

The rear of the chassis is a "level set FM" with one outlet and connections for antenna and tape output. Inside the chassis I can see part of the flywheel with the logo "Star Company Ltd." stamped on the metal. The tubes are Hitachi and other Star products.

I would greatly appreciate your assistance in helping me find out about this tuner.

Joseph Ruivo
New York, N.Y.

Leach Preamp Addenda

Dear Sir:

I hate to burden you with another preamplifier addition, however many people are writing me about a hiss problem that they are having.

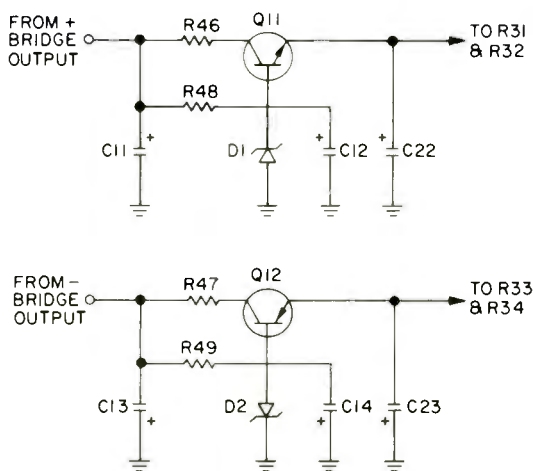
It turns out that some zener diodes are noisier than others, so much so that I couldn't believe the hiss in the preamplifier I was sent. In my unit, I used two 12-volt zener diodes in series for each of the 24-volt units that I specified in the article. There were no noise problems with these. Since the problem has developed, I have worked up the regulated power supply shown on the enclosure, and will send copies to people who write me about this problem. For every person who writes or calls me, I am sure there are many more who encountered the problem and never solved it. *Audio* magazine is the only way that I can communicate with them. I only wish that these problems would show up in the design stages.

Due to excessive noise caused by the zener diode regulators D1-D4 in the wideband preamplifier, the regulated power supply shown here has

been developed. This circuit also eliminates all turn-on thump. The power transformer should be the one originally specified, or one rated at 52 to 55 volts center tapped. To use this regulator, remove D1-D4 from the circuit boards and change the value of R31-R34 to 22 ohms, ½ watt. C11-C14 should remain at their original values, as should C15-C18. The additional component values are: R46 & R47, 120 ohm, ½ watt; R48 & R49, 1.8 kilohm, ½ watt; C22 & C23, 100 µF, 50 volts; D1 & D2, 24 volt zener diodes, 1 watt; Q11 — 2N2102, and Q12 — 2N4036. Both transistors should have finned heat sinks installed on them. Three-prong plugs and jacks should be used for the interconnecting power cable instead of phone plugs and jacks, for Q11 and Q12 will be blown if the latter are used when the plugs are inserted or removed from the jacks. The complete regulator can be mounted on a 7-pin terminal strip, with the center pin grounded.

In case anyone who built the circuit didn't see my letter in the April issue of *Audio* magazine, I would like to correct a component value error that was published in the February article. The correct value for R3 in the RIAA circuit is 39 ohms, and not the published value of 390 ohms. The incorrect value will cause the circuit to be susceptible to r.f. oscillations. Do not use it by mistake. Builders of the low TIM power amplifier should use 1N4934 diodes for D6 and D7 in the protection circuit. These very low capacitance diodes will improve the operation of the VI limiter.

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ALL INDICATED COMPONENTS SHOULD BE MOUNTED ON THE POWER SUPPLY CHASSIS