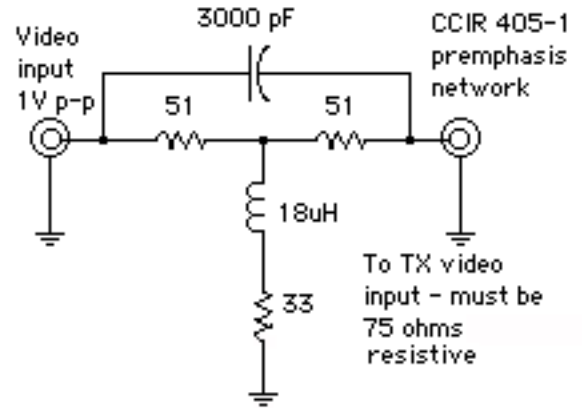
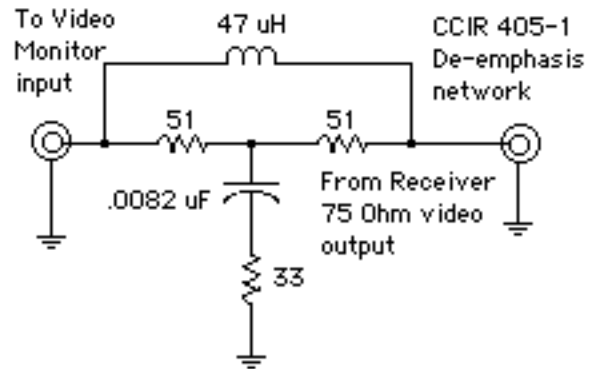


PEK Pre-emphasis & DEK De-emphasis Kits

Pre-emphasis in the FM ATV transmitter along with corresponding de-emphasis in the receiver can more than double the distance or add a P unit for the same distance (6 dB) by lowering the noise floor in the receiver. This is because the receiver low pass de-emphasis filter reduces the video 3 dB bandwidth from around 3 MHz to 200 kHz. Deviation is not exceeded, nor the spectrum significantly increased, because the transmitter video pre-emphasis starts about 100 kHz where the video energy is very low to begin with. Most of the power in a video signal is in the horizontal (15734 Hz) and vertical sync (59.9 Hz). The sound subcarrier is more significant than the video because it is a set to a fixed level between 10 to 20 dB down from the carrier.



The pre-emphasis network can be added in the composite video line to any FM ATV transmitter if it does not have one and is used in your area. You will end up with greatly distorted video if some ATVers in the area use it and others don't. The pre-emphasis network attenuates the low frequencies about 10 dB below 750 kHz so the video gain has to be increased to compensate - our GVM-1 Gunnplexer Video Modulator Board can also be used for pre-emphasis and the added gain. Likewise, the video gain in the receiver has to be increased to compensate for the attenuation of the high video frequencies and color subcarrier.



The networks shown use standard value parts and are close enough even with 5% tolerance as long as you make sure the outputs are connected to a good 75 Ohm resistive termination - check with an Ohm meter. Check the Mouser or Digi-Key parts catalogue. You can either disconnect the wire to the video connector in the transmitter or receiver and insert in series, or mount the parts in an small aluminum box with jacks if you want to do it externally. You can order a Pre-Emphasis or De-Emphasis (pictured) kit including the metal can and RCA jacks from us for \$15.



Mouser Part Numbers Used:

Pre-emphasis

18 uH 43LS185

.003 uF 140-PF2A302J

(2) 51 Ohm resistor 299-51-RC

33 Ohm resistor 291-33-RC

De-emphasis

47 uH 43LS475

.0082 uF 140-PF2A822J

(2) 51 Ohm resistor 299-51-RC

33 Ohm resistor 291-33-RC