

## **Io - Roland Jupiter 4 Midi kit**

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Io is the deluxe controlling update for your Roland Jupiter 4.

All programmable parameter can be accessible via MIDI.

Patch memory is expanded to 8 times the original 8 to 64.

MIDI Note On/Off, Pitch Bend, Aftertouch, Program Change and Control Change messages are recognized.

The Io comes in kit.

Parts are:

1. Patch Programmer board.
2. Keyboard Assigner Extension board.
3. 3-to-2 pole Interconnection cable.
4. MIDI In and Out sockets with board connectors.
5. 4-pole CV control connection cable.
6. Cable for the Noise Level Mod.

To install you need:

- Philips screwdriver
- 15mm driller
- Soldering iron

Have a look at the installation guide. Ask me for help if it's not clear.

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The Roland Jupiter 4 Service Manual (referred as JP4SM) has useful figures so best to download and open it.

Note that due to internal revisions boards can be different and therefore installation is a slightly different also.

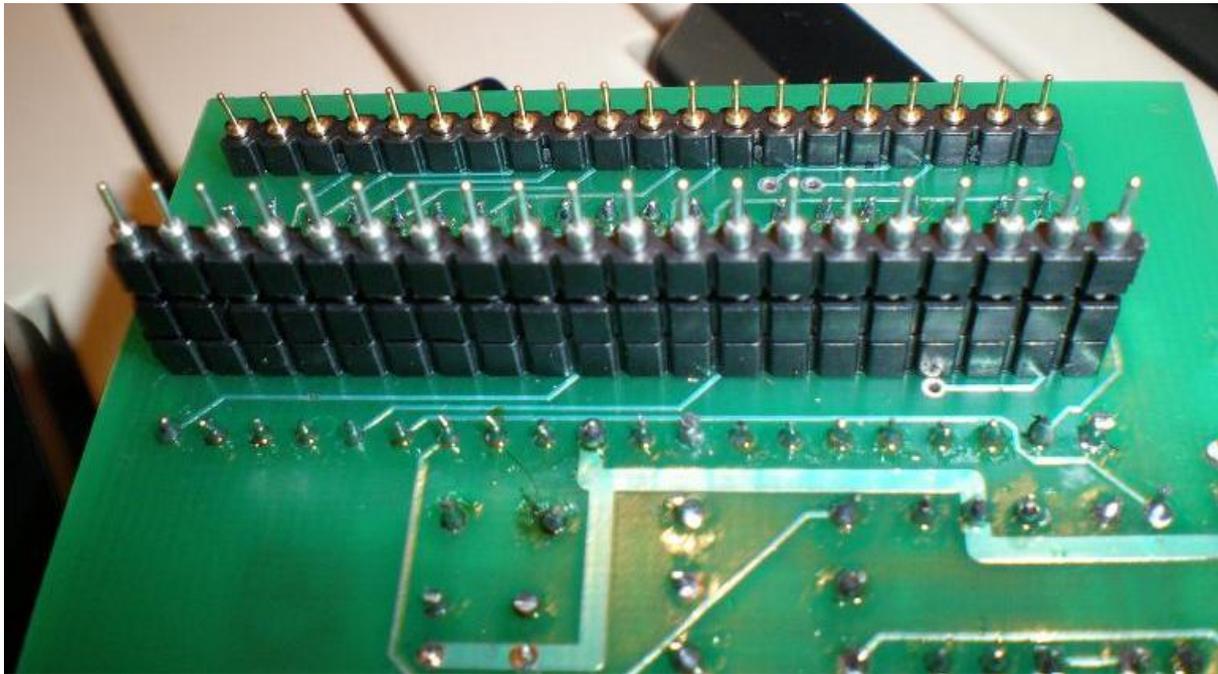
**Installation guide:**

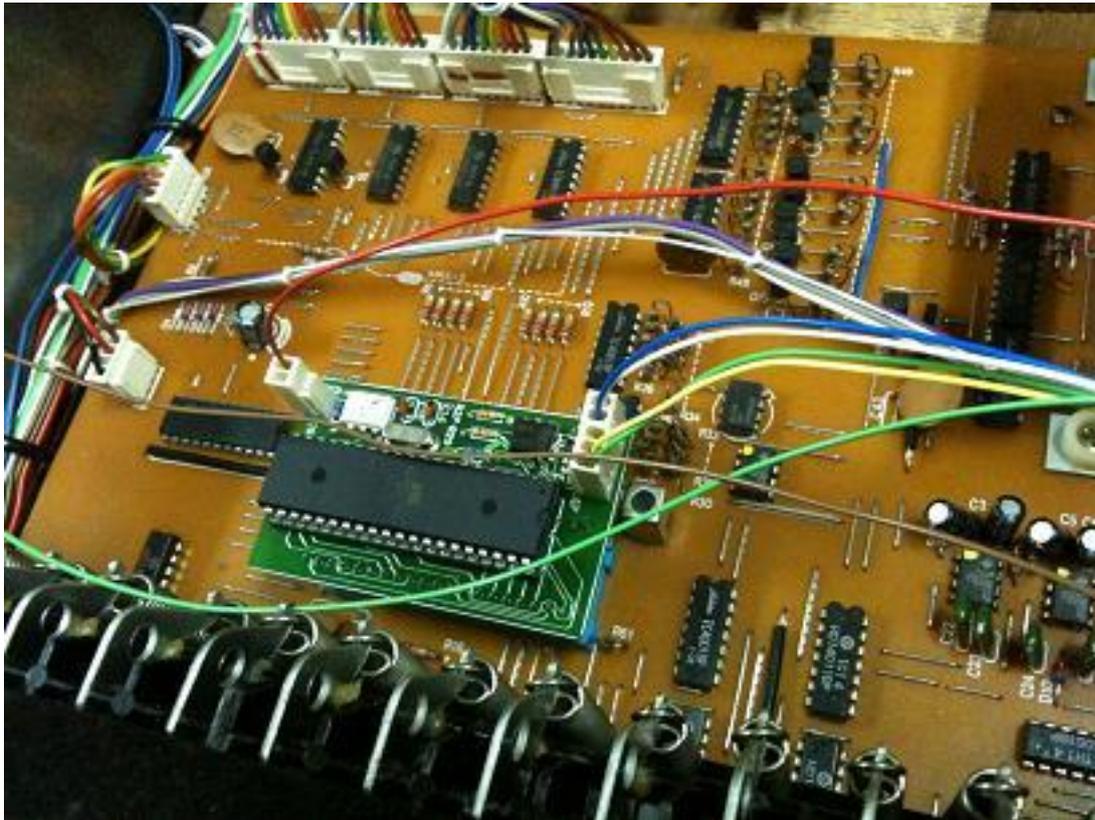
1. By unscrewing 4 screws, open the Jupiter 4.
2. Drill two 15mm diameter hole for the MIDI sockets at the right edge near "Roland" script. Use a vacuum cleaner to remove the dust. This step can be done later.



3. Detach the two 8-pole connectors and the 3-pole connector from the most right green board - that is the Keyboard Assigner (see JP4SM page 20). The connectors are facing toward the keyboard at the bottom.
4. Also detach the 5-pole connector - this is where power supply feeds Key Assigner - at the top left.
5. Put the Keyboard Assigner Extension board onto the Keyboard Assigner board right at the place of the detached connectors. The Extension board has 4 plugs that fit the original board.
6. Plug the 4 detached connectors back to the Keyboard Assigner Extension board the same positions as were originally. Be absolutely sure that the orientation of the connectors are exactly the same pin-to-pin.
7. By using a flat screwdriver gently remove the 40-pin microprocessor labeled D8048C-012 from the brown motherboard.

8. Put the Patch Programmer board into the 40-pin socket. If the socket is white, you can easily find the right position and force. If the socket is blue (used on later Jupiters), you need additional rows of socket. If this is the case, first plug one row of sockets to the Patch Programmer and plug the other to the 40-pin socket. Then connect the two pieces together.





9. Plug the 2-pole MIDI IN socket into the Patch Programmer board. Notice that the 5-pin connector socket is actually a 2-pin and a 3-pin socket and one cannot be swapped with the other.

10. Plug the 3-to-2 pole interconnection cable between Patch Programmer and Keyboard Assigner Extension board. Notice that the 5-pin socket is actually divided into a 2-pin and a 3-pin socket so one can only plug the 2-pin socket to the right part.

11. Plug the 3-pole MIDI OUT socket to the Keyboard Assigner Extension board.

12. Now check if the kit is working by power on. If you have a digital multimeter you can check if the power supply is right connected before you try. To do this check short circuit between the two 6-pin ICs labeled PC900 on the Patch Programmer and the Keyboard Assigner Extension board. Pin 5 (Ground) and 6 (+5V) should be connected.

13. The remaining two connectors for Control Voltages need some soldering.

control voltage association (4 pin socket on Keyboard Assigner Extension)

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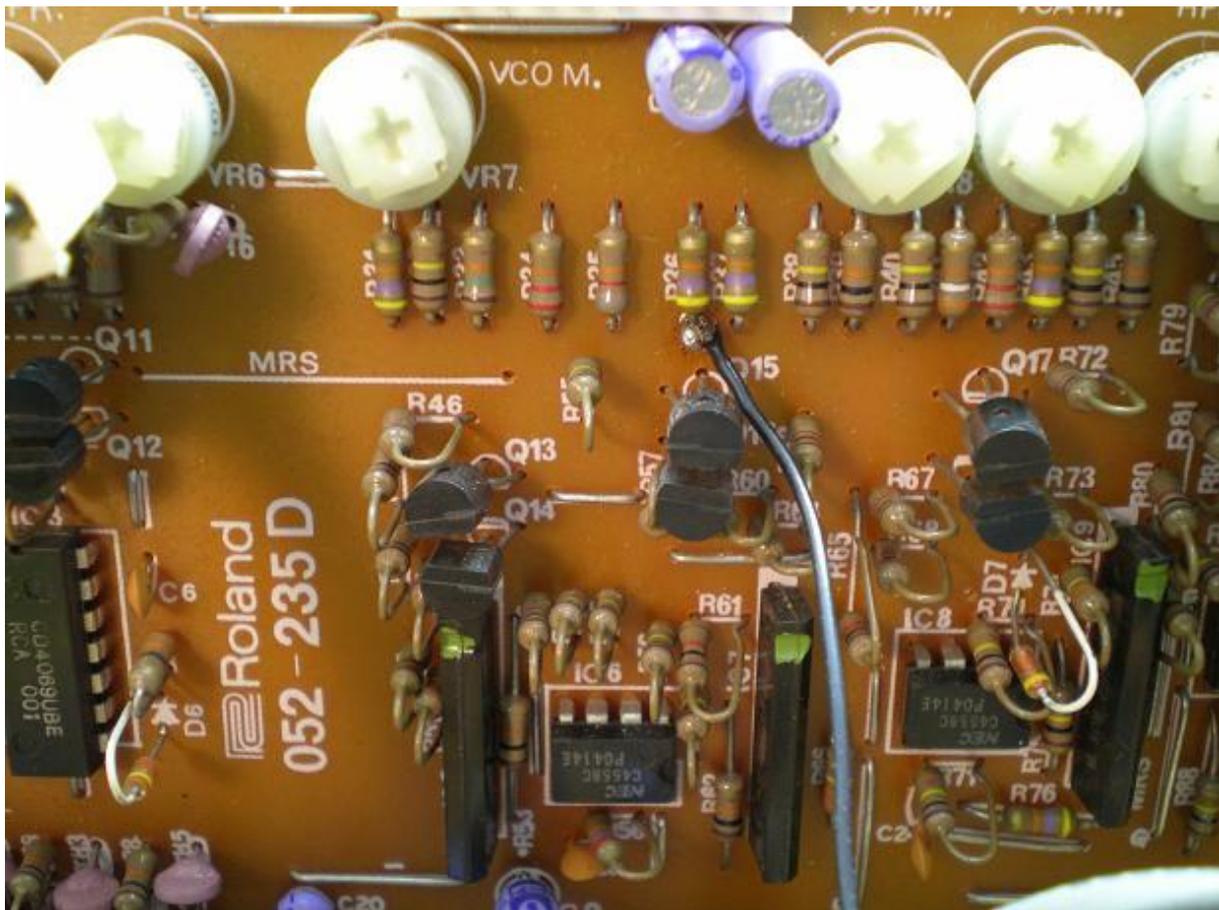
| | | | - volume (A) -> chorus R49 or R82 depending on revision

| | | - cutoff (C) -> module controller R36

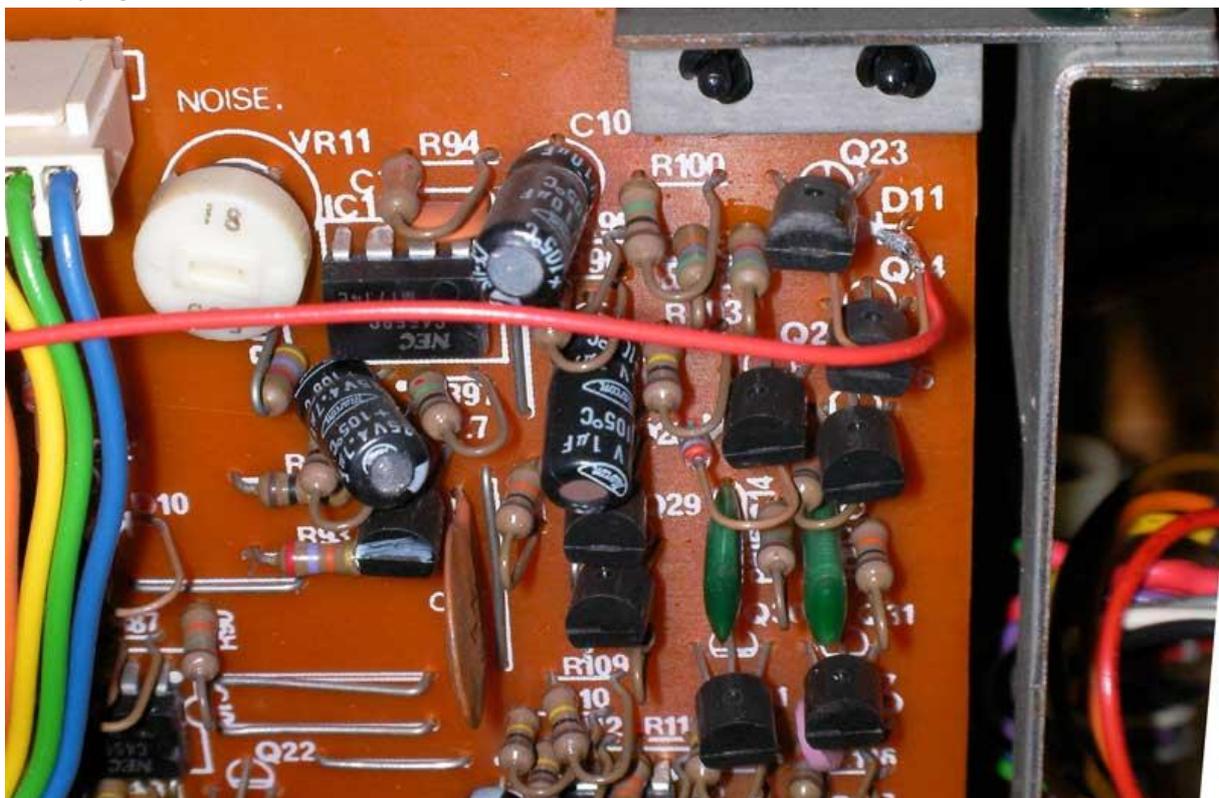
| | - portamento (B) -> key assigner PORT CONT soldering point

| - pitch bend -> control D board pitch bend socket

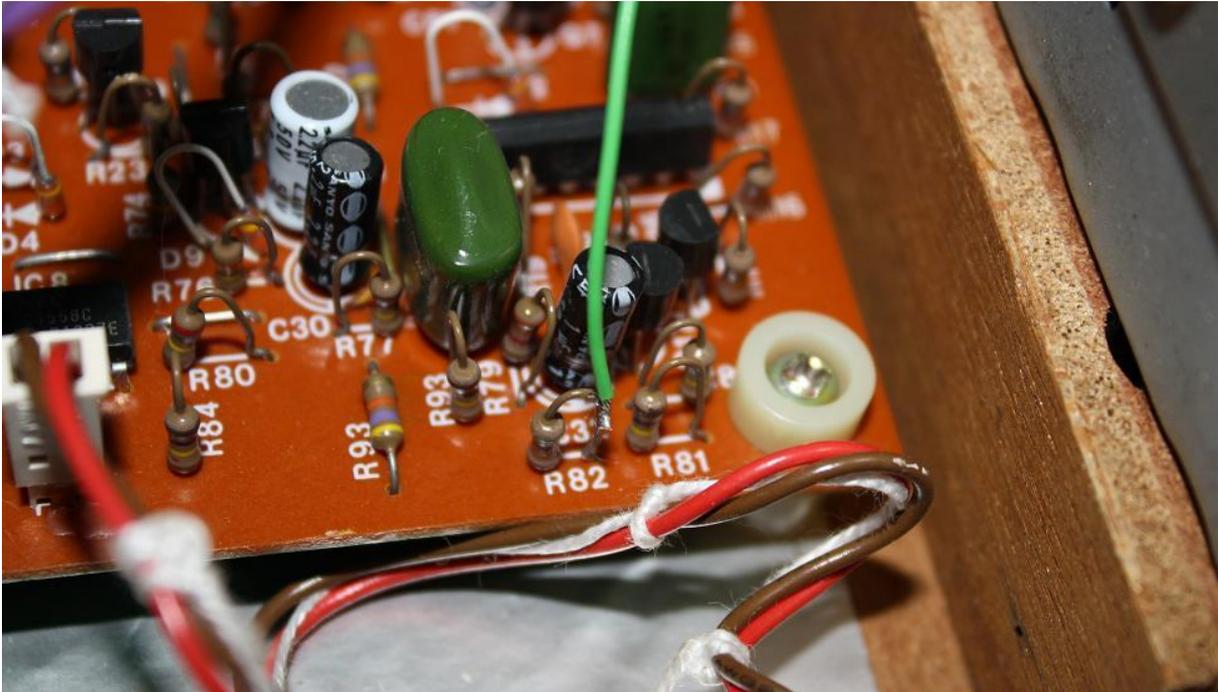
Solder the black wire labeled (C) to the lower end of R36 resistance at the Module Controller board (see JP4SM page 20 and 67).



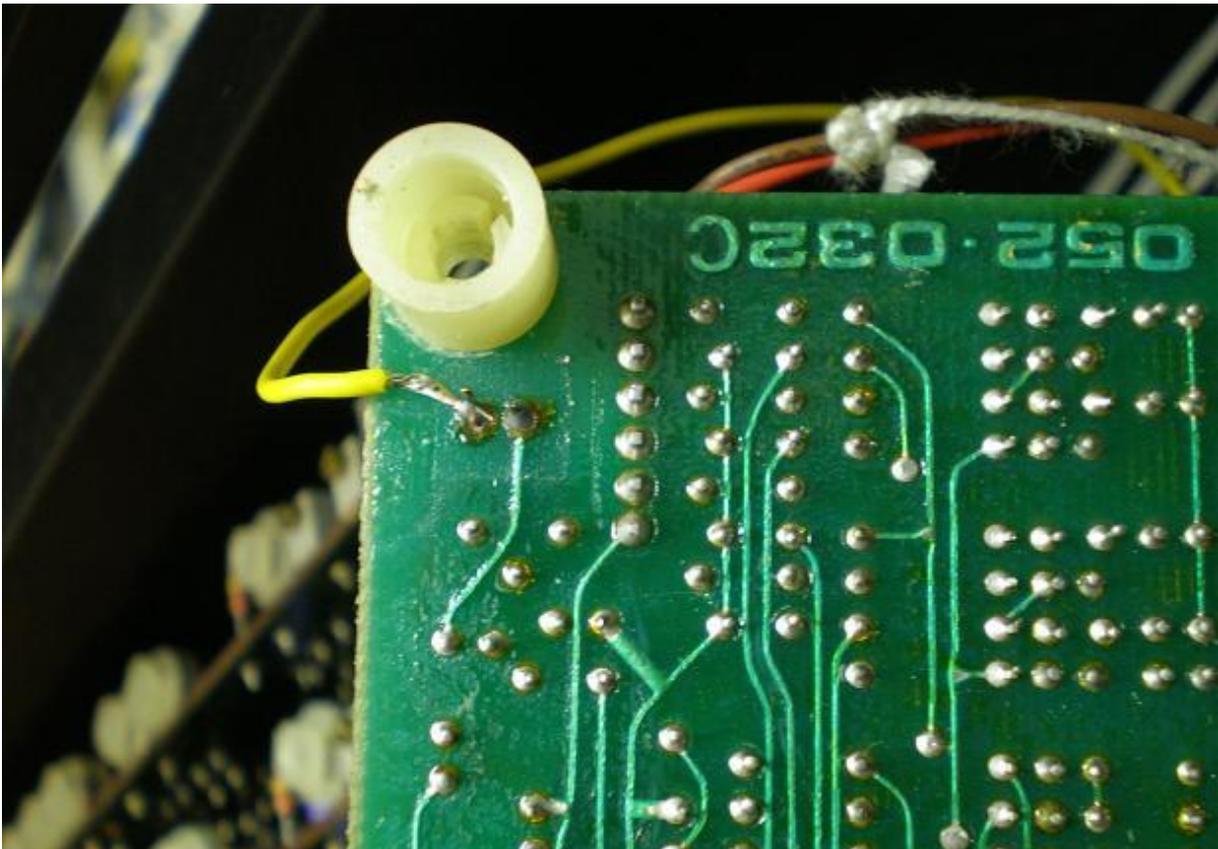
14. Solder the single wire with a 2-pole connector to Module Controller diode D11. The diode is at the top right and this mod controls the noise level.



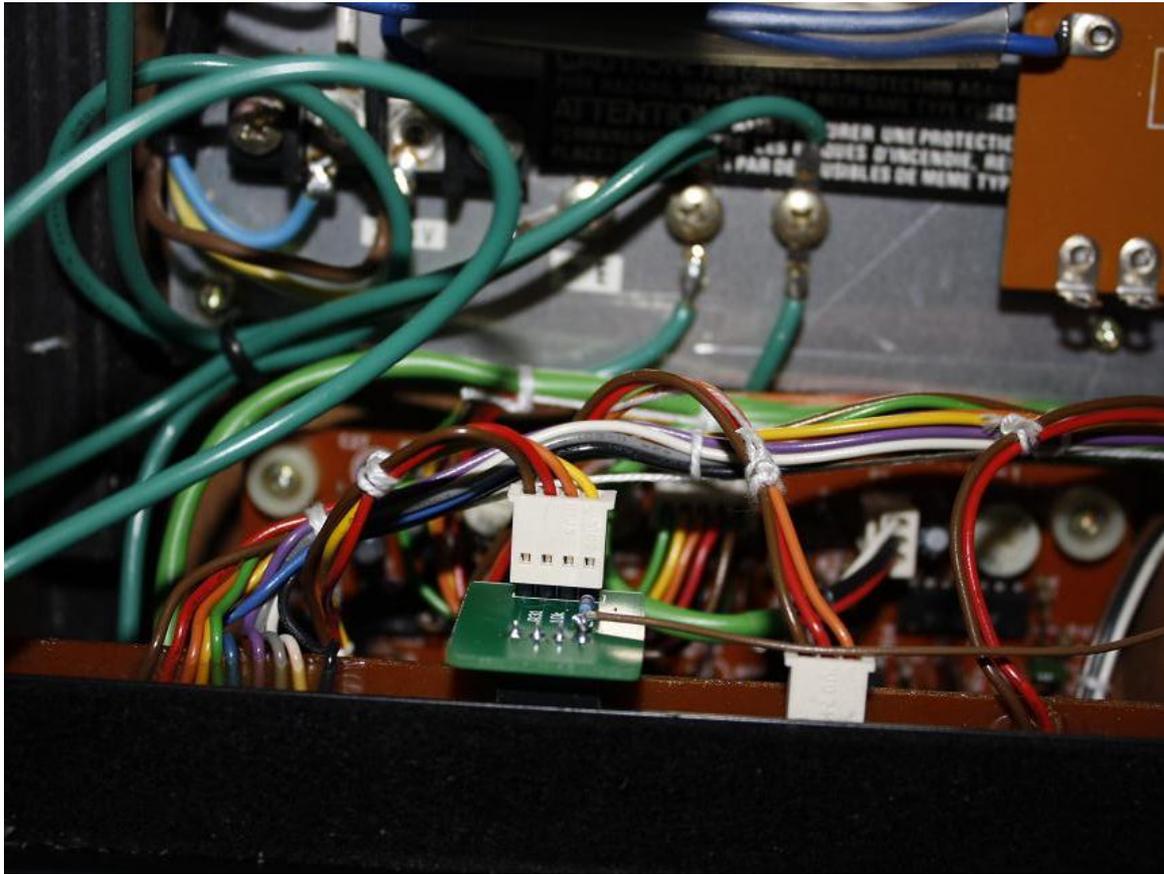
15. Solder the green wire labeled (A) to R49 or R82 (depending on versions, see Page 49-50 in JP4SM) on the Chorus Ensemble board (see JP4SM page 20). This board is below the pitch bend holder so first remove the 4 screws that hold the pitch bend chassis. The resistor has only one end that can be reached.



16. Solder the yellow wire labeled (B) to the PORT CONT pad at Keyboard Assigner board. This pad is the top right soldering point of the board (top left if you look at the bottom side). See page 66 in JP4SM. On later versions the wire is directly soldered for stability while on earlier versions PORT CONT is socketed (with the TUNE knob). It is best to unscrew the 4 screws that hold the Key Assigner board and solder the CV wire at the bottom side.



17. Plug out the 4-pole Pitch Bend connector from Control Board D (see JP4SM page 2-3) socket labeled J2 and connect it to the small auxiliary board then connect this auxiliary board to J2 socket.



18. There are two trimmers on the I/O board to adjust MIDI Pitch Bend. The left one offsets the Pitch Bend and the right one adjusts the range.

19. The noise level is now programmable and you can set the maximum level at the Module Controller board with the Noise (VR11) trimmer.

Now you are ready. Power on and have fun!