

Simple mic clipper for MC60A

By G8MNY

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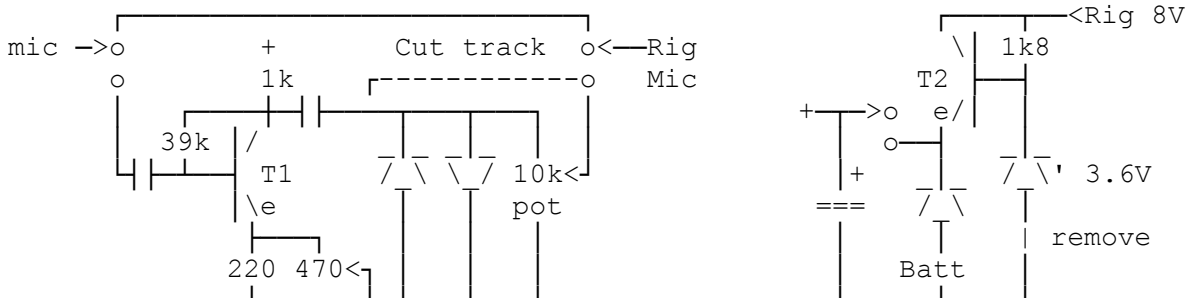
(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

This modification puts a crude but effective clipper into this base mic used with & powered from a TS50.

EXTRA COMPONENTS

- 2x Germanium/Schottky Diodes
- 1 10K small preset pot
- 1 470R Variable R

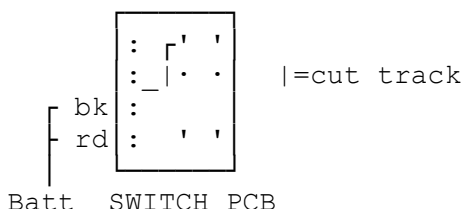
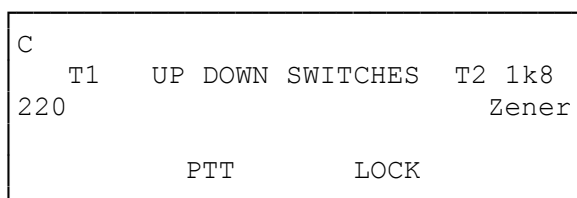
CIRCUIT



The 3.6V zener diode in the regulated supply is removed by heating & lifting up one end. This gives the preamp much more headroom to facilitate symmetrical clipping with the added diodes. The extra 470R mic gain preset is placed over the tiny 220R. The 2 diodes & are mounted over the preamp in out switch connector socket.

The track is then cut to the Preamp in switch & the output level 10k preset mounted over the preamp in out switch.

BUTTON PCB



Setting up is best done with a scope looking at the signal on the diodes, check that at normal close mic use the diodes clip the peaks off, adjust the 470R mic gain to suit. Then operate the PTT & adjust output pot (& Rig mic gain) to just give full power (normal ALC drive) on a loud clipped whistle (almost at zero).

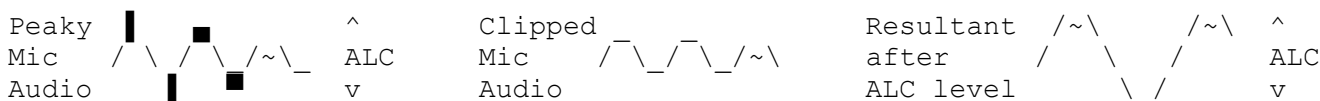
This clipper only work when the mic level is just right, so your voice level is important. On air tests gave it a good clear audio report with clipped audio not too noticeable, but sounds louder.

CONTROLS

Using the Mic Impedance switch some modulation control is possible.

PREAMP MIC Z	RESULT
out 50k	Lowest unclipped (For loud background situations)
out 500Ω	Normal unclipped
in 500Ω	Slightly clipped
in 50k	Heavily clipped (For weak signal/noisy band)

WHY CLIPPERS WORK



When the worst of peaks are clipped off, the lower level can then drive the rig with a higher mean level (less ALC action). This results in slightly noticeable audio distortion, but a much louder signal. Under weak/poor conditions the low level distortion products are not detectable, but the louder signal is more easily read.

Audio harmonics generated will be transmitted if they get through the SSB filter outside that they are filtered enough in the rig to not be a problem.

This is all very subjective, so heavy clipping should only be used for weak & poor contacts, not strong local ones where the distortion becomes wearing to listen too!

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73 De John, G8MNY @ GB7CIP