

FOTOLAB - Wet Side

A computer in your traditional darkroom can be helpful, here is a small program aimed to simplify your work.

This software is freeware, free of use.

It's forbidden to sell or reuse it in any form, partially or totally, in a commercial product.

This program is given as is, without any warranty.

No responsibility is assumed for its use or consequences of its use.

For any comment, improvement or bug, you can contact me directly at: claudio@bonavolta.ch

Preliminary comment: the screen (and every other light source) of your PC must be inactive. For B/W, by example, with a red screen (plastic films like Rubyolith could be used) or the screen can be shut down completely with panchromatic emulsions.

This program groups various functions:

Films/Papers Processes

- Monitoring of development processes fully definable by the user.

Dilutions

- Calculation of dilutions.

Units Conversion

- Conversion of major photographic units of measure.

Development Times Conversion

- Evaluation of development times (developer) in case of temperature change.

This is based on Ilford's abacus.

Process

- Maintenance of the various processes on **Papers** and **Films** tabs.

Options

- Modification of program's general options.

The screenshot shows the 'Darkroom (wet side)' software window. The title bar includes the text 'Darkroom (wet side)' and the system date/time '31.12.2004 18:23'. The main window has a menu bar with 'Films', 'Papers', 'Dilutions', 'Units Conversion', 'Dev. Time Adjust.', 'Chemicals', 'Process', and 'References'. Below the menu bar is a tabbed interface with 'TechPan rotation' selected. The 'TechPan rotation' tab contains a table with columns 'Step', 'Time', 'Dran', and 'Power Agt'. The 'Time' column for 'Phenol' is highlighted in blue. To the right of the table is a large digital display showing 'TechPan rotation' and '00:00:00'. Below the display are buttons for 'Start', 'Pause', 'Prev.', 'Next', and 'Reset'. At the bottom of the window, there is a status bar with '0%' and a text area containing 'Technical Pan exposed @ 2950' and 'Technical 1 bottle diluted per 100ml (2x135-36) @ 20°C'. Red arrows point to various elements: 'To join me ...' points to the title bar; 'Main tab' points to the 'TechPan rotation' tab; 'Secondary tab' points to the 'TechPan inversion' tab; 'Function's window' points to the 'Wetpan' row in the table; and 'System date/time' points to the date and time in the title bar.

Step	Time	Dran	Power Agt
Phenol	00:05:00		R75
Developer	00:10:00	00:00:20	R75
Stop	00:00:30	00:00:20	R75
Fixer	00:04:00	00:00:20	X R75
Wash	00:02:00	X	NO
Washed	00:03:00	X	R75
Wash	00:15:00	X	NO
Wetpan	00:01:00	X	NO

Papers/Films - Processes

These functions lets you monitor several development processes for films and papers especially when they become somewhat complex and require several stopwatches.

The process is defined by a serie of steps which each has a treatment time and, optionally, a drain time which can be or not followed by a pause when the operator's intervention is required. These steps follow each other automatically without the need for the operator to click to launch the next step. In this idea, it's important that the drain times are realistic.

These processes are fully definable by the user according to his own working methods via the Processes tab.

These processes are stored in text files (see the readme.txt file for further informations), anyway, it's possible to modify each process step in the program itself until the step starts. Take care by doing this as the timer could catch you by doing a "last-second" mod ...

The agitation method is given for each step. The characteristics of the agitation methods are stored in a text file.

A comments field lets you indicate all the subtleties of your process (products, dilutions, temperatures, agitation, ...).

Button "Start" launches the process.

Button "Pause/resume" puts the process in idle state until the next click which reactivates it.

Button "Previous step" jumps to previous step and puts the process in idle state.

Button "Next step" jumps to the next step and puts the process in idle state.

Button "Reset" re-initialize the process but doesn't clear the modifications eventually done in the table. These mods are maintanied until the application is closed. If you want to save them permanently, you should modify them through the the Processes tab.

It's also possible to switch to a monochrome display and to modify the sound options via the Options tab.

Time column

Drain column

Pause column

Agitation column

Step column

Current step blue=inactive red=active yellow=paused

Remaining time for the current step

Agitation blue=time before red=remaining time

Reset button

Previous step button

Next step button

Pause/Resume button

Start button

Executed step in blue

Active step in red

Step not done Time can be changed

Current step progress bar

Comments on the process

Step	Time	Drain	Pause	Agit
Pre-wash	00:02:00	00:00:30		R75
Developer	00:02:30	00:00:30		R75
Wash 1/4	00:03:30	00:00:30		R75
Wash 2/4	00:03:30	00:00:30		R75
Wash 3/4	00:03:30	00:00:30		R75
Wash 4/4	00:03:30	00:00:30		R75
Reversal	00:02:00	00:00:30		R75
Color developer	00:02:00	00:00:30		R75
Pre-Bleach	00:02:00	00:00:30		R75
Bleach	00:06:00	00:00:30		R75
Fixer	00:04:00	00:00:30		R75
Wash 1/4	00:03:30	00:00:30		R75
Wash 2/4	00:03:30	00:00:30		R75
Wash 3/4	00:03:30	00:00:30		R75
Wash 4/4	00:03:30	00:00:30		R75
Final wash	00:05:00		X	NO
Stabilizer	00:01:00			NO

Chemicals - Dilutions

These functions allow to calculate dilutions by using the procedures most commonly used in photography.

Dilution 1+x

Calculates the stock solution needed to obtain a final volume at a dilution expressed in the form 1+x. Where 1 is the quantity of stock solution and x the water quantity.

Does also the reverse calculation from the stock solution and dilution to the final quantity.

Dilution gr/l, ml/l, ...

Calculates the solution or powder necessary to obtain a final volume at a dilution expressed in the form of a ratio like grams/liter, milliliters/liter, ounces/gallon, ...

All kind of units are allowed provided they remain coherent.

Dilution in %

Calculates the stock solution needed to obtain a final volume at a dilution expressed in percentage. The concentrate is also expressed in percentage.

The various buttons "Compute" do the calculations for the respective line.

The screenshot shows the 'Darkroom (wet side)' software interface. The title bar indicates the date and time: 31.12.2004 10:41:56. The menu bar includes: File, Pages, Dilutions, Units Conversion, Dev. Time Adjust, Chemicals, Process, Preferences.

Dilution 1+x

Final qty:	Dilution:	Compute	Stock qty:
240	1 + 2		80
Stock qty:	Dilution:	Compute	Final qty:
100	1 + 3		400

Dilution gr/l, ml/l, ...


Final qty:	Dilution:	Compute	Stock qty:
500	20 / 1000		10


Dilution %

Final qty:	Final conc.:	Stock conc.:	Stock qty:
1000	2 %	28 %	71.428

Units - Conversions

These functions convert between common photographic units..

The various buttons "Conversion" do the respective operation for the line .




The screenshot shows the 'Darkroom (wet side)' software interface with the following sections and conversion options:

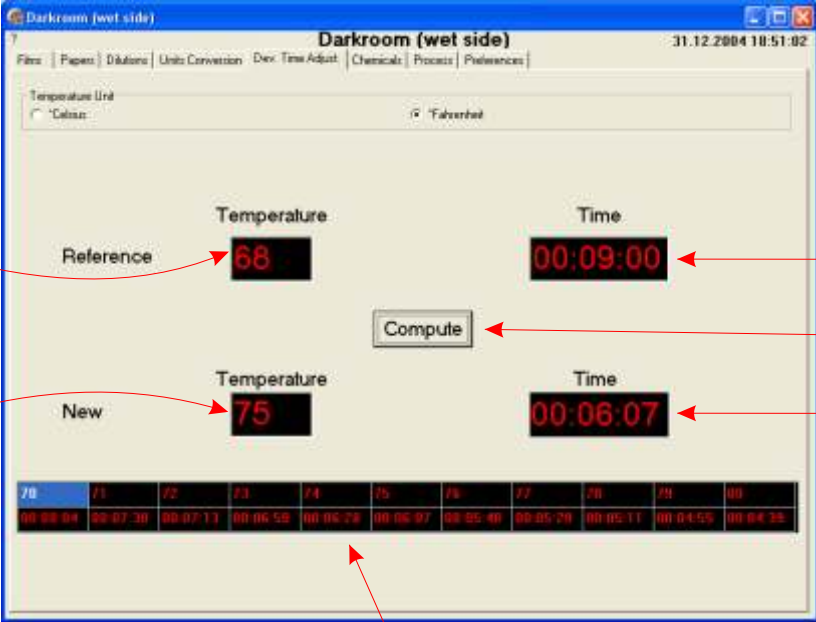
- Temperatures:** °C [27.0], F [80.6], Kelvin [300.15]. Conversion button.
- Lengths:** mm, cm, m, inches, feet, yards. Conversion button.
- Surfaces:** cm², m², inches², feet², yards². Conversion button.
- Volumes:**
 - Metric: ml/cm³, cl, dl, l/dm³, m³
 - US: ounce, pint, quart, gallon. Conversion button.
 - UK: ounce, pint, quart, gallon.
- Weight:**
 - Metric: g, kg.
 - AvoirDuPoids: grain, ounce, pound. Conversion button.
 - Troy: grain, pennyweight, ounce, pound.

Red arrows on the left point to the 'Conversion' buttons for Temperature, Length, Surface, Volume, and Weight.

Development Time Conversion

This function based on Ilford's abacus, evaluates the development time when the temperature is different from the known conditions.

This calculation is approximative and should be considered as a starting point .



Reference Temperature

Reference Time

Compute Button

New Temperature

New Time

Other Times

70	71	72	73	74	75	76	77	78	79	80
00:08:04	00:07:30	00:07:11	00:06:58	00:06:52	00:06:57	00:05:40	00:05:20	00:05:11	00:04:55	00:04:38

Chemicals - modification

This tab lets you maintain chemicals formulas.

Each formula is stored in a text file, you can open it by entering directly its name or selecting it with the rightmost button.

Formula file: name of the text file that contains the formula. This file is split in 5 sections containing the title ([Title]), formula type ([Type]), characteristics ([Characteristics]), comments ([Comments]) and the lines of the formula ([Formula]).

It is of course pretty simple to modify these files manually (via the Notepad or any other word processor that can write .txt files) but you should absolutely respect their simple syntax, among these the tabs between each column (also if the column is empty).

In doubt, to modify the formula, you've better to use the Formula tab that assures you a correct syntax.

Formula title: contains the text (15 characters max) mentioned on the process tab

Formula Type: contains the product type (developer, fixer, toner, ...)

Product Characteristics: contains the major product characteristics

Comments: This field contains whatever you like (use modalities, product danger, ...)

Formula table:

- First column contains the component
- Second column contains the quantity
- Third column contains an eventual comment

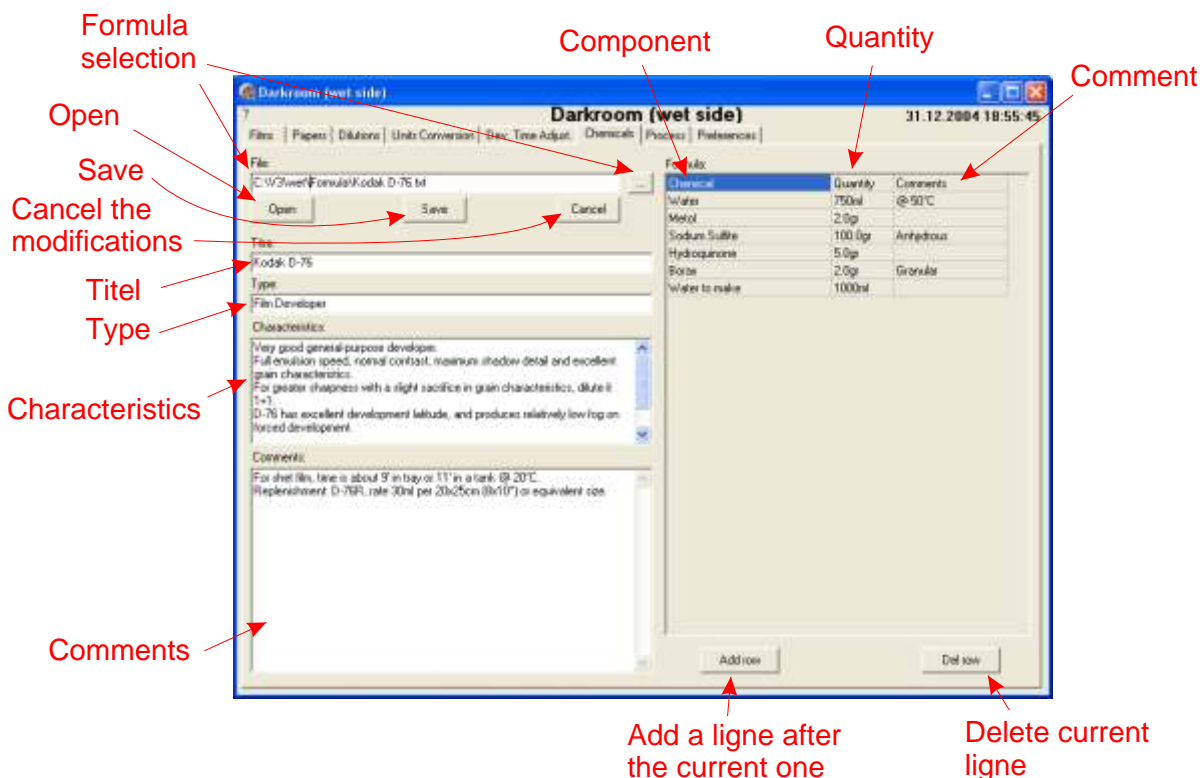
The buttons have the following functions:

“Add line”, add a line after the current line

“Del line”, deletes the current line

“Save”, saves the mods in the text file

“Cancel”, cancels the mods and reloads the tab from the text file



Process - modification

This tab lets you maintain each process.

Each process is stored in a text file, you can open it by entering directly its name or selecting it with the rightmost button.

Process file: name of the text file that contains the process. This file is split in 3 sections containing the title ([Title] keyword), the comments ([Comments] keyword) and next the lines of the various steps ([Process] keyword).

It is of course pretty simple to modify these files manually (via the Notepad or any other word processor that can write .txt files) but you should absolutely respect their simple syntax, of these the times in the format "hh:mm:ss" (hours:minutes:seconds), the tabs between each column (also if the column is empty) and a "X" if there is a pause.

In doubt, to modify the process, you've better to use the Process tab that assures you a correct syntax.

Process title: contains the text (15 characters max) mentioned on the process tab

Comments: This field contains whatever you like (products, dilutions, temperatures, agitation, ...)

The operation table is the heart of the system:

- First column contains the step title
- Second column contains the step time
- Third column contains the drain time + the time needed to fill the tank with the next step product if needed
- Fourth column contains an "X" if the process should pause after this step

The buttons have the following functions:

"Add line", add a line after the current line

"Del line", deletes the current line

"Save", saves the mods in the text file

"Cancel", cancels the mods and reloads the tab from the text file

The screenshot shows the 'Darkroom (wet side)' software window. The 'Process' tab is active, displaying a table of steps and their parameters. Red arrows point to various UI elements and table columns, with labels explaining their functions.

Step	Time	Drain	Pause	Agit
Pre-heat	00:05:00	00:00:30		R75
Developer	00:06:30	00:00:30		R75
Wash 1/4	00:00:30	00:00:30		R75
Wash 2/4	00:00:30	00:00:30		R75
Wash 3/4	00:00:30	00:00:30		R75
Wash 4/4	00:00:30	00:00:30		R75
Reverse	00:02:00	00:00:30		R75
Color developer	00:04:00	00:00:30		R75
Pre-bleach	00:02:00	00:00:30		R75
Bleach	00:06:00	00:00:30		R75
Fixer	00:04:00	00:00:30		R75
Wash 1/4	00:00:30	00:00:30		R75
Wash 2/4	00:00:30	00:00:30		R75
Wash 3/4	00:00:30	00:00:30		R75
Wash 4/4	00:00:30		X	R75
Final wash	00:05:00		X	NO
Stabilizer	00:01:00			NO

Annotations in the image include:

- Process selection:** Points to the file path input field.
- Open:** Points to the 'Open' button.
- Save:** Points to the 'Save' button.
- Cancel the modifications:** Points to the 'Cancel' button.
- Process title:** Points to the 'Title' field.
- Comments:** Points to the 'Comments' text area.
- Step:** Points to the 'Step' column header.
- Step time:** Points to the 'Time' column header.
- Drain/reload time:** Points to the 'Drain' column header.
- Pause after this step:** Points to the 'Pause' column header.
- Agitation method:** Points to the 'Agit' column header.
- Add a ligne after the current one:** Points to the 'Add' button.
- Delete current ligne:** Points to the 'Del' button.

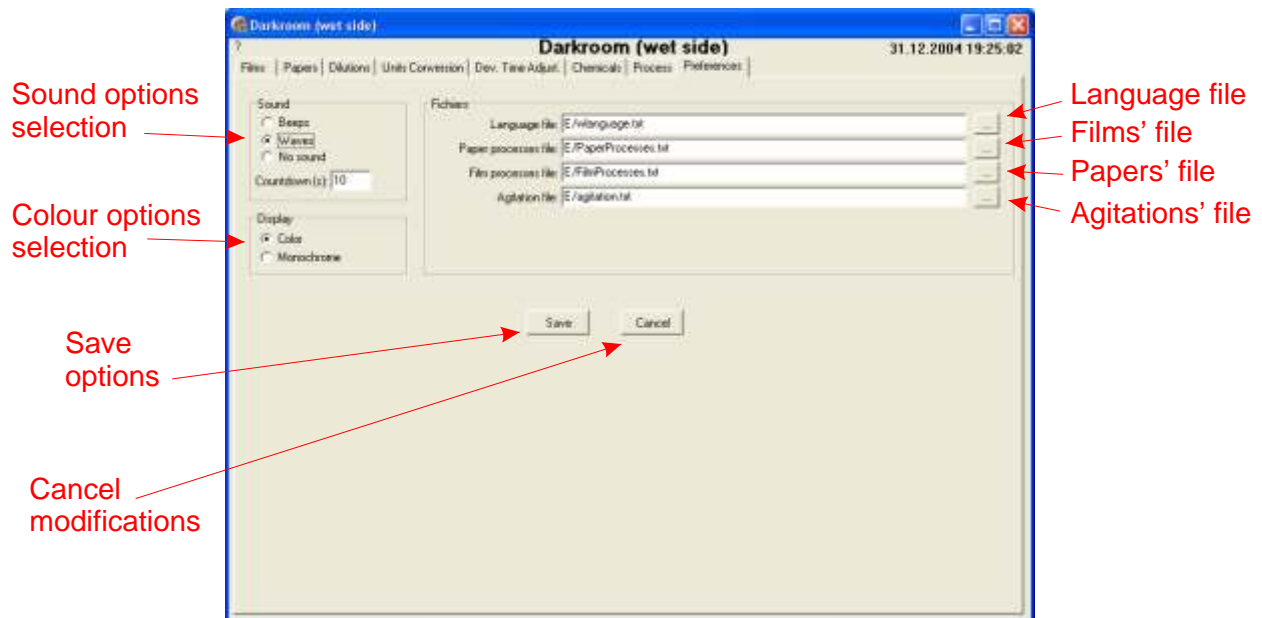
General Options

This tab lets you modify the general options:

- Sounds: "beeps", spoken countdown (.wav file, sound card necessary) or no sound
- Colour: color or monochrome
- Language: software language
- File containing the language texts
- File containing the paper processes files list appearing on the paper's tab
- File containing the film processes files list appearing on the films' tab
- File containing the agitations' modes

The tabs are dynamically generated based on the files containing the processes list. These options are saved in the file "wsettings.txt".

The buttons "Save" and "Cancel" save or cancel the options.



Configuration Files

Various files contain the system configuration:

wreadme.txt

Installation procedure file.

wsettings.txt

Main program's configuration file.

wlanguage.txt

File containing the texts appearing in the program and used for the various languages translations.

FilmProcesses.txt

File containing the various film processes appearing on the tabs.

PaperProcesses.txt

File containing the various paper processes appearing on the tabs.

agitation.txt

File containing the various agitation modes.

Various text files

Files containing the development processes and chemical formulas.