

Negative Traps

A negative trap is a passive device used to block the reception of any unauthorized channel or channels from a non-subscribing cable television viewer. The trap attenuates the video carrier of the specific channel to a point where there is no viewable picture on the television set. This attenuation level is approximately 45 to 60 dB depending upon the individual TV sets. Levels at the tap and splitters determine where the notch of the negative trap must be within the 45 to 60 dB range. Figure 1 (below), displays a theoretical or ideal trap notch via the solid line.

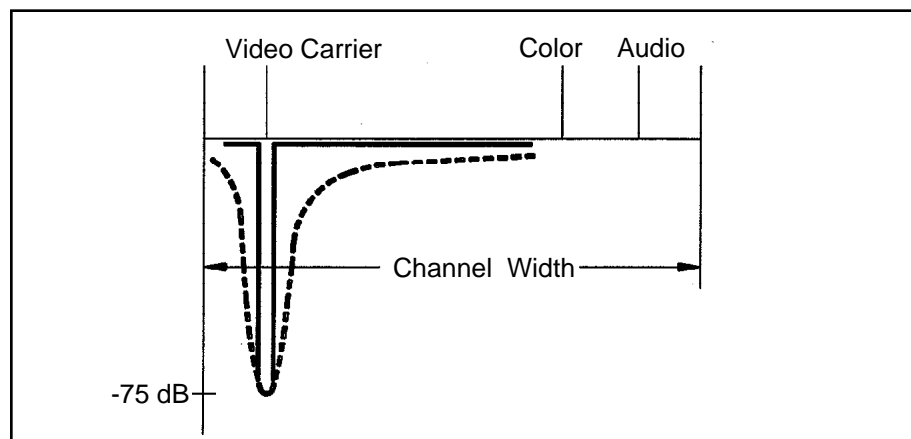


Figure 1

The ideal trap, which affects nothing but the video, does not exist! Traps manufactured today closely resemble the dotted line pattern in Figure 1, shown above.

The notch width (dotted line) in Figure 2 illustrates the channel overlap and its affect on adjacent channel performance. The higher the frequency, the wider the notch, therefore creating more overlap and greater loss.

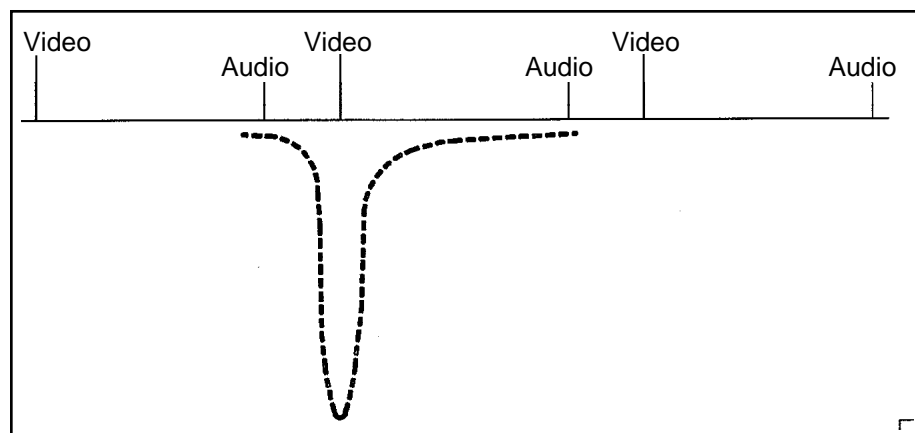


Figure 2

At certain frequencies, the trap notch will affect the lower channel enough to produce washed out color. This attenuation is easily measured by audio carrier loss. Acceptable audio loss is -9 to -15dB, depending upon tap and splitter levels. The upper video loss is generally not a problem; -3dB is acceptable.

Check your trap specification sheet to determine how high in frequency the trap can be used before exceeding lower and upper channel limits. If there is no lower audio, negative traps can be used at much higher frequency ranges. If there is no upper video, the negative trap can be extended even farther.

Current technology has advanced to the point where four (4) pole traps are excellent choices for a single channel negative trap, depending upon the notch depth, width and temperature stability. However, for the notch to remain stable, the traps must be totally sealed against any moisture ingress by virtue of two internally mounted controlled compression "O" rings and compression weather seals at both "F" ends of the trap.

Should it become necessary to trap more than one channel, one would progress to a multi-pole or Tier Trap. An effective tier trap will have from four (4) to sixteen (16) poles. Premium channels can be consecutively grouped and offered at attractive prices. Figure 3 (below) illustrates the tier trap configurations that are available.

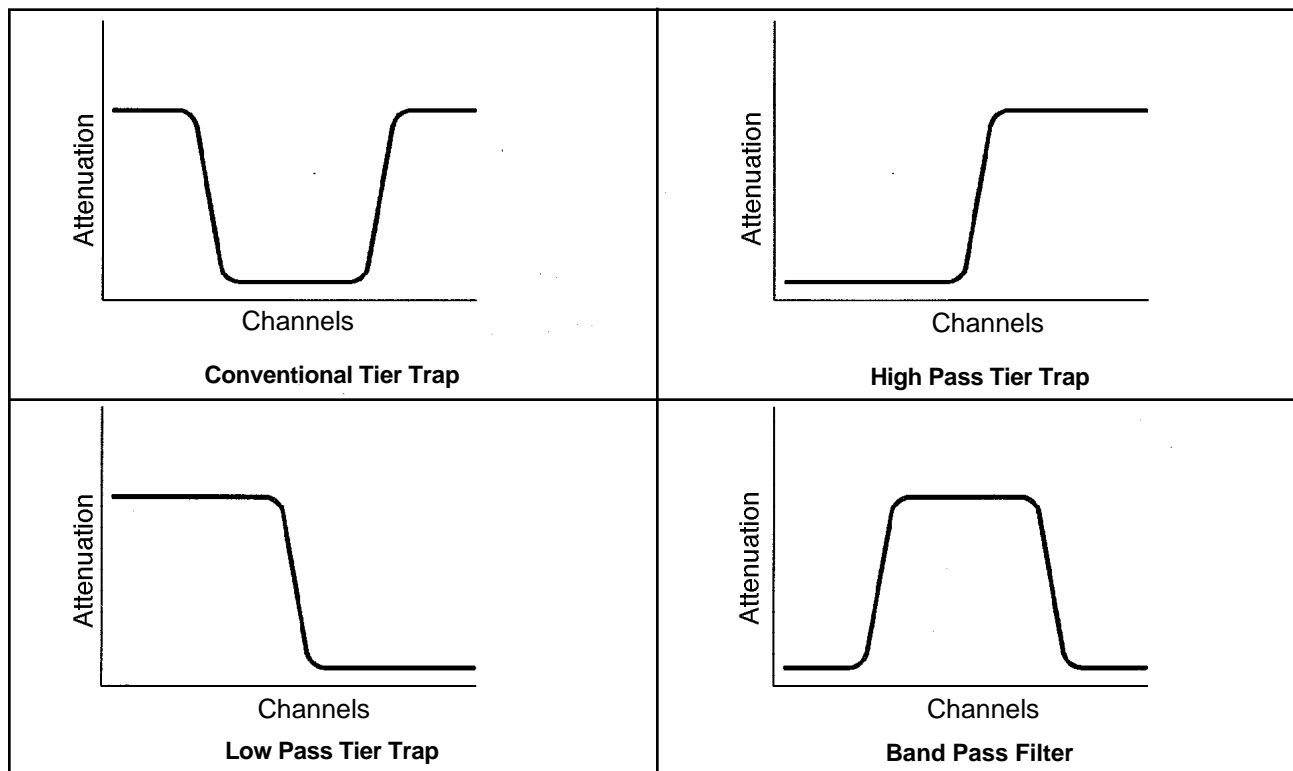


Figure 3

The most commonly used tier traps are both six (6) and eight (8) pole traps. Based on the number of channels to be attenuated and where in the frequency spectrum the tier is located, an effective tier trap can have up to sixteen (16) poles. Because of the variety of tier traps available, plots should be requested before ordering.



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