Lets have a look at the circuit for this design. There it is on the right . You'll see the bottom line is part of the circuit board of the Oric.The track needs cutting otherwise the new bit of circuitry won't take effect. This is the area below the switch in the diagram.

To break through the track on the circuit board use the Stanley knife and gently scratch it away. Don't be too fierce or you'll do more damage than you intend !

If you look on the board, you'll find a little leg soldered through the board. This makes a suitable point to solder a wire on to.
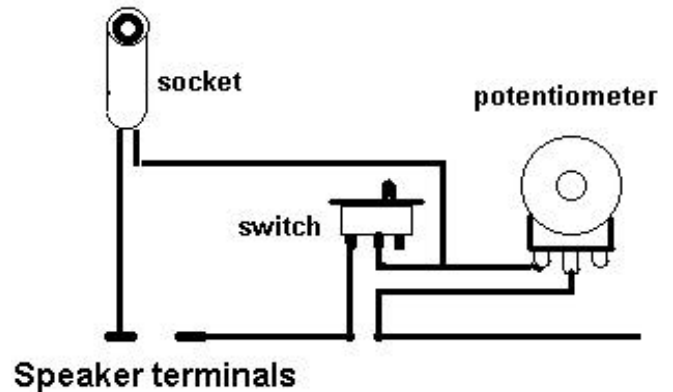
Hopefully you can make out the image on the left. The speaker terminal is the right one and you can see the break in the track if to the rig of that. Follow the track along and you can see where I found a place to solder a wire.

The reason we put the parts in place in the case is so you can now measure the lengths of wire needed to reach the various parts.

It really can get confusing , even on a relatively simple circuit like this, so using different coloured wires will really help. In this case I used white wire and marked the ends with stripes so I knew which was which - you can see the two marks on the left wire above.

Starting Work. Taking one component at a time, cut your wire and then solder it in place. You can remove the component from the case if you wish - sometimes it is easier not to, but watch out for melted plastic !

Solder the socket and then you come to pot. It doesn't matter here which leg you solder so long as you use the middle leg and an outside one - not the two outside legs. The same goes for the switch too. It will work either way round.

Soon you should have all the wires soldered. The next job is to gently put the circuit board in the bottom half of the case - without the keyboard attached. You'll find some things don't quite fit, for instance, you need room for the wires running up to the switch. Use a knife or file and remove a bit of plastic to make some room.

The potentiometer is the big problem. There isn't quite room and you will need to file a little from the circuit board, maybe cut a little black plastic away and I seem to remember bending the pins which the wires are soldered to , to make room for the circuit board.

It sounds a lot of hassle, but it is well worth doing as you can crack the circuit board if you don't. That would break the track and stop the Oric from working. (Just supposing the worst happens and you do crack the board; here's what to do. Gently scratch off the surface of the track over where it is cracked. That green stuff on the board is a kind of lacquer protecting the metal from decay. Once you've removed a small area of that you can solder it. Solder one side of the crack and then drag the solder across to the other side and it should bridge the gap. If necessary you can glue the cracked board.)

Double Check The thing you must do with projects is double check before doing something that may damage the components. Make sure you have scratched away the little piece of circuit and have the wires in place. Follow the circuit round to check it works - everything OK ? Well lets plug in the keyboard . Time to be gentle again as things might not fit properly !!! Be gentle - patience is a virtue ! If it fits together nicely then you can go and plug the Oric in to the power supply - if not don't plug it in. Find the problem and sort it. It may only require a little plastic removing.

Switching On Turn on the Oric and you should hear it hum to life through the speaker as usual - if not don't worry , it may be that the switch has turned the speaker off. Operate the switch and do a ping to check that the switch turns the sound on and off. Then play a Sonix tune, or something and wiggle the volume control to make sure it works. Plug in some headphone and enjoy. If you find a component isn't working it is often down to a poor solder. Make sure you heat up both parts that you are soldering together and see that the solder melts over both bits. Occasionally you come across a faulty component and you just have to replace it. When that happens there is little you can do, but it's worth having a few spares to hand in case such things happen.

Fitting a second ROM.

Assuming you managed the previous part all right, this bit shouldn't be too difficult. This seems to be the project that most often goes wrong though, judging by the amount of Oric boards I've seen in a non-working state. They usually had a socket soldered to the spare ROM housing and odd bits of wire etc on the board. I removed most of the bits and got the board working again.
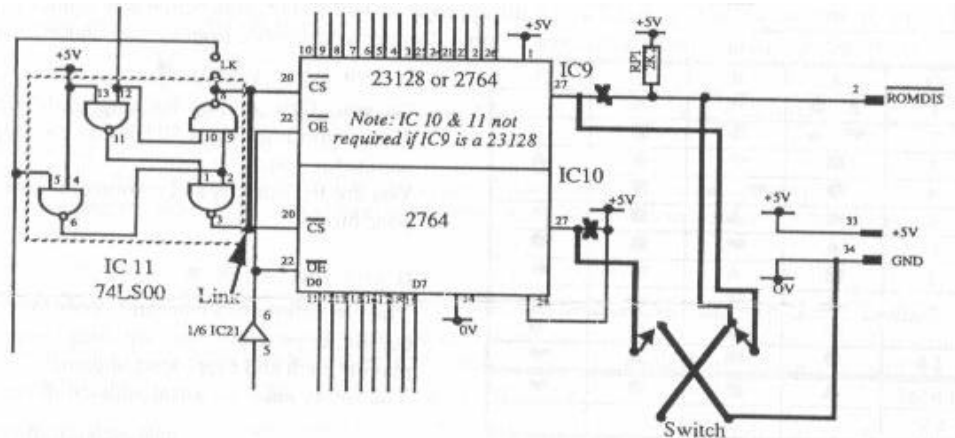
What went wrong ? Well it seems the most common fault is to not cut the circuit on the board. You see the Oric board is designed to house two ROMs linked together. The way we are fitting two ROMs, we want one or the other, never both at once. To do this we need to cut the power to one and then use a switch to enable which ROM we want.

If you look at Dave Wilkin's diagram adapted from the Oric original, you can see on the right 3 terminals drawn of theexpansion port. The two chips in the middle - ignore the text there - actually this project assumes you have an Oric of the single ROM variety, so make sure you don't have IC11 !
To the right of the chips yo can see two crosses where Dave has marked where to cut the circuit tracks. To the left you can see that pins 20 of the chips need to be joined.

Getting started. Before whipping out the soldering iron, make sure you remove the ROM chips. If you are extra cautious you may want to remove the ULA or anything else that is socketted. I've found the trick to remove chips safely is to use a long screwdriver that has a 2mm blade. Gently slide it under the chip and push it from one end to the other without trying to lift the chip. The mere action of forcing the screwdriver in should gently raise the chip. You may need to wiggle the screwdriver a little but you should be able to lift the chip from it's socket quite easily.

Cutting the tracks. Now let me make this very clear - double check ! If you look at a chip, number 1 pin is always marked. From there count around until you come back to the top. With our ROM chips pin 28 is therefore opposite pin 1. You need to make sure you have the right pin and turning the board over can confuse.
I strongly recommend getting an OHP pen and marking the track first then counting the pins and checking you have the right pin. Then turn the board over and check it again - seriously !Do the same to get pins 20 for each chip.
When you are absolutely sure, cut the tracks in the way described earlier.

Soldering. I think I soldered the socket for the second ROM chip in first. This is because it is a little difficult with wires trailing all over the place ! Make sure you solder it so that you have a good joint on both sides of the board - if necessary solder on both sides. To solder the wires, tin them first. This is basically applying solder to the wire itself, rather than joining two pieces.
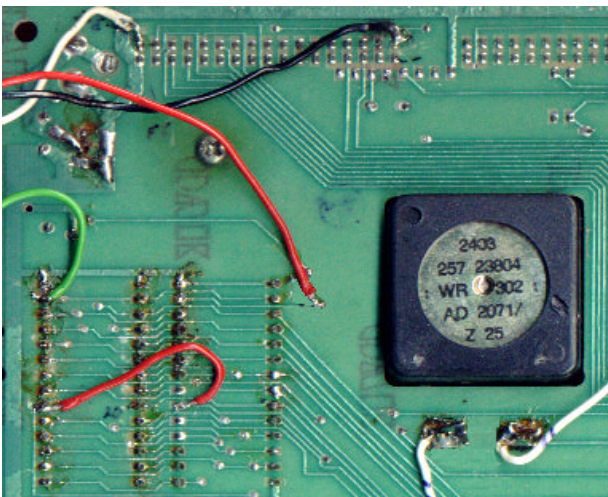
When you come to joining the wire to the board it should solder a little easier if there wires already have solder on them, and it means a little less heat is required to make the joint.

Once you have the wires all soldered replace the chips. Carefully check the wires fit, as before and file or cut away the case to accommodate them as necessary. Once everything fits screw it all back together and turn on. If things don't work, switch off immediately and open up and check through everything. Make sure no solders connect to other pins etc.
If everything does work then **switch off** and operate the switch to select the second ROM. If that works too, pat yourself on the back and have a nice drink. You should now have a loverly Atmos/Oric-1 with a headphone socket with which you can impress the neighbours.