U.S. Department of Justice
Federal Bureau of Investigation
Criminal Justice Information Services (CJIS) Division

September 30, 2017

ELECTRONIC BIOMETRIC TRANSMISSION

SPECIFICATION (EBTS)

TECHNICAL AND OPERATIONAL UPDATE (TOU)

10.0.8 REDLINES

SECTION 1 – MESSAGE TO CJIS SYSTEMS OFFICERS, STATE IDENTIFICATION BUREAUS, AND OTHER INTERFACE AGENCIES

Technical and Operational Updates (TOUs) document functional changes to the Electronic Biometric Transmission Specification (EBTS) as an interim solution (until the release of the next major version) to enable FBI/CJIS system user compliance. The purpose of this document is to identify TOU 8 changes with redlines for user clarity. This and all previous TOUs are documented within the full text of the EBTS version 10.0.8, identified through configuration management number NGI-DOC-01862-1.1.

Please note that the functional changes documented by this TOU are cumulative such that user compliance requires adherence to the most recent version of the EBTS and incorporation of all functional changes documented by this and all prior TOUs since the release of the most recent major version of the EBTS. A comprehensive list of all TOU functional changes since the release of the most recent major version of the EBTS is located in Section 3 and sorted by section.

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Users are reminded that any questions concerning the distribution of EBTS TOUs should be directed to the Biometric Center of Excellence.

Archived and Active versions of the EBTS and its TOUs are available via the Internet on the FBI Biospecs Web site at <http://www.fbibiospecs.cjis.gov>.

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SECTION 2 – FUNCTIONAL CHANGES FOR 10.0.8

Section 2 contains information concerning the modifications constituting EBTS 10.0.8. The following table is an overview of the functional modifications for this TOU version.

Section	Change
Throughout	Grammar, punctuation, and minor style updates
3.1.1.21 SRE	Updated first paragraph
3.1.1.22 ERRT	Added new section (Future Capability)
3.1.3.2 RPISR	Updated RPISR description
Appendix C	Updated description for 2.071 ACN
	Updated description for 2.047 ASL
	Updated description for 2.051 CSL
	Updated description for 2.2007 SDOB
	Updated description for 2.2008 SNAM
	Updated maximum occurrence for 2.047 ASL and 2.051 CSL in Table C-1
	Updated special characters for 2.071 ACN in Table C-1
Appendix D	Updated occurrence for 2.047 ASL for CAR, CNA, CPDR, CPNU, and LFS
	Updated occurrence for 2.051 CSL for CAR, CNA, CPDR, CPNU, and FDSP
	Updated occurrence for 2.2007 SDOB for ERRT (Future Capability)
	Updated occurrence for 2.2008 SNAM for ERRT (Future Capability)
	Added superscript for 2.051 CSL occurrence for FDSP
	Added new reference notes in Appendix D – Reference Notes
Appendix E	Added 2.060 MSG occurrence for RBRPTR
Appendix F	Added new sections 2.7 and 4.11
	Updated Image Quality for Mobile ID
Appendix I	Updated occurrence for 2.047 ASL for SRNR
	Updated occurrence for 2.051 CSL for DSPE and SRNR
	Added superscript for 2.051 CSL occurrence for DSPE
	Added new footnote to Table I-1
Appendix M	Updated error message code RB019
	Added error message code RB029
	Updated error message code L0154
	Added error message code M0055

1.1   Background

In accordance with the recommendations of the FBI/CJIS Advisory Policy Board (APB) Identification Services Subcommittee, the FBI has developed this standard for electronically encoding and transmitting biometric image, identification, and arrest data that extends the American National Standards Institute/National Institute of Standards and Technology - Information Technology Laboratory (ANSI/NIST-ITL) standard. ANSI/NIST-ITL is developed and maintained in conjunction with the National Institute of Standards and Technology (NIST) and the biometric identification community.

While the aforementioned ANSI/NIST-ITL standard provides the guidelines for the exchange of biometric information between various federal, state, local, tribal, and international systems, the FBI's EBTS defines requirements to which agencies must adhere when electronically communicating with the FBI. Functional changes to the EBTS are documented in Technical and Operational Updates (TOUs) as an interim solution between major versions. User compliance requires adherence to the most recent major version of the EBTS and incorporation of all TOUs.

The FBI's EBTS and its future revisions will inherit the basic requirements for logical records set forth in the ANSI/NIST-ITL standard. However, the FBI/CJIS-specific requirements for the contents and composition of logical records Type-1 (Header Information), Type-2 (Transaction Descriptive, Demographic and Biographic Information), Type-4 (Fingerprint Image Descriptive Information), Type-7 (Tenprint Fingerprint Card Images), Type-9 (Fingerprint Minutiae Information), Type-10 (Photo Images), Type-13 (Latent Friction Ridge Images), Type-14 (Variable Resolution Fingerprint Images), Type-15 (Palm Print Images), Type-17 (Iris Images), and other record types are contained in this EBTS.

1.8 Reference Documents

- •   American National Standards Institute/National Institute of Standards and Technology (ANSI/NIST) – Information Technology Laboratory (ITL) 1-2011 American National Standard For Information Systems – Data Format for the Interchange of Fingerprint, Facial, and Other Biometric Information, November 2011, http://biometrics.nist.gov/cs_links/standard/AN_ANSI_1-2011_standard.pdf https://www.nist.gov/publications/data-format-interchange-fingerprint-facial-other-biometric-information-ansinist-itl-1

2   Scope

The ANSI/NIST-ITL standard includes record types for numerous biometrics. FBI/CJIS will accept biometric and descriptive data for friction ridge (fingers, palms and joints/tips), photo (face and SMT) and iris records in accordance with the ANSI/NIST-ITL standard.

NGI will provide identification and/or investigative services for each of these biometric types.

3.1.1.21   Submission Results --- Electronic (SRE)

This transaction is returned by NGI in response to identification search submissions. The SRE will contain an identification/non-identification decision; the Event Identifier (2.2035 EVI) for retained submissions; the electronic Identity History Summary, when requested; and the Rap Back Subscription status, when a Rap Back subscription is requested. The following table describes which Name (2.018 NAM), FNI number/UCN (2.014 FBI), and State Identification Number (2.015 SID) are returned in the SRE for Criminal, Civil and Humanitarian (Unknown Deceased (DEU), Missing Person (MPR), and Amnesia Victim (AMN)) submissions, for both non-identification and identification results. For submissions which result in an identification decision: 1) the Name (2.018 NAM) will be returned in the Submitted Name (2.2008 SNAM) field if there is no match to the Master Name; and/or 2) the Date of Birth (2.022 DOB) will be returned in the Submitted Date of Birth (2.2007 SDOB) field if there is no match to the Master DOB. The following fields, which are not stored at FBI/CJIS, are always returned as submitted: Attention Indicator (2.006 ATN), Send Copy To (2.007 SCO), Employer and Address (2.039 EAD), Occupation (2.040 OCP), Residence of Person Fingerprinted (2.041 RES), and Treat as Adult (2.087 TAA). A single electronic response will be sent to the contributor through the State Identification Bureau via the CJIS WAN.

[Unchanged text not included here for brevity]

3.1.1.22   *Tenprint Transaction Error Response (ERRT) (Future Capability – effective 10/2018)*

When a Tenprint Transaction Error Response (ERRT) is sent in response to an identification search submission, the Name (2.018 NAM) and Date of Birth (2.022 DOB) from the search submissions are returned as the Submitted Name (2.2008 SNAM) and Submitted Date of Birth (2.2007 SDOB), respectively. Error responses are listed in the Error Message Format Section (Section 3.7).

3.1.2.1 Latent Fingerprint Image(s) Submission (LFS)

3.1.3.2 Rapid Fingerprint Identification Search Response (RPISR)

For Red and Yellow responses, the Supplementary Identity Information (2.2023 SII) field may be returned and will contain important officer safety information such as Warrants, Offenses, and Caution codes from NCIC. In addition, the Action to be Taken (2.071 ACN) field may also be returned to indicate recommendations for further actions. When requested, the most recent full frontal photo for each candidate   will also be returned, if available. The RPISR transaction may include full Identity History Summary data in the Electronic Rap Sheet (2.075 ERS) field for any returned candidates, if requested. The return

of the full Identity History Summary may increase the response time service level. No fingerprint images will be returned for the Rapid Fingerprint Identification Search Response.

3.3.1.1 Biometric Image/Feature Retrieval Request (IRQ)

The following biometric and descriptive record types may be retrieved:

1. Tenprint FP Images from an Event using the Biometric Set Identifier (2.2029 BSI)
2. Tenprint FP Features associated with a retrieved image
3. Palm Print Images from an Event using the Biometric Set Identifier (2.2029 BSI)
4. Palm Print Features associated with a retrieved image
5. Supplemental (joint and tip) Prints from an Event using the Biometric Set Identifier (2.2029 BSI)
6. Supplemental (joint and tip) Features associated with a retrieved image
7. Latent Friction Ridge images and associated Features
8. Facial Photos
9. SMT Photos

3.6.13 Biometric Image Submission (FIS)

The Biometric Image Submission Request (FIS) supports the enrollment of additional biometric imagery (fingerprints, palm prints, supplemental prints, facial photos, ~~SMT photos~~ and iris images) and descriptive imagery (SMT photos) for an existing identity, when a search is not necessary. As has always been done in FIS processing, the quality and characteristics of tenprint fingerprint images will be evaluated against the existing composite fingerprint set for the Identity, and updates to the composite will be made appropriately. This is existing functionality used to support NFF states' submission of fingerprints for all second and/or subsequent criminal criterion offenses. However, this processing will apply to all submitters, whether NFF or not.

Appendix C: Descriptors and Field Edit Specifications for Type-2 Logical Records

ACN 2.071 Action to be Taken

This field is used to include text answers to submission requests to indicate that a latent case will be established or to indicate recommendations for further actions within response transactions ~~in either latent or tenprint responses~~. This field will also be used to indicate action taken by the FBI in response to electronic document (e.g., disposition) submissions. For this field, commas, hyphens, ampersands, slashes, number signs, underscores, and ~~blanks~~ spaces are all allowed as special characters.

AKA 2.019 Aliases

This 3-to-50 alphaspecial (AS) field contains alias names of the subject. Up to ten aliases may be provided.

For the traditional encoding of this field, each alias will be separated from one another by the {RS} character. AKA may contain a comma, hyphen, or ~~blanks~~ spaces as special characters. The format shall be the surname followed by a comma, followed by the given names separated by a space. The following restrictions and exceptions to the general format apply (the first three apply only to the traditional encoding):

1. Minimum length is three bytes in the following sequence: alphabetic, comma, alpha- betic.
2. A comma must be followed by a minimum of one alphabetic character.
3. A ~~blank~~ space immediately before or after a comma is invalid.
4. A hyphen in first and last position of any name segment is invalid.
5. Two consecutive ~~blanks~~ spaces or hyphens between characters are invalid.

AMP 2.084 Amputated or Bandaged

This field is to be used any time there are fewer than ten printable fingers in a tenprint submission for finger positions 1 – 10 or positions 11–15 to specify when no slap fingerprint images are provided in the finger positions (e.g., entire right hand is not printed). A partially amputated finger should be printed and be marked amputated, XX. If the finger's image is missing for any reason, (for example, when the arresting agency did not specify a reason in its submission to the State Identification Bureau) the UP code should be used. This field is used to tell the AFIS which finger positions need to characterized. The UP code should only be used when the entire image is not provided for fingerprints in the submission. This code will indicate that the AFIS matcher should ignore this image and not include the image in the matching process. When submitting transactions with Type-14 records, the Type-2 AMP (2.084) field should be used to indicate when there is an image missing (e.g., an entire slap); the Type-14 AMP (14.018) field should be used to indicate a missing or bandaged finger within an image (e.g., a missing index finger in a slap image).

ASL   2.047   Arrest Segment Literal

The AOL is a free-text description of an offense charged on an arrest. The first character of the AOL text must not be a ~~blank~~ space . Each AOL should have a corresponding DOO. The DOO shall appear as an eight-digit number as specified in Section 1.1 of this appendix. The DOO shall not exceed the current date. This date field shall contain the local date for the region submitting the request. Up to ~~40~~ 999 occurrences of the ASL are allowed.

BIA 2.2031 Biometric Image Available

This field will indicate the existence of available biometric images (fingerprint, palm print, supplemental print, and facial photo~~, and SMT photo~~) and descriptive images (SMT photo) for an Identity in the NGI repository.

BIL 2.2073 Biometric Image List

BIL is added to the SRB to provide ~~biometric~~ capture dates ~~(BCD)~~ for all facial and SMT photos for each subject in the candidate list. This repeating set of data elements provides the identifiers necessary to retrieve this additional imagery via IRQ. This field is only populated for a facial

investigative search; it is not populated for text based searches. The data elements within BIL are:

    A. SI (Subject Identifier) of the candidate
    B. BSI (Biometric Set Identifier) of the available image
    C. BCD (Biometric Capture Date) of the available image
    D. IMT (Image Type) of the available image. The only valid values for IMT (2.2073D) are face or SMT.

CAN 2.064 Candidate List

[Unchanged text not included here for brevity]

For traditional encoding, each field will be separated by a {US} separator and will be provided for each candidate in the list. Commas, hyphens, and ~~blanks~~ spaces are allowed in the NAM subfield as specified in the NCIC Message Book, Part 1. Each UCN and NAM set shall be separated from the next by the {RS} separator character.
[Unchanged text not included here for brevity]

CCN 2.094 Court Case Number (Future Capability)

This is a unique number assigned by the state or federal court system to identify a specific court event occurrence in a subject identity history record. The CCN is an optional element that may assist in matching the submitted disposition data to the correct court cycle. If present in the submission, this field should be returned in the response. Any printable 7-bit ASCII character with the exception of a period is acceptable. Embedded ~~blanks~~ spaces are not permitted. A CCN must not begin with a ~~blank~~ space.

CSL   2.051   Court Segment Literal

The CSL field is made up of the following information items:

    A. The Court Disposition Date (CDD) is the date a court count was disposed of by the court. The CDD shall appear as specified in Section 1.1 of this appendix. This date field shall contain the local date for the region submitting the request, which shall not exceed the current date except when the submission originates from an international contributor located in a time zone ahead of the Eastern Time Zone.
    B. The Court Offense Literal (COL) contains free-text description of an offense charged in a court count. The first character of the COL must not be a ~~blank~~ space.
    C. The Other Court Sentence Provision Literal (CPL) contains free-text information on sentence provisions.
    D. The Court Disposition (CDN) is a code from the following table, representing the definitive disposition information about a Subject for a particular charge. This element must contain a value most closely associated with the disposition type from the table below, provided in priority of use order.
    E. The Court Count Number (CCT) is a two-~~byte~~ or three digit sequential number assigned to each court count. The valid values are 01 to 99 and 100 to 999.

[Unchanged text not included here for brevity]

Up to ~~40~~ 999 occurrences of the CSL are allowed. Each occurrence in the traditional encoding of the CSL shall be separated by the {RS} separator character. Of the five available subfields, COL, CPL, and CDN are always mandatory, while the CDD and CCT are conditional (being required with TOTs FDSP and DSPE). A CDD (if available), followed by a COL, followed by a CPL, followed by a CDN, followed by CCT (if available), each separated by a {US} separator character must be present for each occurrence of the CSL field. If the CDD or CCT is not available, a {US} separator character alone shall be used.

[Unchanged text not included here for brevity]

ICO 2.056 Identification Comments

Additional miscellaneous identification remarks providing the reason for caution may be entered in this free-text field. The first character may not be a ~~blank~~ space.

MNU 2.017 Miscellaneous Identification Number

[Unchanged text not included here for brevity]

The MNU Code table lists the acceptable two letter identifying codes. If "AF" or "AS" is entered, all characters following the hyphen must be numeric. Interspersed ~~blanks~~ spaces are invalid. Types of numbers not listed in the table (such as driver's license) shall not be entered. Only U.S. passport numbers shall be entered; foreign numbers shall be ignored.

NAM 2.018 Name

This alphabetic and special character field contains the name(s) of the subject. The traditional encoding format shall be the surname followed by a comma, followed by the given names, which are separated by a space. Part IV of the NCIC Code Manual describes in greater detail the manner in which each name is to be entered. Hyphens, commas, and ~~blanks~~ spaces are allowed as special characters. Numerals are not allowed. Special values of NAM to be entered in cases where the subject's name is not known are:

[Unchanged text not included here for brevity]

OCA 2.009 Originating Agency Case Number

This field contains the one-to-twenty-character Originating Agency Case Identifier (OCA) assigned by the originating agency. This alphanumeric-special (ANS) field may contain any printable non-control 7-bit ASCII character with the exception of the period. The OCA must not begin with a ~~blank~~ space.

RFP 2.037 Reason Fingerprinted

This field is used to indicate the purpose of a civil or applicant fingerprint card submission. Commas, ~~blanks~~ spaces, dashes, hyphens, and slashes are all allowed as special characters. The submitting agency should indicate the specific statutory authority authorizing the fingerprint submission in this field.

SAN 2.099 State Arrest Number (Future Capability)

This field contains a unique arrest number assigned by the state to a criminal subject. The SAN is an optional element that may assist in matching the submitted disposition data to the correct court cycle. If present in the submission, this field should be returned in the response. Any printable 7-bit ASCII character with the exception of a period is acceptable. Embedded ~~blanks~~ spaces are not permitted. SAN must not begin with a ~~blank~~ space.

SID   2.015 State Identification Number

This field contains any known state or territory identification number. The traditional encoding format is the standard two character abbreviation of the state name followed by the number. Embedded ~~blanks~~ spaces are not permitted. SIDs from ~~New York,~~ Oregon~~, or~~ and Pennsylvania may contain a hyphen in the last position. The SID returned in a response is dependent upon the search results.

SDOB 2.2007 Submitted Date of Birth

A date of birth as provided in a submission ~~that is determined to be different than the date of birth in the record of the identified subject~~.

SLE 2.055 Custody or Supervisory Literal

This field contains the free-text description of the subject's custody or supervision status. The first character must not be ~~blank~~ a space. Entry of SLE requires that SSD and OCA also be entered.

SNAM 2.2008 Submitted Name

A name as provided in a submission that is ~~determined to be different than the name of record of an identified subject. This name will be~~ formatted the same as other name fields (2.018 NAM).

SMT   2.026, 2.2028G, 2.2032I, 2.2033M, 2.2061D Scars, Marks and Tattoos

For each scar, mark, or tattoo present on the subject, the appropriate NCIC code shall be used in this information item. ~~Blanks~~ Spaces are allowed as special characters.

Table C-1 Field Edit Specifications for Type-2 Elements

Field	Identifier	Field Name	Character	Field Size (not			Occurrences	Example	Comments/Special
2.015	SID	STATE IDENTIFICATION NUMBER	ANS	3	10		1000	2.015:NY12 345678{GS}	~~NY,~~ OR~~,~~ and PA may use a hyphen in the last position
2.018	NAM	NAME	AS	3	50		1	2.018:JONE S,ANTHON Y P{GS}	Commas, hyphens, and ~~blanks~~ spaces are all allowed as special characters.
2.019	AKA	ALIASES	AS	3	50		1	2.018:JONE S,ANTHON Y P{GS}	Commas, hyphens, and ~~blanks~~ spaces are all allowed as special characters.
2.026	SMT	SCARS, MARKS, AND TATTOOS	AS	3	10		10	2.026:TAT R ARM{GS}	~~Blanks~~ Spaces are allowed as special characters.
2.037	RFP	REASON FINGERPRIN TED	ANS	1	75		1	2.037:CON SIDERING FOR EMPLOYM ENT[GS]	Commas, ~~blanks~~ spaces, dashes, hyphens, and slashes are all allowed as special characters.

Field Number	Identifier	Field Name	Character	Field Size (not including Character Separators)		Occurrences		Example	Comments/Special Characters
				Min	Max	Min	Max		
2.047	ASL	ARREST SEGMENT LITERAL	SET				~~40~~ 999	2.047:1994 0915{US}D UI{RS}1994 0920{US} POSSESSI ON OF FIREARMS{ GS}	Commas, hyphens, and ~~blanks~~ spaces are all allowed as special characters.
A	DOO	DATE OF OFFENSE (DOO)	N	8	8	0	1		
B	AOL	ARREST OFFENSE LITERAL (AOL)	ANS	1	300	1	1		Any printable 7-bit ASCII character is allowed.
2.051	CSL	COURT SEGMENT LITERAL	SET				~~40~~ 999	2.051:1994 0930{US}D UI{US}5 DAYS JAIL, PAY COURT COSTS{US} CONVICTE D{US}01{R S}19940930 {US} POSSESSI ON OF FIREARMS{ US}10 DAYS JAIL, PAY COURT COSTS, $50{US} CONVICTE D{US}02{G S}	
A	CDD	COURT DISPOSITION DATE	N	8	8	0	1		
B	COL	COURT OFFENSE LITERAL	ANS	1	300	1	1		Any printable 7-bit ASCII character is allowed.
C	CPL	OTHER COURT SENTENCE PROVISION LITERAL	ANS	1	300	1	1		Any printable 7-bit ASCII character is allowed.
D	CDN	COURT DISPOSITION	A	1	32	1	1		Text Value from CDN Values Table
E	CCT	COURT COUNT NUMBER	N	2	~~2~~ 3	0	1		

Field Number	Identifier	Field Name	Character	Field Size (not including Character Separators) Min	Max	Occurrences Min	Max	Example	Comments/Special Characters
2.055	SLE	CUSTODY OR SUPERVISORY STATUS LITERAL	ANS	1	300		1	2.055:RELEASED BY COURT ORDER{GS}	Any printable 7-bit ASCII character is allowed. First character must not be ~~blank~~ a space.
2.064	CAN	CANDIDTATE LIST	SET				99	2.064:273849CA2{US}BROWN,JOHN D{RS}83625 NY{US}COLLINS,TERRY G{GS}	Comments, hyphens, and ~~blanks~~ spaces are all allowed as special characters.
A	UCN	UNIVERSAL CONTROL NUMBER	AN	1	9	1	1		
B	NAM	NAME	AS	3	30	1	1		
2.071	ACN	ACTION TO BE TAKEN	ANS	0	300		1	2.071:IF NON-IDENT, SUBMIT TO UNSOLVED BIOMETRIC FILE{GS}	Commas, hyphens, ampersands, slashes, number signs, underscores, and ~~blanks~~ spaces are all allowed as special characters.
2.2008	SNAM	SUBMITTED NAME	AS	3	50		1	2.2008:JONES,ANTHONY P{GS}	Commas, hyphens, and ~~blanks~~ spaces are all allowed as special characters.

Appendix D: Summary of Logical Record Layouts for Type-2 Identification and Verification Transactions

Table D-1 Summary of Field Lists for Identification and Verification Transactions

Tag Element	CAR	CNA	CPDR	CPNU	LFS
2.047 ASL	~~1..40~~ 1..999[2]	~~1..40~~ 1..999[2]	~~1..40~~ 1..999[2]	~~1..40~~ 1..999[2]	~~0..40~~ 0..999[3]

Tag Element	CAR	CNA	CPDR	CPNU	FDSP
2.051 CSL	~~0..40~~ 0..999	~~0..40~~ 0..999	~~0..40~~ 0..999	~~0..40~~ 0..999	~~1..40~~ 1..999[12]

Tag Element	ERRT
2.2007 SDOB	1^{FC1}

Tag Element	ERRT
2.2008 SNAM	1^{FC1}

Appendix D – Reference Notes

1. For this transaction, this field must contain a 'Y'.
2. The DOO portion of this field is optional, but should be provided if known. ASL is required when the submission contains a RET = 'Y'.
3. This field is mandatory for applicant submissions from DIS and OPM.
4. It is obviously not expected that full Name and Date of Birth of Unknown Deceased and Amnesia victims will be known. These fields, however, must be submitted with formatted information.
5. FBI number must be present if known for inquiry prints.
6. Field is mandatory if fingerprint submission is from an NFF State.
7. This field is mandatory if any finger is either amputated or a rolled impression was not made.
8. An UCN may be returned depending upon transaction results. No FBI number is returned when none is assigned (e.g., Non-Identification with RET = 'N'). UCN will be returned for any submission resulting in an Identification against the Criminal File or when a Non-Identification results in an add to the Criminal File or Civil file.
9. CSL must be included where submission includes SLE.
10. This field will be returned in the response if subject identification is made.
11. Field is optional unless Identification has been made and subject criminal history was requested in submission.
12. CDD and CCT are mandatory fields for this TOT.

FC1. Tag elements 2.2007 SDOB and 2.2008 SNAM will be added to the ERRT as mandatory with 1 occurrence (Future Capability – effective 10/2018).

Appendix E: Summary of Logical Record Layouts for Type-2 Investigation, Information, and Notification Transactions

Table E-1 Summary of Field Lists for Investigation, Information, and Notification Transactions

Tag Element	RBRPTR
2.060 MSG	0..1

Appendix F: FBI/CJIS Image Quality Specifications

2.7 Maintaining Certification

The scanner shall meet image quality specifications throughout the life of the device. Issues will be communicated to the vendor and appropriate efforts will be made to resolve problems prior to decertification.

Requirement:

The scanner shall demonstrate the ability to continually meet the image quality specifications for which it was certified.

Background:

Through periodic audits and communication with end users, fingerprint images will be examined to determine possible issues arising from the scanner or image processing. Assessment may include measurements to quantify their degree of severity and significance. Image anomalies such as the following noninclusive list may be investigated:

- Ridge misalignment
- Blurring
- Unnatural ridge flow
- Pixelation
- Halo effect
- Gray-level saturation
- Problems capturing a wide range of skin types and conditions

[Unchanged text not included here for brevity]

4.11   Maintaining Certification

The printer shall meet image quality specifications throughout the life of the device. Issues will be communicated to the vendor and appropriate efforts will be made to resolve problems prior to decertification.

Requirement:

The printer shall demonstrate the ability to continually meet the image quality specifications for which it was certified.

Background:

Through periodic audits and communication with end users, fingerprint images will be examined to determine possible issues arising from the printer. Assessment may include measurements to quantify their degree of severity and significance. Any changes, such as the following noninclusive list, may be investigated:

- Spatial frequency response
- Blurring
- Dot dithering pattern
- Resolution
- Availability of bar chart and step tablet

5.0 Mobile ID

Requirement – Image Quality:

As indicated in Table F-5, two IQS specification requirements are supported for mobile ID scanners. When the IQS specification requirement is PIV, then all requirements in Personal Identity Verification (PIV) Image Quality Specifications for Single Finger Capture Devices and the Maintaining Certification requirement of this document (Section 2.7) shall be met. When the IQS specification requirement is Appendix F, then all the requirements in Section 2 of this document shall be met.

Appendix I: Summary of Logical Record Layouts for Type2 Data Management Transactions

Table I-1 Summary of Field Lists for Data Management Transactions

Tag Element	SRNR
2.047 ASL	~~1..40~~ 1..999

Tag Element	DSPE	SRNR
2.051 CSL	~~1..40~~ 1..999²	~~0..40~~ 0..999

¹ DPR must be included if fingerprints are included.
² Subfields CDD and CCT are mandatory fields for this TOT.

Appendix L: Summary Tables

Table L-1 Complete Element Cross-Reference List by Tag Number

EBTS Tag Number	Element ID	Element Name
14.018	AMP	AMPUTATED OR BANDAGED

Table L-3 Record Set Requirements Summary by Type of Response

* Normally, either 14 Type-4 images ~~are normally 14 and the number of~~ or 3 Type-14 images ~~is normally 3, for~~ are included in tenprint submissions. Type-2 AMP field must account for all missing images when fewer images are sent. When submitting transactions with Type-14 records, the Type-2 AMP (2.084) field should be used to indicate when there is an image missing (e.g., an entire slap); the Type-14 AMP (14.018) field should be used to indicate a missing or bandaged finger within an image (e.g., a missing index finger in a slap image).
** Type-15 images apply for Palmprint Enrollment and Major Case Print Collections in conjunction with tenprint submissions. Type-17 images apply for Iris Image Enrollment.

Appendix M: Transaction Messages

Table M-1 Transaction Messages

Code	Condition for Message	Description	Coun	Insert	Insert	Insert
RB019	Dispositions	Court Disposition received from ~~JID~~ CRI - %1: Date of Arrest %2	2	~~ORI~~ CRI	DOA	
RB029	Rap Back Subscription List Request returns no subjects	No Rap Back subscriptions are enrolled for CRI %1	1	CRI		
L0154	SID/Multiple ~~FNUs~~ UCNs	The SID in the maintenance request matches multiple ~~FNUs~~ UCNs in the SCH	0			
M0055	Unable to use legacy identifier.	Identifier %1 is now known as UCN %2	2	Legacy Identifier	UCN	

Appendix N: Descriptors and Field Edit Specifications for Type-14 Logical Records

[Unchanged text not included here for brevity]

NIST Quality Metric (NQM 14.022) has been deprecated. All new CJIS users are required to populate the Fingerprint Quality Metric field (FQM 14.024) instead.

When submitting Type-14 records, the Type-2 AMP field should be used to indicate when there is an image missing (e.g., an entire slap). The Type-14 AMP field should be used to indicate a missing finger within an image (e.g., a missing index finger in a slap image).

Appendix AC: ACRONYMS

Acronym	Description
AFV	AFIS Feature Vector
AUD	Audit Code
CCA	Computerized Contributor Address/Agency Table
DOB	Date of Birth
DoD	Department of Defense
DOD	Date of Death
ESI	External Subject Identifier
FSI	Foreign Subjects of Interest
ICO	Identification Comments
LESC	Law Enforcement Support Center
LFS	Latent Fingerprint Image~~(s)~~ Submission

MOU	Memorandum of Understanding
NFS	Network File System
NGI	Next Generation Identification System
QC	Quality Check
SCH	Subject Criminal History (legacy)
TP	Tenprint
TPTP	Tenprint Tenprint
WAN	Wide Area Network

Section 3 – Aggregate List of Changes

This section records the changes made for EBTS TOU 1 through TOU 8. The implementation dates for each TOU are as follows:

TOU	Date
10.0.1	2/5/14
10.0.2	6/2/14
10.0.3	9/30/14
10.0.4	3/13/15
10.0.5	6/13/15
10.0.6	6/20/16
10.0.7	12/5/16
10.0.8	9/30/17

Section	TOU Number	Change
1.1	10.0.8	Updated Background
1.8	10.0.4	Added new compression references
	10.0.7	Added new reference
	10.0.8	Updated link for ANSI/NIST-ITL reference
2	10.0.8	Updated second paragraph
3.1.1.6 EMUF	10.0.1	Updated second paragraph
3.1.1.9 FIDR	10.0.1	Updated first paragraph
3.1.1.21 SRE	10.0.8	Updated first paragraph
3.1.1.22 ERRT	10.0.8	Added new section (Future Capability)
3.1.2.1 LFS	10.0.8	Updated LFS header
3.1.3.1 RPIS	10.0.1	Updated second paragraph
3.1.3.2 RPISR	10.0.8	Updated RPISR description
3.1.4	10.0.7	Corrected ERRT name
3.2.2 SRE	10.0.7	Corrected Table 3 reference in text
3.3.1	10.0.5	Updated Response TOT list for CPR
3.3.1.1 IRQ	10.0.1	Updated first paragraph Added paragraph after the first paragraph
	10.0.5	Updated third paragraph
	10.0.7	Corrected name for ERRI in third paragraph
	10.0.8	Updated fourth paragraph
3.3.1.3 IRR	10.0.1	Updated first paragraph
3.3.1.4 ISR	10.0.1	Updated first paragraph
3.3.2	10.0.3	Updated Response Transaction list
3.3.2.1 BATQ	10.0.3	Updated section

Section	TOU Number	Change
3.3.2.2 BATR	10.0.3	Updated section title
3.4.2	10.0.5	Updated third paragraph
	10.0.7	Added "CMF Search?" to "ULF Flag Set?" Decision point in Search row in Figure 6
3.4.3	10.0.7	Corrected ERRA transaction name
3.4.4.2 TXTSRCH	10.0.1	Updated first paragraph Added second and third paragraphs, describing TOT use
3.4.4.3 FRS	10.0.5	Updated first paragraph
	10.0.6	Added text to end of first paragraph
3.4.4.4 SRB	10.0.1	Replaced second paragraph
3.4.5.1 IIIS	10.0.4	Updated sentence
3.4.6	10.0.3	Reordered sections to conform with Response Transaction list Corrected TOT name for EQHR and EQRR
3.4.6.3 EQER	10.0.3	Restored EQER section
3.4.6.4 EQRR	10.0.5	Updated first paragraph
3.4.6.5 ERRR	10.0.5	Updated first paragraph and added second paragraph
	10.0.7	Updated first paragraph
3.5	10.0.7	Updated first paragraph
3.5.1 SPN	10.0.1	Updated first paragraph
3.5.6 ULM	10.0.1	Updated second paragraph
	10.0.5	Updated third paragraph
3.6.3 BDEC	10.0.2	Updated section
	10.0.3	Updated second paragraph
3.6.5 BDEL	10.0.1	Updated third paragraph
3.6.13 FIS	10.0.6	Updated first paragraph
	10.0.8	Updated first paragraph
3.6.14 FISR	10.0.1	Updated first paragraph
	10.0.6	Updated first paragraph
3.6.15 SPMNT	10.0.1	Updated second paragraph
3.6.23 RBMNTR	10.0.3	Updated first paragraph
3.8.2	10.0.4	Updated first and second paragraph
Appendix A	10.0.3	Restored Friction Ridge Investigation Search – Latent rows
	10.0.4	Updated Table A-1
Appendix B	10.0.1	Added 1.011 NSR
	10.0.3	Updated 1.013 DOM

Section	TOU Number	Change
	10.0.7	Corrected description for 1.012 NTR
Appendix C	10.0.1	Relabeled column headings and table name, also reversed columns for Table 11 BID Values Table Updated 2.014 FBI Data Dictionary definition Updated 2.037 RFP Data Dictionary definition Updated 2.079 NCR Data Dictionary definition Updated 2.084 AMP Data Dictionary code table Updated 2.2010 NIR Data Dictionary definition Updated 2.2032C TOT of Dissemination for Max Length 2.2058 SMD spelling correction in SMI Values Table Updated 2.2069B RBT for Min Occurrences Updated 2.2069C RBEI for Min Occurrences
	10.0.2	Updated 2.019 AKA Data Dictionary definition Updated 2.038 DPR Data Dictionary definition Added 2.046 DOS to Data Dictionary Added 2.046 DOS to Table C-1 Updated 2.088 NOT Data Dictionary definition Updated the data type for fields 2.2028G SMT, 2.2032I SMT, 2.2033M SMT and 2.2061D SMT
	10.0.3	Updated 2.098 NDR Values Table Updated 2.2020 RBSL
	10.0.4	Updated section 1.1 Updated 2.051 CSL definition Updated 2.2063 RBOO definition
	10.0.5	Updated 2.083 ULF name and definition Updated Table C-1 for 2.2064A RBFN and 2.2064B RBFT Updated Table C-1 for 2.071 ACN Example Updated Table C-1 for 2.083 ULF
	10.0.6	Updated 2.046 DOS definition Corrected IDENT description in Table 23: NDR Values Table
	10.0.7	Updated Table 17 IFS Values Table
	10.0.8	Updated descriptions for 2.071 ACN, 2.019 AKA, 2.084 AMP, 2.047 ASL, 2.2031 BIA, 2.2073 BIL, 2.064 CAN, 2.094 CCN, 2.051 CSL, 2.056 ICO, 2.017 MNU, 2.018 NAM, 2.009 OCA, 2.037 RFP, 2.099 SAN, 2.2007 SDOB, 2.015 SID, 2.055 SLE, 2.2008 SNAM, and SMT (2.026, 2.2028G, 2.2032I, 2.2033M, 2.2061D) Updated comments for 2.015 SID, 2.018 NAM, 2.019 AKA, 2.026 SMT, 2.037 RFP, 2.055 SLE, 2.064 CAN, and 2.2008 SNAM in Table C-1 Updated maximum occurrence for 2.047 ASL and 2.051 CSL in Table C-1 Updated special characters for 2.071 ACN in Table C-1

Section	TOU Number	Change
Appendix D	10.0.1	Updated 2.017 MNU for FDSP Updated 2.084 AMP for AMN, CAR, CNA, CPDR, CPNU, DEK, DEU, DOCE, EMUF, FANC, FAUF, FDSP, FIDR, FNDR, FVR, MAP, MPR, NFUE, NFUF, NNDR, and RPIS Added 2.098 NDR to FIDR
	10.0.2	Removed 2.096 RPR, 2.098 NDR, 2.2037 ESI from DOCE Removed 2.096 RPR, 2.098 NDR, 2.2015 RBXD, 2.2020 RBR, 2.2037 ESI, 2.2040 RBT, 2.2062 RBNF, 2.2063 RBOO, 2.2064 RBUD, 2.2065 RBC, 2.2067 RBDI, 2.2070 RBATN, 2.2071 RBST from EMUF Removed 2.2007 SDOB and 2.2008 SNAM from ERRT Updated section introduction
	10.0.6	Added field 2.046 DOS to CPNU and FIDR
	10.0.7	Removed 0..1 occurrence for field 2.2067 RBDI for FANC, FAUF, FNDR, MAP, NFUE, NFUF, and NNDR Removed 0..1 occurrence of field 2.2071 RBST for CAR, CPDR, and CPNU
	10.0.8	Updated occurrence for 2.047 ASL for CAR, CNA, CPDR, CPNU, and LFS Updated occurrence for 2.051 CSL for CAR, CNA, CPDR, CPNU, and FDSP Updated occurrence for 2.2007 SDOB for ERRT (Future Capability) Updated occurrence for 2.2008 SNAM for ERRT (Future Capability) Added superscript for 2.051 CSL occurrence for FDSP Added new reference notes in Appendix D – Reference Notes
Appendix E	10.0.1	Updated 2.014 FBI for IRR Updated 2.018 NAM for EQHR and EQRR Updated 2.021 CTZ for EQHR Updated 2.037 RFP from UULD Updated 2.073 CRI for EHRR, EQER, EQHR, EQRR and ERRR Updated 2.075 ERS for RBN Updated 2.084 AMP for SRT Updated 2.084 AMP for TPIS and TPRS Updated 2.098 NDR for ISR Updated 2.2033 CNL for SRB Updated 2.026 SMT for TXTSRCH Updated 2.2058 SMD for TXTSRCH Updated 2.2059 TCL for TXTSRCH
	10.0.2	Added 2.046 DOS to CPR and PRR Removed 2.079 NCR from TPRR Updated section introduction
	10.0.6	Updated 2.073 CRI for FRS
	10.0.8	Added 2.060 MSG occurrence for RBRPTR
Appendix F	10.0.1	Updated section 4.10.4 Requirement

Section	TOU Number	Change
	10.0.4	Update note under Table F-5 Update web site reference under Table F-5
	10.0.6	Updated Table F-2 for minimum modulation for 500 ppi scanner to 2 cy/mm
	10.0.7	Added text in Section 4.10.6 that points to new reference Updated FAP 50 platen size in Table F-5 Added new document in References Updated Mobile ID version in References
	10.0.8	Added new sections 2.7 and 4.11 Updated Image Quality for Mobile ID
Appendix H	10.0.7	Corrected sentence in second paragraph
Appendix I	10.0.1	Removed 2.006 ATN from XACT and XACTR Updated 2.014 FBI for PDR Removed 2.055 SLE from SRNR Added 2.073 CRI, 2.2100 SED, 2.2101 SST, 2.2102 RSC, 2.2103 STT, and 2.2104 SRA to SRNR Added 2.073 CRI and 2.075 ERS to SRNRR Updated 2.084 AMP for FIS Updated 2.2035 EVI for DSPR
	10.0.2	Added 2.046 DOS to PDR and CPD Updated section introduction
	10.0.8	Updated occurrence for 2.047 ASL for SRNR Updated occurrence for 2.051 CSL for DSPE and SRNR Added superscript for 2.051 CSL occurrence for DSPE Added new footnote to Table I-1
Appendix J	10.0.1	Updated table heading for Table 45 Updated Table 46 Update table heading for Table 47
Appendix K	10.0.1	Added sentence to end of section
Appendix L	10.0.1	Updated FIS for T17 Updated FIDR for T4 and T14 Updated IRR for T9 and T14 Updated IRQ Response TOTs
	10.0.2	Added 2.046 DOS to Table L-1
	10.0.4	Corrected transaction name for EHRR Updated IIDS for T10 and T17 Updated IRR for T17 Updated SRB for T17
	10.0.5	Updated Table L-1 for 2.083 ULF Updated Table L-4 for CPR
	10.0.7	Added ERRB to Table L-3
	10.0.8	Added 14.018 AMP to Table L-1 Updated footnote for Table L-3

Section	TOU Number	Change
Appendix M	10.0.1	Updated messages in Table M-1 based on Operational needs Added Error Class Key to Table M-1
	10.0.2	Added A0015 to Message Table Added L0031 to Message Table Added M0033 to Message Table Added M0051 to Message Table Added M0052 to Message Table
	10.0.3	Added footnote
	10.0.4	Added L0174 and L0179 to Message Table
	10.0.7	Removed L0174 code from Table M-1 Added error message codes RB030 and RB031 to Table M-1
	10.0.8	Updated error message code RB019 Added error message code RB029 Updated error message code L0154 Added error message code M0055
Appendix N	10.0.2	Updated 14.015 PPC Data Dictionary definition
	10.0.8	Added fourth paragraph to introduction
Appendix O	10.0.1	Corrected appendix introduction
	10.0.4	Updated appendix introduction
	10.0.6	Corrected CTZ value for four codes in POB Code Table Corrected FR code description
	10.0.7	Added South Sudan to Table O-1
Appendix P	10.0.4	Updated section introduction text, sixth paragraph Updated web address for Palm Print Capture Guide Added note to Table P-2 Friction Ridge
Appendix AC	10.0.4	Removed acronyms IID, IIE, IIER, IIR and IRD Corrected EHRR
	10.0.5	Updated acronym ULF
	10.0.6	Corrected description for IIIS
	10.0.7	Added acronym CMF Corrected DSPR Description Corrected EHRR Description Added ERRR Added acronym IFS Corrected IRR Description

Section	TOU Number	Change
	10.0.8	Added acronym AFV Added acronym AUD Added acronym CCA Added acronym DOB Added acronym DoD Added acronym DOD Added acronym ESI Added acronym FSI Added acronym ICO Added acronym LESC Updated acronym LFS Added acronym MOU Added acronym NFS Added acronym NGI Added acronym QC Added acronym SCH Added acronym TP Added acronym TPTP Added acronym WAN