

### Working from Home & the State/Technology of Video Conferencing

### **Mike Andrews**

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### Working from Home? I'm an old hand

# I worked almost entirely from home

- My co-workers were located all over the country – none nearby
- All meetings were phone conferences
- Had a company paid business phone! (and my house as coded location)
- There were constant WFH policy updates



### Contents

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- Videoconferencing technology
- Videoconferencing applications and hardware
- Best practices for video production
- Paradigm shifts and social change in the wake of COVID-19 isolation

# HAPPY HOUR!

# WebRTC

### Web Real-Time Communication The basis of (most) videoconferencing transport Built in to most web browsers

"free, open-source project that provides web browsers and mobile applications with real-time communication (RTC) via simple application programming interfaces (APIs). It allows audio and video communication to work inside web pages by allowing direct peer-to-peer communication, eliminating the need to install plugins or download native apps."

Alex: WebRTC is the future"

WebRTC adds an easily accessible data channel that you can use for anything you like. I LOVE blank slates :)

### **Videoconferencing applications**

Apple – Facetime on iOS iPhones, iPads and Mac OS X

limited to the Apple world

**Google** – Google Hangouts, Google Duo apps on Windows, Mac, smartphones, tablets, Google Nest (Google Home) smart devices

In the Google cloud

#### **Skype (Microsoft)** – apps on Windows, Mac, smartphones, tablets

Peer to peer, runs in the background – Terrific performance , "will use all of the bandwidth you give it" Limit of 8 participants

#### Jitsi – jitsi.org open source – apps for smart phones, runs on Chrome Browser

Peer to peer – practical limit of 5-6 users due to bandwidth requirements

#### Alex: "GoTo Meeting and - Cisco WebEx are old school - not improved"

"Amazon Chime is horrible"

"Adobe is horrible"

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### **Videoconferencing applications**

# **Zoom** – http://zoom.us "came out of nowhere"

Alex: "They won because they made it easy to get running" Can run in the browser

Apps for Windows, Mac, smartphones, tablets, Chromebook

Can have 1000? users – certainly hundreds

Designed for business

6

Free for 40 minute conference

Personal Meeting

#### Free

Basic

Sign up, It's Free

Host up to 100 participants Unlimited 1 to 1 meetings 40 mins limit on group meetings Unlimited number of meetings

0

- Ticket Support
- + Video Conferencing Features
- + Web Conferencing Features
- + Group Collaboration Features
- + Security

#### **Free version** temporarily has no time limit for COVID-19?

Pro Great for Small Teams <b>\$14.99</b> /mo/host Supports up to 9 hosts per plan	0
Buy Now	
All Basic features +	
Includes 100 participants Need more participants?	0
Meeting duration limit is 24 hrs	
User management	0
Admin feature controls	0
Reporting	0
Custom Personal Meeting ID	
Assign scheduler	0
1GB of MP4 or M4A cloud recording	0
REST API	
Skype for Business (Lync) interoperability	0

+ Optional Add-on Plans

#### Business Small & Med Businesses **\$19.99** /mo/host Starting at 10 hosts for \$199.9/mo

Buy Now

All Pro features +	
Includes 300 participants Need more participants?	€
Dedicated phone support	
Admin dashboard	€
Vanity URL	€
Option for on-premise deployment	€
Managed domains	€
Single sign-on	€
Company branding	€
Custom emails	€
LTI integration	€
Cloud Recording Transcripts	6

+ Optional Add-on Plans

#### Enterprise

0

Large Enterprise-Ready

\$19.99 /mo/host

0

Starting at 100 hosts for \$1,999/mo

#### **Contact Sales**

All Business features +	
Enterprise includes 500 participants Enterprise Plus includes 1,000 participants Unlimited Cloud Storage	
Dedicated Customer Success Manager	
Executive Business Reviews	0
Bundle discounts on Webinars and Zoom Rooms	

### Zoomed

<ul> <li>Optional</li> </ul>	Add-on	Plans
------------------------------	--------	-------

Extra Cloud Recording Storage (starting at \$40/mo)

H.323/SIP Room Connector (starting at \$49/mo)

Join by Zoom Rooms (starting at \$49/mo)

Join by Toll-free dialing or Call (B) Me (starting at \$100/mo)

Add Video Webinars (starting at \$40/mo) Optional Add-on Plans

Join by Toll-free dialing or Call Me (starting at \$100/mo)

0

501 (c)3 Non-profits: checkout techsoup.com for discount pricing

### **Zoom issues**

### Security

#### Zoombombing

- Had easily guessable 9-11 digit meeting ID numbers
- Passwords now on by default but password is in the URL https://us04web.zoom.us/j/521248175?pwd=UTJYVIV3NDc1cDBjNk5GOX
- Waiting room optional
- Encryption stores keys on server sends to client (fixed in 5.0)
- Accepting virtual camera input works around disabled screen sharing (disabled after version 4.6.8 \*sigh\*)

#### Permissions

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- Had a phony (misspelled) Admin password prompt on Mac (fixed)
- Calendar posting asks for FULL rights to Google calendar
- Privacy policy (fixed) Leak data to Facebook (fixed)
- Cloud recordings may go to China (fixed remove China servers)

### **Zoom good practice**

## Per Glenn Fleishman Every Zoom Security and Privacy Flaw So Far, and What You Can Do to Protect Yourself (tidbits.com)

- Discourage invited participants from sharing the URL to others who aren't part of your group, organization, or movement.
- Tell people that the URL is coming and then post it quite close to the event start time, such as 30 minutes before.
- Don't enable in-browser clients. Zoom has somewhat reduced-functionality clients that work entirely in a Web browser without requiring an app download. However, reports indicate these are more easily subverted by malicious people to allow them to re-join meetings after being kicked out. The option to allow people to use Web apps is off by default. Check that you've kept it that way in Personal > Settings, where it's listed as "Show a 'Join from your browser' link."
- Then, in the setup for a public Zoom meeting, configure it this way:
  - Select Generate Automatically for the Meeting ID. You don't want to share your Personal Meeting ID for a public meeting.
  - Set Participant Video to Off. People can enable their video once they're in the meeting.
  - Uncheck "Enable join before host" to prevent anyone from starting the meeting before you.
  - Check "Mute participants on entry." Again, people can turn their microphones on once they're in.
  - Ensure Enable Waiting Room is turned on.

### Have a co-host who is prepared and ready act

### **Good Human practice**

- AVOID USING WiFi
- STAY ON MUTE
  - **Disable "push-to-talk" spacebar unmute.** If you go to other apps the unmute may not register in Zoom but can unmute as you type spaces!
- Others can see you!
  - STOP YOUR VIDEO for short times when needed
  - Don't answer the phone
  - Don't eat (or worse)

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- Consider the presence of children, spouses, pets
- **DO NOT USE ZOOM BACKGROUND** (It's horrible processes video keying at the server. Makes parts of *you* disappear)

### **Zoom Screen share**

### **Only hosts should have screen share permission**

Zoom Screen share prioritizes resolution over frame rate

Video prioritizes frame rate over resolution

Therefore "screen share" looks sharper

### **Pay attention**





### Flora E Gill @FloraEGill

## Ah crap...





#### Professionalism Today at 10:02

#### Dear Flora,

While I thought your Zoom background was funny (I have seen the 'Memes' and think they're very good), I am concerned it doesn't project the air of professionalism you should be striving for. Perhaps just your apartment next time?

### Stay well,



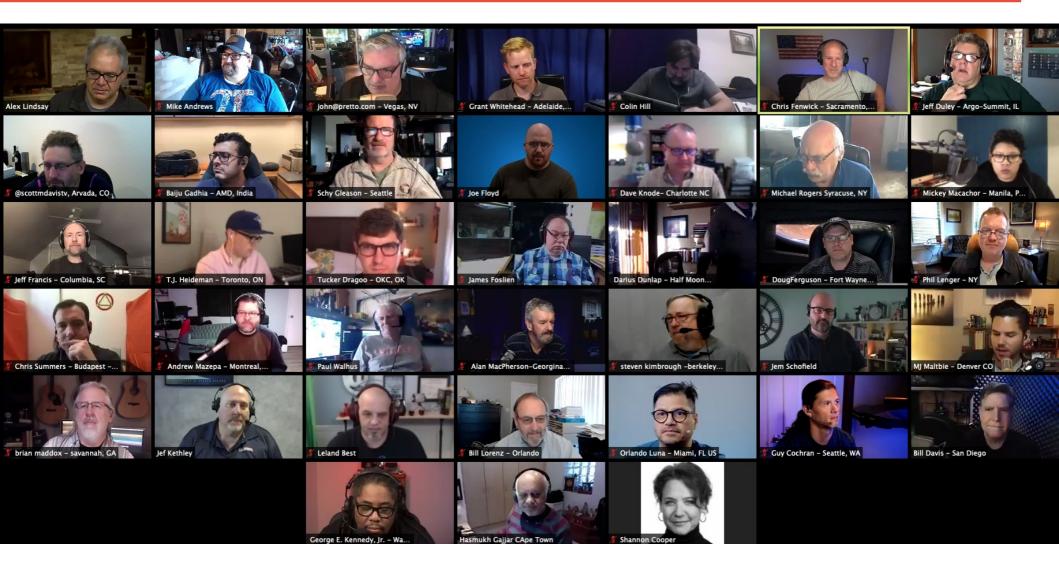
V

### **Sensei!** Alex Lindsay @alexlindsay



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### ALOHA – Alex Lindsay's Office Hours Associates @alexlindsay



### Hey, Alex, what is the MOST Important thing?

# ???

Hey, Alex, what is the MOST Important thing?

# GOOD AUDIO!

Participants & viewers will get fatigued and tune out if there is bad audio (note to TV broadcasters)

### Hey, Alex, what is the MOST Important thing?

### GOOD AUDIO!

#### Eliminate room noise, room echo

Place desk at odd angle to minimize sound reflections use padding

#### DO NOT use the built-in microphone!

#### Use a headset or ear buds

## Get a desktop ("podcaster") mic if you can be close and don't mind it showing on video

USB – Mics: Blue Yeti, Sampson, etc. Headsets – Plantronics, Sennheiser, Logitech, gaming headsets

XLR mics require adapter cable or pre-amp/power

Heil PR-40 \$\$\$ - Shure SM58 (need boom or desktop stand, shock mount)

### Shure SM58

Home > Pro Audio > Studio Recording > Recording Microphones > Dynamic Microphones > Shure SM58-LC

#### Shure SM58-LC Vocal Microphone

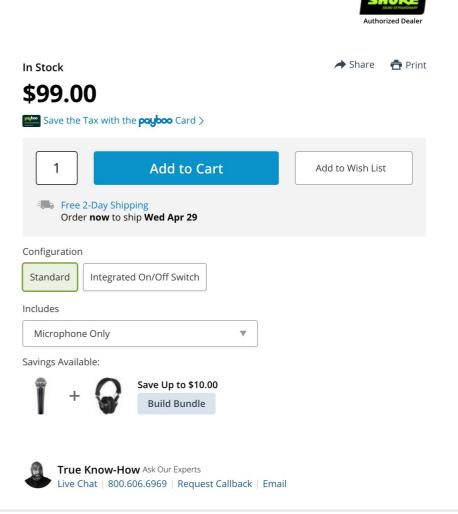


#### **Key Features**

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- High-Quality Live Vocal Microphone
- Internal Shockmount
- Dynamic Cardioid
- Built-In Spherical Wind and Pop Filter

The **Shure SM58-LC Vocal Microphone** features a unidirectional (cardioid) dynamic vocal design, well suited for professional vocal use in live performances, sound reinforcement.



### XLR – 1/8" cable

Musical Instruments Deals Guitars Bass Amplifiers & Effects Keyboards Drums Recording DJ & Karaoke Band & Orchestra Live Sound Pro Store

Back to results



### Cable Matters (1/8 Inch) 3.5mm to XLR Cable (XLR to 3.5mm Cable) Male to Male 3 Feet

by Cable Matters

 $\Rightarrow$   $\Rightarrow$   $\Rightarrow$   $\Rightarrow$   $\Rightarrow$   $\Rightarrow$  789 ratings | 62 answered questions

Amazon's Choice for "xlr to 3.5mm adapter"

#### Price: \$7.99 </prime & FREE Returns

Your cost could be \$0.00. Eligible customers get a \$10 bonus when reloading \$100.

Eligible for amazonsmile donation.

Size: 3 Feet

3 Feet	6 Feet	10 Feet	15 Feet	25 Feet
\$7.99	\$8.49	\$10.99	\$14.99	\$16.99
√prime	√prime	√prime	√prime	√prime

- UNBALANCED XLR to 1/8 cable connects an iPhone, iPod, MP3 player, tablet, laptop, or voice recorder to a mixing console or powered speakers; Connect a smartphone with headphone jack to XLR input; Connect a tablet using an instrument App into a mixing console for a performance
- XLR TO AUX cable combines the left and right stereo signal from a source with 3.5mm stereo output to a single mono feed; The 1/8 to XLR cable provides a quick and convenient solution to connect many devices with the common mini phone jack to mixing and speaker equipment with XLR female ports
- PRO-GRADE PERFORMANCE with oxygen-free copper (OFC) conductors to deliver pristine sound; Bare copper braided shielding provides maximum cancellation of hum and noise; Polyethylene insulation improves high frequency response
- ROBUST CONSTRUCTION includes a flexible PVC jacket with gold-plated connectors in a rugged metal housing; XLR male connector has molded strain relief to support the weight of the connector;
   3.5mm TRS connector has 360 degree easy-grip treads for frequent unplugging and durability
- 3.5 TO XLR COMPATIBLE with a mixing console or powered speakers such as the Behringer EUROLIVE or Behringer Xenyx

### **Lavalier mic**

Musical Instruments > Microphones & Accessories > Microphones





Audio-Technica ATR-3350IS Omnidirectional Condenser Lavalier Mic with Smartphone Adapter by Audio-Technica 含含含☆☆ ~ 668 ratings   119 answered questions	Currently unavailable. We don't know when or if this item will be back in stock. © Deliver to Michael - Grayslake
Currently unavailable. We don't know when or if this item will be back in stock. Eligible for <b>amazonsmile</b> donation.	60030 Add to List
<ul> <li>Engineered for intelligible, accurate voice reproduction. Omni pickup pattern offers full coverage</li> <li>Ideal for video use, and is a great choice for aerobics/dance/sports instructors</li> <li>Low-profile design assures minimum visibility. Dual-mono 1/8" output plug connects to a video camera, DSLR, or handheld audio recorder's stereo 1/8" input, to record audio on both left and right channels</li> <li>Smartphone adapter provides instant compatibility with newer smartphones (Android, iPhone, etc.)</li> </ul>	Share 🔽 📑 🎔 🖗 Have one to sell? Sell on Amazon

#### Q Report incorrect product information.



Alexa can track your orders

Just ask, "Alexa, where's my stuff?" Learn more about notifications with Alexa.

### BOYA BY-1 Lavalier mic \$19.50!





BOYA BY-M1 3.5mm Electret Condenser Microphone with 1/4" adapter for Smartphones iPhone DSLR Cameras PC

by BOYA

 $\uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$  1,674 ratings | 248 answered questions

#### Price: \$19.50 & FREE Shipping

Your cost could be \$9.50. Eligible customers get a \$10 bonus when reloading \$100.

Not eligible for Amazon Prime. Available with free Prime shipping from other sellers on Amazon.

Eligible for amazonsmile donation.

- Clip-On Mic for Smartphones, DSLR, Camcorders, Audio recorders, PC etc
- Omni directional condenser microphone
- High-quality condenser is ideal for video use
- Low handling noise
- Vidpro XM-L Wired Lavalier microphone 20' Audio Cable

#### New (15) from \$19.14 <prime FREE Shipping</pre>

#### □ Report incorrect product information.



Alexa can track your orders Just ask, "Alexa, where's my stuff?" Learn more about notifications with Alexa.

Roll over image to zoom in

### **BOYA Dual Lavalier mic**

Musical Instruments Deals Guitars Bass Amplifiers & Effects Keyboards Drums Recording DJ & Karaoke Band & Orchestra Live Sound Pro Store

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SmartPhones



DSLR Camera







BOYA Professional Dual Lavalier Microphones, Omnidirectional Condenser Clip-on Lapel Mic for Camera, DSLR, iPhone, Android, Samsung, Huawei, Sony, Laptop, Guitar, Great for Interview, Youtube, Rap, Po

by BOYA ★★★★★ × 51 ratings

Price: \$39.95 **vprime** & FREE Returns

You can get 5% back on all Amazon.com purchases with the Amazon Prime Store Card. No annual fee.

Eligible for amazonsmile donation.

- [PREMIUM VIDEO MIC] NO need buy two lapel Clip-on micophones, a BOYA dualhead Lavalier Microphone helps two people to make video recording at the same time, it is a better choice for your video project, Efficient and Convenient!
- [WIDE COMPATABILITY] 3.5mm connector, it can connected with laptop PC computer,Smartphone, DSLR Camera, Guitar and more for high-quality sound recording, Great for Interview, Podcast, Speech, Conference, Vlog, Video,Youtube Podcasting,Studio, Video Recording, Rap,News recording,Guitar
- 【WONDERFUL SOUNDS QUANLITY】 This is a strengthful and powerful dual microphone which is designed by metal mic capsule and have a stronger antiinterference function, bringing you more pure and crisp sounds, escpcially, when you put the windscreen foam on
- 【360° PICK-UP SOUNDS】 The professinal omnidirectional microphone has equal sensitivity at all angles, which can pick up sound from all directions, which comes with 157 inch ultra long cable and requires no addition application to work, it is conveient for long distance shoting
- 【BOYA WARRANTY】 We are professional and well-know audio supplier and supply High-Quanlity product and service to you, 12 months warranty and quanlity promise

#### Compare with similar items

Report incorrect product information



### Samson SE10x Earset microphone

#### 🥯 Samson SE10x Omnidirectional Earset Microphone

Headworn Omnidirectional Mini Condenser Microphone with Moisture-resistant Coating, Retaining Band, and Adapter Cables - Beige Write your review | Item ID: SE10x





#### \$**99**.99 Sweetwater Savings: \$35.00 MSRP: \$134.99 FREE Shipping Q FREE Tech FREE 2-year Support Warranty As low as \$5/month 0% Interest for 24 Months\* See all payment options ✓ In Stock! Add to Cart Add to list **ASK AN EXPERT** Our expertly trained Sales Engineers are ready to help! (800) 222-4700 🖂 Email

#### Share this with your friends:

 $\mathbf{f} \checkmark \mathbf{P} \bigotimes \mathbf{B}$ 

SAMSON

### **Shotgun microphone**

Musical Instruments Deals Guitars Bass Amplifiers & Effects Keyboards Drums Recording DJ & Karaoke Band & Orchestra Live Sound Pro Store

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Just ask, "Alexa, where's my stuff?" Learn more about notifications with Alexa.



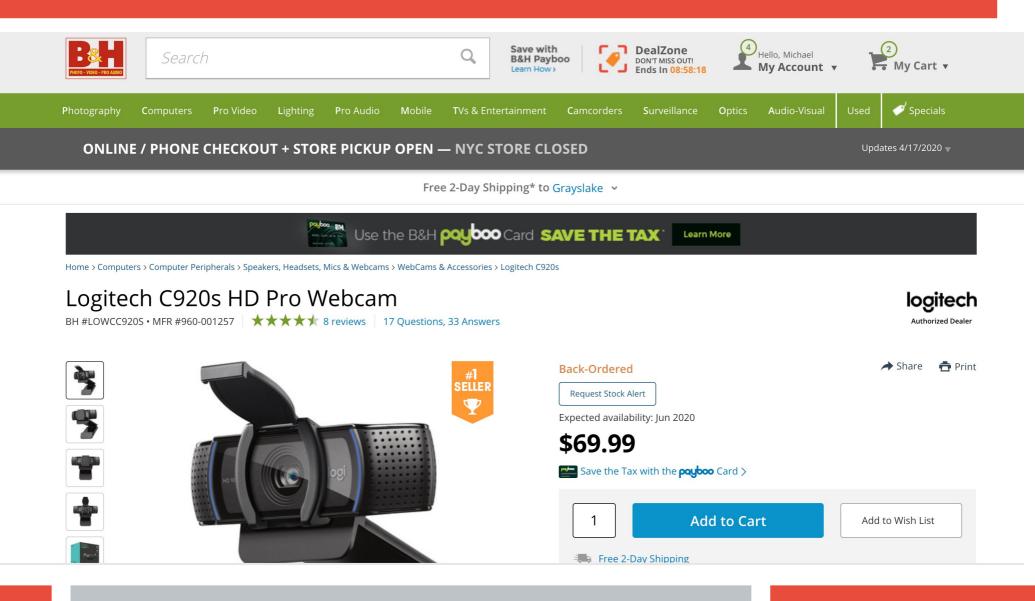
Screenshot

### **Quotations of Sensei Alex @alexlindsay**



"Having an external audio mixer is a blessing"- Alex Lindsay

### **USB Webcam - Logitech c920x**



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### Alex's favorite \$199

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#### Cisco TelePresence PrecisionHD USB Camera - CTS-PHD-USB-1PAC by Cisco

★★★☆☆ ~ 8 ratings | 6 answered questions

#### Available from these sellers.

Eligible for amazonsmile donation.

- 2.7 Megapixel CMOS Sensor
- 1280 x 720 pixels 30 fps 720p
- Aperture f/1.7, Auto Focus, Auto light adjustment
- · Ultra-Wideband Microphone
- Laptop, Desktop, and Stand alone mounting

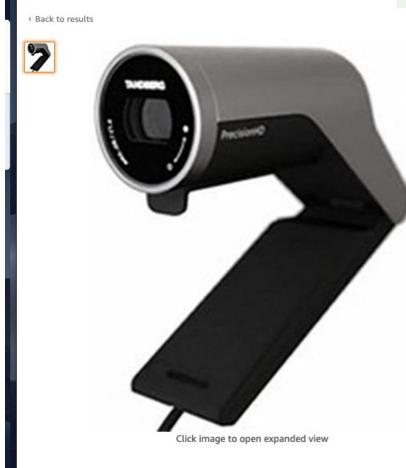
#### Compare with similar items

C Report incorrect product information.



Alexa can track your orders Just ask, "Alexa, where's my stuff?" Learn more about notifications with Alexa.

### Alex's favorite 10 @ \$10,000 FREE Shipping



Cisco TelePresence Webcam - 2.7 Megapixel - 30 fps - USB 2.0 - 10 Pack(s) by Cisco

#### Price: \$10,000.00 & FREE Shipping

Your cost could be \$9,990.00. Eligible customers get a \$10 bonus when reloading \$100.

Not eligible for Amazon Prime.

Eligible for amazonsmile donation.

- Cisco TelePresence Webcam 2.7 Megapixel USB 2.0 10 Pack
- Manufacturer:Cisco
- Manufacturer Model Number:Cisco
- Weight:1 Pounds
- Brand:Cisco

#### Report incorrect product information.



Alexa can track your orders Just ask, "Alexa, where's my stuff?" Learn more about notifications with Alexa.

### Can't find a webcam in stock to buy?

Use the camera on your Phone or tablet for your computer cam!

**IOS – EpocCam** shows up on MacOS as a camera https://www.kinoni.com/

**Android – DroidCam** contains a web server - Web and MJPEG access from browser & Windows and Linux apps https://www.dev47apps.com/

### **Quotations of Sensei Alex @alexlindsay**



"I don't plan on sunny days, I plan for rainy days"- Alex Lindsay

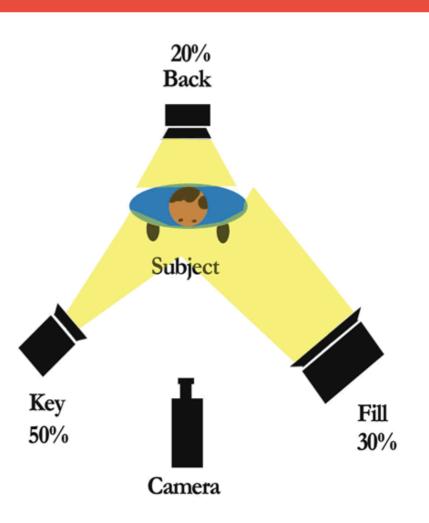
### **Good Lighting**

"Key light" -ABOVE & behind the monitor

Fill light – to the side

Back light

Lower light, below face aimed up



### **Good Lighting – Ring light** (get a larger one if you can afford it.)



8" Ring Light with Tripod Stand - Dimmable Selfie Ring Light LED Camera Ringlight with Tripod and Phone Holder for Live Stream/Makeup/YouTube Video, Compatible for iPhone Android, Remote(Upgraded)

★★★★★ 1,639 ratings | 138 answered questions

#### Price: \$51.99 </prime & FREE Returns

#### Your cost could be \$41.99. Eligible customers get a \$10 bonus when reloading \$100.

#### Eligible for amazonsmile donation.

- [Dimmable Ring Light&Upgraded Arcuated Lampshade] Necessity of 3 Colors Lighting Mode: warm light for party; cool light for work; natural light for daily use. 10 Levels of Brightness: easily switch color temp between 3,200K and 6,500K to meet all your needs in different circumstances. Inspired by magnifying glass, upgraded arcuated lampshade is designed with radian for concentrated and gentle illumination.
- [Multi-Functions Extra Lighting&Unique DIY Structures] Perfect extra light for video shooting, live streaming, selfie photos, filming, video recording, online tutorial, dark scenery vlogging. Professional Video Rig for creating live videos/recording with smartphone or computer for Facebook, YouTube, twitter, snapchat, facetime, etc. 3 DIY structures can add more lighting, mobile phone or camera, bring more brightness and practicality to you.
- [2-in-1 Adjustable Tripod Stand] Our tripod stand itself can be used as a selfie stick or phone/camera tripod. Extendable from 14.5 inches to 52.5 inches, just lock it at desired length as you like, you can stand the ring light on the floor or just put on a table. With rubber mats wrapped on the bottom, protect your floor and desktop.
- 【Rotatable Universal Phone Holder】 The phone holder fits most smartphones with or without a case, suitable for iPhone XS / XS Max / XR / X / 8 / 7 plus / 6, Samsung S8 / Note8, etc. Rotate to the angle you want, and free your hands when making videos/recording with smartphones. With non-slip rubber to hold your phone firmly without scratching it.
- [USB Powered&Wireless Remote Control] No battery needed, works with most devices that support USB port, like laptop, PC, power bank, USB charger, AC adapter, and etc. A Wireless REMOTE that allows you to control your phone and taking hands free photos. Android and iOS compatible.

#### Compare with similar items

#### Report incorrect product information.

Aleva can track your orders

### Good Lighting – Chef Andres invents the cap light



#StephenAtHome #WorldCentralKitchen #ChefJoséAndrés

Chef Jose Andres: World Central Kitchen Is Feeding Thousands Of Americans Every Day

# **Good Lighting** – Chef Andres invents the cap light



#### #StephenAtHome #WorldCentralKitchen #ChefJoséAndrés

Chef Jose Andres: World Central Kitchen Is Feeding Thousands Of Americans Every Day

# Good Lighting - Chef Andres invents the cap light (it's a selfie light for smart phones)



# **For your Phone**



Meifigno Selfie Phone Camera Ring Light with 36 LED [Rechargeable], Clips On, 3-Level Adjustable Brightness Makeup Light for iPhone X Xr Xs Max 7 8 Plus 11 Pro Android Samsung Photography (White)

by Meifigno ★★★★☆ ✓ 590 ratings | 46 answered questions Amazon's Choice for "ring light for laptop"

#### Price: \$14.98 </prime & FREE Returns

Your cost could be \$4.98. Eligible customers get a \$10 bonus when reloading \$100.

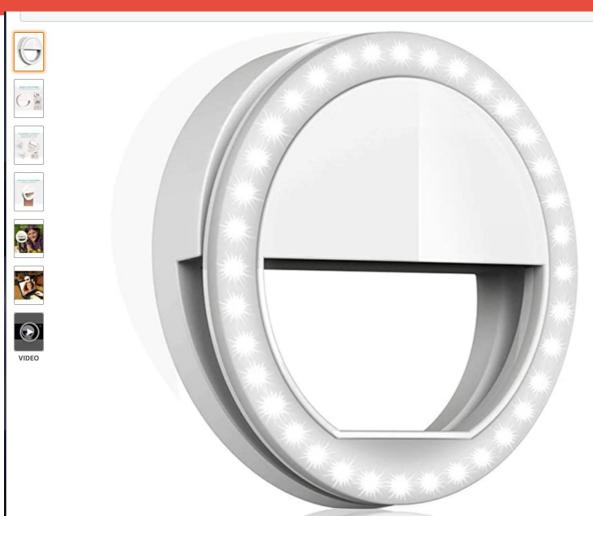
Eligible for amazonsmile donation.

Color: White



- This Popular Meifigno Selfie ring Light is Available ONLY by seller Meifigno and any other sellers are selling counterfeits. Be sure to look directly above this line for: "Sold by Meifigno and Fulfilled by Amazon.". If any other seller is listed, look to the right for Sold By Meifigno.
- Rechargeable with Micro USB Cable: This phone camera selfie ring light includes a built-in rechargeable battery with CE FCC ROHS MSDS certification without requiring any extra disposable batteries and worrying about security. You can charge this selfie light ring via the USB charging cable(Included) when the battery level of the selfie ring light depleted, work time lasts over 50 minutes in full power.
- 3-level Adjustable Brightness: Three-level settings for various uses -- make-up, selfie photos, videos and live streaming, Slightly press the dimmer button to change the brightness levels, followed by low, medium and high brightness mode, offers desired bess as you required. This selfie light ring enables to serve various needs wherever indoor or outdoor, night or day.
- Lightweight and Portable: Pocket sized and extremely compact, It is easy to take the portable and lightweight cellphone kit in your pocket or handy purse. In addition to acting as a selfie fill light, you can also use it as a flashlight in the dark environment, or long press the power button to enter full-flash mode in musical party and camping.
- 100% Money-Back GUARANTEE: If you're not happy with this selfie light ring for whatever reason, we guarantee a new replacement or release a full refund. Choose this selfie light for your phone, you have no any risk.

# For your phone



#### QIAYA Selfie Ring Light for Phone Camera Photography Video, BatteryPowered Clip White

by **QIAYA** 

★★★★☆ ✓ 1,150 ratings | 110 answered questions

Amazon's Choice for "phone ring light"

#### Price: \$13.99 </prime & FREE Returns

Your cost could be \$3.99. Eligible customers get a \$10 bonus when reloading \$100.

Eligible for amazonsmile donation.

- Unique and Original Design. For even and soft light diffusion, this ring light was specially circle shaped, packed in elegant gift box, which makes it a perfect gift for anyone you love.
- Easy to Use. Just put in 2 AAA batteries (NOT included) and enjoy your enhanced selfies! No more having to run around the house looking for the perfect spot in your house to take a photo.
- High Brightness with Three-Level Dimming Options. Easily adjust the brightness level by pressing single button. Enjoy your selfies no matter it is indoor or outdoor, daytime or at night.
- Light Weight, Compact Size. Portable size makes it easy to put in your purse. Simply
  put it on your phone, tablet, laptop or video camera to record quality pictures and
  videos for every important moment in your life!
- It will come in handy whenever you need extra light for making up, taking photos, making videos and more!

#### □ Report incorrect product information.



Alexa can track your orders Just ask, "Alexa, where's my stuff?" Learn more about notifications with Alexa.



"No analog run more than 6 feet in length" - Alex Lindsay

# **Professional Video technology**

#### NDI – Network Device Interface - Video over IP

SDI – Serial digital interface – uncompressed, unencrypted

Video over coax – professional (not HDMI) 300 meter cables

#### Dante – Audio / Video over IP

**RTMP – Real Time Messaging Protocol –** for audio/video streaming feed from clients to CDN (YouTube, etc.) servers

# **Video equipment**

#### Blackmagic Design ATEM Mini \$295 and ATEM Mini Pro \$595



4 HDMI A/V inputs, 2 Analog audio inputs

USB out - Looks like a web cam

Does PiP, keying, effects

42

Use a separate Phone, tablet, PC monitor input & switch to for presentation

Professional quality remote control from anywhere with apps, smartphone, tablets

ATEM Mini Pro has Ethernet and records to USB media



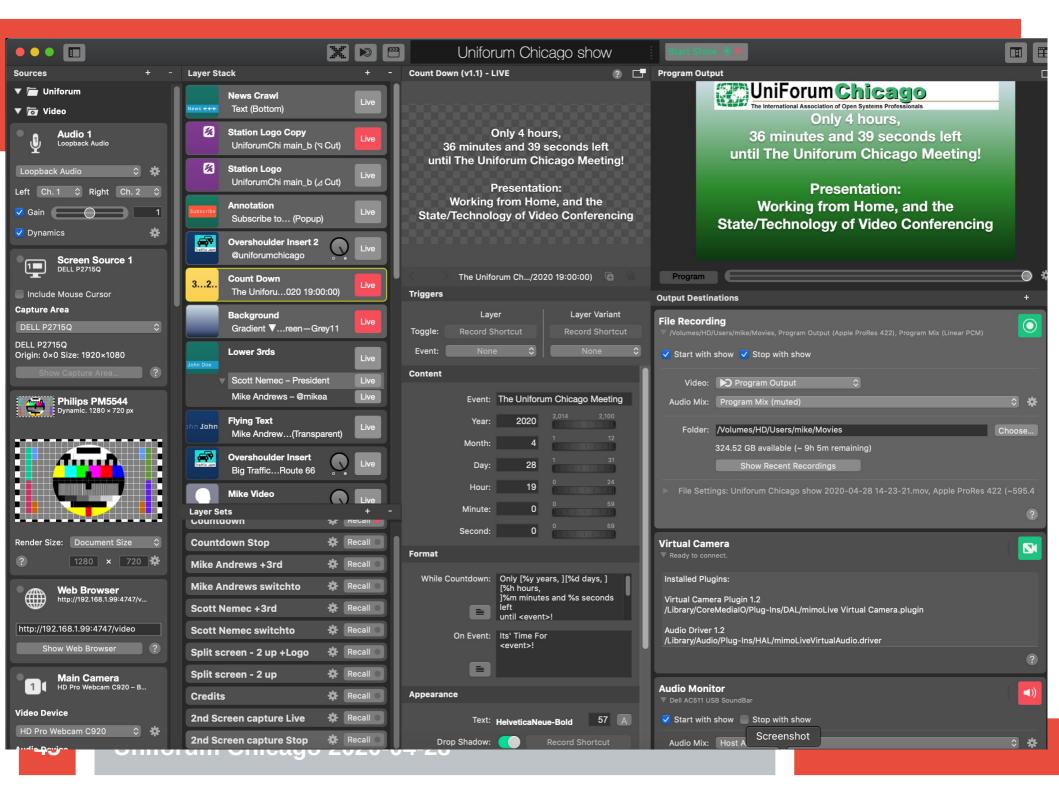
#### "A Blackmagic switch with a Blackmagic camera is very good life"-Alex Lindsay

# Video equipment

#### Boinx Software mimoLive for Mac

https://boinx.com/mimolive/ (you're soaking in it)







"Video Transitions: Only Dissolves. Fade to black, and cut" - Alex Lindsay

## Live streaming

- Zoom and mimoLive can stream LIVE to Facebook, Twitter (Periscope?) and YouTube
- You need to log in and enable your account on the service
- They will post the recording after the Live show Alex: 90% of viewers watch VoD (Video on Demand)

#### **Facebook is having some audio – video synching issues**

You can right-click on videos that are out of sync and notify FB of this fact, they will go back and correct the stream, but with the situation, it may take awhile to get it corrected. (Months)

Wisdom of Sensei Alex @alexlindsay

# **EVENTS**

# No need to travel

# No Skeuomorphism

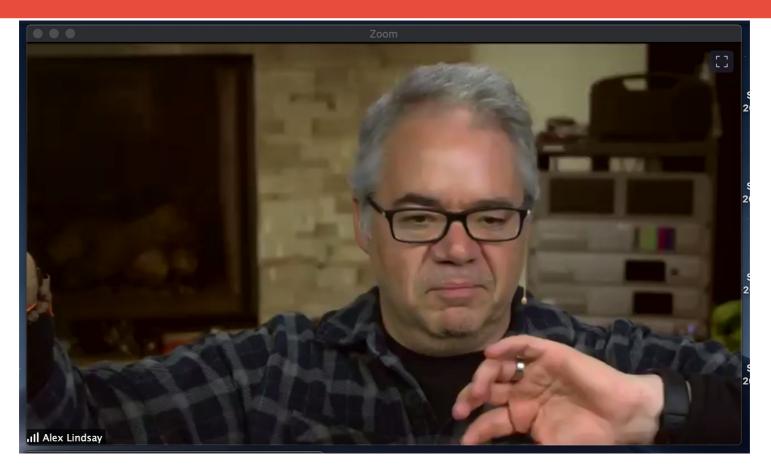
"They didn't make cars like horses"

# **Design for virtual**

Attendees can attend every track

Have social meet-ups on the net

48



Alex: Plan 1.5 times the travel time

"Early is on-time; On-time is late; late is dead" Alex Lindsay

# And now for something completely different...



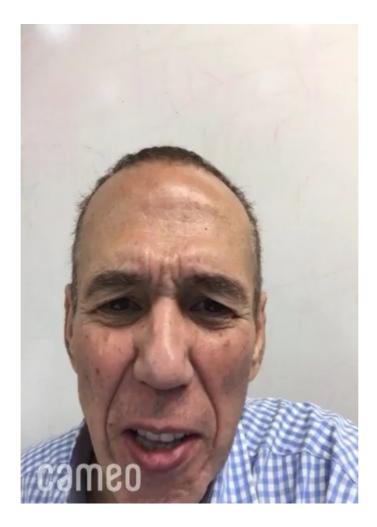
# **Our wedding**



# **Our wedding guest**



# **Our wedding guest**



#### **HAPPY HOUR!**

