

**VIDEO  
CONFERENCING  
SYSTEMS**

*Learn More:*

***A GUIDE TO  
VIDEO CONFERENCING***

## INTRODUCTION TO LEARN MORE: A GUIDE TO VIDEO CONFERENCING

Why travel for meetings? New video communication solutions will save you time and money.

Face-to-face meetings are the quickest way to get anything accomplished. But, trying to get your team members, executives, or clients all in one room at the same time can be a scheduling nightmare, not to mention costly and time consuming when you factor in traveling expenses.

What if you could make a one-time purchase that could eliminate the costs of plane tickets, gas, hotel rooms, or even trade shows? That sounds pretty good and will sound even better when you consider that Video Conferencing can do all of that plus give you greater freedom, flexibility, and powerful options for data sharing and collaboration.

**What follows is a useful guide showing that Video Conferencing can be as simple and reliable as a phone call, plus at look at the benefits of video communication for your business or home office such as:**

- Save your valuable time and eliminate costly travel expenses.
- User friendly systems are easy to make and receive calls.
- Share your data, desktop, and external video with the other callers.
- High video compression in today's systems allows high quality video even at low bandwidths.
- Systems that are "standards based" guarantee interoperability with systems from other manufacturers.
- Many options from personal systems, to room based, and multiple site video conferencing options available.

Your needs are as unique as your business and we offer tailored assistance for your questions that may not be answered in this guide.



Video Conferencing Systems is a virtual value added reseller that makes getting into and using video conferencing simple, easy and affordable. If at any point in this guide you get stuck, are unsure of what is being discussed or just want to skip the details and have someone select the right VoIP Phone system for you, then please give us a call at 855.820.8006.

One of our experienced, vendor-neutral representatives will be more than happy to walk you through the process of selecting the VoIP Phone system that is right for you.

**Thank you for your time and enjoy the read.**

# WHAT IS VIDEO CONFERENCING?

Video Conferencing (aka Telepresence or Video Communication) is the next big thing in business communications that will allow you to be in more places at one time.

However, *do not* dismiss Video Conferencing as simply a high-tech replacement for the conference phone. Video Conferencing should be viewed as an eternal solution to the current shortcomings in modern business communications systems and, an untapped well of ROI.

## It's Like I'm Sitting Right Across From You

Video Conferencing is the ability to communicate with other as if they were in the same room. Today's virtual meetings are more effective than ever – see, hear, use meeting tools, and share data with remote team members as if they were sitting across the table from you.



Did you know that Video Conferencing technology has been around for over 40 years? Until recently the cost and compatibility factors were huge barriers to entry. As with most technology, advances are constantly made so that even the smallest of small businesses can join the communication revolution.

## Cheaper, Smaller, Faster

Now the Video Conferencing devices are smaller, cheaper, and the ability to efficiently run them over computer data networks has really fueled the adoption of this forward-looking technology in small businesses.

Increase productivity of remote workers and collaboration between global teams. Geographic locations don't matter; conduct business without borders.

Eliminate the time, cost, and personal fatigue associated with business travel.

Have environmental concerns? Reduce your carbon footprint with Video Conferencing.

**Video Conferencing allows you to:**

Run video conferencing over your existing data networks using, in some cases, very little bandwidth while maintaining high video quality.

Conduct business, meetings, trainings, and manage joint projects from anywhere and at any time...keeping you close to home!

## TYPES OF VIDEO CONFERENCING

### Small, Medium, or Large?

Video Conferencing is like ordering your morning coffee. Do you need a small, medium, or large? And is that for here or, to go?



#### Small:

Personal solutions for individuals whether in-office, home office, or office on-the-go.



#### Medium:

Desktop Video Conferencing solutions for office workers, small groups, and systems that are generally capable of capturing and displaying more.



#### Large:

From executive offices to conference rooms, large Video Conferencing systems accommodate big rooms, many people, and are capable of managing training sessions and advanced collaborative efforts.

There are many variables in a Video Conferencing solution – **who** will use it, for **what** it is used, **where** you will use it, **when** you will use it, **why** you will use it and **how** you intend to use video.

So how do you choose which system is the best for you and your organization?

Read on for a more detailed description.

### Small – Personal, Desktop, and Cloud-Based Video Conferencing Systems

Small, Personal Video Conferencing systems come with choices – you like choices, right? Options include a Video Phones Desktop-Based Solutions.

The least invasive way to add Video Conferencing to your business communications is to replace your standard SIP desk phone with a Video Phone. Video Phones are variably priced and can seamlessly alternate between voice and video – making this double duty machine a budget-conscious no-brainer.

## TYPES OF VIDEO CONFERENCING CONTINUED...

The most common personal solution is the Desktop-Based Video Conferencing system. In this scenario, a system is composed of BYO devices and a computer client – either cloud-based or computer-specific. Gather your equipment – a webcam, microphone, speakers, headset, and internet – add the software client and voila... Video Conferencing!

If you do not have these peripheral devices, or are in need of a technology upgrade, see the VoIP Supply experts for a complete high definition bundle solution.

If instead you prefer a standalone solution, go for glory with the integrated monitor solutions. These all-in-one systems are built around a computer monitor and include the display, camera, microphone, speakers, and codec. This Video Conferencing gem functions as a typical computer display monitor when not in use for video calls!

### Here are some great options for video phones and desktop-based video conferencing:



**Grandstream GXV3140 Video Phone:** The Grandstream GXV3140 is a Skype certified IP Video phone which features a 4.3in Color LCD display, integrated web browser, and RSS feeds for news/weather/stocks.



**LifeSize LGExecutive Video Conferencing Station:** The LGExecutive powered by LifeSize is the ideal combination of an HD video communications solution and the functionality of an HD display, all in one sleek form factor.



**Polycom m100 Client:** The Polycom m100 business-class video conferencing software application delivers HD-quality audio, video, and content sharing to users of Microsoft® Windows® OS.



**Cisco Jabber Video Calling:** The Cisco Jabber annual subscription gives one video endpoint unlimited video calling and directory services for a term of one year. It allows one video call in up to 448p30\* resolution on any PC or Mac with a web camera, microphone, and speakers at a maximum speed of 768 kbps.

## TYPES OF VIDEO CONFERENCING CONTINUED...

### Medium – Office and Room-Based Video Conferencing

For medium-sized Video Conferencing applications that typically include your private office, larger executive offices and small groups you'll want to look to a codec solution.

Codec or, encoder-decoder, is the brains of the operation. This device compresses and decompresses video as it travels to and from your location. For the medium-sized application, these palm-sized, small form factor devices are easily integrated into a small personal office space.

Even with its portable size, the codec solution is, hands-down, a higher quality solution. There are higher-quality camera options, PTZ (pan/tilt/zoom) camera options, greater camera controls even on the Far End (other participants), video recording capabilities, and more flexible camera placement options. Wall mounting the camera is a popular choice which offers greater freedom of movement than a webcam would in personal systems.

This is a more expensive option with dramatic increases in form, function, and quality making it an easy choice for upper management and C-level employees.

### Here are some great options for office and room-based video conferencing:



**Lifesize Passport Video Conferencing System – Focus:** This system includes a video codec and camera with built-in microphone designed to offer true HD videoconferencing capabilities over the internet. The fixed camera has a wide angle lens with a 70 degree field of view.



**Lifesize Passport Video Conferencing System - MicPod and PTZ Camera:** This system includes a video codec, PTZ (Pan/Tilt/Zoom) camera, and a microphone pod each of which is designed for true HD videoconferencing.



**Cisco SX20 Quick Set with 4x Camera:** The Quick Set SX20 with 4x camera includes the SX20 codec, Cisco PrecisionHD 1080p 4x Camera, Cisco telepresence table Microphone 20, a remote control for the codec and power supply and cables. It is everything you need for a large executive office or small conference room



**Polycom HDX 6000-720V Room Telepresence:** This Polycom codec system features a 4X digital zoom 1920 x 180 EPTZ (Electronic pan/tilt/zoom) camera with internal stereo microphones that can deliver RealPresence high definition video to classrooms, meeting rooms, and other environments.

## TYPES OF VIDEO CONFERENCING CONTINUED...

### Large – Conference Rooms, Training Sessions, and Multiple Sites

Look to large Video Conferencing solutions for the highest quality collaborations with the most features and functions to accommodate the highest amount of people.

Your Large solutions each come with a codec that can incorporate enhanced features not typically found in the smaller solutions – such as multi-way calling, dual display capacity, and audio options.

With large Video Conferencing systems you'll get more microphones or a full omnidirectional conference phone to cover a broad area, top-of-the-line PTZ (pan/tilt/zoom) cameras, multiple display capabilities, and a robust video codec with every imaginable input/output to connect peripheral devices (laptops, DVD players, etc.).

A distinct advantage of the large codec is its ability to host multiway calls. With Embedded Multipoint it's possible to hold a video conference that includes up to eight (8) different remote sites.

Other features include secure data-sharing when working on projects or giving a presentation, transcoding to ensure that everyone gets the best possible connection, and far end controls of your camera. In classroom settings, for example, participants with far end control of the PTZ camera means that students can zoom in on a particular area of interest such as the video presenter's whiteboard for greater detail.

### Here are a few large systems that fit the bill:



**LifeSize Room 220:** For multipoint video conferencing that's Microsoft OCS and Lync qualified, the LifeSize Room 220 is a full video communications system.



**Polycom HDX 7000-720:** Expanding the utility of visual communication quickly and easily, Polycom HDX 7000 series systems are ideal for education, medical, enterprise and on-demand collaboration applications.



**Cisco SX20 with 12x Camera:** Turn any flat panel display into a flexible, powerful and sleek TelePresence system with high definition video quality, multiparty conferencing and a 12x zoom HD camera.

### Overwhelmed?

If this all sounds like a lot to take in, we're here to help! Remember, too, that a video conferencing system will pay for itself. Video Conferencing creativity will boost your ROI in more ways than reducing your travel expenses.



## VIDEO CONFERENCING APPLICATIONS

### For Who Is Video Conferencing For?

If you're interested in Video Conferencing and you are not sure how this technology will benefit your organization, take a look at these applications and you'll see that just about every business can take advantage of a video communication solution.



**Accounting** – Clients can stay at home eliminating the “I left it at home” issues. With Video Conferencing, you and your client can data-share important documents and online financial information as needed without the headache of printouts and incorrect documentation.



**Education** – Host a special guest specific to the lesson plan – like an architect to show your math class that the Pythagorean theory really is useful. Have a super-fun career day with actual astronauts, doctors, and zoologists. Keep long-term illness children in school remotely.



**Healthcare** – How many times has a parent called the pediatrician in the middle of the night and attempted to describe the physical effects of an illness – how big, exactly, is the rash? Also, physicians can reach remote and immobile patients who have a basic cable or DSL internet connection in full HD when they cannot get to the doctor.



**Higher Education** – Conduct college interviews with multiple staff and without the travel. Offer more collaboration to your students with special guest professors, industry-specific mentoring, and thesis interviewing.



**Insurance** – Adjusters can take video images of scenes involved with claims eliminating the need to take pictures plus you can interview claimants in separate locations without major scheduling conflicts.



**IT Firms/ Tech Support** – Forget the phone frustration – have your clients show you the problem. You can see for yourself if the unit is powered-on without having to ask them and risk the offense.

## VIDEO CONFERENCING APPLICATIONS CONTINUED...



**Legal** – Record client depositions and witness interviews, even at a distance, with Video Conferencing. Witnesses can take the stand at a safe and protected distance. Children can testify in custody hearings in the comfort of their own homes, etc.



**Manufacturing** – Forget the 3-D software; put the prototype on camera so your colleagues, investors, and clients can see it in action.



**Private Investigation** – Report to your clients and get directives in real-time with HD video and data-transmission.



**Research** – The brightest minds are widely dispersed over the planet. Your research should not be limited by time and space - collaborate face-to-face on demand. Share focus group activity visually and avoid subjective misinterpretations.



**Search and Rescue** – When disaster strikes, people need to spring into action. Do not wait for the specialist to jump on a plane while lives are at stake. Survey damage immediately before it worsens. Consult with engineers, rescue-specialists, and physicians. Connect with family and friends after rescue to ease the risk of PTSD.



**SMB** – This is generally the field in which the use of Video Conferencing is expected. Besides conducting meetings and job interviews, businesses can host client presentations, consult with experts, and meet with investors. What is your company's sick child policy? Your employees can work from home and not miss the whiteboard activity of the morning meeting.



**Virtual Employees** – With Video Conferencing you can have one desk attendant for several company locations. Multicast your attendant's image, and visitors will be greeted with a consistent friendly face.

**As you can see, there are a great many ways to employ Video Conferencing – no matter the industry!**

## HOW DOES VIDEO CONFERENCING WORK?

### Does This Camera Thing Actually Work?

We've thrown a few technical terms at you and introduced you to the basics of Video Conferencing systems but, how does it actually work?

Describing a Video Conference can be as basic as an IP address -to-IP address connection and as complex as fully-immersive Telepresence with a musical score, a full data presentation, and full-heighted conference participants. It is somewhere in the middle that most Video Conferences fall, and so this is the imagery I will use.

### Calls Remain Uncomplicated

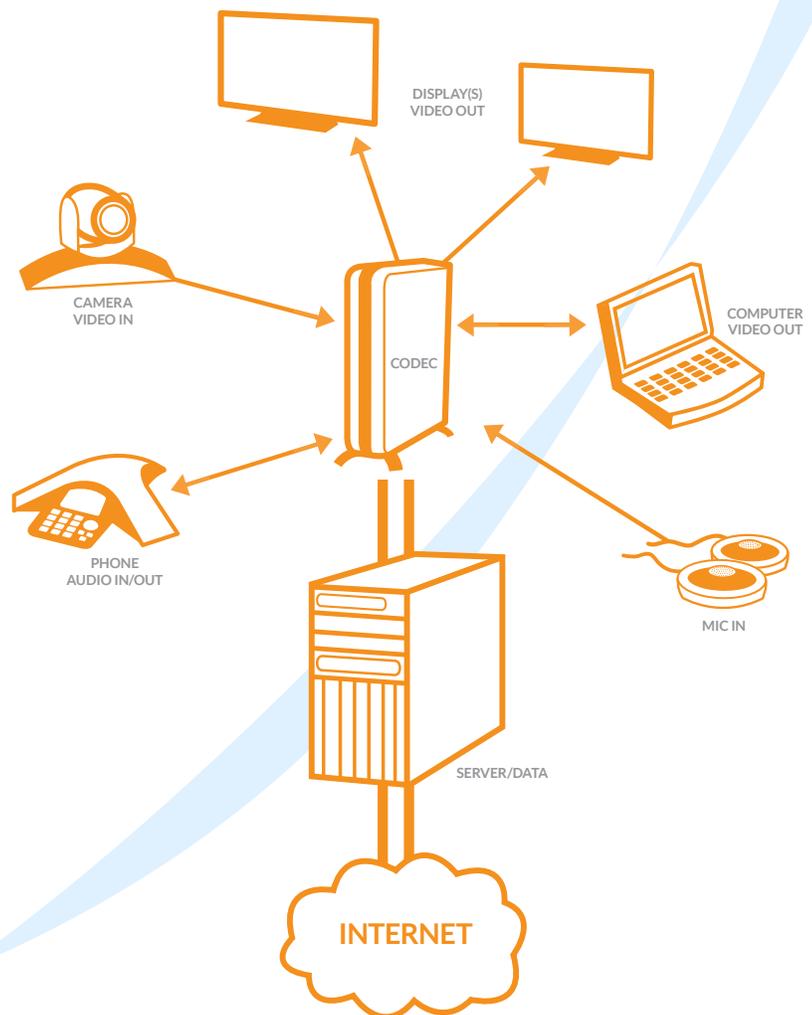
It is incredibly important to note that there is no complicated call initiation with Video Conferencing systems because they're always on, unless you turn them off. Like a voice-only telephone, Video Conferencing systems are perpetually available for incoming and outgoing video calls. You can choose to set your system to auto-answer incoming calls or to manually accept incoming calls.

### Connecting Interface

If you are using a desktop-based system, like the [Polycom m100](#), or a monitor-based system such as the [Cisco EX90](#), your computer peripherals are the functioning interface with the Video Conferencing software. If you're using a hardware codec such as the [LifeSize Room 220](#), you have options for accessing the Video Conferencing software. Interfacing device examples include a remote, a phone, an LCD screen, and your iPhone. Each manufacturer varies, and some offer more than one choice.

### Codec

Each potential Video Conference participant will have access to Video Conferencing software that will interpret the data back and forth. Some of the software is hosted, as is the case with a [LifeSize Connections](#) client, and some is desktop-based such as the [Polycom m100](#).



## HOW DOES VIDEO CONFERENCING WORK? CONTINUED...

Further still, some software is housed in a piece of hardware known as a codec like you'll see included with the [Cisco Quick Set SX20](#) system. No matter the method of interpretation, the data is transmitted over the internet. At each end of the data transmission, the software will encode to send and decode to receive – thus the term codec.

### Firewall

With multiple locations involved, the participants must consider the hurdles of firewall and NAT traversal which are protective layers in a network to protect your hardware (and data) from outside threats. Some Video Conferencing avenues have built-in firewall traversal while other systems offer hardware-based firewall traversal. If you are using a system that does not have built-in firewall traversal you can open ports in your firewall (on both ends) to allow for video data to pass freely from one system to another. It may sound complicated but not to worry, step-by-step instructions are included with each system.

### Standards-Based

This is a term heard frequently when discussing Video Conferencing. A system that is Standards-Based is one that uses the same set of communication rules as defined by the International Telecommunications Union (ITU) to guarantee interoperability with other systems by the same and other manufacturers. These rules include the use of both SIP and H.323 to connect video calls.

### Video Compression

How does all that data make it back and forth and at such a low bandwidth? The magic of Video Compression makes it possible. Your codec handles the encoding and decoding either end. Video is merely a series of still images played at a rate that recreates natural movement. There is an indiscernible lag in the Video Conference which is so tiny that it is not detectable. This fact allows your brilliant Video Conferencing system to detect repetitive images, such as the picture on the wall behind you, and reuse the already-sent data for encoding and decoding images instead of resending all the image data for every shot. This helps to minimize the amount of bandwidth needed for a Video Conference. **Note:** When your Video Conferencing system detects a drop in available bandwidth, it will automatically adjust to avoid holes in your video call.

### Data-Sharing

While you are in a video call, participants can share data with the other participants through a feature creatively called Data-Sharing. If you are using a desktop-based system, you can share your desktop with the other call participants. If you are using a room-based system, you can attach an external video input – such as a computer, a DVD player, a DVR player, a VCR (yes these still exist), or an additional camera for use with a whiteboard. You can begin and end a data stream at any point during a Video Conference.

## WHAT'S INCLUDED IN A VIDEO CONFERENCING SYSTEM?

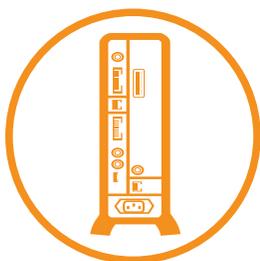
### What's in the Box?

There are several bits and pieces comprising a Video Conferencing system. Here's a rudimentary list of components that you may be working with:



#### **Codec:**

The brains of the operation. The codec is the hardware and software combination that controls the sending and receiving of Video Conferencing data



#### **Control Panel:**

This control interface allows the participants at a given site to place video and voice calls, share data, and input information into the codec such as license keys and firewall configurations.



#### **Camera, Input:**

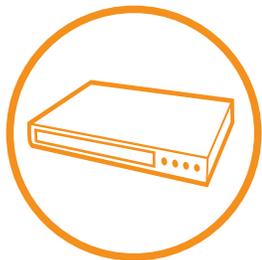
The camera is how the other participants can view your site. The camera is an integral part of the Video Conferencing experience, although not absolutely necessary if you are only viewing a presentation – such as with Guests who are watching your presentation who may not have a robust video system at their location.



#### **Computer, Input:**

You can connect your computer to many Video Conferencing systems in order to share presentations, videos, and other content.

## WHAT'S INCLUDED IN A VIDEO CONFERENCING SYSTEM?



### **DVD Player/VCR, Input/Output:**

Yes, they do still make VCRs! Some Video Conferencing systems allow you to connect a peripheral device to share, and record, videos.



### **Display, Output:**

This piece of the puzzle is where you view the video output. There are options for a display – your computer screen for a desktop-based solution, a video conferencing endpoint that also doubles as a computer monitor, an LCD television, or a plasma television (best for fluid motion). Many of the Video Conferencing solutions offer the Dual Display option wherein you can attach another display to the codec and choose different layout configurations to optimize the screen's real estate.



### **Microphones/MicPods/Conference (Saucer) Phones:**

Microphones are either one-way or omni-directional. One-way directional means that audio is only picked-up on one side of the microphone and an omni-directional microphone can pick-up sound in any direction. MicPods function as one-way audio, meaning that they serve only as a microphone and not as an audio output, have a pickup range of 10 feet, and can be daisy chained to increase your pickup range in large rooms.



### **Mounting Options:**

Your Video Conferencing equipment can be perched on a table, wall mounted, or a Video Cart can be used to keep the equipment mobile (in a hospital setting for example).

## CONCLUSION

Video communication is fast becoming a viable mode of business interaction. It's difficult for many businesses to budget for travel expenses and they're now beginning to see that it's easy to realize the return on a video conferencing investment – the system pays for itself in mere months and then continues to make the bottom line smile with each and every virtual meeting held thereafter.

Increasingly, employees are either working from home or telecommuting on a regular basis. If you have a satellite office on the other side of the country or overseas, what's the best way to effectively work as one unit? (**Hint:** *The answer is Video Conferencing!*)

Video Conferencing will easily and efficiently keep your team members in touch and your projects on track because emails and conference phone calls can be very cumbersome.

It's much faster to simply show someone what you're talking about through video!

### **Need Help?**

We here at Video Conferencing Systems appreciate the time you invested in Learning More about Video Conferencing systems and hope that you have found this content helpful.

Featuring video solutions from ever major manufacturer, Video Conferencing System combines a robust product catalog with live, certified sales and support associates alongside a nationwide network of professionals to provide you with in-person consultations, demos, installations and on-going support – adding you as a customer would be a great privilege.

Ready to take the next step in adding Video Conferencing to your business communications solution? We are here to help! If you ever find yourself confused, frustrated or simply in need of expert advice, please do not hesitate to give us at a call at 855.820.8006 – we will do our best to give you honest, accurate and helpful information that will help you make the right choice.

***Thanks again for your time  
– The Video Conferencing Systems team.***



# VIDEO CONFERENCING SYSTEMS

PERSONAL

ROOM

	WHO - WHY	   			
		BEST		GOOD	
<b>DESKTOP</b>	<b>Cubicles/Office Workers</b> → Less expensive → Mass-Deployment	Jabber Video EX60 EX90	M100 HDX 4002 HDX 4500	LG Executive Desktop Connections	—
<b>CODEC</b>	<b>SoHo/Executive Offices</b> → Greater Camera Control → Higher Quality → Move About the Room	EX90 SX20 Quick Set	HDX 6000-720V HDX 6000-720	Passport Express 220	H110
<b>POINT-TO-POINT</b>	<b>2 SITES</b> → Participate NOT HOST multiway calls	SX20 Quick Set	HDX 6000-720V HDX 6000-720 HDX 7000-720 HDX 7000-1080	Express 220	H110
<b>HOST A MULTIWAY CALL</b>	<b>3 or More SITES</b> → Host Multiway calls	SX20 Quick Set	HDX 7000-720 HDX 7000-1080 HDX 8000-720 HDX 8000-1080	Team 220 Room 220	H310