

REMOTE CONTROL ON COMPRESSED NTSC VIDEO

Or

WHAT HAPPENED TO MY VERTICAL INTERVAL?

THE GOOD OLD DAYS:

As the broadcast and cable industries boldly venture into the digital age, they are confronted with many problems. One problem is the desired use of the Vertical Interval in an NTSC signal to transmit V.I.T.s Vertical Interval Test signals, V.I.R.s Vertical Interval Reference signals and other telemetry and control signals. Ever since the development of video, the V.I. has been used to transmit signals used to monitor and control the video path. These signals inserted into the V.I. would pass through any equipment that could pass the video signal. That was then!

THE PROBLEM:

Many new video transport products such as Studio-to-Transmitter Links, Fiber-Optic Links, and other video transport equipment use digital processing to transmit a perfect video image to the receive point. To minimize the transmission band-width they use one of the many forms of video compression. J-PEG, M-PEG to name a few, there are many other formats for digital compression. Almost all of them remove the Vertical Interval before digital encoding prior to transmission. That means the loss of all information in the V. I. and with it the possibility of using the V.I. for telemetry and control.

WHAT CAN BE DONE:

Let's look at what we have to work with. The NTSC signal has many lines of video that are not seen on most monitors. All Cathode Ray Tube "CRT" type monitors have a boarder area on all sides that covers up the first and last few lines of video. Even the Plasma type monitors usually have a black area on the top and bottom of the picture. This is an advantage that can be used to restore the use of telemetry and control to NTSC video transmitted over digital links.

By relocating the telemetry and control signals from the V.I. to the first usable video line in the signal before digital encoding, your signals will pass through any digital system on the market today. You will still be able to use the V.I. control that you have come the rely on. This process would un-burden you from having to change all those control and telemetry signals to some other form of transmission.

BUT WHAT ABOUT MONITORS THAT DISPLAY ALL THE LINES?

To prevent your telemetry and control signals from being viewed on a monitor that does display all video lines, you must first strip off any video information that resides on the first usable video line. Then after the video is delivered by the digital transport, you then strip off the telemetry and control signals leaving a black line that will not be noticed on the monitor. Because of the use of video line interlace you must strip both the even and odd field of the first usable line. This method of transmitting contact closures over a digital transport is available now. Contact the factory for more information. 800-235-6960.