

ne important objective when choosing an output service, is selecting one which has the ability to output and record a component signal.

What gives you a better quality tape recording? What is the difference between composite and component?

A composite video signal combines the luminance (the black and white), the chrominance (color information), and sync into one signal. The composite signal can be fed through one cable (cable television), aired, or recorded. VHS video recorders can only record and play back composite video. Composite can be output by all scan down converters and encoders.

Most scan down converters and encoders also output S-Video, which is a form of component recording used by S-VHS, Hi 8mm, and U-Matic SP machines. In this case, the Y signal or luminance is kept and recorded separately from the R-Y and B-Y signal. But, the R-Y and B-Y signals are not kept apart and are recorded as one low resolution chroma image. Played back from tape, a high resolution Y signal produces a fine detail to which the lower resolution chroma signal provides the color. Two cables are used to route these signals.

A component video signal, recorded in Betacam or M II format, is called a Y, R-Y, B-Y signal. Red, green, and blue are combined at different percentages to yield a highly detailed black and white signal. This black and white signal (Y or luminance signal) is recorded on a separate track with Betacam or M II recorders. R-Y contains half the original red resolution minus the luminance. B-Y contains half the original blue resolution minus the luminance. R-Y and B-Y are then compressed and differently time advanced to be recorded together on another video track. During play back the signal can be separated by applying the inverse process. Eventhough R-Y and B-Y are recorded together on the same track, they are never mixed. As in the case of RGB, three cables are used to route a component Y, R-Y, B-Y signal, and an outstanding picture quality with no artifacts, like chromacrawl, etc. is preserved, as long as the picture stays in component format.

If you are choosing an output service that promises component (Betacam, M II) output, make sure they are using an encoder or scan down converter which is capable of outputting a component signal and that the signal is routed in component format directly to the recorder. Some studios provide output service to Betacam, but are only composite wired. They end up

converting an excellent RGB picture to composite video in order to feed the signal into a Betacam recorder which breaks it apart again during recording. Kind of like trying to get the eggs out of a cake again.