

KDSP board installation

How to perform KDSP installation in K Series amplifiers

I Preface

It is possible to install the optional K-DSP on every K Series amplifier with serial number newer than 19062, older serial numbers will need to be sent back to Powersoft factory for an internal board change, please contact directly Powersoft for further information about.

2 Powersoft KDSP upgrade kit

Powersoft DSP upgrade Kit comes as a DSP board protected in an electrostatic shielding envelope, two brass spacers support standoff and a kit of labels to change the name into KDSP as from images down here.



FIGURE 1: KDSP upgrade kit content

3 Tools required

It is necessary to have a Phillips screwdriver PH 0, a Phillips screwdriver PH 1, an M2,5/5mm nut driver, a long needle nose solid joint pliers, an hexagonal key 2x90 as in FIGURE 2 to FIGURE 5.



FIGURE 2: Phillips PH0 screwdriver



FIGURE 3: Phillips PH1 screwdriver



FIGURE 4: M2,5/5mm nut driver



FIGURE 5: Long needle nose solid joint pliers

4 How to perform the upgrade

I.1 KAESOP hardware installation

Disconnect amplifier from the mains, if the amplifier has been connected to the mains in the last few minutes please proceed with attention as the internal capacitors bank could be charged and harmful!

Remove the side support steel bars, unscrewing the four bigger screws with a Phillips PHI screwdriver, then remove the three screws in the centre using a smaller Phillips PH 0 screwdriver as in FIGURE 6.

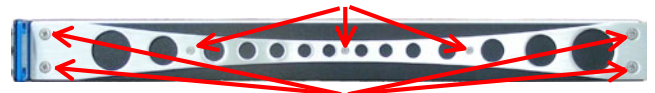


FIGURE 6: Amplifier side view, screws

Remove the amplifier cover unscrewing the nine screws (four in the front, two in the centre and three in the rear) using a screwdriver Phillips PH 0 as on FIGURE 7.

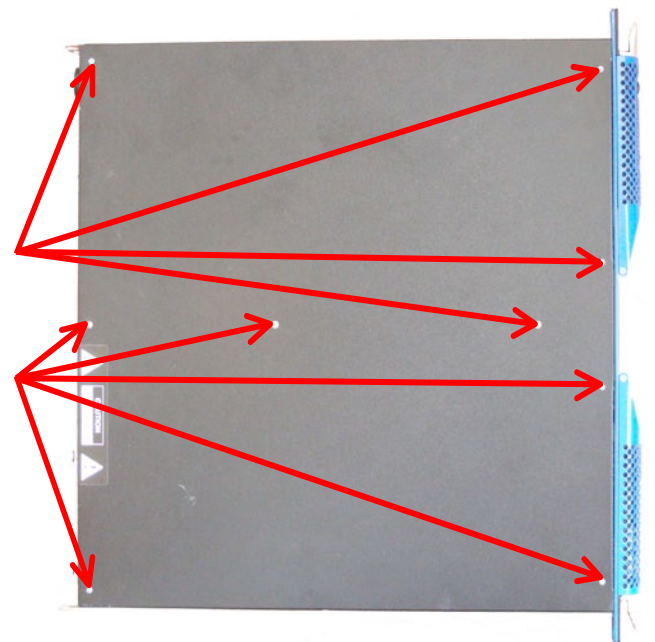


FIGURE 7: Amplifier top view, screws

Before operating for the installation of the K-DSP board it is necessary to check if the rails are completely discharged: leds in FIGURE 8 should be off, this should happen after about 15 minutes that the amplifier has been switched off and disconnected from the mains.

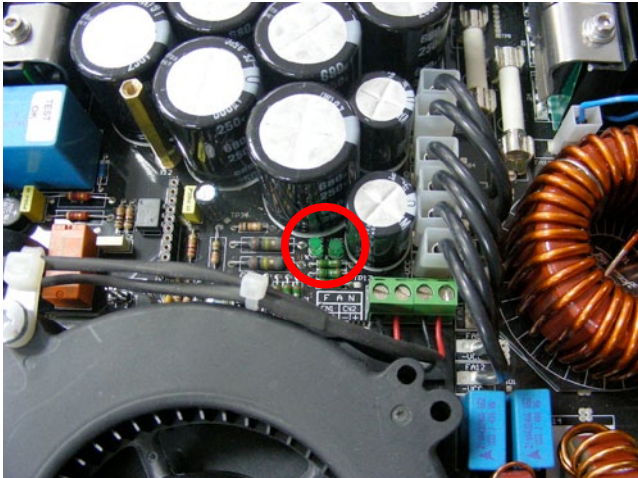


FIGURE 8: Rail leds

If the leds are still on it is suggested to discharge the capacitors bank by connecting a lamp of at least 40 W / 230 V, best if 60 W / 230 V (FIGURE 9) to the connectors positioned as on FIGURE 9 and FIGURE 10 to avoid harmful current stored in the capacitors bank.



FIGURE 9: Dummy load lamp

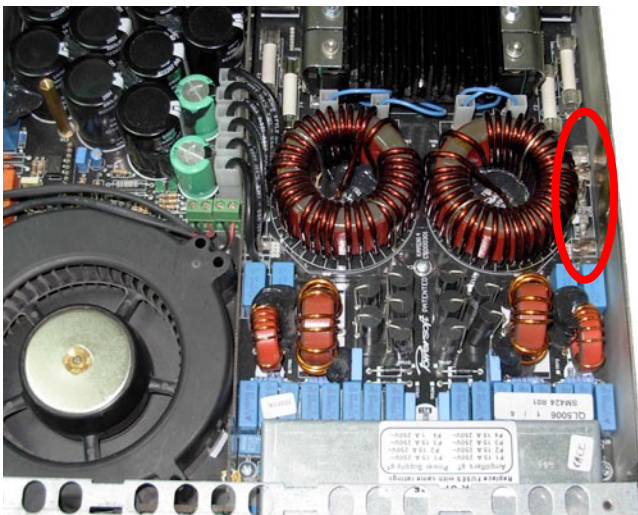


FIGURE 10: Discharging connectors

Keeping a leg of the dummy load on one of the two "GND" connectors, first touch with the other leg one of the right "+VCC" connectors, and then one of the left "-VCC" connectors (as showed in FIGURE 11).

Locate the control board, positioned in the front left corner

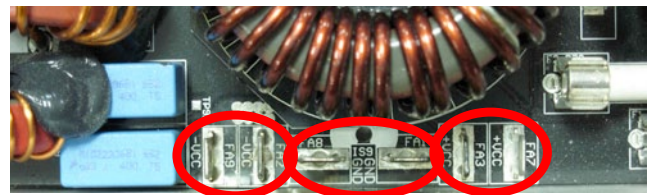


FIGURE 11: Detail of discharging connectors

of the amplifier, as in FIGURE 12 and remove the screws of the control board with a Phillips PH0 screwdriver.

Screw on the same holes the brass spacers support standoff as on FIGURE 13.

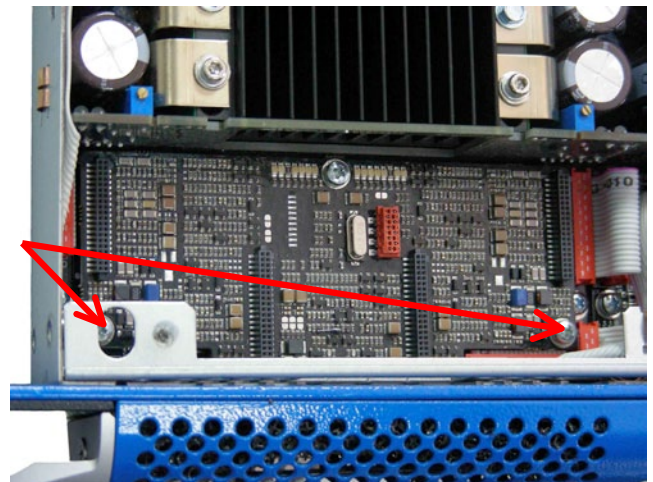


FIGURE 12: Screws of the control board to be removed

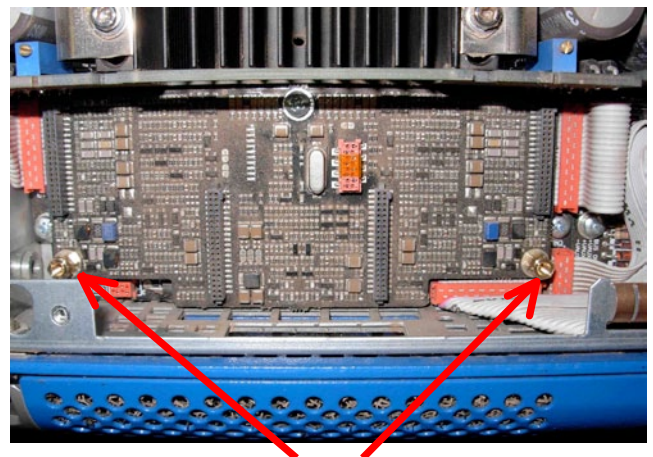


FIGURE 13: Brass spacers positioned

Be careful in both removing the screws and positioning the brass spacers support standoff: help yourself with a long needle nose solid joint pliers for avoiding any piece to fall under control board.

Carefully position the DSP board on top of the control board, pay particular attention to the four connectors of both boards, they have to mate perfectly, do not press the board until you're sure that connectors are exactly in position or it's possible to damage the amplifier!

Once the K-DSP board is positioned and correctly plugged on top of the control board, as in FIGURE 14, it is possible to screw it back on the two brass spacers support standoff as on FIGURE 15, using the two screws previously removed from the control board.

Please pay attention not to tight too much those screws to avoid brass spacers support standoff breakage.

Now it is possible to close the amplifier with its cover, screw it

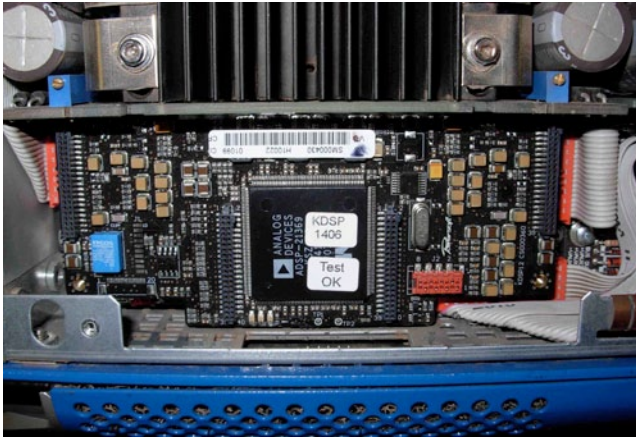


FIGURE 14: DSP board correctly positioned

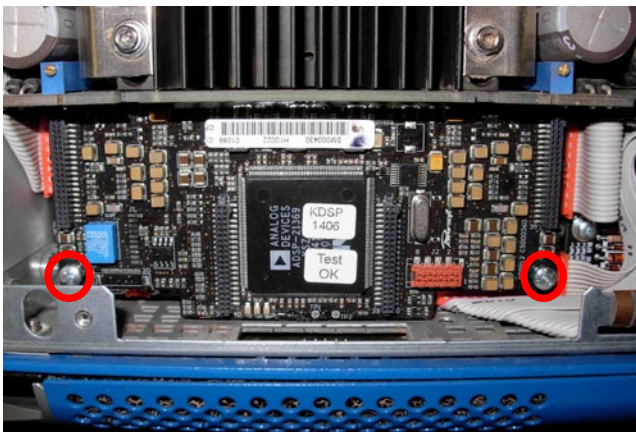


FIGURE 15: DSP board correctly positioned and screwed

back in position, as it is possible to screw back in position the two side support steel bars.

Once the amplifier is closed it is possible to change the front label from K to KDSP by removing the screw that close the left front dust filter cover, as on FIGURE 16.

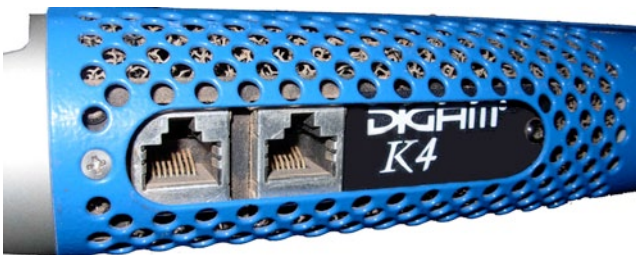


FIGURE 16: Screw to be removed to open dust filter

Once opened it's possible to remove the old label by pulling it out, as on FIGURE 17, and replace it with the new one certifying the upgrade to a KDSP amplifier as on FIGURE 18.

5 FIRMWARE UPDATE



FIGURE 17: Pull out the old K label

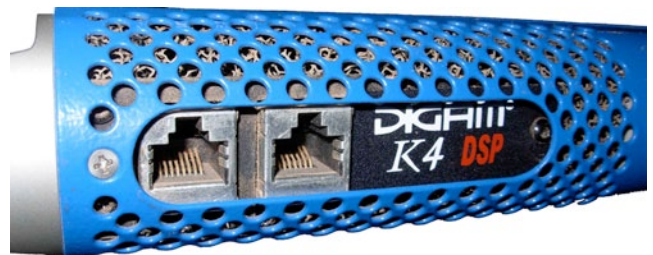


FIGURE 18: Stick the new KDSP label

Once the KDSP board has been installed it is possible to perform the amplifier firmware update to disclose the full DSP functionality.

Turn off amplifier -> insert firmware smartcard (electric contacts facing down)->while keeping pressed the first and second buttons on the left of the front panel turn on the amplifier and wait about 3 to 6 seconds.

Soon after the fan test (full throttle blow), after 5 seconds that the yellow leds on the panel will be blinking, it is possible to release the two front panel buttons, KFRONT firmware update will start automatically.

Please note that during KFRONT update the yellow leds will continue to blink for about another minute. During this period the LCD display will remain blank because the KFRONT is under update and is unable to write on the LCD display.

IMPORTANT NOTE

- ▶ If the KDSP is installed correctly: KDSP update will begin after KFRONT update will be completed, showing "Updating KDSP" with a progress bar. After a few minutes, the KDSP update will be completed.
- ▶ If the KDSP is NOT installed correctly: a warning message ("START ERROR" or "KDSP board not present") is displayed, requiring a button press confirmation to proceed.

After KDSP update, the KCNTRL update will begin, showing "Updating KCNTRL" with a progress bar. After a few minutes, the KCNTRL update will be completed.

After that update will appear a message asking for SHARC, confirming with OK will start SHARC update, showing "Updating SHARC" and a progress bar on the LCD display. The update lasts several minutes.

At the end a message "Firmware update completed, press OK to restart" will indicate that the procedure has been successfully completed, before restarting the amplifier please remove the firmware card.

To verify the correct updating go to SETUP-> HARDWARE INFO and check that the displayed versions are exactly the same as the ones on the firmware update smart card.

Please remember that if firmware update process stops before its completion (for mains drop or any other problem), it is necessary to restart it from the beginning (switching the amplifier off and back on), as it could happen that 2 different firmware versions are present in the different boards of the amplifier, causing possible problems.

There will be no amplifier damage if the firmware update will be interrupted, it will be just necessary to re-start the full procedure by the beginning.



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