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**THORBURN ASSOCIATES INC.**  
**Acoustic and Technology Consultants**  
**Newsletter**

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**Summer 2001**

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Welcome to the Summer 2001 edition of TA's newsletter. This issue on Video Conference Technology is in response to many of our client's recent questions. As always, TA covers topics in our newsletter that we hope will help you answer your clients' questions and concerns regarding audio, video, control, and acoustic design and engineering. If you would like your own electronic copy of this newsletter or future Thorburn Associates newsletters, please send an email to: [newsletter@TA-Inc.com](mailto:newsletter@TA-Inc.com). Past newsletter articles can be found at [www.TA-Inc.com](http://www.TA-Inc.com).

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**Video Conference Technology**

One of our clients once stated: "A person needs to be at a location to facilitate the work process, not attend a meeting." We have all heard about a business executive who took a three-day trip overseas to attend a one-hour briefing. Video Conferencing might have been a solution for these issues. Video Conferences can not replace the need for a face to face meeting to "close the sale" or for the first meeting with a new client. They are a replacement for flying everybody in for a team meeting to review the status of the project.

What was once a "specialized" form of communication that was extremely expensive to implement and costly to maintain is now widely applicable and cost effective even for modest small and medium sized businesses. In fact, video conference communication has become a core component of almost all of the Fortune 1000 companies, and is a critical component for any company that intends to compete cost effectively in the modern marketplace.

Though many people have felt that this technology has too many problems – poor video quality, unintelligible audio with disconcerting echo, limited ability to embrace modern PC based software tools, indecipherable and confusing controls, and connectivity that only seemed to work about 50% of the time – *we have all learned that this does not have to be the case.*

We now know that proper planning, design and integration can all but eliminate every one of these stumbling blocks, and this doesn't mean that we have to run the costs out of reach. It is really a matter of asking the right questions from the very beginning of the process. The questions that need to be asked when planning a video conference room include:

1. Who will use the system? Engineers for collaborative design work? Marketing for coordination of sales efforts? Human Resources for initial interviews or to present changes to the benefits package? Management for board or committee meetings? Others?
2. What will the users present to the Far End? (Far end is the people you are conferencing with at the other end of the network/phone system – sometimes called "them." The near end is your room, sometimes called "us").





*TA provided this traditional design for a Pharmaceutical company. The video conference facility was used by their research teams in conjunction with their offices in Europe and Asia. Note the microphone over the white board, where much of their interactive work was done.*

3. Who will the video conference be with? In-house peers, subordinates, superiors? This affects the finishes for the room as well as monitor and camera placement. For most rooms we try to keep the cameras and monitors "in-line" so the meeting is "eye to eye."
4. Is, or will, the room be shadow free for all of the lighting sources in the room? It is important that there be no shadows so the camera can pick up all of the detail – this is especially important for the participants' faces. You do not want the participants to appear over tired with shadows under their eyes or worse, to have their faces completely in shadow so that the other end can not read their facial expressions.
5. Are the lights all the same type; fluorescent, incandescent? For any video signal we want all of the cameras to have the same quality and type of light. Mixing lighting types "confuses" the camera. Incandescent lights have more red light, fluorescent lights have more blue and green. Imagine the camera's confusion as it pans from one face to the next – who's white shirt is really white?
6. Are there outside windows? Not only is a window another source and type of light, but any movement of trees or bushes in the wind outside the window will cause shadows within the room. These moving shadows will be "seen" as a moving light source by the Video Conference system. This makes the system work harder, thus reducing the quality of the image at the far end.
7. Has the room been acoustically treated? Is there fan noise, echoes in the room or noise from the hallway or adjacent rooms?
8. What is the room layout and what will the main camera location see?





*TA responded to the needs of this software design firm's management and sales teams by using a horseshoe shaped table which allows everyone to be seen during a video conference as well as allowing the presenter to directly interact with the participants during a sales meeting.*

Once these questions are answered, we can then look into the actual system design. Technical questions include:

- How many cameras are needed to cover the participants and any white boards?
- Is computer video required?
- Are VCRs or still video (an electron Microscope for example) required?
- Are document cameras for displaying 3D objects such as packaging samples for circuit boards required?
- Will the meetings be internal to the company only? If so, then we can look at sharing a space on the existing computer network via the H.323 videoconferencing CODEC or as it is sometimes called, IP based conferencing.
- If the meetings are external to the company, then we look at H.320 or ISDN/Fractional T-1 conferencing.
- Video Conference network design is as important to the design of the system as the room design.
- Finally, how to use the system is important. Let's face it, these systems intimidate people. There is typically a single staff person who knows how to place a call. A well designed control system can make the system easier to use. This was covered in our Summer 1998 newsletter. (Available at our web site [www.TA-Inc.com](http://www.TA-Inc.com)).

A good Video Conference facility is only as good as all of the parts. Desktop or set-top systems designed for one person in a small window on a computer monitor can not be scaled for multiple people in a conference room. Video Conference has been defined as "a bad form of, or poor quality, TV." We now understand that this is not a problem with the technology but, rather, a problem with how we implement and how we use the technology. With careful planning, the Video Conference system can be a form of profit center for your firm; it can speed up project delivery times and it can help unite remote offices.

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## THORBURN ASSOCIATES INC. Acoustic and Technology Consultants

Corporate Office: Castro Valley, California Tel: 510-886-7826  
Regional Office: Burbank, California Tel: 818-569-0234  
Regional Office: Morrisville, North Carolina Tel: 919-463-9995

<a href="mailto:TA@TA-Inc.com">TA@TA-Inc.com</a>	General Information Email Address
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