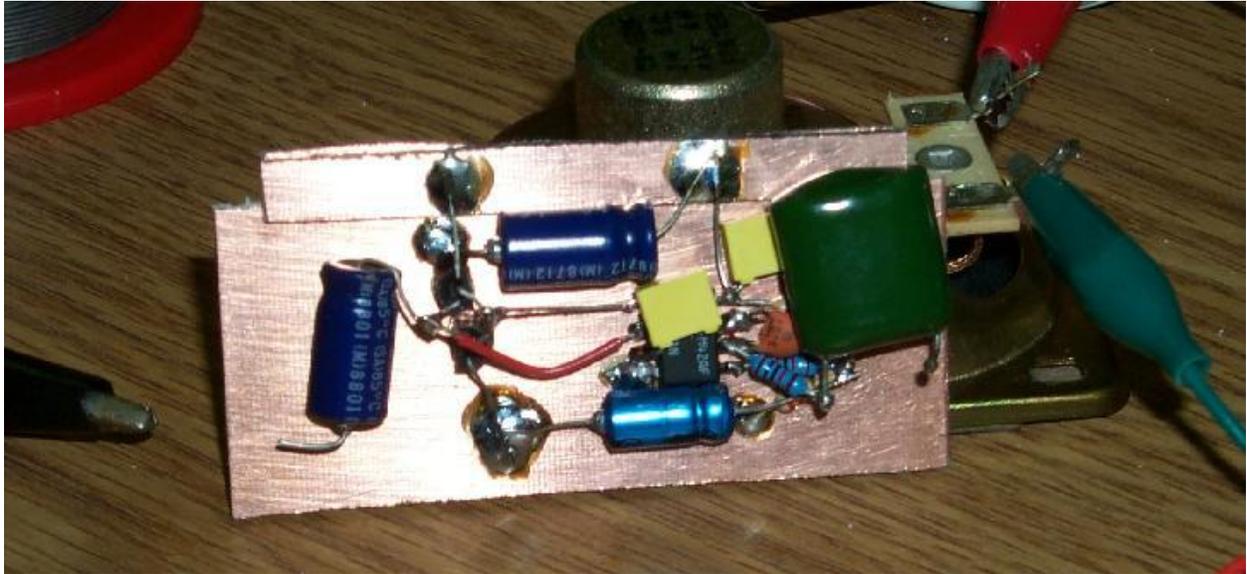
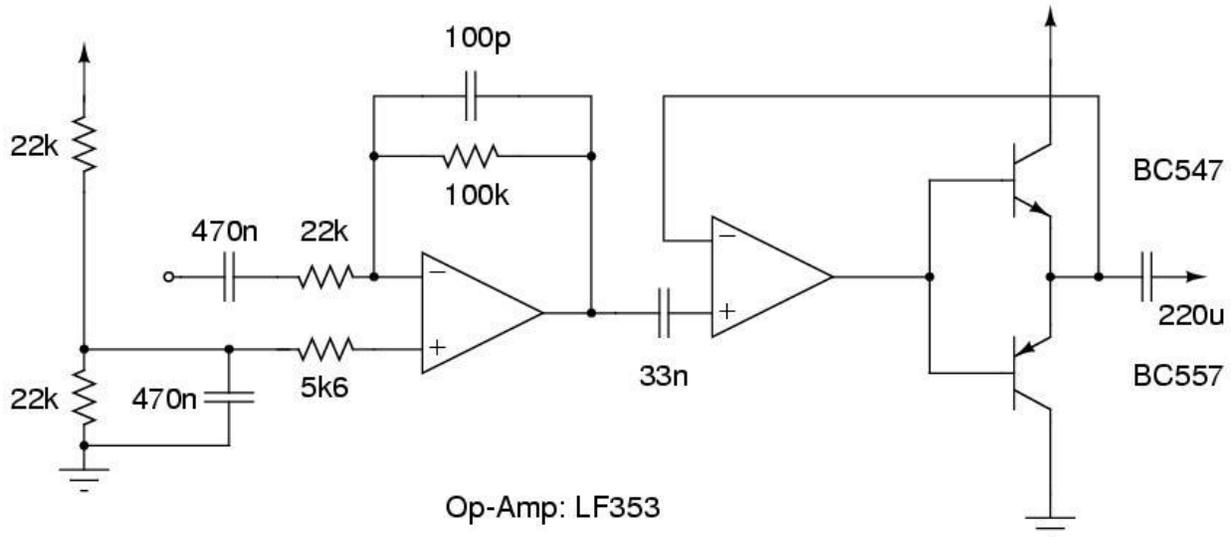


Simple AF Amplifier

I use this device as a desktop AF amp. Just the ticket for listening to signals from new equipment as it is built, or for removing the headphone leash from some of the lower power equipment I've built.



The output power is limited by the final devices, just two garden variety BC5X7 units in push-pull. The LF353 was chosen because it was the first I grabbed, and it wasn't a bad choice, I like JFET opamps much more than bipolar ones. The first op-amp is used as a unity gain current amplifier, the 100% voltage feedback pretty much eliminates crossover distortion. The remaining op-amp is used as a pre-amplifier and low pass filter, the roll-off is much higher than the response of the speaker, which was found in an old TV dumped outside my office.



These values in the diagram are from memory, and squinting at the images. They may be a bit off. Nothing is too critical, just be careful of too much gain in the first op-amp, it will oscillate. I haven't shown the decoupling caps in the diagram either, the working model has a 33n from pin 8 to the ground plane, and a 220u across the rails. If you use a bipolar op-amp instead of the LF353 the 33n coupling cap will need to be increased (a lot). Alternatively use DC coupling as I have in a few other implementations.

The casing is a large-size project box, the 'old style' ones from Jaycar before their great new line of CAD boxes with the drilling helpers on the inside of the lid. (the new boxes are really, really good, beats DSE's hands down) This older box however has a weird surface layer, it kind of peeled when I drilled it for the speaker grill, and part melted making for a thoroughly ugly result.

Feature wise, it is functional though. The front-panel has a volume knob and power switch, with a choice of BNC or RCA signal input plugs. There is an internal 6v battery pack (4x AA alkaline cells), plus an external DC plug-pack socket which disconnects the batteries on connection.

Source: <http://www.vk2zay.net/article/42>