

ProRecord and ProScan Installation Procedure for Vertical Pianos

With Troubleshooting Guide

Installation Procedure:

1. Disassemble the piano

- Remove the cabinet parts from the piano.
- Remove the action and keys from the piano.
- Place the keys upside down on a bench supported by two long pieces of wood to level the bottom of the keys.

2. Placing reflective tape on keys 1 and 88

NOTE: The following procedure is the same whether a grand or vertical.

- Locate the reflective tape and paper jig in the kit.
- Starting with key 1 and 88, place the template on the front/bottom of the key and attach the reflective tape. Do this on both keys. (See Ill. 1)

Note: Because keys 1 & 88 are wider than other white keys, the reflective tape is placed on one side of the key to line up with the optical sensor. (See Ill. 1 and the template)

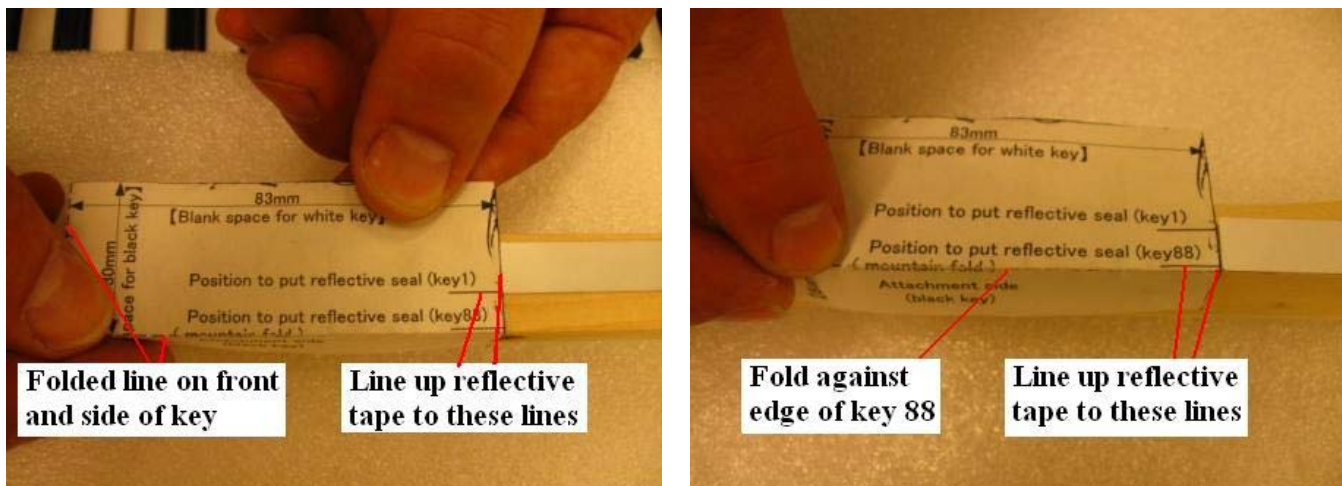


Illustration 1 – Locating reflective tape on keys 1 and 88

3. Marking all keys for reflective tape position

- Place the keys up side down on two pieces of wood to level out keys. (See III. 2)
- Place a straight edge across the end of all keys to simulate how they will be in the piano. (See III. 3)
- Place the ruler across the bottom of the keys, at the front of the reflective tape, and draw a line across all keys. (See III. 4)
- Now place the reflective tape on all keys at the line just established.



III. 2 – Supporting keys



III. 3 – Line up keys



III. 4 – Marking line from Key 1 to 88

3. Install the sensor strip on the keyframe

- Locate the sensor strip hardware mounting bag in the kit.

NOTE: On most vertical pianos spacers and springs will be used because of the amount of clearance. With the springs, it makes adjusting easy.

- Place the sensor strip on the keyframe as close to the front rail without touching.
- Place keys # 2 and 86 on the keyframe (1st & last black key).

NOTE: The black keys are used because they travel deeper than a white key.

- Move the sensor strip side to side finding the best location for sensor to key alignment.
- Draw a line at each end of the sensor strip on the key frame to index the side to side position.
- With a pencil, place a mark at each mounting location thru the screw holes.
- Remove the sensor strip
- Drill a 1/4" (6.32mm) clearance hole for the springs at each mounting location.

NOTE: Only drill thru the keyframe and NOT into the keybed.

- Place the brass spacers into mounting holes of the sensor strip (from the top) and place the spring onto each spacer (from the bottom).

NOTE: Place the springs on the spacers with a clockwise rotation.



Ill. 5 – Mounting spring hole



Ill. 6 – Screw mounting assy.

The above picture illustration is a Mason & Hamlin Model 50 with a plywood panel connecting the front rail to the balance rail.



Ill. 7 – Checking sensor strip height



Ill. 8 – Setting height with gage

4. Mounting the sensor strip

- Place the sensor strip on the keyframe and install the mounting screws.
- Place a black keys on the keyframe at each of the mounting locations and adjust the height with the “U” channel gage in the kit. (See Ill. 7 & 8)
- Place the gage over the sensor and depress the key. Adjust the rail so the gage can slide out freely. Do this at all mounting locations.

NOTE: Adjust both front and back screws the same amount to keep sensor strip level.

- Install all keys checking the alignment of the reflective tape to the optical sensors.

5. Pedal Sensor Installation

The pedal sensors are optical also and sense all three pedals. (See Ill. 7, 8, and 9)

- Locate the 3 pedal sensors in the kit.
- Find the best location for the sensors on each pedal. A minimum of ¼” (6mm) of travel is needed. (See Ill. 9)
- Mount each sensor with 2 screws.
- Place a piece of reflective tape under each sensor.
- Adjust the sensor so the spacer tab just touches the lever.

Note: The pedal sensors need to be place so the lever **moves away** from the sensor. The sensor can be place below the pedal lever just as long as the lever moves away from the sensor.

- Tie up and route the pedal cables to the key sensor strip.

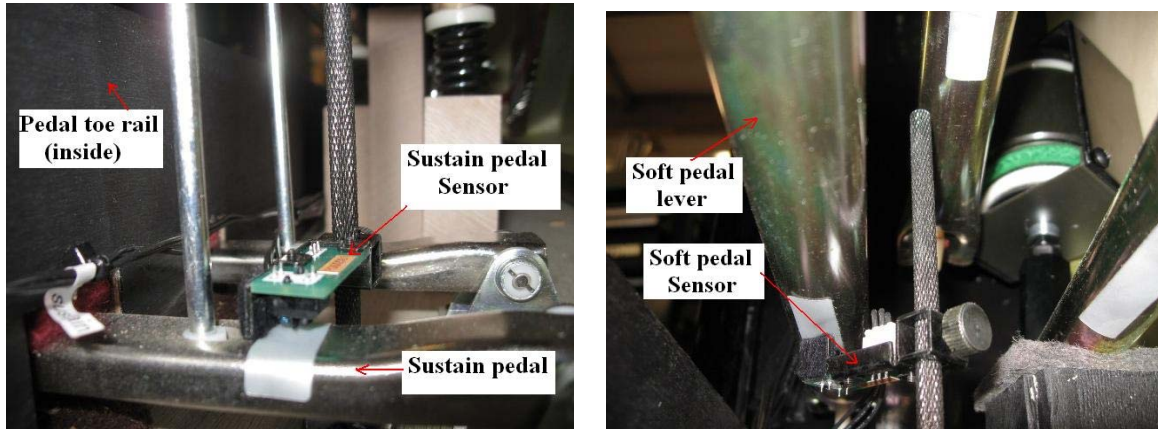


Illustration 9 – Sustain and soft pedal sensor

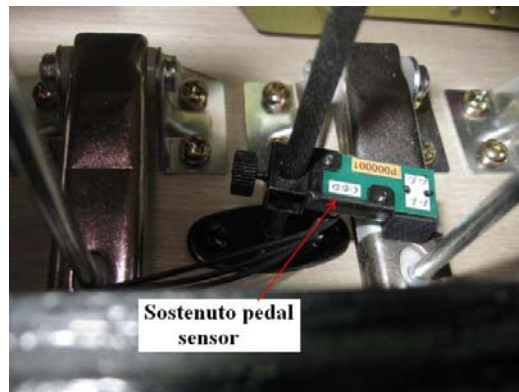


Illustration 9a – Sostenuto sensor (if equipped)

6. Control box Cable connections

Connect the cable to the connectors at the bass end of the sensor strip. The connector at the treble end of the sensor strip is not used.

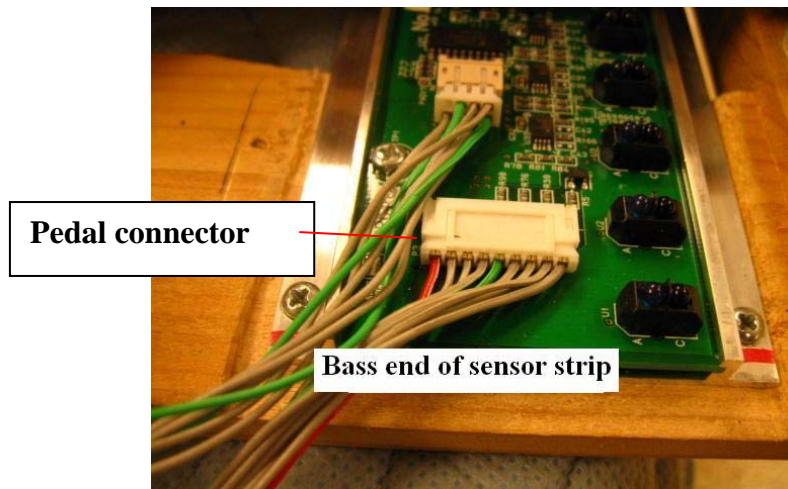
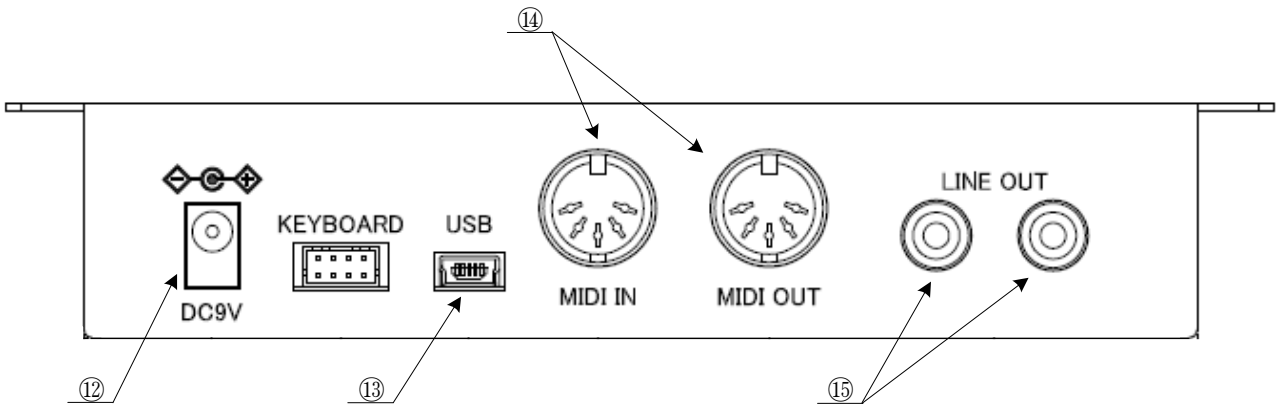


Illustration 10 – Control box connecting locations

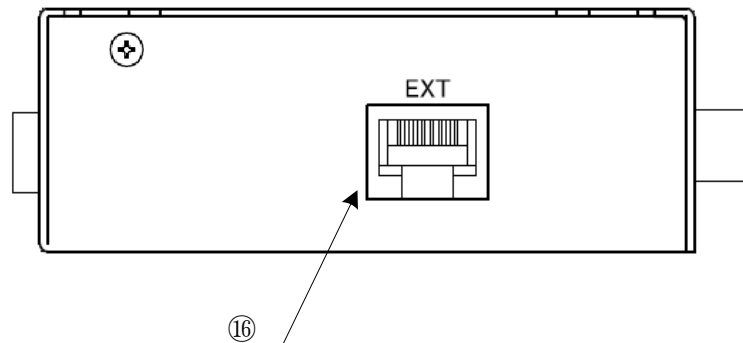
7. Mounting the Control Unit

NOTE: The control unit can be mounted on either side of the piano but the left side is recommended as that is the only side where the grand pedal plug has access.

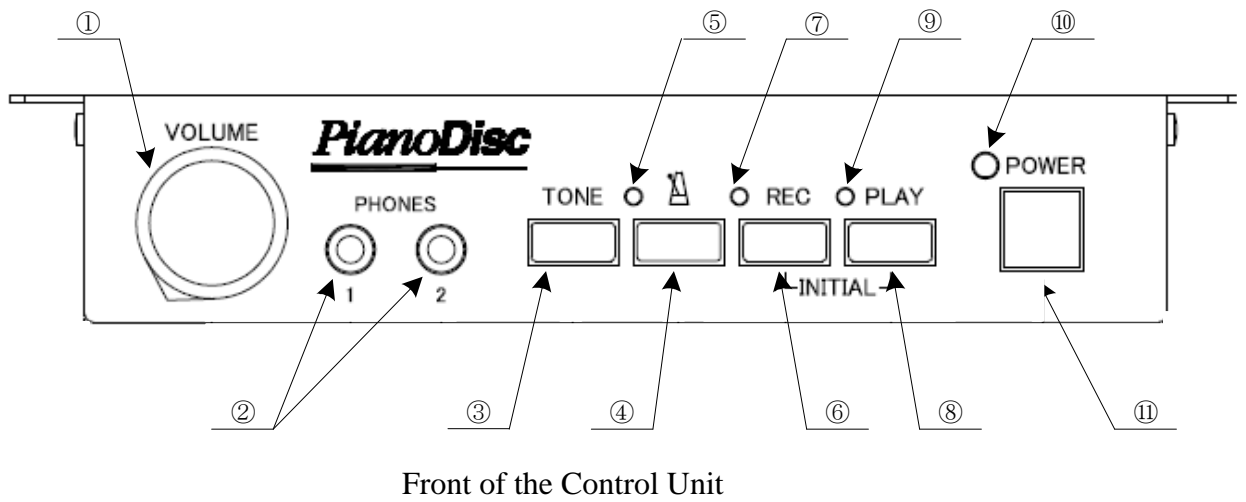
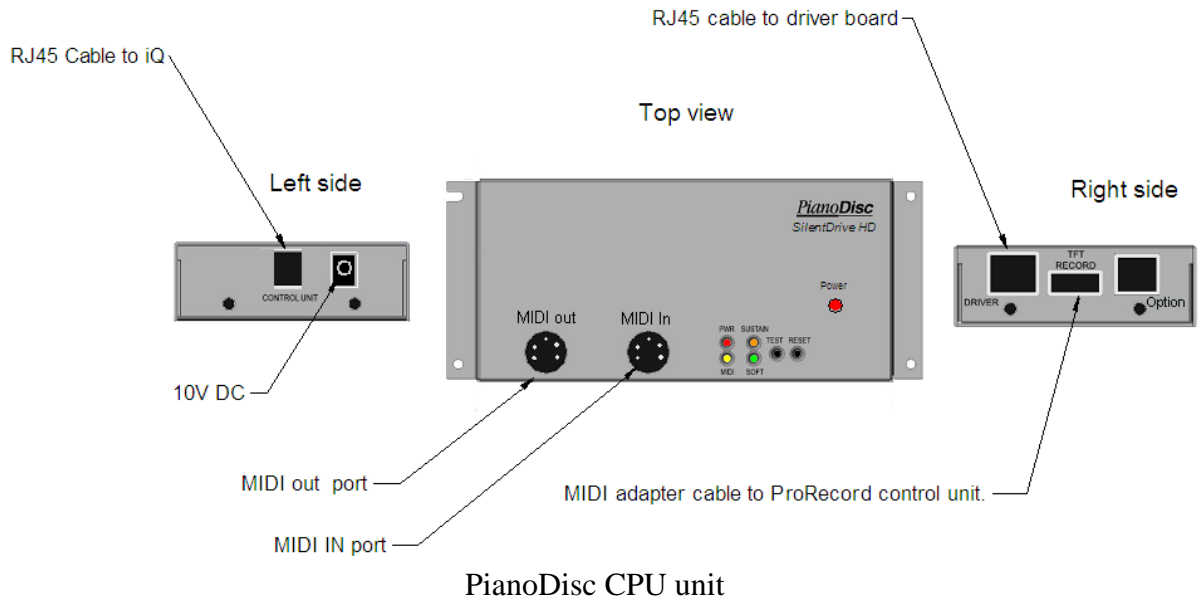
- Locate the control box mounting screws in the kit assy. bag.
- Place the control unit at the selected location slightly recessed from the edge of the keybed.
- Mount the control box to the keybed.
- If a PianoDisc player system is installed, use the PianoDisc / ProRecord cable connected between the TFT Record port of the PianoDisc CPU unit and the EXT port of the ProRecord unit. The EXT port is located on the right side of the ProRecord control unit (see right side drawing on the next page).
- If a PianoDisc is NOT installed, use the 9VAC adapter on the back of the control unit (see rear drawing below).
- Secure all wires with the ties and clamps supplied in the assy. bag.



Rear of the Control Unit



Right Side of Control Unit



8. Initial Set-up

NOTE: If the piano has only 2 pedals, disconnect the cable that is connected to the “Sostenuto” pedal sensors. Do this before powering up the control box.

- **Power On** - Turn the power on.
- A chime will be heard and the “PLAY” and “REC” lamps will flash alternately indicating that the system is in “Initial Setup Mode”
- Play each note of the keyboard with equal force, making sure each key goes to full depth. When each note is released, the note will sound slightly delayed indicating that each key was calibrated.
- Press each pedal with equal force and full depth. A chime will sound after each pedal is pressed indicating that the pedal was calibrated. The chime for each pedal will sound at a different pitch.
- Push the “PLAY” button. If the calibration of all keys and pedals was successful, a chime will be heard and the “PLAY” and “REC” lamps will stop flashing.

Notes

- If the system is powered off before the “PLAY” button is pressed, the calibration procedure will not be completed and must be done again.
- It may be helpful to pause a moment between each note to ensure that the note calibrates properly.
- If any key or pedal did not calibrate properly, setup cannot be completed until the keys and/or pedals have been calibrated. The system will play the MIDI note of the keys or pedals that need to be calibrated. Play the keys or pedals again and then push “PLAY”. If the problem is with one of the pedals not calibrating, the sensor may be too close to the pedal lever. Try moving the sensor further away from the pedal lever.

9. Sensor Re-calibration

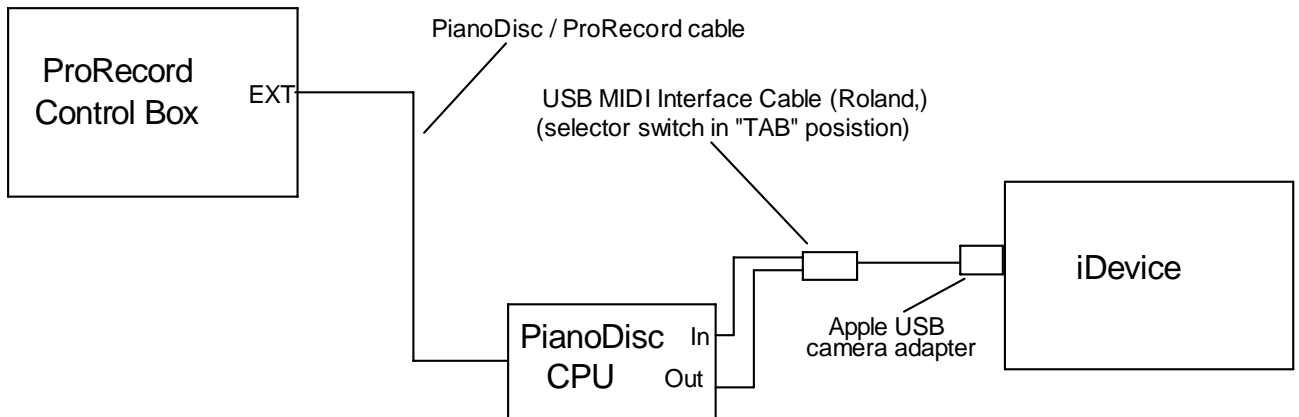
The sensitivity of the keyboard and pedal sensors can change with time and/or temperature. Periodic adjustments are required to keep your system operating at its optimum performance.

- To Re-Calibrate the system, press “PLAY” and “REC” while turning the power on.
- A chime will be heard and the “PLAY” and “REC” lamps will flash alternately indicating that the system is in set-up mode.
- Press any keys or pedals that need to be re-calibrated. It may not be necessary to play every key and pedal. Only those that need calibration.
- Press the “PLAY” button. If calibration was successful, a chime will be heard and the “PLAY” and “REC” lamps will stop flashing.

10. Devices to Record to – Wiring Diagrams

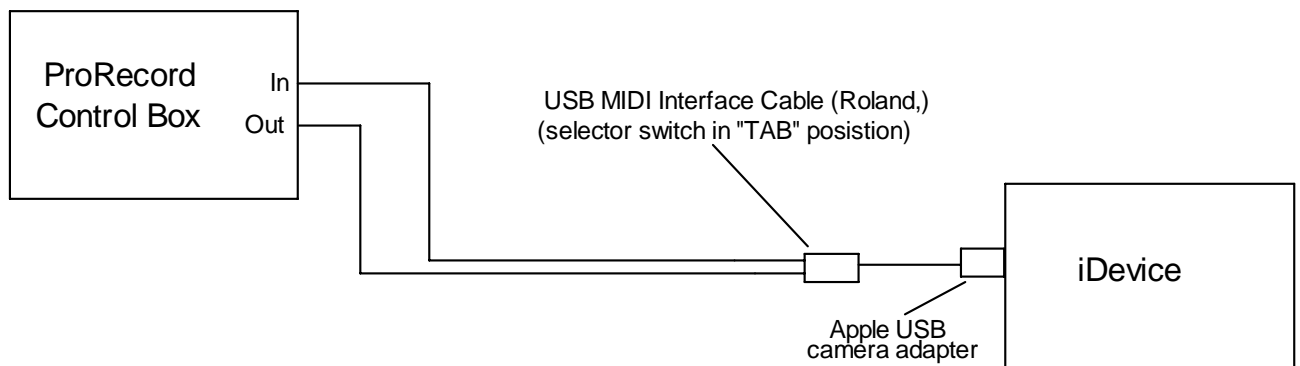
- Use the following wiring diagram for iDevices with PianoDisc.
- A lightning to 30 pin adapter may be needed depending on the “i” device version.

iDevice wiring diagram with PianoDisc (For record and playback)



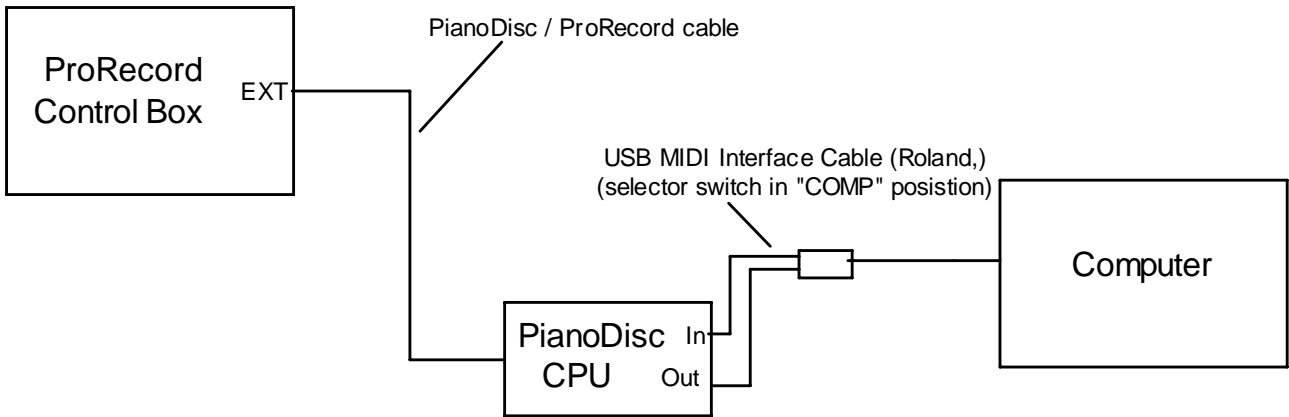
- Use the following wiring diagram for iDevices without PianoDisc.
- A lightning to 30 pin adapter may be needed depending on the “i” device version.

iDevice wiring diagram without PianoDisc (For record and playback)



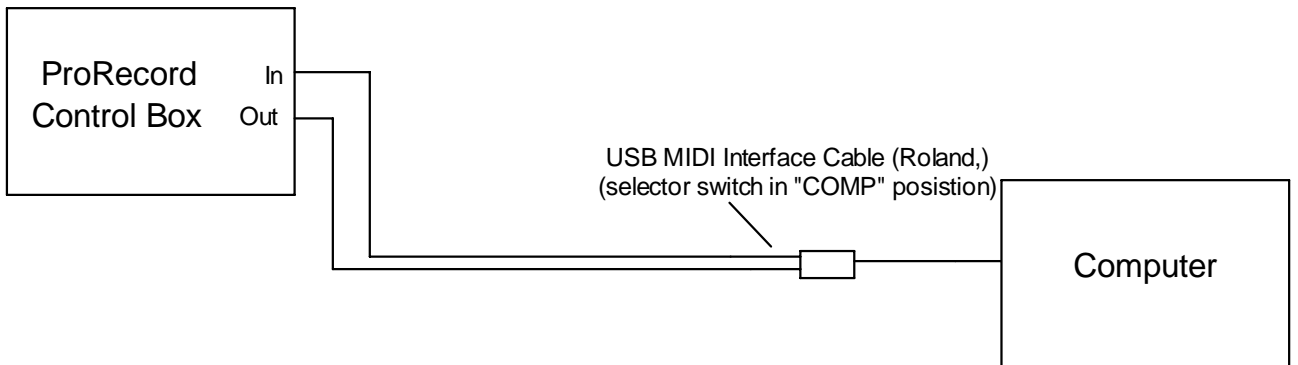
- Use the following wiring diagram for recording to a computer.

Computer wiring diagram with PianoDisc (For record and playback)



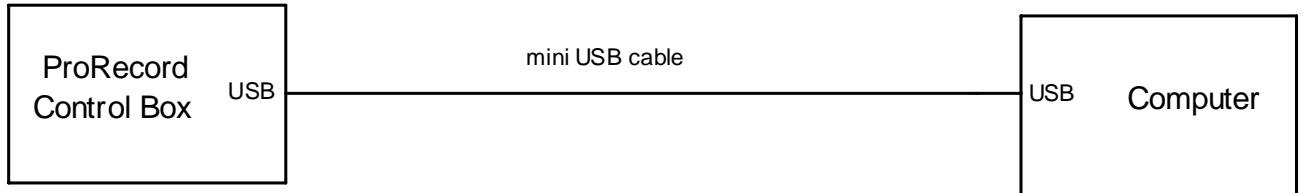
- Use the following wiring diagram to connect a Computer without PianoDisc

Computer wiring diagram without PianoDisc (For record and playback)



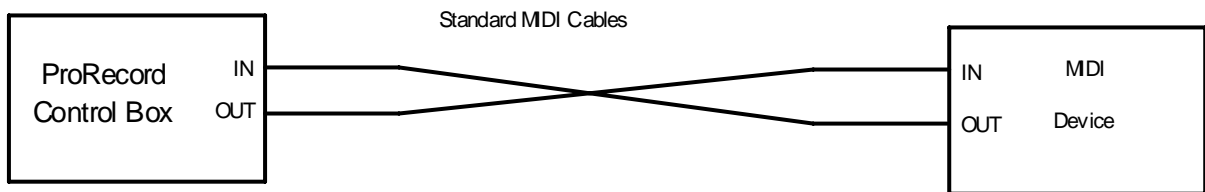
- Use the following diagram to connect to a computer for recording only.

Computer USB connection (record only)

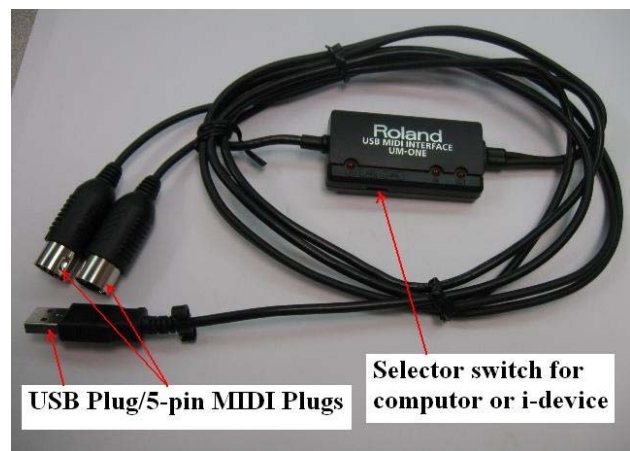


- Use the following connection to connect to a MIDI device (MIDI keyboard or sound generator)

Connecting to MIDI device



PianoDisc / ProRecord Cable



Roland USB MIDI interface cable

ProRecord and ProScan Trouble Shooting

Problem: No power to the complete system.

1. Check if power cord is plugged into the wall socket.
2. Check the plug connection to the back of the control unit.
3. Unplug the power cord from the control unit and check for 10 VDC.
4. Unplug the “keyboard” plug from the back of the control unit and power up the control box; this will eliminate any problems of shorting from other parts such as sensor strip, cables and adapter board.

Problem: The system will not complete the calibration.

1. Check all plug connections carefully.
2. During calibration, depress each key completely before depressing the next key. If keys overlap it will not calibrate.
3. Make sure the pedal sensors are installed correctly. The pedal lever must move away from the sensor. (See pedal installation procedure)
4. Make sure all key notes are audible thru the headphones and a chime from each pedal. This tells you that each note or pedal is sending data.
5. Check the height and alignment of the key sensor strip to the keys at each mounting location and the pedal levers to the pedal bracket.
6. Make sure only one output is plugged into the control box. There are three “out ports” on the control box, the “EXT” (on the side of control box), the 5-pin out port and the “mini USB” both on the back of the control box.

NOTE: If there is more than one port used then it will not finish calibration.

Problem: One or more notes will not calibrate or play incorrectly.

1. Perform the individual note calibrate of the notes in question.
 2. Check the alignment of the sensor strip to the keys.
 3. Check the reflective tape for proper placement.
 4. Check the key height of the key or keys in question.
 5. Check the key clearance (with gauge) at full dip.
- NOTE: It is important to check the key clearance at each sensor strip mounting locations.
6. Replace the sensor strip section; see next section, “Sensor strip repair”.

Problem: ProRecord or ProScan will not play the iQ player system.

1. Make sure the iQ player system is powered up.
2. While playing a recording on the ProRecord, see if the MIDI light is flashing on the CPU.
3. Check the plug connections.
4. Check the CPU update; it must be 13.6 or higher.
 - A. How to check the CPU update. Press the “test” button on the CPU and note the lights flashing. The “MIDI” light should blink 3 times, (represents 13) and the “sustain” light should blink 6 times. The software can be loaded by a laptop/iPad to the CPU thru the iQ stereo mini port. Just need to unplug the Airport Express from the iQ and plug in the cable from laptop/iPad. The software can be send thru e-mail.

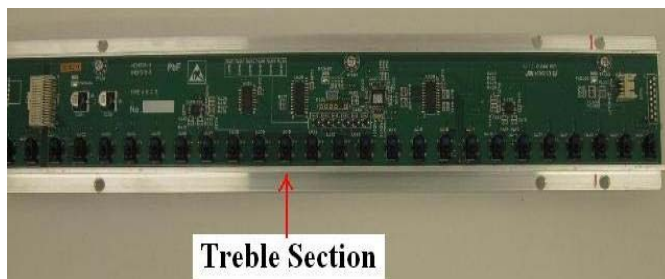
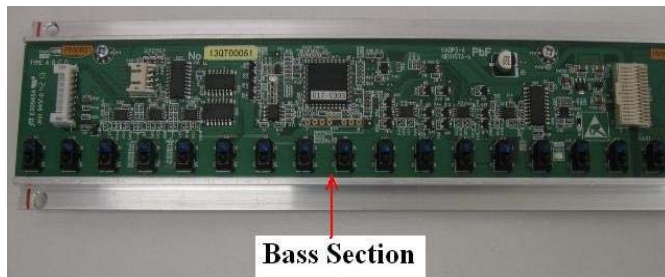
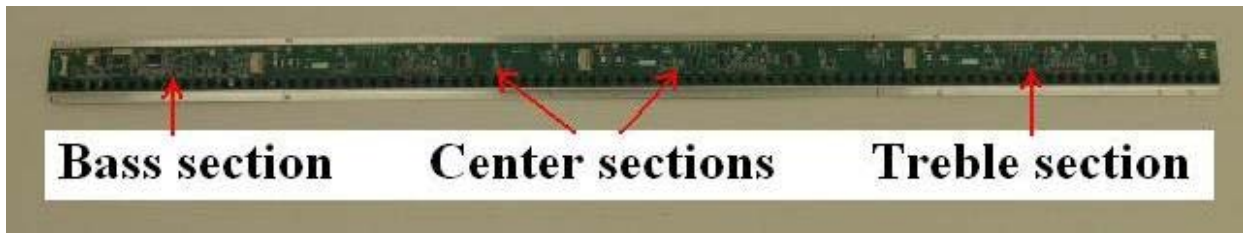
5. It is possible to have a bad record cable which goes from the ProRecord control box to the iQ CPU. Try another record cable.
6. To check the output of the ProRecord control box.
 - A. Unplug the record cable from the “EXT” port on the ProRecord control box.
 - B. Plug a 5 pin MIDI cable into the “MIDI OUT” on the back of the ProRecord control box.
 - C. Plug the other end of the 5 pin MIDI cable into the CPU “MIDI IN” port.
 - D. Play a note to verify that a sound is generated thru the headphones or speaker.
NOTE: For ProScan you need to observe the light flickering when a key is depressed. The key will remain down because of a looping of information to the key solenoid. Be careful not to play too many notes at once.
 - E. If there is no sound thru the headphones then the “EXT” port is not out putting information. NOTE: For ProScan you need to observe the light flickering when a key is depressed. Replace the control box.

ProRecord and ProScan Sensor Strip Repair

The ProRecord and ProScan sensor strips can be repaired/replaced in the field, in most cases.

1. Damaged section

- A. A damaged section can be easily replaced by the technician instead of shipping back the complete strip. This will minimize the potential damage caused by shipping the complete strip.
- B. There are 4 sections to a sensor strip. The two center sections are identical but the two end sections are unique. (See pictures below)



- C. Each section is secured with two screws. There is a plug connection that connects each board to the next. See the pictures below how the plug connection folds over to connect the neighboring board.

