

DARKROOM ASSISTANT  
Version: 1.0

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## TABLE OF CONTENTS

Program description.....	1
System requirements.....	2
Using the speech synthesizer.....	2
Installation.....	2
Startup and Command line options.....	3
Screen display.....	3
Keyboard functions.....	4
Load program function.....	5
Run program function.....	5
Edit program function.....	6
Setup function.....	6
Quit function.....	6

## PROGRAM DESCRIPTION

Darkroom Assistant is basically a programmable timer for use in the darkroom for film and paper developing. All of the program steps are displayed continuously as are the remaining times, agitate times, pause times, and the current status of the running program. All steps are easily modified or copied to suit different needs and many programs can be created and saved on disk for immediate recall. The number of programs that can be saved is limited by the disk space.

The timing of each step is controlled by the internal clock of the computer, NOT a timing loop, and is therefore independent of the clock speed or the environment that the ASSISTANT is running in. The timing of each step can be totally trusted and is repeatable. I thought of adding enlarger control thru the parallel port (isolated by solid state relays) but decided to see how the well the ASSISTANT would be received.

The most interesting feature of this ASSISTANT is its speech capability. If you have a MicroVox tm or compatible speech synthesizer attached to com1, and you turn on the speech option, each process step will be spoken as well as when to agitate and drain the tank. Micromint sells such a synthesizer(they advertise in BYTE). The speech feature allows you to pay attention to what you are doing and not have to watch a timer.

If you do not have a speech synthesizer the ASSISTANT will ring the bell to identify when to agitate and when to drain the tank.

If you find this ASSISTANT useful, please support it by sending \$20.00. This will place you on a mailing list for automatic upgrades. Also if you have any comments,

suggestions, or questions please let me know by writing or leave me a message on the PhotoTalk BBS (617-472-8612).

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Darkroom Assistant Vers: 1.0  
Page: 1

#### SYSTEM REQUIREMENTS

- IBM-PC or Compatible.
- 128k of Memory
- Floppy Disk or Hard Disk
- Color Graphics Adaptor
- Color or Monochrome Monitor
- Serial Port (for Speech Synthesizer)
- MicroVox tm or Compatible Speech Synthesizer (optional)

#### USING THE SPEECH SYNTHESIZER

To use the MicroVox<sup>tm</sup> speech synthesizer you must connect it to com1 and pre-configure your com port to the correct baud rate and word configuration. To set the port parameters you can use the DOS MODE command, ie. MODE com1:9600,n,8,1 to set the baud rate to 9600, no parity, 8 data bits, and 1 stop bit.

## INSTALLATION

No installation is required for the ASSISTANT, but I would recommend creating a directory for it if you are using a harddisk.

After the ASSISTANT has been placed on the disk, select the "SETUP" menu option and set up your display configuration and drain times.

Darkroom Assistant Vers: 1.0  
Page: 2

## STARTUP AND COMMAND LINE OPTIONS

To start the ASSISTANT type the following at the DOS prompt:

```
DR1 [opt1] [opt2]
```

where: opt1 and opt2 refer to optional parameters that can be the word speech to enable the speech synthesizer or the file name of a previously stored program to automatically load. The file name is type without the extension.

note: If you have enabled the speech option in the setup menu it will enable speech automatically and the speech command line option is not required.

## SCREEN DISPLAY

The screen is divided into three windows, the top window is the menu window, the middle window is the data window, and the bottom window is the message window.

The menu window is used to select the various functions of the ASSISTANT, which are load program, run program, edit program, setup, and quit. Each of these functions will be described in detail latter in this document.

The data window is used to display the loaded program and its current status if it is running. It is also used to enter a new program or edit an existing program using the edit program menu function.

The message window is used to display messages such as "Agitate" or "Drain Tank" and also reminds you of the allowable entries when editing a program. When using the setup menu function this window is used to prompt you for input.

Other windows pop up as needed when certain menu functions are selected, for example when the setup menu function is selected a window pops up to ask for which item is to be setup.

Darkroom Assistant Vers: 1.0  
Page: 3

#### KEYBOARD FUNCTIONS

The following is the function of certain keys on the keyboard as the related to menu function selection and data entry or editing.

KEY	FUNCTION
Home	Selects the top most menu item or positions the cursor at the beginning of the field.
End	Selects the bottom most menu item or positions the cursor at the end of the field.
PgUp	Scrolls the menu up one page(only used for files).
PgDn	Scrolls the menu down one page(only used for files).
Left Arrow	Selects the next left menu item or moves the cursor one place to the left.

Right Arrow	Selects the next right menu item or moves the cursor one place to the right.
Up Arrow	Selects the next upward menu item.
Down Arrow	Selects the next downward menu item.
Ins	Toggles the Insert mode when editing a data field.
Del	Deletes the character the cursor is on when editing a data field.
Back Space	Deletes the character to the left of the cursor when editing a data field.
Esc	Cancel a menu when in a menu or clears a data field when editing a data field.
Tab	Positions the cursor past the next punctuation mark.
Return	Selects the currently highlighted menu item when in a menu or completes a data entry when editing a data field.

Darkroom Assistant Vers: 1.0

Page: 4

## MENU FUNCTIONS

All menu functions are selected by using the arrow keys to move the highlight bar onto the desired menu function and then pressing the return key.

### LOAD PROGRAM FUNCTION

The load program menu function is used to load a previously stored program. A window of stored programs is displayed in alphabetical order, use the arrow keys to highlight the desired program and press the return key. A small menu is displayed allowing you to select, rename, or delete a file. If you select the select option the desired program will be loaded and displayed. If you select the rename option you will be asked for the new name, after you have entered the new name, the files window will be

updated. If you select the delete option, the file will be deleted and the files window will be updated.

#### RUN PROGRAM FUNCTION

The run program menu function is used to run the currently displayed program. If no program is displayed this function will have no affect.

While a program is running its status is displayed to the right of the program and the time left, agitate, and total time left will count down. When the agitate time reaches zero the bell will ring twice, the message "Agitate." will be displayed in the message window, and the agitate time will be reset to its initial value. If the agitate time is set to zero then there will be no bells or messages for agitate. When the time left is less than the drain time the bell will ring each second for the remaining time and the message "Drain Tank." will be displayed in the message window. After the step time has elapsed the program will pause for the specified time before entering the next step.

To abort a running program or a pause press the escape key.

If the speech synthesizer is being used each step name will be spoken as will the messages "agitate", "drain tank", "pausing", and "Type any key to continue". The last message is spoken when a keyboard pause is selected. When the program is complete the message "program complete" will be spoken.

When the program has finished running the program will be re-displayed and control will return to the main menu.

Darkroom Assistant Vers: 1.0

Page: 5

#### EDIT PROGRAM FUNCTION

The edit menu function is used to edit or create a program. A current program may be edited and then saved as a new one by selecting the create option. If no program is currently loaded then the create option is automatically selected. When the create option has been selected you will be prompted for a file name, the current file name is the default if one exists.

The message window notifies you of the allowable data that can be entered into the data field that the cursor is



currently on. Press the escape key then the return key when on the step name to end the data entry. NOTE: When you press escape and return this marks the end of the program and any steps on or below this step will be cleared. To keep all of the steps continue to press return until you reach a blank step name, then press return on the blank step name to mark the end of the program.

What you see at a data field when you press return is what gets entered into that field. If you make a mistake press return thru the rest of the program and then re-select the edit option.

#### SETUP FUNCTION

The setup menu function is used to define some user specific options. You may turn on or off the speech mode (use only if you have a speech synthesizer), set your drain time, and set your display colors. The display colors are entered in decimal and are the standard video attributes for your display adapter.

#### QUIT FUNCTION

The quit menu function is used to return the user to the DOS environment.