Kimball Organ Silicon Power Amplifier Rebuild Kit
Kit #OS-SAMP

This kit contains all the necessary parts to rebuild the Silicon Power Amplifier used in Kimball Organs and is meant to be installed by an experienced technician. Organ Service Corporation will not be responsible for any damage to equipment caused by the improper installation of this kit.

Tools needed:

- Needle Nosed Pliers
- ¼" Nutdriver
- Thermal Joint Compound
- Service Manual for the organ
- Soldering Iron (not a Soldering Gun !)
- Solder Wick

Contents of Kit:

Qty	Part Number	Description
2	71443-001	TO-3 Mica Insulators
8	540-033-00	General Purpose Silicon Diodes
1	540-024-00	12 volt Zener Diode
2	550-062-00	NPN Output Transistor 2N3055
2	550-061-00	NPN Driver Transistor MPSA06
1	550-067-00	PNP Driver Transistor MPSA56
2	531-050-00	250 mfd 25v Electrolytic Cap
2	531-022-00	50 mfd 25v Electrolytic Cap
1	531-054-00	10 mfd 25v Electrolytic Cap
1	531-101-00	1 mfd 25v Electrolytic Cap, Non-Polarized
2	511-028-00	.22 ohm 5w Resistor
1	550-026-00	NPN Small Signal Transistor, Green Top 2N4123
2	550-027-00	PNP Small Signal Transistor, Red Top 2N4125
1	550-058-00	PNP Transistor, 2N3638

Note: Not all parts are used in all Amplifier configurations. This kit should contain all the parts necessary to replace all of the transistors, diodes, electrolytic capacitors, and high wattage resistors in any Kimball Silicon Amplifier. This kit is not meant to replace the parts in a Germanium Type Power Amplifier or to convert a Germanium Type Power Amplifier to Silicon. We have a separate kit for the rebuild of the Germanium Power Amplifiers.

Instructions: (Read these directions thoroughly BEFORE attempting the rebuild)

1. Remove the amplifier assembly from the organ.
2. Verify that the part number stamped on the heat sink of the amplifier assembly is listed as one that may be rebuilt by this kit.
3. Using a pair of needlenose pliers, release the circuit board from the nylon standoff's that attach it to the heatsink.
4. Note the wiring of the power transistors. Usually the red wire attached to the collector lead, orange to the base lead, and brown attaches to the emitter lead.

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5. Clip the orange and brown wires from one of the power transistor's leads.
6. Using a ¼" nutdriver remove the mounting nuts and bolts from the transistor, taking care not to lose the nylon washers under each.
7. Remove the old transistor and its mica insulator from the heat sink.
8. Clean off all of the old thermal compound from the heat sink.
9. Apply a thin coat of thermal joint compound to the bottom side of one of the new power transistors (P/N 550-062-00). (A single edged razor blade works well)
10. Place a new mica insulator (P/N 71443-001) on the transistor and then apply a thin coat of thermal joint compound to the bottom of it.
11. Install the new power transistor and mica insulator to the heat sink. Don't forget the nylon insulators for each nut and bolt and the red wire on the solder tab.
12. Re-attach the brown and orange wire to the appropriate leads of the transistor.
13. Repeat steps 5-12 for the other power transistor.
14. Using a soldering iron and solder wick or your favorite solder removal method, remove and replace the components on the circuit board taking care to observe lead orientation for the capacitors, diodes, and transistors. **Note** that some amplifiers used 550-059-00 and 550-060-00 driver transistors. This kit replaces the 550-059-00 with 550-061-00 and the 550-060-00 with 550-067-00.
15. When you have completed replacing all the appropriate parts, use an ohmmeter and check that there are no shorts between the case of each transistor and the heat sink. If you read a short, check to make sure you did not forget the nylon insulator under one of the mounting nuts or for any solder splashes.
16. This completes the rebuild. Reinstall the amplifier into the organ and test that the channel is now functional.