



**TX-DS989 With THX-ULTRA-2      Addition or omission of parts.**

When servicing the DSP of TX-DS989 with the optional THX ULTRA-2 upgrade, make sure to refer to this page as well.

Do Not attempt to modify the hardware of a none THX-ULTRA-2 unit assuming THX-Ultra will work. The upgrade requires software also. Since the upgrade is sold separately as an option, this information must be treated as supplemental technical information for those units having such an upgrade already in place.

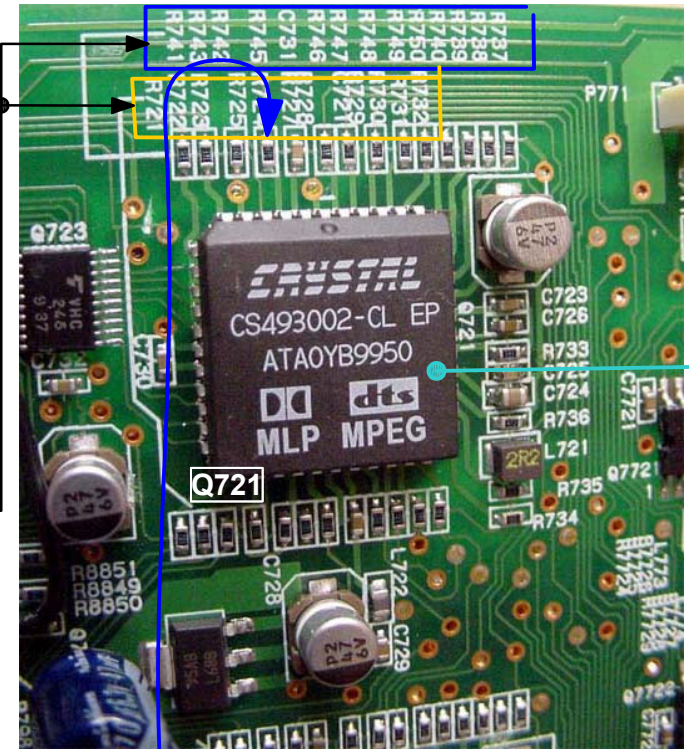
Parts location ID listings in Blue block at the top are for Q721 corresponding to PIN 1~6 and 40 ~ 44. The parts location listings within the yellow block correspond to the SM components associated to Q721 pin# 18 ~ 28. As the arrow indicates, a wire from a removed R768 solder landing that connects to IC Q761 pin #22 location (below) is connected to R745 which is also connected to pin#3 of IC Q721.

**Note:** All connections at Q761 are in direct relation to the IC pins while at Q721 connection will be through the referenced resistor which is in series to the IC pin.

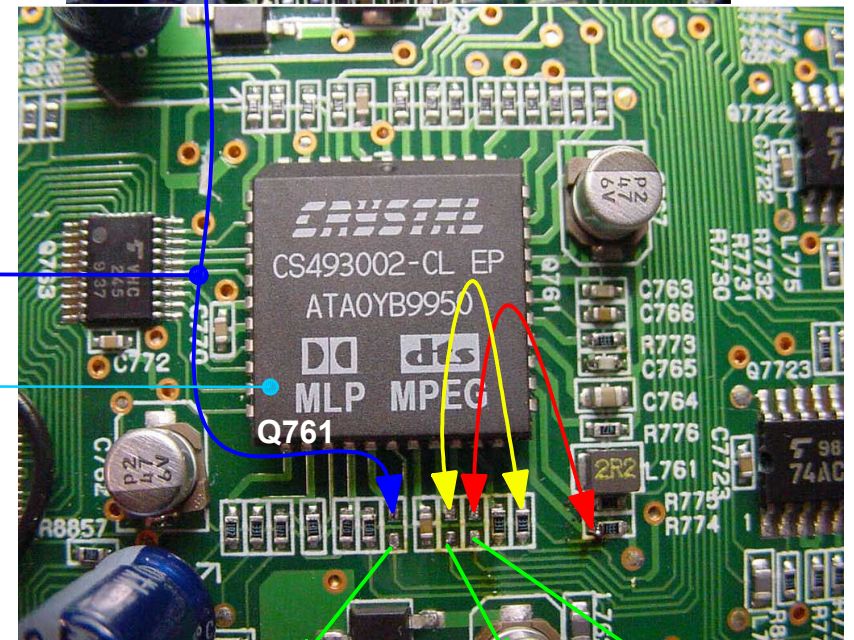
Jumper wire from Q761 Pin#22 to Q721 pin R745 of Pin mostly black in color.

Post processing DSP IC Q761

R768, R769 and R770 may be found to have been removed following the optional THX ULTRA-2 upgrade. Jumpers are in place as illustrated in the picture with Red and Yellow lines.



Preprocess DSP



R768 Removed      R769 Removed      R770 Removed