

Re: Newbie trying to fix a Johnson FT-2 Tremolo Pedal (for guitar)

Source: <http://sci.tech-archive.net/Archive/sci.electronics.repair/2008-04/msg01599.html>

- *From:* "Gareth Magennis" <sound.service@xxxxxxxxxxxxx>
 - *Date:* Wed, 30 Apr 2008 12:17:08 +0100
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"DaveM" <masondg4499@xxxxxxxxxxxxx> wrote in message
news:1a6dnYDCq4K1WYrVnZ2dnUVZ_gadnZ2d@xxxxxxxxxxxxx

stairs.

<Kotti75events@xxxxxxxxxxxxx> wrote in message
news:2e4e0ced-4a24-453e-84d3-16e9e14b3142@xx

I'm trying to repair this pedal for a friend. There appeared to be only one burnt out component and I replaced it but it still doesn't work. It did look like something was spilled inside the pedal and I've cleaned that out. When in bypass, the signal passing through is distorted and garbled, like hearing it on a faint radio station. But when the pedal is engaged, it doesn't pass signal at all. I'm pretty certain that this is a copy of the Boss TR-2 because the schematic seems to fit with the exception of the IC chips.

http://www.schematichaven.com/effects/boss_tr2_tremolo.pdf

Since the "bypass/engage mode" is triggered by a momentary switch, and the dry signal goes down a very processed chain of components, I haven't been able to figure it out. What typically goes bad when there are spills? From looking at this schematic, how would I go about figuring out where in the "dry signal" chain things are wrong?

Thank you very much!

Olivia

D1 is in the line from the external power adapter. It's only in the circuit if the external adapter is in use. Since the 1N4004 has a PRV rating of 400V, it's unlikely that its PRV was exceeded. More likely is that something downline from D1 is shorted. Look at D4 and C9. If either of those are shorted, then the external power adapter's output is shorted to ground, through D1, thereby toasting its innards.

Since the +9V supply powers IC2, IC3 and IC4, it's possible that one or more of those ICs might have failed, causing the short across the power supply.

My diagnosis too. Its also possible that one of the IC's shorted out the supply for a while before burning itself into an open circuit, so the power supply may no longer be shorted, and replacing the diode has fixed it. The only solution then is systematic replacement of the IC's. (Note that a distorted signal is passed, probably wouldn't get this with no power supply at all)

Use IC sockets when changing IC's, a good desoldered IC can be re-used easily or moved around, and there is less overall heat damage risk to PCB and IC's.

Its also possible that a shorted IC has burnt the power supply trace to it into an open circuit instead – you often are able to see some discolouration of the track concerned.

Since you mentioned that something was spilled into the box, I'd look closely at the switches and jacks. Even though you cleaned it out, you might not have cleaned the gunk off the contacts of the switches and jacks. Go back to those parts and really inspect the contacts carefully with a magnifier and make sure they are operating room clean. Make sure that the contact leafs in the jack(s) and switch(es) are moving freely and aren't sticking when a plug is inserted.

God advice, but it is also possible that this spillage happened a while ago and has nothing to do with the current fault. It's easy to be misled by things like this.

Gareth.

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Dave M

MasonDG44 at comcast dot net (Just substitute the appropriate characters

Re: Newbie trying to fix a Johnson FT-2 Tremolo Pedal (for guitar)

in the address)

Some people are like Slinkies. Not really good for anything, but they bring a smile to your face when pushed down the