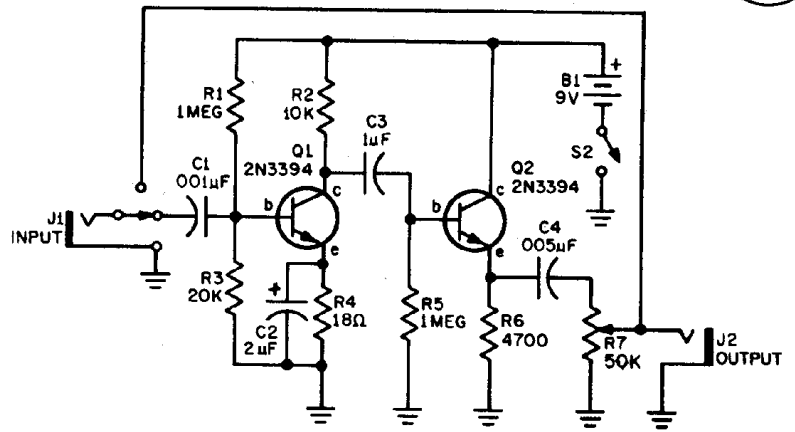
97 Twang-A-Matic

UPDATED

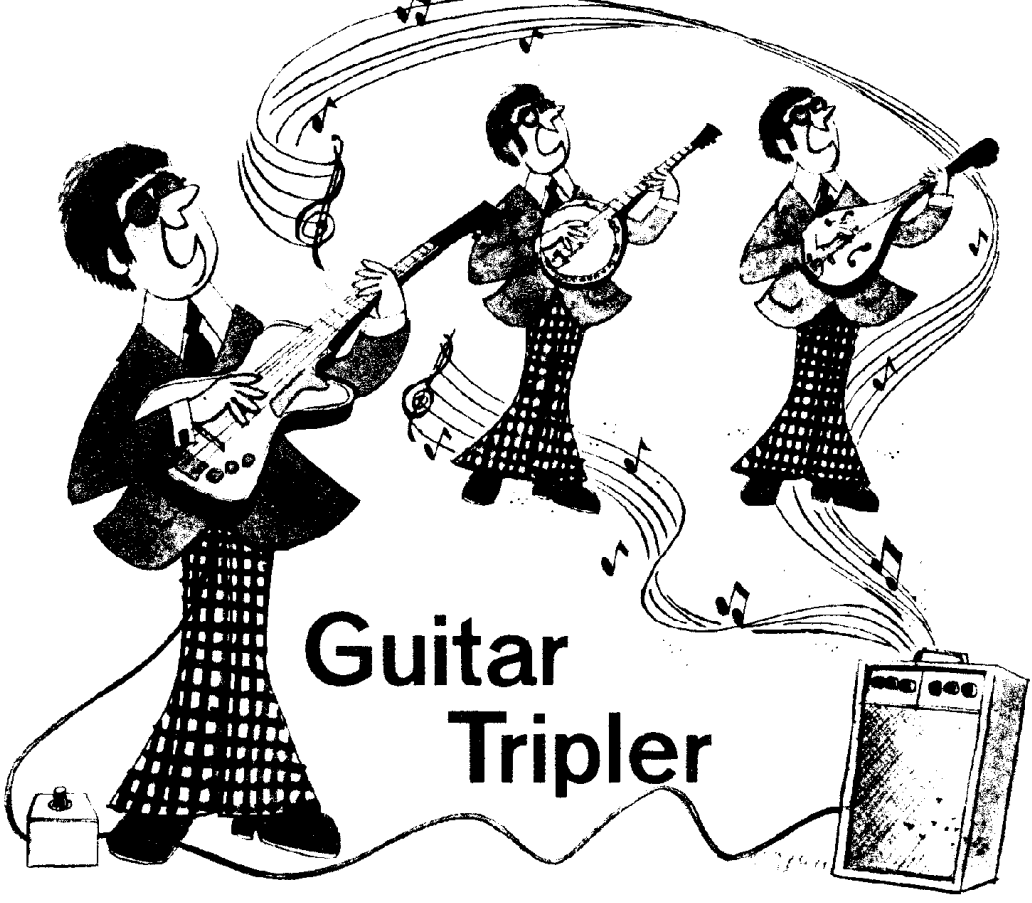
☐ It seems no one cares for the sound of a plain, unadorned guitar. First they added fuzz, then big-boom bass, next it was reverberation and screaming highs. Now the in sound is *twang*, a guitar sound that more or less approximates a banjo or mandolin. A Twang-A-Matic produces these unusual sounds from an ordinary electric guitar by cutting the bass, severely distorting the midband and highs, and then amplifying the distortion. It might read "bad" to you, but it sure sounds good!

You can assemble the Twang-A-Matic in any type of cabinet. Switch S1 cuts the effect in and out while switch S2 turns the unit on and off. Output control R7 should be set so the Twang-A-Matic has the same volume level as the straight guitar feedthrough. Various degrees of twang are obtained by varying the output so the guitar picks up with the level controls built into the guitar.



PARTS LIST FOR TWANG-A-MATIC

B1—9-volt battery (Eveready 246 or equiv.)
C1—0.001-uF disc capacitor 25 VDC or better
C2—2-uF electrolytic capacitor, 15 VDC or better
C3—1-uF electrolytic capacitor, 15 VDC or better
C4—0.005-uF disc capacitor, 15 VDC or better
J1, J2—Phone jack
Q1, Q2—NPN transistor, 2N3394
R1, R5—1 megohm, ½-watt resistor
R2—10,000, ½-watt resistor
R3—20,000-ohm, ½-watt resistor, 5 percent
R4—18-ohm, ½-watt resistor
R6—4700-ohm, ½-watt resistor
R7—50,000-ohm potentiometer
S1—Switch, spdt (twang in-out)
S2—Switch, spst (on-off)



Guitar Tripler

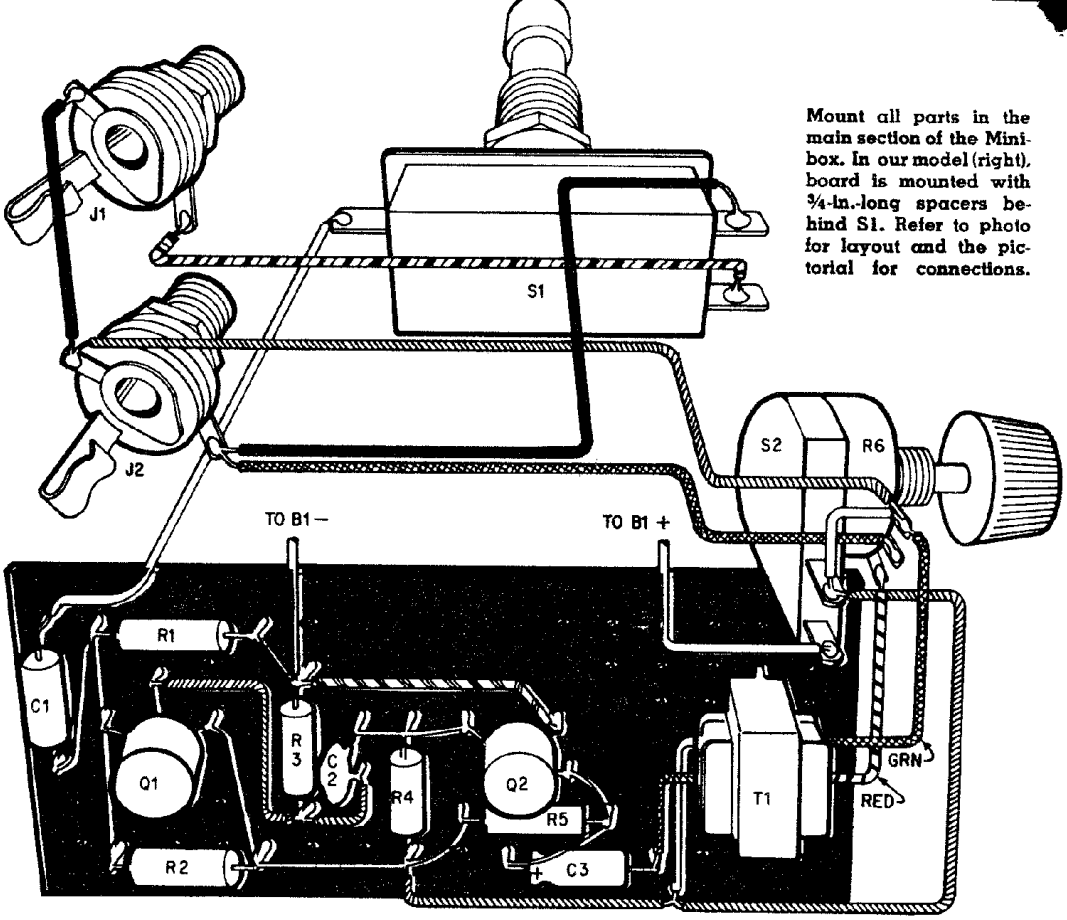
Like you feed your guitar through this box and out come the sounds of a banjo and mandolin.

By STEVE DANIELS T-W-A-A-N-N-G. . .! It's the sound of an electric guitar and it never fails to stir excitement, rhythm and action. In a rock band it's *the* instrument that makes the group swing. Those combos that are lucky enough to have more than one guitar come on just that much stronger. Like so many other things, if one guitar is good, you can be sure more are better.

Let's say your band is small and could use a few more string instruments to get it up in the big leagues. Answer is to hire a few more players and purchase another guitar or electronic bass. But this takes bread and there may not be too much available.

Don't give up. We have a low-cost solution to the problem. It's a handful of parts worth about $10 that can give your guitar the added sounds of a banjo or even a mandolin. At least that's what our guitar sounded like when played through the Guitar Tripler. The sounds may strike you differently but without doubt you'll think there are two new men up there next to you doing their thing. Suddenly your band has three string instruments.

On the other hand you may be just a beginner with a small amplifier that doesn't have features like built-in distortion, fuzz or selective frequency



Mount all parts in the main section of the Minibox. In our model (right), board is mounted with ¾-in.-long spacers behind S1. Refer to photo for layout and the pictorial for connections.

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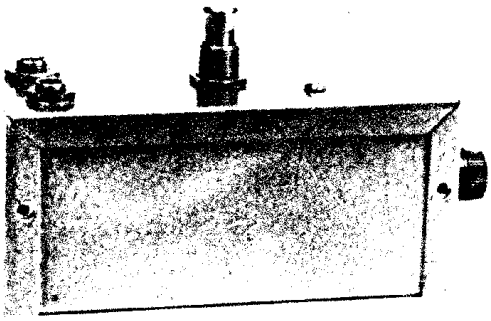
boost. Again, the Tripler is what you need.

The Tripler is a filter that emphasizes the high-frequency harmonics generated by the guitar. It makes possible a variety of offbeat sounds and original effects.



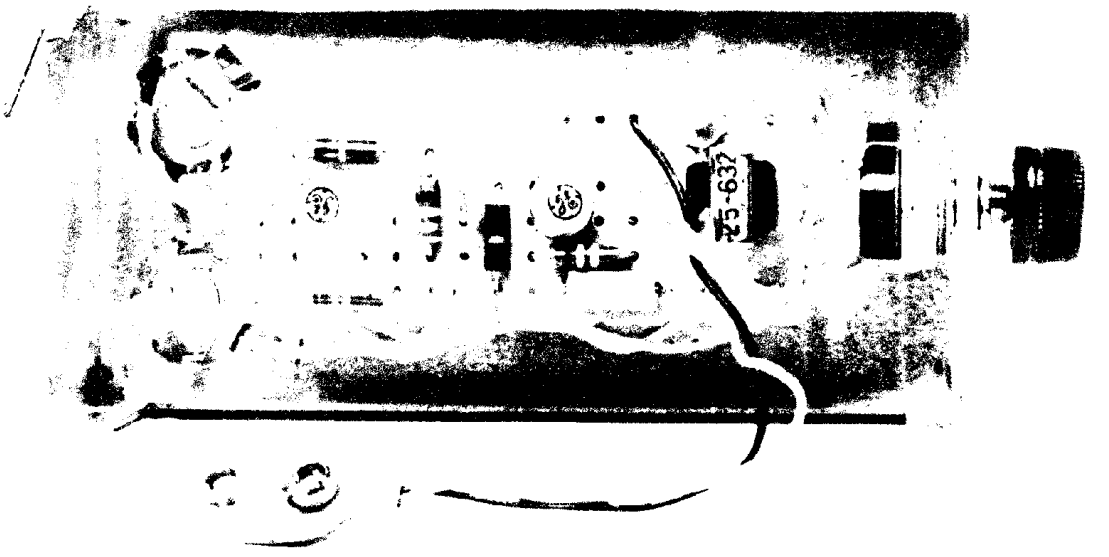
Input, output jacks are at left, level control is at right. Step on switch (top) to turn on.

What makes the Tripler different from an ordinary tone control? Most low-cost amplifiers use a tone control circuit that shunts a certain amount of treble to ground depending on the controls' setting. The Tripler does the opposite. A glance at the schematic shows that capacitors C1 and C2 at the input and output of Q1 will block low frequencies because their capacitance is small. The second stage, consisting of emitter follower Q2 and transformer T1, takes care of impedance matching.

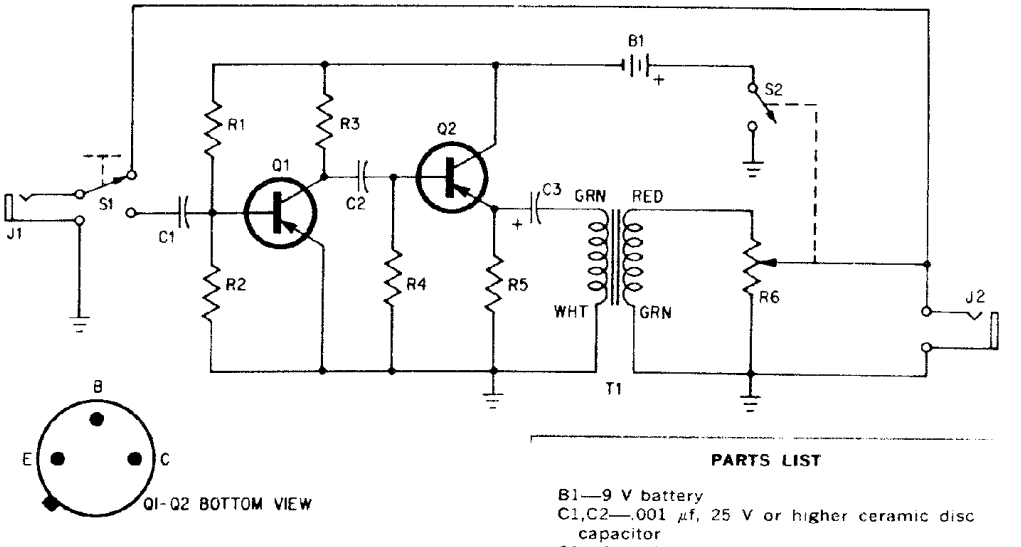
Construction

Construction isn't particularly critical but a metal box will help keep noise out of the system. Regardless of the enclosure, just wire the board using good wiring practice as you would for any amplifier. Use flea-clip terminations for the pot, input, output, ground and the switch on R6.

The switch specified for S1 may look like a conventional SPDT pushbutton job, but it isn't. Unlike an ordinary pushbutton switch that returns to its original state after being



Push-button switch is behind circuit board. Transformer (right) is held to board by soldering its mounting tabs to flea clips. Battery can be attached to U-section of Minibox with tape or standard holder. Schematic is below. Potentiometer R1 is used to set output level of Tripler relative to guitar's output. With S1 in position shown, signal from guitar is fed unaltered to output jack. Be sure to connect T1 as shown.



released, this switch stays in one position or the other until it is pushed a second time.

Operation

Connect the Tripler between the guitar and amplifier as you would any outboard accessory. Turn your amplifier on and set its volume control to a low level and set the tone control to mid-range. Turn the Tripler on and turn pot R6 to about three-quarters full clockwise. Depending on the position of S1 you should get either straight sound or emphasized treble sound. Step on the switch and start experimenting with the controls.

PARTS LIST

B1—9 V battery
C1,C2—.001 μf, 25 V or higher ceramic disc capacitor
C3—2 μf, 15 V electrolytic capacitor
J1, J2—Phone jack
Q1,Q2—2N1414 transistor (GE, Motorola)
R1,R4—1 megohm, ½ watt, 10% resistor
R2—22,000 ohm, ½ watt, 10% resistor
R3,R5—10,000 ohm, ½ watt, 10% resistor
R6—500,000 ohm, linear-taper potentiometer with SPST switch
S1—SPDT push-push switch (Carling 112 or equiv.)
S2—SPST switch on R6
T1—Transistor audio transformer; primary impedance: 200,000 ohms, secondary impedance: 1,000 ohms (Lafayette 99 T 6034)
Misc.—5¼ x 3 x 2⅛-in. Minibox, perforated circuit board
The Carling 112 switch is available for $2.50 postpaid from Tridac Electronics Corp., P.O. Box 313, Aldon Manor Br., Elmont, N.Y. 11003. No foreign orders