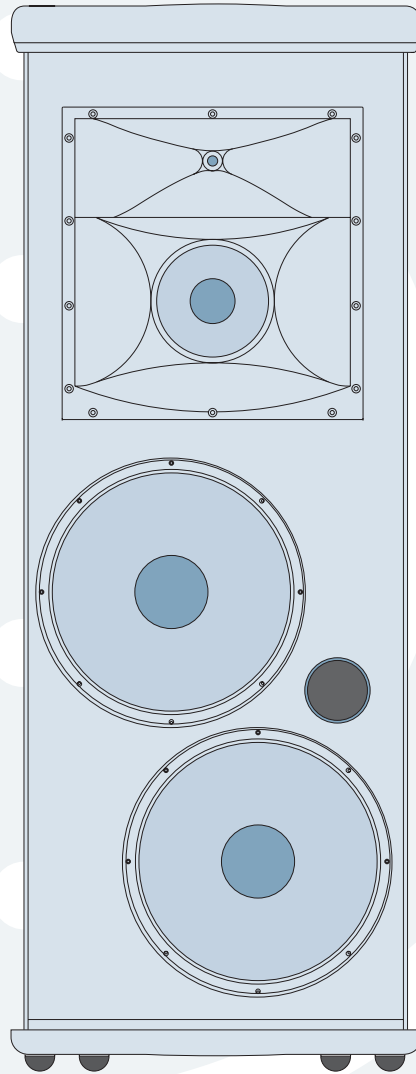




SA1232z REPAIR MANUAL



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These instructions are intended to help restore any ailing SA1232z Active Loudspeaker back to factory working conditions. They show how to remove and replace the drivers and the amplifier assembly.

Please contact Mackie Tech Support (1-800-898-3211) to receive a Service Request Number and Order Number for parts needed for this restoration. They will also help you determine the nature of the problem and what parts will repair the unit.

Tools needed:

NOTE: not all tools listed below will be needed for your repair

- Phillips head screwdriver.
- 3mm allen wrench.
- Solid workbench.
- Non-carpeted work area due to static electricity. If available, an ESD mat (Electro-static discharge) is optimal.

Parts needed:

NOTE: not all parts listed below will be needed for your repair

- | | | |
|-------------------------|-------------------|-------------|
| • Led PCB Assembly | Part #0007334 | pages 3-4 |
| • 12" Woofer (Bottom) | Part #0013920 | pages 5-6 |
| • 12" Woofer (Top) | Part #0013920 | pages 7-8 |
| • High Frequency Driver | Part #0013925 | pages 9-12 |
| • Diaphragm | Part #coming soon | page 13 |
| • Mid Frequency Driver | Part #0013897 | pages 14-15 |
| • Amplifier Assembly | Part #0013840-00 | pages 16-19 |

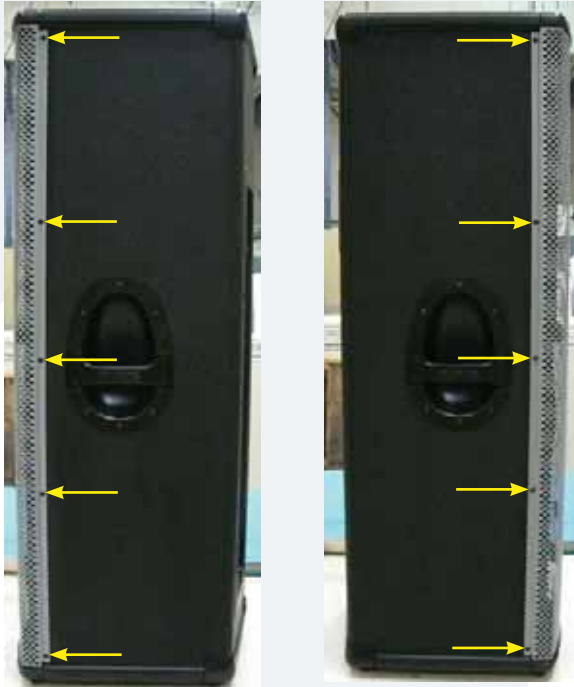
Safety Warnings:

- Make sure that you turn off the unit and disconnect the power cord (and all other cords) before you begin these procedures.
- Always use safety glasses!
- Please try NOT to touch any of the pcb circuitry, capacitors, resistors, etc.
- Take care to read and follow these instructions. It may help to read the instructions prior to the repair to get an idea of what it entails.
- Before beginning the repair, touch metal to discharge any lingering internal static electricity.

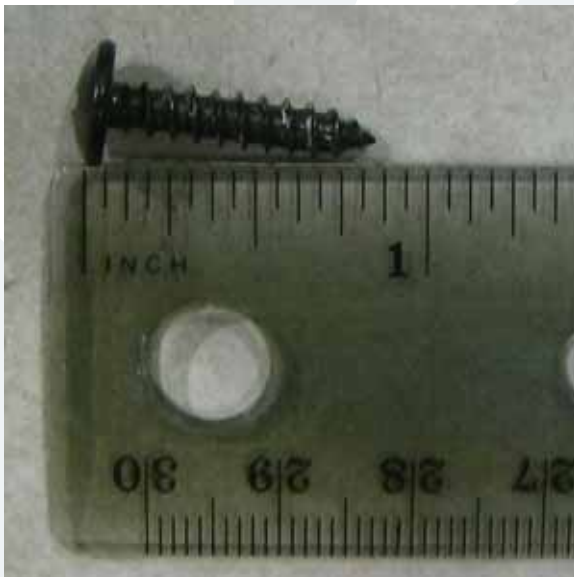




Led PCB replacement:



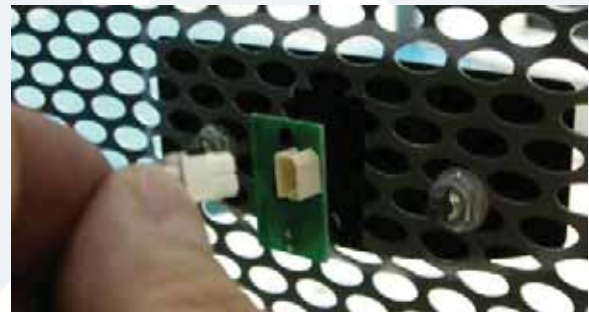
1 Five screws need to be removed from each side of the grill using the phillips head screwdriver (ten screws in all).



2 Keep the ten screws in a safe place.



3 Carefully begin to remove the grill. Do not fully remove the grill as the cable is still firmly attached to the led PCB assembly. A flat head screwdriver may aid in loosening the grill from the cabinet.



4 Carefully remove the cable attached to the led PCB assembly.

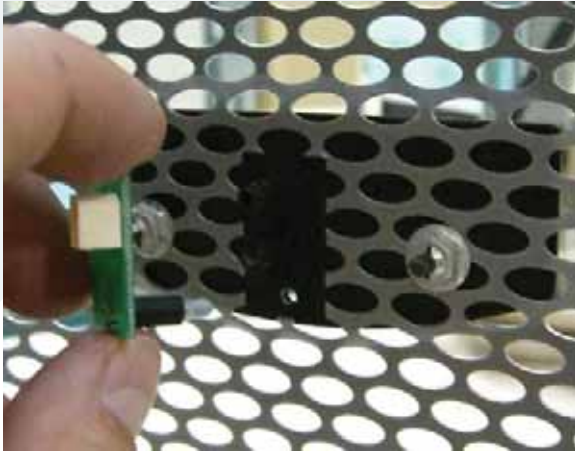


5 Use the phillips head screwdriver to remove one screw near the center of the led PCB assembly.





Led PCB replacement continued:



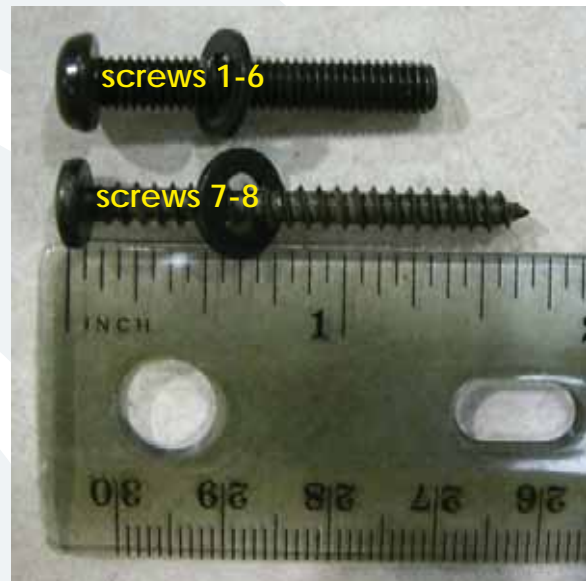
- 6** Carefully remove the led PCB assembly from the back side of the grill.

- 7** The hard part is done, the rest is easy! Place the new led PCB assembly (part #0007334) where the old one was. Follow the same steps as above, but backwards 6 to 1. Power up the SA1232z and the led should light up. Congratulations, you just replaced an led PCB assembly...now go play some shows!



Bottom woofer replacement:

1 Follow steps 1-4 of the led PCB replacement instructions, as the grill will need to be removed in order to access the bottom woofer.



3 Keep the eight screws and flat washers in a safe place. Note: There are two different screws that connect the woofer to the cabinet.



4 Carefully begin to remove the woofer. A flat head screwdriver may aid in loosening the woofer by prying between it and the cabinet. Hold the woofer in place with one hand while prying around the edge with your free hand.



Caution: The woofer is approximately 14 pounds with the weight unevenly distributed.

2 Eight screws and washers need to be removed from the woofer using the phillips head screwdriver.





Bottom woofer replacement continued:



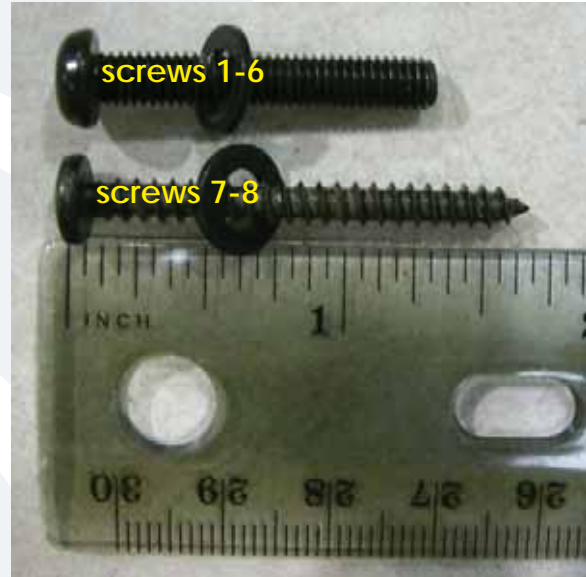
- 5 The positive (solid yellow) and negative (solid black) cables are still attached to the woofer terminals. Remove the cables from their terminals simply by pushing down on the terminal and pulling out the cable.
- 6 The picture on the right shows what the SA1232z looks like with the grill and bottom woofer removed. Place the new woofer (part #0013920) where the old one was. Follow the same steps as above, but backwards 5 to 1, making sure to keep the led PCB assembly cable in front of the woofer. Power up the SA1232z and the new woofer should now be pumping out glorious lows. Awesome, you just replaced a 12" woofer!



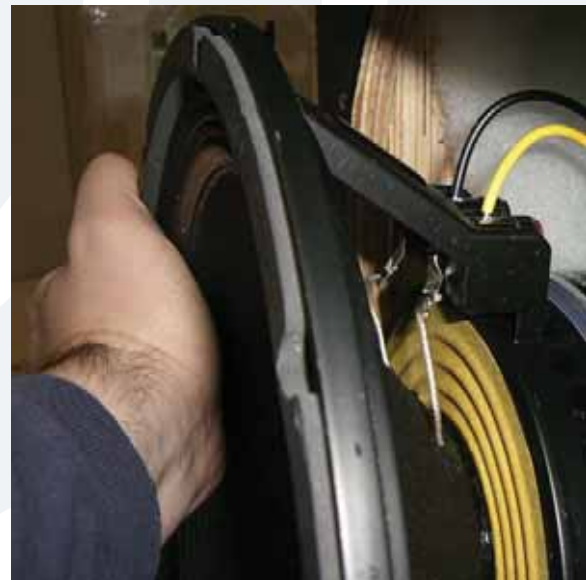


Top woofer replacement:

1 Follow steps 1-4 of the led PCB replacement instructions, as the grill will need to be removed in order to access the top woofer.



3 Keep the eight screws and flat washers in a safe place. Note: There are two different screws that connect the woofer to the cabinet.



4 Carefully begin to remove the woofer. A flat head screwdriver may aid in loosening the woofer by prying between it and the cabinet. Hold the woofer in place with one hand while prying around the edge with your free hand.



Caution: The woofer is approximately 14 pounds with the weight unevenly distributed.

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2 Eight screws and washers need to be removed from the woofer using the phillips head screwdriver.





Top woofer replacement continued:



5 The positive (solid yellow) and negative (solid black) cables are still attached to the woofer terminals. Remove the cables from their terminals simply by pushing down on the terminal and pulling out the cable.

6 The picture on the right shows what the SA1232z looks like with the grill and top woofer removed. Place the new woofer (part #0013920) where the old one was. Follow the same steps as above, but backwards 5 to 1. Power up the SA1232z and the new woofer should now be pumping out glorious lows. Awesome, you just replaced a 12" woofer!

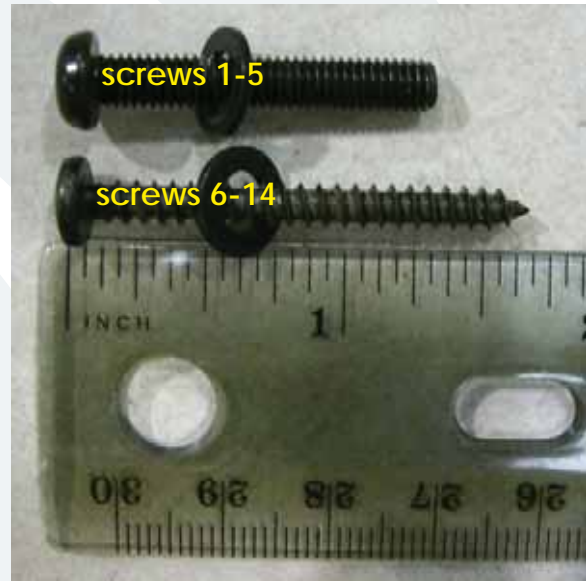




High Frequency Driver replacement:

1 Follow steps 1-4 of the led PCB replacement instructions, as the grill will need to be removed in order to access the high frequency driver.

2 Fourteen screws and washers need to be removed from the horn assembly using the phillips head screwdriver.

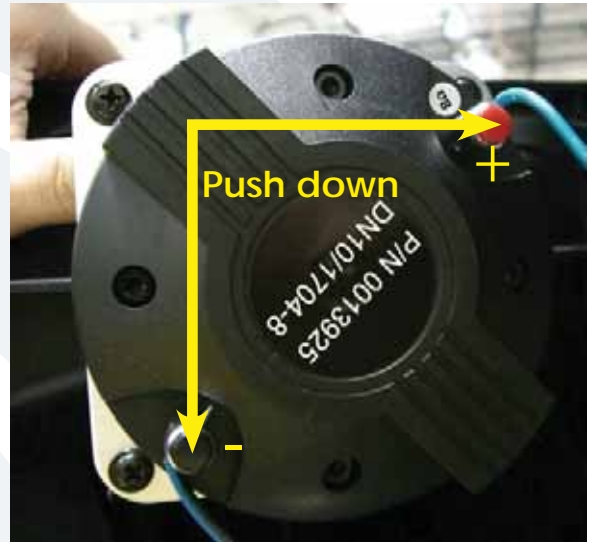
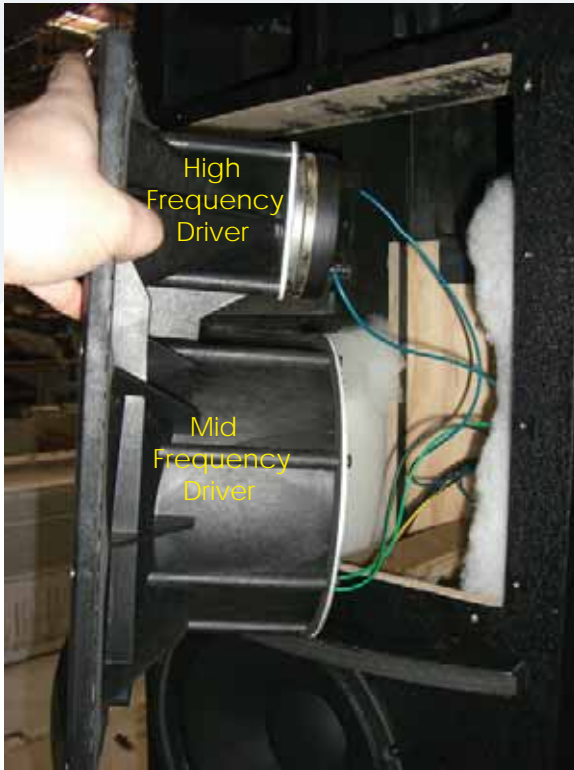


3 Keep the fourteen screws and flat washers in a safe place. Note: There are two different screws that connect the horn assembly to the cabinet.





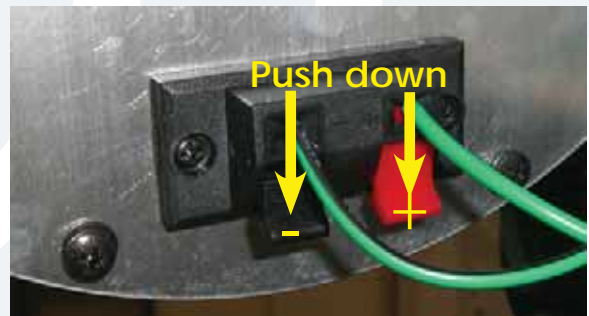
High Frequency Driver replacement continued:



4 Carefully begin to remove the entire horn assembly (with the high and mid frequency drivers still attached). A flat head screwdriver may aid in loosening the horn assembly from the cabinet if it is sticking.

Caution: The horn weighs about 10 pounds, and the weight is not evenly distributed.

5 The positive (solid blue) and negative (blue and black) cables are still attached to the high frequency driver terminals. Remove the cables from their terminals simply by pushing down on the terminal and pulling out the cable.



6 The positive (solid green) and negative (green and black) cables are still attached to the mid frequency driver terminals. Remove the cables from their terminals simply by pushing down on the terminal and pulling out the cable.





7 This is what it looks like with the grill and horn removed. See right side for further instructions and additional pictures on how to remove and replace the high frequency driver.



8 Four screws and locking washers may be removed from the high frequency driver using the phillips head screwdriver. Notice the placement of the terminals, as well.

High Frequency Driver replacement continued:



9 Keep the four screws and locking washers in a safe place.



10 The high frequency driver should easily lift right off of the horn assembly. Holding down the horn assembly with one hand while lifting up on the driver with the other hand may help.



11 Turning the high frequency driver over reveals the cover plate which needs to be removed using the phillips head screwdriver. Keep the four screws in a safe place. Replace with the new driver (part #0013925) and follow the same steps as above, but backwards 11 to 1. Power up the SA1232z and the new driver should now be pumping out those highs again. Fantastic, you just replaced a high frequency driver!

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Diaphragm replacement:

- 1 At the present time (December 2006), diaphragms are not currently available, so you will have to replace the complete driver following the previous section (pages 9-12). If you have received a diaphragm, please follow the steps below.
- 2 Follow steps 1-6 of the high frequency driver replacement instructions, as the horn assembly will need to be removed in order to access the diaphragm.



- 3 A closeup of the high frequency driver is shown above. Four screws need to be removed from the driver using the 3mm allen wrench.



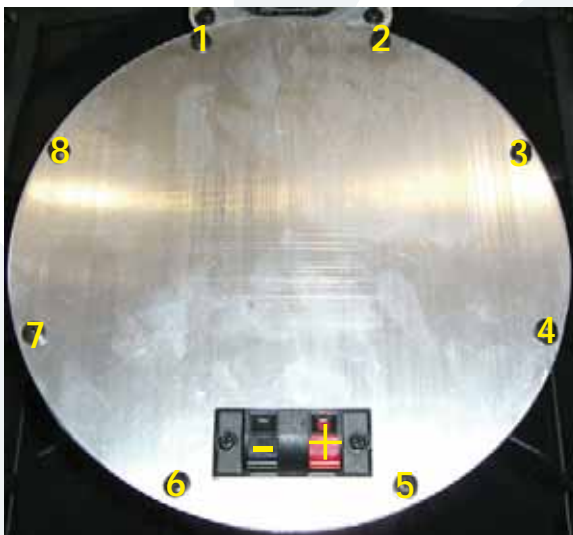
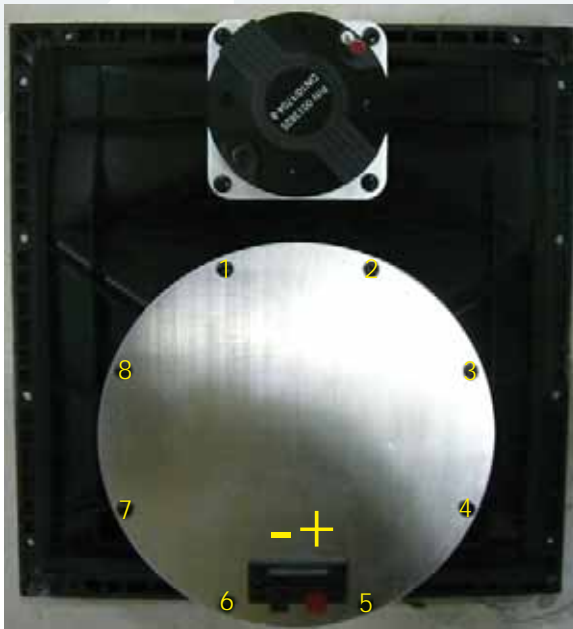
- 4 Keep the four screws in a safe place.



- 5 The diaphragm and plate adapter are easily removed from the horn assembly. They may not be broken down any further. Place the new diaphragm (part # coming soon) and plate assembly where the old one was. Follow the same steps as above, but backwards 5 to 1. Power up the SA1232z and the new diaphragm should now be pumping out those highs again. Sweet, you just replaced a diaphragm!

Mid Frequency Driver replacement:

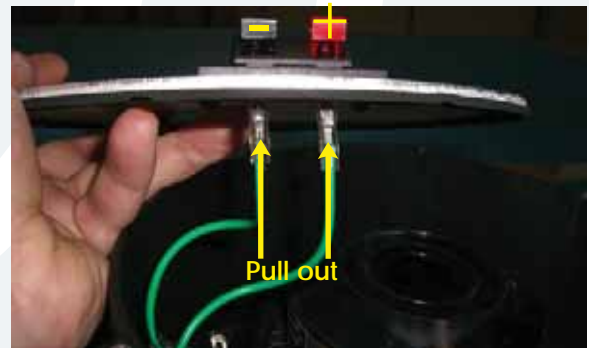
- 1 Follow steps 1-6 of the high frequency driver replacement instructions, as the grill and horn assembly will need to be removed in order to access the mid frequency driver.



- 2 Eight screws and locking washers may be removed from the mid frequency driver cover plate using the phillips head screwdriver.

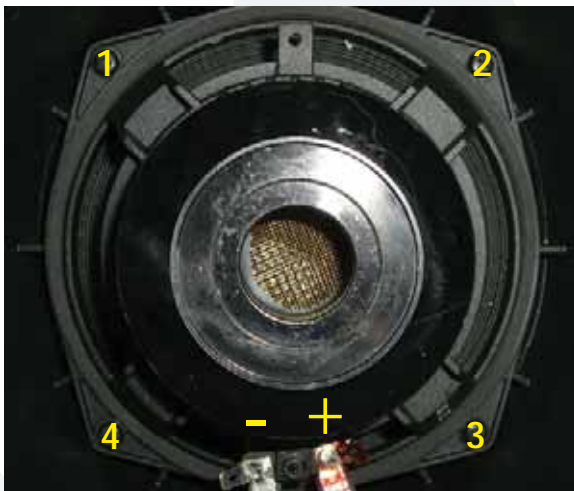
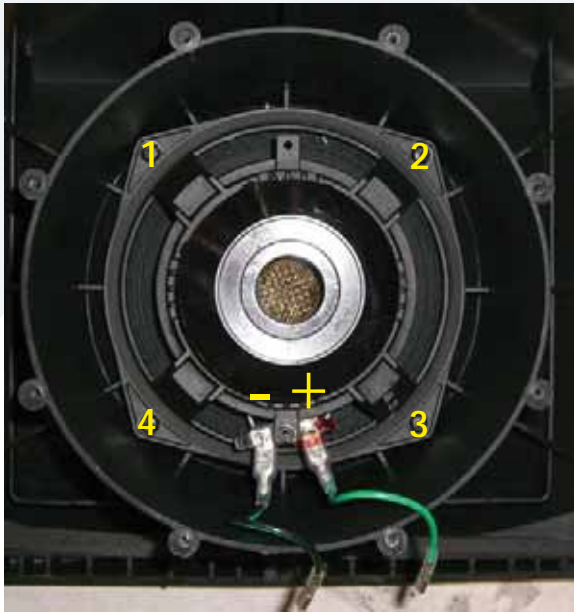


- 3 Keep the eight screws and locking washers in a safe place.



- 4 The mid frequency driver cover plate should easily lift right off of the horn. Holding down the horn assembly with one hand while lifting up on the cover plate with the other hand may help. The positive (solid green) and negative (green and black) cables are still attached to the mid frequency driver cover plate terminals. Remove the cables from the terminals simply by pulling on the end of each cable. Do not force cable removal, although needle-nose pliers may aid in tightly crimped cables.

Mid Frequency Driver replacement continued:

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5 Four screws and locking washers may be removed from the mid frequency driver using the phillips head screwdriver. Contrary to what the picture shows, the screws are actually about $2\frac{3}{4}$ " down from the top of the horn assembly. Also note that the screws may be tighter than usual. Please DO NOT add WD-40 or any other lubricant to help loosen the screws.



6 Keep the four screws and locking washers in a safe place.

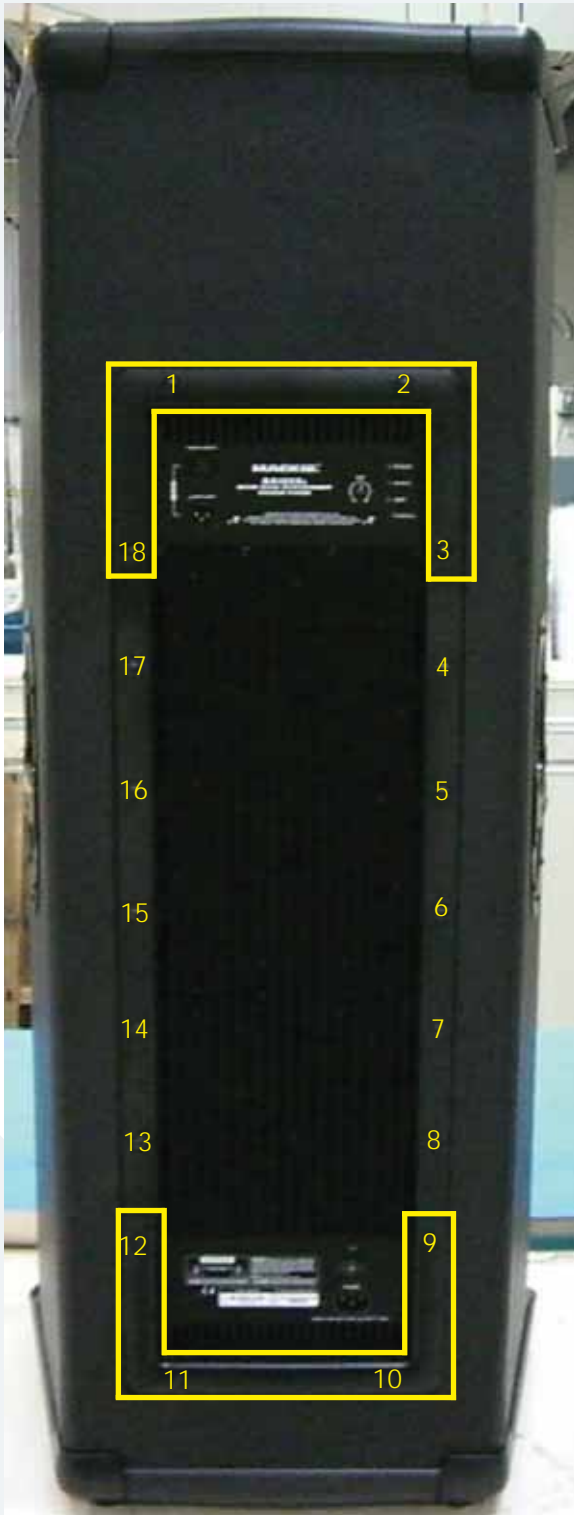


7 The mid frequency driver easily lifts right off of the horn. Replace with the new driver (part #0013897) and follow the same steps as above, but backwards 7 to 1. Power up the SA1232z and the new driver should now be pumping out those mids again. Right on, you just replaced a mid frequency driver!

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Amplifier Assembly replacement:



1 Eighteen screws need to be removed from the amplifier assembly using the phillips head screwdriver. The amplifier assembly is capped by two cover plates outlined above.



2 Keep the eighteen screws in a safe place.



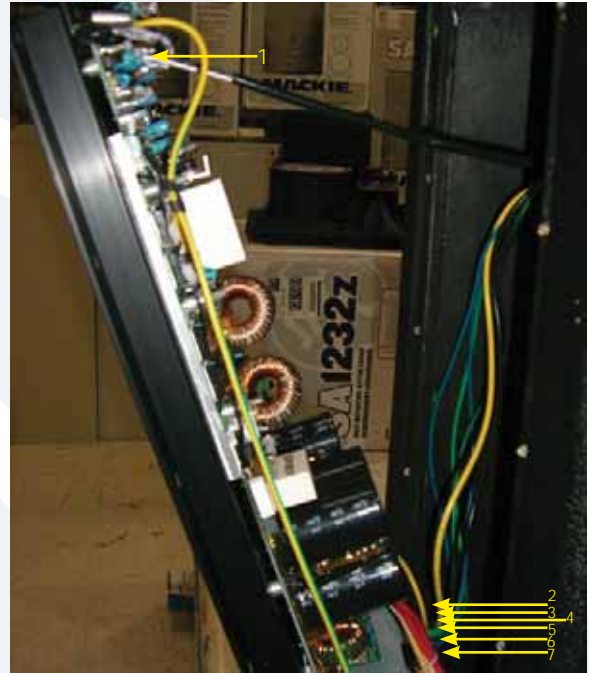
3 The covers may be worked loose by wedging a flat head screwdriver in between the cabinet and the cover, as well as the amplifier assembly and cover. Make sure to get around the entire cover plate in order to be able to remove them.




Amplifier assembly replacement continued:



- 4 Once the two cover plates are removed, two more screws need to be taken out in order to separate the amplifier assembly from the cabinet. Keep the two screws in a safe place.

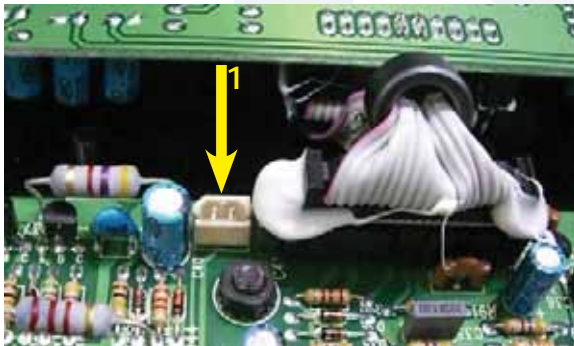
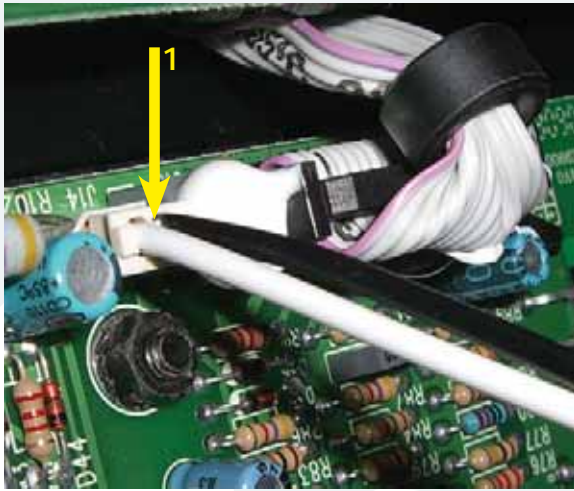


- 5 The amplifier assembly is now ready to be separated from the cabinet. Do not completely take the amplifier assembly off yet, as seven cables need to be removed first (as shown above): (1) led PCB cable, (2) solid yellow, (3) solid black, (4) blue and black, (5) solid blue, (6) green and black, and (7) solid green. Do not force cable removal or connection, although needle-nose pliers may aid in loosening the crimped cables.

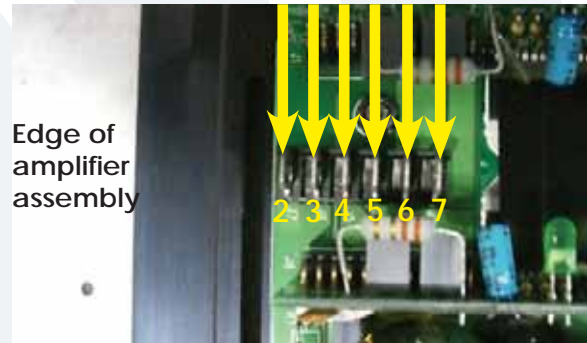
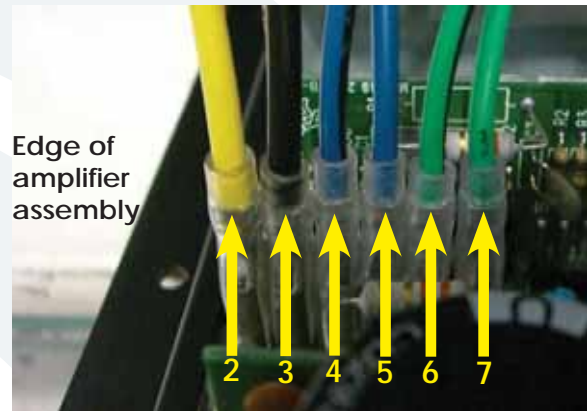
 **Caution:** The amplifier assembly is approximately 23 pounds, so please make sure to grasp it firmly.

Amplifier assembly replacement continued:

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6 Closeups of the led PCB cable and connector are shown above. The black wire of the cable is closest to the ribbon cable. The cable only fits in one way.



7 Now for the closeups of the woofer and driver terminals. Make sure the cables are reconnected to the same terminals they were removed from (but on the new amplifier assembly). Once again, they are: (2) solid yellow, (3) solid black, (4) blue and black, (5) solid blue, (6) green and black, and (7) solid green. Do not force cable removal or connection, although needle-nose pliers may aid in loosening the crimped cables.



Amplifier assembly replacement continued:



7 Place the new amplifier assembly (part #0013840-00) where the old one was. Follow the same steps as above, but backwards 6 to 1. Remove the serial number from the faulty amplifier assembly (as shown in picture above) and place on the new amplifier assembly. Power up the SA1232z and relish in the fact that you just replaced an amplifier assembly. Hats off to you for a job well done!

8 Important: The faulty amplifier assembly must be returned to LOUD Technologies. The address should be on the return shipping label that was provided with the new amplifier assembly. If not, the return address is at the top of this page. Also, please write the order number and service request number (ex: 1046256-1203935) in big, black, bold numbers on the outside of the box. This helps expedite the return.

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