

Videoconferencing

Beginner's Guide

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Using Videoconferencing Effectively

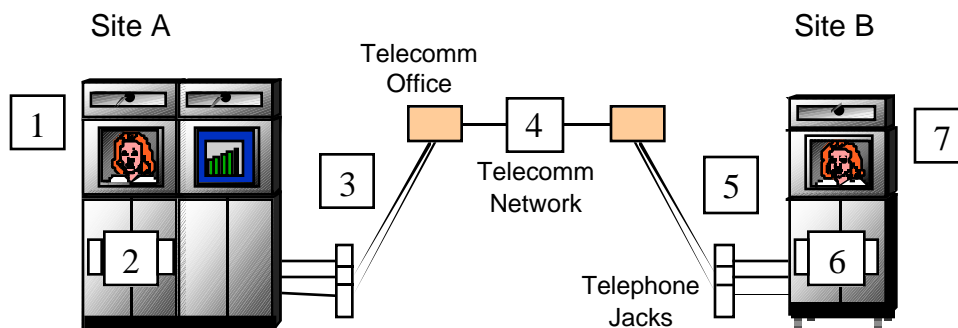
This document is meant to be a beginner's guide to videoconferencing. This guide includes:

- the basics of videoconferencing
- how to place a call, and how to get the most out of your videoconferencing experience by planning effective meetings and classes with either:
 - a point-to-point call (when one party calls another party)
 - a multipoint call (when three or more parties call into a multi-point bridge)

There is also a list of resources that will provide you with more detailed information.

Background

How your videoconferencing system looks depends upon the type of system you are using. The types of systems described here are compressed videoconferencing systems using ISDN or another type of telephone network. IP-based videoconferencing is a totally different technology, and at this time does not usually interact with the compressed videoconferencing discussed here.



What happens during a videoconference

Once the videoconference connection is made,

1. picture and sound are sent from your site through
2. the computer or codec, compressed
3. sent through the telephone line(s) and
4. network (either local telecommunications or long-distance) to
5. telephone line(s) at the remote site
6. the computer or codec at the remote site, where the images and sounds are decompressed and
7. sent to the monitor and speakers so video and audio are in sync.

Why videoconferencing over ISDN doesn't look like a television broadcast

As you can imagine, a broadband satellite connection with studio-quality equipment produces an excellent broadcast quality video connection, but the equipment and transmission expense is great. Recent advances in computer and telecommunications technologies have sparked an interest in compressed video systems, which transmit information via today's telephone network, greatly reducing the cost of videoconferencing.

Arranging to call another location

Check with the videoconferencing support person at your site to see if there are any restrictions on the use of the videoconferencing system. For example, some sites have a direct connection running between two set sites that does not allow videoconferencing with outside agencies. Some sites might have limited meeting facilities, making it difficult to book time in the room that contains the videoconferencing system.

Videoconferencing requires that you arrange to have someone at the remote site (the other end) to talk to. So, phone the person you wish to meet with and set up a time when you can meet. Be sure to take into account any time zone differences. During this conversation, cover these points:

Make sure your systems can "talk" to each other. Systems that are H.320 compliant can connect to other H.320 systems. Older systems may only be able to connect to the same brand of videoconferencing system. IP-based videoconferencing, carried over the Internet, does not yet connect with the types of videoconferencing systems discussed in this document.

Decide which site will place the call. The site that places the call pays for the call, including any long distance charges that might be incurred. To find out more about costs, check with your local technical/telecommunications specialist.

Exchange pertinent information, so that each site has this information. If you plan to connect more than two sites together, refer to the section in this booklet that deals with multi-point videoconferencing.

Date of Conference _____	Time (PST) _____
Site to place call:	Site One Site Two
Speed of Connection _____	
Videoconference Site Location One	_____
Videoconferencing Number(s)	_____ _____
Site One Meeting Contact Name	_____
Phone	_____
Phone number in Room with Videoconferencing System	_____
Technical support for Site One	_____
Phone/Pager	_____ / _____
Videoconference Site Location Two	_____
Videoconferencing Number(s)	_____ _____
Site One Meeting Contact Name	_____
Phone	_____
Phone number in Room with Videoconferencing System	_____
Technical support for Site One	_____
Phone/Pager	_____ / _____

2. Choose to Manually Dial then press the Enter key on the control panel. This window should appear on the monitor.

Manual Dial
Please Enter Phone Numbers

3. Enter the number(s) for the videoconferencing system you are calling. Depending upon the type of call you are placing and other technical issues, you will either enter one or two numbers. The person at the remote site will know if you need to dial one or two numbers. Be sure to include any prefixes to the number(s) needed at your location (you may need to start with a 9 to get an outside line.)

If you just need to enter one number, press enter, then enter again.

If you need to enter two numbers, enter the first number, then press the ENTER key on your control panel to move your cursor to the second entry box. Enter the second number, then press ENTER again.

This window should appear on your monitor:

Network Type
PBNI Venue (TBRI)
PBNI Venue (ISDN)

4. You will be asked if you want to connect TBRI or ISDN. If you are connecting at 128 Kbps, choose ISDN. If you want to connect at 384 Kbps, choose TBRI with your arrow keys. Press the Enter key to enter the information.

This window should appear on your monitor:

Channel Operations
Attempt 64 kbps Operation
Attempt 56 kbps Operation

5. The next choice you will make is channel operation options. ISDN channels may be able to handle 64 kbps or 56 kbps. Usually, you can choose Attempt 64 kbps Operation, then press the Enter key on the control panel. If the call does not complete, you might want to try the Force 56kbps Operation.

This window should appear on your monitor:

Network Rate 64 128 192 256 320 384
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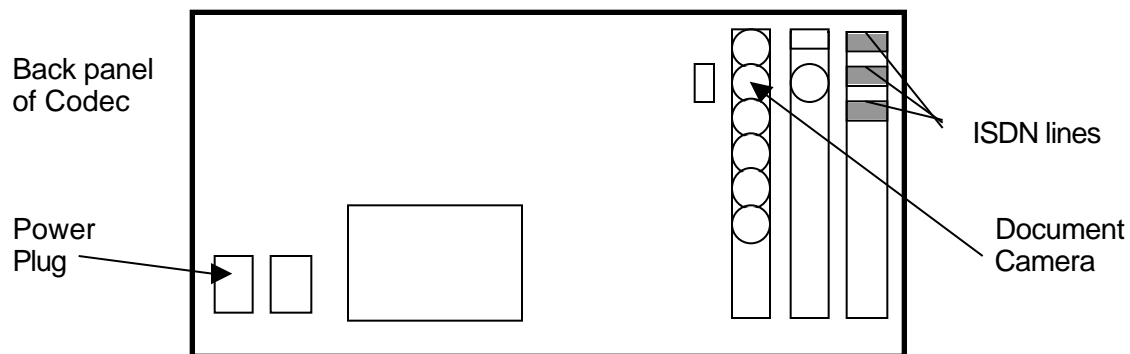
6. Choose your Network Rate. You can connect to a variety of types of videoconferencing systems that may be connected to different numbers of ISDN lines, so it is important that you know the Network Rate (or speed) of access for the videoconferencing system you are trying to call. You probably want to connect at the highest rate possible, 384kbps. Make your choice, then press the Enter key on the control panel and your videoconferencing system will begin to dial.
7. Your call will connect after approximately 1-2 minutes. Remember that the distant end or remote site can hear you before they can see you. Make sure your microphone is not muted before you speak.
8. Position the camera so as many people as possible are in the camera shot. Move the camera so that people who are speaking will be able to be seen at the remote site. Communicate in a normal speaking voice, but direct your voice toward the microphone.
9. When you are ready to end the videoconference, press the HANG-UP button on the control panel.

How to use a document camera

Where to connect the document camera to your system

(Specific to PictureTel Venue 2000)

Your site may have a document camera that can be used to transmit notes and other images to the remote site, as well as having them displayed on your monitor. To connect a document camera, open the door on the back of your videoconferencing cabinet so that you can see the back of the codec.



After you connect your camera, you may need to turn it on. Mark where you should place the papers and objects you wish to show.

Guidelines for audio visual materials are contained later in this document on page 10.

How to use videoconferencing with your class

This information has been taken from the Pacific Bell Education Website, the Knowledge Network Explorer (<http://www.kn.pacbell.com/vidconf>)

Courses, Lessons, and Tutoring

Here are a few ways videoconferencing might be used for instruction:

Schools and community colleges can offer classes during off-hours and to students who cannot attend traditional classes.

Community colleges can team up with businesses to offer employee training or certification.

Teachers can team-teach with remote teachers, sharing subject matter expertise or a unique approach to a topic.

Students can meet with tutors for enrichment, remediation, or a helpful bit of personal attention. This is great way for businesses to support schools.

A librarian could offer an introduction to library services and library tour for local schools.

Remote Guest Speakers and Experts

Your class can communicate first-hand with experts in many fields to enhance understanding of a subject they are studying. This real-world contact can heighten interest, improving motivation and retention. Connecting with a guest is also an easy way to enter into videoconferencing.

Here are some ways guests could enhance learning:

Students could organize and moderate a panel discussion with a dolphin trainer, fisherman, and animal rights activist as part of an ocean unit.

Students could connect with athletes at an Olympic Training Center for advice and feedback on sports, training, and health issues.

Students could meet with university advisors for admission counseling or interviews.

A graphic arts student could share a document with a professional or client for feedback and evaluation.

It's important to keep in mind that encounters with guests must be planned. Learners should participate in the encounter and the planning if appropriate, and guests need to know about the audience, the agenda, and videoconferencing. Like the telephone, videoconferencing works best as an interactive medium, and the audience and speaker will have to be prepared to use the technology effectively.

To find guests to videoconference with your students, search the Pacific Bell Videoconferencing Directory for content providers (<http://www.kn.pacbell.com/wired/vidconf/directory.html>).

Professional Development

Videoconferencing provides many exciting opportunities for support of professional activities. The following describe creative and innovative uses of distance learning for teachers and librarians.

Students enrolled in teacher education courses can observe and critique innovative teaching practices in school classrooms and later discuss them with their peers.

In-service courses can be transmitted from universities and can enable teachers to participate without leaving their schools.

Teachers can share teaching methods and curricula with peers in other districts.

Community Events

Libraries, community colleges, and schools can use videoconferencing to support events in the public interest, such as:

Town hall meetings, government hearings, school board meetings, court functions, and other government-related activities

Public health discussions

Support of special interests or hobbies

Adult education in areas such as English, literacy, job training, etc.

Communication Skills

Learn the Videoconferencing System

It is important to feel comfortable with the videoconferencing system, so take time to experiment and practice with the videoconferencing system before you conference until it becomes second nature to operate. If you have student volunteers that are interested in learning the system, solicit their help. The goal is for the system to appear as transparent as possible so you and the students can focus on learning.

Maintain Eye Contact

To help remote learners participate and feel included, relate directly to them by looking directly into the video camera. If you do not look into the video camera, students will feel as though they are just watching, not participating in the class. Envision the video camera as one of the students in the class.

Show Interest in All Participants

Since videoconferencing participants are spread across distances, facilitators must make a point of communicating with remote participants by name and/or location. Most people feel awkward talking to a TV monitor and will likely lapse into passivity if not specifically addressed. Two-way compressed video systems usually exhibit an audio delay, so double your usual wait time after asking a question or soliciting comments. Finally, bring students into each interaction by repeating every question or comment a student makes, ensuring that the other sites can hear.

Dress Appropriately

Wear solid colored clothing rather than bold, complex patterns. Stripes or busy patterns will cause the camera's focus to oscillate and diminish picture clarity. Also, wear dark or neutral colors.

Move and Gesture Slowly and Smoothly

The compressed video system cannot transmit rapid movements without some loss of picture quality, so move in a fluid, non-distracting way. Move and gesture normally, but avoid swaying, rocking or pacing. If you like to walk around, go ahead, but make sure you know the parameters of the camera range. You can tape off your spot so you know exactly how far you can go.

Maintain Appropriate On-camera Positioning

Position yourself on-camera according to the elbows and wrists rule: when you stretch out your arms, the edge of the screen falls between your elbows and wrists. Use close-ups shots judiciously. It is important that participants see you or another speaker's facial expressions, but remember that the camera is very sensitive to movement and will exaggerate blinking eyes, moving hands, or shifting in chairs. Use group shots when appropriate, and make sure the camera's line of sight is not obstructed.

Maintain enthusiasm toward the technology and the subject matter

Videoconferencing participants will find it difficult to pay attention if the subject is not presented in an interesting way or if the facilitator is tense or bored. Get beyond the "talking head" model and make the session as interactive as possible.

Speak in a strong, clear voice

Take advantage of the system to communicate naturally, using tone inflection and body language. You'll notice a small time delay for audio transmission, so continue your full thought once you begin speaking and avoid interrupting another speaker.

Use Audio-Visual Aids

As in any instructional setting, effective use of audio-visual aids can greatly enhance distance learning. You can use images, objects, and audio or video clips much as you would in a normal class with a few caveats to guide you:

Pay attention to the screen's aspect ratio. A TV monitor has a different shape than 8.5 X 11 paper or overhead transparencies, so make sure printed visuals fit within a 3 X 4 ratio. It's also safe to use a "landscape" orientation with a 3 inch, text-free boundary.

Use large, bold text for instructional "slates." Remote viewers will thank you if they don't have to squint to see text. They'll also appreciate simple fonts and concise, bulleted information.

Use colors in the middle of the color spectrum. Next time the television news is on, pay attention to the colors chosen for graphics. You won't see a lot of black on white, because it just doesn't look good on a screen. Yellow on blue is common, however, because it presents a clear, readable image. For most people, color printing is not feasible, so black print on pastel paper should be adequate. For on-the-fly writing, use a bold color ink pen on pastel paper.

Allow time for viewing graphics. Display text material (i.e. chart or list) long enough for a slower reader to read. Non-text material often requires less time (3-4 seconds).

Use video carefully. Many videoconferencing systems allow transmission of video from an auxiliary source such as a VCR or camcorder, but transmitted video is likely to appear jerky or fuzzy to remote viewers. In general, it's best to keep video segments brief. To show a lengthy segment, send a videotape to the remote facilitator.

Obtain written authorization before you use copyrighted materials. Use of copyrighted material in a distance learning situation requires permission, so obtain clearance before broadcasting audio-visuals.

Instructional Strategies

Focus on Learning

Inspiring learner motivation is important in any learning environment, but it's critical in a distance learning situation. While designing instruction, take into consideration Keller's ARCS model of motivation, which emphasizes:

Attention. Increase perceptual arousal with the use of novel, surprising, incongruous and uncertain events. Increase inquiry arousal by stimulating information seeking behavior; pose or have the learner generate questions or a problem to solve. Maintain interest by varying the elements of instruction.

Relevance. Emphasize relevance within the instruction to increase motivation. Use concrete language and examples with which students are familiar. Provide examples and concepts that are related to learners' previous experiences and values. Present goal orienting statements and objectives. Explain the utility of instruction for both present and future uses.

Confidence. Allow students to develop confidence by enabling them to succeed. Present a degree of challenge that allows for meaningful success under both learning and performance conditions. Show the student that his or her expended effort directly influences the consequences. Generate positive expectations. Provide feedback and support internal attributions for success. Help students estimate the probability of success by presenting performance requirements and evaluation criteria.

Satisfaction. Provide opportunities to use newly acquired knowledge or skill in a real or simulated setting. Provide feedback and reinforcements that will sustain the desired behavior. Maintain consistent standards and consequences for task accomplishments. Manage reinforcement: keep outcomes of learner's efforts consistent with expectations.

Set Expectations

Because of vast experience watching television, students may not expect to actively participate in videoconferencing. Use your role as facilitator to help students understand that you expect interaction and active learning.

A simple way to challenge the television preconception issue is to communicate expectations to the learner prior to instruction. A brief letter or a few comments at the beginning of a lesson can go a long way toward helping learners understand differences between broadcast television and two-way compressed video. Consider explaining the difference in audio/visual quality along with a few suggestions to optimize that quality.

One might, for example, encourage learners to keep background noise and motion to a minimum and explain ways to deal with the audio delay. A teacher should also prepare learners for an active experience. Assign a pre-session activity or begin the lesson with a discussion. Actively involve learners early and often, using small group or hands-on activity, reading, writing, discussion, and questions to get them out of the passive "viewing" mode.

Provide Supporting Materials

Here are a few suggestions to help improve communication and encourage learner involvement.

- Create and distribute an agenda so participants at both sites will know what to expect.
- Distribute a student guide with clear learning objectives to both the local and distant sites before the conference. Provide sections with key words or phrases left blank for the student to fill in. Allow space for note taking.
- When feasible, include graphics shown during the videoconference in the student guide.
- Sequence all materials in the order presented during class.
- Send a roster of names from your local site, and obtain one from the distant site before the conference so that you may call on specific students to promote interactive discussions.
- When explaining a learner activity or assignment, display a slate with simple, bulleted instructions. Leave the slate displayed during the activity for reference.

Engage Students with Variety and Interaction

Incorporate variety into instruction to keep interest and motivation high. Use relevant visuals or sounds to illustrate points, and if possible, bring in a guest speaker to share a different perspective, answer questions, or provide real-world feedback on student projects. Even with thrilling visuals and instructors, nobody wants to watch a talking head for hours, so make sure learners have an opportunity to focus attention away from the screen. Assign small group activities with a task that can be discussed later. Tag a break onto an activity to give students a chance to stretch and talk. Highly motivated learners in a tightly focused lesson can tolerate lengthy lectures, but as a rule of thumb, don't lecture for more than 15 minutes at one time. Instead, alternate lectures with activities or discussions.

Reduce Distractions During Learning Activities

Since variety is so engaging, reduce the potential distraction of the screen by posting a still image or slate during a class activity. Don't be afraid to use silence. Though we expect a "busy" screen, music or chatter can distract students from learning.

Encourage Dialog

Asking a question can be daunting for students, especially if it means they must get the attention of a remote teacher and talk to a TV screen. Teachers can help by noting the body language of remote students and taking the time to query when students seem puzzled or disinterested. Eye contact and use of names both help make students feel more comfortable. These people skills are obvious and natural in a "live" classroom, but may seem awkward in a distance learning situation. "Eye contact" means looking at the camera and the monitor rather than local students, and teachers might have to make a special effort to attend to remote learners. To help out introverted students, consider alternative modes for questions and comments. Make a fax machine available or solicit e-mail for questions and comments. Consider holding videoconference office hours or paying a visit to the remote site. Use resources creatively to establish rapport and help all learners participate.

Planning for Video- A Lesson Plan Matrix

When creating a lesson for two-way video, it's important to plan with interaction in mind. Consider preparing a lesson matrix that includes the following:

Learner Outcomes	What do you expect your learners to accomplish?
Methods and Activities	How will you convey the topic (lecture, discussion hands-on activity)?
Materials	What audio/visual aids, handouts, etc. will you use to support your instruction?
Time	About how much time will it take?
Equipment Cues	Do you need to show an instructional "slate" with the document camera or play an audio clip?
Notes	Do you need to prepare a visual or get handouts to remote learners?

How to use videoconferencing for a meeting

Planning

Location and Facilities

At most campuses, there are people who use the videoconferencing system and people who support that system. Each need to be involved in the planning, implementation, and evaluation of the meeting. Here is a checklist of questions to ask during the planning process:

Who is arranging to use the videoconference system? Is there a process for reserving the system? Does the room where the videoconference equipment is housed need to be reserved separately?

Approximately how many participants will be attending the meeting at each location? Have you (or a colleague) visited the facilities at each location to see if the arrangement of the room will meet your special needs? Can the room be re-arranged to allow for maximum interaction of participants (will they be able to see, hear, be seen, and be heard)? Do any of the participants have special needs and do the facilities meet those needs?

Will technical assistance be available at each location the day of the meeting?

Will a document camera and a networked computer be attached to the videoconference equipment?

Agenda and Materials

Who will plan the agenda?

What materials need to be distributed during the meeting? When and how will they be distributed?

Who will facilitate the meeting?

Will the agenda be distributed prior to the meeting, along with expectations for the meeting? Who is entrusted with this distribution?

Technical and Videoconference Support

Who will place the test call? When will that call be placed? (It is recommended that one test call is made within two weeks of the initial planning session, to test the systems. Then, plan another test call the day before the meeting to test for sound and camera angles.) Once you are familiar with the equipment and the location you are calling, you may not need to make more than one test call a day or two before your actual videoconference.

Which protocols will be used? (This is more important when you are planning a multipoint, however, if the videoconference involves just two people at each site, system support might recommend a call using less bandwidth to save long distance and other charges.)

Is there a technical backup plan? (In case the call cannot be placed, is there a conference phone available in the room so that an audio-only conference may take place? Will a public address system need to be used in conjunction with the conference phone so all participants may speak and hear?)

Administrative

Who will place the call the day of the videoconference? (The location placing the call is billed for all usage including long-distance charges.)

Who will decide on the evaluation format and facilitate the process of evaluation?

As you can see, there are many questions to be considered when planning a meeting using videoconferencing technology. However, when you address these issues at the outset, the actual videoconference will run more smoothly and be more effective for all participants.

Implementation

Place the test call the day before the videoconference. Check audio, video, lighting, and auxiliary equipment such as the document camera, computer, or any auxiliary microphones. Preview camera angles to make sure as many participants as possible are within the range of the camera.

On the meeting day, one location should call the other site approximately thirty minutes prior to the meeting. This time allows for any technical issues to be addressed as well as allows participants to get used to the technology before the meeting's start without interrupting the actual meeting. Keep the telephone numbers for the videoconference units and the technical support at each campus close by.

The meeting is now ready to begin at the scheduled time. Start by introducing the facilitators or panel or all participants. Share the agenda. Introduce the technology in the first 15 minutes of the meeting. Meeting participants should all know the location of the camera, the range of camera view, where the microphone is, and any special protocols for communicating during the meeting.

For example, one of the meeting's sites is in a large room, and there is only one microphone; the facilitator at the site should repeat the question before answering or asking for a response. If a smaller number of participants are present, the participant should be sure the camera is focused on him/her before asking the question. The participant can say "I'd like to ask a question" and wait for the camera to move.

Conduct the meeting.

Evaluate the meeting (either in oral or written format).

Wrap-up the meeting (take final questions and set the next meeting).

Review action items, if any.

Hang-up the call (You may wish to leave the videoconferencing unit connected for a few more minutes so that participants can examine the technology in detail, or have an informal conversation with someone at the other site.)

Evaluation

This is a very important step for using videoconferencing for effective meetings. If no evaluation is done, the technology and the process of communication will not be adapted to better meet the needs of the participants.

Process the information from the evaluation and synthesize for distribution.

Distribute the evaluation report to interested participants, planners, departments supporting videoconferencing, and staff development offices.

Meet with the planners and technical support personnel to debrief after the evaluation information is distributed. Address the issues identified in evaluation. Plan how you might incorporate solutions into future videoconferences.

How a multipoint videoconference is different from a point-to-point videoconference

When in the course of human events, you discover a need to connect between more than two sites for a videoconference, multipoint videoconferencing bridge is the tool you need. This section will address the technology needed to accomplish a multipoint connection, how many sites can reasonably connect to a multipoint conference, communication strategies that can contribute to the success of the meeting or conference, and a few tips from experienced users.

What technology do I need to connect three or more sites?

You have probably already participated in point-to-point videoconferences. These conferences are made by one videoconference location directly dialing another videoconference location. The number you dial probably is in the videoconference directory in your unit, or you have dialed a number that looks like your average phone number. You are able to videoconference (see and hear) to the other site because you are connected to the telephone network by way of a special digital phone line (usually ISDN), as is the other videoconference unit. When connected, you see the far end (the location you are calling) in the main portion of your monitor. You will see a shot of your site either in the PIP (picture-in-picture) or on your second monitor, depending on your particular configuration.

To connect three or more videoconference units into a single call, you need to arrange to use a multipoint bridge. This bridge allows each participating videoconference location to dial into the bridge equipment using a number assigned by the bridge scheduler. What you will see when connected will depend on the capabilities of the bridge you are using.

A voice-activated bridge will allow the different sites to see and hear the site currently speaking or presenting. A question from another site will cause the picture to switch to the new site. The local site can be viewed on the PIP or second monitor.

A continuous-presence bridge will arrange the video images of the locations in four boxes on the monitor (think of the opening credits of the Brady Bunch). These three or four sites will be viewed continuously throughout the videoconference. Generally, four sites in view are the limit for these conferences; however, more sites can join as viewers, and can be heard (but not seen) by all participants. A new option on certain bridges allows one of the quadrants (or squares) to be "voice-activated" so all sites can be seen and heard.

The California Community College Chancellor's Office has a bridge provided by PictureTel. This bridge has continuous presence capabilities. To learn more about the bridge and the procedure for reserving the bridge, consult the Videoconferencing page on the CCCCCO website at <http://www.cccco.edu/ESED/irt/tnt/video/cccco.html>.

For videoconference planners at sites not in the California Community College system, bridge services are available from a variety of different vendors. Costs include rental of the bridge (usually charged by the hour) and any long-distance charges incurred while connected into the bridge. To find out more, visit the multipoint page, part of Pacific Bell's Videoconferencing for Learning at <http://www.kn.pacbell.com/wired/vidconf/multipoint.html>

How many sites can dial into the bridge for a multipoint conference?

It is important to remember that the number of locations able to dial into a bridge differs from the number of locations that can ideally participate in a multipoint conference. The type of videoconferencing units purchased by California Community Colleges are designed for maximum communication and interaction between sites, so different locations can clearly see and hear the other locations to whom they are connected. Every time you add another location to your videoconference, you add a layer of complexity both to the technology that allows all locations to see and hear each other, and to the quality of the communication itself. The more sites you add, the more difficult it is for all sites to fully participate.

The answer to the question "How many locations should you connect?" is three or four videoconferencing locations. More than three or four locations limit the interactive nature of videoconferencing. You can connect more than four sites together on many types of bridges; this choice is often made when one location wishes to broadcast information rather than interact from location to location. You still need to remember that the complexity of the technology increases with each location added.

What communication strategies work best in a multipoint videoconference?

Think of strategies that you may employ when planning a meeting for fifty people or more. These strategies are similar for multipoint conferences. Meetings for smaller numbers of participants can be much more informal. Larger meetings need more structure, and someone needs to be in charge.

- Appoint a facilitator who has used videoconferencing before to manage the agenda and the communication between locations. The facilitator can plan the agenda so that presentations will be from different locations; the "action" can move from site to site. The agenda should also leave time for questions and answers from different sites.
- When questions are allowed, plan the order in which each location will ask questions. Keep this order consistent throughout the videoconference. The facilitator can explain the order at the start of the conference, then when questions are allowed, prompt each site with "Location A, are there any questions?"
- When a speaker is presenting at a distant site, all other locations should **MUTE** their microphones. This is **extremely important!** The microphones used by the PictureTel videoconferencing units are very sensitive, and can transmit muffled comments, the sound of sneezing or rustling papers. If you are using a voice-activated bridge, the camera will then be viewing the sneezer, not the main speaker (a very distracting interruption!).
- Be sure the camera is pointed toward the person speaking before proceeding with the presentation, question, or comment. It is important to begin with "I'd like to ask a question," and pause until the camera is focused on the person asking the question. Then, proceed with the question or comment.

What else do I need to know?

You have to give the specifics for all locations participating in the multipoint videoconference when reserving the bridge. If you are only connecting to videoconferencing units at California Community Colleges manufactured by PictureTel, you should be able to use H.320 standards at a connection rate of 384 kbps. This will give you clear sound and a clear video image that will be refreshed between 22-25 frames per second. Reserve the bridge for one hour prior to the start of your meeting (to allow all sites to get connected before the meeting actually begins) and 30 minutes following the time set for the conclusion of the meeting (to make sure you are not cut off in mid-sentence).

If you are connecting to locations outside of the community college network, you should be sure that each of those locations can connect to the bridge using H.320 standards. You will need to ascertain their ability to connect to a bridge at a particular rate; some sites may only have the ability to connect at 128 kbps. You then need to decide if you wish all locations to connect at the lower rate (which will affect the quality of the video images all sites see) or if you wish those participants to travel to a location with videoconferencing equipment that connects at a higher rate. (Some bridging services allow sites to participate at different rates, so this might be another option.)

Set up a test call the day before the actual meeting so that all sites can test their ability to dial into the bridge and see and hear all participants. Allow at least a ninety-minute test call to resolve all technological issues one day prior to the meeting. If the correct information was not given to those programming the bridge, some locations may not be able to see or hear other locations. The bridge may need to be reset, requiring all locations to connect to the bridge again. During this test videoconference, sound and video can be checked, and equipment, such as fans used by air conditioning units, can be adjusted.

Finally, on the day of the meeting, connect to the bridge at least 60 minutes prior to the start of the meeting. Allow yourself time to resolve any new issues that might arise.

Multipoint videoconferencing is a wonderful tool to allow you to meet with colleagues across the state and the country. With the help of the videoconference support staff at each college, you can be part of a team that works to constantly improve the uses of the technology available for you and your community. To find out more about multipoint videoconferencing in classroom situations, visit Pacific Bell Videoconferencing for Learning at <http://www.kn.pacbell.com/wired/vidconf/multipoint.html>.

Resources for Videoconferencing

Videoconferencing for Learning

<http://www.kn.pacbell.com/wired/vidconf>

Visit this award winning site that offers helpful suggestions on using interactive videoconferencing with learners of all ages. The collaboration area contains a subscription link to the Pacific Bell Videoconferencing Listserv, which allows videoconference users from across the state, nation, and globe to communicate. Consult the Videoconferencing Directory to find other institutions and businesses that have videoconferencing capabilities.

Workshops for Education

<http://www.kn.pacbell.com/edfirst/workshops.html>

Pacific Bell offers FREE hands-on training to our California education customers who purchase videoconferencing. These workshops cover both the technical aspects of using videoconferencing and effective use of this powerful communication tool.

California Community College Chancellor's Office

<http://www.cccco.edu/ESED/lrt/tnt/video/cccco.html>

This site contains information for booking a bridge for a multi-point videoconference, The VideoPhone Book for all state community colleges, and the Picture Tel Venue 2000 Troubleshooting Guide.

@ONE

<http://one.fhda.edu>

Find information regarding updating staff technology skills on community college campuses across the state of California. Educators interested in support technology, such as listservs and discussion boards, for their distant learning classrooms should consult this site.

TIPS Newsletter and Website

<http://video.4c.net/TIPS/newsletter/index.html>

Specific resources for videoconferencing are available in the TIPS newsletter and also in the still-developing resources area. The TIPS newsletter contains information about effective meetings using videoconferencing, ideas for designing an effective distance learning room, and more information about the ins and outs of this technology. Search the newsletter for the latest articles.