

	<i>LPU-PM 4.0 Equipment Maintenance and Verification</i>	
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	<i>Document Manager: Tracee McIntosh</i>	<i>Approved By: Jeffrey Nye</i>

4.1 Latent Print Unit Equipment

4.1.1 Scope

This policy applies to personnel assigned to, or conducting work in, the FSD Latent Print Units. This policy describes equipment assigned to the latent print unit.

4.1.2 Responsibility

4.1.2.1

Operating manuals regarding instructions for the proper use and maintenance of each piece of equipment assigned to the unit shall be available on-site. All latent print unit personnel are responsible for the proper operation of the equipment.

4.1.2.2

Each examiner shall be responsible for noting any equipment that is operating outside expectations and notifying the appropriate party in their chain of command.

4.1.2.3

Members of each latent print unit are responsible for maintenance and periodic cleaning of the equipment assigned to their unit.

4.1.2.4

Chemical hoods shall be evaluated annually by the FSD Health and Safety Officer or a qualified vendor. Documentation of that evaluation is maintained by the FSD Health and Safety Officer. Refer to [Health and Safety Manual Section 2.2.9.3](#).

4.1.3 Terminology

4.1.3.1

ADAMS: the software solution created by Foray Technologies to store and authenticate latent print photographs. ADAMS stands for Authenticated Digital Asset Management System.

4.1.4 Equipment Maintenance Log

4.1.4.1

Each latent print unit shall keep an equipment maintenance log. Retention of the maintenance log will follow the State of Michigan's retention schedule for casework.

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4.1.4.2

The maintenance log will specify the name of the equipment or software, the manufacturer, the model, the serial number if available, the current software version, and the location of the operations manual.

4.1.4.3

The maintenance log shall include the dates the equipment is out of service and returned to service (or replaced), the name of personnel entering the information and/or performing the maintenance, the date, and a brief explanation of the problem, equipment verification, or action taken.

4.1.4.3

The equipment maintenance log shall include the following equipment, if available, in the latent print unit.

- Cyanoacrylate Fuming chambers
- Caron Humidity Chambers
- Heat Press
- Foray Adams computer system
- Foray ADAMS Camera
- Foray ADAMS Scanner
- Foray ADAMS printer
- Ruvis/LabKam
- Alternate Light source(s)
- AFIS Camera
- AFIS scanner
- AFIS printer

4.1.5 Equipment Verification

4.1.5.1

Equipment verification demonstrating the function of equipment in the latent print unit shall be completed following a repair, removal from service, or substantial maintenance.

4.1.5.2

Newly purchased equipment, or equipment moved from another site, shall be verified for reliability prior to use in casework.

4.1.5.3

Routine use of equipment during casework shall serve as an indication of continued reliability. Daily function documentation is not required.

4.1.5.3

Equipment verification will be documented by memo to the Technical Leader. The Technical Leader will review and approve the equipment verification and advise that the equipment may be placed back in service. If not approved for return to service, the Technical Leader will specify the further steps required for equipment verification. (see LOM 2.9.3.2)

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4.1.5.4

The equipment verification memo, photographs of the processed latent prints (if available) from the testing, and the Technical Leader email advising the equipment may be placed back into service shall be maintained in a file at the originating laboratory. (See LOM 2.9.2)

4.1.6 Calibration

4.1.6.1

Measuring scales are required in latent print photographs and scans in order to approximate the actual size of a latent print or known impression. These scales need not be calibrated nor is measurement of uncertainty required.

4.1.6.2

Weighing scales used to measure chemicals for reagents and solutions in the latent print units shall be calibrated annually during the laboratory calibration cycle. Certificates of calibration shall be maintained in the laboratory.

4.1.7 Training on Latent Print Unit Equipment

4.1.7.1

Training on the equipment in the latent print unit is conducted during processing training in Module 1 of the training manual.

4.1.7.2

Trainees must complete the training on each piece of equipment and processing technique prior to independent use of that piece of equipment.

4.1.7.3

New equipment instituted in the latent print unit requires documented training prior to use. The Technical Leader shall determine the amount and type of training required.

4.1.8 Latent Print Unit Equipment

4.1.8.1 Access

Latent print equipment is available with limited access within the latent print unit sites. Personnel with access to the equipment is specified by each laboratory.

4.1.8.2 Cameras

4.1.8.2.1

Camera models and manufacturer may vary between latent print unit sites.

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4.1.8.2.2

The standard setup for latent print digital photography in the laboratory is a mounted camera connected to the Foray ADAMS computer.

4.1.8.2.3

Mounted cameras connected to the ADAMS workstation require a macro lens for close up photography.

4.1.8.2.4

The manufacturer or a camera specialist vendor should be used for any required repairs of unit cameras.

4.1.8.3 ADAMS

4.1.8.3.1

Digital images are acquired into ADAMS for storage. ADAMS maintains an electronic chain of custody record for each latent print digital file and protects the original file from any changes.

4.1.8.3.2

Foray ADAMS software is available on the ADAMS workstation in the latent print unit and on the office laptops in the laboratories where ADAMS is networked.

4.1.8.3.3

An ADAMS workstation is located in each latent print unit. Access to the software is password protected for limited access. Personnel allowed access are added to the group by a trouble ticket to FSD TSU, which may also include a DTMB trouble ticket.

4.1.8.3.4

Bit Locker password is required to turn on the office laptops and a subsequent individual password is required for access to the programs on the computer in order to provide security and limited access.

4.1.8.3.5

ADAMS software automatically maintains a chain of custody on each image, documenting the date and time that an image is opened for viewing or exported for processing and by whom.

4.1.8.3.6

ADAMS computer windows updates that are designated "important" by the provider shall be completed and should be documented in the unit Equipment Maintenance log.

4.1.8.3.7

A check of the system backup and/or server functionality is required monthly, at a minimum, at all networked sites to ensure all images are being duplicated. This check shall be documented in the equipment maintenance log.

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4.1.8.3.8

The ADAMS software is maintained and supported by FORAY Technologies. Service requests should be directed to FORAY by email to support@foray.com.

4.1.8.3.9

The Technical Leader should be notified of problems with the ADAMS software or hardware.

4.1.8.3.10

See LPU-PM 5.0 for standard operating procedures specific to digital photography and processing.

4.1.8.4 LABKAM and Reflective Ultraviolet Light Imaging System (RUVIS)

4.1.8.4.1

The RUVIS (Reflective Ultra Violet Imaging System) and LabKam (Laboratory Video-Based RUVIS capture system), developed by Sirchie, provide UV light for friction ridge detection and photography.

4.1.8.4.2

Labkam (or RUVIS) is a visual lighting technique suggested for use on the adhesive side of tape and on substrates that have been processed using cyanoacrylate fuming.

4.1.8.4.3

LabKam systems are connected to the Foray ADAMS system or set-up as a stand-alone system in which the photographs are moved to the Foray ADAMS computer for acquisition.

4.1.8.4.5

The system may be used prior to processing with best results post-cyanoacrylate fuming.

4.1.8.4.6

Limitations of the system may include certain textured substrates and substrates that were processed with techniques other than cyanoacrylate fuming which may reduce the contrast of the latent prints using this system.

4.1.8.4.7

LabKam and RUVIS should be serviced exclusively by a SIRCHIE representative. Service requests should be directed to SIRCHIE at <http://www.sirchie.com/>

4.1.8.5 Light Sources

4.1.8.5.1

White light and fluorescent light boxes (for transmitted light photography) may be used for best contrast at the discretion of the examiner.

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4.1.8.5.2

Alternate light sources with varying wavelengths of light are available in each latent print unit to visualize fluorescent dye stains.

4.1.8.5.3

Alternate light source manufacturers and models may vary between laboratories. Service or repairs to alternate light sources should be conducted by the vendor.

4.1.8.6 Heat/Humidity Chambers

4.1.8.6.1

Caron Heat/Humidity chambers are available in each latent print unit.

4.1.8.6.2

Exact heat and humidity levels are not required for processing. The temperature and humidity shall be adjusted based on the suggested ranges specified by the processing technique.

4.1.8.6.3

Distilled water shall be used in the Caron Humidity Chamber.

4.1.8.6.4

The Caron Humidity Chambers may be maintained by MSP TSU with a request to FSD APPS. Additional questions or repair needs may be directed to service@caronproducts.com.

4.1.8.7 Heat Press

4.1.8.7.1

Heat press models may vary between latent print unit sites.

4.1.8.7.2

The heat press may be maintained by MSP TSU with a request to FSD APPS. Additional questions or repair needs may be directed to the vendor.

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4.1.8.8 Cyanoacrylate Fuming Chambers

4.1.8.8.1

The MVC5000 Foster and Freeman CA fuming chambers are available in all MSP latent print units.

4.1.8.8.2

Secondary cyanoacrylate fuming chambers may be available in specific latent print units: Foster and Freeman MVC1000 or LabConco Capture BT Fuming Chamber.

4.1.8.8.3

Contact with Foster and Freeman Technical support should be sent to www.fosterfreeman.com or sales@fosterfreeman.com.

4.1.8.8.4

Replacement carbon filters for the Foster and Freeman CA chambers must be ordered through the vendor. A quote for purchase can be obtained with an email to Amy.Temenak@fosterfreeman.com.

4.1.8.9 AFIS / NGI

4.1.8.9.1

The hardware and software for AFIS and NGI is maintained by IDEMIA and managed by the Michigan State Police Biometrics Division (BID).

4.1.8.9.2

Support requests are logged by IDEMIA Customer Support Center (CSC) 24/7 via the Customer Support Center telephone at (800) 734-6241.

4.1.8.9.3

Ongoing problems should be directed to Scott Blanchard BlanchardS1@michigan.gov (MSP BID) and copied to the Technical Leader.

4.1.8.9.4

See LPU-PM 6.0 for specific standard operating procedures on the use of AFIS.