

Plug & Play Live Streaming

Presented by:



Plug & Play Live Streaming

Learn:

Live Streaming a Video Conference

Optimizing Bandwidth & 1080p vs 720p

Free Download:

Bandwidth Optimization Checklist &
Video Overlay Starter Kit!

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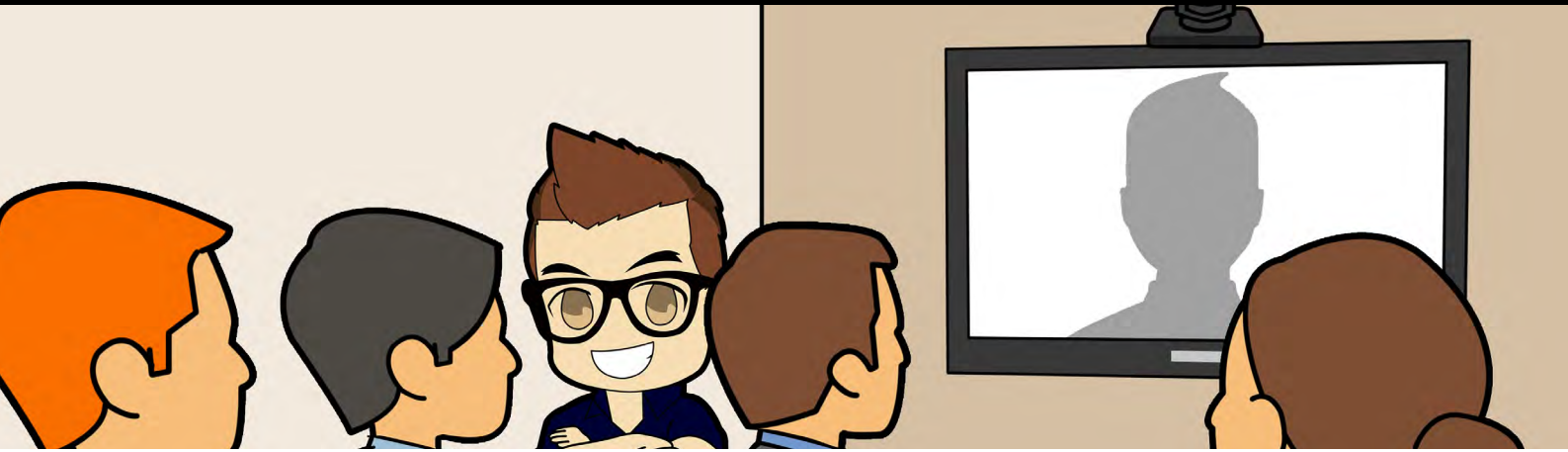
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If you have everything we covered in this eBook down, the building your audience is the least of your worries. If you build it they will come...

BONUS: Choosing the right camera for your space



Plug and Play Live Streaming is updated and maintained by  .



WRITTEN BY
Paul Richards



Business Development for
PTZOptics

Highlights

- Start to finish tips on building your live stream like the pros
- Looking at solutions from the Desktop to cloud
- Watch our live streams every Friday to learn more...
- Available for Q&A during any live stream
- Inspirational quote

Bandwidth Optimization Checklist

Share

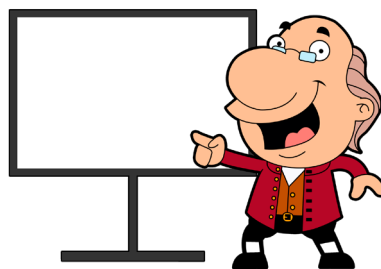
What is a webcast?

“If you can’t explain it simply, you don’t understand it well enough” - Albert Einstein

Introducing the term Webcast...

A webcast is a fairly new term describing the ability to live stream audio and video to your audience. Access to live streaming and content delivery services have made webcasting a powerful new tool for three main reasons. Firstly, the entry cost to webcasting is now free with Google Hangouts on Air. We will review free and paid solutions that can take a regular webcast and turn it into a TV studio quality broadcast in this eBook.

Dacast, StreamZilla, UStream & YouTube Live



Second, a revolution in content storage and production is allowing users to store unlimited video files in cloud on YouTube Live for free! Not only is storage free but professionals who can live stream a well mixed production can save hours in post production! Finally, high speed bandwidth is available in most developed countries and it’s only getting better with time. 4G is sufficient for 720p live streaming and 5G will make way for a 4K and 8K future. So the future is bright and bandwidth availability is finally reliable for your live streaming inspirations.

Live Streaming Software

Room Types



Desktop



The "Nook"



Huddle Room



Conference Room

Join our Friday Webinar!

vMix & Wirecast

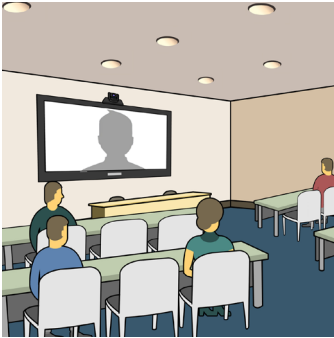
Live streaming software leaders such as Wirecast and vMix are now allowing users to turn a regular Mac or PC into a studio broadcast appliance. These software solutions provide us the ability to mix professional looking productions with overlays, lower thirds and just about anything you can find on TV. For example, I really liked the way CNN displayed their logo with a clock in the lower right hand corner of the news broadcast. So I created a PNG file in Photoshop that would work with my logo and overlaid a live time ticker. These live streaming tools are so robust, I challenge you to find a television effect you cannot mimic with a Adobe suite and Wirecast or vMix.



There are two main areas of focus in live streaming software: the preview window and your output window. The preview window is where you build your upcoming layout for your live broadcast. The live window is what you are live streaming to your viewers. Live broadcasters are always managing what is live with what is coming on next and today's software packages make it easy to manage. In fact, managing live streaming is becoming so easy vMix has created a way to manage the entire system from a iPad touch screen. This allows users on a internal network to take remote control of the live broadcast. Technically with a little networking, one could take control of the live broadcast from anywhere in the world! (more on page 10)

Video Conferencing Software

Room Types



Training Room



Board Room



Auditorium

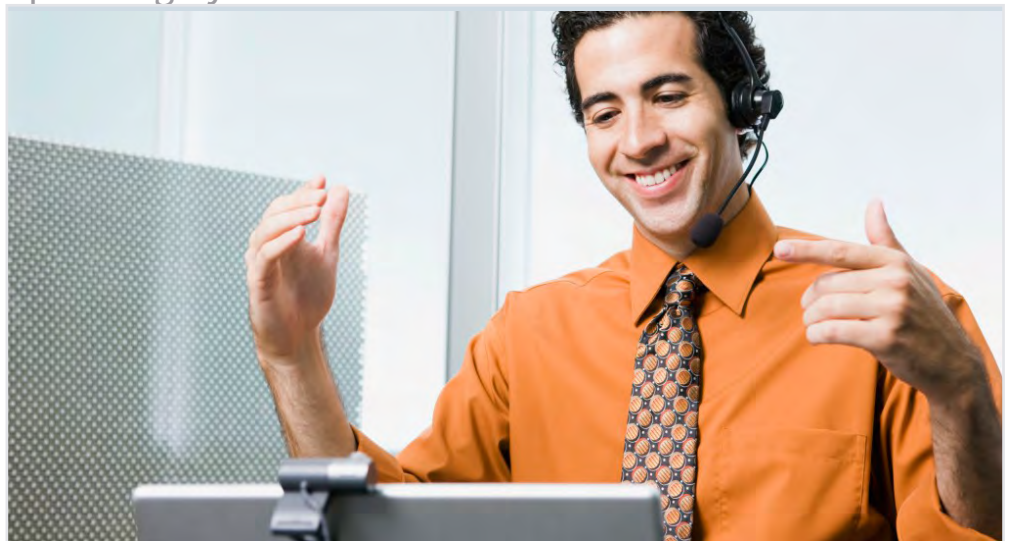


Mobile Room

Informative Webinars
Every Friday

Video Conferencing software today has become incredibly easy to use. I would argue that video conferencing software is much easier than live streaming software. One main difference is that video conferencing is normally included as a subscription and video production software is a one time purchase. That's because video conferencing services are hosted in the cloud and provide real time communication capabilities perfect for live interviews or quick face to face meetings.

When choosing a video conferencing software to work with I would suggest using one that feels intuitive. It's also extremely important that your video conferencing software of choice is reliable and flexible enough to work with all modern mobile devices and operating systems.



The above picture features a live webinar participant. It is easy to add live participants to your webinars using a video conferencing service.

When we start adding layers to our live broadcast it's essential that our video conferencing layer is a solid foundation we can use to for live video switching and wireless content sharing. For these reasons we use Zoom Video Conferencing because we can easily select a full screen 720p view of up to 50 HD sources.

How to live stream a video conference

I'm excited to unveil our latest "live streaming webinar" setup! Now that it's been tested I can share this fun (and disruptive) new technology combination. It's always interesting when two technologies converge to create something new and great without adding too much complexity. Video conferencing and live streaming have both become extremely easy to use on their own right.

So we decided to combine these "easy to use technologies" from video conferencing (Zoom) and live streaming (YouTube Live & vMix) to create a live streaming webinar powerhouse! Live streaming is now basically free with YouTube Live and video conferencing is as well with Skype and Google Hangouts on Air. But we wanted to take things a step further to enhance our experience with Zoom (for Video Conferencing) and vMix/Wirecast (for Video Production & Live Streaming).



We couldn't pull it all off without some help from Epiphan (AV.IO frame grabber) to grab the video conference for live streaming purposes. Once we have the live stream in vMix we are able to stream a broadcast where up to 50 participants can participate and untold thousands can watch live with broadcast additions such as: curated live twitter feeds, green screen backgrounds, video overlays and more . OK. WOW! This is really a BIG deal right?

How PTZOptics
Streams PDF

Everything that we just talked about is well documented on <http://live.ptzoptics.com> where you can learn more.

Plug & Play Live Streaming

Ease of Use & iPad Control:

Once everything is set up, running the live stream is a breeze. Zoom has an amazing iPad app for meeting control that even includes camera control. We can easily share any content directly with our viewers via a wireless screen share anytime we like. We can also control vMix with our iPad over the network to start new video presets, overlays and sound effects that are output to YouTube Live.



Broadcast Quality Production

VMix is full of broadcast features such as cuts, fades, video overlays and more. Besides the fact that it brings your live stream to another level it also saves time in post-production. vMix gives you the tools to live stream your show like the pros and once it's over YouTube will save your recorded content for you. Your live stream that you embedded into your webpage will now be available on-demand as a recorded show for the world to watch.

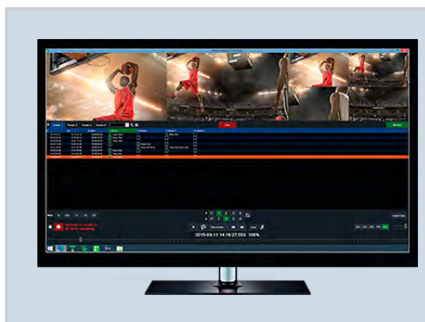
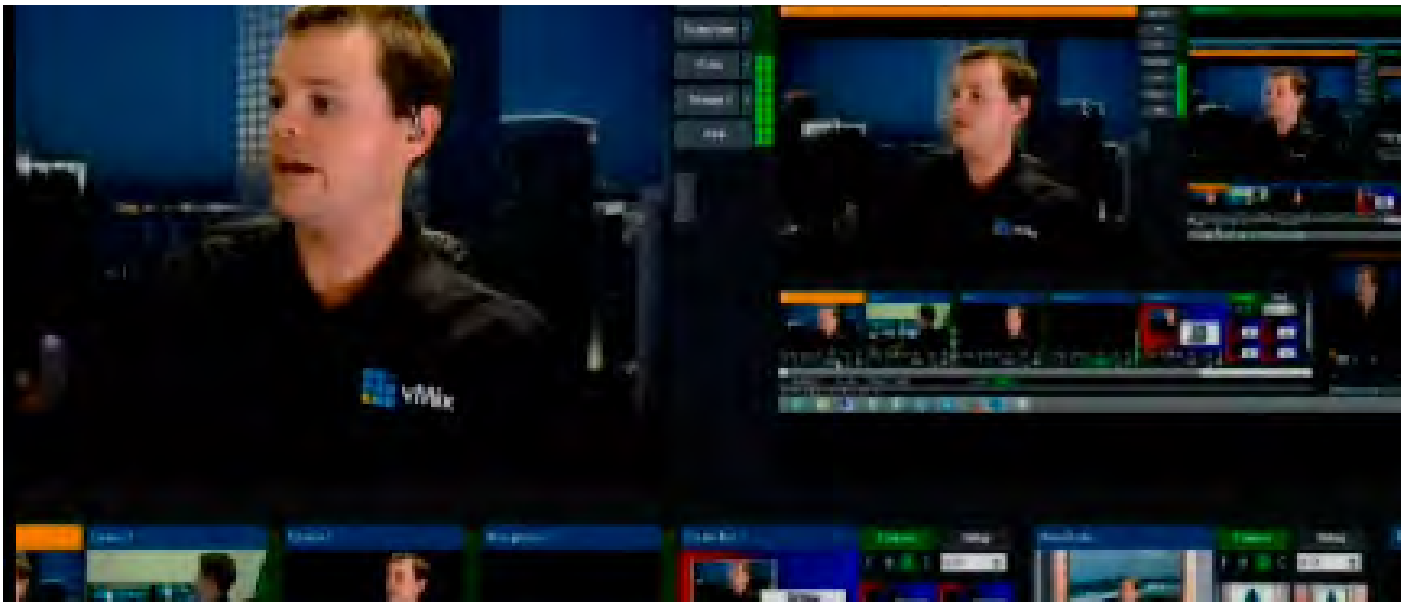
Live Video Conferencing Capabilities

Zoom makes video conferencing easy. It's our preferred communication tool and we use features from wireless presentation to camera control during our live show. When we host a live show attendee's now have two choices: join the live webinar or watch live on YouTube. When they join the live video conference users have full control of how they view the conference. This means attendee's can chose how they want to watch the show with the ability to "pin" just one video stream full screen, focus on "active speaker" or a full gallery view with equal video streams from all participants. We have the same controls as a live broadcaster and therefore we have access to up to 50 HD video streams!

Adding Layers

Layers or Inputs are what come together to create our live production. A input might be a webcam, a speakerphone, a picture or a video. Each input should be selected and planned out for your live event. For example many television shows like to overlay a curated slideshow of pictures. You might want to have 3 pictures that you show on top of your live video as you explain a certain topic. These pictures are considered inputs that you can overlay during your live stream with a click of button.

As you create your folder of “overlay assets” think about which assets you can reuse and which assets are unique to your individual episode. The assets you can reuse should be saved into a template for easy access. This way when you start up your live streaming software you can load up all your standard overlays and simply add the unique ones you need for your specific episode.



Try vMix Free for 60 Days!

vMix is a amazing live streaming software you can use on any Windows PC. vMix is extremely easy to use and to make use you like vMix offers a unlimited 60 day trial!

Try Zoom Free for 30 Days!

Try a Professional Unlimited Zoom Video Conferencing license free for 30 Day! Compliments of PTZOptics. Check out the simplified interface with unlimited time for video conferencing with clients and friends! Free Trial Here.





WRITTEN BY
Paul Richards



Business Development for
PTZOptics

Highlights

- Start to finish tips on building your live stream like the pros
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- Inspirational quote

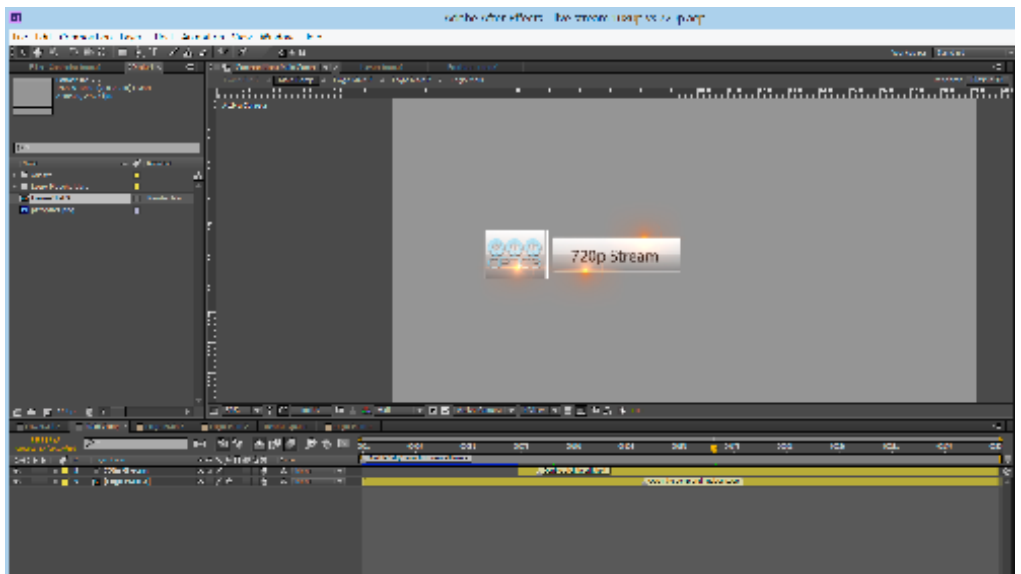
Download
"Video Assets" Starter
Kit Free!

Share

Rendering Video Overlays

Adobe After Effects is now available via the Adobe Cloud for only \$19.99 a month...

Rendering video overlays are important for creating a polished television quality broadcast look and feel. One of the most popular video editing tools we use is called Adobe After Effects. Adobe products are now available as a monthly cloud subscription with a free 30 day trial so getting started with AAE is quite easy.



Learning how to use AAE is not exactly easy though and you may want to consider hiring a freelancer who is skilled with this software. You can also download tons of free content right on YouTube Live or other sources online that is made for live broadcasts such as: green screen backgrounds, buttons and overlays. Once you have access to AAE or a freelancer you can start building out your video assets folder. You want to create video files that have RGB + Alpha channels so that they have transparent over your main video feed. A perfect example of this is a YouTube subscribe button that slides out over your video. By rendering a button to slide out over a transparent background we can overlay this button to pop out during our live stream.

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1 Month of Free
Video Conferencing

Share

Laying out your composition

We have a lot of options when it comes to laying out our live stream composition. Ideally the main video feed is front and center. We can optionally work with a green screen which opens up a world of possibilities including virtual sets. Virtual sets superimpose your video onto various live broadcasting studio templates where you can control a virtual camera view. Most virtual sets include 2-3 camera views which emulate a professional live studio with cameras that move on expensive rail systems.



Once you have your main video in place the next primary space of real estate is called the lower third. Lower thirds are used as titles to display show information such as: program info, host names and call in numbers for viewers. You can either render your own lower thirds or use the built in title creator software in vMix or Wirecast. I like using the built in tools from a workflow perspective. It's super easy to create two or three lower thirds titles right in your live streaming software for use during your next show.

The next spaces available for overlays are the corners. I like to add a CNN style clock to the bottom right corner of my live streams embedded with a real time clock. You can also consider adding a live ticker or Twitter feed to the lower spaces of your broadcast.

Live Streaming and Recording:

The absolute best place to get started with live streaming is YouTube Live in my opinion. YouTube Live is extremely simple to get set up and it's free so you can test the waters before you spend any money on a Content Delivery Service. In your YouTube Live creator studio you will notice a "live stream" tab with two options. You can either "stream now" or "schedule a event". I highly suggest scheduling a event unless you are in a huge rush because the scheduled events allows for previews and additional options for getting set up.

Once you have scheduled your first event YouTube Live will give you RTMP streaming key to use with our live broadcasting software. You should input that key into your preferred video mixing software and go ahead and start streaming. This initiates the connection between your computer and YouTube which will show details of the stream quality on the YouTube event dashboard. Once you see that your live stream is "GOOD" you can preview your live stream. For important live streams you may want to preview the live stream from a separate computer to ensure everything is set up correctly for your viewers sake. But once you get the hang of this it's a easy and reliable live streaming set up.



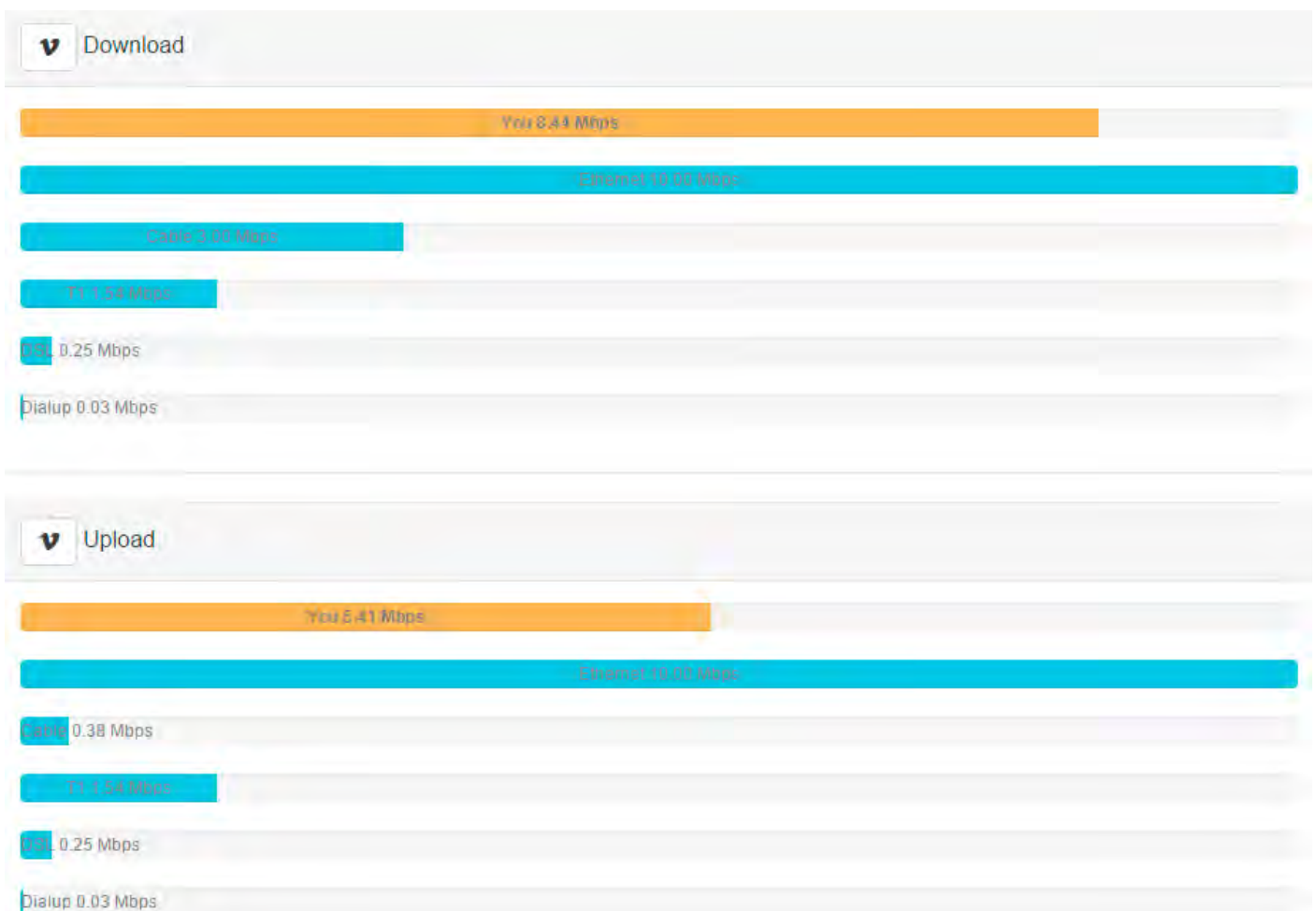
You can now press "start live steam" which will take your video live and start recording. Your live viewers will have access to a chat room on your YouTube video page which you might want to pay attention to. We have answered a lot of great questions from the chat room. Finally, once your live stream is finished YouTube will make the recording available on-demand.

Video Tutorial

PTZOptics has various video tutorials available for live streaming on our website. Make sure to check out <http://blog.ptzoptics.com> regularly to check out latest live streaming tips.

Understanding Bandwidth

All of this goes without saying that high speed internet access is a requirement. Access to high speed bandwidth is what makes all of this possible and we have a few free resources that can help you improve your experience. One tool called <http://speed.ptzoptics.com> will spot check your machines available bandwidth. This is a great way to check multiple machines with the same benchmark for quality. In general, we suggest a 5-10MBs up and down for live streaming a video conference. We also offer a complete live streaming checklist for optimizing bandwidth. Our checklist reviews basic and advanced tips such as connecting to WiFi over 4G or Ethernet over WiFi. Paying attention to network connections will go a long way to improving your overall experience.



Live Streaming can use a lot of bandwidth. That bandwidth travels from the server that delivers your content to the network of the participants joining your live stream. The above results come from our free bandwidth testing tool available at:

<http://speed.ptzoptics.com>

Conclusion: Building your Audience

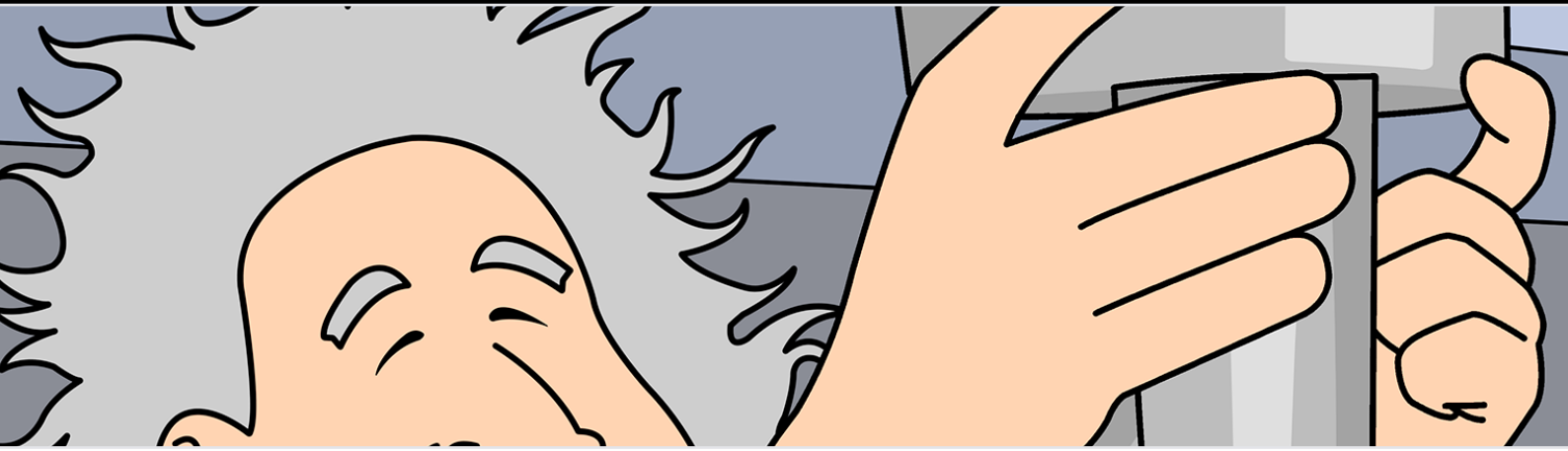
If you have read everything we covered in this eBook, building your audience is the least of your worries. *“If you build it they will come.”* But a few tips on on-line promotion will go a long way to success. My first tip would be to incorporate social media promotion into your routine. See if you can tap into some hashtags on Twitter that are relevant to your broadcast topic. See if you can share your next live stream with a group on LinkedIn partial to your cause.

I would also suggest teaming up. Two heads are always better than one and with video conferencing at your finger tips, teaming up is only a click away. See if you can co-market with your live guests and share the love. Your live guests may have some friends and followers who are the perfect viewers for your next live stream.

Finally, create a nice landing page to collect registrations. Tell your story and sell your shows value to entice viewer to click the register button. Maybe create a promo video and embed that video into your landing page. Heck, I even include complete slideshare decks for important live shows. They are great for embedding the recorded show for later use too.

So I know this has been a lot of information. We hope it has been helpful and we look forward to being a continual resource for your live streaming aspirations.





WRITTEN BY
Joseph Mulcahy



Joe is chief operating office
for PTZOptics

Highlights

- Choosing the right camera for your space
- Details on field of view and optical zoom
- Look your best and avoid some top mistakes
- See various video tutorials that will help you get started right away

The White Paper

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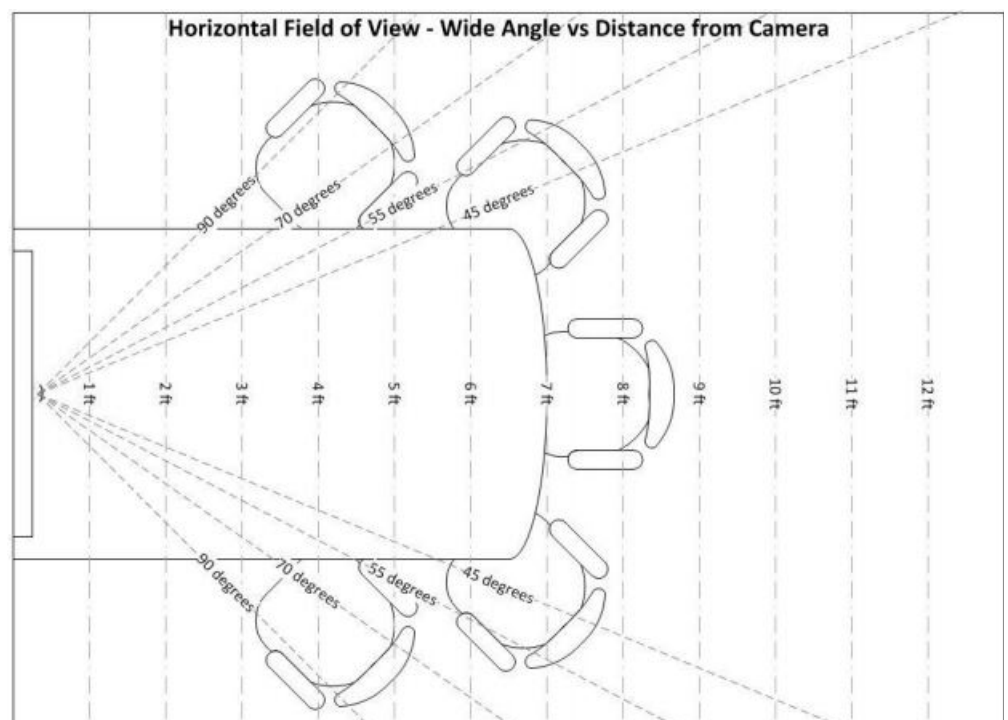
Extra: Choosing the right camera for your space

Life is like a camera... Focus on what's important, capture the good times, and develop from the negatives. If things don't work out, just take another shot!

How we got here today

Web cams that clip on top of your PC monitor have instigated a revolution in desktop video conferencing made up of a whole array of great web based video conferencing tools, like Skype, Oovoo, Google Hangouts, WebEx, Cisco Jabber, Microsoft Lync, ClearOne Spontania, Zoom.US, Polycom RealPresence, GoToMeeting and many others. These software solutions originated in the consumer market but were quickly adopted by the commercial and professional markets, when their ample benefits were recognized.

The Goal: Ideal Camera Coverage



Choosing the right camera for your space

Where we are today:

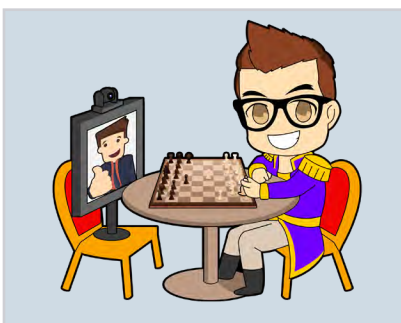
Today we have an answer to the webcam dilemma with an array of USB connected PTZ (Pan-Tilt-Zoom) cameras, allowing you to effectively use web and cloud based videoconferencing in meeting spaces of all sizes. This abundance creates a new problem for the user. “Which camera is right for my needs?”

Resolution:

This one is easy as “more is always better”, as long as you can use it effectively. While 720p cams were the norm in the recent past, advances in web conferencing software, video compression, imaging chip cost reductions and network bandwidth improvements have placed the benchmark squarely on 1080p-30 (1920x1080 @ 30Hz). This means that you should make sure that your camera is able to natively capture this resolution. This is the resolution typically used today by high cost hardware solutions, like Cisco, Polycom and Lifesize, so the images you capture for web conferencing will be right on par with these high-end solutions.

Zoom Range:

Cameras typically offer 2 types of zoom, with some offering both. Optical zoom is the only one that matters, as digital zoom basically robs you of resolution by simply cropping the image to show the “zoomed” pixels only. True PTZ cameras will have optical zoom with a motorized lens that adjust for wide and telephoto shots. The amount of zoom, typically specified, for example as “3x” indicates the variation available as the lens distance from the imaging chip is adjusted. While this gives you a rough idea of the amount of zoom available, a better and practically useful specification is the Horizontal Field of View Angle (HFOV) range. This is typically specified, for example as “5 degrees to 45 degrees”. This range, (if accurately specified by the mfg/marketer!) should allow you to figure out exactly what any camera will capture throughout its zoom range.



Download the complete white paper

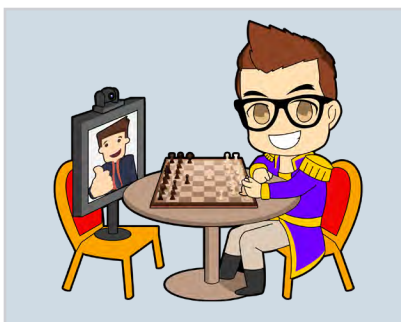
This whitepaper includes everything you need to know about selecting the right camera for your meeting space and continues where we left off above.

Extra: Choosing the right video conference software

	GoTo	BlueJeans	GoToLifeSize	GoTo	GoTo	GoTo	GoTo	GoTo	GoTo	GoTo	GoTo	GoTo	GoTo
Deployment Options	Web & On-Premise	Web Only	Web & On-Premise	Web	Web	Web, On-Premise, Requires legacy H.264 solution	On-Premise Only	Web, On-Premise	Web, On-Premise	Web, On-Premise	Web, On-Premise	Web, On-Premise	Web, On-Premise
Cloud Architecture	Web & On-Premise	Web Only	Web & On-Premise	Web	Web	Web, On-Premise, Requires legacy H.264 solution	On-Premise Only	Web, On-Premise	Web, On-Premise	Web, On-Premise	Web, On-Premise	Web, On-Premise	Web, On-Premise
Included add-ons, and how they are integrated	Supports all 4	Supports all 4	Supports all 4	Supports all 4	Supports all 4	Supports all 4	Supports all 4	Supports all 4	Supports all 4	Supports all 4	Supports all 4	Supports all 4	Supports all 4
Designed for interactive collaboration	Yes	Yes	Proprietary	Yes	Yes	Legacy Client, Web, On-Premise	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Content motion handling	Yes	Hybrid H.264	Legacy H.264	Requires content to be updated	Yes	Yes, in the order: Web, On-Premise	Yes	Yes	Supports all 4	Yes	Yes	Designed for streaming music, images	Yes
Content motion resolution	Yes	Legacy Endpoints	Requires external, 3rd party hardware	Limited ability	No	No	No	No	Yes	No	Yes	No	Yes
Cloud "video wall" of windows on multiple	Dual Screen Mode	Dual Screen Mode	Dual Screen Mode	Dual Screen Mode	No	No	Limited	Dual Screen Mode	Up to 4 external video displays	Dual Screen Mode	Up to 4 external video displays	No	Up to 4 external video displays
Video API	Yes	No	Varies by vendor	No	No	No	No	No	Integrated audio, call routing, etc.	Free Audio Conferencing & PBX Integration	via API only	No	No
Cost of implementing the solution	Tough	Easy	Tough	Easy	Easy	On	Tough	Tough	Easy	Easy	Tough	Easy	Easy
General IT knowledge required	Network Knowledge Required	No Complexity in Web or On-Premise environment	Tough	No Complexity in Web or On-Premise environment	No Complexity in Web or On-Premise environment	OK	Network Knowledge Required	Network Knowledge Required	No Complexity in Web or On-Premise environment	Network Knowledge Required	Network Knowledge Required	No Complexity in Web or On-Premise environment	No Complexity in Web or On-Premise environment
Integration with legacy room systems	H.323/SIP	H.323/SIP	Required H.323/SIP	Gateway Required	No	H.323/SIP	H.323/SIP	H.323/SIP	H.323/SIP	No	Requires Hardware	Complicated Set Up but Yes	H.323/SIP
Integrating with legacy room systems	Yes	Yes	Varies by Vendor	Requires Gateway	Limited	Single Stream	Limited	Yes	Native H.264	No	Requires Gateway	Limited	H.323
Price	One-time fee	Subscription (\$1,000/year)	One-time fee	Subscription	Subscription	Subscription	Subscription	Subscription	Subscription	Subscription	Subscription	Subscription	Subscription

So many choices...

Choosing the right online video conferencing software is not easy. That's why we have compiled a side by side comparison matrix you can use to aid your decision making process. This document contains information about the top 13 online video conferencing software providers available today. This document is available for free download below.



Download the complete PDF comparison

This comparison has been downloaded 1000's of times from the ConferenceRoomSystems.com website. We try our best to help you make the right decision!

Top 5 Feature Comparisons

Also, don't miss our popular blog post on the top 5 features for web video conferencing software. We compare the top industry providers in 2015!

[Blog post link here.](#)



Thanks for reading!

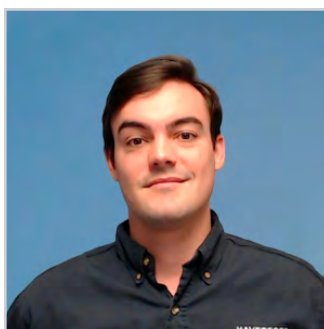
We are adding more content each month so stay tuned!



Only those who will risk going too far can possibly find out how far one can go.
T.S. Eliot



About the Authors



Connect

PTZOptics Team

The PTZOptics team is dedicated to covering the growing online video conferencing and live streaming industry with useful articles and how to videos. PTZOptics is well known for creating valuable solutions to common problems in the audio visual industry. Stay tuned for many more future releases...