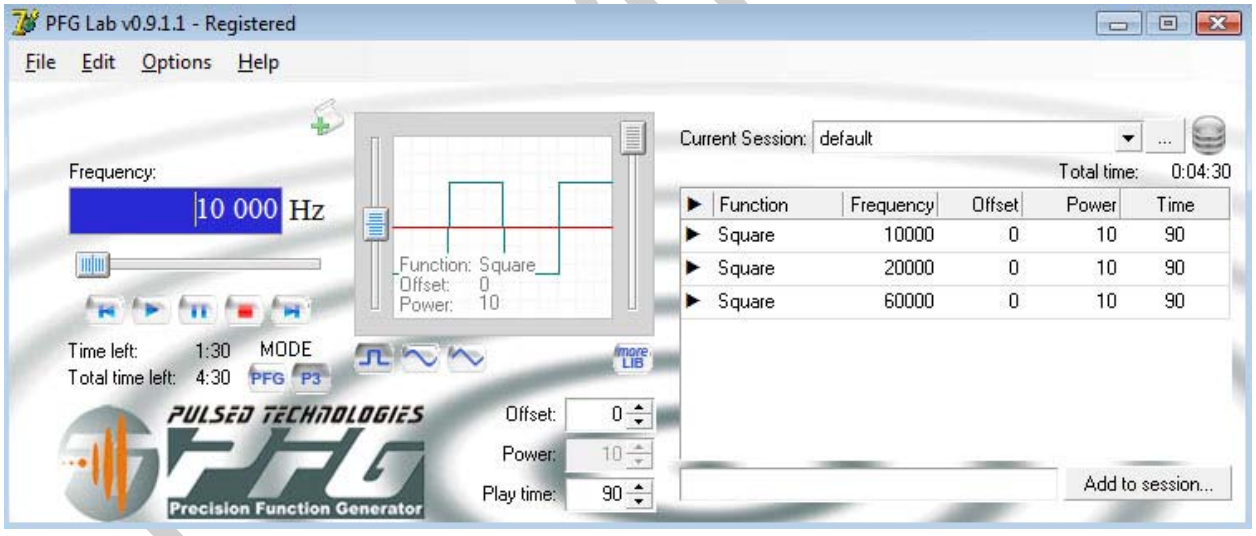
PFG Lab Manual v1

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 (9/15/2007) is version 0.9.1.1. This manual is subject to change.

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Installation

Download the latest version of the software from our website (www.pulsedtech.com) in the Support area. Run the executable you have just downloaded (setup_pfglab_v0.9.1.1.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 (preferrable 32bit version – the 64bit version is still to be tested)

Update

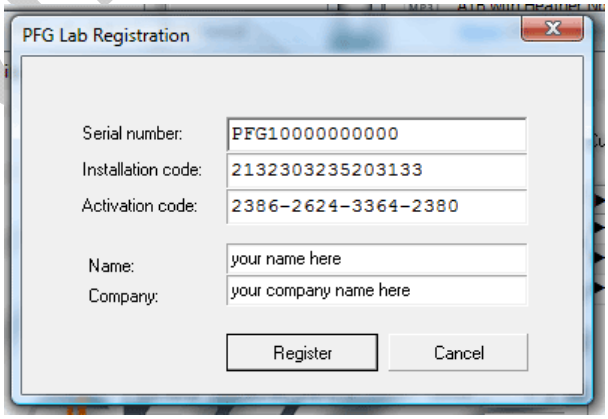
If you are upgrading from a previous BETA version of the software, BEFORE v.0.9.1.1, during installation you will be asked to overwrite your database. Please say YES to overwrite your database, otherwise there might be problems with operating the software.

After every database overwrite, you will be asked to re-enter the registration information as all sessions and settings WILL BE LOST.

Important: BEFORE upgrading, please save your sessions. Please reffer to the Saving My Sessions section in this manual.

Registration

Your registration information is tied to your hardware, PFG and System.



You can find the serial number of your PFG on the back of the unit. It should be something like:

PFGVAYYYYMMXXX where V is the version identifying the PFG version (1 or 2), A is the release version of the hardware (A, B, C…), YYYYY is the year of manufacturing, MM is the month of manufacturing, XXX is the identification number of the unit. Example: PFG1A200709001 or PFG2A200709001.

The installation code already appears in the registration window. It is an unique identification number which differs from computer to computer.

The activation code is 16 digit number (4 groups of 4 digits) which you need to get by emailing your Serial number and Installation Code to support@pulsedtech.com OR by calling the Pulsed Technologies Support number 214-453-0095.

Soon there will be a page online where you will be able to do this automatically.

The Name and Company fields in registration are not mandatory.

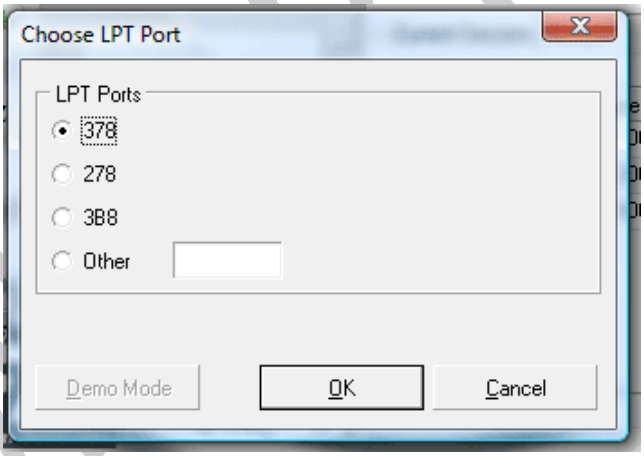
You can always review and change your registration information by going to Help menu and choose Registration. When updating the software, please make sure you write down your installation code to be able to re-register, if you have chosen to overwrite the database.

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).

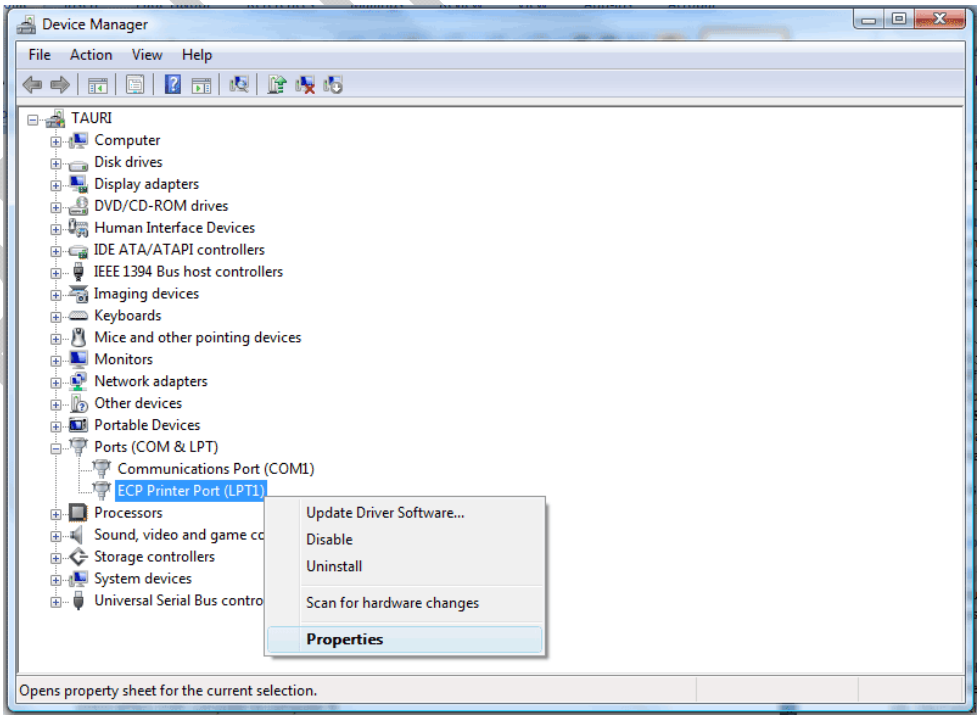
PFG version 1 (Parallel Port Device) configuration:

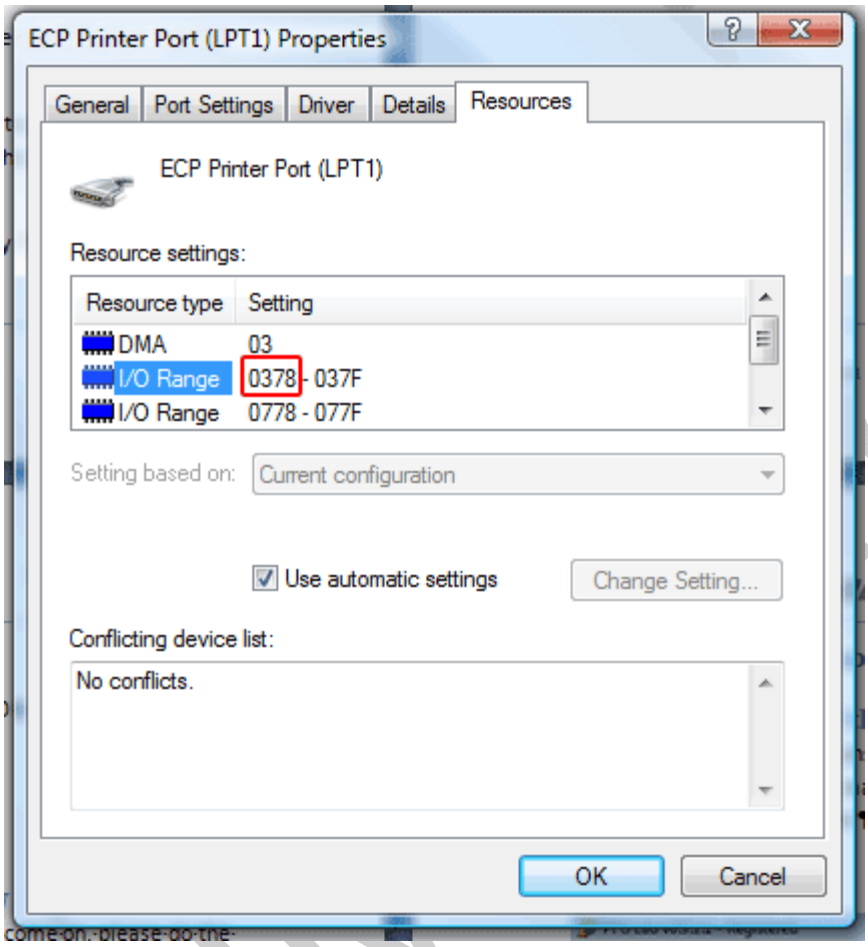
When you run for the first time the software, you will be asked to select the LPT port. You can choose from the 3 predefined ports (378, 278 or 3B8) or enter the port manually.



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.

Troubleshooting:

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

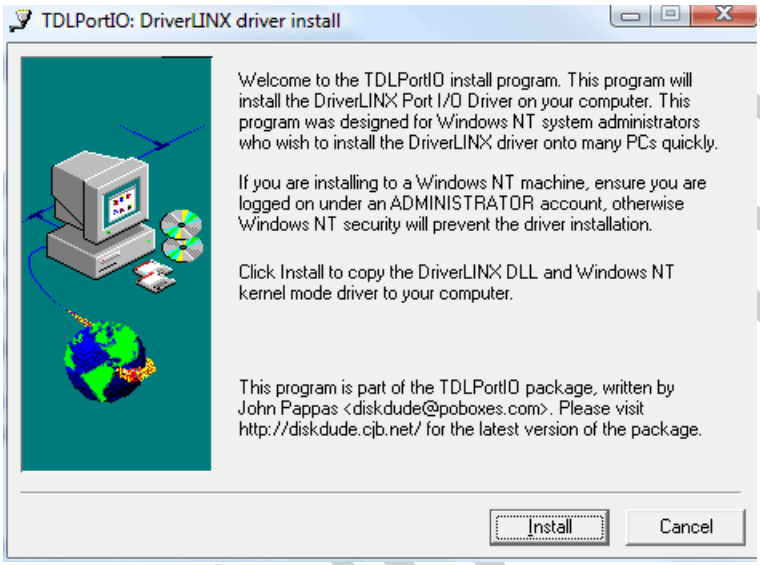
Solution: If you made the proper port settings and the unit’s Power Light has not come on, please do the following: Press Start button > All Programs > Pulsed Technologies > PFG Lab v1 > and click PC-Lab2000 (Config).

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.

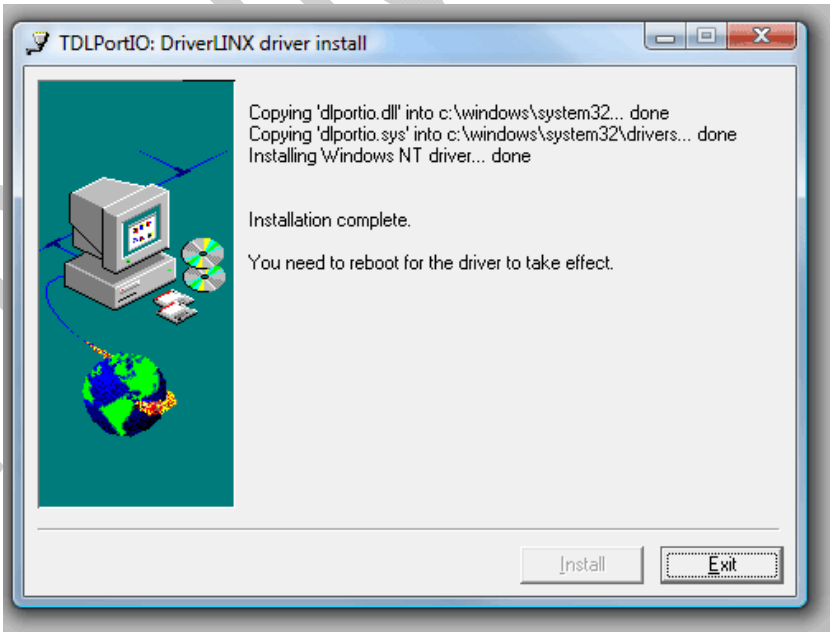
If Power Light has still not come on, please check the cables, power adapter and the address in Device Manager. You may have to change the LPT port address from the one you are using to another one like 378/278/3BC. If that does not fixes the problem, please call or email Support. There might be a hardware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

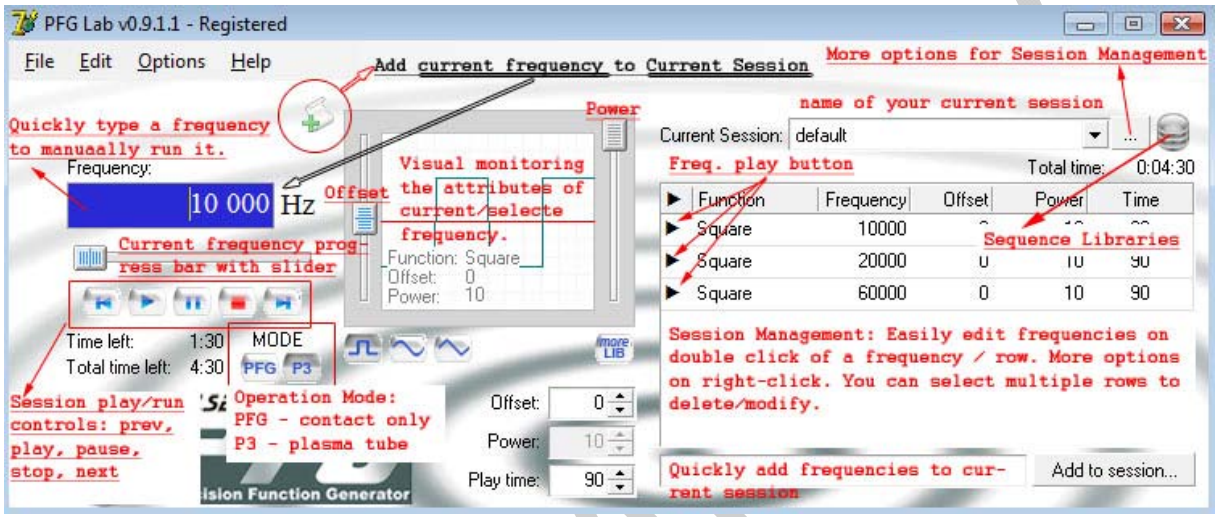
PFG version 2 (USB Port Device) configuration:

As this unit has not yet been released, configuration for this device will be covered later.

Operating with the software

Overall description of the interface:

The interface is has 2 sections. The left side of the interface is the controlling and monitoring of the playing frequencies and the manual running of frequencies. The right side of the interface is dedicated to the sessions management.



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

Operation Mode:

The PFG Lab has 2 running mode:

- PFG (contact mode only)
- P3 (plasma tube system)

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

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

Manual Operation (Manual running of a frequency)

Type in your frequency in the blue area, select the power OR offset and play time from under the graph and click on the play button to manually run a frequency that is not in the session.

Session Management:

Your session management screen has several parts. To the right of the session name, there is a button with "…" on it. When pressed, this brings several options to you.

New Session

Creates a new session, the old session is not lost; you are able to switch easily between sessions when you click on the session name)

Delete Session

Deletes your current session

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.

Import Session

Import session (wave sequences) files either in the new XML format or in the old text (.TXT) format; to be able to import TXT or to switch from TXT to XML and back you have to change the "Files of type" selection in the Open dialog window; the Import of a session will create a new session with the name of the file being imported;

Merge Session into Current Session

Works same as import session, except, it inserts the frequencies into the current session;

Playing and controlling a session:

Play a session:

Unless you have entered a frequency manually, click the play button and it will start play the session from beginning.

You can start playing the session from ANY frequency in your list by click the BLACK arrow (triangle) in front of each frequency/row in your session table.

In case of you manually entered a frequency in the blue box, this is the ONLY way to start playing the session, by pressing the black arrow of the first or desired frequency in the session to start with.

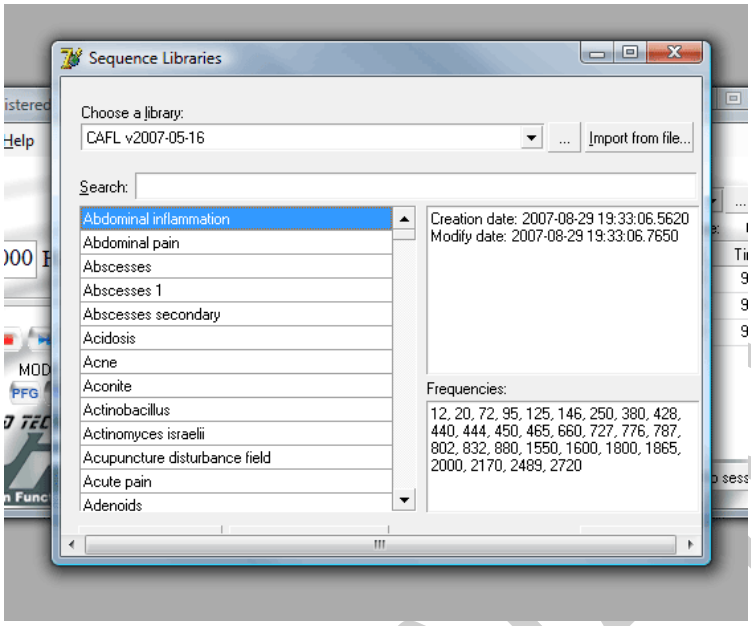
Session Play Controls:

The interface has 5 play control buttons, just like in a regular media player: Previous, Play, Pause, Stop and Next.

They allow you to navigate through the frequencies within the current session, play, pause or stop the playing of the session.

If you click PAUSE button, you can resume later exactly where you left off.

Sequences Library:



You can access the Sequences Library by click on the button at the top right corner. A new window will open that will offer several options.

- Selecting a library from the ones you have installed.
- Deleting a library from the ones you have installed.
- Importing a new library from a file (ZIP archive file); it will install or update the current library; THIS PROCESSES CAN TAKE SEVERAL MINUTES (like for CAFL library)
- Search within the selected library: type in what you are looking for and it will narrow down the matched items AND/OR
- Inserting frequencies into current / new session: when you have selected an item in the library it will show information about it like description, creation date and the list of frequencies it has; when you press Insert button it will insert those frequencies into your current session; if you press Insert into New Session, it will create a new session and the frequencies will be automatically insert into the script with default values (Default values can be change from the Options menu in the main window of PFG Lab).

Current session operation:

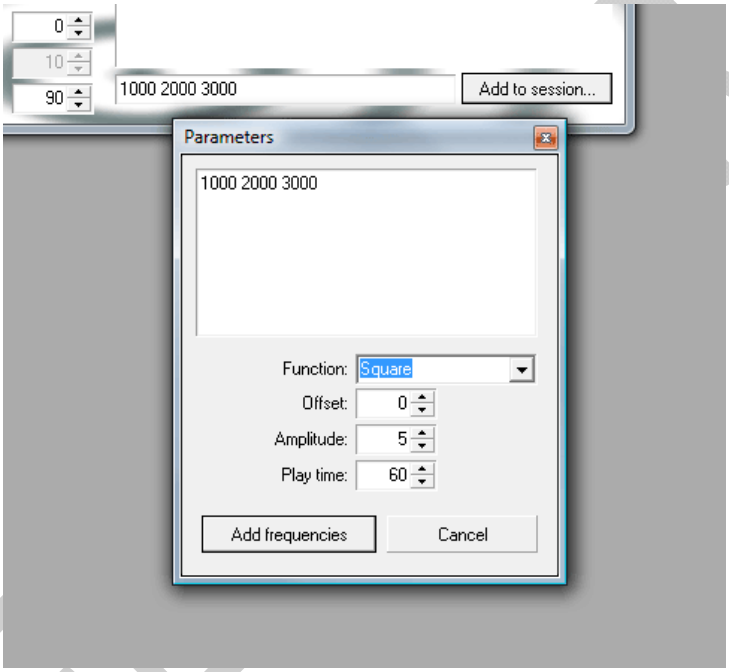
There are several operations you can do with the current session:

Renamed / Edit Session:

Aaccessed from the More Options button (the button with "…" to the right of the name of current session) it 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).

Add frequencies into current session

At the bottom, under the Session Table you have a text input box where you can type manually your frequencies, separated by either space or comma (use the dot for decimals like 7.83), and then click "Add to session…"; a new small window will appear where you will be asked the parameters that the frequencies will use when inserted; also you will be able to review (add/delete/modify) the frequencies that you have type; you can select Function, Offset, Amplitude (also known as Power or Voltage) and Play time (expressed in seconds for each frequencies). The offset can be within -5 and +5 and can take values with one decimal like 0.7, 1.5, -0.5, -1.6. The Amplitude can be between 0 and +10 and can also take values with one decimal… like 9.5. Finally the play time is expressed in seconds and it will be the time that each frequency uses to play.



Working with frequencies in the current session table:

You can work on existing frequencies in the current session like you would work with a spreadsheet application. If you **double click** a row/frequency you will be inserted into edit mode where you can change the parameters for that frequency (function, frequency, offset, power or amplitude and play time). To exist edit mode click on another row. If you **right click** a row/frequency you will have a menu with the following options:

- 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).
- Select all: will select all rows/frequencies in the session

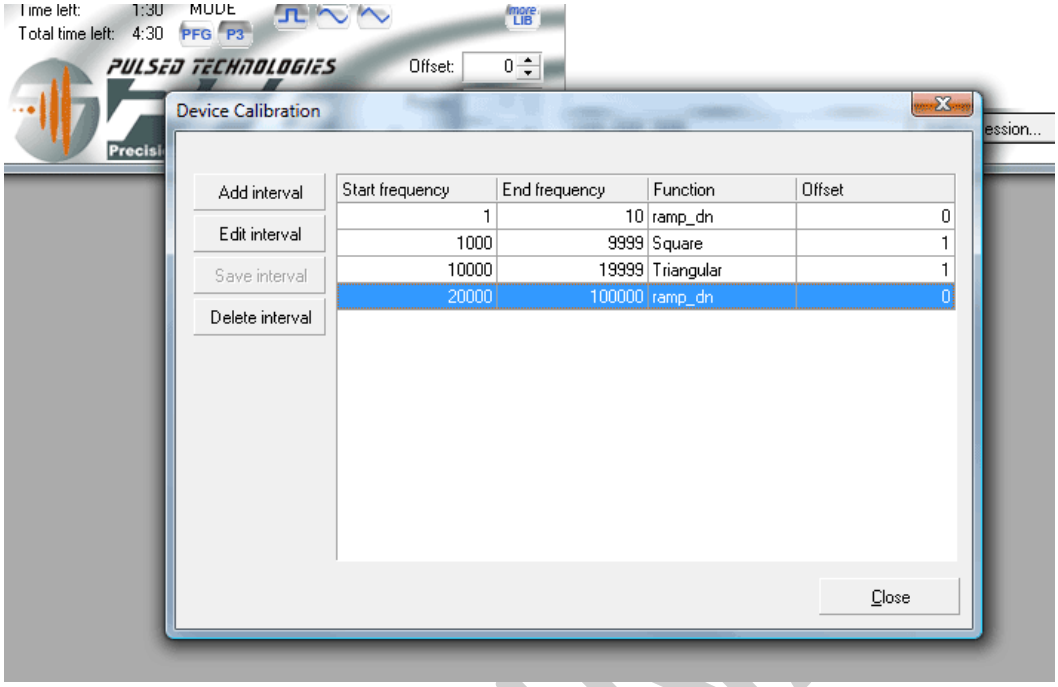
- Edit all selected: will open the Parameters window that will allow to change the parameters of selected frequencies (one or more selected/highlighted frequencies/rows)
- Delete all selected (deletes selected frequencies/rows)

Note: You can select manually one or more rows/frequencies by holding down CTRL or SHIFT button.

Menu options:

- Shuffle / Repeat Mode: by selecting them enables/disables shuffle and repeat mode of the running frequencies;
- P3 Calibration: this options allows you to set some automatic values specific to your P3, those, eliminating the need for manually setting the OFFSET for frequencies used by the PFG Lab. Please refer to P3 Calibration section in this document;
- Port settings: allows you to change switch the port (PFG v1: hardware address 378, 278, 3BC or other setting which is not within those common LPT port addresses; PFG v2: changes the COM port)
- Edit increments allows you to change the default increments when you use the up or down increments where used in the program, like when you are modifying the parameters for a frequency or the frequency itself.
- Program defaults: changes the default parameters the program uses to insert new frequencies either from the main window or from Sequence Library

P3 Calibration:



This is a new feature and must be used with caution. All the settings used here will reflect how the programs OVERULES parameters of frequencies. Please note that you have to be in P3 mode for this to have an effect. It applies to frequencies played from the sessions.

P3 (Device calibration) allows you to add intervals of frequencies and for each interval to specify parameters. Those parameters will OVERIDE the parameters for frequencies in the session.

Click “Add Interval” to add a new interval. A new row in the table to the right will be added. Click each cell of that row to set the parameters. The first cell is the start frequency (example 1000). The next cell is the end frequency of your interval (example 9999). The third cell is the function (selected from a list) to be applied to the frequencies within this range (in our example 1000 to 9999) and the last cell is the offset to be applied. Click “Save interval” to save the values which you just have added. You can add another interval (row), edit the selected one or delete it.

Example of intervals:

Start frequency	End frequency	Function	Offset
1000	9999	Square	+1
10000	19999	Triangle	0.7
20000	60000	Ramp_dn	0.5
60001	100000	Ramp_dn	0

IT IS IMPORTANT THAT YOU DON’T OVERLAP INTERVALS.

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

Example: if we run 55000 Hz from the session it the parameters used will be function ramp_dn and offset 0.5. If we run a frequency that is not within any of your intervals, it will run with the parameters from the program.

At this moment the only way to deactivate this is by eliminating one or more or all intervals.

[ELABORATE MORE ON FINDING RIGHT OFFSET].

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).