

A. Purpose:

1. The focus of the National Integrated Ballistic Information Network (NIBIN) is to provide federal, state and local law enforcement agencies with investigative leads by comparing digital images of fired cartridge cases from different crime scenes. The NIBIN database utilizes IBIS BRASSTRAX-3D, an automated acquisition station for capturing images of fired cartridge cases, and IBIS MATCHPOINT+, an analysis station for reviewing potential associations provided by sophisticated correlation algorithms. Detailed high-resolution images captured by the IBIS BRASSTRAX-3D acquisition station are stored on servers maintained by the Bureau of Alcohol, Tobacco and Firearms and Explosives (BATFE). Utilizing IBIS MATCHPOINT+ an analyst can review the correlation results and compare the images side by side on a computer monitor. If a potential association is located during the review process, then the physical evidence from the two cases is compared by a firearm examiner utilizing traditional comparative microscopy techniques.

B. Responsibility:

1. It is the analyst's responsibility to be familiar with the complete operation and functioning of the IBIS BRASSTRAX-3D/IBIS MATCHPOINT+ hardware/software for the integration of evidence into the database.
2. The analyst must be certified by BATFE to work on the system.

C. Safety:

1. Personal protective equipment: Laboratory coats will be worn while working on case materials. Gloves will be worn when handling submitted evidence unless the item is submerged for 10 minutes in freshly prepared (daily) 10% bleach solution or stabilized bleach. The analysis must assess if this process would affect the usefulness of the evidence (i.e. if DNA analysis is needed bleaching cannot occur).

D. Procedure:**1. NIBIN Entry Protocols****a. Exhibits that *may* be entered:**

Cartridge cases fired in semiautomatic and fully automatic pistols.

Cartridge cases fired in semiautomatic, fully automatic, bolt action, pump/slide action and lever action rifles.

Approved by Director: Dr. Guy Vallaro

Shotshells fired in semiautomatic, slide/pump action, lever action and bolt action shotguns.

Any firearm that is magazine fed and/or designed to eject cartridge cases after firing.

b. Exhibits that *may not* be entered:

Cartridge cases or shotshells that lack sufficient or repeatable characteristics within the breech face and firing pin impressions to assist in the correlation review. **The analyst's discretion will be used to make this determination.**

Images of cartridge cases or shotshells fired in revolvers, break open shotguns, derringers and single shot firearms.

Evidence cartridge cases that are consistent with having been fired in the above type weapons.

A Law Enforcement Officer's firearm that is involved in a shooting incident.

2. Entering Case Information into IBIS BRASSTRAX-3D

a. Creating case records

b. The procedure outlined in IBIS BRASSTRAX-3D v2.3 Training Guide will be utilized to create a new case record and enter the case information.

i. Case ID – The “DSS” number designated by the evidence receiving section or the eleven digit weapon destruction unit number.

Examples: DSS13-1234 or 40001652345

ii. Event Type – Will be selected based on the information provided by the submitting agency. **The event type should be the offense associated with the case. If test fires are obtained from a firearm submitted in the case, the event type for the cartridge case exhibit will be changed to “test fire”.**

Assault with a deadly weapon will include:

Shooting

Assault

Attempted homicide

Homicide – Only known homicides should be included in this category

Test Fire – Cartridge cases generated from known firearms

Other Event – Includes crimes other than those listed above

Unknown – Used when the crime is unknown

Approved by Director: Dr. Guy Vallaro

Demo, Test and QA – Used to demonstrate quality assurance

- iii. Occurrence Date – The date of offense provided by the submitting agency.
- iv. Case Supervisor – The analyst responsible for the case.
- v. Law Agency – The police agency submitting the evidence. If the agency is not listed a note of the submitting agency should be made in the comment field.
- vi. High Profile – Shall be used at the discretion of the analyst.
- vii. Comment – Any additional comments about the case can be entered at the discretion of the analyst.

c. Creating cartridge case exhibit records

- i. The procedure outlined in IBIS BRASSTRAX-3D v2.3 Training Guide will be utilized to create a new cartridge case exhibit and enter the exhibit information.

- ii. Cartridge case exhibit number:

Cartridge cases from an unknown firearm will use the case submission number or the number designated by the analyst.

Test fired cartridge cases will use the submission number of the firearm, followed by the test fire number, followed by the “/TFCC” suffix.

Example: 1-2/TFCC (the firearm is submission 1 and the exhibit is the second test fire).

- iii. The following fields will be added in the cartridge case exhibit screen:

Caliber

Make of ammunition

Firing Pin shape

Firearm exhibit number (if applicable)

Event type (change to test fire if applicable)

Breech face class characteristics

d. Creating firearm exhibit records

- i. The procedure outlined in IBIS BRASSTRAX-3D v2.3 Training Guide will be utilized to create a new firearm exhibit and enter the exhibit information.
- ii. Firearm exhibit number - Use the submission number of the weapon or the number designated by the analyst.

iii. The following fields will be added in the firearm exhibit screen:

Caliber

Make

Model (if known)

Type

Serial Number

If obliterated and could not be restored enter "Obliterated" or "Oblit."

If the firearm never had a serial number enter "N/A"

Country of Origin

Optional: Importer and State

e. Acquisition Parameters

i. Centerfire Cartridge Cases/Shotshells

(a) The analyst will acquire the following regions of interest:

Breech Face

Full Headstamp

Firing Pin – Centerfire

Primer 3D DFF

(b) Ejector marks of value may be entered at the discretion of the analyst.

ii. Rimfire Cartridge Cases

(a) The analyst will acquire the following regions of interest:

Full Headstamp

Firing Pin – Rimfire

iii. Other Acquisition Parameters

(a) The analyst will follow the IBIS BRASSTRAX-3D Standard Acquisition Protocol outlined in the IBIS BRASSTRAX-3D v2.3 Training Guide to orient the cartridge case/shotshell and capture the digital images.

(b) If a cartridge case/shotshell is oriented outside of the above parameters a remark **must** be made in the comment field stating the reason for the deviation.

Approved by Director: Dr. Guy Vallaro

- (c) In the event that reference collection parts (e.g. firing pin, slide etc.) are used to obtain test fired cartridge cases/shotshells, the images of the respective areas need **not** be taken. A remark **must** be made in the comment section describing which parts were swapped.

f. Correlation Results

- i. All of the exhibits acquired on IBIS BRASSTRAX-3D will automatically correlate against the statewide database. In the event an agency requests a search of other databases, the analyst will perform a manual correlation for the region requested.
- ii. The analyst will review, at a minimum, the top 25 ranked breech face and firing pin results (including ties). The subsequent correlation results **must** contain the top 10 ranked breech face and firing pin results.
- iii. Once the correlation results have been reviewed, they may be deleted from the correlation results list.

g. Generating Hits

- i. If the analyst reviewing the correlation results suspects a potential association. He or She will mark the cases as an unconfirmed hit according to the IBIS MATCHPOINT+ v2.3 Training Guide protocols.
- ii. Once a hit has been microscopically confirmed by a firearm examiner the analyst will confirm the link according to the IBIS MATCHPOINT+ v2.3 Training Guide. The analyst will then update the case comment field, for each of the cases, with the hit information.

h. Case Records and Reports

- i. Once an acquisition is made, a notation in LIMS will be made stating the submission number of the cartridge case entered and the date the entry was made.
- ii. A preliminary NIBIN Quick Hit Report (NQHR) will be issued for the unconfirmed hits noted in the IBIS MATCHPOINT+ analysis station. The original report and a printout of the unconfirmed hit will be retained in the main case file in evidence receiving. A copy of the original report will be sent to the submitting agencies involved with the unconfirmed hit. Additionally, a scanned image of the signed report/s will be added into the LIMS system for each of the cases involved. Subsequently, a notation in LIMS will be created stating the case numbers involved and the date NQHR letter was sent.
 - (a) If the unconfirmed hit involves a destruction gun from the Special Licensing and Firearms Unit, the analyst will fill out the Weapon Destruction Unit form and attach it to both copies of the preliminary NQHR.

Approved by Director: Dr. Guy Vallaro

- iii. If a candidate for comparison is **not** found, the case can remain in the evidence storage location until either the case is completed, or a NIBIN report is issued stating that:

Images of a cartridge case submitted in the case were entered into the NIBIN database and no candidates for comparison have been identified.

If a candidate for comparison is located in the future, the agency will be contacted to have the evidence returned. At such a time, the Firearm and Toolmark section will complete an examination of all the items submitted.

The remaining evidence has not been examined and is being returned.

i. Maintenance and Quality Assurance

- i. The NIBIN monthly control will be completed, by the end of each month, by the assigned analyst. The correlation results and case information pages will be printed stored in the NIBIN Monthly Control Log binder. See CW-I-4 for instructions.
- ii. Tests and Calibrations activities are maintained in the IBIS BRASSTRAX-3D software. This report will be generated at will.

E. Equipment:

1. IBIS BRASSTRAX-3D Acquisition Station
2. IBIS MATCHPOINT+ Analysis Station

F. References:

1. IBIS BRASSTRAX-3D v2.3 Training Guide
2. MATCHPOINT+ v2.3 Training Guide
3. BATFE NIBIN Fact Sheet
4. AFTE procedures

G. Appendices:

1. Appendix 1 – Worksheets