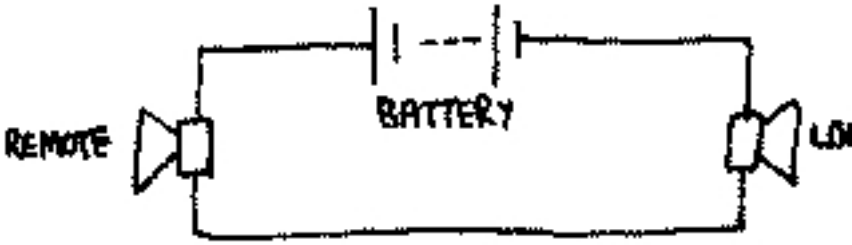
Perhaps you need an intercom. Maybe you want to be able to communicate with your house from your shed or garage. Or perhaps as in my case some years ago, you are upstairs in your bedroom doing your schoolwork, you want to know when dinner will be ready, and you are too lazy to get up and shout down the stairs to find out. If so, then this simple intercom project is for you. I have made many of these and never had any trouble getting them working.

The simplest possible way to make an intercom is by connecting two loudspeakers in series with a battery, as in the circuit shown here.



One of the speakers must be at a remote location. Sound waves impacting on either of the loudspeakers induce a current in its coil which is translated back into sound by the other speaker. Yes, a loudspeaker works just fine as a microphone. It will work, but unfortunately this arrangement has a number of disadvantages, not least of which is that there is no amplification. You have to really shout into one of the loudspeakers just to hear a whisper in the other. Unless the remote loudspeaker is very remote, the listener will hear you shouting rather than the whisper from their loudspeaker. But if they are very remote the wiring resistance will reduce the signal. Additionally the battery will run out very quickly. And you can't use a transformer-rectifier type mains power supply because all you will hear is 50 (or 60 in US) Hz hum.

Hugh VA3TO wrote to me about this "simple intercom" circuit, pointing out that it represents essentially a short circuit at DC, which would blow the speaker coils. He writes: "
I think you would blow the speaker coils. You typically need a mic amp and a speaker amp and the speaker is usually A/C coupled using a capacitor or isolation transformer.
". Well, I do agree with Hugh, but nevertheless I do recall actually connecting two speakers as shown, MANY years ago before I knew better (not that I know much better now), and it did work. As I said, the batteries ran down quickly (indicative of high current flow). The speaker coils didn't blow but whether that was because the batteries weren't chunky enough to do any damange, or the long lengths of wire added some meaningful resistance into the circuit, I couldn't tell you. Anyway it might be wise to be cautious about trying this one at home!

Another way to build an intercom is to find an intercom project on the internet, or in a magasine or book, and start building. I tried to do it this way too and was never pleased with the results. When I got anything working at all, the volume was never satisfactory. The circuits are too complex and the whole thing is too difficult.

Quite by accident I discovered a better way. A **much** better way. All you need is an old audio cassette player. It doesn't need to be stereo and it doesn't need to be able to record. It doesn't even need to be high quality. Anything will do. You can often get hold of

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