
Technical Procedure for Image Enhancement

- 1.0 Purpose** - The purpose of this procedure is to enhance image files of possible interest during video analysis.
- 2.0 Scope** - This procedure describes the steps to be taken by personnel of the State Crime Laboratory in enhancing image files during video analysis.
- 3.0 Definitions** – N/A
- 4.0 Equipment, Materials and Reagents**
- Enhancement software (e.g., Adobe Photoshop)
- 5.0 Procedure**
- 5.1** Determine whether the images require further enhancement based on the analyst's training and experience. If further enhancement is needed, continue with this protocol.
- 5.2** Make a duplicate copy of each image to be enhanced. Name the duplicate image such that it relates to the original image's file name, but can easily be distinguished from it.
- 5.3** Open the duplicate image and perform enhancements. Below is a list of some of the major processes.
Note: This list should not be considered all-inclusive.
- 5.3.1** Sharpen: Used to bring out definition in an image.
- 5.3.2** Levels Adjustment: Used to adjust the levels of light and dark in an image.
- 5.3.3** Brightness Adjustment: Used to adjust the brightness levels in an image.
- 5.3.4** Contrast Adjustment: Used to bring out definition in an image.
- 5.4** Save the enhanced image.
- 5.5** Depending on the available enhancement software, layers may be used to enhance an image. Each enhancement process is placed on its own layer and stacked on the original image in a manner such that the Forensic Scientist is easily able to tell the effect each process had on the original image.
- 5.6 Standards and Controls** - A color bar test pattern with test tone obtained from the engineering department at WRAL-TV on the media type submitted.
- 5.7 Calibrations** - The hardware and software used in casework shall be verified before each case to ensure that they are functioning properly (see the Video Performance Verification Procedure).
- 5.8 Maintenance** – N/A
- 5.9 Sampling** - N/A
- 5.10 Calculations** - N/A
- 5.11 Uncertainty of Measurement** - N/A

6.0 Limitations - Failure to enhance images properly could result in content or context being altered to the extent that the images are no longer a true and accurate representation of the original event.

7.0 Safety - N/A

8.0 References

- Video Performance Verification Procedure
- Adobe Photoshop User Manual

9.0 Records - N/A

10.0 Attachments – N/A

Revision History		
Effective Date	Version Number	Reason
09/17/2012	1	Original Document
10/31/2013	2	Added issuing authority to header
06/13/2018	3	Header – Updated Section and Changed Issuing Authority