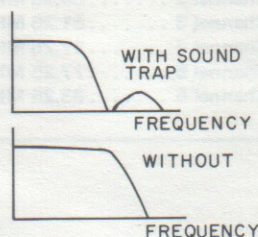
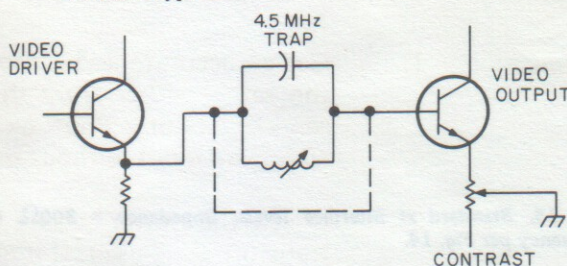


Fig. 10. Removing the sound trap can extend video bandwidth.

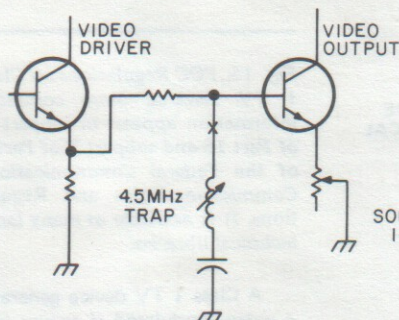
(a) Response



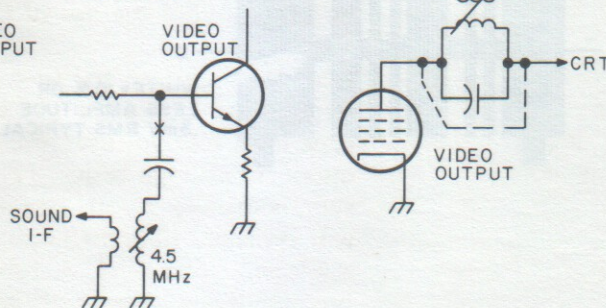
(b) Parallel resonant trap — short or bypass.



(c) Series resonant trap — open or remove.



(d) Combined trap and pickoff — open or remove (series resonant); short or bypass (parallel resonant).



results. Fig. 10 shows us the response changes and the several positions for this trap. Generally, series resonant traps are opened and parallel resonant traps are shorted or bypassed through suitable switching or outright elimination. The trap has to go back into the circuit if the set is ever again used for ordinary program reception. Sometimes simply backing the slug on the trap all the way out will improve things enough to be useful.

Minimizing Strays

One of the limits of the video bandwidth is the stray capacitance both inside the video output stage and in the external circuitry. If the contrast control is directly in the signal path and if it has long leads going to it, it may be hurting the response. If you are using the TV set exclusively for data display, can you rearrange the control location and simplify and shorten the video output to picture tube interconnections?

Additional Peaking

Most TV sets have two peaking networks. The first of these is at the video detector output and compensates for the vestigial sideband transmission signal that makes sync and other

low frequency signals double the amplitude of the higher frequency ones. The second of these goes to the collector or plate of the video output stage and raises the circuit impedance and thus the effective gain for very high

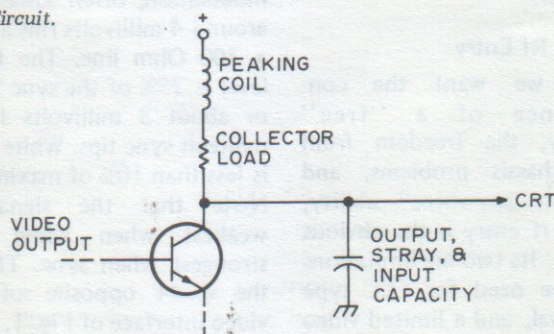
frequencies. Sometimes you can alter this second network to favor dot presentations. Fig. 11 shows a typical peaking network and the effects of too little or too much peaking. Note that the stray capacitance also enters into the peaking, along with the video amplifier output capacitance and the picture tube's input capacitance. Generally, too little peaking will give you low contrast dots, while too much will give you sharp dots, but will run dots together and shift the more continuous portions of the characters objectionably. Peaking is changed by increasing or decreasing the series inductor from its design value.

Running Hot

Sometimes increasing the operating current of the video output stage can increase the system bandwidth — IF this stage is in fact the limiting response, IF the power supply can handle the extra current, IF the stage isn't already parked at its gain-bandwidth peak, and IF the extra heat can be gotten rid of without burning anything up. Usually, you can try adding a resistor three times the plate or collector load resistor in parallel, and see if it increases bandwidth by 1/3. Generally, the higher the current, the wider the bandwidth, but watch

Fig. 11. Adjusting the peaking coil can extend video response.

(a) Circuit.



(b) Response.

