



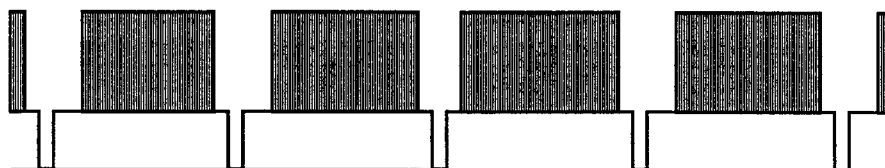
APPLICATION

VIDEOTEK
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Sync Timing — Vertical rate

I will have to take a couple of these issues to cover sync timing pictures. The first set is all at a slow vertical rate. I had to choose this rate because one pulse happens only once every four fields. As you look at the drawings below, try to relate them to what you see on a waveform monitor. A waveform monitor will usually show only $\frac{1}{4}$ to $\frac{1}{2}$ of the length of what I have shown here. A waveform monitor, set to display the vertical rate, may usually be selected for 1V or 2V display. Each "V" represents a field, or $\frac{1}{4}$ of the length of the pictures below. Here is a representation of four fields of video.



COMPOSITE VIDEO, 4 SEQUENTIAL FIELDS, REPRESENTS 1/15 SECOND IN REAL TIME

The next picture shows the composite sync from that video signal. On the waveform monitor, it is the lower portion of the picture. If all is well, it goes from the 0 IRE line down to the -40 IRE line. If the composite sync is viewed directly from a sync generator, it is 4 volts in amplitude, and has the exact same proportional size.



COMPOSITE SYNC FROM ABOVE VIDEO

Now we get into signals which are used to define the video, but are not directly removable from the video. Composite blanking is used by picture generators to designate any place where video is **not** present. This signal is present in most sync generators and is also 4 volts in amplitude.

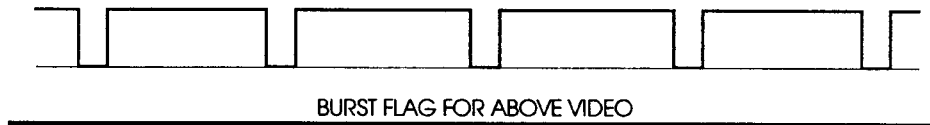


COMPOSITE BLANKING FOR ABOVE VIDEO

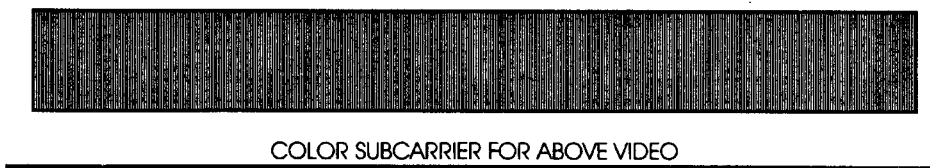
The field 1 I.D. pulse is the guy who forced these drawings to begin at this slow rate. It happens only once every four fields, and identifies field 1 of 4. It's a fairly quick pulse and locates line 10 of field one. This pulse, like blanking is found in current sync generators and is also 4 volts in amplitude.



Burst flag, much like blanking, is used to guide circuits to the point where they remove a portion of the video. The "hole" left in the video is later filled with color subcarrier by other circuits. Burst flag is also 4 volts in amplitude out of a sync generator.



Finally, we have color subcarrier. This appears as a total blur at this slow rate. This signal, out of a sync generator, is only 2 volts in amplitude.



Next month, I will continue with these same pulses viewed at a faster rate. As always, write or call me, Mark Everett, at Videotek with your questions and comments.