APEX Group
CAR ELECTRONICS
RESEARCH AND ENGINEERING

Upgrading to ESS 9038 DAC

Installing the ESS 9038 DAC (DAC Kit A) into the Zapco HDSP-Z16 and Z8 Processors

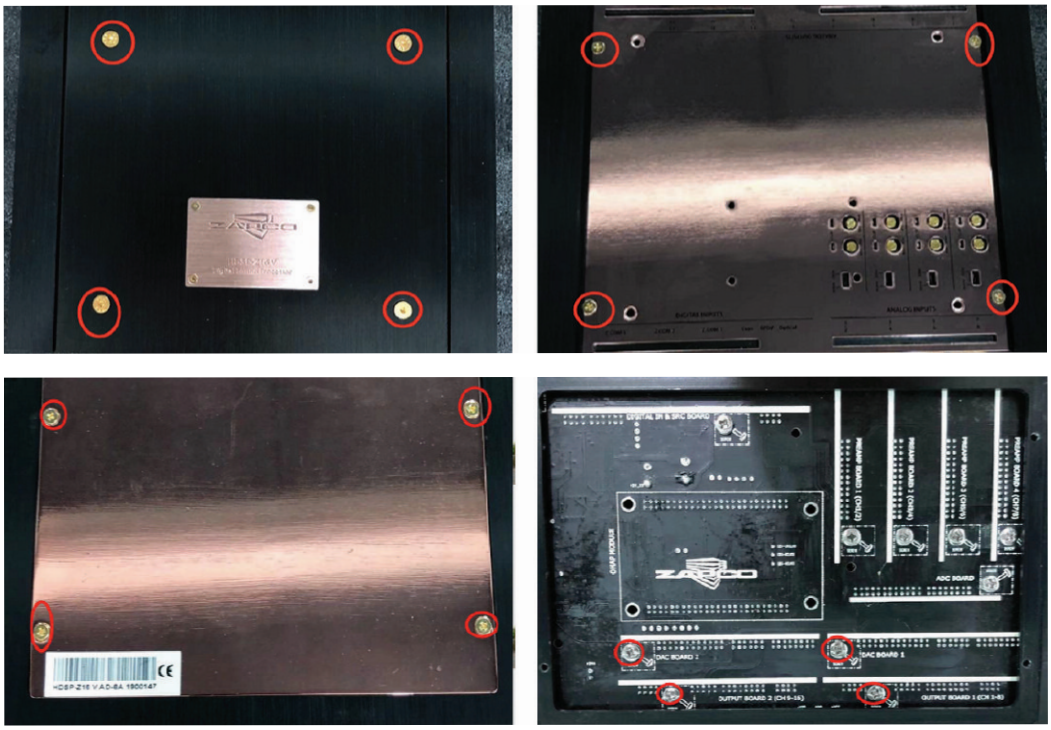
First of all, make sure your unit is upgradeable. Since the very first units do not provide the possibility of upgrading with the 9038 DAC.
The upgrade is not possible in the very first series of products called HDSP-Z16 V from 1 to 500 (here below highlighted in yellow), but is possibile from 501 to 1000, like also it is possibile for the similar name series called HDSP-Z16 V AD-8A from 1 to 500.

Batch	Product Name	S/N (From)	S/N (To)	Holes on end-plates
1st BATCH	HDSP-Z16 V	1900001	1900500	NO
2nd BATCH	HDSP-Z16 V	1900501	1901000	YES
1st BATCH	HDSP-Z16 V AD-8A	1900001	1900500	YES

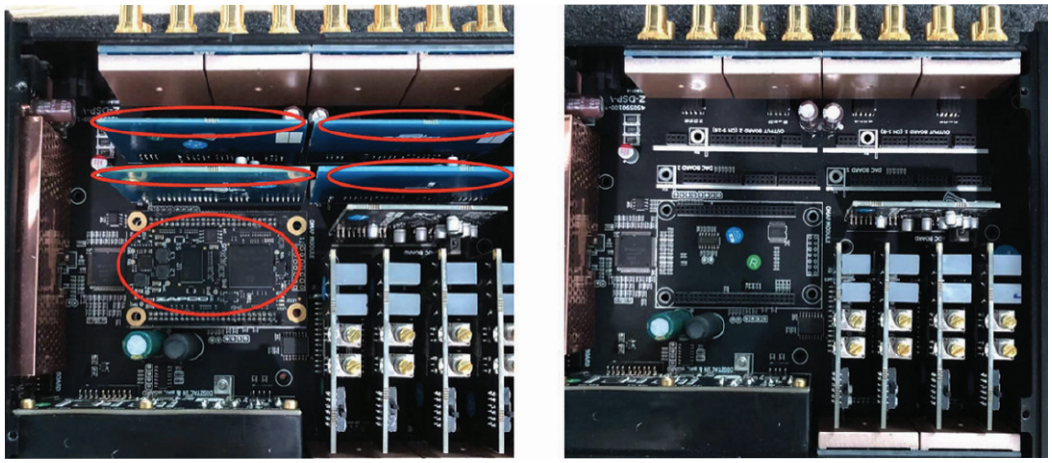
Note: Each DAC Kit A converts 8 channels, two kits are required for 16-Ch. processors. Below is a brief instruction on how to upgrade to 9038 DAC .

1. *Please upgrade the firmware to 1.0.10 version, a short high quality USB cable is better to assure optimum communication for the firmware upgrade.*
2. *Replace the 1A fuse with a 2A fuse for HDSP Z16 (for HDSP Z8 don't need to change the fuse).*

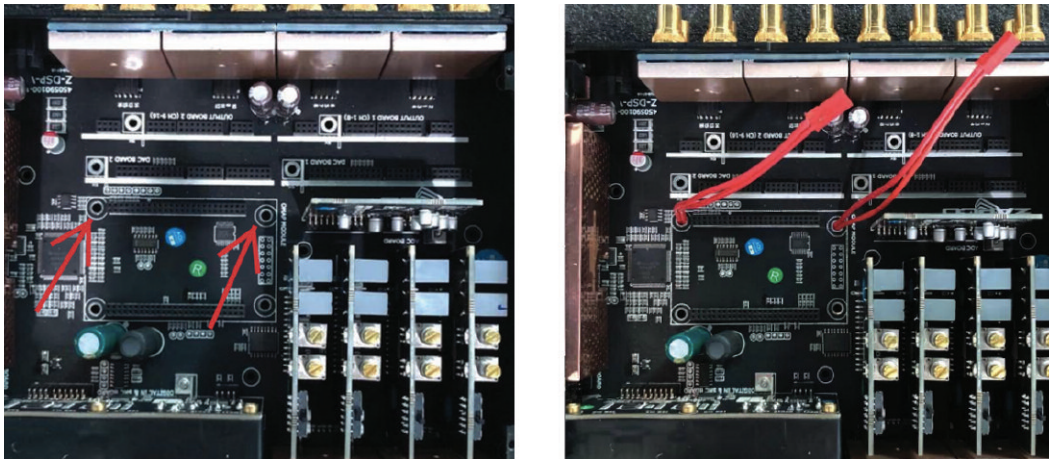
3. Remove the screws as below in pictures below, and set them aside for reassembly. Remove the screws anchoring the stock DAC's and Output Boards.



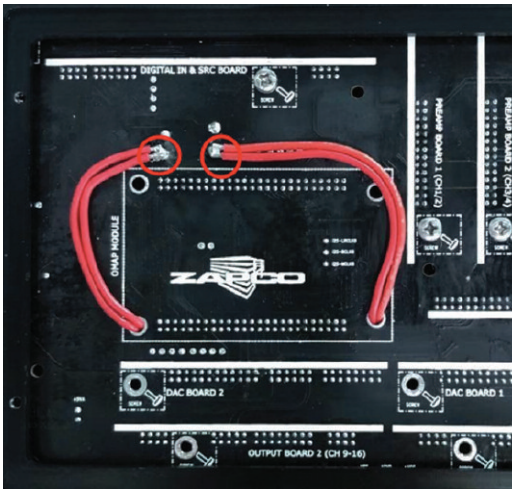
4. Remove the OMAP module, DAC boards and OUTPUT boards.



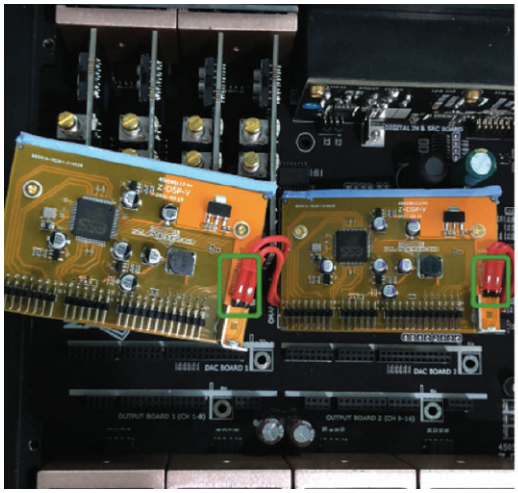
5. Thread the wires through the holes and solder the wires to 5V as shown in the below pictures.

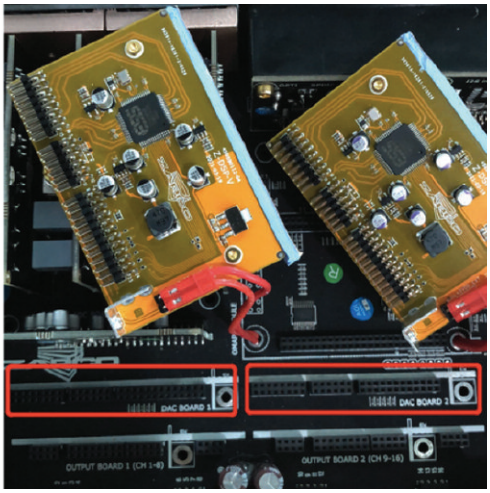


6. Solder the wires to +5V_D at the points shown .Then turn the Unit over and prepare it for assembly with the new DAC (or DACs) and Output Board (or Boards).

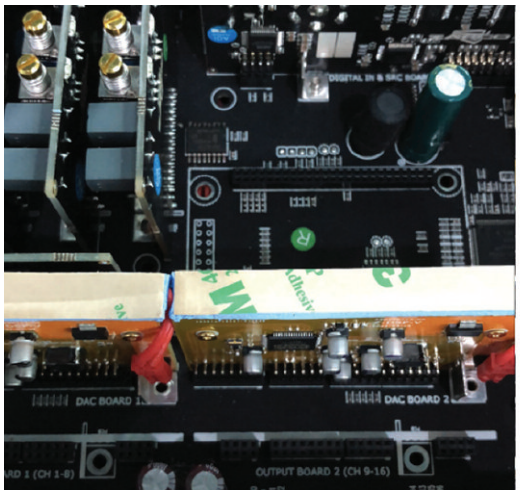


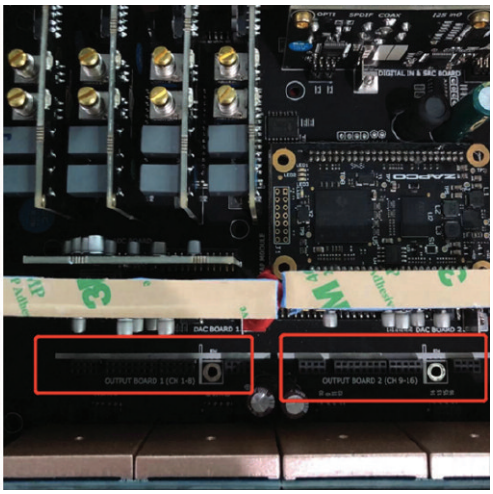
7. Connect the wire harnesses to the DAC boards (16-Ch. processor shown).



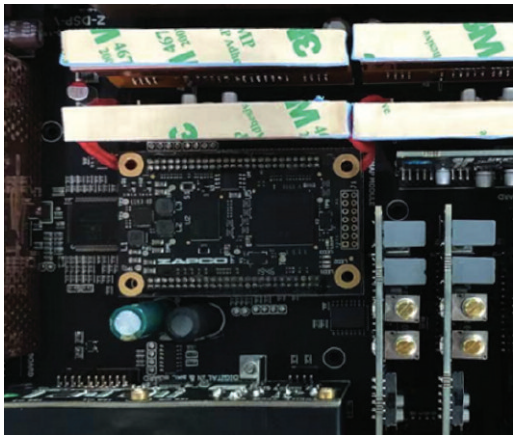


8. Install the DAC boards into the sockets and it should look as shown (on the left). Also shown SOCKET for OUTPUT BOARD (on the right).

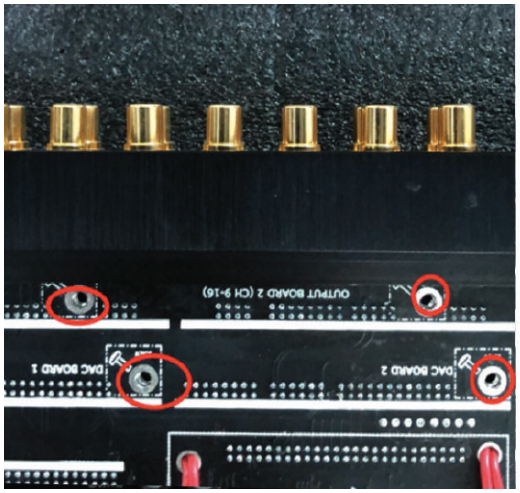


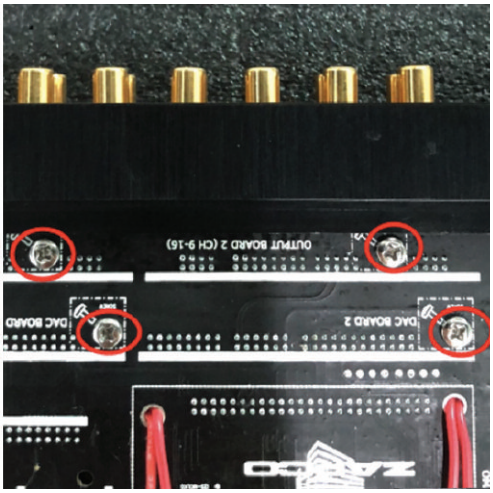


9. Install the OMAP board, taking care about the direction.



10. Tighten the screws for DAC boards and OUTPUT boards, after screws are tightened please use force to press boards to make sure that they are inserted into sockets well, if screws do not thread easily then the boards are likely not in correctly and should be rechecked.





11. Tighten screws of the bottom panel. Put back the top under cover and tighten the screws.

Notes: Pay attention the direction /position of OMAP module. If the screws can't be tighten that means DAC or OUTPUT boards are not in the right position. The length of the wires can be adjusted for a better installation.