

Twin ROM & Sound Modification Project

Oh dear - I'm not sure how wise this is but I'm going to attempt to show you how to modify your Atmos. For this you should use a spare machine and I recommend it for those who use the real Oric a lot, otherwise there isn't much point !

I originally got the information for this project from various articles in CEO mag and OUM so credit must go to Dave Wilkin and Giles Boussard for the articles they produced.

The Project What we are going to attempt is to fit a switch so you can turn off the computer (and that bit is VERY important !) and then flick the switch to turn your computer from an Atmos to an Oric-1 - or vice versa. No messing about unplugging things and getting in a mess with coils of cables etc.

Not many people use the Oric-1 now and so when you do need one it can be a pain to find out which cupboard it is buried in and dig it out. In my case you sometimes find then that the keyboard needs a bit of adjusting or something and the whole process becomes a nightmarish experience. With our project you just turn off, flick a switch and turn back on again - marvellous.

The second part is to modify the sound possibilities. The Oric has quite decent sound, but sometimes it is just too loud. I tend to use the Oric at night and you often don't want it going TADAAH ! waking up the neighbours and making the dog bark. So we are going to add an on/off switch.

Sometimes, on the other hand, you may want to hear the sound. You may have just completed tapping in a wondrous tune into Sonix and you want to hear the thing. We therefore need to add in a socket for headphone. You will be able to turn off the sound with the switch, but still hear the sound through the headphones. Alternatively you can use the socket to connect to bigger speakers or an amp and get a lot of volume from the Oric.

Recently, I used my old set of PC (amplified) speakers to connect to the Atmos. They just plug into the mains and then there is a jack plug to plug in the Oric and you get quite an improvement in the sound produced .

With all this it seems a good idea to include a volume control so we don't deafen ourselves with the headphones.

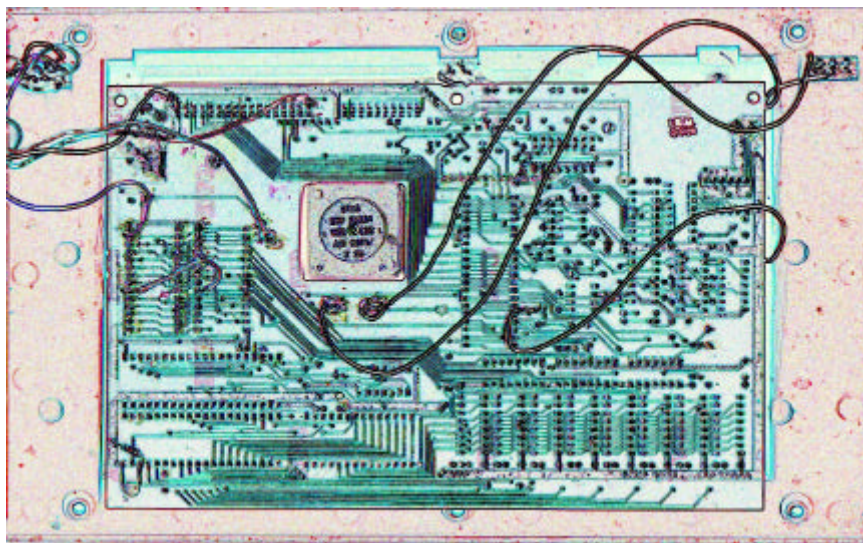
What to do . First of all, if you have no experience of soldering or electronics projects then forget it ! This project is fairly easy - if you have the aptitude to do it. If you don't then you are far better asking someone else to do the work for you.

If you do have a soldering iron and some wire and odd resistors and capacitors lying around in a cupboard somewhere then this is for you. Attempt at your own risk ! Don't blame us if you make a mess of things and kill your computers !

Soldering. Just before moving on I think it is worth saying that anyone wanting to continue using old machines should learn how to solder. It has proven invaluable to me over the years, keeping my equipment working when, without such experience I would have chucked broken equipment away.

I was fortunate in that part of my college course was about electrical connectors and we were shown how to fit IDC plugs on the IDC cables which is used to connect Orics to their disk interface and from the interface to drives. No soldering there, but a tricky job if you don't know how it's done !

If you wish to try soldering I suggest buying a kit from Maplin's - something like a 20W



Stereo amp. I built one of these some years ago and used it for various projects. It is now used to power a pair of speakers giving me quite decent sound from my PC. It's saved me quite a few quid using that rather than going out and buying off-the-shelf speakers, so it really is worth having a go !

Equipment. Assuming you have a little experience then you should manage this project. Here's what you need:-

A **potentiometer** of 10K ohms or 20 K ohms - Now if you get an ordinary one it is going to be too big. You need to order a small one that will fit inside the Oric case. I used one with a 17 mm case which just about fits between the DIN sockets and the IDC ports at the back.

If you wish to position the control somewhere else then make sure you obtain a pot to fit the case at that point. Some of the projects had switches and things sticking out of the top of the Oric which I think just looks ugly. Everything here will be positioned out of the way, so the Oric looks just like normal.

Two switches again you need ones that will fit in the case. I chose a pair of double pole sub-miniature switches (Maplin's FH35Q) though one only needs to be a single pole.

A **stereo 3.5mm jack socket** . I decided to use a stereo one because mono sockets can mean you only get sound from one speaker. The way to ensure sound goes to both speakers is to get stereo and connect both terminals to the same source.

The important thing here is to make sure it has a nut threaded on the socket. This is used to attach to the case.

Stranded wire. Your plastic coated wire comes in two types - single core and multicore, or stranded. The single core is stiff and not very flexible whereas the stranded stuff which is normally used can be bent around with no problems. This is the best stuff to use for such projects as we need to bend it around the inside of the Oric case.

It is quite useful if you can get hold of some wire of different colour - it just helps you see what goes where.

Oric V1.0 ROM, preferably with a DIL socket to fit

Tools - Soldering iron, solder, needle files, Stanley craft knife (not the big one for carpets, the small one with the wheel), drill and drill bits. It usually useful to have a couple of pairs of small pliers handy - one pair that cuts and one that grips

Getting Started.

OK - you need to take a bit of care positioning the switches and especially the pot and socket. You can see from the picture that I put the switches in the corners of the case - the corners to the rear that are raised up. This means you can fit your fingers underneath to operate them.

I suggest getting an OHP pen (one that draws on plastic film) and measuring and drawing where to position the switches. Once satisfied with the position, drill a couple of holes side by side - but don't try and overlap them ! Then take your needle files and open the hole up to the rectangular shape, checking every so often to see if the switch fits. The case is fairly soft so it doesn't take too long. A bit of patient filing makes for a neat job !

Next we need to drill holes for the socket and pot. Make a note of where the modulator is. You can't fit the socket where it will be, but it will fit just after it, just before where the hole is for adjusting the TV picture.



If you look at the picture on the left, you will see the positioning of the three main parts for the sound modification.

To drill the holes it is advisable to first drill a small pilot hole. It may be easier to drill this from the inside to get accurate positioning . You can then drill from the outside with a drill bit of the correct size. If for some reason you do drill slightly in the wrong position you can use a round file to move adjust the position. It's best to get it right first time though !!!

The pot. deserves some further explanation. You must get it positioned as far into the case as it will go as the circuit board is going to be a tight fit - actually it isn't going

to fit and we are going to have to file a little here and there to make it fit properly. But that is something for later. Make the hole as accurately as you can . You can then remove the nut from the pot. and insert it in to the case and then bolt it up. You'll find it won't this is because there is a locating lug. This serve to stop the pot turning round when you turn the control, so get a marker pen and draw where the lug is and then drill a hole to accommodate it. Push the pot back in the hole to check it fits properly and file the hole if necessary. Once it is in place you can bolt it up.

Here on the right is a picture of the pot. from the outside. You can see the way I held the pen resulted in the hole for the lug being in the wrong place so I had to use a file to make the pot. fit. It's a little messy but it works fine and no-one really sees the mistake round the back with the leads connected !

