Subject: Re: RCA Splitters
Posted by Wayne Parham on Fri, 19 Jul 2024 16:30:10 GMT
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There are plenty of great quality splitters available. Just get one with gold-plated ends, and with pure copper center conductor and shield. If the splitter has those qualities, it's 100% good as gold. I have a handful of "good ones" and a few cheap little splitters like you've described. I should probably throw those away.

Another potential issue is with impedances and more importantly, with reactances. The output circuit and the pair of input circuits might be sensitive to the change of impedance/reactance that happens when two inputs are connected in parallel.

Most devices that output a preamp signal are pretty robust, with more current capacity than is needed. Said another way, if they get a greater load than is expected, they can drive it without dropping much of the signal. Their output impedance is low, so there isn't much resistance to act as a voltage divider.

But not all outputs are like that. Some do have enough output impedance that you can hear a noticeable drop in volume when their load is greater, like when paralleling a couple inputs with a splitter.

And more importantly, if the output or input has a reactive component - an inductor, transformer or capacitor - then they have a natural filter function. This isn't uncommon, because interstage connections are often done with coupling capacitors or transformers. Most times, the reactive component is sized large enough that its effects are way outside the passband. For example, a coupling capacitor is made large enough that it stops only DC, and passes everything above a very low frequency, like 1.0Hz or below. The filter is a function of reactance and resistance, and if the resistance changes, so does the filter. Still, if the reactive component is sized to work down to 1.0Hz, even a pretty large shift wouldn't push it up into the passband.

So that's something to think about too.

You might experiment a little bit. Try different devices and see which ones are most sensitive. You will probably find that some will work but some won't. Some will be completely unaffected. Some will reduce volume just a smidge, but won't change tonal balance. Then some won't work 'cause they'll make the system sound "thin."