

More Punch for the Hot Water 101

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The Heathkit SB/HW-100 series of transceivers is one of the most popular lines in the ham market. Unfortunately, the SB-100 line has been discontinued, but the HW-101, with the identical circuit minus some bells and whistles, lives on. Hav-

ing owned an SB-101 for a dozen years, I found that the transmit audio was just barely adequate, and if a mike with low output was used, it was downright weak. External preamps are handy but involve extra batteries or power supplies, and are generally a nuisance.

After examining the SB-101 schematic, I noticed that I had an auxiliary crys-

tal oscillator which I never used. The circuit uses half of V5, a 6EA8. With a few modifications—wiring and not cosmetic—the triode section of the 6EA8 can be used as an audio preamplifier. When I looked at the schematic of an HW-101, I discovered that it did not have the auxiliary crystal circuit. In fact, the triode half of V5B is not even used! It's sitting there waiting for you to add three resistors and capacitors to make it an audio preamp.

board holes. The 100k plate resistor is connected to a wire which is soldered to the number 17 hole (+250 V dc) on the bandpass board.

The lead from the mike connector to V1A is broken and routed to the preamp, as per the diagram. Use shielded cable (and I installed a ferrite bead on V5B's grid lead to prevent rf pickup). The SB-101 has a phone-patch input paralleled with the mike input. Break the lead and install the preamp before the phone patch, unless your phone patch has a low-level output.

While you are inside the rig, I recommend changing R1, the plate resistor on V1A, to a 1-Watt resistor. The half-Watt original does not dissipate enough heat and may change value. I found that mine rose to 300k and cut the audio even further.

The modification is simple and can easily be removed if necessary. I have had this circuit in my transceiver (SB-101) for a number of years and get consistently good audio reports. Be careful that you do not overdrive the rig, as there will be substantial gain. I run the mike level at about 9 o'clock, one-fourth of the way up. ■

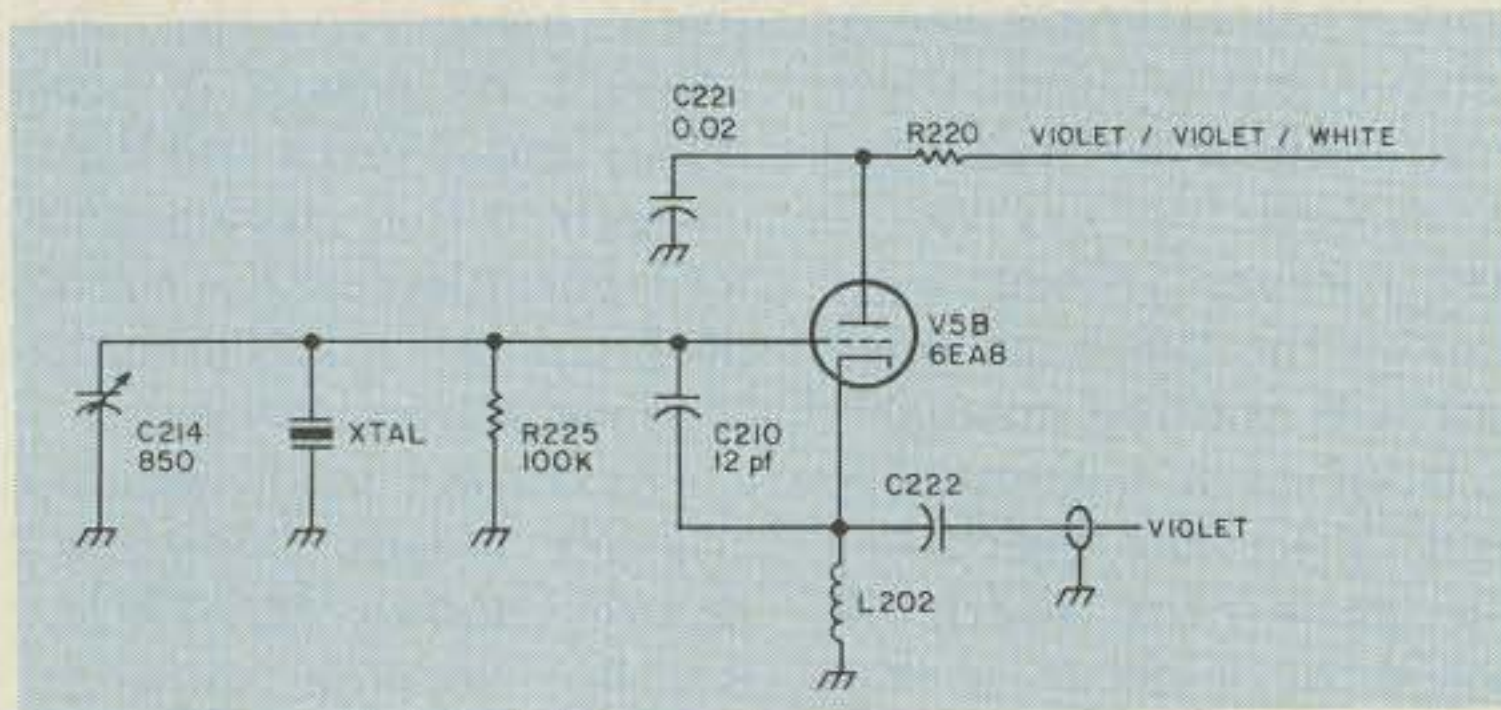


Fig. 1. Original SB-101/102 circuit.

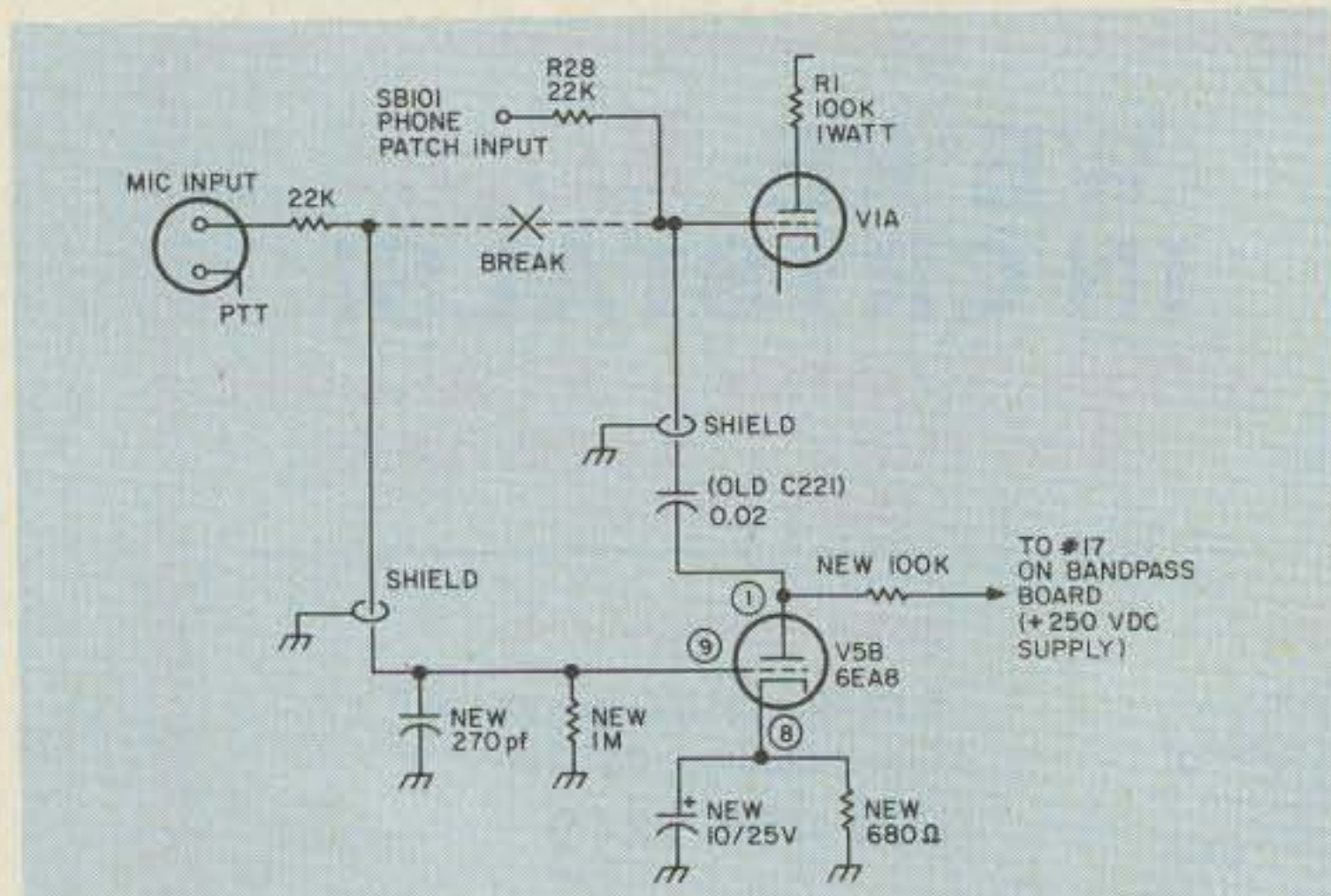


Fig. 2. Preamp circuit for HW/SB-101 using V5B.