# GTH ELECTRONICS
## *ACE Convertor Software Upgrade Installation*

To change the chip you will need to open the ACE case. This is quite easy but before trying I suggest you slacken the small screw on the back panel between the Audio Phonos, as when tightened this can sometimes make re-assembling the case more difficult.   You will need to re-tighten this screw after re-assembly of course. Please read all the following through first!

To open the case, start with it in front of you on a flat soft surface.  Roll it over onto its left hand side and press on the case top just to the left of the dividing line between the two halves to release the latching tongue inside. At the same time gently pull the two halves apart a bit. It helps to understand that the latching tongue inside is on your left and is hooked into a slot just inside on your right, marked on the outside by a faint central line parallel to the case join. Pressure must be put in the centre since the front and back panels stop the case edges flexing.

Then roll the case over onto its right hand side and repeat the procedure, again pressing on the left hand case (now the bottom) and prising the case apart slightly. Now put the ACE back on its feet and lift the case top off evenly, holding the front and back panels down.  In practice I actually use a blunt flat bladed knife with a rounded end which I slip between the two halves from the direction of the piece I have suggested, pressing down to prise the tongue away, but this method needs care to avoid scratching the case. If you press the side indicated at the same time it will open the gap and make it easier to insert the knife. Whatever you do, don't use a narrow screwdriver blade as this is almost certain to damage the case edges. The aim of using any tool is to depress the tongue slightly to disengage it so you can separate the two halves. Forcing them apart does not work as the latch will not disengage. The latch must be released.

The chip to be changed is near the front of the unit between the two lower switches. Use a small screwdriver or other suitable lever to lift the chip evenly at each end in turn until free. Naturally care must be taken to ensure that the lever does not scratch the printed circuit board. The new chip then needs to be put in with the pin 1 marker (sometimes a notch and white line or sometimes just a small notch) at the right hand side by the label "IC4".  This chip should have been supplied with its pins correctly spaced so if placed down in the holder flat so that all the pins engage in their slots and then gently pushed in it should be OK. (If the pins are not parallel on receipt then place the chip on its side on a hard surface, press down on the chip and roll gently so that the pins are bent equally, repeating on both sides until the pins are parellel.)

Once you have replaced the chip and checked the unit is working just slide the top back on making sure you keep it level and that the front and back panels go in and stay in their slots. Once the case top is touching the case bottom just make sure the tongues are inside the other half and press evenly together until the tongues click into their slots. Finally tighten the screw.

**NOTE:** If you have removed the bottom case half please note it will fit either way round and in fact top and bottom pieces are interchangeable. However for continued protection against damage to the case from the PVC plasticisers in the ribbon cable the case half with the paper masking tape should be used for the bottom and placed with the tape next to the ribbon cable.

Sorry if the above is a bit heavy but if you hit any problems please let me know and I will help!