

Oklahoma State Bureau of Investigation

Management of Information Systems



Mug Shot Interface Specifications Document Version 2.1

February 19, 2003

Table of Revisions

Release Date	Version ID	Notes, Comments, and References
Sept 5, 2000	Draft 1.0	Draft Release
Sept 8, 2000	Draft 1.1	Added Type 2 record requirements
Sept 8, 2000	Draft 1.2	Added Sections 2.8 and 2.9
Sept 14, 2000	Version 1.0	Added Type 10 User Defined Field
Sept 22, 2000	Version 1.1	Added Sample Facial and SMT Mug Shots Section
Oct 1, 2000	Version 1.1	Reformatted Document
Jan 28, 2003	Version 2.0	Added Types of Transactions and Type10 Logical Record
Feb 19, 2003	Version 2.1	Added Sub field Limitations section.

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1.0 Introduction

This section provides the scope, purpose, background, and reference for the Oklahoma State Bureau of Investigation's (OSBI) Mug Shot interface.

1.1 Scope

This document is the only document that defines the Mug Shot interface specifications to the OSBI Automated Fingerprint Identification System. This document shall be the defining control document and shall not be changed or modified without the express written consent of the OSBI, and notated in this document. **This document is to be used for law enforcement applications only.**

1.2 Purpose

This document defines the interface specifications for Mug Shot connection to the OSBI's Automated Fingerprint Identification System (AFIS).

1.3 Background

The OSBI currently operates and maintains an Automated Fingerprint Identification System (AFIS) for the State of Oklahoma. One major component of this system is a Mug Shot Repository. The major function of this component is the image enabling of OSBI criminal history records. It also image enables the rap sheets produced by the OSBI. This repository also helps speed up investigative tasks for the law enforcement community.

1.4 References

OSBI Type-2 Record Specifications Version 3.6-4,
Revised July 1, 2002

Transmission Control Protocol (TCP),
September 1, 1981, RFC 793 (Request for Comments – Proposed Standard)

Internet Protocol (IP),
September 1, 1981, RFC 791 (Requests for Comments – Proposed Standard)

*American National Standards Institute (ANSI), Data Format for the Interchange of
Fingerprint Information,*
ANSI/NIST-ITL 1-2000

OSBI Livescan Interface Specifications Document Version 1.1, January 28, 2003

OSBI Card Scan Interface Specifications Version 1.0. October 1, 2000

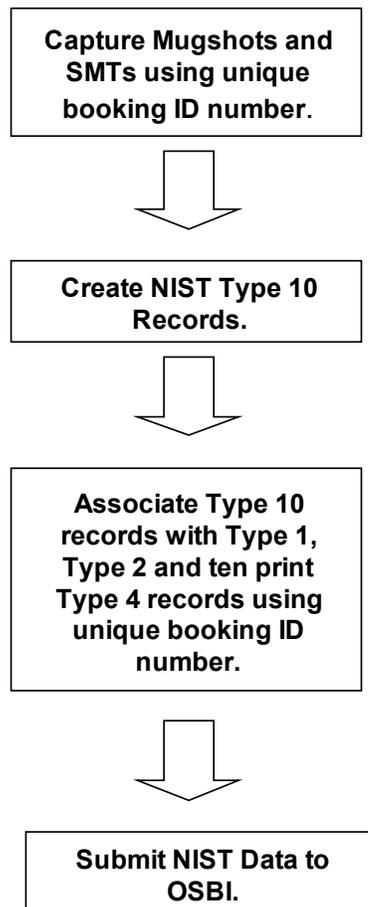
2.0 Specifications

This section defines the interface specifications between the Mug Shot device and the OSBI AFIS.

2.1 Data Flow Diagram

The functional data flow is described in Figure 1.

Figure 1



2.1.1 Data Flow Narrative

- Capture Mug Shots and SMTs using unique ID number.
- Upon completion of capturing Mug Shots and SMTs create NIST Type-10 records.
- Associate Type 10 records with Type 1, Type 2 and tenprint Type 4 records using unique booking ID number to ensure correct images.
- Submit NIST data to OSBI.

2.2 Fingerprints Submitted With Mug Shots

In order to enforce quality control, Type 2 descriptor data and Type 4 ten prints will have to accompany all Mug Shots and/or SMTs sent electronically to the OSBI. This could be done via livescan, dissimilar AFIS or card scan. For more information on livescan or card scan specifications refer to the *OSBI Livescan Interface Specifications Document* or the *OSBI Card Scan Interface Specifications*.

2.3 Fingerprint Image Transmission

For quality control purposes the OSBI requires fingerprints to be submitted along with the Mug Shots. All fingerprint images transmitted must be NIST Type 4 high-resolution grayscale records as described in the *ANSI/NIST-ITL 1-2000* standard in section 11.

2.4 Data Transfer Protocol

TCP/IP will be the protocol used for all file transfer and network communications between the Mug Shot system and the OSBI AFIS.

2.5 Descriptor Data

All descriptor data for Mug Shot submission must meet the OSBI Type-2 Record Specifications before being submitted to the OSBI.

2.6 Mug Shot Image Transmission

All Mug Shot and SMT (scars, marks, and tattoos) images transmitted must be NIST Type 10 facial & SMT image records as described in the *ANSI/NIST-ITL 1-2000* standard in section 17.

2.7 Types of Transactions

This section describes the types of transactions that can be submitted to the OSBI containing mugshots. The particular type of transaction is identified in the Type Of Transaction (TOT) Field in the Type-1 record that is used with each transaction. For further information about a Type-1 record refer to the *ANSI/NIST-ITL 1-2000* standard. Table 1 lists the types of transactions that are accepted by the OSBI.

Table 1

Transaction Type	Description
LV	Livescan
LVJ	Livescan Juvenile
CRDA	Criminal Dissimilar AFIS
CRCS	Criminal Card Scan

2.8 Type 10 Logical Record Layout

Table 2 describes the mandatory OSBI Type 10 logical record layout. For a complete description of these Type 10 fields and edits see Section 17 of the *ANSI/NIST-ITL 1-2000 standard*.

Table 2

Ident	Cond code	Field number	Field name	IMG	Char type	Field size per occurrence		Occurrence count	
						min	max	min	max
LEN	M	10.001	LOGICAL RECORD LENGTH		N	4	8	1	1
IDC	M	10.002	IMAGE DESIGNATION CHARACTER		N	2	5	1	1
IMT	M	10.003	IMAGE TYPE		A	5	7	1	1
SRC	M	10.004	SOURCE AGENCY / ORI		AN	10	21	1	1
PHD	M	10.005	PHOTO DATE		N	9	9	1	1
HLL	M	10.006	HORIZONTAL LINE LENGTH		N	4	5	1	1
VLL	M	10.007	VERTICAL LINE LENGTH		N	4	5	1	1
SLC	M	10.008	SCALE UNITS		N	2	2	1	1
HPS	M	10.009	HORIZONTAL PIXEL SCALE		N	3	5	1	1
VPS	M	10.010	VERTICAL PIXEL SCALE		N	3	5	1	1
CGA	M	10.011	COMPRESSION ALGORITHM		A	5	7	1	1
CSP	M	10.012	COLOR SPACE		A	4	5	1	1
POS	M	10.020	SUBJECT POSE	FAC	A	2	2	0	1
SMT	M	10.040	NCIC DESIGNATION CODE	SMT	A	4	11	1	3
SMD	M	10.042	SMT DESCRIPTORS	SMT	AN	16	51	0	1
DAT	M	10.999	IMAGE DATA		B	2	5000001	1	1

KEY FOR CHARACTER TYPE: N=NUMERIC; A=ALPHABETIC; AN=ALPHA NUMERIC; B=BINARY



- The OSBI will only accept only SMD one sub field for each SMT. See Section 2.9 for complete details.

2.9 Sub field Limitations

The OSBI will only accept one SMD sub field for each SMT. When choosing sub fields to describe SMTs use the most predominant features found in the total image. For example, the tattoo below contains an eagle and a flag but the eagle is the most predominant feature. Therefore to fully describe the "TATTOO" you would choose the class "ANIMAL", with a subclass description of "BIRD" and qualified by "eagle and confederate flag". See the *ANSI/NIST-ITL 1-2000* standard in section 17.1.20 for a complete description of SMT Descriptors.



2.10 Face Image Type Limitations

The OSBI requires as a minimum 3 mugshots (Full Face Frontal, Right Profile, and Left Profile) but will accept up to four "FACE" image types (IMT) as described in the *ANSI/NIST-ITL 1-2000* standard in section 17.1.3. The four valid "FACE" image types are shown in Table 3.

Table 3

Full Face Frontal
Right Profile (90 degree)
Left Profile (90 degree)
Angled Pose

 - Required Image Types

2.11 Scar, Mark, or Tattoo Image Type Limitations

The OSBI will accept up to 10 "SCAR", "MARK", or "TATTOO" image types (IMT) combined as described in the *ANSI/NIST-ITL 1-2000* standard in section 17.1.3. All SMTs are required when available.

2.12 Compression Algorithm

The algorithm used to compress Mug Shot and facial images shall conform to the JPEG Sequential Baseline mode of operation as described in the *ANSI/NIST-ITL 1-2000* standard Appendix D.

2.13 File Format

All Mug Shot and SMTs must be the JPEG File Interchange Format (JFIF) file format.

3.0 Sample Facial and SMT Mug Shots

Full Face Frontal



Left Profile (90 degrees)



Right Profile (90 degrees)



Angled Pose



Tattoo



4.0 Glossary of Terms

OSBI	-	Oklahoma Bureau of Investigation
WIP	-	Work In Progress
ASCII	-	American Standard for Computer Information Interchange
TCP	-	Transmission Control Protocol
IP	-	Internet Protocol
NIST	-	National Institute of Standards and Technology
SMT	-	Scars, Marks, and Tattoos
OCA	-	Originating Agency Case
BID	-	Booking ID
JPEG	-	Joint Photographic Experts Group
JFIF	-	JPEG File Interchange Format
RA	-	Required Applicant

5.0 OSBI Technical Contact Information

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