

How To Preset A VCR Tuner With The VA62A's RF Generator

A service many shops are now providing is to align a VCR's tuner to specific channels for their customer. This poses a problem for the servicer if he doesn't have cable in his shop or he cannot identify which channel the VCR is tuned to. If you presently own the VA62A Universal Video Analyzer, you already have the answer to this problem.

This Tech Tip covers how to use your VA62A to align a VCR tuner to any channel your customer wishes. We will look at the broadcast RF signal and the procedure for tuning to the proper sideband with the VA62A.

You Must Find The Upper Side-Band For Proper Tuning

The RF signal used by the broadcast field is a vestigial sideband signal. At the transmitter, the modulator produces a double sideband signal (see figure 1). Before this signal can be transmitted, the lower sideband is filtered off to make room for more channels in the TV RF spectrum. The upper sideband and a small portion of the lower sideband are transmitted and received by the TV or VCR.

To properly adjust a tuner, you must tune to the upper sideband. It is possible to misadjust the VCR to produce normal picture and sound when tuned to the portion of the lower sideband of either an off-air or the VA62A's signal. This is mainly due to the characteristics of the tuner and IF circuits in the VCR allowing some of the upper sideband to be passed when tuned to the lower sideband. For correct fine tuning, follow the procedures listed below.

How To Tune To The Upper Side-Band Of The VA62A's RF Output

When adjusting a tuner for a correct channel with the VA62A you must locate the upper sideband. This is done by first tuning to the next higher adjacent channel, then tune back down to the upper sideband of the correct channel.

To set the VCR's tuner to the correct upper sideband:

1. Connect the VA62A to the VCR's antenna terminals, set the RF level controls to the HI and

NORMAL positions, and select COLOR BARS with the VIDEO PATTERN switch.

2. Set the VA62A's RF-IF SIGNAL control and key pad to the adjacent channel higher than the one you wish to tune on the VCR.

3. Set the VCR tuner to the channel you wish to tune in, and turn off any AFT function on the VCR.

4. Fine tune the VCR to the channel set on the VA62A. (either sideband)

5. Set the VA62A to the same channel as the VCR. (step 3)

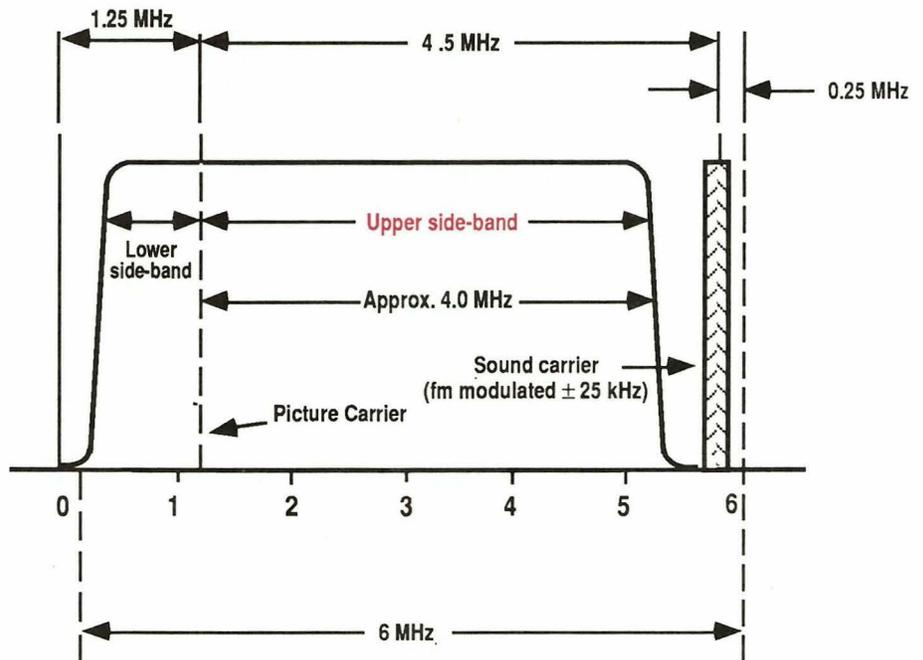


Fig. 1: The broadcast industry uses vestigial sideband RF signal, and you must set the tuner to the upper sideband.

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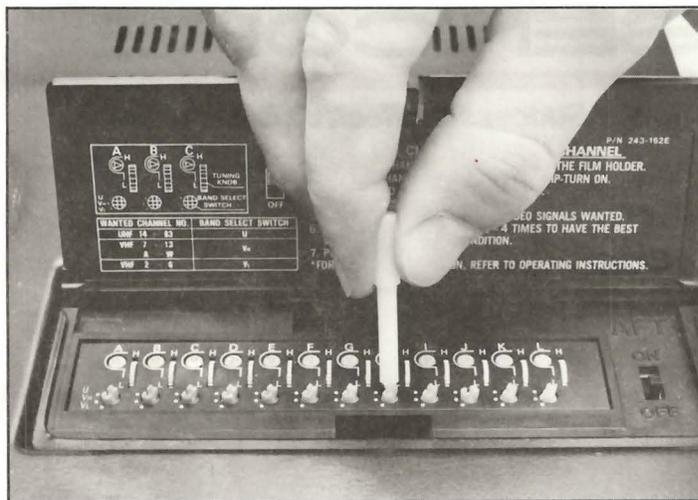


Fig. 2: Connect the RF-IF OUT of the VA62A to the antenna in on the VCR, and set the tuner to the proper sideband.

6. Fine tune the VCR back down to the first good signal and turn the AFT back on. This is the upper sideband. If you were to keep going in the same direction with the fine tuning control, you would incorrectly tune to the lower sideband.

If you must tune a series of channels on one VCR, you can speed the process by remembering which direction you must turn the fine tuning control to reach the upper sideband. Then, simply turn all adjustments in the same direction for

proper tuning. You should practice this method a couple of times to guarantee no mistakes.

NOTE: If there is not an adjacent channel higher than the one you are trying to set (for example channels 6 or 13 VHF), you will need to first tune to the lower adjacent channel. Remember, you must tune to the upper sideband. This means tuning through the lower sideband and stopping at the higher sideband.

**For more information
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