DarkRoom Wizard ™

User Manual



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The **DarkRoom Wizard**TM is a program that performs a number of tasks to make work in the darkroom more productive and more accurate. The sections on the main program screen organize the list below.

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Reduce or Enlarge Print Sizes

This will calculate the time for a new print based upon the size & time of the first print and the size of new one. Variables that can affect the accuracy of this calculation are as follows:

- Variations in voltage to enlarger during exposure if the lamp head does not have some sort of voltage or compensating circuitry.
- 2) Accuracy in both measurements.
- **3)** Temperature variations in print developer temperature between first and subsequent prints.
- 4) Print agitation
- 5) Print Development time

Note:

If variations in these areas are kept to a minimum, accuracy between the original and new print size should be within $\frac{1}{4}$ of an f/Stop or less.

f/Stop Used

Enter the f/Stop used (will not take 1/2 stops, change time instead.)

Valid f/Stops are: 2, 2.8, 3.5, 4, 5.6, 8, 11, 16, 32 and 64.

Length of First Print

Enter the Length of one long or short side (enter Inches in Fractions, Metric in decimals.)

Length of New Print

Enter the Length of new print (if using long side above, use same side here.)

Time of First Print

Enter the time in seconds for the first print (use decimals for fractional times.)

Calc Button

Calculate New Print Time. After calculating new time you can use the <u>slider bar to change f</u>/<u>stops and time</u>. Moving the slider to the right will move one stop smaller at a time with the corresponding new exposure time. Moving to the left will open up one stop at a time with the corresponding new exposure time.

Reset Button

Reset all values to blank startup values.

Exit Button

Exit to Main Screen



Keep detailed notes on Color and Black/White printing.

You can work on **Single Image Note** or **Multiple Image Notes** in a spreadsheet type gird. The Tabs at the top of the form select either one.

For information on database fields see Printing Notes - Field Descriptions or Database - Print Notes for technical information on this database.

Data Fields

For data field information, see Printing Notes - Field Description

Buttons

Find Image

Enter an ImageCode and find the record. Using a wildcard character will find first match.

Image Filter

This will bring up the Filter form with all of the data fields, check the field names to be included in filtering this data. Next, select the comparison operator from the selection list and then enter the filter selection data for each field to be used in filtering the data (*for more information on using filters see the Filtering Data section.*)

Exit

Exit to Main Screen

Data Filter

This box shows when an filter is in effect. It shows the current filter criteria and the number of records returned by the current filter.

Pressing the [All Recs] button will cancel the current filter and return all records in the database.

View Movement

When moving between the Single/Multiple views, the currently selected record will stay the same.



Data Control

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The data control has buttons for moving from record-to-record in the database. The button on the far left \square moves to the first record, while the one on the far right \square moves to the last record. The others \square move up or \square down one record at a time. The number section in the middle $\square 27$ of 28 show which record in the list is current. The \square item inserts a new record while the \bowtie item deletes the current record.

Movement Keys

Tab

Moves from field to field toward bottom and will wrap around to the first field after the last field at the bottom.

Shift-Tab

Moves from field to field toward top and will wrap as well.

Home

Moves to first field on form.

End

Moves to last field on form.

Ctrl-C

Copy the contents of current field to the Clipboard

Ctrl-X

Cut the current field contents to the Clipboard (removes data from the cell)

Ctrl-V

Paste the data currently on the Clipboard to the current field. Only Text may be pasted to text fields and only numbers to numeric fields. Seq #, fStop and True/False fields cannot receive pasted data.

Multiple Record Screen

The multiple record screen uses the standard Grid movement keys common to all grids. See *Grid Movement Keys* for details.





Image ID

Image Code

Information is stored by a unique user defined **ImageCode** for each image which can be a number or any other schema one can devise, up to 12 characters in length One useful method if you use several formats, is to preface the code with the film type, format (i.e. BW4X5) then a period, then a number sequence (i.e. 12345) for an ImageCode of **BW4X5.12345**, as the Image Code for a Black/White 4x5 image or CN6X6.00345 for $2\frac{1}{4} \times 2\frac{1}{4}$ Color Negative. Another schema for roll films is to use a roll/frame number sequence, i.e. Roll #3456, Frame #12 for ImageCode 3456-13, etc.

Seq No

A sequence number is needed for each print record for a given Image Code. Records will then appear in ImageCode/Sequence number order. The sequence number must be unique for each ImageCode, but does not need to be unique between ImageCodes.

Record Type

Color

Pressing this button will select a Color type record. Selecting Color will Enable the Color section panel allowing for the recording of color print information.

B/W

Pressing this button will select a Black/White type record. Selecting B/W will Disable Color section entry.

Color Print Values

This section is only available for Color Records, otherwise it is disabled.

Color Style

The type of Color filtration in use, select Subtractive or Additive.

CC Color Filter Values

Store the CC values used in color printing.

If *Subtractive* filtration is selected then the filter values are set for <u>Magenta, Cyan and</u> <u>Yellow</u>. If *Additive* filtration is selected then the filter values are set for <u>Red</u>, <u>Blue and Green</u>.

MaskID

This field is designed to hold an ID number for any mask that was used in printing. Entries can be any alphanumeric value of 12 characters or less.

Printing Notes - Field Descriptions

Enlarger Settings

Keeping these measurements will allow for repeat prints at a later time with minimal testing.

Enlarger Head Height	The distance between the enlarger head and the baseboard. If the enlarger column has a measurement scale it is a good idea to use this as the measure scale. If there is no scale on the column, measure from some fixed point on the enlarger head to the baseboard and then always use this same point as your reference point for measurements.
Fstop	f/Stop used for this print (will accept fractional stops).
Exposure Time	Exposure time in seconds for this print (will accept fractional seconds)
Paper Type	The print paper used for this print.
Paper Grade	The grade of paper or MultiContrast filter used for this print <i>(fractional grades are accepted.)</i>

Printing Notes

This is a memo field for recording notes on this image.

The note can be of unlimited length, and the **[Ctrl-Enter]** key series will insert a NewLine character into the note. Any entry after this will be on the next line.

In the Grid view, the Notes field will expand to show the full field.



This is a process controller and will control a process of up to 24 steps with a drain time between each step.

- 1) Create a Process using the Process ID tab..
- 2) Enter the data for each step in the process using the Process Edit tab.
- 3) Once the data is entered into the database it can be recalled at any time by pressing the [Select Process] button. You will be presented with a list of current processes, click on the one wanted and all steps will be loaded.
- 4) Pressing the [Start Process] button will start the loaded process at step #1. A count down of the time remaining for the current step will be shown in the <u>Current Step Time Remaining</u> box as the step time counts down and the total time remaining in the process will be show just above this box.

While the current step is in process, the data for the Next Step, will be shown in white just below the description and to the right of the volume and temp boxes.

When the current step time reaches 00:00 a user selectable sound is played and the DRAIN box appears until the drain time is completed. The process will then Pause if "Pause at Drain" is selected or the next step then becomes the current step and processing continues. If paused, then pressing the **[Continue]** button will start the next step.

When the process is completed another user selectable sound is played and the **Process Completed** box appears. A process can be stopped while running by pressing the **[Cancel]** button.

Process

FIUCESS	
Select Process Button	Select an existing Process or Create a New Process
Total Time for Process	Shows total time for current process
Remaining Process Time Shows amount of time remaining in current process	
Start Process Button	Start the Current Process. A Process must be selected first.
Continue Button	Continue with the next step after draining, pausing after a step
Process Complete	A box on the screen when the Process has completed
Current Process Step Step #	The number of the current step
Description	A description of the current step A description of the next step <i>(in White)</i>
Volume	Fluid volume for the current step

Volume of the next step (in White)



Current Process Step (con't)

Тетр	Temperature for the current step Temperature for the next step <i>(in White)</i>
Current Step Time Remain	A count down of time for a step while step is in use
DRAIN	Box that shows DRAIN during drain time
Edit Process Tab Process Edit	Modify existing steps or add new steps
Cancel Button	

Cancel the Current Process

Blank Screen

Key F9 will blank screen

Exit

Exit back to Main screen

Process ID Tab

Enter a unique Identification Description of up to 32 characters to name the process, i.e. **JOBO/C41 (Rolls 1-2)** or **JOBO/TRI-X4x5**. Try to develop a process name that is descriptive of the process. Then enter a description of the process in the description field. There is also a field for selecting if you want a sound played at the end of the process. If 'Yes' then a user selectable sound is played. Sound .WAV files are selected in the Defaults section.

Each row on the grid is one record. The number of ID's that can be stored is virtually unlimited and you can move around on the grid with Control Keys.



This is the heart of the Process Control system.

Enter the steps for a process, there may be up to 24 steps in a process. First select or create a unique ProcessID and then enter the steps on this screen.

Each row on the grid is one record and you can move around on the grid with Control Keys.

Data Fields:

ProcessID	This is a read-only field. Data is taken from the ProcessID table.
StepNo	The number of the step, must be unique for any given ID
StepDescription	A description of this step
StepTime	The time for this step in the format 00:00 (min:sec)
StepDrain	Time it takes to drain the fluid from this step in the format 00:00 (min:sec)
FluidVolume	The volume of fluid needed for this step, in cc or Fl. Oz.
StepTemp	Temperature for this step, in °F or °C
HoldAtDrain	If "Yes" then the Process will wait after the Drain step.
SoundAtDrain	If "Yes" then a user defined sound will play at the drain step.
StepNotes	Notes for this step.



Mixture from a Concentrate

This will calculate the mixture percent of a volume a concentrate solution diluted with another solution, either another concentrate or water.

i.e. 1 Fluid Oz. of 28% Acetic Acid diluted with 15 Fluid Oz. of water gives a 1.75% solution of Acetic Acid.

How to Use:

Percent Strength of Concentrate

Enter the % strength of the Concentrate used, i.e. 28 for a 28% solution.

Percent Strength of Diluting Solution (0 for water) Enter % strength for the Dilute, use 0 if water used.

Volume of Concentrate (cc or oz)

The volume of Concentrate to be used.

Volume of Diluting Solution (cc or oz) The volume of the Dilute solution to be used.

Calc Button

Calculate the Mixture Percent.

Mixture Percent Box

This is percent mixture of the concentrate and the dilute solution.

Reset Button

Reset all values to 0.

Exit Button

Exit to Main Screen.



This will calculate the volume of a concentrate and the volume of water needed to create a specific volume at a particular percent of dilution.

i.e. You need 16 Fluid Oz. of a 1% solution of Acetic Acid

Use: .6 Fluid Oz. of 28% Acetic Acid

15.4 Fluid Oz. of Water

How to Use:

Percent Strength of Concentrated Solution Enter the % strength of the Concentrate, i.e. 28 for 28%

Enter final volume needed (cc or oz) Enter the final volume needed in cc or Oz.

Enter final percent needed Enter the final % needed, i.e. 3 for 3%

Calc Button

Calculate the value

Volume of Concentrate Needed Volume of concentrate needed to create the % needed

Volume of Water Needed Volume of water needed to create the % needed

Reset Button

Reset to starting values

Exit Button

Exit back to Main Screen



This will calculate the amounts of two solutions needed to make a third, given the ratio between the two and the volume of the third solution.

i.e. You need to dilute your developer at a ratio of 1:7 and you need 330ml of dilute developer.

You need: 4

41.2ml of Developer

288.8ml of Water

How to Use:

Dilution Ratio (i.e. 1:10)

- 1 Value for the Left Side of Ratio
- 2 Value for the Right Side of Ratio

Final Volume Needed

The final volume of solution needed (can be in Oz. or cc)

Calc Button

Press to Calculate

Volume Solution 1

Volume of Solution 1 based upon Left Side of Ratio & Final Volume

Volume Solution 2

Volume of Solution 2 based upon Right Side of Ratio & Final Volume

Reset Button

Reset all Values to blank

Exit

Exit to Main Screen

Conversions

This application allows for the conversion of measurements from one form to another.

It will convert Fluid, Linear, Dry and Temperature measurements and also do Calculated Conversions (*defined below*).

How to Use:

Select the type of Conversion with the [Type of Conversion] buttons.

Click on the [Convert From] Combo Box arrow to get a list of types

Select the type of Measurement to convert From by clicking on the value you want.

Click on the **[Convert To]** Combo Box arrow to get a list of compatible conversion from types. Only those types available for the Convert From type will be shown (*i.e. if you select Milliliter as your From type, Milliliter will not appear on the To listing*)

Select the type of Measurement to convert To by clicking on the value you want.

Move to the **[Original Value box]**, enter the value you wish to convert from into this box. This value may be entered as a decimal value for metric or US units. A fractional value may also be entered for US units. Fractional values will be accepted in /16ths, /8ths, /4ths or /2's. Fractional results will be calculated to the nearest 1/64 of a value. Any result with a fractional value less than 1/64 will be displayed as a decimal value.

When entry completed, press the [Convert] button to display the new value.

Converted Values

The Converted Values selection is used when one will be converting a formula where the units are based upon US Units using 32 Fl.Oz. and one needs to convert to Metric Units based upon 1 liter (*or liter to US Units*), i.e. Grains/32 Fluid Ounces to grams/liter or grams/ liter to Ounces/32 Fluid Ounces.

<u>Fluids</u>	Dry	Linear	Temp	Calculated
Fluid Ounces	Ounce	Inch	Fahrenheit	Grams/Liter
Quart	Pound	Feet	Centigrade	Grains/32 flOz.
Gallon	Grain	Mile		Ounce/32 flOz.
Milliliter	Gram	Millimeter		Lb./32 flOz.
Liter	Kilogram	Centimeter		
Dram		Meter		
Cubic Centimet	ter	Kilometer		



There are six independent Timers available. They can count Up for any length of time or count Down from a time you set until zero is reached. Each Timer can have its own title of any length, which will appear on the Timer and on the Main screen in the Timer section.

There are a series of eight buttons at the top of the Timer screen, pressing any of the six "Timer" buttons brings up a box where you can enter a title for the Timer. This box can be exited by pressing the **[Enter]** key. After this has been done, a timer will appear on the screen with the title as entered. If no title was entered, a default title will be inserted. To change a Timer Title once a timer is active, click anywhere on the Timer Frame outside of the buttons, the title box will appear so that a new title can be entered.

Up

Select an Up timer. When the [Start] button is pressed the time will count up until the Stop or Reset button is pressed.

Down

Select a Down timer. A prompt will appear for you to enter the Hours:Minutes:Seconds that will be used as the starting time. Press [Done] when completed. Pressing the [Start] button will start counting down by seconds from the starting time entered. When the down time reaches 00:00:00, an alarm sounds and a blinking stop sign appears for 10 sec. The timer number on the main screen blinks red for 10 sec. as well.

Any timer may stored for recall again at a later time.

Start Button

Start the timer (can also be activated by pressing Alt-(timer #), i.e. [Alt-1] will start timer #1). While running, the only buttons available are Stop/Reset.

Stop Button

Stop a currently running timer

Save Button

Save the values of the time for recall later. A small disk image will show on panel.

Recall Button

This will recall data from the previously stored timer.

Reset Button

Clear all timer values except for the Title

Close Button

Clear timer values, remove from stored list and close the timer.

Exit Button

Exit timer form but leave timers active.



There is a Metronome timer available that will play a WAV sound file with a delay time of one second.



Sets the time values for the Down Timers

Hours

Number of Hours

Minutes

Number of Minutes

Seconds

Number of Seconds

Done

Exit back to calling timer, set Down time and save Down time and timer title for recall.



The Clock on the DarkRoom Wizard main screen has four (4) independent Alarm Clocks

These alarms may be set using the [Alarm Set] button.

While on the set screen, set Hour/Minute (AM/PM) you wish to have each the alarm sound then select if you wish to have a message displayed and if so enter the message. Then press the **[Press To Set Alarm]** button. The alarm will then play a user selectable .WAV file when the clock reaches the Hour/Minute that has been set and the message will be displayed. The sound file can be selected in the Defaults screen.

When an alarm has been set, the Alarm time will appear at the bottom of the Main screen.



This section will create a graphic representation of any data entered into the grid section.

- 1) Set all of the parameters for your graph in each section using the multiple selection buttons.
- 2) Enter the Legend titles for each of your data sets.
- 3) Enter the title for the vertical and horizontal axis and for the graph itself.
- 4) Enter you data into the data grid.
- 5) Select data set colors (click on column heading)
- 6) Press the Calculate button to show your graph.

Graph Types

Line

A standard Line Graph.

Grid Style

None

No grid lines will appear on graph.

Horz

Only Horizontal lines will appear on graph.

Vert

Only Vertical lines will appear on graph.

Both

Horizontal and Vertical lines will appear on graph.

Line Types

Line / LogLine Graphs Solid

Lines drawn as Solid for each data set.

Data Sets

Select the number of data sets to be used. Maximum number of data sets is 6.

Graph Titles

Graph Title

Main title for graph, centered at top of page.

Vertical (Y) Axis Title

Vertical axis title, printed at left of Graph



Legend

Set a Legend title for each data set. The number of Legend boxes will correspond to the number of Data Sets selected in the graph screen. Enter a descriptive Legend for each set and press Exit when completed. The Legends will appear as column headings for each data set and will be shown on the right side of the final graph.

Save New

Save the current graph settings and data for recall later.

Delete

Remove a saved graph.

Show

Create and display a Graph based upon the data entered and parameters set.

New

Create a new Graph

Load

Load an existing graph for modification or display.

Exit

Exit Graph screen.

DataGrid

Column titles will show Legends if they have been set.

This grid is where all of the raw data is entered. First column is for all Horizontal, X Axis values. This should be filled-in first. The remaining columns are for each data set. Each cell must have an entry before it can be exited. Standard Grid navigation keys are used

Graph Color Set - Clicking on the header section for a column will bring up a color selection panel allowing for selecting the colors for the graphs. The are 8 colors and 2 hues for each color available.



Graph Results Screen

Return to Selections

Return from the Graph display to the selection screen. Data can be modified and the Graph re-displayed as often as necessary.

Save the Graph Image to the Clipboard

Save the final Graph to the Windows Clipboard as a bitmap which then be inserted into another document.

Print Preview

Preview the print output prior to printing

Print Graph

Print the final Graph on the currently selected Windows printer.



The database is a SQLite, version 3.5 SQL Database

The database is not designed for multiple concurrent users, it is a single-user database only. When the database is opened for use by the DarkRoom Wizard, the program is granted Exclusive use, any other user attempting to open the database will be rejected. If the database is in use when DarkRoom Wizard attempts to gain access, a message will appear notifying the user that the database is in use and cannot be accessed at that time.

!!! The database tables may not be modified in any way. !!!

The database contains the following tables:

PrntNote	- Detailed Printing Notes
ProcessID	- Process Names
ProcessDetails	- Process Step Details
GraphID	-Graph identification
GraphDetails	-Data for each graph

Database - Backup

Make sure to back up your DrkWizDB.s3db database on a regular basis. It is located on the C: drive at <u>C:/Program Data/PhotoSoft Systems/DrkWiz/DrkWizDB.s3db</u>

!!This is very important !!

Make sure to backup the database that is used with DarkRoom Wizard. The program does not have a facility to backup this data but commercial backup software does exist for this purpose or the file can be "Zipped" or compressed onto other drives with one of the PkZip type programs.

The frequency with which data backups are made should be dependent upon *how often additions*, *deletions and changes are made to the database* and *how much data you can afford to lose* should something happen that would make the data unavailable.

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The following keys apply to all grids in the DarkRoom Wizard:

TAB

Move one cell to the Right, will wrap around at last column

Shift-TAB

Move one cell to the Left, will wrap around at first column

ESC

Replace current cell value with previous cell value.

HOME

Move to start of current line

END

Move to end of current line

Ctrl-HOME

Move to first record

Ctrl-END

Move to last record

Ctrl-C

Copy the current cell contents to the Clipboard

Ctrl-X

Cut the current cell contents to the Clipboard (removes data from the cell)

Ctrl-V

Paste the data currently on the Clipboard to the current cell. Only Text may be pasted to text columns and only numbers to numeric columns. Specially formatted cells, True/False and Date/Time cells cannot receive pasted data.

For all data grids that contain a "Notes" field:

Ctrl-ENTER

While in the Edit Box, this will insert a Carriage Return to create a new line.



The following data control is used by all grids.

```
🚦 🚺 🔌 🛛 27 👘 of 28 🛛 🕨 🚺 🗍 💠 🗙 🗍
```

The data control has buttons for moving from record-to-record in the database. The button on the far left \square moves to the first record, while the one on the far right \square moves to the last record. The others \square move up or \square down one record at a time. The number section in the middle \square of 28 show which record in the list is current. The \square item inserts a new record while the \checkmark item deletes the current record.



This will blank the screen to BLACK when pressed.

Use this feature anytime you need to turn off the screen. When the screen is blanked, pressing any key or pressing a mouse button will restore the original screen. The **F9** key will also blank the screen when pressed.

🕸 Search Wildcard

When creating a string for searching or filtering records in the DarkRoom Database, you can use wildcard characters to retrieve records based upon a partial entry. The wild card character is the asterisk character *, it can be used as follows:

TEST*	will retrieve all records starting with the word TEST , i.e. TEST , TESTTIME , TESTING
*TEST	will retrieve all records ending with the word TEST , i.e. MYTEST , YOURTEST , ATEST
TEST	will retrieve all records contain the word TEST , i.e. TEST , MYTEST , TESTTIME



All of the database tables with the exception of <u>Graphs</u> and <u>Process Control</u> have the ability to filter the data that is shown in the grid. When the **[Filter]** button is pressed and filter screen is shown with all of the fields for the current table available. You can filter the data on any combination of these fields.

The filter entries can make the use of what are known as 'wildcard' characters and a button on the page will bring up a help screen showing how these function. That page is also shown below:

Filter Panel Usage

The filter panel has a series of "*Check Boxes*" on the left side of the panel -- when one of these boxes is checked, a box opens on the right that allows the user to enter text that will be used in constructing a filter that will show only records that match the criteria entered into the box.

The search and filter routine uses what is known as a "LIKE" function to locate matching information using what are known as "wildcard" characters. The LIKE command is a powerful filtering tool. This allows for the use of these special characters to look for pattern matching in the information *(description of these are shown below)*.

If more than one box is checked the search and filter routines use what is known as an "AND" operator to link the fields together (*e.g. Locate records that have the entry where there is a match with the first entry AND with the second, etc.*)

When the "<u>Click to Create the Filter</u>" button is pressed, the fields with the checked boxes are put together and a filter is created and applied to the information presented in the grid. If the grid is empty or does not have the records that you expect then check the syntax of the entries made.

Wildcard Character Description

Wildcard characters are used to search for matching information. There are two types of wildcards: * _

* The asterisk character is the most common and will find any string of zero or more characters, as in --

'*computer*' finds all titles with the word 'computer' anywhere in the book title.
'*computer' finds all titles with the word 'computer' at the end of the book title.

'computer*' finds all titles with the word 'computer' at the start of the book title.

The * is not allowed in the middle (e.g. 'computer*user' is not allowed)

_ (underscore) Matches any single character. '_ean' finds all four-letter names that end with ean (Dean, Sean, and so on).

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Sort Order

Alphabetical order is used and the case of letters is not significant, looking for 'Pasta' and 'pasta' will return the same records.

Characters, numbers and punctuation sort in the following order *(uses the ASCII sort order)*: [space] ! "# \$ % & '() * +, -. / 0 1 2 3 4 5 6 7 8 9 : ; <=> ? @ *the characters* A - Z, [\]^_` {|}~

i.e., the word '01demo' will occur before 'demo' and '!demo' will occur before '01demo'.

NOTE: The numeric field is different -- it does not use wildcards, but instead uses a series of numeric comparisons:

Equal, Not-Equal, Less-Than, Greater-Than, Equal or Less Than and Equal or Greater Than.

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Notes:

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