



# ELECTRIC GUITAR PREAMPLIFIER

■ T.K. HAREENDRAN

Here is the circuit of a guitar preamplifier that would accept any standard guitar



Fig. 1: A typical example of mounting the guitar pickup

up attached to a guitar headstock is shown in Fig. 1. The pickup device has a transducer on one end and a jack on the other end. The jack can be plugged into a preamplifier circuit and then to a power amplifier system.

The pickup device captures mechanical vibrations, usually from stringed instruments such as guitar or violin, and converts them into an electrical signal, which can then be amplified by an audio amplifier. It is most often mounted on the body of the instrument, but can also be attached to the bridge, neck, pickguard or headstock.

The first part of this preamplifier circuit shown in Fig. 2 is a single-tran-

secure optimal input impedance. With the component values shown here, the input impedance is above 50 kilo-ohms and the peak output voltage is about 2V RMS. Master-level-control potmeter VR1 should be adjusted for minimal distortion.

The input from guitar pickup is fed to this preamplifier at J1 terminal. The signal is buffered and processed by the op-amp circuit wired around IC TL071 (IC1). Set the gain using preset VR2. The circuit has a master and a slave control. RCA socket J2 is the master signal output socket and socket J3 is the slave.

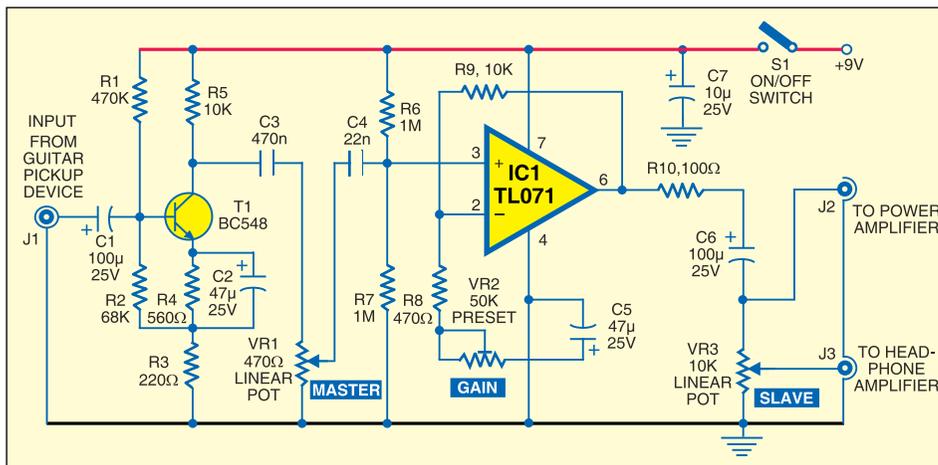


Fig. 2: Guitar preamplifier circuit

pickup. It is also versatile in that it has two signal outputs.

A typical example of using a pick-

sistor common-emitter amplifier with degenerative feedback in the emitter and a boot-strapped bias divider to

It is much better to take the signal from J2 as the input to the power amplifier system or sound mixer. Output signals from J3 can be used to drive a standard headphone amplifier. Using potmeter VR3, set the slave output signal level at J3.

House the circuit in a metallic case. VR1 and VR3 should preferably be the types with metal enclosures. To prevent hum, ground the case and the enclosures. A well-regulated 9V DC power supply is crucial for this circuit. However, a standard 9V alkaline manganese battery can also be used to power the circuit. Switch S1 is a power-on/off switch. ●