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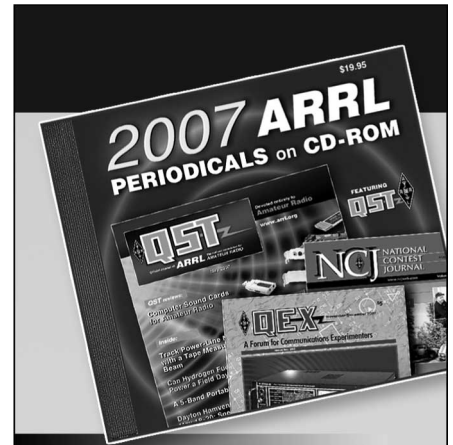
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**Title:** Still More on the SBA-104-1 Noise Blanker

**Author:** Al Davis, WA2KOC

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# Updating the Noise Blanker

Is the performance of that New-Look Noise Blanker up to par? Don't push the panic button until you read this!

By S. Henry Frankel,\* WB2DQP

**"A** New-Look Noise Blanker That Works"<sup>1</sup> does — but not without problems. It knocks out noise but the intermodulation distortion has proved to be rather annoying on the 80-, 40- and 20-meter bands. Switching on the noise blanker caused reception with a hashy background. To benefit those amateurs who installed the SBA-104-1, I developed a modification to counteract this problem. The updated noise blanker now *really* works!

A threshold control replacing the ON-OFF switch will permit the noise

blanker to be activated gradually, so that most of the noise can be eliminated without using the full blanking capability. Optimum setting of this control will vary depending on noise levels and band conditions.

If the noise blanker is being used with the Heath SB-303, the rf attenuator control on the front panel may be used. To do so, it is first necessary to remove the inner leads of the coaxial line from lugs 1 and 2 of the control, R704. Solder these loose leads together and slip a short length of sleeving over them to prevent their shorting to the chassis or other parts of the circuit.

The R704 control provides a maximum of 600 ohms, but more resistance is required. Connect a 1000-ohm resistor to slot no. 6 on the noise-blanker board. From the other side of this resistor, connect a wire to lug no. 2 of R704. This provides from 1000 to 1600 ohms, depending on the control setting, and should cover the complete range from full blanking (as if the switch were ON) at a minimum resistance to no blanking (as if the switch were turned OFF) at maximum resistance.

The value of the 1000-ohm resistor

is critical and there may be slight variations from resistor to resistor. One should be chosen carefully in order to obtain both full blanking and no blanking at extreme settings of R704.

A similar solution may be applied to other receivers. Also a 2000-ohm audio-taper control may be connected between slot no. 6 on the blanker board and ground. Select the appropriate side lug of the control so that maximum resistance occurs at the fully clockwise position. This will make it easier to optimize the control setting, which is between 1000 and 2000 ohms. QST

<sup>1</sup> Frankel, "A New-Look Noise Blanker That Works," *QST* for January, 1977.

\*1021 Douglas Ave., Wantagh, NY 11793

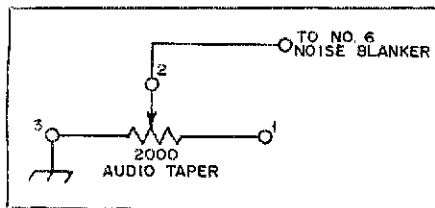


Fig. 1 — The threshold control for the SBA-104-1 noise blanker.

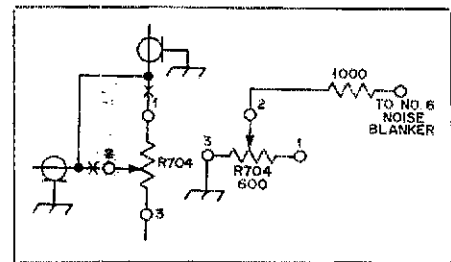


Fig. 2 — Modified threshold control using the rf attenuator of the SB-303.

## Still More on the SBA-104-1 Noise Blanker

By Al Davis,\* WA2KOC

*This additional information may be very helpful to those amateurs who wish to install the SBA-104-1 noise blanker in the Heathkit HW-101 transceiver. Al Davis, WA2KOC, who collaborated with S. Henry Frankel, WB2DQP, in developing the article, "A New-Look Noise Blanker That Works" (QST for January, 1977),*

*recommends the following changes in order to assure satisfactory operation of the blanker and the HW-101.*

**F**or proper impedance matching within the receiver section of the HW-101, it is essential that R2 (3300 Ω) be removed from the top of the L3 (located on the noise-blanker circuit board). Without

this correction, the blanker will not function properly. The impedance of the HW-101 at the point of insertion of the blanker is high, while the impedance of the SBA-104 is low.

Removal of R2 results in much higher Q in the output circuit of the blanker. For that reason C15 (150 pF) was removed as well as R3 (33 Ω). To allow adjustment for maximum gain, a trimmer capacitor (150 pF) was in-

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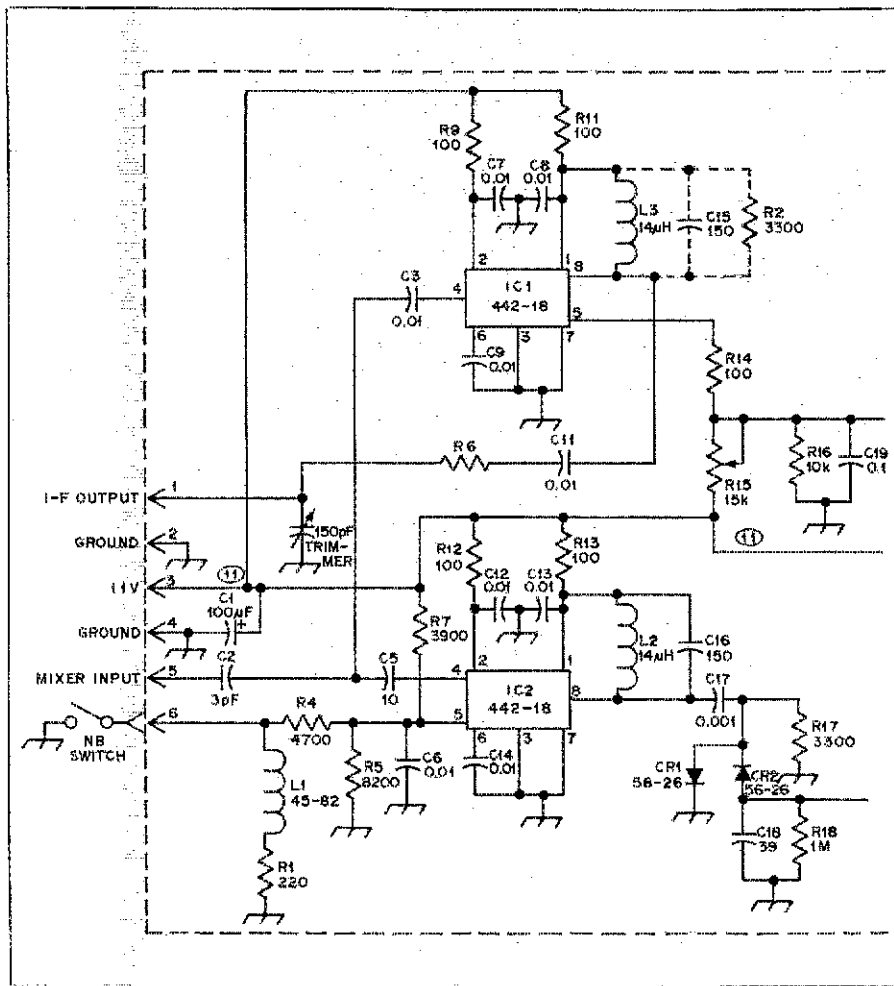


Fig. 1 - Diagram showing minor modifications to the SBA-104-1 noise blanker for interfacing with the HW-101.

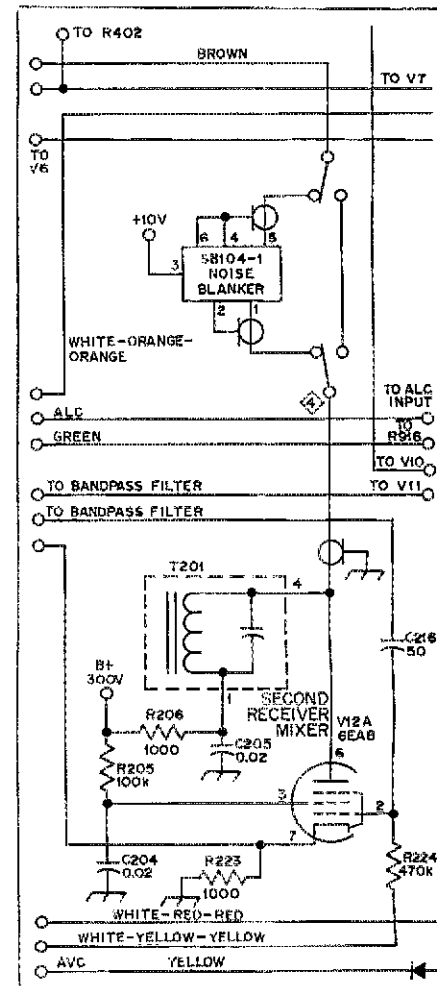


Fig. 2 - A portion of the HW-101 schematic diagram is shown to illustrate how the noise blanker is inserted in the second mixer circuit.

stalled in place of R3. This change also compensates for cable capacitance, which was not a problem with the original circuit. However, it becomes a matter of concern with the modified high-impedance arrangement.

Installation of the noise blanker is not difficult. It may be fastened to the front-to-back metal shield located in the bottom compartment of the HW-101. Two small L brackets may be used to secure the blanker to the shield. There is

ample room for the unit beneath the band-pass circuit board.

Original cables from the HW-101 are used for the necessary connections. These should be maintained at their original lengths to minimize detuning in the HW-101 circuits. Some retuning will be required once installation of the blanker is completed.

The blanker may be completely bypassed by means of a dpdt switch. When strong signals are being received,

this offers an advantage. The push-pull switch on the rf gain control may be converted for this purpose. As indicated by Frankel,<sup>1</sup> a threshold potentiometer may be employed as an alternative to using a switch for the purpose of engaging or disengaging the noise blanker. It is a good compromise. □

<sup>1</sup> See "Updating the Noise Blanker," on page 33.

# Strays

More than 700 hams applied for the Extra Class license in April alone. Desire to upgrade has never been greater. WIAW code proficiency runs show a substantial interest in higher speeds. And now a high-speed code cassette is available from Hq. This quality cassette, containing one half hour at both 15 and 20 wpm with both plain text and code groups, sells for only \$5 postpaid.

Who sez hams are lazy and don't upgrade! W4RF tells us that 3500 hams attended the Charlotte (NC) Hamfest, March 26-27. The FCC brought 300 610 forms for their usual exam-giving on Saturday morning. But 500 people wanted to be tested! Local hams made efforts to produce 200 photocopies of the 610s and exam times were extended until Sunday noon! - WAISTO

## FEEDBACK

In the 1977 Simulated Emergency Test Results (page 86, July QST), the report of the Dallas County ARES was accidentally left out. Emergency Coordinator K5LZA reported a point total of 758, which brings the score of the Northern Texas section up to 1200. We regret the oversight that caused this omission.