



# Coffee Break Training - Fire Investigation Series

## Fire/Arson and Explosion Investigation Curriculum: Proper Handling and Processing of Digital Evidence

No. FI-2012-2 February 2, 2012

**Learning Objective:** The student shall be able to identify the proper handling procedures for digital evidence to avoid potential damage or destruction of critical data.

### Packaging, Transportation, and Storage of Digital Evidence

Digital evidence—and the computers and electronic devices on which it is stored—is fragile and sensitive to extreme temperatures, humidity, physical shock, static electricity, and magnetic fields. Investigators should take proper precautions when documenting, photographing, packaging, transporting, and storing digital evidence to avoid altering, damaging, or destroying the data.

### Packaging and Transportation Procedures

All actions related to the identification, collection, packaging, transportation, and storage of digital evidence should be thoroughly documented. When packaging digital evidence for transportation, investigators should

- Ensure that all digital evidence collected is properly documented, labeled, marked, photographed, video recorded or sketched, and inventoried before it is packaged to maintain the chain of custody.
- Remember that digital evidence may also contain latent, trace, or biological evidence, so take the appropriate steps to preserve it. Digital evidence imaging should be done before latent, trace, or biological evidence processes are conducted on the evidence.
- Pack all digital evidence in antistatic packaging. Only paper bags and envelopes, cardboard boxes, and antistatic containers should be used for packaging digital evidence. Plastic materials should not be used when collecting digital evidence because plastic can produce or convey static electricity and allow humidity and condensation to develop, which may damage or destroy the evidence.
- Leave cellular, mobile, or smartphone(s) in the power state (on or off) in which they were found.
- Collect all power supplies and adapters for all electronic devices seized.
- Keep digital evidence away from magnetic fields such as those produced by radio transmitters, speaker magnets, and magnetic-mount emergency lights.
- Package mobile or smartphone(s) in signal-blocking material such as faraday isolation bags, radio frequency-shielding material, or aluminum foil to prevent data messages from being sent or received by the devices. Investigators should be aware that if inappropriately packaged, or removed from shielded packaging, the device may be able to send and receive data messages if in range of a communication signal.
- Avoid keeping digital evidence in a vehicle for prolonged periods of time. Heat, cold, and humidity can damage or destroy digital evidence.
- Ensure that computers and electronic devices are packaged and secured during transportation to prevent damage from shock and vibration.
- Ensure that the digital evidence is not exposed to magnetic fields, moisture, dust, vibration, or any other elements that may damage or destroy it.



Precautions need to be taken when collecting digital evidence as it may also contain latent, trace, or biological evidence.

Source: National Institute of Justice (NIJ). *Electronic Crime Scene Investigation: A Guide for First Responders*, Second Edition.

For archived downloads, go to: