Cameras, Lights ... Action!***

# Four Pillars

*There are four technical pillars to digital event production quality.*

1

## AUDIO

We are spending more time online working and meeting than ever before. A quality microphone delivering clean audio is no longer a bonus, it's a must.

2

## VIDEO

It is in quality of cameras where we can often make the most dramatic presentation improvement, with minimal effort.

3

## LIGHTING

Typically the most overlooked of the four pillars, a little focus on basic lighting can go a long way to a great looking presentation.

4

## CONNECTIVITY

Given most of our online meetings and events are real-time and live, the best cameras and mics won't matter if your internet connection fails.

# 1 AUDIO

- It might surprise you to hear that audio is more important than video in online meetings and events. While viewers can often tolerate and forgive video issues ... audio breakdowns can quickly send them running.
- The good news: today's microphones have come a long way in terms of audio quality. They are quite easy to find, easy to use, and sound great, leaving your listeners focusing on your content, instead of being distracted by how you sound.





# Top 3 Microphones



0  
1

## Beginner: Samson Meteor Mic

Samson's Meteorite is the universal solution for capturing high-quality recordings on your computer. Small in size, big in quality.

## Intermediate: AT2020

The Audio-Technica AT2020 is a cost effective studio condenser microphone intended for high quality voice recordings and streaming.



0  
2

0  
3



## Advanced: Blue Yeti Pro

Bring serious quality and clarity to your voice recordings with the Blue Yeti X professional condenser USB microphone.

# Some Tips for Audio

*A few quick pointers to help ensure your audio is clear, crisp & professional*

1

## THE MAGIC OF EARBUDS

Don't yet have a good mic? Use the mic on your average earbuds; it is generally far superior to your laptop mic.

2

## ANTICIPATE THE INTERRUPTIONS

Often it's the furnace, or the door, the dog, the kids, the neighbour or the courier that interrupts your online events — think ahead and avoid interruptions.

3

## SILENCE YOUR DEVICES

The most common background sound during an online meeting/event? Your other devices. Take a moment to put them on silent and make them all ssshhh ...

4

## DON'T 'FIDDLE'

The noises you don't notice as a speaker, can be vastly amplified for us as listeners. Put the pen down, don't rock your chair, stop tapping the desk.

## 2 VIDEO

- The standards in video quality for today's online events are changing fast, and the flurry of COVID-19-based purchases are spawning a whole new era of video innovation.
- Fortunately, you can stand out and look great with a humble investment of \$70-\$200, and if you want to really stand out you can do so well under \$1,000.



# Top 3 Cameras



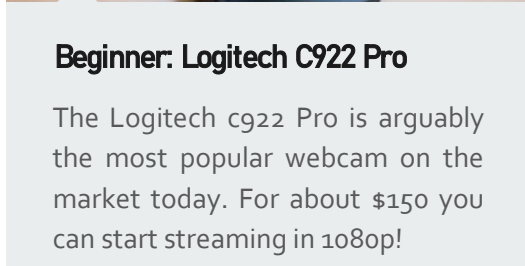
## Intermediate: Logitech BRIO

The most professional look you can get from a webcam. For around \$200 you get high dynamic range, amazing autofocus and 4K recording!



## Advanced: Lumix G7

Ready to go pro? This mirrorless camera features a micro four thirds sensor and rich colours. A common choice for pro streamers.



## Beginner: Logitech C922 Pro

The Logitech c922 Pro is arguably the most popular webcam on the market today. For about \$150 you can start streaming in 1080p!



## Intermediate: Logitech BRIO

The most professional look you can get from a webcam. For around \$200 you get high dynamic range, amazing autofocus and 4K recording!

# Some Tips for Video

*A few quick pointers to help ensure your video is sharp, rich & professional*

1

## CAMERA FRAMING

Get your camera up to eye level. This creates a much improved viewing experience, and increases relatedness and retention.

2

## SIMPLIFY THE BACKGROUND

Busy backgrounds are hard on the eyes and lead to distraction. Clean it up, clear it out, and let people focus on you.

3

## THE SMUDGE FACTOR

Use a microfibre cloth to clean the lens of your camera before an event. This small act makes a big quality difference.

4

## THE RULE OF THIRDS

Your face should be in the top 3rd of the frame; you don't want a lot of 'open space' above your head but rather hold your space and create a pleasing viewing experience.

## 3 Lighting

- While lighting can be a very sophisticated element, a couple small lamps on the desk can often improve your image quality by a TON. Lighting is commonly the most overlooked element of online speaking and presenting, which of course means that for most of us it's the biggest opportunity to level up.
- Let's check out a few options you can explore to light up your face and ensure people get the nuance and depth of what you're here to share.



# Top 3 Lights



## Intermediate: Elgato Key Light

Elgato Key Light is a professional studio LED panel with 2500 lumens, it's colour adjustable and app-enabled for PC or MAC.



## Advanced: Aputure LS C120D II

Ready to go pro? The Aputure C120D II is a studio-grade light that boasts 5500K colour temperature and precise colour rendering.



## Beginner: Viltrox L132T

The entry-level video light for self-produced online appearance. It has a low cost, high brightness and adjustable colour temperature.



## Intermediate: Elgato Key Light

Elgato Key Light is a professional studio LED panel with 2500 lumens, it's colour adjustable and app-enabled for PC or MAC.

# Some Tips for Lighting

*A few quick pointers to help ensure your lighting is warm, simple & effective*

1

## EYE LEVEL LIGHTING

Often speakers use overhead lights, and it's just not flattering, because they create big shadows on their faces. Instead, place the lights at eye level and light from the front.

2

## DIFFUSED, NOT HOT

We want a warm, diffused, balanced light on our faces. 3 lamps with shades is better than 1 open bulb nearby.

3

## DARK = NOISY

Most laptop and webcams can't handle low-light situations and will become very noisy/pixelated. Bring up the light!

4

## LIGHT THE BACKGROUND

The speaker and their background need different lighting. Light your face first, then use different lights for what's behind you.

These tips are especially important for black and other speakers of colour to ensure their webcams don't merely broadcast a silhouetted image, but a truer likeness of them.



# Hardware Budget

While budgets for this type of equipment vary greatly, you can anticipate spending from \$500-\$1,000 to get decent gear in all these domains. Here, we've assembled a reasonable variation of the options we've presented. With this package, you'll look and sound great online.

**MICROPHONE:** Blue Yeti Pro

**\$250**

This mic will last years, it's plug-and-play, and you sound AMAZING.

**CAMERA:** Logitech C922 Pro

**\$175**

This simple, wide-angle, high-definition camera will have you stand apart.

**LIGHTING:** Elgato Key Light

**\$300**

Now you have lots of granular control over how you look, and how you're seen.

## 4 Internet

- You can have the best gear in the world but if the signal is choppy, it won't matter much. Fortunately, 4G LTE internet connectivity is more and more common, and even in rural communities you may be able to access sufficient speeds for basic online meetings and events.
- As internet equipment is usually provided by your Internet Service Provider, we won't discuss specific modems and gear but rather focus on basic practices to make the most of your internet connection and download/upload speeds.



# Zoom Minimum Requirements

## Zoom Meeting /Webinar

- Internet connection via broadband wired or wireless (3G or 4G/LTE)
- Processor
  - at minimum, single-core 1Ghz;
  - recommended Dual-core 2Ghz or higher (Intel i3/i5/i7 or AMD equivalent)

## Bandwidth (minimum) for group meetings and webinars:

- The bandwidth used by Zoom is automatically adjusts for 3G, WiFi, or wired environments. Recommended:
- 800kbps/1.0 Mbps for high-quality video
- For gallery view and/or 720p HD video: 1.5Mbps/1.5Mbps
- Receiving 1080p HD video requires 2.5Mbps
- Sending 1080p HD video requires 3.0Mbps
- For screen sharing with video thumbnail: 50-150kbps
- For audio VoIP: 60-80kbps

# Tips for Internet

*A few quick pointers to help ensure your internet is as fast & stable as possible*

1

## HARDLINE OVER WIFI

Wherever possible, connect to your modem with an ethernet cable instead of using WIFI. Stability of your internet connection will greatly improve.

2

## AN UNSHARED CONNECTION

Where possible, use an unshared connection or ask household members to disconnect their devices during important online meetings and events.

3

## CLOSE BACKGROUND APPS

Common culprits for bandwidth usage issues include Dropbox, Netflix, Google Sync, Time Machine, email and other browsers.

4

## YOUR OTHER DEVICES!

Don't forget your other computers, tablets, smart phones, digital TV and streaming devices and equipment that also access your internet. For best quality turn everything else off.