

# SW-2V Instructions

For Williams WPC-95 and DCS Systems

10/1993 and up with AV audio board (2 Amplifier outputs)

1. Take the Sub-Woofer off of the adapter/spacer plate if it came with one.
2. Open the pinball machine base cabinet by removing the cover glass and tilt the playfield out of your way. Carefully remove the speaker leads by pulling and wiggling the spade lug. Avoid pulling on the wire. UNScrew the speaker nuts and remove the speaker and any ground strap. Leave the grille in place. Put the adapter plate over the speaker studs in the cabinet and secure with the original speaker's nuts and washers. Snug the nuts down using a nut driver or socket wrench or pliers. Do not over tighten to the point of breaking a stud or cracking the spacer.
3. Align the sub-woofer over the mounting holes on the adapter and secure with the screws supplied. Connect any ground strap to one of the speaker mounting screws. Do not over tighten and distort the speaker frame. Connect the pinball game speaker wires to the terminals on the network board. The striped wire (black with yellow stripe) goes on the Plus (+) terminal. The black wire goes to the negative (-) terminal marked 1. If less bass is desired after tuning up the backbox speakers, the alternate (-) terminal 2, can be used to reduce the bass and enhance the mid-range. The bulb on the network glows if there is any overload condition and is part of the speaker and amplifier protection system. Close up the base cabinet before moving on.
4. Open the upper backbox by removing the backglass and swing open the light panel. 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.
5. Volume Control Installation: Caution:::handle the volume control with care. It is delicate. This control will be used to adjust the volume of the backbox speakers lower. Locate the sound circuit board. Carefully clip the alligator clips on each side of resistor R39 on board #A16917 (one-piece system) or R17 on board #A20516 with the two board Audio-Visual system (late models). Do not remove the board resistor. Let the alligators stand up off the board. Do not try to smash the alligator clips down. On the A20516 board you may have to fold the control upward at 90 degrees so the back of the light panel assembly does not hit it. Do not worry if it looks like the alligators are touching C7 because C7 is also connected to R17 and will not cause a problem if the alligators touch these leads too. Start with the knob on the center and turn on the game. Adjust the volume to suit and re-assemble the backbox. 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 down two numbers. We ended up at a setting of 20 on our TOM. Technical Bulletin 1 describes a way to extend the volume range and is already incorporated in some of the later model WPC-95 games. This assumes the back box speakers are not broken and cracking anyway. New backbox systems can be found on our website and will greatly improve the balance and full range sound of your game.
6. Scared Stiff: For this game we include a shielded volume control to keep the noise from the spider motor out of the sound system. Place the RED clip on the RIGHT lead of R17 and the BLACK lead on the LEFT. After adjusting the sound level, slip the shield over the control and fold it up 90 degrees just above the alligators to clear the light panel when closing it.
7. Medieval Madness: The Subwoofer has and extra gasket attached. Knock the original speaker block off the cabinet floor with a screwdriver and hammer. Mount the Subwoofer over the grille with the screws provided. If an adapter was provided, discard the adapter and use the screws
8. **Use R39 in these games:** Indiana Jones, Judge Dredd, Star Trek NG, Demolition Man, Popeye, World Cup Soccer, Flintstones, Corvette, Red and Ted's Road Show, Dirty Harry, The Shadow, Theatre of Magic, No Fear, Indy 500, Johnny Mnemonic, Jackbot, Who Dunit.
9. **Use R17 in these games:** Congo, Attack from Mars, Scared Stiff, Safe Cracker, Tales of the Arabian Nights, Junkyard, NBA Fast Break, Medieval Madness, Circus Voltaire, No Good gofers, Championship Pub, Monster Bash, Cactus Canyon.

