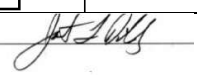# Deviation Request Form (DRF)

Directions: The Initiator will complete Sections A through C. Additional continuation pages can be included if necessary.

Initiator	Sterling Hunt	**Date**	8/22/2022

A. Requested deviation applies to (Technical Procedure – include specific section):

Reference Guide for Video Standard Settings

B. Requested deviation:

See Attached.

C. Necessity for the deviation:

As video recording devices change, so does the manner in which video is recorded; therefore, the settings listed within this guide may need to change, based on how the video was recorded and the type of software used to conduct the forensic analysis. This deviation will provide the scientist with the flexibility to adjust settings to provide a better product while still following best practices.

**D. Technical review and Authorization (to be completed by the Quality Manager and/or Technical Leader)
Comments(to include merits and impacts):**

Approved	☑	Yes	☐	No	Duration	One Year
Signature	*[signature]* Digitally signed by Jonathan Dilday DN: cn=Jonathan Dilday, o=North Carolina Department of Justice, ou=North Carolina State Crime Lab, email=jdilday@ncdoj.gov, c=US Date: 2022.08.22 13:24:13 -04'00'				Date	8/22/2022

E. Quality Assurance Authorization (to be completed by the Quality Manager, Forensic Scientist Manager or designee)

Acceptable within general QA guidelines and good laboratory practice?	☑ Yes	☐ No
Significant negative impact to Crime Laboratory Quality System?	☐ Yes	☑ No

Restrictions/limitations:

☑	Authorized	☐	Rejected	Signature	Timothy G. Suggs Digitally signed by Timothy G. Suggs DN: cn=Timothy G. Suggs, o=North Carolina State Crime Laboratory, ou=Quality Manager, email=tsuggs@ncdoj.gov, c=US Date: 2022.08.23 09:18:54 -04'00'	Date	08/23/2022

Para. 2.0 - Change "This reference guide describes the various standard settings to be used by personnel of the State Crime Laboratory when conducting a forensic video analysis examination" to "This reference guide describes the various standard settings to be used by personnel of the State Crime Laboratory as a starting point when conducting a forensic video analysis using specific software. The settings in this document are not a step-by-step process. The settings used during examination may differ than those listed in this reference guide and will be determined by the forensic scientist based on the work being conducted."

Para. 5.3 – Standards and Controls for iNPUT-ACE

Add Para. 5.3.1 – Aspect ratio shall be maintained during processing of video and image files.

Add Para. 5.3.2 – While no specific setting standards exist while processing video with iNPUT-ACE, the internal iNPUT-ACE help file should be referenced when conducting specific process (concatenating, cropping, resizing, adjusting play speed, etc.).

Para. 8.0 – iNPUT-ACE Help File

Reference Guide for Video Standard Settings
Digital Evidence Section
Issued by Digital Evidence Forensic Scientist Manager

Version 4
Effective Date: 06/21/2017

Reference Guide for Video Standard Settings

1.0 **Purpose** – The purpose of this reference guide is to aid in applying the correct settings during a forensic video analysis examination.

2.0 **Scope -** This reference guide describes the various standard settings to be used by personnel of the State Crime Laboratory when conducting a forensic video analysis examination.

3.0 **Definitions** – N/A

4.0 **Equipment, Materials and Reagents** – N/A

5.0 **Procedure**

   5.1 **Standards and Controls for AVID Platform**

   5.1.1 **Analog Video Digitization**

   - *Video and Audio Channels*: Set according to video/audio content
   - *Color/B&W*: Set according to video content
   - *Resolution*: 2:1 / 1:1
   - *Video Connection*: S-Video
   - *Audio Connection*: RCA

   5.1.2 **Digital Video Capture**

   5.1.2.1 Pre-processing Preferences

   - *Target Sample Rate:* A frame rate value greater than the video being played. A frame rate of 30 frames per second (FPS) is a good starting value.

   5.1.2.2 Post-processing Preferences

   - *File Type*: QuickTime
   - *Resizing*: None
   - *Compression*: Uncompressed

   5.1.3 **Digital Video Import**

   - *Resolution*: 1:1
   - *Image Size Adjustment:* Do not resize smaller images / Resize image to fit format raster
   - *Color*: Computer RGB (0-255) (Do not modify RGB settings)
   - *Alpha*: Ignore

   5.1.4 **Deinterlace**

   - *% Speed*: 50 %
   - *Style*: VTR-Style

   5.1.5 **Single Camera Automatic Demultiplex**

Reference Guide for Video Standard Settings
Digital Evidence Section
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- *Camera Mode*: Auto Detect
- *Tolerance*: Adjusted based on results (35 is generally a good starting point)
- *Bounding Box*: Placed around a stationary, high contrast area contained in the camera angle of interest.

5.1.6 Export To Demultiplex

- *File Type*: QuickTime Reference
- *Flatten Video Tracks*: On
- *Aspect Ratio*: Native
- *Color*: 601

5.1.7 Speed Adjustment

- *Style*: Both Fields

5.1.8 Demultiplex Camera Angle Export

- *File Type*: QuickTime or AVI
- *Compression*: Uncompressed

5.1.9 Import From Demultiplex

- *Aspect Ratio*: 601 – Non-Square
- *Color*: 601
- *Field Order*: Even – Lower Field First
- *Alpha*: Ignore

5.1.10 Magnification

- *Bounding Box Width*: 50
- *Bounding Box Height*: 50
- *View*: 90 % Full / Full
- *Filter*: Catrom / Sinc

5.1.11 Frame Averaging

- *Frames To Average*: Varies with the number of frames
- *Sharpen*: Varies with image content and quality

5.1.12 Image Export

- *File Format*: TIFF
- *Image Width*: 648
- *Image Height*: 486
- *Color*: RGB / Keep as legal range

5.1.12.1 Images exported should contain square pixels. Therefore, the image width should be 1.3333 times the image height in order to maintain the proper aspect ratio. If the image width is not 486 (standard NTSC), adjust the image width accordingly during export.

5.2   Standards and Controls for StarWitness Platform

5.2.1   Analog Video Digitization:

- *Multiplexed/Single or Quad*: Set according to video content
- *Number of Cameras*: Set according to video content (only available if multiplexed)
- *Video Source*: S-Video
- *Audio Source*: Set according to audio content
- *Color Mode*: Set according to video content
- *Video System*: NTSC

5.2.2   Digital Video Capture:

- *Frames Per Second*: A frame rate value greater than the video being played. A frame rate of '30' frames per second is a good starting value.
- *Capture Audio*: Set according to video/audio content
- *Audio Device*: Set according to video/audio content

5.2.3   Deinterlace:

- *Upper Field/Lower Field/Interlace Both*: Set according to video content

5.2.4   Frame Average:

- *Frames*: 'All' or by according to the number of frames

5.2.5   Video Clip Export

- *File Format*: Uncompressed AVI

5.2.6   Image Export

- *File Format*: BMP

5.2.7   Resizing – Enlarged video or images should maintain their original aspect ratio. Therefore, enlarged video or images should be proportional to the height and width of the original video or images. A height and width that are double (2x) of the original dimensions are good starting values.

5.2.8   Image Processing – Images should contain square pixels. Therefore, the image width should be 1.3333 times the image height in order to maintain the proper aspect ratio. If the image height is not 486 (standard NTSC), adjust the image width accordingly.

5.3   Calibrations – N/A

5.4　　Maintenance – N/A

5.5　　Sampling - N/A

5.6　　Calculations - N/A

5.7　　Uncertainty of Measurement – N/A

6.0　Limitations – N/A

7.0　Safety - N/A

8.0　References

- Ocean Systems Training Manual – Introduction to Forensic Video Analysis
- StarWitness Analyst Product Guides

9.0　Records - N/A

10.0　Attachments - N/A

Revision History		
Effective Date	Version Number	Reason
09/17/2012	1	Original Document
03/08/2013	2	5.1.2, 5.1.3, 5.1.12 - Updated settings for these critera
10/31/2013	3	Added issuing authority to header
06/22/2017	4	Updated section and issuing authority in Header 5.1.3 Added size to fit format raster and removed Field Order 5.1.10 Added "Full" to the view options 5.1.12 Removed "Field Order" and added "Keep as legal range"

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