

Folks-

Here are several easy mods to improve Hilltopper performance. They address audio levels and quality.

1) 'Loud sidetone':

The value of R8 (now 22k) can be increased to 47K to 100K. (This change has been posted before, but it's worth including in this summary )

2) 'Low audio'

The values of R5 (150K) and C22 (470 pF) may be changed to 330K and 220 pF respectively. This yields a gain increase of 6 dB without affecting that stage's rolloff characteristic.

These two components are in 'tight quarters'- between U3 and the pushbutton switch. Cutting one or both component leads and tacking the new components on the underside of the board makes the change much easier.

But wait- there's more!.....

As some of you have noted, there's a 'screech' on loud CW signals- it necessitates riding the gain control. I evaluated samples of a more robust op-amp- the NJM4556AD.

3) Replacing the NE5532P with that new device eliminates the screech. You'll hear some distortion when limiting occurs, but it's much less objectionable than the NE5532's rude noises. Its 'limiting' threshold is also about 6 dB higher than the present device. The net result of this change, combined with 2) above, is 6 dB more audio without the rudities (that's a word!).

Note that if you increase the gain without replacing the IC, you'll find yourself riding the gain control more often