

Comdel CSP-11 Speech Compressor



Ops interested in being on top of the heap, or in getting a few more dB output on VHF without the usual distortion, will be interested in the new Comdel Speech Processor. In tests at W2NSD/1 and K1RA, reports with the CSP-11 were somewhere around 3 dB higher than without it and with a noticeably louder signal.

Actually, the CSP-11 is designed for use in any system that uses a microphone for voice transmission, and results in useful talk-power gain, as well as in a concentration of the power in the frequency range that gives the best intelligibility. This has the effect of narrowing the transmitted signal width—a highly desirable feature in SSB work, producing, in effect, a gain of about 10 dB, and having little effect on the power supply because it is actually the same power but more concentrated.

The Comdel is interesting from an engineering standpoint. The big problem with speech clipping is to avoid the distortion that usually accompanies it, and this is a serious problem in sideband operation. Comdel came up with a tricky solution: basically they have built a complete sideband generator which changes the audio input to SSB, clips it and

demodulates it back to audio. The undesirable clipping products are lost in the process and you come out with nice, clean, compressed speech.

In the CSP 11, the original audio frequency spectrum, centered around 1.5 kHz for the human voice, is translated to a much higher center frequency. In the audio range, human speech represents almost a 10:1 range—from 300 to 3000 Hz. This is a little more than three octaves. When the speech is translated to a higher frequency, its bandwidth represents much less than an octave, and it is somewhat easier to process with minimum distortion.

Peak limiting the translated signal produces the usual harmonics, but they are easily filtered out, since they are considerably removed in frequency. The amplitude-limited

Comdel CSP 11 Specifications

Frequency response:	500 to 2500 Hz at -3 dB points.
Input impedance:	0.5 megohm.
Minimum output load:	5000 ohms.
Signal to noise ratio at limiting point:	36 dB minimum.
Input level at limiting point:	10 mV peak.
Output level at limiting point:	50 mV peak.
Power requirements:	9 Vdc at 18 mA.
Battery life:	300 hours.
Size and weight:	5½ x 3¼ x 7½ inches; 32 oz.
Price:	\$120.00 postpaid.

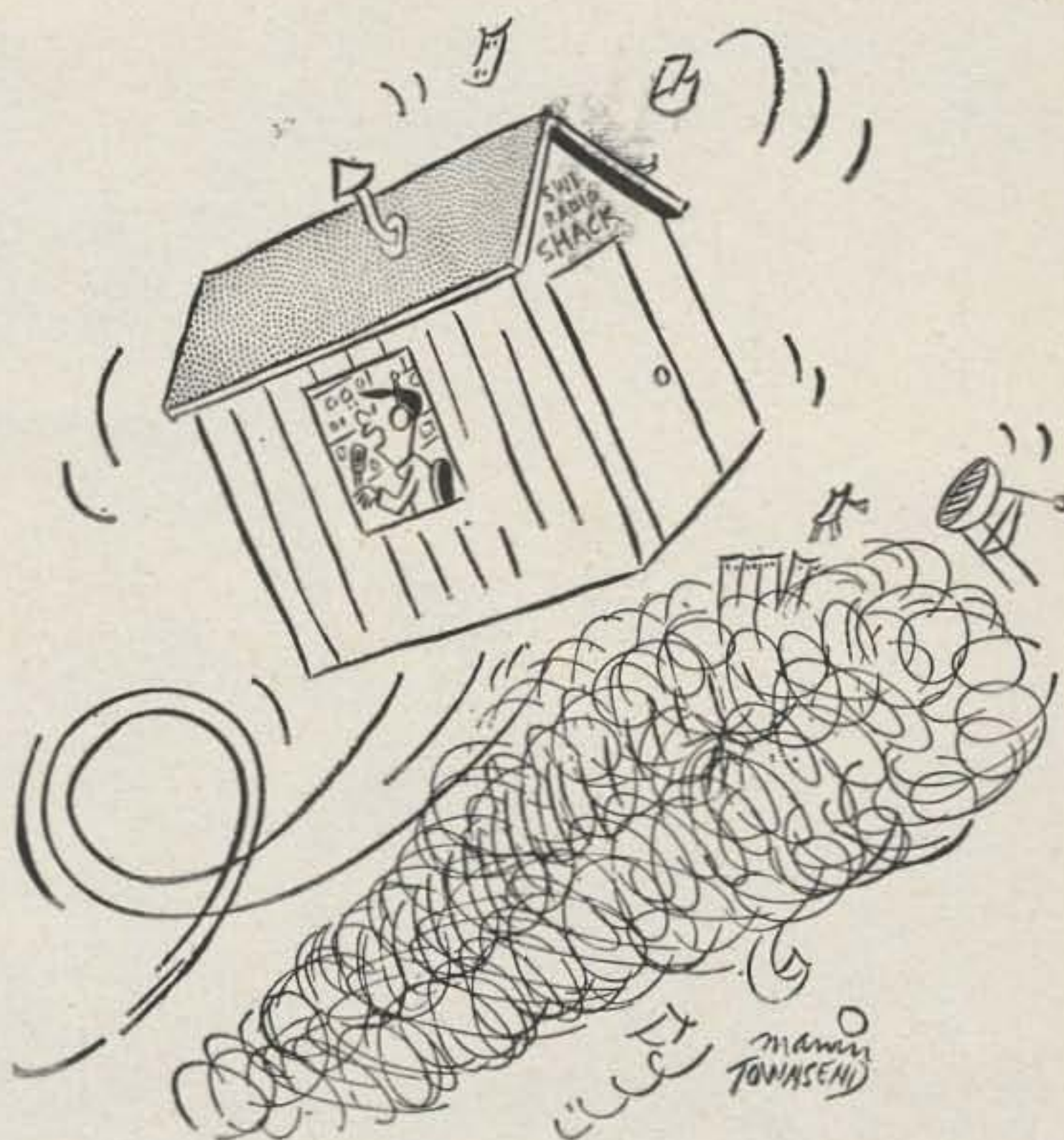
*Comdel Inc., Beverly Airport, Beverly, Massachusetts 01915.

spectrum is then translated back to its original position. This results in peak-limited audio signals free of harmonic distortion.

The Comdel Speech Compressor is completely transistorized and requires a minimum power supply—9 Vdc at 18 mA. Provision is made for six 1.5 volt "D" cells connected in series. However, power may be obtained from an external source or powered in 12-volt mobile systems without any external components. The unit is designed to be used with fairly insensitive, high-impedance microphones having a peak output of 25 mV on voice peaks. Most communication type microphones give considerably more output, necessitating a reduction of the front panel level control.

When the Comdel CSP 11 is used, the resultant output of your transmitter is no higher on peaks and there is no apparent broadening of the peak spikes, but the envelope seems to be a bit fuller down the slopes.

There were a few reports that the voice was a bit more natural with the unit out of the circuit, but that the signal was clean and usefully louder with it in. Depends on what is important to you . . . sounding like the star you are, or working the DX a few con-



"Hold it, Gus! I think I've just gone mobile!"

tacts earlier in the pile-ups. At \$120.00, plus batteries, or with a 12-Vdc supply, this is an economical way to get a nice boost in output. . . . W2NSD/1 & K1RA

DIPLOMAT COMMUNICATIONS DESK



The above picture shows the R. L. Drake factory display at Miamisburg, Ohio featuring the famous "Drake Line" on a Diplomat Communications Desk.

EMPLOYS ALL OF THE DESIRABLE FEATURES FOR CONVENIENT OPERATION.

Send for brochure on this and other models, priced from \$79.95 to \$495.00.

SOLD THROUGH THE FOLLOWING AUTHORIZED DISTRIBUTORS

- AMATEUR ELECTRONIC SUPPLY
Milwaukee, Wisconsin
- AMRAD SUPPLY, INC.
San Francisco, Calif.
- ELECTRONICS CENTER, INC.
Dallas, Texas
- HARRISON RADIO CORP.
New York
- HATRY OF HARTFORD
Hartford, Conn.
- HENRY RADIO CO., INC.
Los Angeles, Calif.
- MOORY'S WHOLESALE RADIO
DeWitt, Arkansas
- PRIEST ELECTRONICS
Norfolk, Va.
- PURCHASE RADIO SUPPLY
Ann Arbor, Michigan
- SREPCO ELECTRONICS
Dayton, Ohio
- UNCLE GEORGE'S RADIO HAM SHACK
Wheaton, Maryland
- WORLD RADIO LABS, INC.
Council Bluffs, Iowa

DESIGN INDUSTRIES, INC.

P. O. Box 19406

PHONE 214-528-0150

DALLAS, TEXAS 75219