

Overview:

The videoconferencing market has grown exponentially over the past 5 years, allowing more and more face-to-face meetings to be held across long distances without the expense and hassle of travel. One reason videoconferencing has proven to be such an effective substitute for in-person meetings is the flexibility that current systems provide for the display of many different types of information. Not only can videoconferencing systems transmit and display images of the people involved in the meeting, but they also allow for the display of static documents, products and computer presentations. In order for this to occur, all images are fed through a "codec", the heart of a videoconferencing system, which transmits the information in the form of an NTSC or PAL video signal to various remote locations. However, codecs are not designed to directly receive and transmit a computer video signal. The video signal from the computer must first be converted into NTSC or PAL format, so as to be compatible with the codec.

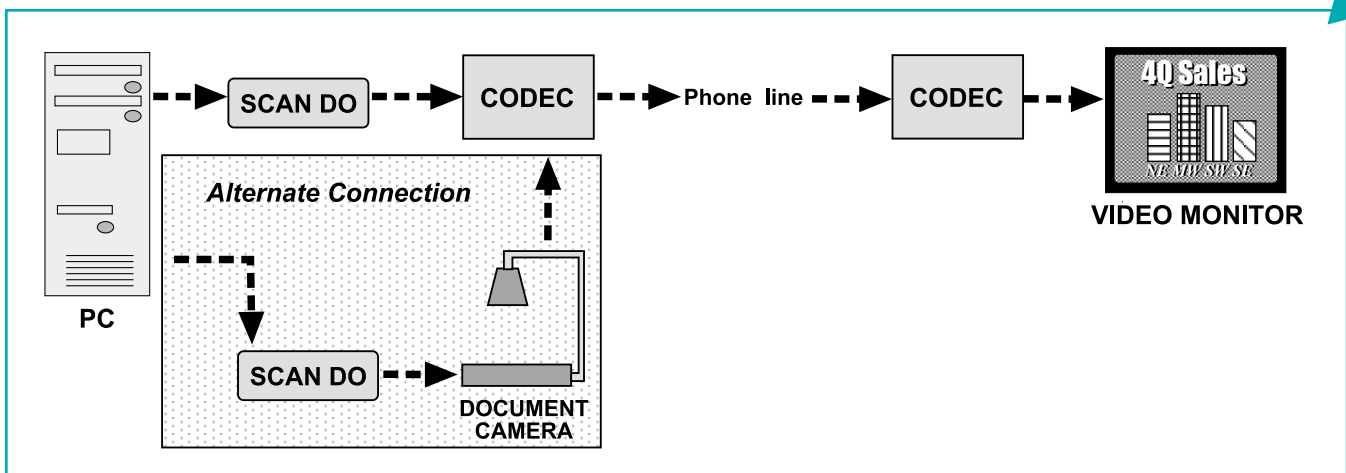
This TECHniques will describe how CSI's family of Scan Do scan converters can be used to perform this necessary conversion, allowing for computer-generated slides, spreadsheets, photography and other graphics to be easily integrated into a videoconferencing environment.

Details:

As just described, a codec uses standard NTSC or PAL video as the format of its transmission signal. NTSC and PAL video are different from computer video signals in many ways. The biggest differences are in their resolutions (number of lines in the respective pictures), the refresh rates (speed at which the pictures are "painted" on the screens), and the fact that standard video is interlaced (odd and even lines are generated in separate passes), whereas computer video is non-interlaced.

Scan Do scan converters take the non-interlaced, high-resolution video signal from any computer and convert it to a high-quality standard video signal, suitable for transmission by a codec. While the actual processing that Scan Do scan converters perform is quite complex, using the units is simple, involving only a few cable connections from computer to Scan Do to codec. The codec then sends the signal over a phone line, to be received by another codec located at the remote site of the videoconference. This signal is then output to a local video monitor or display device.

Some people familiar with videoconferencing may have used "file sharing" as means for accessing computer documents within the context of a videoconference. Scan converters offer many advantages to this technology. Unlike file sharing, scan



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converters provide *real-time* transmission of the computer-generated information *without* the need for an additional modem or additional computer at the receive site.

Suggestions:

If your codec offers both an S-video and video input, connect Scan Do to the S-video input. You will benefit from a much higher quality image.

Some codecs do not offer multiple inputs for additional peripheral video equipment. In these instances, Scan Do may still be integrated into the videoconferencing system by using the auxiliary input of some document cameras. The document camera may then be used to switch between still document images and live computer presentations.

For those applications that require multiple viewing displays to be connected to the receiving end of a codec, Communications Specialties manufactures a full line of video and S-video splitters. Models are available with 2 and 6 outputs.

CSI Products Used In This TECHnique:

- Scan Do Select 1290
- Scan Do Pro II..... 1291
- Scan Do Ultra..... 1274
- TwinSplit® for S-Video 1802
- HexiSplit® for S-Video 1806
- HexiSplit for Video 1706

Related TECHniques:

- Educational Guide: *Scan Converters Buyers' Guide*
- T-07 Using Deuce® Video Scalers in Videoconferencing Applications