Subject: HELP! Harman/Kardon HK-450 with blown channel!
Posted by mageworlder on Tue, 17 Aug 2004 21:38:35 GMT
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I recently dug up my parents' old (1979?) Harman Kardon HK-450 receiver. When I plugged it in and listened to the FM and AM tuners through headphones, I was amazed at the musical warmth of the preamplfier, with its vintage vibe and much better radio reception sound than its new digital counterparts. However, when I tried to drive speakers, it seemed as if the right channel in the power stage was blown. I looked inside and tested both channels' fuses with a multimeter, which said they were OK, and they weren't obviously blackened or broken. I then closed it up and hooked up the speakers and cranked the amp. I got a loud and clear sound from the left channel, but the right channel was heavily distorted and frightened my pets. It almost sounded like a faulty transistor somewhere in the power amp stage, with extreme breakup and odd-order harmonic distortion. I was wondering if anyone has experience with this sort of thing (IE- is it fixable, and for what cost), and if it's a common problem with amplifiers this old. I was also wondering what used and/or vintage receivers have a tuner and sound of this caliber for below US$100.

Subject: Re: HELP! Harman/Kardon HK-450 with blown channel!
Posted by Wayne Parham on Wed, 18 Aug 2004 03:13:14 GMT
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Sounds like you're right that it has a blown channel. They're pretty easy to troubleshoot with a scope, but even with just a DVM, you might be able to find out what's wrong.If you're comfortable with a soldering iron, remove each of the transistors one at a time and identify them as NPN or PNP. Just look up the part number with a cross-reference to find out this information. You'll also want to identify the collector, emitter and base. Using your DVM, measure resistance between base and collector and base and emitter.If NPN, the base-emitter should show connection when base is positive and emitter is negative. Base-collector should also show connection when the base is positive. Now connect reverse polarity with the base negative and both should show open. Finally, connect across the collector-emitter and you should have a connection when collector is positive and open when collector is negative.PNP acts exactly the oppossite. Test in the same manner, but base-emitter and base-collector should show connection when base is negative and open when base is positive. Collector-emitter should show connection when the collector is negative and open when collector is positive.These tests are only valid when the transistor is out of circuit. If in circuit, the biasing components surrounding the transistor will often show continuity in the modes you're trying to test for open circuit. So if the transistor isn't removed from the circuit, your DVM readings will be ambiguous. You won't know if it's the transistor or the circuit causing your readings, so you have to desolder each transistor to test it with a DVM.If you're uncomfortable doing any of this, you might send it to Larry at Approved Audio Service. Larry is a great guy and he'll fix you right up. You might even write to him and get an estimate. He can probably tell you a good guess of the cost just by knowing these symptoms so drop him a note.

Subject: Re: HELP! Harman/Kardon HK-450 with blown channel!
Posted by mageworlder on Wed, 18 Aug 2004 03:55:43 GMT
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Thanks for the input, Wayne! It sounds like a good project to get the receiver working again using only a soldering iron and DVM, although i'll probably contact local electronics shops to get an estimate. Too bad Larry is all the way in CT as I live in WA, although if I can't do the repair or find anyone locally who can do it I'll probably bite the bullet and ship the 30lb receiver across the country to him. I was wondering if you think the 25 year-old HK-450 might be worth fixing at all, before I invest much time or money?

Subject: Re: HELP! Harman/Kardon HK-450 with blown channel!
Posted by Larry on Wed, 18 Aug 2004 10:54:27 GMT
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the 450 has a typical direct coupled output stage, which is more than likely where your problem lies. seeing that the unit has no blown fuses and is not in protection, the output transistors are not shorted. possible cause of severe distortion could be an OPEN output device, any other transistor in the amp, an open resistor, etc. if you're not comfortable repairing a direct coupled amp, you can send it in to us for diagnosis. the direct coupled circuits can be tricky. if everything isn't right, they're easy to blow up.

Subject: Re: HELP! Harman/Kardon HK-450 with blown channel!
Posted by Wayne Parham on Wed, 18 Aug 2004 20:09:02 GMT
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I think it would be worth fixing, yes. Of course that's entirely up to you but I think it would be worth it to me to have it repaired rather than to discard it.

Subject: Re: HELP! Harman/Kardon HK-450 with blown channel!
Posted by Justin on Sat, 11 Sep 2004 01:03:23 GMT
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sorry no answers, but more questions!I also own an hk 450 amp, and was wondering if anyone has any technical specs to offer.

Subject: Re: HELP! Harman/Kardon HK-450 with blown channel!
Posted by Dave on Wed, 22 Sep 2004 21:25:38 GMT
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Just as a stupid suggestion, check the back there's a speaker protection button, if it's out push it in (I believe it pops out when to much power is pushed through to safe gaurd, like a fuse.) Just a stupid idea.

Subject: Re: HELP! Harman/Kardon HK-450 with blown channel!
Posted by netfence on Mon, 13 Dec 2004 22:58:14 GMT
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Yeah, I would check the speaker protection circuit too but this amp is getting up there and it is heavily biased so don't be surprised if components on the amp board (output) fail. I have a spare of the entire amp board including heatsink if you want a plug and play replacement.