

# VOICE SIGNAL BOOSTER

## "VSB-1"

This new product called, the "Voice Signal Booster", is one of the most unique and effective methods of speech processing for communications gear available on the market today. It incorporates amplitude expansion on the receiver portion of your radio, and amplitude compression of the transmitted voice signal, while at the same time giving you improved signal-to-noise ratio. The waveform is essentially unmodified and, therefore, undistorted. The compressor will give you more talk power than most power mikes or other speech processors on the market today, the effect being that your voice comes across stronger and clearer. It will also cut background noise at a 2/1 ratio, at the receive end.

With the expander, you will have up to 16dB improvement in the signal-to-noise ratio of the received signal, no matter what type of rig is transmitting. You will also be able to pull distant stations in that no one else in your area is able to hear, because you don't have to contend with the noise that everyone else is receiving along with the transmitted signal. However, the expander won't help if the audio peaks are no higher than the noise. If this is the case, the noise and audio will be expanded equally. Most of the time the expander makes an improvement varying from the noticeable to the spectacular. A signal strong enough to actuate the AVC will produce a S/N ratio in excess of 30 dB with the expander in circuit.

This product not only works in your CB radio, but also works in any communications equipment, whether it is AM, SSB, FM, UHF, or VHF. It is only illegal, in that if it is installed internally in the radio, it will void the FCC type acceptance.

### INSTALLATION

#### I. Connecting the expander cable:

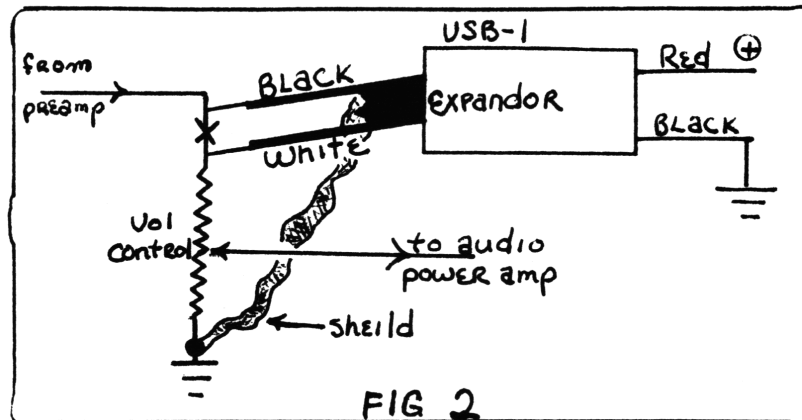
- A. Locate the first audio amplifier which is connected to the output of the AM detector diode. Refer to Fig. 1.
  1. Remove the coupling capacitor which is connected to the output of this amplifier.
  2. Insert the BLACK lead from the expander coax cable into the hole on the side which is connected to the collector of the amplifier.
  3. Insert the WHITE lead from the expander coax cable into the other hole.
  4. Connect the shield wire of expander coax to the nearest common ground(usually a transformer shield).

## VOICE SIGNAL BOOSTER INSTALLATION (Cont'd)

B. Connecting the expander cable when there is no coupling capacitor between the first audio amplifier and the volume control:

1) If there is not a coupling capacitor as indicated in Fig. 1, the expander will be connected at the volume control (see Fig. 2). Unsolder the shielded wire on the end of the volume control. Solder the wire which was lifted to the black expander wire. Solder the white wire on to the volume control.

2) Connect the shielded wire to ground.



Note: Some models do not have a pre-amp between detector and Audio Power Amp. In this case, we suggest the purchase of our optional pre-amp, installed as in Fig. 3

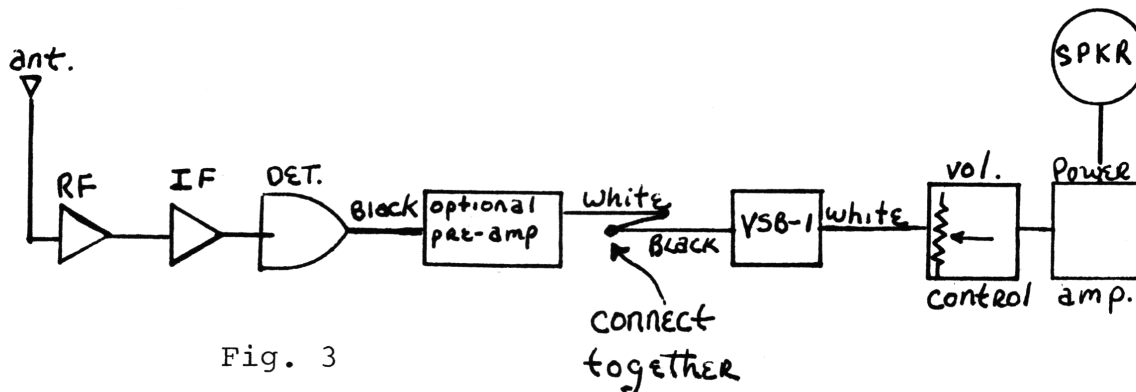


Fig. 3

## II. CONNECTING THE COMPRESSOR CABLE: (blue coded leads)

A. Remove the coupling capacitor which is located between the microphone preamplifier stage and the following audio amplifier stage.

B. Insert the black lead of compressor cable into one of the holes which was left open by the removal of the coupling capacitor. The black lead must connect to the output of the transistor.

C. Connect the white lead of the compressor cable in the other hole.

## VOICE SIGNAL BOOSTER INSTALLATION (Cont.)

D. Connect the coax shield wire to the nearest transformer shield.

### III. CONNECTING THE POWER SUPPLY LEADS TO 12V DC SOURCE:

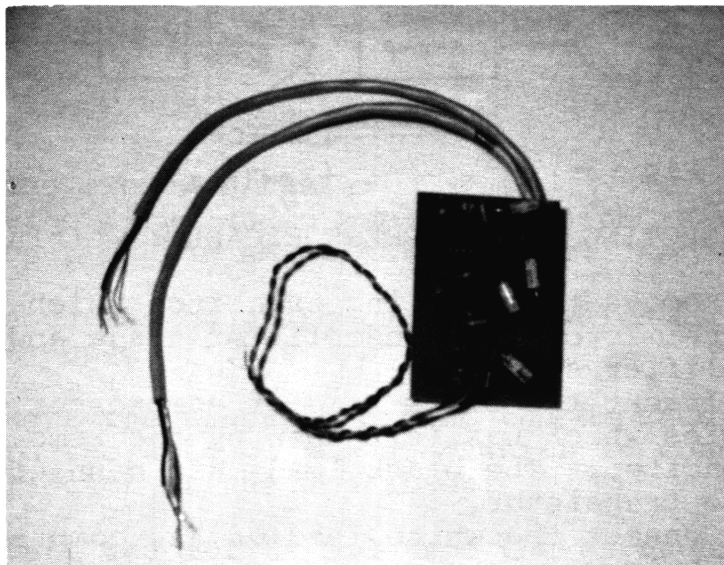
A. Connect the red lead of the module to +12 volts DC.

1. If you are installing this unit in a base station, connect the red lead to the closest +12 volt DC source.
2. If you are installing this unit in a mobile radio, connect the red lead to the on-off switch on the radio.

B. Connect black lead of VSB-1 to common ground of radio

CAUTION: Common ground is not to be confused with chassis ground. Common ground can be found by locating any transformer shield, since these shields are usually connected to common ground.

NOTE: If you have any questions about the installation or operation of the VSB-1 call Secret CB or write to us and tell us which radio you want to install the unit on and we can give you more specific instructions, that is, if your radio is not one that we have already listed in this article.



BLOCK DIAGRAM OF TYPICAL INSTALLATION

