



73 Tests the Knight Kit C-577 Compressor

Hams have long known the advantages of compression in the modulation of a transmitter. You can look back at old handbooks and see the very complex and cumbersome equipment that used to be necessary to add compression to a transmitter. Then you can look at the neat, compact Knight C-577 and see how far we've come. This simple, easy-to-build compressor/preamplifier connects between your microphone and transmitter mike input in a few minutes. Then it can be switched in and out of the circuit with adjustable compression and output to provide you with maximum audio for any situation.

The C-577 comes as a kit. The "job" of building it takes about an hour even for butterfingers. Almost all of the parts are on a sturdy printed circuit board and the C-577 uses three modern silicon transistors for reliable operation. The circuit board mounts easily with the controls and common 9 v battery in the attractive 2 $\frac{3}{4}$ x 6 $\frac{1}{4}$ x 3" sea blue and silver case. Then it's ready to connect to your transmitter with the double shielded cables that are provided in the kit for use with push to talk switching.

Once the C-577 is connected up, you find that it offers preamplification for low level mikes—up to 26 db at 1 kc. Compression can start as low as 2 mv with full compression limiting output to 50 mv as desired. The input and output impedances are more than 50,000 ohms and frequency response is within two decibels from 300 to 5000 cps. Because of the transistorized-battery operation, hum and noise are more than 50 db down from the maximum output.

The compressor boosts the output of your modulator when you mumble, then limits it when you talk too loudly to give a high average level of modulation. You can easily adjust the unit so that your transmitter will not over-modulate no matter how hard you shout! The big advantage of a compressor such as this over the more common speech clippers is that it introduces very little distortion. All broadcast stations use compressors; I'm sure none use clippers. Of course, hams don't want high fidelity in frequency response, but we do want low harmonic and intermodulation distortion so that our signals are clean and pleasant to listen to. Clippers are notorious for harmonic distortion—that's why they have to be followed by filters. The distortion that a compressor introduces is mostly a matter of phase and amplitude, which is not unpleasant.

I connected the C-577 to a 50 watt 6 meter AM transmitter, got into a contact with a ham just about on the limits of my modulation, and tried the switch test. He said that it made quite a difference. Without the compressor, my voice was weak and partially unreadable. With the compressor in the circuit, it was much stronger and R5 copy. Even with deep compression, the sound wasn't too bad. In fact, my voice is pretty bad without the compression. At any rate, you can always reduce the compression a bit if there are any complaints. The attractive edgewise meter tells you how loudly to talk.

At \$19.95, the Knight C-577 is an excellent buy. You'll never know the difference a compressor can make until you try one.

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