Subject: Fisher SA-300b volume]balance Mod
Posted by Peter Swartz on Fri, 30 Nov 2007 01:17:13 GMT
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Hello, I need a little help. I have my Dads old Fisher amp which I love. I am going to be mounting it in a cabinet and have purchased an Alps dual gang Log volume pot and a dual gang balance pot. Both 500k as the orginal is. The amp has two separate gain controls on the amp chassis, my plans are to remove the factory pots, and replace with the new dual gang set of volume and balance controls so I can mount them separatly outside the cabinet.I need help as to how to wire the two together. The volume pot alone is easy , I can just take the wire leads from the original pots. But I'm not sure how to wire in the balance pot in the curcuit and I understand there are several different ways to do so.Can anyone draw me a point to point drawing, or send me a schematic with the best way sonically to wire these up?Thanks for your help, Peternote: each post has three leads, numbered 1,2,3 per channel.

Subject: Re: Fisher SA-300b volume]balance Mod
Posted by Wayne Parham on Sat, 01 Dec 2007 00:55:53 GMT
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For the balance pot, connect the left channel input to lug 1 and the ground to 3. Connect the right side just the opposite, with input to 3 and ground to 1. The center lug 2 goes out to the amplifier circuit, through the volume pot.What this does is to make clockwise rotation of the balance knob turn the left channel up and the right channel down. Counter-clockwise rotation does just the opposite.

Subject: Re: Fisher SA-300b volume]balance Mod
Posted by Peter Swartz on Mon, 03 Dec 2007 21:09:48 GMT
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Hello again Wayne, Thanks for the reply.So I'm a little hesitant to wire this up until I'm confident I know which wire goes where. When you say input and output, I'm not sure on the stock pot which is which. I do have a schematic but not sure of the signal flow. I'm not sure if I go from the amps (out)(From the orig. pot) to the new volume pot then the balance then back to the amp?????I hate to ask you but what I really need to feel confident to do this is to ask you to draw me a picture, form the nine different lead/contact points per channel. 3 leads from the orig. pot, 3 contacts on each channel of the alps volume pot and 3 contacts on each channel of the alps balance pot.Thanks for your help, Peter

Subject: Re: Fisher SA-300b volume]balance Mod
Posted by Wayne Parham on Mon, 03 Dec 2007 22:12:32 GMT
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When I say "input" what I mean is input to the potentiometer. The signal then flows through the potentiometer, which is a voltage divider to ground.Internally, the potentiometer has a resitive substrate with connections on both ends, pins 1 and 3. It also has a wiper that can be moved along the substrate, pin 2.The audio signal flows out of the preamp circuit to the potentiometer. The resistance across the potentiometer is the load to the preamp circuit. One side of the pot is connected to the preamp output (input to the pot) and the other side is connected to ground. The wiper rests on some point between the signal side and ground. This makes two resistances from this point, one to ground and another to the preamp signal. This forms a voltage divider, and the signal level depends on the position of the wiper.To wire this up properly, you will need to know what wires go to what points in the circuit. You need to identify why lines are ground, what lines are from the preamp output and what lines are inputs to the next stage.

Subject: Re: Fisher SA-300b volume]balance Mod
Posted by Peter Swartz on Sat, 08 Dec 2007 16:19:58 GMT
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Thanks for your help Wayne, I think I've got it figured out. Off Electronic City for some wire, etc...I appreciate your excellent discriptions, etc...Peter

Subject: Re: Fisher SA-300b volume]balance Mod
Posted by Peter Swartz on Sun, 09 Dec 2007 04:19:31 GMT
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Well I guess I didn't quite have it figured out just right. I wired it all up and when I went to test it, you'll laugh here, I didn't hear any music until I turned the balance pot left or right from center. The volume control appears to work it raises each channel.So I'm hoping I don't have to tear back into the chassis of this old amp as it's quite messy. I'm hoping that maybe I only need to change the wiring on the balance pot. But I'm not going to doing anything until I hear back from you.Thanks, Peter 310-465-5629

Subject: Re: Fisher SA-300b volume]balance Mod
Posted by Wayne Parham on Mon, 10 Dec 2007 16:21:48 GMT
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The wiper of the balance pot is its output, and that should be connected to the input of the volume pot. Make sure you wired it that way. You might need to go with different value potentiometers. Usually the balance pot is 2-5 times higher in resistance. Since both your pots are the same value, you might try lifting the ground on the balance pot. Depending on the input impedance of the following stage, that might work for you. The disadvantage is it will make the load impedance vary more on the preceding gain stage.

Subject: Re: Fisher SA-300b volume]balance Mod
Posted by Peter Swartz on Tue, 11 Dec 2007 05:55:03 GMT
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Hi Wayne, I spent a great deal of time studing the circuit to make sure I did it right the first time. I felt very confident that I was wiring these pots up exactly as you had advised me. Using all three contacts on the balance pots. Now you suggest I lift the grounds ? You can see why I had first hesitantly asked if you might draw me a picture of the what should be fairly simple wiring. This old amp is very messy inside and I don't want to experiment and possibly do damage to this very special amp of mine.I know I can just forget the balance pot, wire up the volume and hope the left and right levels match, but... I spent a lot for that balance pot and of course would like to use it in my system.I'm sure there is an exact correct way to do what I need and I was hoping you could help me with that or perhapes refer me to one of the other audio guru's that may be able to assist.I do so appreciate your help.Sincerely, Peter

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Subject: Re: Fisher SA-300b volume]balance Mod
Posted by Wayne Parham on Tue, 11 Dec 2007 20:24:10 GMT
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The suggestion of lifting the ground on the balance pot was just a possible solution, one that might work for you, depending on the output impedance of the previous stage and the input impedance of the following stage. It's not really the best way to do it, but since you had already purchased the pots, I thought it might be worth a try. It's easy enough to do.Honestly, the balance pot should be at least twice the value of the volume pot and it should have linear taper. Using the wrong pots is probably what's causing your problem. If you want to replace a 500K volume pot with a pair of pots, one for balance and one for volume, you probably should have gotten a 150K volume pot and a 350K balance pot. The volume pot should have logarithmic taper, the balance pot, linear taper.Wire them like this: LEFT RIGHTin 1 ___
in 3 ___ | | |2 |2 |----- 1
|----- 1 350k | | 150k 350k | | 150kbalance | | 2
volume balance | | 2 volume | |---- out | |---- out
| | | |gnd 3 ___|_____|____ 3 gnd gnd 1 ___|_____|____
3 gndIf you don't feel comfortable doing the job, maybe you should take it to a shop. They can do

this for very little money.

Subject: Re: Fisher SA-300b volume]balance Mod
Posted by Peter Swartz on Sat, 29 Dec 2007 19:30:07 GMT
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Thanks Wayne, Well I decided just to forget the balance pot since I had the wrong value and hope the units outputs would be balanced. So I hooked up only the 250K volume pot and had a surprise. I obviously hooked it up wrong because it works in the opposite direction. Turning the knob clockwise turns the volume down to silence and counter-clockwise makes it louder.Any suggestions? Could it be just a matter of switching the wires on the pot?It seems to work fine. And sound fine. But sure makes me wonder if it could cause some problems.Happy New Year! Peter

Subject: Re: Fisher SA-300b volume]balance Mod
Posted by Wayne Parham on Sat, 29 Dec 2007 19:54:51 GMT
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No problem, you just have wires on pins 1 and 3 reversed. Swap them and your volume knob will work like you expect it to.