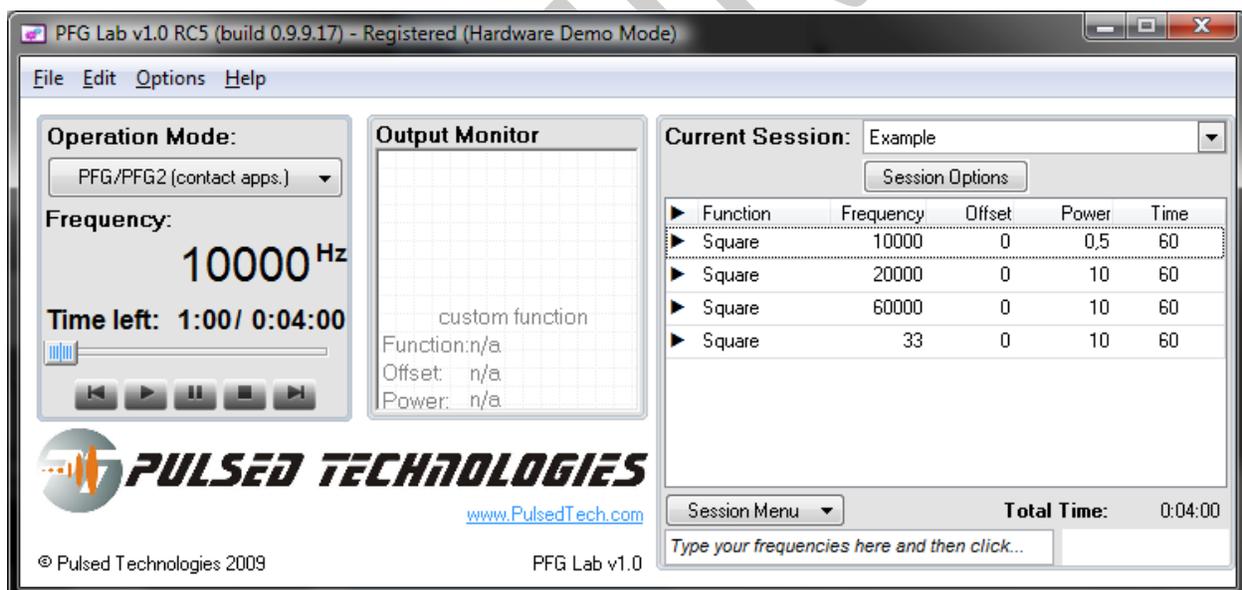


PFG Lab Manual v1

by Paul Dorneanu



This is a preliminary manual for PFG Lab version 1. The last version of the software, at the moment of creating this document (4/24/2009) is version 0.9.9.17. This manual is subject to change.

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PRELIMINARY

Introduction

PFGLab v1 software operates the following function generator devices provided by Pulsed Technologies: PFG1A and PFG1B, PFG2A and PFG2X. The P3+ systems have either PFG2A or PFG2X inside.

Installation

Download the latest version of the software from our website (www.pulsedtech.com) in the Download area. Run the executable you have just downloaded (setup_pfglab_v0.9.9.17.exe).

After installation is done, you will be asked for registration of the software.

All versions of Windows are supported. We recommend using Windows XP (SP1 or latest), or Windows Vista (SP1 recommended). The software works on 32 and 64 bit Windows operating systems.

Update

If you are update from a previous version of the software, during installation you will be asked to overwrite your database.

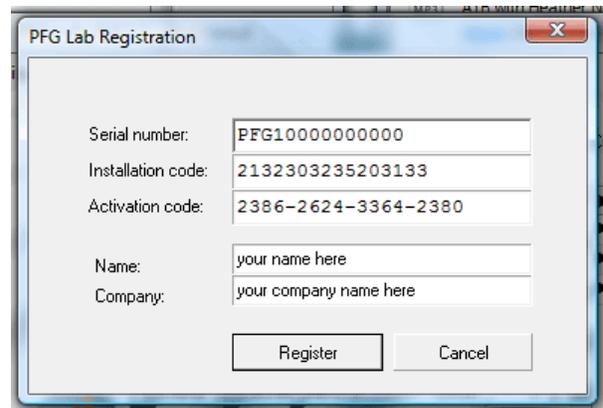
If you update from a version earlier than version 0.9.9.4, it is highly recommended that you backup all your sessions (export them) and overwrite your database. Otherwise it is not necessary to overwrite your database, unless there are problems with your software.

IMPORTANT: Overwriting the database WILL LOOSE ALL YOUR SESSIONS, SETTINGS AND REGISTRATION INFORMATION.

Registration

To operate with the software you need to register the software.

You need to enter the **serial number** and activation code. The **serial number** can be found on the back of the unit. The **activation code** will be generated by Pulsed Technologies. You can call or email Pulsed Technologies and provide your serial number and activation code to get the activation code.



The **installation code** already appears in the registration window. It is a unique identification code which differs from computer to computer. The activation code is 16 digit numbers (4 groups of 4 digits)

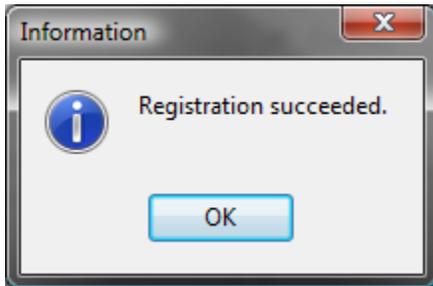
Contact Support to get an Activation Code: support@pulsedtech.com OR call 214-453-0095.

The Name and Company fields in registration are optional.

You can always review and change your registration information by going to Help menu and choose Registration.

IMPORTANT: When update or reinstall the software, please make sure you write down your installation code to be able to re-register without calling Support, if you have chosen to overwrite the database.

If installation succeeds click OK:



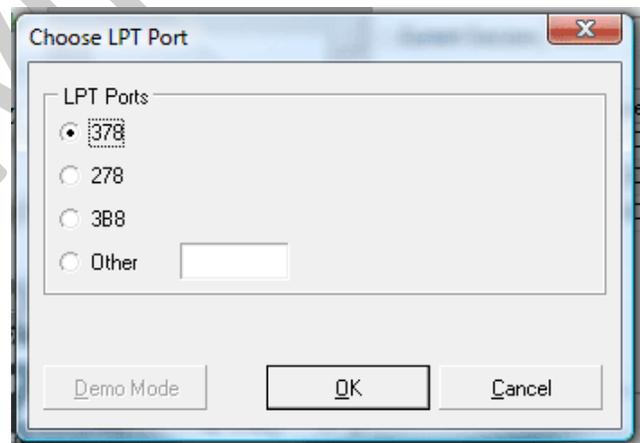
Configuration

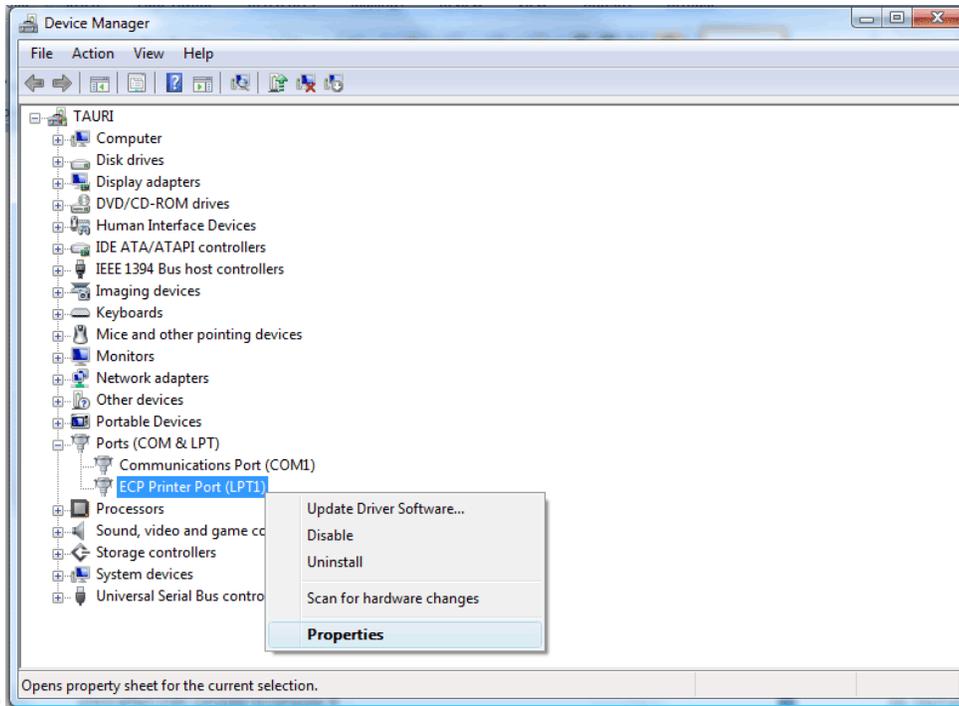
Depending on the serial number you provide, the program will make a difference between PFG version 1 (Parallel Port Device) and PFG version 2 (USB Port Device).

PFG version 1 (Parallel Port Device) configuration:

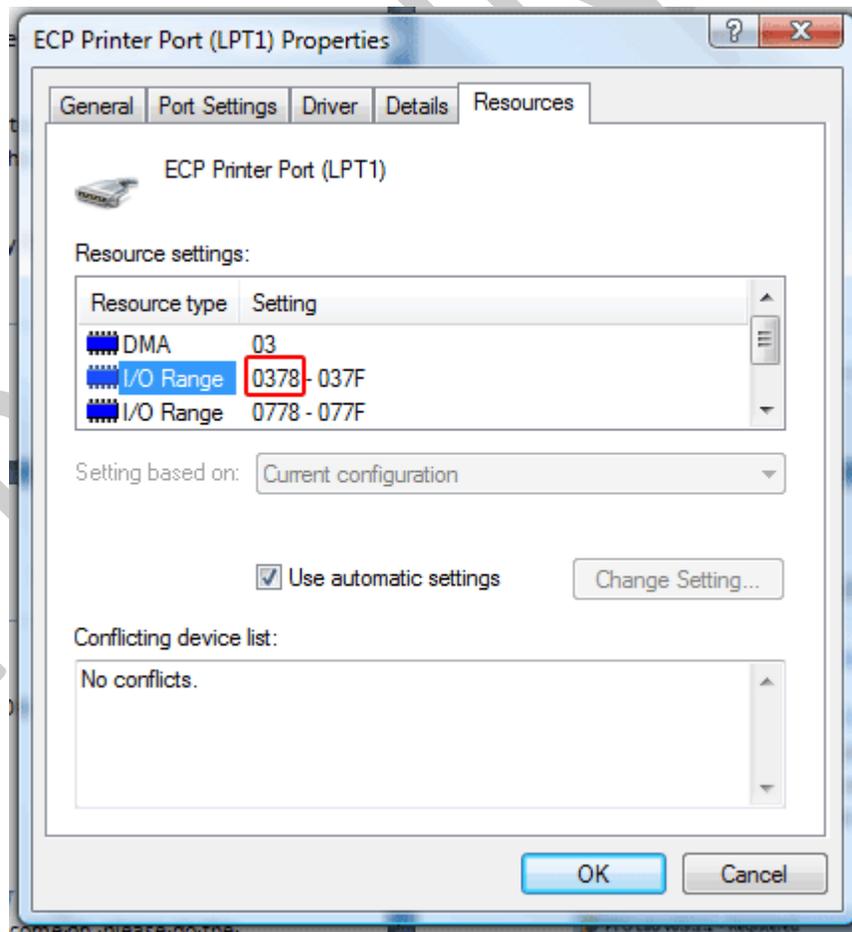
When you run for the first time the software, you will be asked to select the LPT port. You can choose from the 3 predefined ports (378, 278 or 3B8) or enter the port manually.

Most of the time, the default port for LPT parallel port is 378. In case your LPT port is set to run on a different address you can find the address in: Control Panel > (1) Device Manager > Ports (COM & LPT) > (2) properties window of Printer Port hardware device > Resource tab > the first I/O Range (disregard the leading 0). See in the screens below the steps.





(1)



(2)

If needed you can change the I/O Range to 378 by unchecking "Use automatic settings" and then select a differed configuration from the list where it says: Setting based on: Current configuration which will activate after you uncheck "Use automatic settings".

MORE STEP-BY-STEP INSTRUCTIONS NEEDED. PLEASE SEE THE INSTALLATION AND SETUP GUIDE. DOWNLOAD THE PDF FROM OUR WEBSITE, IN THE SUPPORT AREA.

WARNING: WINDOWS XP/2000/NT USERS

You need to have administrator rights to properly use this software.

WARNING: USERS OF VISTA OPERATING SYSTEM

Because Vista operates differently than Windows XP, it is recommended that you run "As administrator" this software [this needs more testing]

AT THIS MOMENT THE PROGRAM SEEMS TO HAVE A PROBLEM WRITING THE INI FILES (CONFIGURATION FILES). TO CHANGE THE PORT YOU NEED TO GO TO Start > All programs > Pulsed Technologies > PFG Lab v1 > PC-LAB2000 (CONFIG), RIGHT CLICK AND SELECT RUN AS ADMINISTRATOR. ONLY FOR PFG V1. SET THE PORTS, MAKE SURE POWER LIGHT AND ACTIVE LIGHT COMES ON. CLOSE FUNCTION GENERATOR. START THE PFG LAB NORMALLY.

TO PERMANENTLY HAVE THE PFG LAB OR PC-LAB2000 (CONFIG) RUN AS ADMINISTRATOR RIGHT CLICK ON THEM AND SELECT PROPERTIES , GO TO COMPTABILITY TAB AND CHECK "RUN THIS PROGRAM AS AN ADMINISTRATOR".

Troubleshooting:

Situation: Power Light does not comes on, even if I set the proper port:

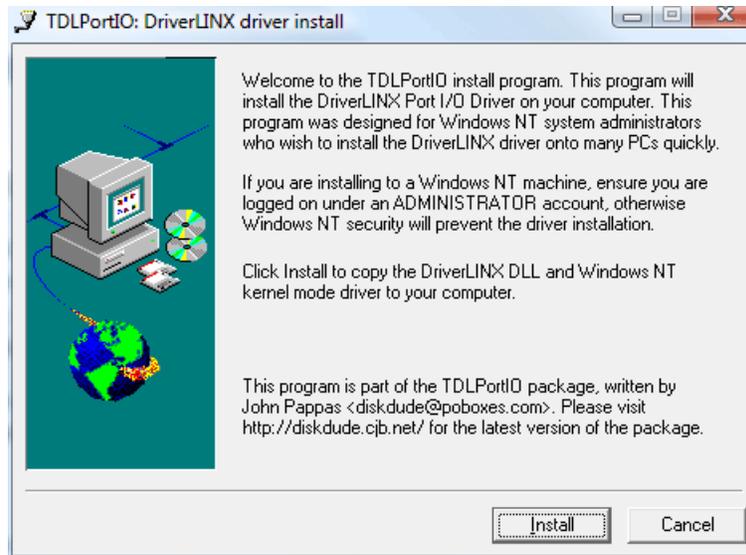
Solution: If you made the proper port settings and the unit's Power Light has not come on, please do the following: Press Start button > All Programs > Pulsed Technologies > PFG Lab v1 > and click PC-Lab2000 (Config).

Select the following settings in the window that appears: USB Devices: None, LPT Devices: set the address to the one you set earlier (378/278/3BC or other address you found in Device Manager). Click OK. The Function Generator window will appear and the Power Light should turn on the unit.

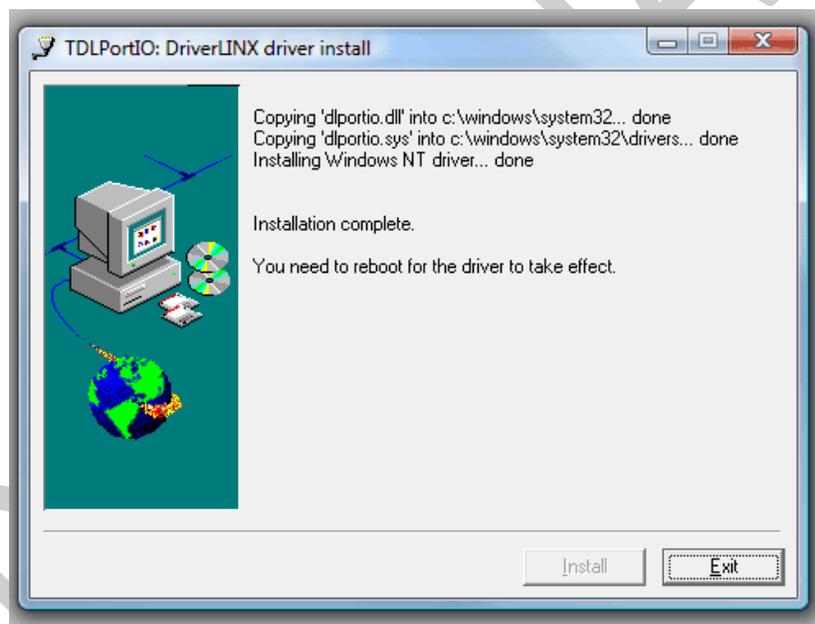
If Power Light has still not come on, please check the cables, power adapter and the address in Device Manager. You may have to change the LPT port address from the one you are using to another one like 378/278/3BC. If that does not fixes the problem, please call or email Support. There might be a hardware problem with the device.

Situation: Could not load driver

Solution: Install driver by going to Start > All programs > Pulsed Technologies > PFG Lab v1 > InstallDRV.



Click INSTALL.

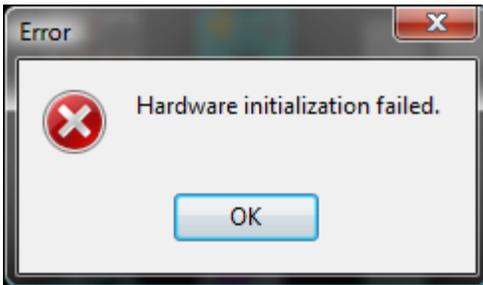


Click EXIT and REBOOT your computer BEFORE continuing.

PFG version 2A and 2X (USB Port Devices):

After registration, the software automatically knows what device to work with, depending on the serial number you have entered.

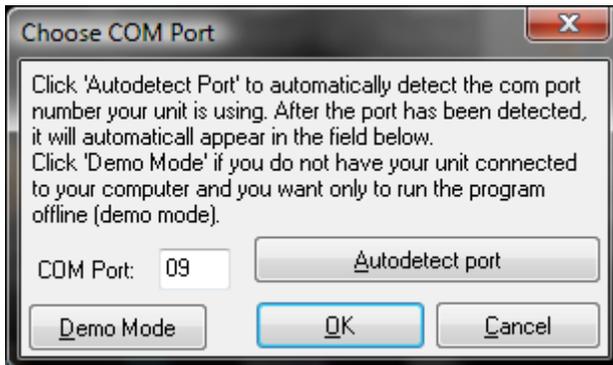
The first thing after registration you will see an error message window:



You are getting this error message either because your unit is not connected to the computer or COM port the software is trying to use to connect to the unit is wrong.

Click OK to continue.

A new window appears asking to choose the COM port:



The easiest and quick way is to press "Autodetect port" button. The software will try to locate on what COM port the unit is connected to the computer.

If the unit cannot be located, you will get a message like:

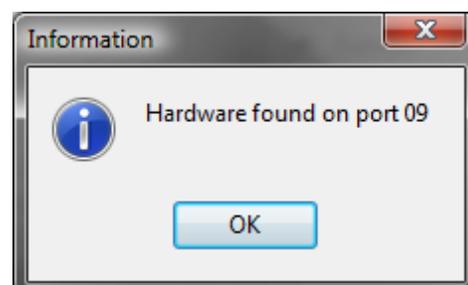
This means that the unit is either not connected to the computer or there are some problems with the drivers.



When the unit has been found, you get a message like:

Click ok

The port number will be automatically appear in the "Choose COM port" window above. Click OK to continue.



If you do not have a unit connected to your computer, you can still run the software in a “Demo Mode” with limited functionality. To do this, just press Demo Mode button. To be able to use the software with his complete functions, please close PFGLab and start it again.

PRELIMINARY

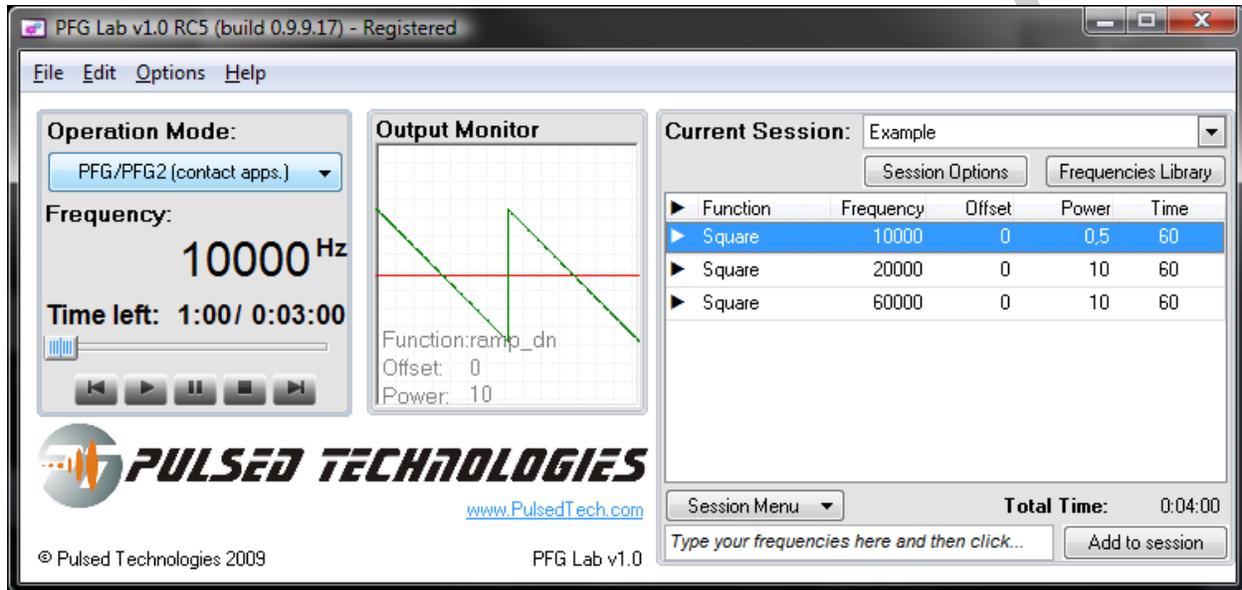
PRELIMINARY

Operating with the software

Overall description of the interface:

The interface is has 3 sections:

1. Operation mode, session/frequencies control buttons
2. Output monitor
3. Current session

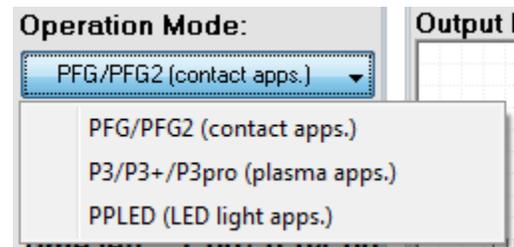


The above screen captures explains most of the buttons and features this interface has.

Operation Mode:

The PFG Lab has 3 running mode:

- PFG/PFG2 (contact apps.)
- P3/P3+/P3pro (plasma apps.)
- PPLED (LED light apps.)



The **PFG/PFG2 (contact apps.) mode** is intended to be used only in contact mode (using the electrodes), where the offset is not important, that's why it is disabled.

In the **P3/P3+/P3pro (plasma apps.) mode**, where you use the plasma tube system, the software locks the power (also referred in some other areas as amplitude or voltage) at the 10 level, which this is the required value so that the P3 system works correctly.

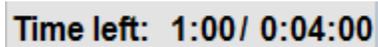
Session control buttons



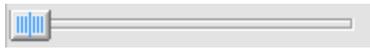
The session control buttons controls (play, pause, stop, next, previous) the frequencies (listed in the Current Session Table, in the order) like you would do with a normal media player.



The frequency that's displayed is the current frequency that is running. When changing the session or starting the program the frequency that appears is the first frequency from the current session.



The time left displayed is for the current frequency (left) and for the current session (right).



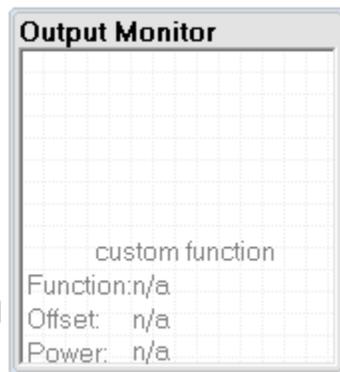
This is the seeker. Drag this to shorten (to right) or extend (to left) the duration of the frequency.

Output monitor

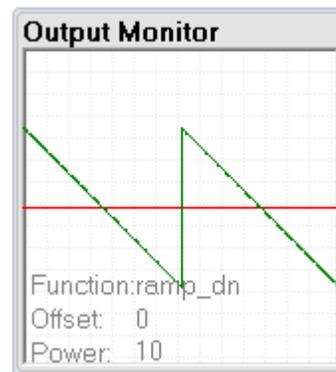
The Output Monitor displays a simulation of what is actually being output.

For example, if you are running in P3/P3+/P3pro plasma apps. Mode, the power will always be 10, no matter what is set in the current session table.

If nothing is running, it will be like:



Example of ramp_dn

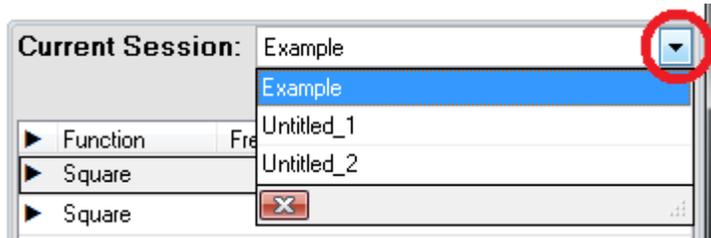


Current Session:

You current session has several information and buttons.



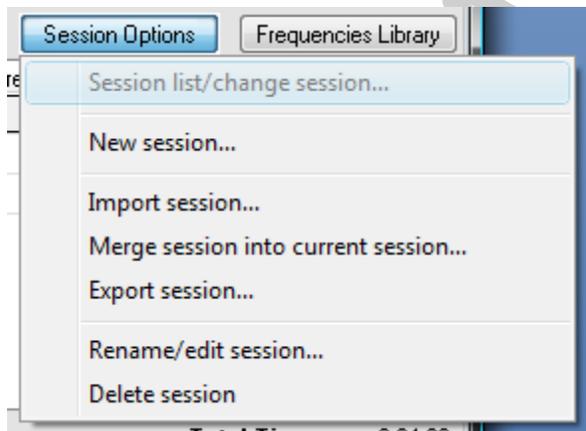
This one shows that the current session selected is Example.



If you click the arrow shown in the above picture, it will drop down a list of the existing sessions. By the fault the software is shipped with 2 sessions: Example and Support HF. Clicking a session name in the list will switch to that session.



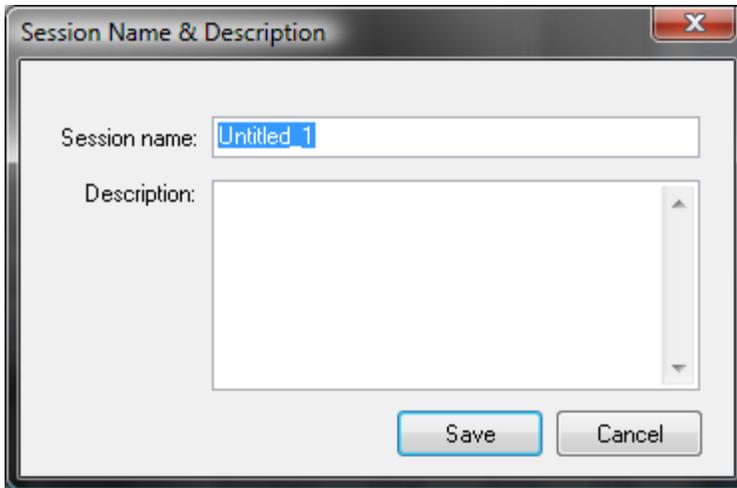
Operations are available through the Session Options button you will see the following menu, from where you can create a new session, rename / edit the current session, delete the session, import/merge/export a session.



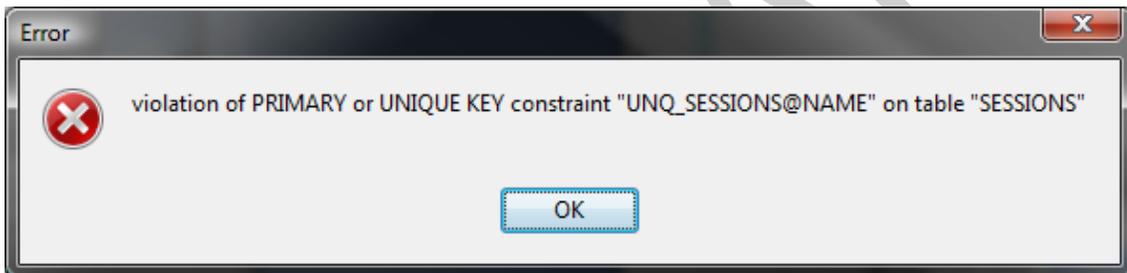
Every of these options is explained down below.

New Session

Creates a new empty session. A window will appear asking you to choose a name. Default name is Untitled_1. If there is another session with this name, it will appear Untitled_2 (and so on). You can type anything you want in the Description text box. This helps knowing better, for example, what you have created the session for and what it contains.



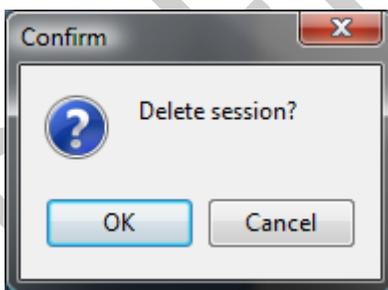
If there is already a session with the name you are setting, an error like this one will appear:



Click OK and then click again Session Option > New session and choose a different name.

Delete Session

Deletes your current session. You will get a confirmation window asking you if you really want to delete the current session.

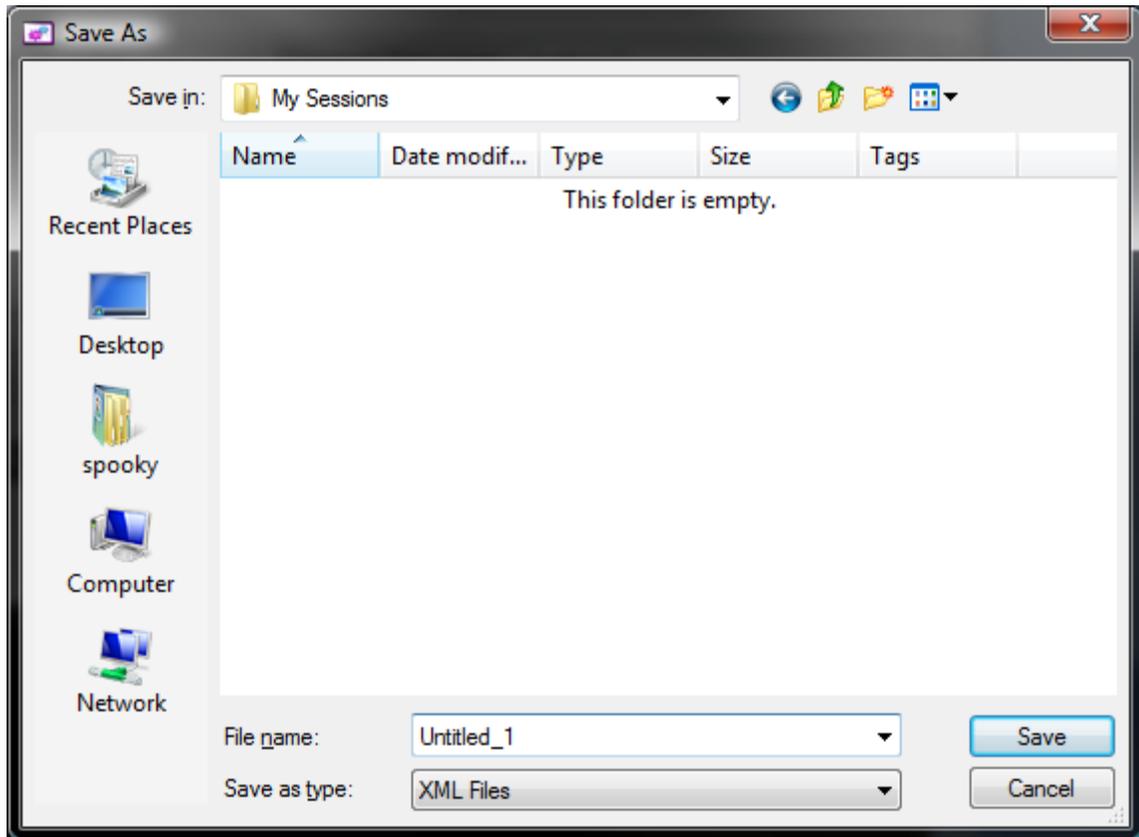


If it is the last session, a new empty one will be automatically created called Untitled_1 and will be switched to it automatically.

Export Session

Export your current session to an XML format file which can be later imported into another program or played by the PFG Lab Player.

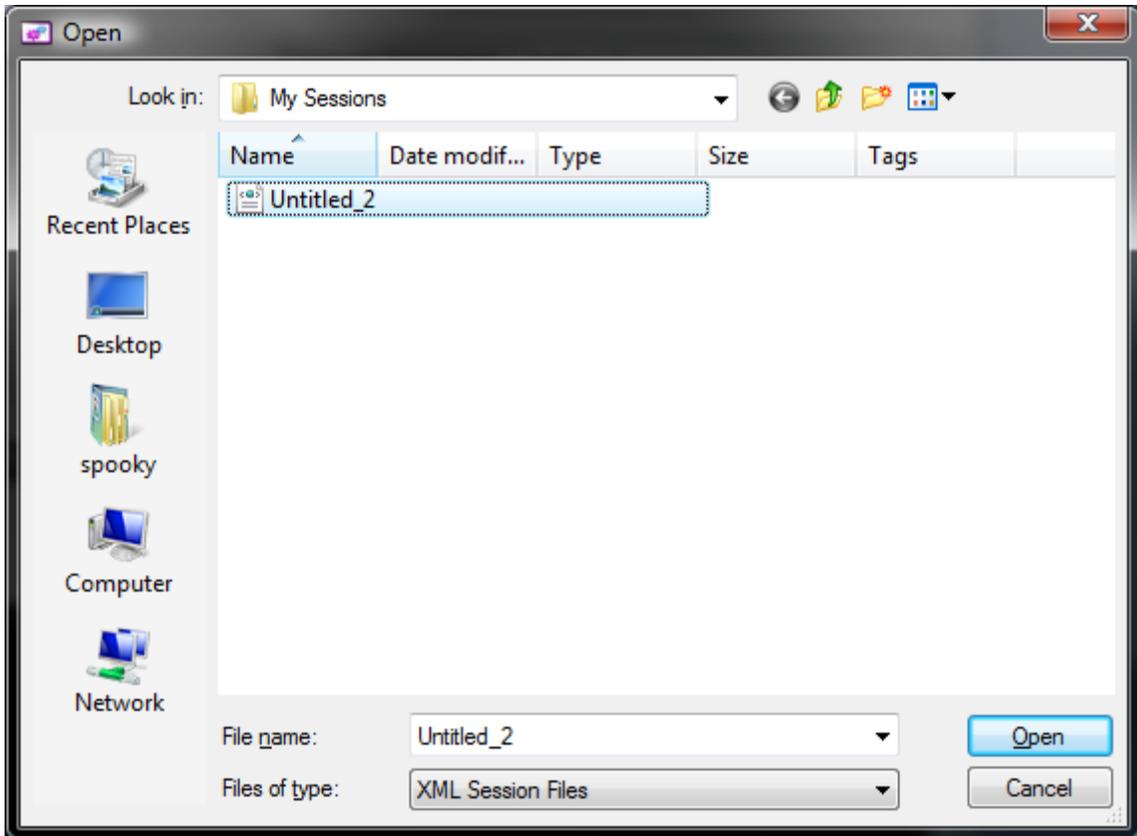
A “Save as” window will appear asking you to choose where to save the session and set the name for the file to be saved as.



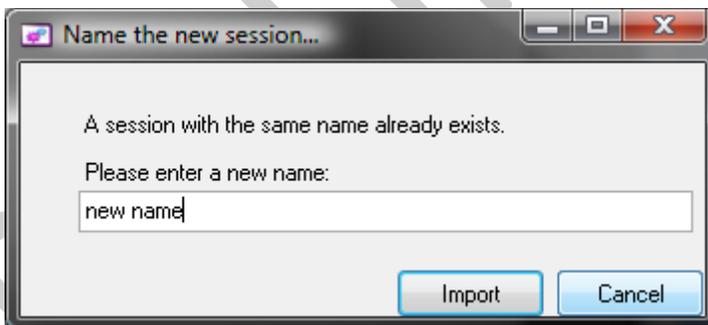
This is ALSO a good way to BACKUP your sessions (if you want to update and overwrite your database).

Import Session

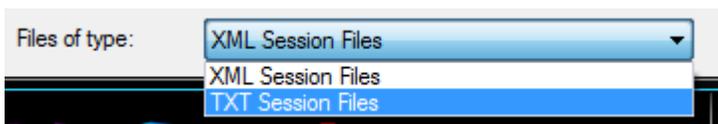
From here you can import sessions (XML files) created with PFG Lab v1 or a import files (text – TXT files) created with a PFG Lab v0.1 or RIFEforLIFE software.



Click a file to select it and then click the Open button. Your file will be imported to the program and will have the name of the file. If the file name already exists in your session lists, a window will appear asking you to enter a new name for the session name:



To import a text (TXT file) session you need to click where it says XML Session Files and select TXT Session Files, like shown below.



Then browse to the folder where you have your files located and click a file and then click Open.

Merge Session into Current Session

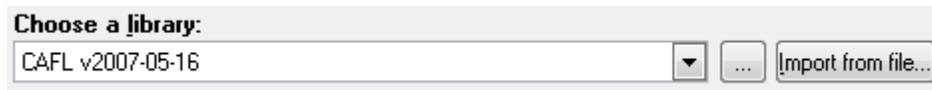
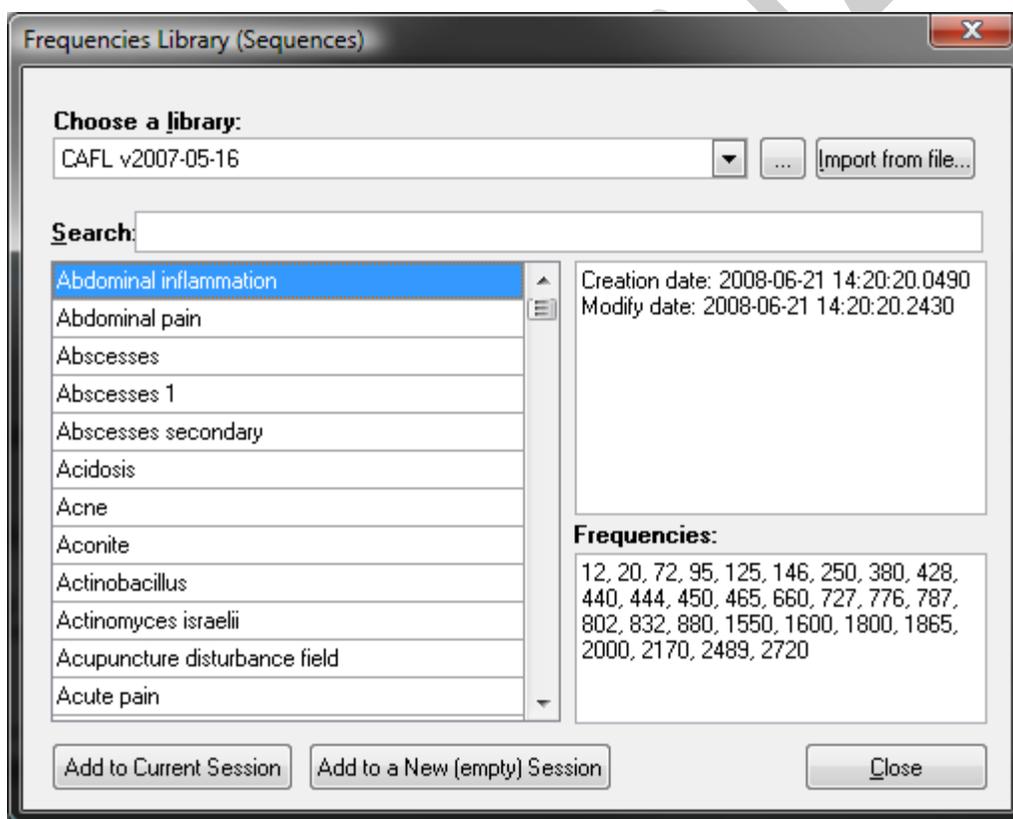
Works same as import session, except, it inserts the frequencies into the current session, without creating a new session. You can merge XML or TXT session files.

Renamed / Edit Session:

Allows you to rename the current session and embed a description/comments, which can later be reviewed in the PFG Lab Player or other places that shows you description of a session file (for example, the library shows the description of a session; when you export several sessions you can archive them into a ZIP file and can be distributed as a library).

Frequencies Library:

If you press the Frequency button in the main program  a window will appear, like the one below, which will give you access to the frequency library that the software is provided with. Currently, only the CAFL list is provided. More libraries to come.



If you click this button  as you see in the image above, a menu will appear allowing you to delete the library. You probably don't want to do that except when you want to import a newer library than the one you currently have.

The import file button allows you to import a library with new frequencies. When this becomes available, it will be announced on the Pulsed Technologies website and will be made available like a zip file.

The search box allows you to search & filter only the wanted items.

Search: As you start typing you will notice that the list changes to what it finds/filters:

Abdominal pain
Acute pain
Bunion pain

The word "pai", in this example, returns the seen items that contain the letters typed. "pai" is contained by "pain" or "repair".

If you press "Add to Current Session", the frequencies of the item selected will be added to your current session, at the end of the list, in the order you see them.

If you press "Add to a New (empty) Session", the frequencies of the item selected will be added to a new empty session, with a default name (Untitled_...), in the order you see them.

As soon as you press either of those two "Add" buttons, the window will close. If you want to close the window without adding any frequency to your session or to a new session, just click "Close" button.

Current Session Table

▶ Function	Frequency	Offset	Power	Time
▶ ramp_dn	100	0	10	60
▶ Square	200	0	10	60
▶ Square	300	0	10	60

This is the current session table.

There are 5 columns:

1. Play button ▶ (you can start playing the frequency with this button)
2. Function (name of the waveform/function; i.e.: square, ramp_dn; triangle, sine etc.)
3. Frequency (the frequency in Hz to be played; can take values like 7.83)
4. Offset (the offset for the frequency; maximum is +5 and minimum is -5; can take values like 0.3)
5. Power (also known as amplitude or voltage; the value represented here is not expressed in Volts; minimum is 0 and maximum is 10. You can have power values like 0.1 or 0.5 or 5.5)

- Time (the playing time for each frequency expressed in seconds)

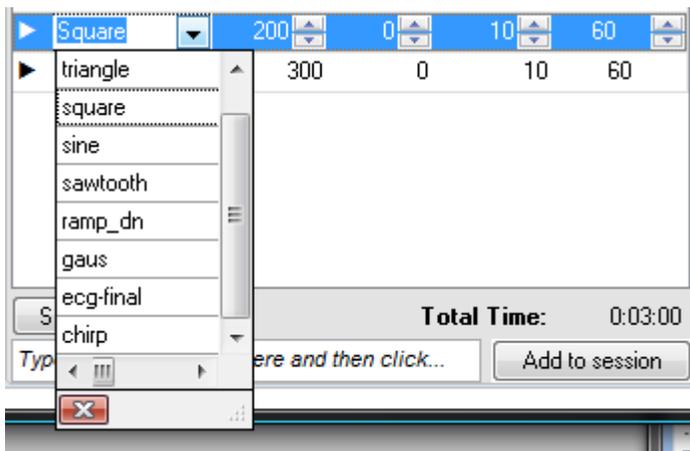
Editing a frequency/row in session table

You can edit manually the session table by either pressing F2 on your keyboard so you enter the edit mode or by double clicking a row. Example:

Function	Frequency	Start	End	Time
ramp_dn	100	0	10	60
Square	200	0	10	60
Square	300	0	10	60

You can modify each of the setting, including the frequencies. If you use the arrows to increase/decrease the values () the values will change with the values found in the Options > Edit increments menu (this is covered later in this document).

If you click the () button, to the right of the function name, a menu like this will appear:



You can change to any of the functions/waveforms available for your device. This list depends on the device you are using. Waveforms can be manually added later.

To cancel the selection click the (x) button.

To exit the edit mode, click above or under the highlighted/selected row in the session table.

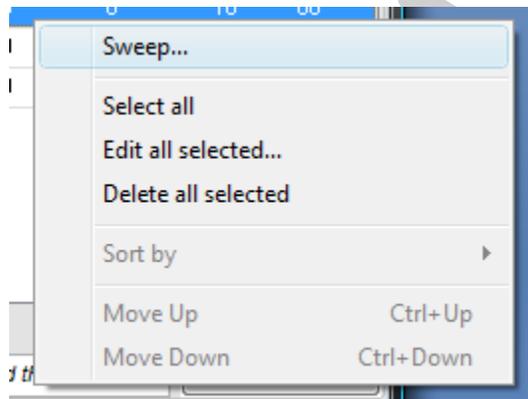
You can play any frequency from the ► (play button) in front of each row (frequency). It will go automatically through the next frequencies to the end of the session (unless shuffle/random mode is enabled).

Another way to edit a frequency is by right clicking the selected/highlighted row/frequency and selecting "Edit all selected..." This is explained in detail down below.

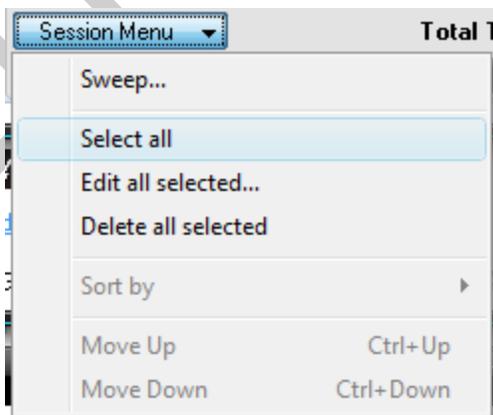
Editing multiple frequencies/rows

To edit one or more frequencies (rows) in your session table you need to select one or more rows. To do that you have several ways to do it:

1. This method allows you to select different rows in any order you want. Press and hold CTRL button on your keyboard and click the desired rows. You can scroll down or up if needed.
2. This method allows you to select a range of rows. Click on the first row and then press and hold the SHIFT button on your keyboard and click the row to select the a range of rows (consecutive rows).
3. ... or select all the rows by either pressing the keys on your keyboard CTRL and A (Ctrl+A). You can also select all the rows from the Session Menu button or by right clicking on the session table and selecting "Select all" from the same menu that appears as you would press the Session Menu Button:

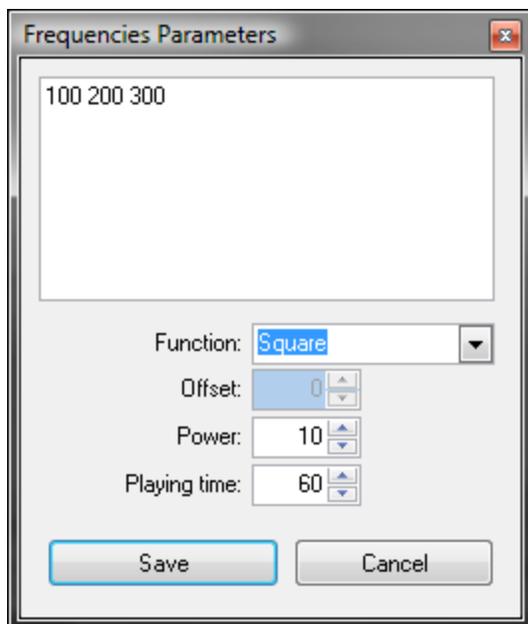


same as the menu from Session Menu button:



At this moment (version v0.9.9.17), the other options like sort, move up or down, are not available.

Once you have selected one or more rows and you have click on "Edit all selected..." a new window will appear that will let you edit the frequencies, like in the image below.



This window let's you set NEW settings (parameters) for the frequencies you have selected.

In this example, the frequencies selected are: 100, 200 and 300.

You can select the function, offset, power and playing time.

In contact applications (PFG/PFG2) the offset is disabled like in the image to the left.

In plasma applications P3*, the power is locked on 10 and disabled.

Playing time is expressed in seconds.

Those values that appear are the default ones that can be located in the menu of the main window (Option > Program Defaults) covered later in this document.

Once you have made the changes you wanted, click "Save" button. The window will close and the rows in the session table will be updated with the new values you set.

The session total time will update accordingly.

Session's Total Time

The total time of the session is displayed under the session table:

Total Time: 0:03:00

Adding frequencies to your current session

Type your frequencies here and then click...

Add to session

Like we have explained above, you can add frequencies from the Frequencies Library.

If you have your own numbers or numbers provided by someone else, you can add them to your session by using the text box at the bottom, under the session table. You can separate the numbers/frequencies by space, like this:

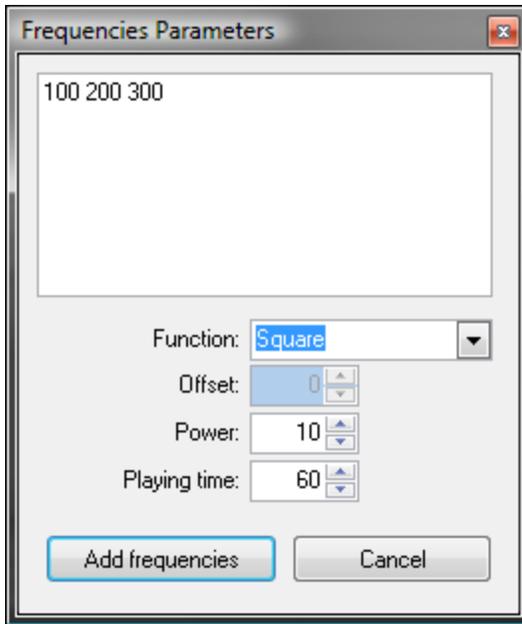
100 200 300

Add to session

The numbers in here can also be like 100.77 or 7.83. You can also copy and paste in there frequencies. (Ctrl+C and Ctrl+V).

After you have typed or pasted your frequencies in there hit Enter on your keyboard or press the "Add to session" button.

A window will appear asking for the desired values/settings to function, offset, power and playing time.



This window let's you set NEW settings (parameters) for the frequencies you have entered.

In this example, the frequencies entered are: 100, 200 and 300.

You can select the function, offset, power and playing time.

In contact applications (PFG/PFG2) the offset is disabled like in the image to the left.

In plasma applications P3*, the power is locked on 10 and disabled.

Playing time is expressed in seconds.

Those values that appear are the default ones that can be located in the menu of the main window (Option > Program Defaults) covered later in this document.

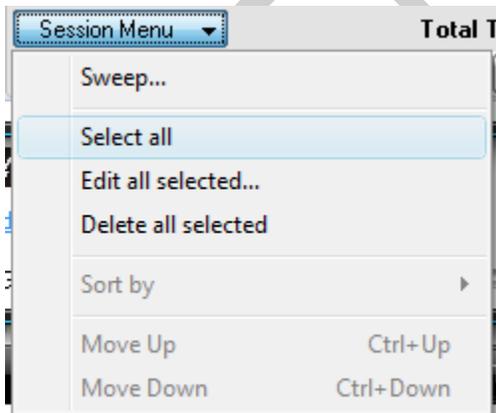
Once you have made the changes you wanted, click "Add frequencies" button. The window will close and the rows in the session table will be updated with the new values you set.

The session total time will update accordingly.

Session Menu

As showed above, from the Session Menu you can Select All and Edit one or more (all) frequencies.

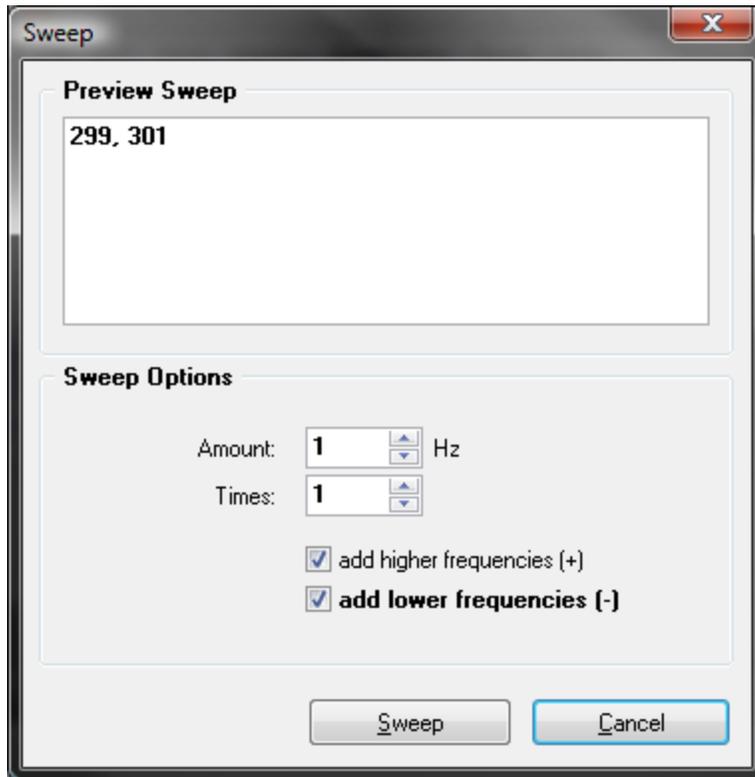
Other options are available from the Session Menu:



Seeping a frequency

SWEEP (basically this feature will insert into session 2 or more frequencies according to the options specified in the new window that will open; you will see in that window a preview of what frequencies

will be inserted; the options are pretty obvious and you will understand how they work by just changing the values in there and looking in the preview area).

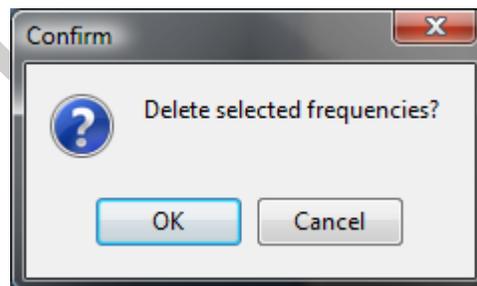


Currently works only on one selected frequency.

TO BE FIXED / DEVELOPED MORE

Delete one or more frequencies/rows

Delete all selected (deletes selected frequencies/rows). A confirmation window will appear.



Program Menus:

Program menu has 4 menus: File, Edit, Options, Help

File menu

From the File menu you can open the Frequencies Library (named here as Sequences Library), exit the program or quickly see the last sessions you used.

Edit menu

This menu gives you access to:

- Enable the Edit mode in the session table (also accessible from the F2 on your keyboard)
- Activating/disabling the Random (shuffle mode)
- Activating/disabling the Repeat mode

Random (shuffle) mode

This option will make that the order that the frequencies are playing to be selected in a random mode. The total time remaining in this case gets disabled. The session will play forever.

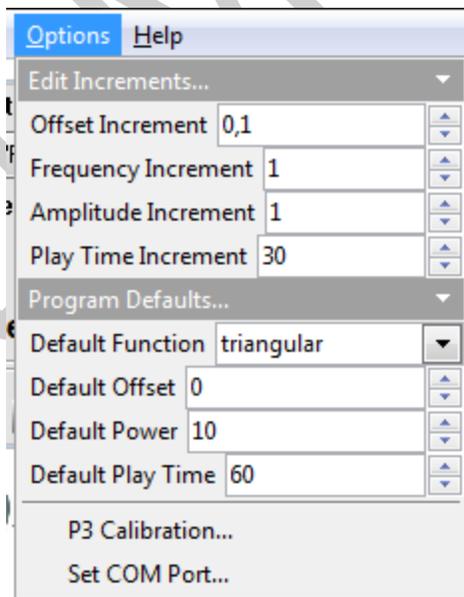
Repeat mode

This option will make that the session will repeat forever in the order you are seeing on the screen.

Options menu

This menu gives you access to:

- Edit increments
- Program defaults
- P3 Calibration
- Set COM port or LPT port (Depends on the device you have)



Edit Increments...

Clicking on the Edit Increments will expand the area to allow to set the increments for increasing/decreasing the values for settings/parameters of a frequencies using the arrows



where they appear.

Program Defaults

Clicking on the Program Defaults will expand the area to allow to set the values for settings/parameters of a frequencies added using the “Add to session”.

P3 Calibration

This option gives you access to the P3 Calibration. This is explained more in this document.

Change port (COM or LPT)

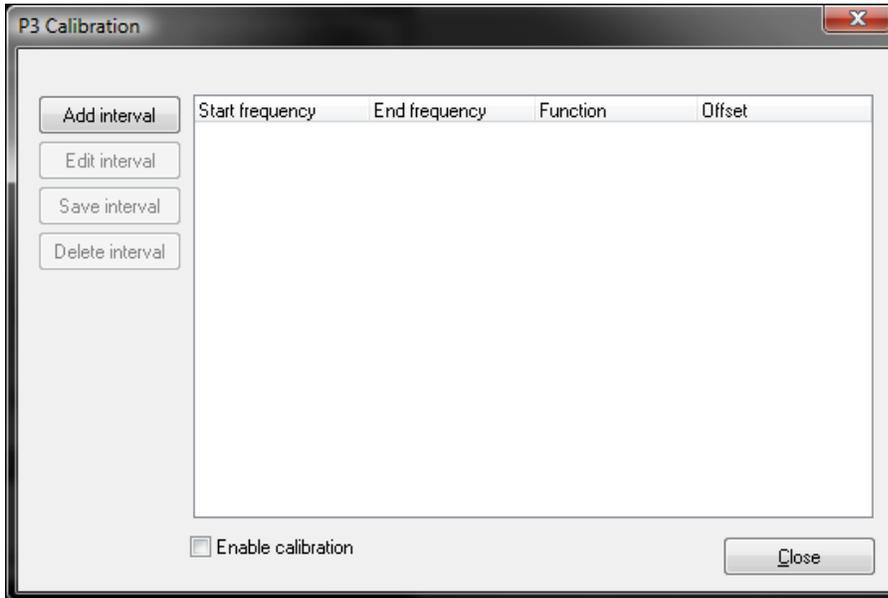
This window will let you change the COM or LPT port for your device. Please see the configuration section for that.

Help menu

The help menu gives you access to:

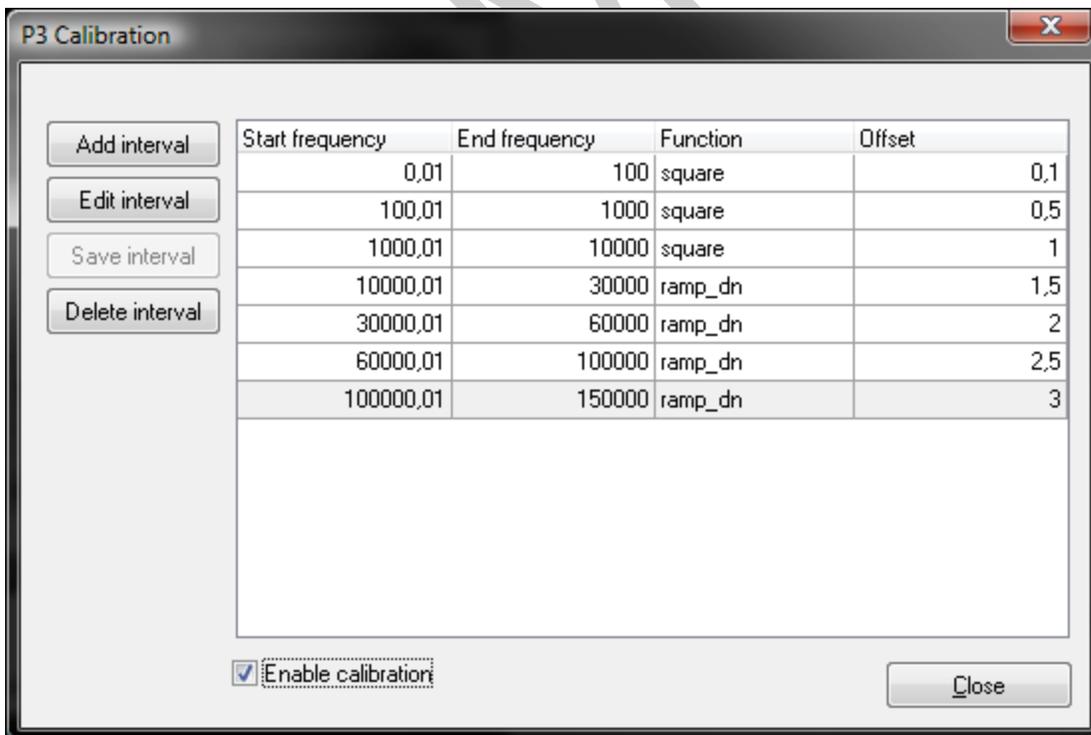
- Help Topics (F1) – this manual in html format
- Registration window – to change or review the registration information
- Support – will take you to our support webpage:
www.pulsedtech.com/support.html
- Check for updates – will take you to our download page:
www.pulsedtech.com/download.html
- About – opens a new window with copyright information about the program and detailed information about program componetns.

P3 Calibration:



This option let you create intervals for frequencies that will overwrite any settings you have in the session table. Once you have determined what offset and function is required for a frequency to operate properly, you can define a range in here.

Example of intervals:



IT IS IMPORTANT THAT YOU DON'T OVERLAP INTERVALS.

Those are only an example of what you can set.

Don't forget to CHECK the "Enable calibration" option for this to take effect.

Close the window when you are done.

Now, each time a frequency is played from the session it will be overridden with the function and offset from the intervals it falls in.

Example: if we run 55000 Hz from the session it the parameters used will be function ramp_dn and offset 2. If we run a frequency that is not within any of your intervals, it will run with the parameters/values specified in the session table.

NOTE: You have to be in the plasma applications (P3*) mode for this to work.

PRELIMINARY

PFG Lab Player

The player is a smaller version of the program that will ONLY allow to play a session that has been exported.

The first thing you will be asked, when opened, is to select the type of device you have, either PFG v1 (parallel port device) or PFG v2 (USB port device).

The next window will ask for loading the session file from your disk, USB flash drive or other storage media.

When the session has been loaded into the program, you will see the list of the frequencies it has, the time for each frequencies, controls buttons, play time/remaining time, creation and update time and the description contained in the session (which can be some recommendations or any other comments).

The PFG Lab Player is still in BETA mode and is not fully tested.

PRELIMINARY