

Troubleshooting

Switching Amplifier Troubleshooting

Because most switching amplifiers are in IC form, there is little that can be done to actually troubleshoot and repair. They are normally replaced when defective.

A common approach to troubleshooting is:

1. Use a multimeter to check for the presence of the correct DC supply voltage. If no voltage or an incorrect voltage is present, the problem lies with the power supply.
2. Use an oscilloscope to check for ripple or noise on the DC line. If noise or ripple is present, the problem may be in the power supply. Also check for an open DC bypass capacitor.
3. Feel the chip. If the chip is hot when power is supplied, it is probably defective.

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4. Check for the presence of the correct input signal level. Without a typical signal, use a signal from a function generator.
5. Use an oscilloscope to verify an output signal across the load.
6. When testing audio amplifiers, you should hear the output. Vary any volume control to see if the output level can be changed. If there is no output, either the IC is defective or the load (speaker) is bad. Disconnect and check the speaker coil with an ohmmeter.
7. If the output is distorted or noisy, look for defective filter capacitors or inductors. They may be open or shorted.

Test your knowledge

Switching Amplifiers Knowledge Probe 4 Troubleshooting

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