

RON RICH (RICH SERVICES)



JUKE-BOXES

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STEP BY STEP INSTRUCTIONS FOR INSTALLING THE GEN 2 MCU.

Note: Since these phonographs were built about 30 years ago, by three different "Seeburg" companies, there are some slight differences between production runs. Where known, these will be denoted by ("PR"). This unit directly replaces all Seeburg MCU's.

Tools needed PR—one 1/4 in hex head driver.

Remove power plug from wall outlet. Open lid (prop open if need be using "vise grips" note NEW exact replacement gas shocks are available from www.needles4jukeboxes.com

Remove plugs on the MCU—I suggest that they be marked with a "Sharpie" as they go back on the same way. On SMC phono's, remove the 4-6/32 x 1/4 hex head screws PD, holding the "box". On 100-79M models, you will need to determine what is holding the box PD, and remove it from the cabinet.

At this point, with the box in your hand, Un plug the battery wires, remove the batteries, wire tie, or tape plug/wires out of the way—not re-used—remove the six "special" nuts holding the old MCU boards—SAVE the nuts—and shake the old MCU out of the box. Remove the six "stand-off's" that were holding the MCU in, and SAVE them. You may now discard the old MCU—You may also, if you wish, remove the battery holder and all other parts on the door, or the whole door itself, as they are not re-used.

If the box is "battery damaged", it must be repaired to avoid damage to the new board !

If your box has the "colored gels" attached, carefully remove them and save them for possible re-use—see below. If it has clear plastic over the button area, remove and discard it. If the box is painted, and the paint is "flaking", it must be stabilized, as the gray paint used will "conduct" if it gets on the new MCU. Do what you need to on the box NOW, and set it aside to dry.

On the jukebox, position the panel that contains the key board so that the numbers are "facing up". All of the number buttons must "fall down"—NOTE: Some of the production runs had large "helper springs" that forced the buttons out PD. These are not required, but do no harm as long as the button slides freely. Look at the "inside, bottom" of each button. Some production runs will have a screw inserted into the center spring, others will have a plastic plug, and others will have nothing. If the screw is used, they must be removed. If the plug was used, and it has not "cocked" it may be left in place—springs themselves, must not be "twisted". Peer through the plastic "display window". If the gels were attached here, wipe them clean with a soft cloth PD. You may also elect to remove them. To do so, carefully "pick" them out with a tweezers—Do NOT attempt to remove the whole plastic from the metal portion, as they are glued and the silk screen will be destroyed.

Now—grab that "like new" metal housing—Oh, oh, You did not clean it up as described above—did you? Time to do so, is now—then, take a break while it's drying—Once dry, inspect the four mounting screw holes. If "stripped", you may re-thread and use an 8/32 screw—or add nuts to the unit when you install it in the phono. It MUST tighten down. Grab the new MCU and the six "stand-off's" removed from the old board set. Install the standoffs on the display side of the new MCU. Use the six nuts removed from the old

board—tighten them finger tight only for now. Insert the new assembly into the box and use the six new (supplied) nuts to fasten it—once again—finger tight. Now align the keyboard section so that the buttons are centered. Tighten the four outside nuts by the keyboard section, re-check alignment, and tighten the four inside nuts. Check the alignment once again, and tighten the rest of the nuts. I suggest that the nuts be "glued" using either "Red Glypt" or "Locktight".

Gel options must be considered here—I prefer NO gels—do whatever you wish here—there were several different versions produced.

Now mount the whole thing in the cabinet. Carefully insert the plugs—exactly the same way removed! Check for and remove any "hair wires". I would also suggest that if no PD strain relief, cable clamp was used, you add one to the upper left mounting screw.

Guess what—if it is a SMC model phono—you are done!—If it's a 100-79M model, you will need to re-program it for 50 records (4-Gen. set-up # "rEC").

OPTIONAL—BUT—IT'S ABOUT TIME—

Oil the motor—and the rest of the mechanism using only SAE # 20 wt. ND motor oil (avail as "3 in One {brand} MOTOR oil" in 3 oz plastic cans—or in quart bottles at GOOD autoparts stores). See "oiling notes" below.

Also optional, but strongly suggested—

Look at the enclosed photo of the "limit switches". Then look at the 179 (or 149, on 50 record mechs) switches, on your mech. There should be three blades there PD. The center one has a roller on it. If all three contacts are not there, disregard this notice. If they are there, play selection # 178. Turn power off when needle is on the record. Look at the switches. Remove a small amount of tension to the center (roller) blade—but—NOT enough to change the contact gap of the two blades closest to you. Then adjust the inner blade so that it is always open—CAUTION—do NOT bend it so much that it "hits the ramp" as it scans past # 179! Adjusting the switch this way will greatly lessen the possibility having a "motor lock up situation" at either end of the record rack. It also will change the operation of the mechanism back to the original designed program, in that the motor will shutdown after playing the last selected record (and two detent pulses) rather than going to the racks end.

Limit (and carry over) switch adjusting notes:

The 179 (149 on 50 record mechs) motor carry-over switch, if not adjusted as above, should be adjusted so that it is open at record space 179 (149). The limit section, in either case should be adjusted as follows. Play # 179 (149). Turn off power when needle is on record. Check to be sure that mech has picked last record in rack. Adjust RAMP so that center blade (with roller) is 1/2 to 2/3rds up ramp. Both sets of contacts must be open, at this point. Using a test lamp or meter, check the contacts further from the ramp while gently forcing the carriage to the right. These contacts must not close. They close just as the carriage turntable scans PAST # 179. To adjust the "100" limit switches, play # 101. Inner (carry-over) set must be closed at record space 101. Outer (closer to you) (limit set), must be open. Play selection 100. Center blade must be 1/2 to 2/3rds up ramp. Both sets open. Check limit set with a meter/lamp—power off. Must not close when carriage is gently "forced" to the left. Must close as turntable passes to the left of space 100. Note :

Check adjustment using factory test mode # 2. A very, very, small movement of the ramps will cause a large difference in test readings!

"Oiling" notes:

Once again—Use only the above oil type! Oil the motor filling the oil cups several times, as there are large oil wicks inside. Oiling the clutch area is suggested also. To do so requires that the mechanism be at least "slid" partly out of the cabinet. "Grease" of any kind is NOT recommended—See my "Seeburg Mechanism Guide" for details—

Thanks for purchasing the new MCU, we firmly believe that it should give many years of service with no problems.

12/10 RR

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"PLUG" Note: The new MCU uses only two "plugs"--the large one (J3) and the small one (J1), on the upper jumper board. J2 is used ONLY if a wallbox is attached. The plug that went to the original MCU, display board, is not used, and may be left "hanging". or stored on the few "pins" provided on the new main board. All plugs have a missing pin which should have a plastic plug inserted on the wired side to prevent incorrect connection.

HOW IT WORKS---(Simplified)On power up PCC supplies "raw" voltage to MCU. Voltage is regulated using the two on board regulators. Display will flash all 8's briefly, then show all "dashes" (you may or, may not see the 8's). Motor on signal is sent to the PCC. PCB (Note: If already at either end, motor will not be turned on). At this point, if phono was turned off with record playing, the "auto-reject" board, located in the "CPA-switch-box" should signal the amp to trip off the record. Mechanism will search for home. Once found, display will show mech position. If, at this point there are NO selections remaining to be played (programmable), the mech will travel to one end of the record rack, and park.

PLAY CYCLE-----Display will show info in credit window only.

Credit will need to be established (or unit set to FP) now. Selection made. "Selection being made" displays for a few seconds, selection playing displays mech position, IF KNOWN, or three dashes if searching for mech position. MCU sends motor start signal to PCC. PCC starts motor, "detent (a.k.a.: "read-out", or "up / down count") switch", and limit switches, inform PCC as to mechanism location--PCC informs MCU. When mechanism reaches selected record, MCU sends "Play A" (or "B", or both) signal to PCC. PCC handles ALL functions from this point on till a "detent pulse" is again detected ! (In other words, should it not "play both sides" {providing both sides were selected in time} the PCC board, or mech switches, are "messaging up"--not the MCU.) At record's end, magnetic trip switch closes and fires relay in the amplifier. Relay in amp, fires trip/detent coil through switches on mech. Motor is held on by PCC to the point of the first detent pulse. At this point, the motor is held on either by the MCU, if more selections are stored, or by the carry-over switches, if so equipped, or unmodified. If no more selections have been entered, mechs with no, or modified, carry over switches, will stop, after the second detent pulse. Mechs with a carry over switch, will go to an end of the rack. If more selections have been stored, mech will again search for requested record.

NOTE: Phono plays records in "next come to, order"-ONLY-, regardless of selected side, except for records numbers "00" and "79" (or "49" on 100 select units). Selections number "100 / 200" can only be accessed when mech is traveling right to left--"179 / 279" going left to right.