



DESIGNED BY **TATTOO ARTISTS** FOR **TATTOO ARTISTS**

SET-UP GUIDE

This device is designed to optimise your coil machine's performance and versatility with electronic precision. It creates a consistency second to none. It also gives you the freedom to rely on your machine and its settings with confidence, so that you can concentrate on tattooing.

Please note:

- **All measurements referred to are with the machine LOADED (i.e. with needle, tube and rubber band).**
- **The use of the controller requires some minor adjustments of your coil machine, but this will not damage it in any way. It is also aimed at professionals with a basic understanding of how their machines work.**

Hint: I personally found it easier to set up a shader first. I worked with it first, and then set up my liner when I became accustomed to the controller and its setup. Although not essential, it may be useful to have a spare power pack when doing this - to save time between using your liner and shader. Or else, simply plug in the controller after finishing your linework. This way you can begin using the controller (and shader) with confidence after laying down the lines within your comfort zone.)

1 PREPARING THE MACHINE

- A. Set up your machine as normal (with needle, tube etc.) and measure the settings on an accurate power supply.

Make a note of Frequency (Hz), Duty Cycle (%), and Voltage (V).

Also, make a mental note of the throw/stroke length by viewing the armature bar from above whilst running

("00" "0 0" "0 0" and so on)

(Be aware that this reading, although referring to your machine as being loaded, is not necessarily a true reading of "needle-in-the-skin" action. The skin (and ink) offers some resistance, so the actual readings

“in-the-skin” will be a bit lower. This is the true reading that one should aim for to set the controller - but more on that later.)

- B. Unplug your machine and remove an insulating (plastic) washer from any binding post - the outer washer (on the front post) is preferable, as this will still keep your contact screw and armature bar aligned. Note that this will short-circuit the machine, so it will not run conventionally and the contact screw will no longer be of electrical significance.
- C. Place a thin strip of tape (provided) onto the armature bar where it meets the front coil. You will need to loosen the back spring at the spring saddle to do this. Once applied, re-align and tighten.

2 SETTING UP THE CONTROLLER AND MACHINE

- A. Plug the controller into your power supply and machine - as per operating procedures. Then choose a program.
- B. The controller “steals” around 2-3V, so turn the power supply up to a minimum of **9V**. Most operating is between 9 and 12 volts.

Do not be afraid if you think the V’s are too high as the hit can be controlled with duty cycle.

- C. Adjust the Frequency and Duty Cycle on the controller to match your readings in step 1A.
- D. Press the foot pedal and test how the machine runs. (Tip: It helps to set the readings to a couple of steps **below** the actual readings in 1a), and then work your way up -all the time testing with the foot pedal.)

If there is no response then turn the voltage up slowly until the machine runs. (Closing the contact-screw gap some more may also help - or do this alternately, together with increasing the voltage - the longer the stroke, the more voltage required, especially as you increase the frequency.)

If the armature bar “sticks” to the front coil, then reduce the Duty Cycle slowly until the machine runs.

It may help to hold the footswitch down whilst moving the contact screw back and forth until that “sweet spot” is found - when the machine sounds and feels just right. Also check the stroke by watching the throw of the needle out of the tube, or by viewing the nipple of the armature bar from above. If it is obvious that the stroke needs to be longer then bend the springs (front spring first) and adjust the contact forward and back again for the “sweet spot” - **ALTHOUGH I RECOMMEND TRYING THE MACHINE FIRST BEFORE ALTERING THE SPRING TENSION.**

Please note: This is a testing stage and at this point it is only necessary to get a BASIC running of the machine. Simply play around with the settings until the machine feels (and sounds) like its running well and to your liking - aiming for the figures in step 1a).

Do not panic if you cannot replicate the exact readings, fine-tuning will come when tattooing (so that the skin's (and ink's) resistance can be taken into account). Anyway, the sheer consistency of the machine with the controller will be so noticeable, that you will feel the benefit straight away without worrying about trying to replicate the readings exactly.

3 FINE TUNING

- A. As already mentioned, in “normal” circumstances (i.e. without the controller) the machine's settings are slightly different when actually in the skin. This is also true when ink is in the tube.

Because the controller is designed to maintain the settings and it essentially “tells the machine what to do”, the machine will “back down” less than normal when hitting the skin - so it will hit slightly harder and faster (also due to consistency).

- B. At this point personal preference comes in. Everybody likes the needle hitting the skin differently. **Just be aware of step 3A when starting to tattoo, and adjust the frequency and/or duty cycle accordingly, until you find what suits you.** (Adjust the voltage if need be as well.)

For example, I personally found that my shader, which “normally” runs at 97Hz and 47%DC loaded, I reduced to 93Hz and 47%DC with the controller - my true reading.

Similarly, my slower punchy liner that “normally” runs at 105Hz and 52% DC loaded - needed to be reduced to 96Hz and 48% DC. (These are examples only - that worked for me personally.)

The key is to take some time, do a few tattoos, and find what YOU are comfortable with on YOUR machines.

- C. Once you find what you like, save it as per operating procedures - **and the machine will run consistently on this setting indefinitely (yet still adjustable).**
- D. **Common sense:** It is important to remember that basic mechanics still apply. For example, when the stroke is long, the machine can't always run as fast as it does with a shorter stroke (the frequency **range** is reduced). Similarly, thicker inks create more resistance, sometimes enough so that the controller does not have enough power to maintain the desired frequency. To resolve this, one can simply turn the frequency down a step or two, shorten the stroke slightly or increase

the voltage (depending on your preference). Also, remember that the duty cycle is important - as it decides your machine strength.

- E. Once you are happy with your setting, you have the freedom to make minor adjustments instantly while you are tattooing. For example, if your machine is running quite fast for black and grey, and you start filling in some solid black on the same tattoo, you can slow it down a step or two in an instant..and so on.

Finally, there is nothing to stop you from saving several settings for the same machine (for different needle configurations, skin types, ink types - **or even personalised settings for specific clients with on-going work**).

Once the controller becomes familiar, the options will become infinite.)

Thank You for purchasing the Infinity Controller. Please feel free to contact us - as your feedback is truly valued.

Fabio Giovannoni

<http://infinity-tattoo.com>

SET UP GUIDE (DIAGRAMS)

DIAGRAM 1,
Top view:

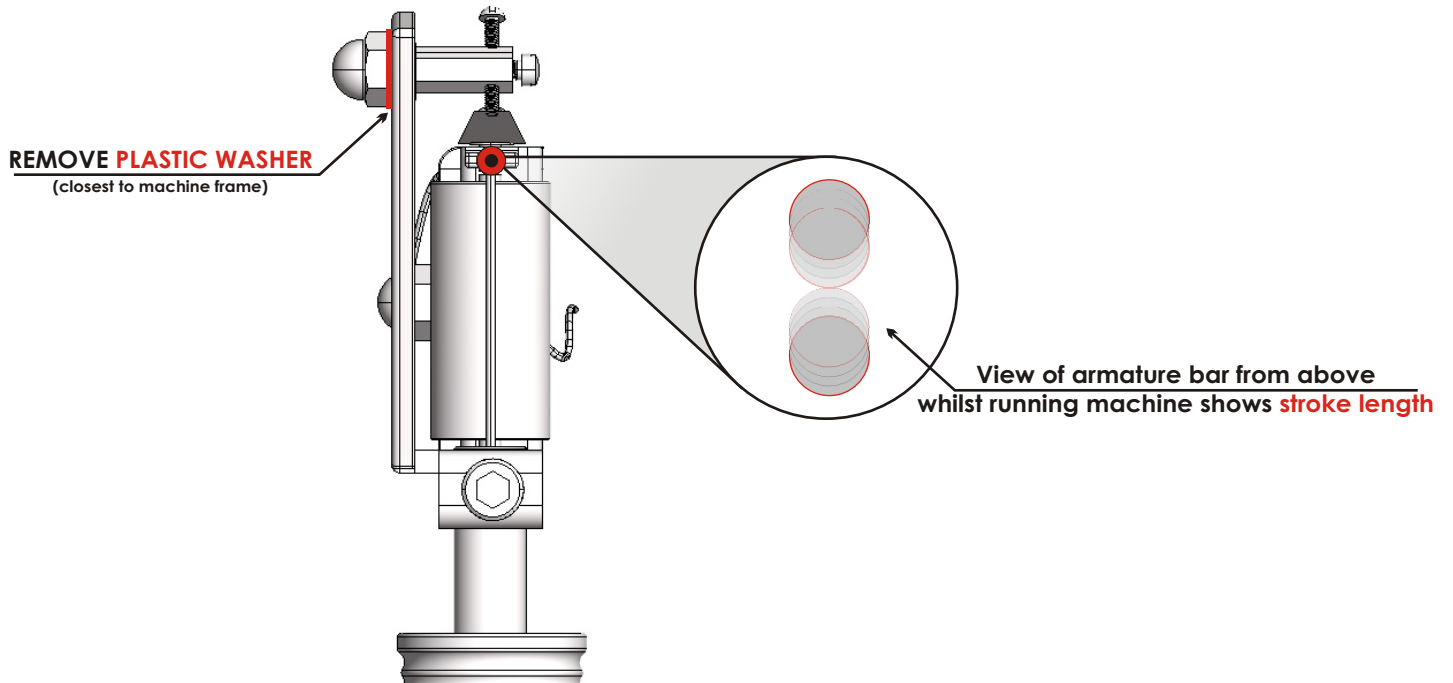
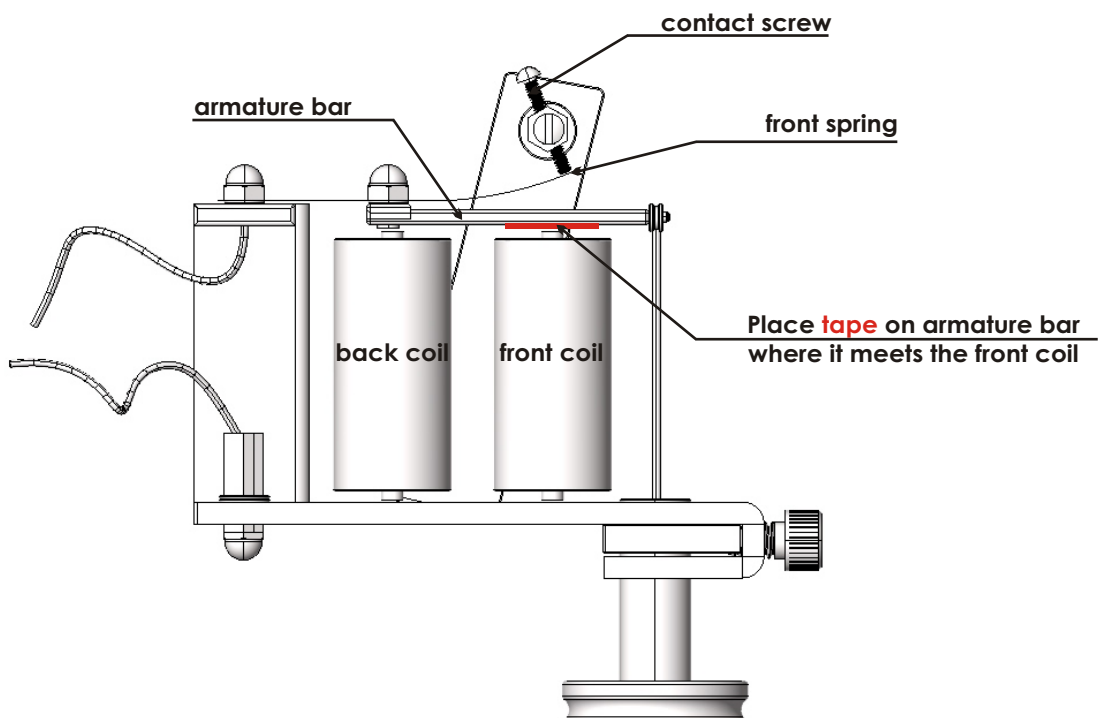


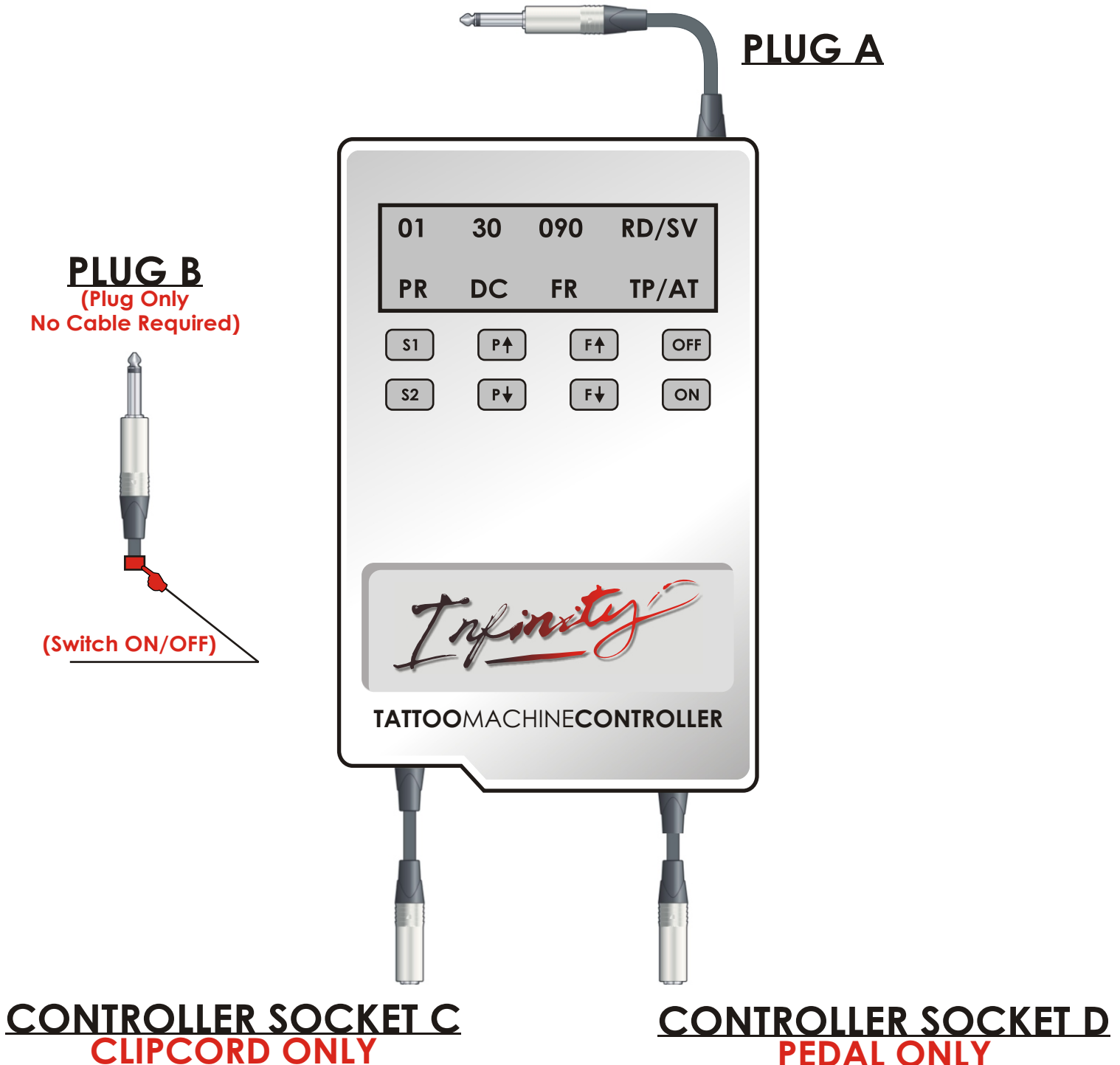
DIAGRAM 2,
Side view:



THE INFINITY CONTROLLER

OPERATING PROCEDURES

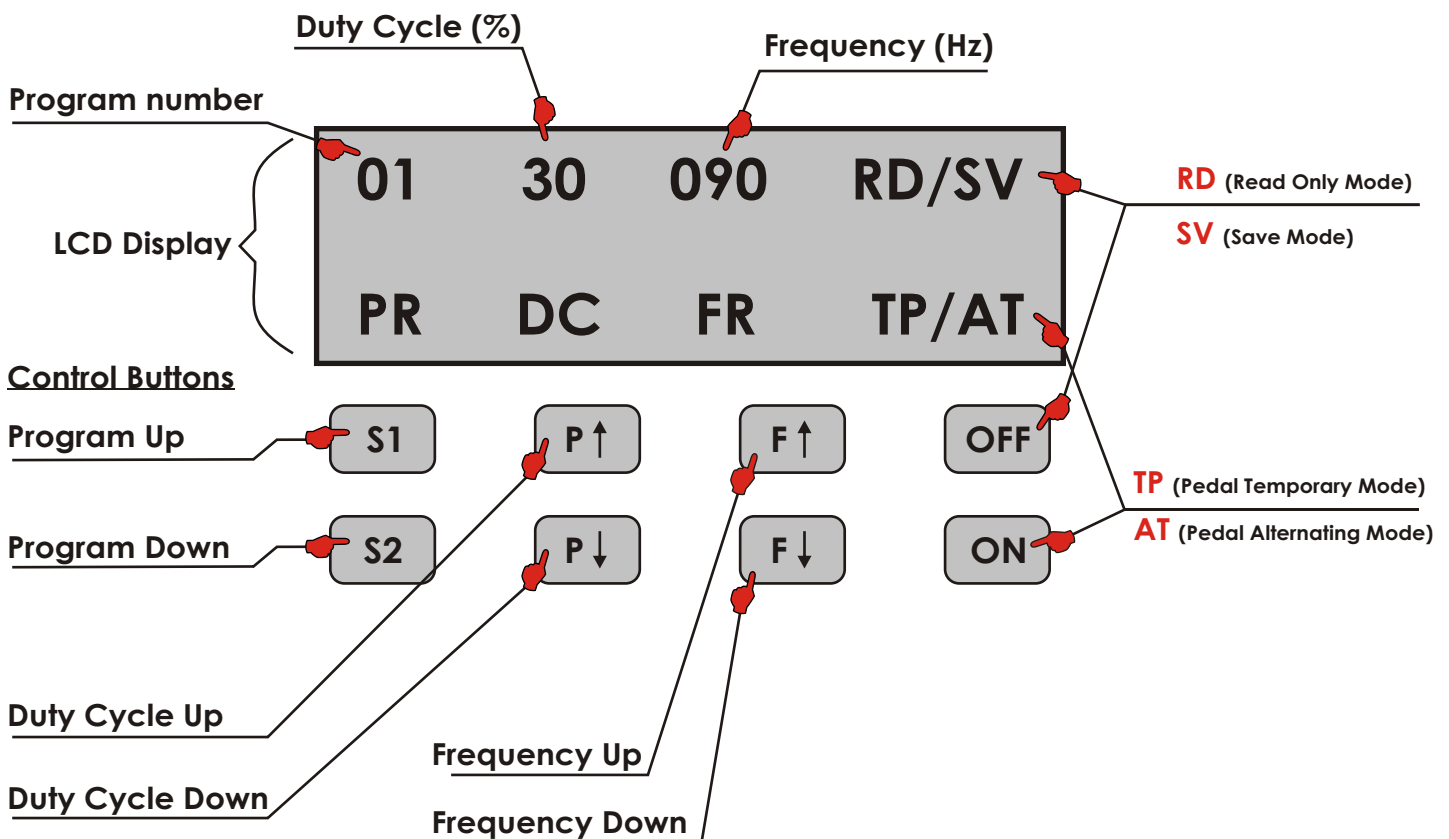
1) CONNECT THE CONTROLLER TO THE POWER SUPPLY



- Connect **Controller Plug A** into Power Supply **Clipcord** outlet
- Connect **Plug B** into Power Supply **Pedal** outlet
- Connect Tattooing Machine cord plug into **Controller Socket C**
- Connect Pedal cord plug into **Controller Socket D**

OPERATING PROCEDURE

- Switch on Power Supply
- Wait for message on LCD Display to show default values
(If the controller or power supply does not switch on immediately, PRESS BUTTON on PLUG B)



NOTE:

THE ON BUTTON

The depression of the ON button will alternate the function of the PEDAL MODE.

The TP Mode (Temporary Mode) indicates that the machine will be ON while the pedal is held depressed, and will switch OFF when the pedal is released. The AT Mode (Alternating Mode) indicates that the machine will be ON on the first depression of the pedal, and will switch OFF on the second depression.

(TIP: Depending on the make and type of the pedal internal switch, when used in AT Mode (Alternate Mode), it may be necessary to tap the pedal quickly, and not hold it depressed too long.

THE OFF BUTTON

The OFF button will display either SV (Save Mode Program) or will display RD (Read-Only Program).

The depression of the OFF button will alternate between SV and RD.