

## Positive Filters

To determine whether a positive filter or negative trap should be utilized, simply review the number of active subscribers for that particular program or channel in your system. If the number of active subscribers represent better than 51% of your base, then the most cost effective approach would be that of the negative or blocking trap.

Conversely, when the number of subscribers are less than 51% of your base, then positive decoders should be considered.

Eagle has two types of Positive decoding systems, and both will be explained below in detail.

The first type is referred to as a discrete jamming system. At your headend, either one or two jamming carriers are inserted at IF frequency near the center of a premium or selected channel. When two jamming carriers are used, they are placed only 50 KHz apart, and appear as one carrier to a decoding filter. The jamming carriers are run at video level and have modulation which increases the amount of scrambling. If the jamming carriers are not removed before the signal enters the television set, the video, and in most cases the audio will be scrambled. A very sharp filter, called a decoding filter can remove the jamming carrier, therefore fully restoring the picture and sound.

A feature often added to the picture at the headend is called "pre-emphasis". Pre-emphasis exaggerates the video near the jamming carrier and sharpens or enhances the decoded picture.

Should the channel selected for positive scrambling be positioned too high in frequency, the video carrier will be over attenuated. The illustration below in Figure 1 indicates the relative position of video, jamming carriers and decoding filter.

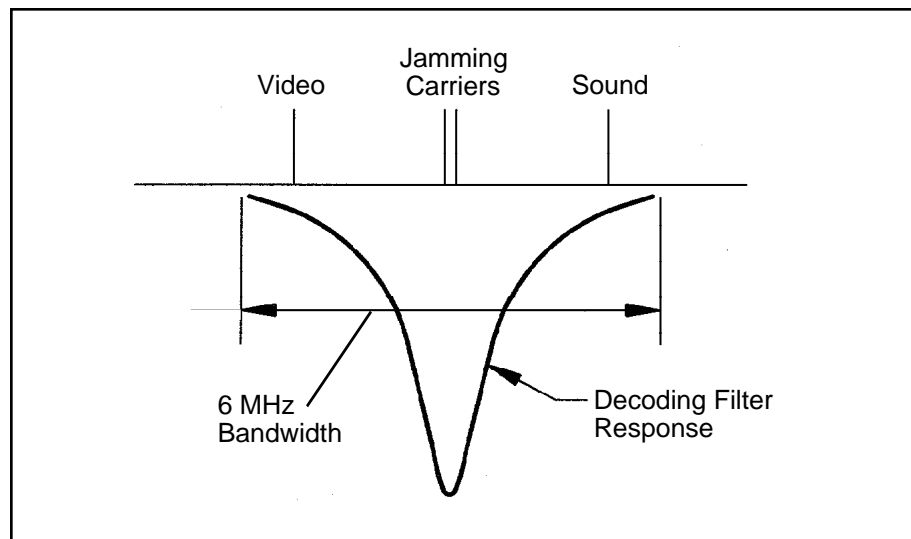


Figure 1

To discourage subscribers from attempting to fine tune their television set so as to tune out the jamming carriers, a lower adjacent audio carrier should always be in place.

The second type of positive decoding is called Side Band Interdiction and is patented by EAGLE COMTRONICS. Instead of inserting discrete jamming carriers in the center of the premium channel, the video from the channel is utilized and amplified at IF, to a point where it scrambles the video as illustrated in Figure 2 below.

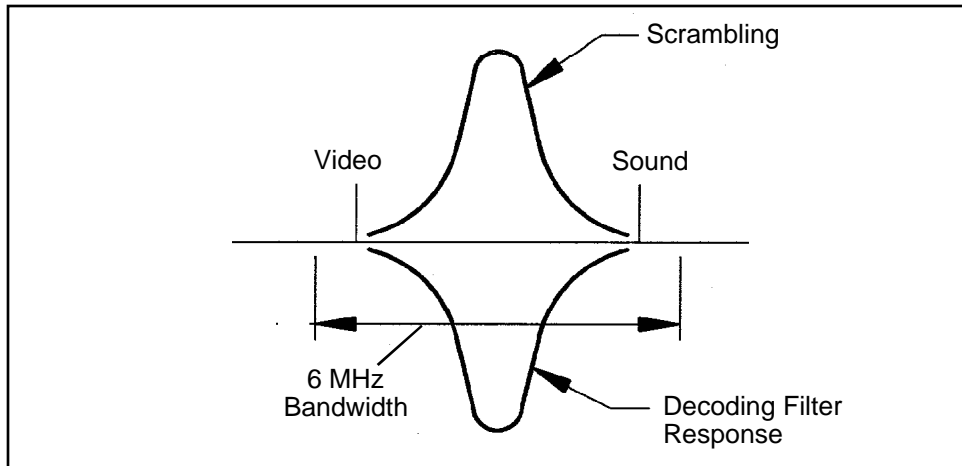


Figure 2

When the EAGLE decoding filter is utilized, the scrambling gain is neutralized, restoring the picture to normal. The response of the decoding filter so closely mirrors or resembles the scrambling curve, near perfect picture quality of the decoded picture is achieved. This quality therefore, allows the EAGLE decoding system to be used at much higher frequencies.



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