



# TR-3 Instructions

**For Data East/Sega Sound Systems**

**(stereo output audio board and two speaker mono systems)**

Review all of these instructions before beginning.

1. Open the upper backbox by removing the backglass and swing open the light panel. Lift out the upper speaker assembly and lay it face down on the glass top. Use a towel under the assembly to keep it from sliding and getting marred.
2. Un-plug the speaker wires from the sound card that lead to the backbox speakers. You may have an intermediate plug of 8 pins with two 4 socket headers connected. Un-plug the speakers there if this is the case. Un-screw the left and right backbox speakers. Remove the whole assembly of speakers and wiring.
3. Mount the new 4-inch speakers on the left and right, and face the terminals toward the top edge of the speaker panel. Use the new screws and spacers, or stud extenders provided and snug them, but do not over tighten.
4. Carefully connect the new wiring harness leads to the speaker terminals. The left pair as plugged on the sound card or intermediate connector goes to the left speaker. Note the black striped wire is negative and the all red wire is positive (+). Connect the positive wires to the terminals on the right that are also marked with a red dot. Not all machines are wired the same so you may not be able to use the new wires. In this case, use the original wires by disconnecting from the original speakers and connect to the new ones. Be sure to observe correct polarity for the proper sound.
5. Re-assemble the backbox and adjust the volume of the speakers to suit.

**Enjoy!**

If you like it – tell all your friends.  
If you had difficulty installing this, we'd like to know about it.

Available at [www.pinballpro.com](http://www.pinballpro.com)

**Happy Flipping!**



# SW-3V Instructions

## For Data East/Sega Systems

1. Open the pinball machine; tilt the playfield out of your way.
2. Carefully remove the speaker leads by UN-soldering or clipping.
3. UN-screw the speaker nuts and remove the speaker.
4. Leave the grille in place.
5. Slip the spacer plate over the mounting screws if provided, or skip to next step.
6. Carefully slip the sub-woofer over the mounting screws and secure with the original nuts and washers. Capture any ground strap that was connected to the original speaker. Do not over tighten and distort the speaker frame.
7. Solder the pinball speaker wires to the empty board terminals on the left side of the network. The striped wire goes on the Plus (+) terminal. An alternate method is to add spade lugs to the wires. DO NOT connect the wires directly to the speaker.
8. Open the upper backbox by removing the backglass and swing open the light panel.
9. Lift out the upper speaker assembly and lay face down on the glass top. Use a towel under the assembly to keep it from sliding and getting marred.
10. Volume Control Installation: Caution:::handle the volume controls with care. They are delicate. These controls will be used to adjust the volume of the stereo back box speakers lower. Locate the sound circuit board. Carefully clip the alligator clips on each side of the designated resistors. Do not remove the board resistors. Let the controls stand up off the board. Do not try to smash them down. For Board 520-5002-XX use R26 and R28. (Machines up to May 1991) For Board 520-5050-XX or Board 520-5077-XX use R18 and R20. (Machines from July 1991 to December 1994) Start with the knobs on the center position and turn on the game. Adjust the volume to suit and re-assemble the back box. The sound will be different when assembled, so work back and fourth with the master sound control and the new control until you are happy. If you have turned up the master volume beyond the safe range for the amplifier, you will hear cracking sounds from the speakers. Back the volume down a little. This assumes the back box speakers are not broken and cracking anyway. Some new back box systems can be found on the website.

**Enjoy!**

[www.pinballpro.com](http://www.pinballpro.com)