Is my amp faulty?

Before you send your amp to us it's a good idea to make sure it is actually causing the problem you are experiencing.

We have had a number of amps sent in that turn out to be fine, and while the courier companies appreciate the extra business, it's best to determine where the fault is rather than assume it's the amp.

What needs checking will depend on the fault being experienced:

This fault finding guide also assumes the system has been working normally before the fault occurred.

No sound from any speaker connected to the amp:

This is often due to the amp having no power feed or a blown fuse. To troubleshoot this a basic digital voltmeter is very helpful. These can be purchased from car parts stores / motor factors or electronics retailers such as Maplin. The basic ones are fine for this kind of fault finding. You can also use an analogue meter though try to get one with a 15 or 20V DC scale. (Many have a 12v range which isn't as useful as it might seem as cars electrical systems can have up to 15 volts present when charging.)
The picture tutorial shows the meter connected to the power terminals of an amplifier, in this case a Profile 4.
The meter display in the first picture is showing 12.6 volts which is normal for a fully charged battery when the engine isn't running.
In the second picture the remote voltage is being checked and shows 11 volts. This is plenty to turn the amp on, 8 volts or more is all the remote terminal needs.

This sequence of pictures show a fault condition. The voltage seems ok with the remote off, however with the remote on the main supply drops to 8 volts and the amp doesn't work properly. This indicates a defective fuse or bad crimp connection that will allow a small current to flow, but that drops voltage when any current is demanded. To locate the actual fault refer to the troubleshooting with a meter guide here.

In this picture there is normal voltage on the power terminals but the amp isn't powering up. The amp fuse has small metal pieces on the top that connect to the two main tabs of the fuse. By checking these for voltage we can see that the battery voltage is only present on one tab. This tells us that the fuse is blown and needs replacing.

The way in which the fuse has blown can also indicate if the amp has suffered a fault or the fuse has blown due to a slight overload. If the element has blown with several millimetres of gap with blackening nearby then it's through severe overcurrent and is often an indication that the amp has an internal fault.
If the element has only a small gap and no blackening then it is more likely due to a sustained overload.
This fuse is from a faulty amp and shows blackening
This one blew due to Ace of Spades being played at 11.

If the fuse blows as soon as it is replaced or within a few seconds of the system being powered up, this indicates an internal amp fault.

Occasionally the fuse will blow due to a short on the speaker terminals. Disconnect the speaker wires, (making a note of where they go) and try fitting a new fuse. If it blows the amp will require servicing. If the fuse holds then reconnect the speakers one at a time powering the amp up each time a speaker is reconnected. When the fuse blows remove the last wire connected and check for shorts to either the chassis or between the two wires.

One channel dead or intermittent.

This can be due to defective speaker or input connections or occasionally a defective signal source, as well as amp issues.
No output on one speaker can also result from someone adjusting the balance control all the way to the left or right on the head unit so check this first!
To isolate the problem swap the RCA cables from a known good channel and the channel experiencing problems. If the fault moves to the other channel then it's most likely to be a defective RCA cable or the RCA plug at the head unit end may have become partially unplugged.
If there is no change in the symptoms then try swapping the speaker connections between a known good channel and the channel experiencing problems.
If the problem stays on the same channel then there is a problem in the speaker wiring or the passive crossover.
If the problem moves then the amp would seem to have a defective channel. Make a note of the channel as this aids fault finding, especially with problems that are intermittent.