

P3 / P3+ 2009 Users Manual

Overview

The P3 is the latest generation in the Pulsed Technologies product line. This new device is the culmination of some 10 years of detailed research, design and development. The P3 is firmly founded in the basics of what has become known as Rife Technology but incorporates concepts of physics not previously utilized in other more conventional designs. Incorporation of these principles has provided new capabilities. The P3 is unlike other Rife devices and is capable of vastly extended ranges of operation. These extended operating ranges allows the user to no longer be limited to the lower audio frequencies, relying on harmonics at greatly reduced amplitudes (power levels) to affect the intended application, but to extend the operating frequency far closer to its intended target at exceptional power.



Differences between P3 and P3+

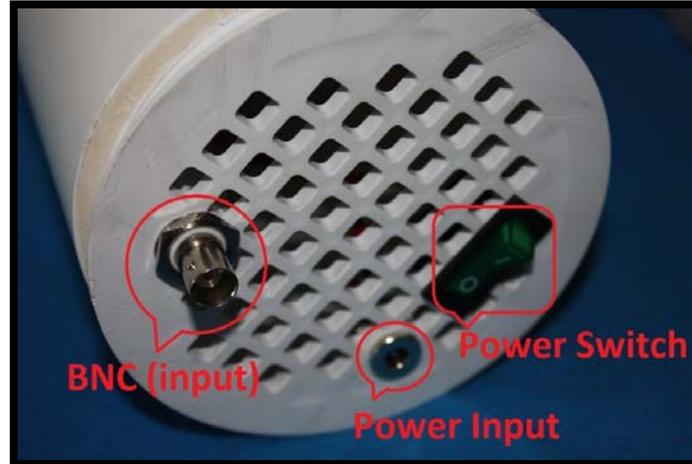
The differences between the two models are that P3+ includes the PFG* generator inside the unit, whereas the P3 needs to connect to one of Pulsed Technologies' PFG*.

The P3 is compatible with PFG1, PFG2A, PFG2X and future PFG **series** generators. (PFG*)



In this picture: a P3+ unit. Notice, there's only one USB cable, a connector for the power cord and a power switch. Both standard and custom configurations may vary slightly.

The P3 unit has an extra BNC connector, like in the picture below:



Setting Up & Connections

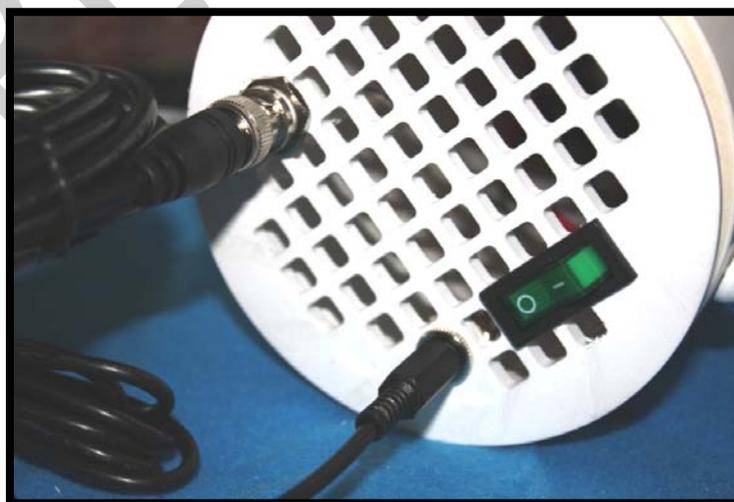
This 2009 model is designed for horizontal positioning as pictured here. The enclosure can be open directly face up or can be rotated on the feet for a forward looking position with equal performance. It is recommended the P3 be placed on a stable non-metallic desk, table or shelf.

We do not recommend placing it on the floor to avoid the dust and other objects/particles/spills/etc. {liquids drop over it.} Notice the caps at the end have holes to allow a high volume of air flow through the unit.

WARNING: Do not block the air vents / end caps.

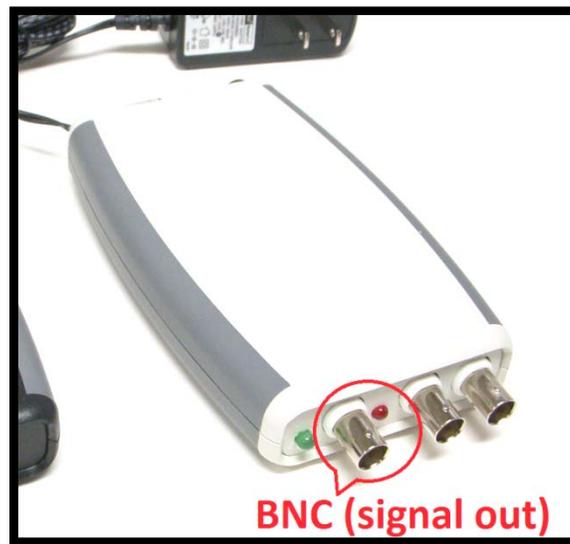
P3+ Users: the only cable you need to connect is the power cord / adapter. The USB cable goes into computer.

P3 Users: Connect the cables like in the pictures below.



1. Connect the power cord into the unit and into the wall. (Recent units have an external power supply.)
2. Connect the BNC cable into the unit (BNC input) and the other end into the Signal Output of the PFG.

Note: PFG2X has more than one BNC plugs. The signal out BNC plug is the one between the red and green lights (led), like in the picture below:



3. Connect the PFG2 unit to the computer (PFG2A or PFG2X units using the USB cable).

The next step is to install the software. If you already owned a PFG unit, you can skip this step.

Software Installation

Please refer to the section “**2. Install the software**” and section “**3. Connect the device to the computer**” from the “[Quick Start Guide for PFG2 devices](#)” document (available on the CD or our website).

Then refer to section “**5. Running the device for the first time**” from [the same document](#), with a difference only: at the operation mode: select “**P3/P3+/P3pro (plasma)**”.

Frequently Asked Questions

Q: What frequencies should I be using?

A: You can choose frequencies from the software’s library or from other sources. Most frequencies publically available are below 10,000 Hz. However, we recommended running Higher Frequencies. This is discussed in greater detail in the “Frequency Generation Considerations” document.

Q: What are Higher Frequencies?

A: Higher Frequencies, as we name them, are harmonics of the lower frequencies, usually above 20,000 Hz.

Q: How do I calculate Higher Frequencies?

A: Simply multiply your base frequency with 2, until the desired harmonic. Example: base frequency 2727; $2727 \times 2 = 5454$; $5454 \times 2 = 10908$; $10980 \times 2 = 21816$. So, replace 2727 with 21816 Hz. There’s an online calculator to help transform frequencies at: <http://www.pulsedtech.ro/hfcalc/> developed by Pulsed Technologies ROMANIA.

Q: What waveforms (function) should I be using?

A: For the most part use Square. However the P3 works better when the function is “ramp_dn”. We recommend “ramp_dn” for frequencies above 20,000 Hz.

Q: Where should I place the unit?

A: On a non-metallic table, desk or shelf. Avoid placing it on the floor, or in places where objects or liquid can fall on it.

Q: How far / how close should I stay away from the unit?

A: You can ideally stay from 1 foot (0.3 meters) to anywhere up to 50 feet (15 meters) or more.

Q: Do I need to be in the same room with the P3/P3+ unit?

A: Not necessarily. The waves/fields generated will be effective across rooms, through the walls.

Q: Do I need to see / be exposed to the light?

A: Not necessarily, however this might increase efficiency.

Q: What if the glass/plasma tube breaks? Is it dangerous? Can it be replaced?

A: It happened only one time in over 10 (ten) years. If during operation, shut off the unit immediately, and do NOT try to repair yourself!. Pack the unit carefully into the box and send it to us.

We can replace the tube. Breaking the tube won't inflict any danger on you. All Pulsed Technologies P3 and P3+ designs use only inert noble gases and never contain mercury, lead or anything harmful.

Q: What does the plasma tube contains?

A: The glass / plasma tubes contain noble gases in an proprietary mix: Neon, Argon, Krypton, Xeon and sometimes Helium, thus assuring a wide and complete spectrum generation. The glass itself is known as Pyrex, non-leaded glass.

Q: Are there any harmful UV emissions from the P3's plasma tube?

A: No. The P3's spectrum is within safe limits.

Q: How long should the plasma/glass tube work?

A: The plasma/glass tube itself has an exceptionally long life and should provide many years of service. There are plasma systems built ten years ago still in operation.

Q: For how long should I run the unit/frequencies?

A: Less is better. Use it for how much you feel necessary, don't overdo it. We recommend you to refer to the document [Bioenergetics Session Considerations \(PDF, 4.7MB\)](#) for more information. Usually, running a frequency from 30 seconds up to 180 seconds should be enough.

Q: I have too many frequencies and take a lot of time to run, what should I do?

A: Using the Higher Frequencies Calculator ([located here](#)), it will identify duplicate harmonics even if the base frequencies are different. You can also split frequencies and determine which frequencies are more efficient. Do not neglect the others

Q: What are sweeps? Do I need it?

A: Sweeps are useful for more limited equipment. They are ultimately not desirable for the most effective results. We have learned that, when using Higher Frequencies, there is much less the need for sweeps. For lower frequencies you can create frequencies close to the base frequency, within 1 or 2 Hz range. Example: base frequency 2727. Use the following frequencies to emulate sweep, by adding or removing 0.5Hz from the base frequency: 2726, 2726.5, 2727.5, 2728. The recommend higher frequencies would be: 21808, 21812, 21820, 21824, 21816 (calculated using the Higher Frequencies Calculator).

Q: Where are the documents located?

A: All the documents referred in here, including this one, are on our website (www.pulsedtech.com) as well on the provided CD.

Q: My P3/P3+ interrupts while running a frequency. What should I do?

A: The most probable cause is the core overheating and there's an automatic fail safe system that turns off the unit to cool down.

What can you do:

- Assure the unit has proper ventilation and that the end caps are not covered.

- Move it away from heat sources.
- Adjust the offset (if your PFG device allows for programmable offset adjustment; PFG2X does not)
- Change the waveform/function (square, ramp_dn or other)

Adjusting the offset & changing the waveform/function accordingly:

We have improved our units in the last few years, all but eliminating the need for adjusting the offset. Usually, the very low frequencies (less than 100 Hz) and very high frequencies (around and above 100,000 Hz) might require adjusting the offset to properly run the frequency for the desired amount of time.

Please read the rest of document to understand how it works and how to manipulate frequencies more efficiently!

P3 Operation and Frequency Validation Process

PREREQUISITES:

It is assumed the new P3 user ALREADY has a working knowledge and proficiency with the PFG and PFG Lab software, as well as a practical knowledge of the wave sequencing/scripting capabilities. The user MUST understand the limits of the particular type of equipment being used.

With these extended ranges comes the necessity for exceptional materials, exotic cooling, and intelligent self monitoring. These areas have been addressed by the designers to free the user to concentrate on practical and productive operations. For this reason, dangerous areas have been sealed to prevent accidental exposure to potentially fatal areas.

Under NO circumstances should any sort of user repair be attempted. Please return to manufacturer for any required repairs or upgrades.

As you have been made aware, the PFG technology and software is a requirement for proper use of the P3 unit and its extended capabilities. While conventional Rife frequencies can typically be accessed without much trouble, you are no longer restricted to use frequencies in the audio ranges. It has long been known that the effective resonances were actually harmonics, rather than the entered fundamental frequency. The P3 is capable of driving frequencies many times, even hundreds of times, higher than the limits you may be used to.

The PFG allows for great control over the waveform itself and this is often a key to the proper build up of high voltages in the coil which may exceed 150,000-200,000 volts. Triangle, ramps and various library waveforms (provided with your software) and proper manipulation make this possible. Depending on your unique needs, other waveforms, even user designed, may be even more beneficial.

Unlike using the Hi-Impedance/Contact capabilities of the PFG, the P3 requires each of the frequencies in your proposed script to be manually tested, adjusted and validated before final use in your script use.

Manipulation of Waveform

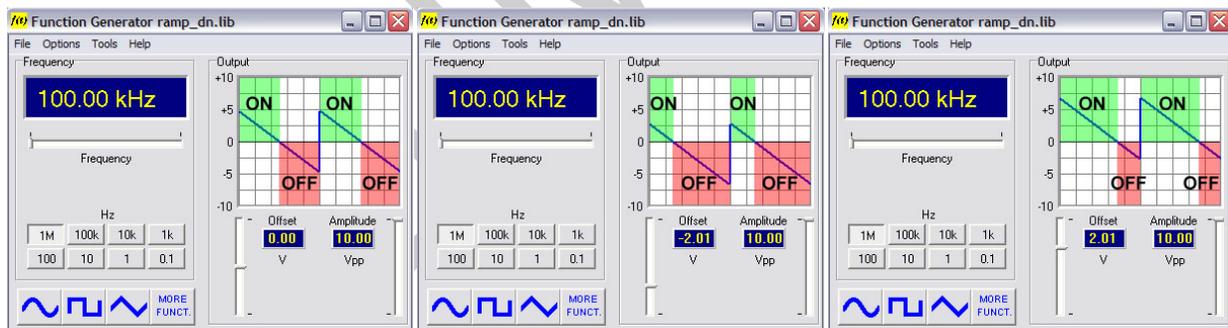
The P3 has been manufactured to practically operate to frequencies in excess of 100,000 Hz and those frequencies should be easily accessible to the average user. In the lab we have exceeded operational frequencies in excess of 200,000 Hz and have not yet discovered an upper limit.

Plasma requires a minimal amount of excitation time for proper activation. As frequency goes up, the length of time the waveform is on (pulse width) understandably becomes increasingly shorter. The P3 has been designed so that the user can visualize on the GUI display a relatively accurate representation of the function energizing the circuitry.

While the most harmonics are generated using the square waveform, it may be particularly advantageous to use other forms when manipulating the field of a coil which in turn drives the power to the plasma tube. Higher frequencies may in fact respond far better to a manipulation of various forms of ramps (a specific form of triangle wave). Ramps may have especially advantageous effects when working with high voltage systems.

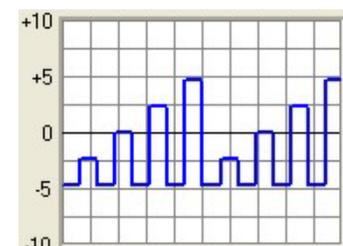
Circuitry within the P3 works with the PFG to allow for optimal triggering of the plasma in a manner not available in other devices as well as allowing the user a relative pictorial representation without unnecessarily elaborate or expensive equipment.

Frequency control is pretty much straight forward and follows the standard procedures in even simple contact applications.



Affecting triggered "on" to "off" time ratios can best be manipulated by use of the offset control which raises or lowers the waveform in relation to zero. In this manner, positive voltage corresponds to "on" time. As a note, the tube light actually comes on after the "on" time, during the off time, but it does not last the whole "off" time.

You may choose to design a waveform of your own choosing using the included waveform editor to construct a superior operating control for your particular application.



It is advantageous to manually try out and run each of your selections in advance, optimizing each, and then recording the settings for inclusion in your personal wave sequence.

Hint 1: If the user so chooses, the “repeat” check box may be selected to continually run the wave sequence until terminated by the operator.

Hint 2: If the basic waveform is identical to the previous, you may select function “0” for the previous waveform type to bypass reloading the mathematic description each step. Offset, voltage, and time (duration) can still be.

Note: In the sample shown here, lines 1, 2 and 6 are using a square wave signal. Line 3,4 and 5 are using the library defined “ramp_dn” waveform with the “0” designating to reuse/repeat the current waveform in processor memory. Line 2 could similarly been indicated to repeat the square waveform from line 1.

High Temperatures and Heat

Higher frequencies and long durations may cause localized internal temperatures to rise quickly beyond normal parameters. These areas are not accessible to the user. The unit contains both peltier and strategic controlled air flow cooling which appears to the user as a seemingly open system. Noticeable warm temperatures are likely not sensed by the user. It is important that the system never be operated outside of its case. A “self-protective” mechanism will disengage the plasma drive temporarily to prevent overheating and damage. If you notice an un-programmed cycling of the tube, stop immediately and adjust your parameters (typically the offset) or frequency so this cycling does not occur.

With proper care, planning and attention to your user programs, the P3 and PFG should provide many years of regular daily use, even in a formal private or professional group setting.

Further Recommended Reading:

- [FREQUENCY GENERATION CONSIDERATION](#)
- [PULSEDTECH DEVICE CONSIDERATIONS](#)
- [BIOENERGETICS SESSION CONSIDERATIONS](#)
- [WORKING WITH THE PT HARMONIC FREQUENCY CALCULATOR](#)

These documents can be found on our website at www.PulsedTech.com/download/documentation/

Recommndations

Many of the users, especially those desiring to use the equipment directly in association with Rife related applications have asked for general guidelines.

Frequency	Offset	Voltage/Amplitude	Function Library/Waveform
1,000 Hz	_____	10	2 - Square
5,000 Hz	_____	10	2 – Square
10,000 Hz	_____	10	3 - Triangle
20,000 Hz	_____	10	4 – ramp_dn.lib
30,000 Hz	_____	10	4 – ramp_dn.lib
40,000 Hz	_____	10	4 – ramp_dn.lib

50,000 Hz	_____	10	4 – ramp_dn.lib
60,000 Hz	_____	10	4 – ramp_dn.lib
70,000 Hz	_____	10	4 – ramp_dn.lib
80,000 Hz	_____	10	4 – ramp_dn.lib
90,000 Hz	_____	10	4 – ramp_dn.lib
100,000 Hz	_____	10	4 – ramp_dn.lib

We do not recommend users operate above 100,000 Hz unless they are outfitted to properly monitor output and understand the implications of operating in the regions above 100,000 Hz. Similarly, very low frequencies also require a degree of care when utilizing the “old” conventional audio settings. Best P3 performance, operation and effective results are obtained when using frequencies **above 10,000 Hz and below 90,000 Hz**. Although far beyond the scope of this simple instruction sheet, this is especially true for those investigating biological and molecular applications.

Square waves can generally be used for the lowest frequencies, under 10,000 Hz. Ideally however, it is better to utilize frequencies much closer and concentrate your applied power much closer to the actual useful frequency.

While the triangle function (3) can be used for the upper ranges (10,000 Hz to 20,000 Hz), there are some distinct technical advantages to using one or more of the library waveforms.

The “ramp_dn.lib” is the preferred choice for most work with upper P3 frequencies (above 20,000Hz).

The samples given in the above set are ONLY starting points. Your system may differ. Adjust your waveform and offset so that they can run for long periods of time without overload protection activating.

It has been noticed that regular use of the system makes operation easier. The more a system gets used, the more forgiving it is on settings and the easier it becomes to access the higher and lower frequencies. All systems are shipped with NEW tubes that have only had very minimal *burn-in* time (*burn-in* means running the P3 system long periods of time). To provide completely burned in tubes could easily add several hundreds, even thousand dollars to the price of the system. Most people have opted for the lower price and to do this *burn-in* themselves via regular use.

It is important to note that, if the P3 system is not used for long period of times,

Pulsed Technologies strives to provide the very best experimental equipment for resonant frequency plasma research and education.