This edition of PTMShed/KIG Workshop/<insert new name here> contains extracts of the **dbx120XP** schematic diagram, which I have no right to distribute. If you work for dbx/Harman/Samsung and you don't like this, please contact the Backroom archive at: surveychicken-backroom@yahoo.com. **[rant]**: Bear in mind, censoring this information will make it harder for people to fix your products. This reduces your credibility with your customers and turns your devices into e-waste, a major contributor to environmental pollution around the world. This can be reduced in part by manufacturers designing more reliable products, and by not stifling the efforts of well-meaning individuals to repair these when faults occur.
[/rant]

In this issue, I'm going to document the repair of a **dbx120XP** subharmonic synthesizer. In my opinion, these units (like the Antares ATR-1) have one main flaw: the missing power switch. It means when the unit is plugged in and switched on at the socket, it's always on. It follows that some of these units will have many hours on them, regardless of what percentage of these were in actual use. In the case of this particular example, the fault presented as a totally non-functional unit. A check of the transformer revealed the secondary winding had become open circuit.

An internet search for the markings on the stock transformer didn't show up much, so I looked for information in the manual (p. 4):

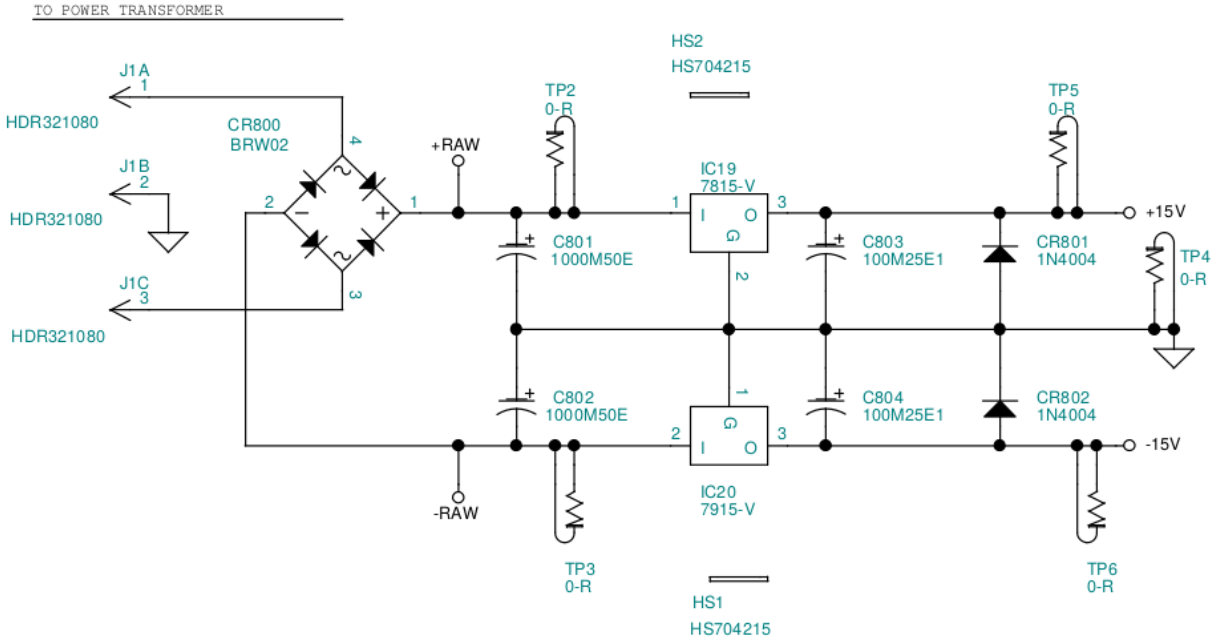

Figure 1, above: *Schematic diagram showing the power input section.*

The transformer is on the left side of the diagram, followed by a bridge rectifier. After this there are a pair of 1000uF capacitors, and a complimentary pair of 7815/7915 regulators for the respective +/- supplies. The layout here suggests (to me) that the unit requires a 15V +/- supply. I found a suitable transformer with a dual 15V output on the RS website (uk.rs-online.com), part number 504-773. Bridging the secondaries in series should give about 30V, from which the regulator circuit can derive the required voltages. The original transformer is shown after removal in the next picture, followed by a side-by-side comparison:

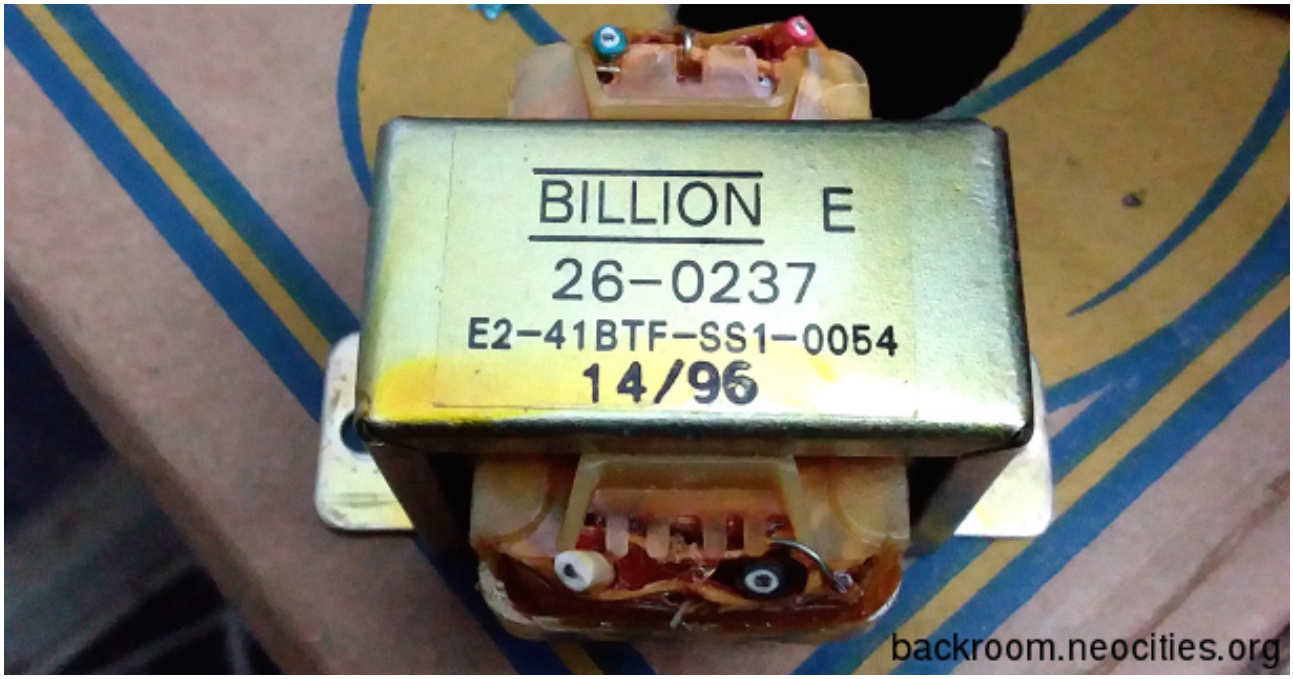

Figure two, above: *Old transformer, by Billion. A cursory internet search of this data provided no information.*

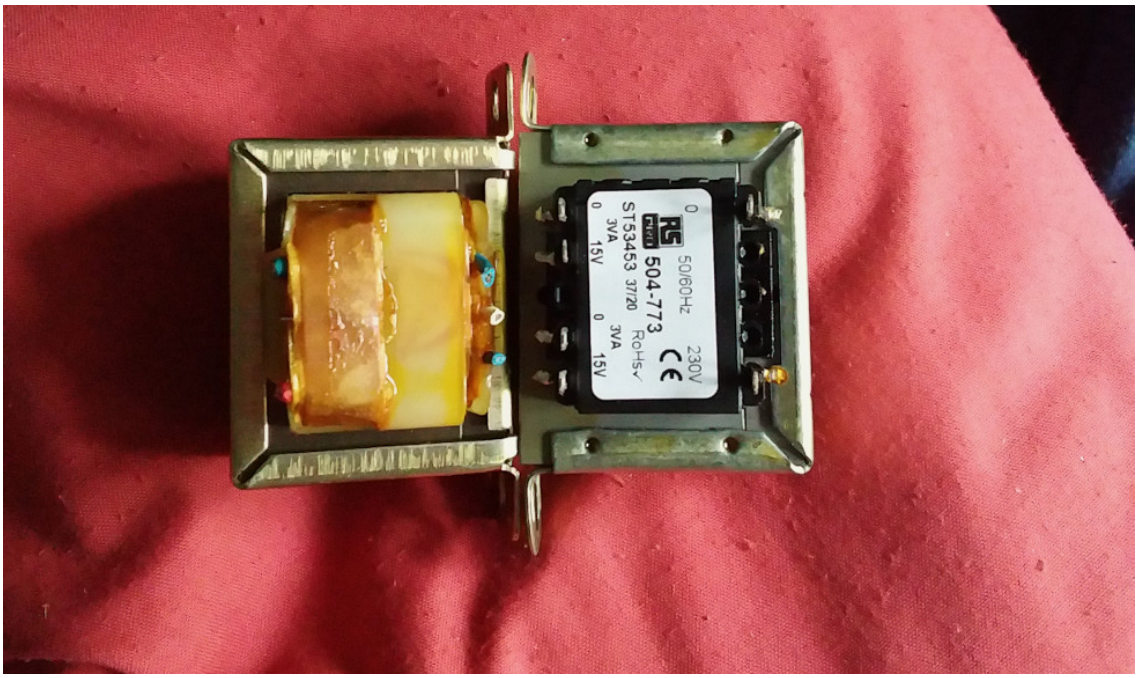

Figure three, above: *Old transformer (left) and replacement from RS Components (right).*

I used a small length of spare wire, (possibly the leg of an LED or other component) to bridge the secondary windings together in series. The replacement transformer fitted the mountings of the old one very well. I wired the internal cabling back up and replaced the case. I probably *should* have used heat shrink on the mains terminals but I didn't (I didn't have any at the time). Unless I add heat shrink, here is the last time I hope to see the transformer for 25 years or so:

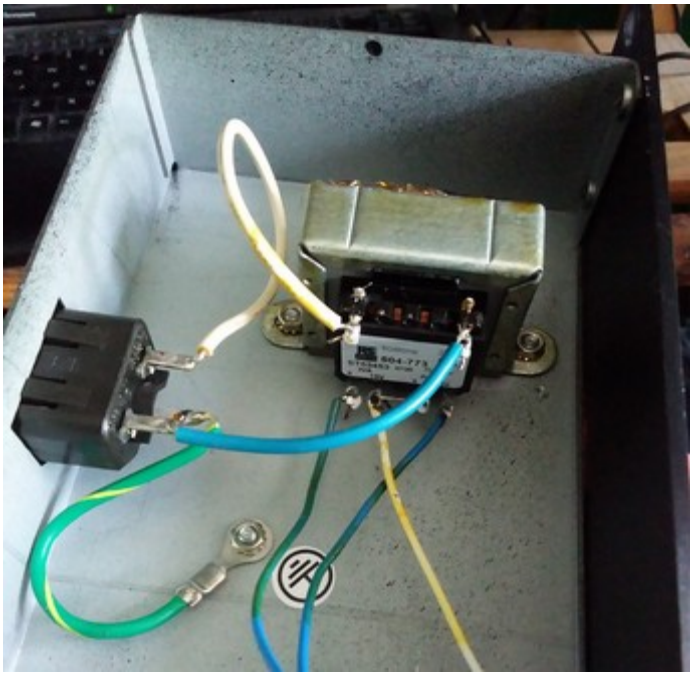

Figure four, above: *Replacement transformer in situ. Wires from the secondary are: left to right:* ~30V**(blue)**, COMMON**(white)**, ~30V**(blue)**.