

Poor Serbian Man Lightspeed Volume

Cook Book

CookBook
scribed by Zen Mod ;

Gadget made by sp300b & ZM

Well , you're Macho ;
You certainly have all these gadgets which real Macho must have
CD player , or even transport with separate DAC , recently you made dedicated media PC, which is dead silent and capable as HAL9000 .
You have nice and potent speakers , too . And recently you finished best amp(s) money can buy , just because you're lucky , you're also potent (same as your speakers) and you're hanging with right Macho bunch , on right place – sharing ideas and newest tips how to reach Audio Nirvana .

Maybe you also have ancient Black Disc's Spinner , but that's another issueor isn't ? That gives you even more possibilities to make another one two-box gadget , equipped strictly to amplify these tiny signals randomly collected from black grooves

As written above – you're Macho , and you like to listen your music loud , you also like to watch fave Football or MotoGP LISTENING them , not just staring in moving picture there is nothing better than HEAR bones cracking (Football) or metal to asphalt scream (MotoGP) !

Wait a minute – you're not so BIIIIIG Macho ?
You have a Wife (or even Mom ?) , and they aren't always in mood for your torture – loud music every day .

So – you really are not Macho – you need Volume Control (“gotcha ya !” – JB) .

What is important with Volume Control ?

First – it's name is written with capital letters ;

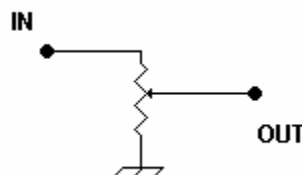
Second – it must be lossless (contrary to MP3 , which you hate even more than Volume Control) ;

Third – it must be in peaceful coexistence/cooperation with preceding and following stage , in same time .

OK , except first fact (capital letters) , following two aren't easy tasks to achieve.

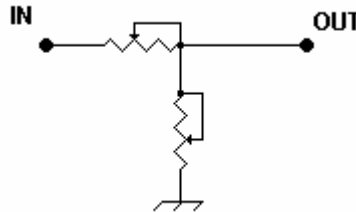
Now we are going little more technical
Everyone here knows what is resistive divider , so I have no intention to teach you that , just for your amusement . In fact , I'm lazy and I'm typing all that , just buying time when I really must paste some schematics and pictures here , and start to explain few things

OK – there's first pic – voltage divider :



As you can see – that's pic of plain ole potentiometer .

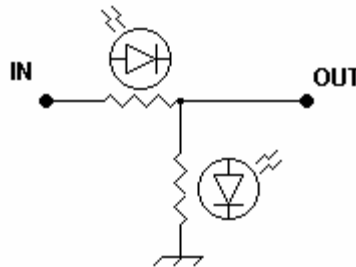
Lightspeed is , in fact , made of not physically one resistor , with contact track exposed to wiper , but from two variable resistors , pictured as :



These two variable pots are ganged , in that way that – while series one is decreasing , shunt one is increasing in value

To complicate/or simplify things further – imagine that pots are shaftless (funny term , isn't it ?) and that these two resistors are light-dependable , or – better defined – their resistance is inversely proportional to amount of light to which they are exposed .

So , pic can look something like :



Assuming that we still have same law of decrease/increase of series/shunt resistance , it looks that we gained something – at least twofold : now we have sort of contactless variable resistance (which means that we succeeded in first factor needed for losslessness , hehe) and we really need some proper circuit to make these LEDs to behave in way we want them and – there is also hidden benefit – we must make some unnecessary complicated circuit blocks , just to preserve impression that we are still Macho , doing things what our Chicks really aren't capable to understand

Luckily – tnx to kind people from Pro oriented Industry (part of Industry pretty unaware of even existence of bunch of sick people , using real parts in something which is intended to make some funny noises called Music) , we have those nice and precious parts – LDRs , or Light Dependent Resistors .

For further info – just search on Diyaudio.com , typing either GeorgeHiFi , or Lightspeed passive attenuator in search field . That boy started entire Frenzy on Big DiyA . Tnx again !

So , schematic is this one :

