SoulPedal®
User Manual

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When the Toe Kicks correctly at minimum angle required, the radio will transmit "On" status and will begin transmitting the pedal pressure (even if only a switch is assigned, and why switches are best used on the virtual switches and use Toe Kick for when pedal control is also needed). Each tap motion will toggle between On/Off. Double toe taps will only toggle once as you must return to level ground to toggle again.

INTRODUCTION

Congratulations, you are one of a select group of people who decided to explore SoulPedal® Version SP-2 together with us in this Beta testing phase. We can't wait to see how you use this new technology.

If there is any problem or concern, I will personally do my best to make things right ASAP. I encourage you to reach out anytime if you have any questions or not sure how something works. My cell phone is below.

We need real-world feedback to make this a compelling product and not just a fun gimmick. Whether just learning to play and you just need a pedal that's more natural to control along with some classic Wah/Volume control, or a pro who wants to up their show, freedom, and better connect with their people, there is something new here for everyone.

All of the SP-2 units are serialized and made by hand and machine in Arizona USA.

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INTRODUCTION

SoulPedal® is made up of a Pedal (right shoe ¾ style insole that you insert into an existing shoe like an orthotic), a Controller (or Box), and an optional USB Dongle that connects them both indivitually to a Windows custom Application called SoulPedal® Board. The App is mainly used for more advanced switching and control setups with the following key features:

1. Monitor foot motion and virtual switches and knobs for learning and testing,
2. Setup your pedal and configure how the gestures work, and
3. Configure the Controller (box) where you can define what the pedal does based on your foot controls, for example MIDI commands or Effects.

The Basic Pedal and Box system will work without the App, Dongle, or any setup. The Toe Kick is the easiest to use while performing and was the original design before adding the Switching and the App. However, the Dongle and App are needed to configure switches and expand features.

TOE KICK OPERATION

1. Pedal is briefly at Rest (~1/4 sec in rare cases the user was highly active prior).
2. Swing the foot back, bending at the knee to rotate your foot ~90 deg (or past 50° in the App as set) with toe pointing directly into the floor.
3. Tap the toe ("Toe Kick") into the ground behind you.
   - It doesn't take very much force
   - Cancel by returning foot to level without a tap
   - Tap can occur in the air (down/up motion)
   - No timeout (if not reset in "Cancel" option above)
   - Hitting it a 2nd or 3rd time to toggle it again will not do anything; you must return your foot to near level position before toggling again.

50° Kick Angle

Pedal Control Off Methods: In Pedal Config Tab, use either a Heel Lift or a Toe Kick to turn off a Pedal. If you move around much while controlling modulation, recommend using Toe Kick with a higher angle threshold. This allows the user to solo, run to a new stage area, then continue controlling without having to Kick it On again. Note, this is different from using the Heel Lift to make the switches vanish.

OFF Type   Heel Lift ○
            Toe Kick   ◉

INITIAL SETUP

1. Open the SoulPedal Board App in Windows – default screen is Pedal Monitor (1st Tab on Top).
2. Insert the wireless dongle, "wait 4 sec" msg appears briefly then will show status of the Pedal (move if asleep).
3. Power the Box with 9Vdc ("+" is the positive terminal on the outside of the plug like BOSS pedals).
4. The LED colors on top of the box help you learn and use the sysem. Color status is in a sepearate section further down.
5. Insert a 2032 battery in the Pedal, observing status in the App. (+ Up, inverted does nothing and will not harm). Insert one tab of the lid, then the other and rotate clockwise with your thumb. The rubber tab on the Pedal Outer is used to keep the battery cover in place.
6. Place the Pedal on the floor (keep very still) within 10 sec of battery insertion to get fresh motion calibration, otherwise it picks up the last known values after the 10 sec. (Temperature depended, but self calibrates as well.) Calibration should take only 3 sec after complete stillness. Watch the App and Box as well while this happens. Pulsing Orange LED means it calibrating, and is talking to the Box.

7. Pedal fitting is shoe dependent and may require removal of existing insole parts, loosened shoe laces, or try a different shoe. Pedal fitting must allow for near zero pressure on the sensor.

8. A tight boot can be uncomfortable if there is no room allowed. Although some like it super sensitive, it still needs to be able to get back to (nearly) zero pressure on the pressure sensor when you lift your foot off the ground. Failure to return to near zero can inhibit switch operation.

9. An optional heel pad is available for when your shoe already has an arch – like a running shoe, and the combined arches make it feel uncomfortable. Ideally, a flat bottom works best, but if you do have an arch, place the heel pad under the pedal heel. (Keep in mind, this changes the angle of your pedal when you stand normally. Be sure to set your new level in the App. (If you don't use the App, the angle is set to about 5 degrees of heel lift as default).

10. With the Pedal in shoe and connected, we need to level your shoe to zero – this changes with each shoe type. On the Pedal Tab, Press Calibration button and follow instructions to set your zero reference. There is no need to save this data, it's automatically saved when you change it.

11. The Angle Offset Calibration sets the angle based on a percentage of several kicks sampled. This will be placed onto the main Pedal Settings screen but can be modified as needed for your margin of safety. This is very user dependent.

Angle offset   Kick

Angle offset calibration helps Pedal determine the angle at which your shoe is level. This angle offset greatly affects the proper operation of Pedal.

NOTE: Re-do all other calibrations if angle offset is changed in this calibration.

Step 1 - Ensure that your Pedal is put properly inside your shoe.

Step 2 - Let the shoe standing steadily on a level surface.

Step 3 - Click this button.

Set angle offset

Step 4 - Verify that Pedal angle displayed below is around zero while your shoe is level.

0.3°

BOX LED STATUS

CONNECTION

Solid Red – Powered and waiting for a Pedal

Orange Pulsing (Initially) – Calibrating the Pedal Gyroscopes

Orange Pulsing – Firmware is being uploaded in the Pedal or Box

Solid White – Connected to Pedal and Calibrated (only if there is no Pedal defined, otherwise the connection defaults to the last Pedal used. Also this color when the Pedal is inverted and in Pedal Configuration Mode.

PEDAL POWER STATUS

Orange Flash Occasionally – Pedal Battery getting low

Red Flash Occasionally – Pedal Battery very low

Orange Solid – Pedal is in a Zombie Sleep mode (very low power that periodically checks for any X motion only, requires >3 fast shakes toe <-> heel to waken)

Pedal Control will automatically turn Off after 1 Hr of being left On (Controlling).

SWITCHES AND KNOBS

Red/Yellow/Cyan/Green/Purple - Switch colors available.

### PEDAL MODES – CONTROLLING WITH PEDAL PRESSURE

Switch/Pedal Colors are set in the App but can be moved around with Drag and Drop by the colored header. The Controller Pad is pressed to cycle through the colors and defines which element to trigger using the Toe Kick. More on this later.

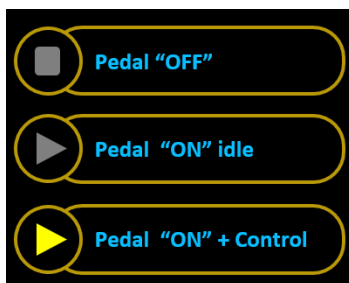No Pedal Present (No Pedal signal for the past 2 seconds)
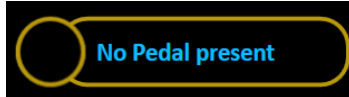
"No Pedal Present" with "Zzz"' (Zombie Sleep using extremely low power) Note: You can't enable Zombie Sleep while Pedal control is active - Kick off first. Also, if your shoe is too tight, as you rotate around to press the Zombie Switch the foot pressure may press early (on an outer switch) or the actual Zombie Switch before you press it. Reducing Foot Pressure Sensitivity in the App can help reduce this effect.
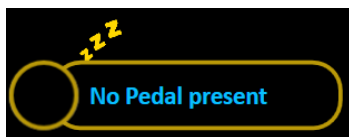
Off – Connected but not On, (receiving 1 sec keep-alive signal from the Pedal)
On Idle – Controlling ready, but no pressure yet. (Saves power, radio quiet)
On + Control – Same as Idle but with pressure and Transmitting values

The Pedal Sleeps as often as possible - even while performing and just standing still for a few seconds, but if it's "On" and actively controlling it will not sleep. When using the App to monitor the pedal, simply wiggle the pedal if asleep to wake it. This is not the same as Zombie Sleep which is deeper yet.

When Programming the Pedal, you may need to jiggle while inverted so it doesn't sleep before the programming starts to download.

When making any changes in the App, remember to press Save to Pedal or Save to Controller. And when you want something more permanent, Export will save all of your setting in an xml format. You can actually read a Pedal or Controller in the App, then store the data locally as a file.

If updating the Firmware on the Controller, keep the Pedal radio "quiet" by either removing the battery, or putting it to sleep (still), otherwise it will interfere with the update. If the update fails, try again or move the Box (or pedal) closer to the dongle. If retrying to load software fails multiple times, remove the Pedal battery and reinsert to force a reboot using the last known good bootloader.

Kick and Switch/knob controls are completely independent, and for a good reason. First, the kick is very easy to use, while the switches are somewhat more difficult to coordinate while you play. Like anything, it takes practice. However, the system now allows you to select which switch or pedal to activate using the simple Toe Kick by pressing the front Controller Pad and cycling to the corresponding color. The LED will then "breath" dim/bright with the active color.

Recommend starting with a single switch like boost or toggle setups only. Add more as needed, but only if needed.

When performing live, and you've summoned the SoulPedal® Board so it's "Ready", it can be reassuring to hover over the adjacent switches to confirm the switch you'd like and provides indication that it is active and ready. When configured for a single zone, this same left/right motion will create the rainbow colors rather than a single solid color. This is automatically fun.

Zones for each switch in your setup are pie shaped with the center of the pie at your heel. With your heel planted in the Ready position and held steady for a very brief period, rotating your toe left/right will simulate hovering over these zones as if they were switches.

Adjust spacing for the "pie" angles while aiming to develop a feel for their centers even without looking eventually. The LED fades between the angles to indicate you're near an edge of the switch. If you find that you're coming close to an edge on a particular switch, adjust switch Angles (Inner and Outer depending on # of switches). Ideally, try to align the centers to how your foot naturally want's to move, and so it can easily be used without looking when you're ready. Outer angle should be 3x inner angle for even switch spacing when using all 5 zones. For example 30 for center and 90 for outer would result in 5 switches evenly spaced. With only 3 switches selected, only the inner angle is needed. The outer switches always continue around until you enter the Zombie Switch in behind.

Kick On/Off and SoulPedal Board Switches both require a swing, but the angles can be different. This is so you can have subtle ease of access for switches using a lower angle, while requiring a larger angle for Kick On/Off so you can move more dramatically on stage without a false trigger. Switches have tighter requirements involving the Swing Angle, a small back & forth Acceleration in the direction of X (toe forward), then a steady foot for about 1/4 sec while the toe is above your Toe Min angle (set within Pedal setup screen).

(Dongle)   Pedal monitor   Pedal settings   Controller settings

Dongle Tab connects or disconnects from the port, sets the Radio Channel 0-7 (future use), and updates Firmware for itself. **Pedal Monitor** only listens to the pedal for learning and Control Visualization. The Dongle talks to either the Pedal or the Controller, but not both at the same time.

Pedal Settings Tab generically configures the Pedal for # of Switches/spacing, Modulation Source (Pressure or Angle), Power Levels, Switch Sensitivity, and Gesture details. These settings are persistent even without power or after Firmware upgrades. They can be **Exported** (saved as xml file) and **Imported**, however, they are unique to either Pedal or Controller. Remember, all changes in the App must be saved to the Pedal.

Controller Settings Tab configures specifically what the switches, knobs, and gestures do, sets the LED color positions, saves (export or import) setups to/from your computer as an xml file and configures MIDI. It does not know your Pedal setup since the pedal and box only share minimal data for fast control. This means you can set up the box with up to 5 switches and knobs, for example, but the Pedal may only be configured for 1 or 3 switches. The extra switches or knobs are simply ignored by the box setup and is not a problem. This can be handy if you want to downsize your pedal control without having to change the box configuration.

Save
To Controller

Save To Controller: Once connected to the Pedal, go ahead and place your foot flat on the ground (as needed to for Shoe Leveling), or to configure parameters in a more relaxed position. Shoe Leveling accounts for any personal shoe heel lift and defines all references to zero or horizontal when standing.

The Dongle and App for Leveling is not required for the basic Wah system because the angles are set fairly high (~60 degrees). This is to prevent false triggering no

matter the shoe. However, switch control typically requires lower angles and is more difficult to trigger than the toe kick gesture requiring a Summons gesture (Swing Back -> Swing Forward -> Hold Steady for 1/4 sec with Toe Elevated and heel on the ground -> LED Turns the color assigned for Switch 1, center switch. Control switches as if real switches and knobs were under the feet. Pressure is needed for switches to activate, but cannot be while the foot is on an incline.

Hold down a switch for 2 sec to control the dials (if defined in the App). While rotating, the heel can raise and won't make the controls disappear as long as foot pressure is being applied as it is rotated. However, releasing pressure will automatically disengage the Board.

The App uses 5 colors that can drag and drop to the desired column corresponding to switch #. If PC is selected at the top of a column, and MIDI values are placed in 1st and 3rd rows, an arrow will appear to show it will toggle between them.This is good for setup changes, and could use 2 switches up to 4 setups.

SoulPedal® (or SP-2) is made up of a Pedal (right shoe insole) and a Controller (box). They communicate on a 915 MHz radio (868 MHz for Europe soon) which is outside the frequency of noisy phones, Bluetooth, or Wi-Fi devices. This low frequency is also the key to excellent range of the system (for the same reason why low frequency sound travels further than mids or highs).
Controller power uses a typical Boss type 9Vdc, outer Positive. The system needs power to run audio through it (buffered output stage).

This part's simple. Plug your instrument into the INPUT jack (mono ¼") then the OUTPUT goes into your signal chain or other effects (but can also be placed anywhere in the signal chain pre-amp). Audio through the Controller is not req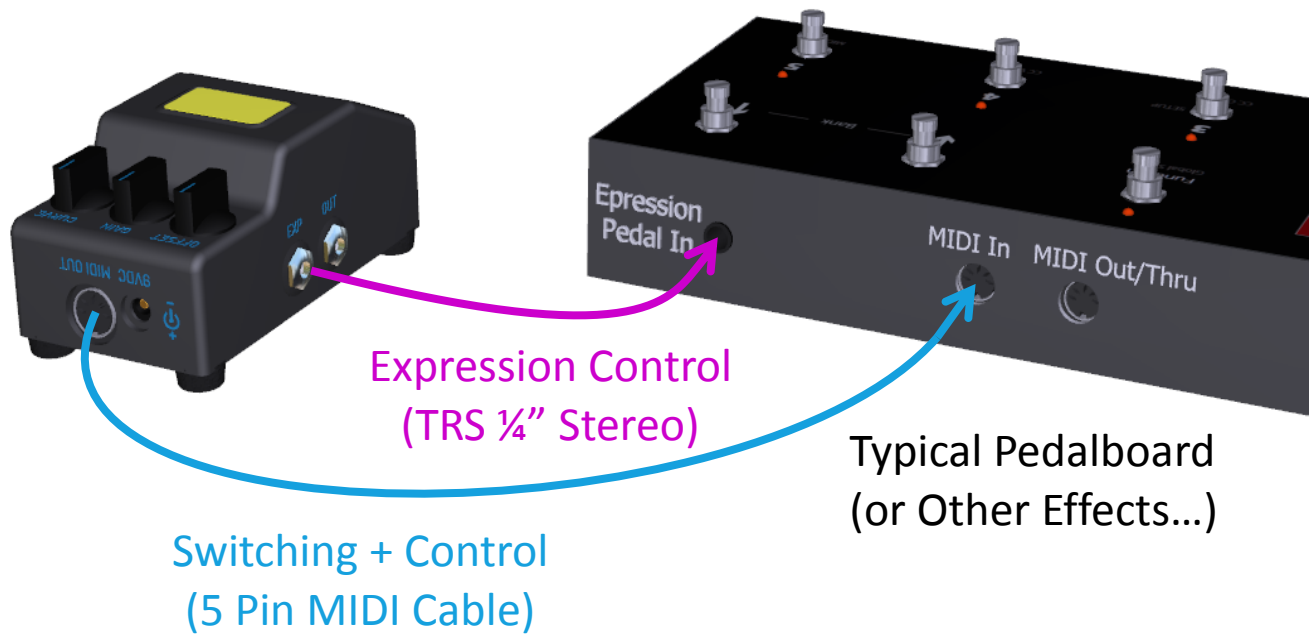uired if you don't want it in your signal chain… your choice, but it's darn clean. Since it also contains a nice Analog Wah, run it on the front end of your chain where most musicians place it.

When the pedal is "Off", the Relay in the Controller is off. This relay is a DPDT True-Bypass microswitch that is sealed in an inert gas so oxygen can't degrade the contacts. DO NOT put amplified power through this switch as it could cause damage. Use line level only such as a guitar, another pedal, or a mic… if you'd like!

SERVICE

Warning: Only remove the Pedal Electronics Module from the Pedal to change outer pedal sizes following recommended procedure under Service. The antenna wire is delicate and is not easily replaceable. The module uses precision machining and a gasket to protect from moisture, but it is not "waterproof." The electronics are treated with a silicone based conformal coating.

The Force Sensor in the pedal is also not waterproof. As humidity changes in the shoe, the sensitivity always self-adjusts to the maximum pressure applied (full body weight on the sensor would be your max). However, if water gets into it, dry it out naturally, and don't use until dry. It uses carbon to make contact and this can wear off quickly if used while still wet. Measured resistance should be nearly infinite (no pressure) to about 5K~10K ohms when pinching it hard with your fingers.

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Pedal   **Controller**

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This part's simple. Plug your instrument into the INPUT jack (mono ¼") then the OUTPUT goes into your signal chain or other effects (but can also be placed anywhere in the signal chain pre-amp). Audio through the Controller is not required if you don't want it in your signal chain… your choice.

Since it also contains a nice Analog Wah, run it on the front end of your chain where most musicians place it. There is a JFET Buffer on the output only, so this needs 9Vdc to pass any audio.

When the Pedal is "Off" (Wah mode only), audio will pass directly through the DPDT switch (relay). All audio passes through the buffer, then the Volume Opto-isolator (analog), then out with a 1:1 Gain as default full-volume.

The relay is a DPDT True-Bypass reed switch and sealed in an inert gas so oxygen can't degrade the contacts. DO NOT put amplified power through this switch as it could cause damage. Use line level only such as a guitar, another pedal, or a mic… if you'd like!

Below is the ideal setup for control. MIDI is used just for switching (or modulation), while the Expression Out controls the values for that effect.

Expression Control
(TRS ¼" Stereo)

Switching + Control
(5 Pin MIDI Cable)

Typical Pedalboard
(or Other Effects…)

RADIO CHANNEL

Channel Changer – (Coming Soon) Note the direction the arrow is pointing.

MIDI/Exp
Rig Switch

When foot pressure changes are very fast from one moment to the next like a foot stomp, the program will skip alternate steps to speed the transition. When controlling Volume or Wah, skipping will not generate zipper noise because of the opto-isolators. If this is a problem with MIDI or expression, turn down the Gain on the Controller to minimize any potential noise. However, no zipper noise was heard on the above systems tested so far. Below is the EXP wiring to the internal 10KΩ Digital Pot. The Ring input voltage must not exceed 3.3Vdc.
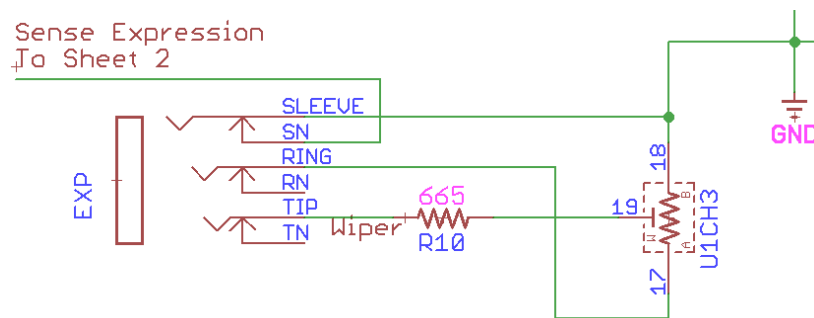
The most important thing when first trying out SoulPedal® is that you have the right shoe and approximate Pedal size. As with any insole, SP will take up some room causing your heel to rise a bit, so the laces may need to loosen some. Another option is to consider removing some of the shoe lining. It doesn't matter if SP is directly against your foot, sock, or underneath a pad, either way works. The Outer-Soul shape was based on the outline of a Size 11 Converse Allstar, which has a relatively low arch. Other sizes were based on this while keeping the Inner-Soul common to all. You may feel the arch a bit if your shoe also has a good arch. This is not advised, as long as it feels comfortable.
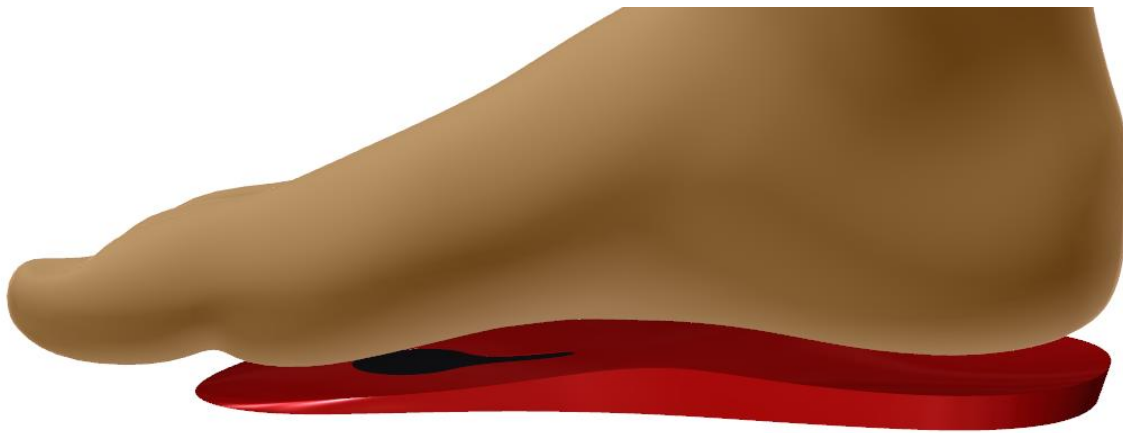
Inner-Soul has a 1" Pressure Sensor that is your main control area of the pedal. This sensor should line up to the front/center of your foot, behind your toes. It doesn't need to exactly line up because SP calibrates to your pressure range every time you put pressure on it.

SP Inner-Soul uses a standard 2032 battery. It will typically last several shows depending on use. The exact time depends on how often you are actively controlling (vs standby or Zombie Sleep). A Li-2032 rechargable will also work well, typically starting at ~4V and doesn't hold as much power.

BATTERY PERFORMANCE

Pedal Speed: Normal speed will transmit samples at 25 per second. 2X will send samples at 50 per second (50 Hz). 2X is recommended if you sweep the strings quickly while modulating, and same with fast volume control on swells.

Radio Boost: This adds a good bit of power, but not a lot of range. Another similarity to audio here regarding decibels.

Animate Pedal: For Viewing Foot Up/Down Angle on the Monitor Tab. This mode transmits at 10 frames/sec even if it's not modulating and not sleeping. Normally, the pedal only transmits when either modulating or controlling a switch – in other words, controlling something. If Animate Pedal is selected, the Pedal will also transmit constantly when not sleeping (so like just walking around). Use this option for learning or demonstrations, otherwise, conserve your battery.

In Standby and at rest (battery inserted but not kicked "On"), a typical 2032 battery will last a few days, but even longer in Zombie Sleep. Even though there is no radio communication in this mode, the motion sensor constantly monitors motion. When kicked on, the motion sensor continues to monitor foot motion while the radio transmits pressure data and status. This uses more power and it may only last a single show if On and controlling continuously like a fast walk. There is a 60 min auto shutoff if left On. Resting helps with endurance (some songs on, some for solo etc...).

The Outer-Soul is 3D printed using NinjaFlex using soluble supports that are dissolved away. The tiny marks on the top surface and tiny balls on the sides are interesting artifacts of the printing process and are normal. This material is very elastic, so fold and twist at will.

Taking advantage of 3D printing, it is hollow in areas to reduce weight. However, it is not waterproof and can take on water if submerged for extended periods. Do not use a microwave to dry it (like I tried) as this may (will) blister and damage its appearance. Moisture from inside your shoe is acceptable, just not puddles of water.

As the Pressure Sensor becomes more humid in the shoe, the pedal self-calibrates as you walk, making this unnoticeable. It returns to default with a reset or a battery replacement.

The initial sensitivity of this pressure sensor is fairly high when the battery is first installed – this is for the kids so they don't have to press so hard. Here's a possible scenario: If you wanted to let a (lighter) kid try it after you, consider removing and reinserting the battery to reset for the default lighter control.

As you use the pedal, it adjusts to your weight and shoe fit. Everything by design is so that you have full scale control from no weight to max weight (minus some %). Keep in mind this is all inside the pedal in addition to the Sensitivity in the Pedal App, and the Controller acts on this data separately using Offset, Gain, and Curve.

CONTROLLER SETTINGS

When powered up, audio will pass in all states, no matter how the knobs or switch is set (assuming it has the Wah version). It will have an initial gain of 1, output buffered, no matter what the Pedal status (On or Off).
The front pad uses a similar pressure sensor as in the pedal, just a bit shorter is all. Light pressure will cycle through the available switch positions defined in the App.

MIDI/EXP has no effect on the audio signal. A neat trick is that whenever the relay switches, volume internally is set to zero very quickly so you don't hear any pops.

OFFSET: Adds or Subtracts from Control Output. Center = 0. OFFSET shifts the output negative or positive. Fully left will require full pressure to start to come on which is impractical. However, some negative value will cause the control effect to delay action (raises min pressure needed to start control). This might be useful for a heavy foot who wants to lean in hard. (Y = mX + **b**)

Setting positions to the right of center is the same as fixing the pot minimum as seen on other pedals. But really cool is to set the min (OFFSET to the right) while GAIN is turned off (full left). This fixes the effect control to the value set by the OFFSET (useful for turning on a Wah to a set value without any control).

GAIN: Multiplies Control Output. Center = x1 or Unity, Left = 0, Right = x2$^+$. GAIN can limit the range. The ideal setting is when full pressure causes max Control value (higher values are truncated). One way to be sure max is reached is by observing the LED. It will stop increasing when max value is hit. Another way is to leave GAIN and OFFSET at center position which should result in full 0-max control range. This is true with every CURVE setting. (Y = **m**X + b)

CURVE: Changes shape of the "Pot". Center: Linear, Left: Concave, Right: Convex. CURVE has 9 evenly distributed settings with center being linear (pressure in matches control out).

CURVE
Center

CURVE
Left

CURVE
Right
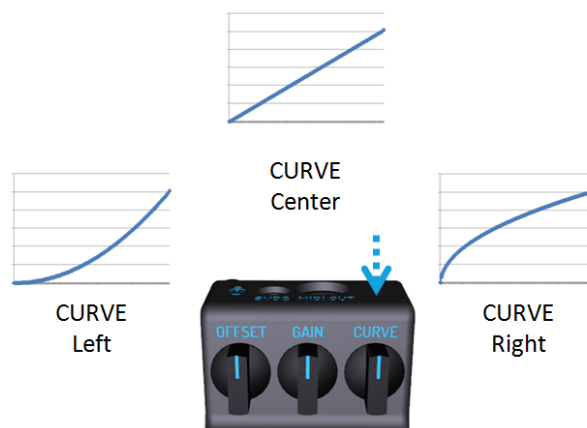
How this all started is my favorite part and the genesis of the idea really. I couldn't find a replacement bulb for my old Morley Wah pedal, so I decided to replace the light sensor with a pressure sensor (FSR), and wired it into my shoe. Later, the wireless version employed a digital potentiometer (like the rotary pot in pedals today) to control a classic Wah circuit. It's much like a Cry-Baby including the famous Red Fasel Coil (love that toroidal coil with self cancelling fields). This approach made me think of the many hybrid amps that use transistors and tubes to have a technology advantage combined with a classic tone.

SoulPedal® uses an opto-isolator between the digital and analog (like the old Morley principle with light curtain and photo sensor). This means that the control for the Wah or Volume never gets exposed to high frequencies (noise from digital switching). The result is smooth control for the user, and the LED shows exactly the value sent to the digital pot being controlled. This control is uniquely biased so it's almost turning on at zero (using Trim Pots shown). This results in a very fast response that starts immediately with almost no force on the Pedal.

CONTROLLER BOX FEATURES

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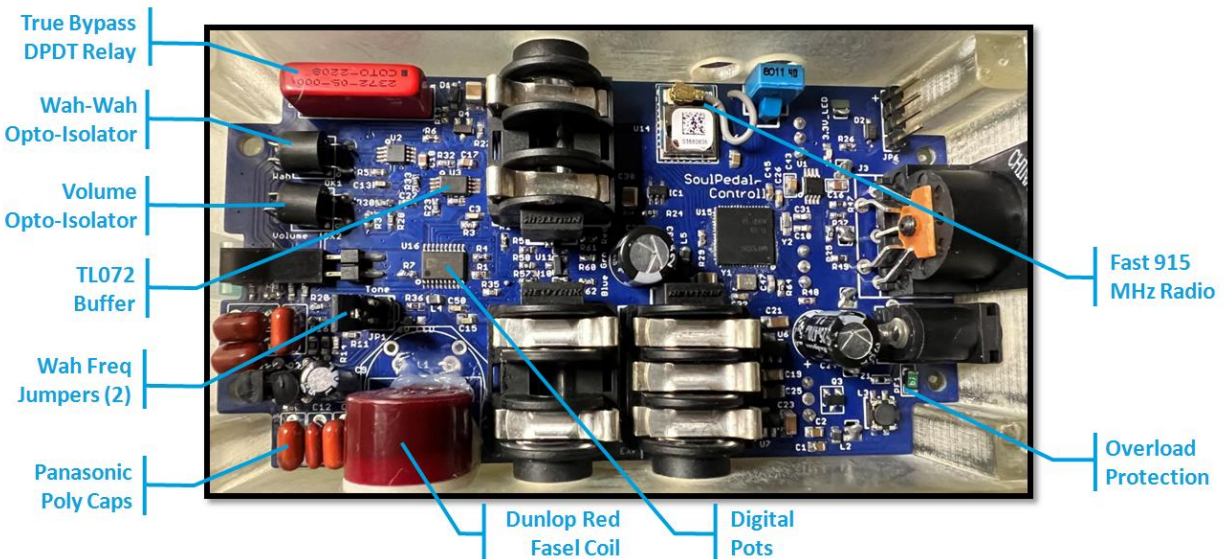
As soon as the battery is inserted, the Pedal sets the Gyro angles at 0 degrees and monitors pedal angles real-time, whether On or Off. When you put the pedal in your shoe and it's on a relatively flat on the floor, the Gyro will reset to 0 degrees. This only happens when it's also fairly still for a few ms.

When the gyro for toe up/down reaches over ~70 degrees (where 90 degrees is toe pointing straight down) the pedal looks for a Toe Tap also called a Toe Kick. This must happen while your foot is still at least 40 degrees otherwise it will cancel (by returning your foot to the ground without a Toe Kick). There is no time limit on tapping as long as you don't return your foot to the ground. (However, you're balancing on one foot… cool!)

When the Toe Kicks correctly at minimum angle required, the radio will transmit "On" status and will begin transmitting the pedal pressure (even if only a switch is assigned, and why switches are best used on the virtual switches and use Toe Kick for when pedal control is also needed). Each tap motion will toggle between On/Off. Double toe taps will only toggle once as you must return to level ground to toggle again.

Warning: Only remove the Pedal Electronics Module from the Pedal to change outer pedal sizes following recommended procedure under Service. The antenna wire is delicate and is not easily replaceable. The module uses precision machining and a gasket to protect from moisture, but it is not "waterproof." The electronics are treated with a silicone based conformal coating.

The Force Sensor in the pedal is also not waterproof. As humidity changes in the shoe, the sensitivity always self-adjusts to the maximum pressure applied (full body weight on the sensor would be your max). However, if water gets into it, dry it out naturally, and don't use until dry. It uses carbon to make contact and this can wear off quickly if used while still wet. Measured resistance should be nearly infinite (no pressure) to about 5K~10K ohms when pinching it hard with your fingers.

The outer Pedal is not waterproof and will hold pockets of water if submerged. Water trapped near the antenna can affect reception. Water trapped near the Force Sensor can make its way into the sensor and short it temporarily. Cleaning the flexible outer Pedal can be with most cleaners including denatured alcohol.

The Controller Box is made of a cured epoxy resin and is black throughout. So scratches can be sanded and polished to original luster. The box also has LRF Technology (Little Rubber Feet). These are unique in that they are removed and installed by hand only. This is both handy to remove the bottom cover and access the 2 tone jumpers (Wah only), and to fine tune levelling of the box. Careful handing the bottom cover which is acrylic and can scratch easily. It only goes in one way due to the MIDI slot on the end.

Access the jumpers by removing the feet and bottom cover (no tools necessary). On JP1, the Wah filter frequency (tone) is shifted lower with more jumpers in place on JP1. Highest tone is without any jumpers (park them so you don't lose any). Notice they are not the same, the far right is larger (very low for a bass guitar). Use the first 2 jumpers for a nice low guitar tone.

+.01 µF   +.022 µF

JP1
(Jumper 1)

Add Jumpers for Deeper Tone
(Add Both for Bass Range)

Park any Unused
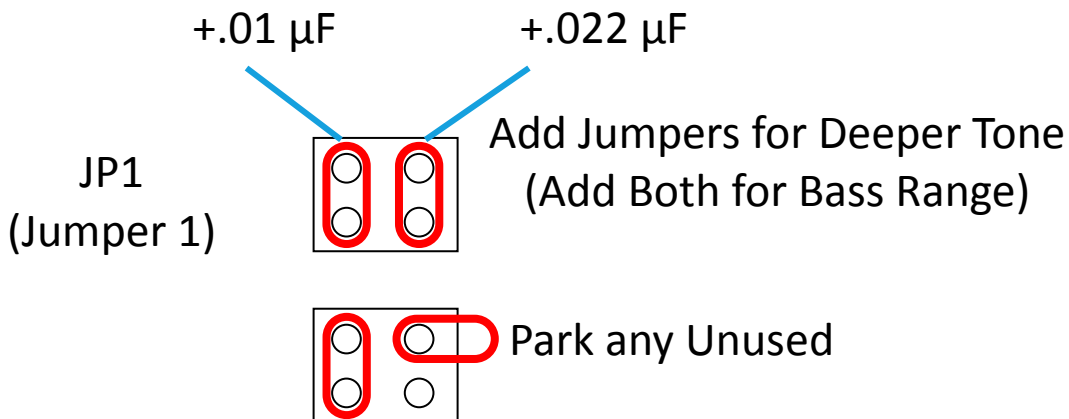
When placing the back cover, notice that the cutout lines up with the MIDI connector (upside down will not close). Only use your fingers to tighten the LRF. (Little Rubber Feet) and keep snug but not tight. One turn past contact is sufficient. Adjust them in/out to level the Box as needed.

The Pressure Sensor will wear out over time due to flexing under pressure. The contact is made with carbon against metal fingers and the carbon wears off eventually.

As described earlier, the Software auto calibrates to the user. But eventually, the resistance of this sensor rises to a point where it may lose some resolution. There is not enough data at the time of this writing to predict lifespan, but these are cheap and easy to replace as follows.

Use a pointy device like a toothpick or your fingernail to grab the side of the ribbon connector. Lift up and away from the insertion point and the plug should slide right out. It's best to pull straight. Now with the tail free, pull up slowly to peel off the sensor. No need to clean the pocket if you don't get dirt on it.
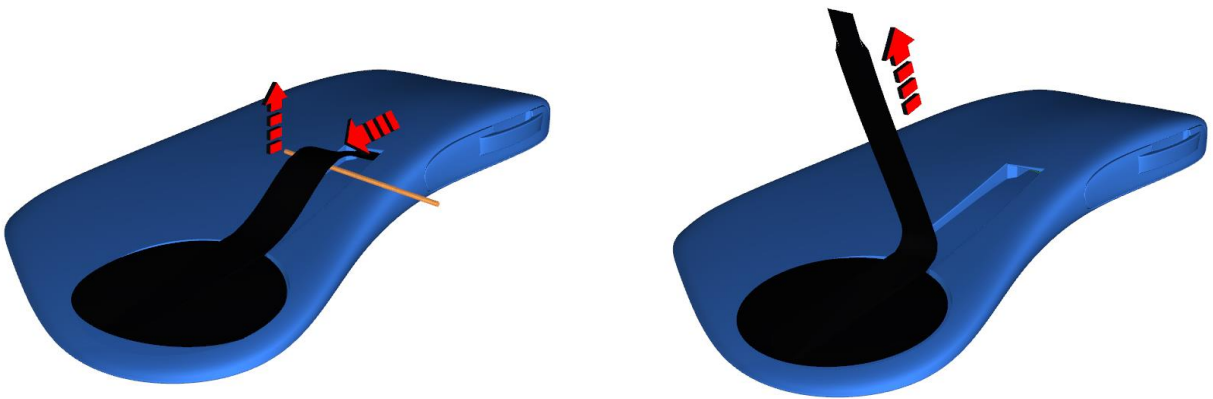
Install the new sensor by insert the connector until it stops. Paper backing should be facing down. Next, remove the backing and try to center it in the circle and press into place. There should be a bit of slack on the connector, this is normal. Insert the Sensor Cover narrow end into the hole of the Pedal, while puckering and pushing in on the sides of the round part to tuck it in all around flush.

Monitor Mode:

Pedal Config:

Pedal Shoe Leveling: While wearing the Pedal in shoe, and standing up normally, press "Set Angle Offset" to zero the Foot Angle.

Controller Config: