Using pedals with the C15

1. Features

- Support for almost all types of expression pedals and damper pedals of different technology and connector pin-outs. Further, many model-specific pedal presets can be selected for optimized performance.
- Support for "Control Voltage" as additional type of controller.
- Auto-Ranging to fully use the available electrical travel of a pedal.
- Auto-Hold to de-noise and stabilize the controller output.
- Controller parameters (like current Auto-Ranging internal settings) are continuously saved, and re-loaded after power-up.

2. Quick Start

1. If the pedal has a detachable cable, then first connect a suitable cable to the pedal. If the pedal has a "minimum volume" setting adjust (like many Roland and Boss models do), set it to the fully counter-clockwise position.

2. Connect the pedal cable to the C15 at one of the TRS Sockets numbered "Pedal 1...4". The C15 may already be powered on or off, it does not matter. If on, try to insert the cable quickly into the TRS socket (in less than 1 second).

3. Go to "Setup > Device Settings > Pedals" and select the proper type for the pedal from the pedal presets list. If your pedal is listed explicitly then please use that setting. Otherwise, try the generic "Pot, Tip-Active" (also known as Boss/Roland pin-out) or "Pot, Ring-Active" (Yamaha pin-out) presets.

4. Do the Auto-Ranging cycle: Move the pedal to one end stop of its mechanical travel, wait a moment (1 second), then move it to the other end stop, wait a moment.

5. Check if the position indicator in the Pedal Editor screen moves evenly and over the whole range of 0%...100% when operating the pedal over the complete travel. When using one of the generic "Pot" settings and you find that the approximate "center" position gives a way too high (or too low) reading, try the corresponding generic pedal presets with the swapped pin-out (swap "tip active" with "ring active").

6. During operation, when you find that the pedal does not move over the complete 0%...100% range anymore, reset the Auto-Ranging by temporarily selecting another pedal type. Alternatively, you can pull the cable from the TRS socket and re-plug it.

3. List of Pedal Presets

Name / Type	Remarks
Pot, Tip-Active Continuous	Generic 3-Wire Expression/Damper Pedal, Tip-Active ("Roland" pin-out). If there is a "**min**" control, set it fully counter-clockwise. If there is a "**range**" control, set it fully clockwise. Auto-Ranging dead-zones: 5%, 5%. Auto-Hold strength: medium.
Pot, Ring-Active Continuous	Generic 3-Wire Expression/Damper Pedal, Ring-Active ("Yamaha" pin-out). If there is a "**min**" control, set it fully counter-clockwise. If there is a "**range**" control, set it fully clockwise. Auto-Ranging dead-zones: 5%, 5%. Auto-Hold strength: medium.
Pot, Tip-Act. Rev. Continuous	Generic 3-Wire Expression/Damper Pedal, Tip-Active ("Roland" pin-out). Reversed output vs. pedal travel. If there is a "**min**" control, set it fully counter-clockwise. If there is a "**range**" control, set it fully clockwise. Auto-Ranging dead-zones: 5%, 5%. Auto-Hold strength: medium.
Pot, Ring-Act. Rev. Continuous	Generic 3-Wire Expression/Damper Pedal, Ring-Active ("Yamaha" pin-out). Reversed output vs. pedal travel. If there is a "**min**" control, set it fully counter-clockwise. If there is a "**range**" control, set it fully clockwise. Auto-Ranging dead-zones: 5%, 5%. Auto-Hold strength: medium.
Resistor Continuous	Generic 2-Wire Adjustable Resistor, Tip-Active. Auto-Ranging dead-zones: 5%, 5%. Auto-Hold strength: medium.
Resistor, Rev. Continuous	Generic 2-Wire Adjustable Resistor, Tip-Active. Reversed output vs. pedal travel. Auto-Ranging dead-zones: 5%, 5%. Auto-Hold strength: medium.
Switch, Closing Bi-Stable	Generic 2-Wire Switch, Tip-Active. "100%" Output in closed position. Auto-Ranging dead-zones: 1%, 1%. Auto-Hold strength: weak. You can use most tip-active expression and damper pedals as switches, too.
Switch, Opening Bi-Stable	Generic 2-Wire Switch, Tip-Active. "100%" Output in open position. Auto-Ranging dead-zones: 1%, 1%. Auto-Hold strength: weak. You can use most tip-active expression and damper pedals as switches, too.
CV, 0…5V Continuous	Control Voltage, Tip-Active, Fixed Range: 0…5V. Auto-Ranging: off, Auto-Hold strength: weak. **Do not apply voltages outside a 0…5V range.** **Do not apply ANY voltage when the unit is off.**
CV, 0..5V **(Auto-Range)** Continuous	Control Voltage, Tip-Active, Auto-Ranging within 0…5V. Auto-Ranging dead-zones: 1%, 1%. Auto-Hold strength: weak. **Do not apply voltages outside a 0…5V range.** **Do not apply ANY voltage when the unit is off.**
— OFF —	Use this to fully ignore a pedal even when connected.

Name / Type	Remarks
E:Boss EV-30 Continuous	3-Wire Expression Pedal, Tip-Active. Set "**min**" controls to fully counter-clockwise. For direct reverse action, use output "**EXP2**" set to "**INV**". Auto-Ranging dead-zones: 1%, 2%. Auto-Hold strength: medium.
E:Boss FV-500L Continuous	3-Wire Expression Pedal, Tip-Active. Set "**min**" control to fully counter-clockwise. Use "**EXP**" output. Auto-Ranging dead-zones: 1%, 1%. Auto-Hold strength: strong.
E:Doepfer FP5 Continuous	3-Wire Expression Pedal, Ring-Active. Auto-Ranging dead-zones: 1%, 4%. Auto-Hold strength: medium.
E:Fractal EV-2 Continuous	3-Wire Expression Pedal, Tip-Active. Use "**EXP**" output. Auto-Ranging dead-zones: 1%, 1%. Auto-Hold strength: weak.
D:Korg DS-1H Continuous	2-Wire (Resistor) Damper Pedal, Tip-Active, Reverse Action. Auto-Ranging dead-zones: 3%, 7%. Auto-Hold strength: weak.
E:Korg EXP-2 Continuous	3-Wire Expression Pedal, Ring-Active. Use output "**2**". Auto-Ranging dead-zones: 6%, 2%. Auto-Hold strength: medium.
E:Lead Foot LFX-1 Continuous	3-Wire Expression Pedal, Tip-Active. Auto-Ranging dead-zones: 1%, 1%. Auto-Hold strength: weak.
E:M-Audio EX-P (M.) Continuous	3-Wire Expression Pedal, Tip-Active. Set "**min**" control to fully counter-clockwise. Set bottom switch to "**M-Audio**". Auto-Ranging dead-zones: 1%, 1%. Auto-Hold strength: weak.
E:Moog EP-3 (std.) Continuous	3-Wire Expression Pedal, Tip-Active. Set "**range**" control to fully clockwise. Set bottom switch to "**Standard**". Auto-Ranging dead-zones: 1%, 8%. Auto-Hold strength: strong.
D:Roland DP-10 (cont.) Continuous	3-Wire Damper Pedal, Tip-Active. Set switch to "**Continuous**". Auto-Ranging dead-zones: 7%, 1%. Auto-Hold strength: weak.
E:Roland EV-5 Continuous	3-Wire Expression Pedal, Tip-Active. Set "**min**" control to fully counter-clockwise. Auto-Ranging dead-zones: 1%, 2%. Auto-Hold strength: weak.
D:Yamaha FC3A Continuous	3-Wire Damper Pedal, Ring-Active, Reverse Action. Auto-Ranging dead-zones: 4%, 1%. Auto-Hold strength: weak.
E:Yamaha FC7 Continuous	3-Wire Expression Pedal, Ring-Active. Auto-Ranging dead-zones: 1%, 2%. Auto-Hold strength: strong.

4. Connection

Some expression and damper pedals have detachable cables. Typically, a 3-wire TRS cable should be used with TRS plugs on both ends.

But there are certain battery- or mains-powered switching pedals that use the ring contact of their TRS jack to close an electric circuit to power up the pedal, for those only use a 2-wire cable with TS-plugs on both ends and the cable must first be connected to the switch before plugging into the C15, otherwise the function might not work properly and the input might even be damaged.

In general, always connect the cable to the pedal first before plugging it into the C15.

When connecting a Control Voltage source provided by, for example, a CV output from an analog synth, it is recommended to follow these steps:

- Check that the CV output does produce **output voltages only within the 0V...+5V range**, eg. do NOT connect to sources that range from -5V to +5V or 0V to +10V etc.
- Switch off both the source and the C15 before making the cable connection. CV input is recognized only on the tip of a TRS or TS plug, with the sleeve being the "ground reference". The ring contact is not used.
- Switch on the C15 first, then the CV source. For switch-off, reverse that order, that is, switch off the source first, then the C15.
- You may need to do a "pedal reset" and restart Auto-Ranging for the "CV, 0..5V(Auto-Range)" pedal presets after the C15 is fully up and running by selecting a different pedal preset temporarily.

It is important that the cable, no matter what type of source, is plugged in quickly into a running C15 (in less than one second). Otherwise, the Auto-Ranging function may not work properly because of wrong initial values being detected.

For the same reason, sources with detachable cables must first be connected to the cable before plugging the cable into a running C15.

Note: When a pedal or other source is unplugged during operation of the C15, the last readouts sent to a connected Macro Control may have arbitrary values not related to the actual pedal setting.

Do NOT connect anything else to the C15 than passive expression and damper pedals, passive mechanical switches, and, with some care, control voltage sources and powered switch pedals, otherwise damage may occur.

Please consult Nonlinear Labs (info@nonlinear-labs.de) if there are any questions.

Also make sure that you never mistakenly connect any audio TRS cables for the audio signal chain (mixer, amp) to the pedal jacks as that may produce very loud and dangerous "thump"-sounds from the speakers or the main PA.

5. Setup

The setup for the pedals, switches and CV sources is simple. Navigate to the Pedal Settings either using the Panel Unit or the Graphical User Interface and select the proper type from the list of presets. There are several groups of presets:

- generic presets for expression and damper pedals
- generic presets for switches
- generic presets for control voltage sources
- specific presets for a variety of commonly used expression and damper pedals, listed alphabetically by make and model. Expression pedals start with the prefix "E:", whereas damper pedals start with "D:". Please try to find your expression or damper pedal in this list first. Use one of the generic presets only when the pedal is not listed. In most cases either "Pot, Tip-Active" or "Pot, Ring-Active" then will work, but you might try other compatible presets as well (compatible in that they have the same general type and connector pin-out).
- an "OFF" pedal preset, intended to fully deactivate a pedal without having the need to unplug it.

> ℹ️ *If you are using a pedal preset not matching the general type of your actual pedal or source, unexpected results with regard to produced output values may occur. Neither the C15 nor the pedal/source, though, are any likely to be damaged when selecting a wrong pedal preset (but please read the warnings with regard to control voltage sources and battery- or mains-powered switches, at any rate).*

6. Usage

6.1 Auto-Ranging of the pedal travel

After a pedal has been plugged in while the C15 is running, or after selecting a different pedal preset, most pedal presets require an Auto-Ranging cycle where the available electrical travel produced by the pedal is measured and used for the corner points. Note that until a reasonable range of movement has been detected the pedal will not produce any output signals. The procedure is simple:

- move the pedal to one mechanical end stop, then wait about one second.
- move the pedal to the other mechanical end stop and again wait a second.

6.2 Checking the Auto-Ranging and general pedal characteristic

After the Auto-Ranging procedure, you might want to check if all is well, that is a) the pedal output spans the whole 0%...100% range and b) that the output characteristic is reasonable, producing about 50% output when the pedal is at around the mechanical middle position. Both checks can be done by watching the pedal's position bar graph and the corresponding numerical display in the Pedal Editor.

Should you find that the output value at the approximate mechanical center position is way off from the 50% mark, something like 80...90%* or so, then the pedal likely requires a different setup with tip and ring connections swapped. That is, if you see this behavior and have currently selected "Pot, Tip-Active", then select "Pot, Ring-Active", and vice versa. On the other hand, a unique feature of the C15 is that a pedal generally keeps working even when selecting the wrong pin-out, you just get a somewhat skewed characteristic of output values vs. mechanical travel.

6.3 Resetting the Auto-Ranging

The current internal settings for the Auto-Ranging of a pedal are stored and kept in non-volatile memory so there is no need to run the Auto-Ranging procedure each time the C15 is powered up.

There are several cases, though, when a pedal might not reach the complete 0%...100% span and a reset of the Auto-Ranging will be required:
- The pedal has a "minimum" or "range" control that has been touched, reducing the effective electrical travel.
- The pedal has been replaced with another, different pedal while the C15 was off, notably when changing between compatible types. The C15 has no way of knowing that you changed the pedal and will continue to use the internal settings it had found and stored for the original pedal.
- in rare cases, both the pedal hardware and/or the electronics may have developed significant drift and the full 0%...100% range isn't reached anymore, for continuous output pedal presets types.

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 * *When you are using the reverse readout presets like "Pot, Tip-Active, Rev.", "Pot, Ring-Active, Rev." etc, you will instead get a 10...20% reading for the mechanical center position in case you have accidentally selected the swapped pin-out.*

There are two ways to reset the Auto-Ranging:

- unplug and re-plug the pedal, at the C15 side (and note the need for the re-plugging procedure be finished in less than one second), while the C15 is running.
- or simply select a different pedal preset temporarily, then select the original pedal preset again.

7. Pedal / Source Types

7.1 Expression and Damper Pedals with Continuous Output

Most expression and damper pedals use a 3-wire cable and have a TRS plug. The basis of their operation is the voltage divider principle, using a potentiometer: A voltage is applied to the potentiometer and the wiper is moved by the pedal action. The readout is taken from the voltage at the wiper divided by the applied voltage. The wiper is internally attached either to the tip of the TRS plug (this is the "Tip-Active" pin-out, also known as "Boss/Roland" pin-out) or the wiper can go to the ring contact of the TRS (the "Ring Active" pin-out, also known as "Yamaha" pin-out).

However, there are a few pedals, for example the Korg DS-1H damper pedal, that work internally with a simple adjustable resistor whose value changes with pedal action. Such pedals use only 2-wires (even when a TRS plug is used at the cable end). Here, the read-out is basically directly proportional to the resistance value. The C15 supports this type of pedal provided that the adjustable element is connected between tip and sleeve contacts of the TRS or TS plug ("tip active", which is the standard case, though).

Some expression and damper pedals can be switched between "continuous" and "switch" modes, please set such selectors to "continuous" position.

Some expression pedals, for example many Roland and Boss models, have a "minimum volume" control on the side or the front of the base, please set this control to its lowest position (fully counter-clockwise) for best results. The C15 can also handle those pedals correctly even with this "minimum volume" set to other positions but resolution and stability may be compromised (see Auto-Ranging and Auto-Hold feature descriptions).

Some expression pedals, for example some Moog models, have a "range" control on the side or the front of the base which restricts the maximum value the output can reach and that includes zero output if the control is set fully counter-clockwise! Please set this control to the highest position (fully clockwise) for best results, otherwise again resolution and stability may be compromised (see Auto-Ranging and Auto-Hold feature descriptions).

Some expression pedals, for example some Moog and M-Audio models, have a pin-out selector witch, typically on the bottom of the base, where the used connector pin-out can be selected. Often, this switch is marked with the pedal's brand name on one side and "other" on the other side. The provided pedal presets indicate the required setting for some known pedals. For other pedals, please select the pedal brand name position which typically selects the "Boss/Roland" (Tip-Active) pin-out which is the preferred pin-out.

Some expression pedals are intended to be used with external cables, therefore make sure to use a correct cable (usually 3-wire with TRS connectors on both ends). Some pedals are multi-function and have several output jacks. Please use the output explicitly marked as "Expression", "Exp" or similar.

Damper pedals (pedals which go back to their normal rest position when foot pressure is absent) come in two varieties. The first type produces minimum output in the rest position that increases when the pedal is pressed, and the other type does exactly the opposite, going from maximum output to minimum output when pressing the pedal. The C15 has pedal presets to handle either type correctly.

All continuous pedal presets of the C15 use both the Auto-Ranging and Auto-Hold feature (see Auto-Ranging and Auto-Hold feature descriptions). There is no output from the pedal source until the Auto-Ranging has completed which requires that the pedal is moved across at least some fraction of its total travel.

> *You may use a physical switch as well for a continuous output, it will just jump between the extremes (0%, 100%) with only one or two intermediate values. When using a physical switch, select one of the "Resistor" types of presets.*

7.2 Switches with Bi-stable Output

Switches are also supported, technically a switch is handled like an adjustable resistor with the values only jumping between zero resistance ("closed") and infinite resistance ("open").

While Auto-Ranging is used for the provided Switch presets as well, a difference is that a switch pedal gives output to a Macro Control immediately, the Auto-Ranging does not have to be completed. A "best guess" initial value is used for the output which is reflecting the correct state in 99% of the cases.

The main difference is that the output of the switch, feeding the Macro Control, is changing only between 0% and 100% endpoints and there are never any intermediate values, that's why it's called bi-stable.

Note: You may perfectly use a continuous-type pedal for a switching type of response, the Auto-Ranging feature makes that work for potentiometer as well as adjustable resistor types of pedals. The only restriction is that the pedal must be of the "Tip Active" type.

7.3 Control Voltages

Control Voltages can be used as an additional source type. A typical example would be the CV output of an LFO in an analog synth. Two pedal presets are available for this, one with Auto-Ranging to automatically adapt to the voltage range the source actually sends, creating the full 0%...100% span, and another pedal preset with a fixed range of 0V (=0%) to 5V (=100%).

Note: The frequency of a modulated control voltage should not be larger than a few Hz, higher frequencies might produce strange results and the Auto-Ranging (if used) might not be working as intended.

> ⚠ **Warning:** *The voltage range of the CV source must be within 0V...+5V. Never connect sources with other output ranges (like -5V...+5V, 0V...+10V, etc) as they might damage the C15, regardless of selected pedal preset. Also, do not apply a control voltage while the C15 is switched off.*

8. Features explained

8.1 Auto-Ranging

Many pedals don't have their electrical output fully follow the mechanical position over the complete travel, there are mechanical "dead zones" where the electrical output does not follow the mechanical position anymore. There is nothing we can do about this.
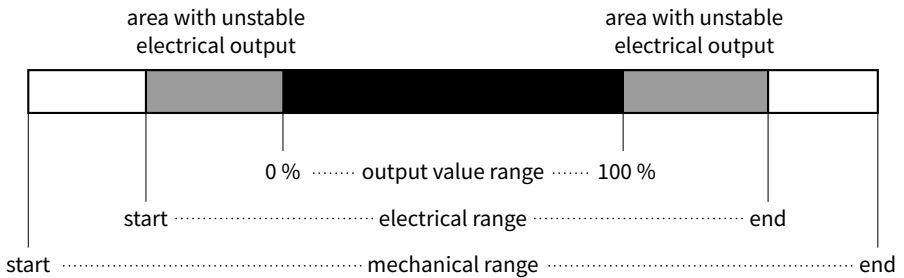
But many pedals also have the additional effect that the internal element (potentiometer or variable-resistor) in the first place is not used over the full range that it does have electrically, this is depending on the construction of the pedal. We have found pedals that don't go any further than 70% or so, for example.

Further, some pedals have additional control knobs to intentionally limit the output range in some way, very common is a minimum control that introduces a sort-of base value that is added to the actual setting. For example, the minimum control on Roland and Boss pedals can be dialed in to give a base value of 80% at the pedal's "zero" position and the output value will increase to 100% when moving the pedal to the "full" position, spanning only 20% of the possible range.

Finally, the already restricted obtainable electrical output range often is not very stable at the range ends, this is mostly for mechanical slack and other mechanical issues, notably on pedals with a construction that is not extremely rigid, mechanically.

The C15 is designed so that all pedals will always actually reach the full value output from 0% to %100 regardless of the above short-comings and almost regardless of any setting of additional minimum and range control knobs found on the pedal. By this, you can change pedals and that won't alter the playing experience at all just because the raw pedal behaves differently.

In the Auto-Ranging process running continuously in the background, the C15 measures the maximum electrical range the pedal has produced so far and sets marker points for the conversion (scaling) to the final 0%...%100 range (black area in below drawing).

area with unstable
electrical output   area with unstable
                                                            electrical output

0 % ········ output value range ······ 100 %

start ······························ electrical range ······························ end

start ································· mechanical range ································· end

The measured electrical range can only increase over time of usage and once it is large enough for a successful scaling -- larger than about 1/4th of maximum range -- the pedal actually starts to produce output values. The only way to make the used electrical range smaller again is to reset the pedal.

Once the pedal has been operated over the full range of mechanical travel the pedal will work with best resolution and stability.

The marker point values actually used for the computation are slightly backed off from the measured min and max values. These "electrical dead-zones" (gray) allow that unstable electrical end point outputs will still give stable 0% or 100% output at the end stops but they also slightly reduce the effective range of pedal travel, so this is a trade-off. Ranging and stability characteristics for pedals of known make and model are stored in pedal-specific presets, for best results.

The Auto-Ranging is reset when the pedal is (re-)plugged into a running C15 or when the pedal type is changed in the Pedal Settings.

8.2 Auto-Hold

When using several hardware sources like two pedals or a pedal and ribbon feeding the same Macro Control, we do not want to always update the Macro Control with the source that produced the last change following every minute amount of change. Value updates shall only happen when the user is apparently moving the hardware source's position intentionally, whereas small variations from general electric noise but also from mechanical vibration etc. shall have no effect. As long as the input is only noise and random fluctuation the final output value shall not change.

On the other hand, when the user really operates the pedal the value should track what the user "meant" no matter how minute the changes are as long as they look reasonable.

Therefore, a compromise solution is needed and this is the C15's intelligent automated track-and-hold.
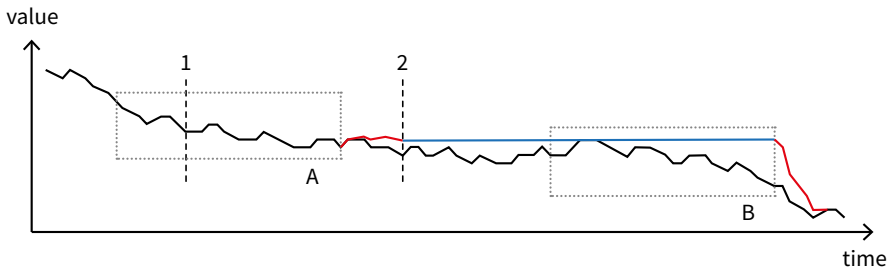
Normally, for fast and wide enough value changes, the track-and-hold mechanism is in "track" mode and the output strictly follows the momentary input (black).

At point A, a window detector (dotted rectangle) decided that the momentary values are considered stable now for long enough, then a new output value (blue) is set up to reach an averaged level after a short time (at point 2), using a ramp (red).

This output value is then frozen, held constant until the current margins of tolerance are hit, marked by point B in time, from where "track" mode is used again. A ramp (red) is used again to steer the output back to the train of momentary values. The system is in "hold" state between points A and B and the output value is frozen as denoted by the blue horizontal line.

The "values-are-stable" window can be different than the "tolerance" window, and some specific settings are used for known pedals. Further, these windows partly adapt to the signal situation dynamically.

As can be seen, ramps are not necessarily linear (straight lines). Actually, a ramp creates a cross-fade between two value trains, neither of which needs to be a constant value over time. Technically, the ramps are generated by ramping down a factor from 1.0 to 0.0. This factor is newly calculated for every point in time along the ramp and applied to determine the contribution of the two value trains. For example, the ramp starting at point A is a cross-fade from the momentary input values to the sequence of the average values of the sliding window. The last value from this train of averages (dashed line) is calculated from the input values between points 1 and 2, and this determines the final value of the cross-fade at point 2 from where on the value is held constant.

Not shown here, when the momentary values change very slowly but eventually drift beyond margins another ramp is generated but the "hold" state remains active with the tolerance window shifted up or down one window height.
Also, the detector always scans for fast and wide "shock" changes where "hold" mode is left and any active ramp speeds are tightened up to very quickly follow the momentary output again.

9. Troubleshooting and Tips

9.1 The selected pedal type is not working. When I repeatedly move from end stop to end stop, I don't see any values changing in the Pedal-Editor

First, select a different pedal preset temporarily then go back to the intended one and check again, or unplug and re-plug the pedal.

Check if the general pedal preset type is correct for the pedal (if, for example, you have selected "Resistor" for a standard 3-wire pedal that is ring-active, you will never get any output from that because the C15 is sensing on the wrong pin).

Check it the plug is inserted fully in to the C15. Check if the cable itself is not broken. Set any "minimum" knobs to fully counter-clockwise, and any "range" knobs fully clockwise. Check if any switches are set properly. Check that the "Expression" jack is used with multi-function pedals.

9.2 The pedal has very uneven output over the mechanical travel

Quite likely you have selected a pedal preset with the wrong pin assignment for a 3-wire Pedal. Try swapping tip-active with ring-active pedal presets and vice versa, and auto-range the pedal after a pedal preset change. Also check if any pin-out selector switch is in the correct position, those are often at the bottom of the pedal base and are prone to change position unintentionally when handling the pedal.

If that doesn't fix it, there is a rare chance that the pedal is not using a linear potentiometer but you might also happen to have used the wrong output jack of a multi-function pedal. Always use the output that is marked with "EXP", "Expression" or similar.

9.3 I don't get the full 0% to 100% span of output values anymore when I move the pedal from end stop to end stop

It's possibly time to redo the Auto-Ranging as some characteristics of the pedal have changed which the C15 could not track, like a re-adjusted "minimum" level control on the pedal. Unplug and re-plug the pedal at the C15 or select a different pedal preset temporarily, then auto-range the pedal again.

In rare cases you might want to select a compatible pedal preset that has larger electrical dead-zones to catch unstable values at the end stops. Those are "D:Roland DP-10 (cont.)", "E:Moog EP-3 (std.)" and the generic presets. See table of pedal presets for details.

9.4 The pedal output is high (100%) at the start position and low (0%) at the end position

Try using a pedal preset with reverse output, those are available for the generic 3-wire potentiometer pedals as well as for 2-wire resistors, and of course for switches.

9.5 The pedal output is very drifty and shows suddenly changing values

Check cable for broken conductors. Note: If you are using a tip-active pedal ("Roland" pin-out) you might be able to save the gig by using the "Resistor" setting.

9.6 The pedal constantly overwrites a shared Macro Control with new values even when I don't touch it

The pedal might have developed additional mechanical and electrical slack and instability over time and should be serviced or replaced. When it is a tip-active pedal preset, you might try to change to the "E:Moog EP-3 (std.)" pedal preset which is set up for about the strongest Auto-Hold behavior.

Likewise, when you feel to have the opposite problem with the pedal not reacting close enough to pedal movement, you may want to try the "E:Fractal EV-2" pedal preset which is set up only weak Auto-Hold behavior. Again, useful only for tip-active pedals. With ring-active pedals, you can still try the other ring-active presets, also from the generic list and see if you get better results. See table of pedal presets for details.

9.7 Can I use a continuous pedal as a makeshift solution for a true switching pedal?

You may perfectly use a continuous-type pedal for a switching action (using one of the Switch presets), the Auto-Ranging feature makes this work for potentiometer as well as adjustable resistor types of pedals. The only restriction is that the pedal must be of the "Tip Active" type.

9.8 Can I use a switch as a makeshift solution for a true continuous pedal?

You may use a physical switch as well for a continuous output, it will just jump between the extremes (0%, 100%) with only one or two intermediate values. When using a physical switch, select one of the "Resistor" types of presets. Again, the restriction is that the switch must be of the "Tip Active" type.

9.9 Can I use "powered/active" (relay- or electronic-switch based) switchers?

With some caution this will work as expected.

There are certain battery- or mains-powered switching pedals that use the ring contact of their TRS jack to close the internal electrical circuit, for those only use a 2-wire cable with TS-plugs on both ends and the cable must first be connected to the switch before plugging into the C15, otherwise the function might not work properly and the input might even be damaged.

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