Oklahoma State Bureau of Investigation
Management of Information Systems

Mug Shot
Interface Specifications Document
Version 4.0
March 24, 2022

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
Jun 13, 2018	Version 3.0	Revised
March 24, 2022	Version 4.0	Revised

Table of Contents

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 mugshot 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 mugshot 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

Data Format for the Interchange of Fingerprint, Facial & Other Biometric Information
ANSI/NIST-ITL 1-2011 NIST Special Publication 500-290 Edition 3 (Updated 2015)
Section 8.10 Record Type-10: Photographic body part imagery (including face and SMT)

ANSI NIST-ITL 1-2011 NIST Special Publication 500-290 Edition 3
https://www.ok.gov/osbi/Law_Enforcement_Programs/AFIS/

OSBI Type-2 Record Specifications Version 4.03
https://www.ok.gov/osbi/Law_Enforcement_Programs/AFIS/

OSBI Livescan Interface Specifications Document 2.04
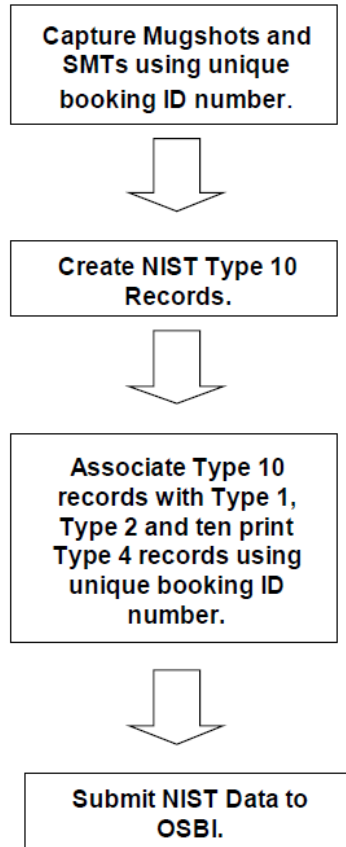**https://www.ok.gov/osbi/Law_Enforcement_Programs/AFIS/**

2.0 Specifications

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

2.1 Data Flow Diagram

The functional data flow is described in Figure 1.

Figure 1

```
┌─────────────────────────────┐
│   Capture Mugshots and      │
│   SMTs using unique         │
│   booking ID number.        │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│   Create NIST Type 10       │
│   Records.                  │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│   Associate Type 10         │
│   records with Type 1,      │
│   Type 2 and ten print      │
│   Type 4 records using      │
│   unique booking ID         │
│   number.                   │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│   Submit NIST Data to       │
│   OSBI.                     │
└─────────────────────────────┘
```

2.1.1 Data Flow Narrative

- Capture mugshots and SMTs using unique Booking ID number.
- Upon completion of capturing mugshots and SMTs create NIST Type-10 records.
- Type 10 records, must begin with the mugshot, followed by the SMT's (Scars, Marks and Tattoos).
- 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 Image aspect ratio

For SAPs 30 and 32, the aspect ratio shall be 4:5 (480x600 pixels). For SAP 40 and above, the aspect ratio shall be 3:4. SAP 40 specifies a minimum of 768x1024 pixels, which corresponds to this aspect ratio, allowing a COTS digital camera to be used for capture. Images from some types of camera with a different aspect ratio shall need to be cropped.

2.3 Fingerprints Submitted with mugshots

In order to enforce quality control, Type 2 descriptor data and Type 4 ten prints will have to accompany all mugshots and/or SMTs sent electronically to the OSBI. This could be done via livescan. For more information on livescan scan specifications, refer to the OSBI Livescan Interface Specifications Document on https://osbi.ok.gov/services/law-enforcement-programs/afis

2.4 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 1-2011 standard.

2.5 Data Transfer Protocol

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

2.6 Descriptor Data

All descriptor data for mugshot submission must meet the OSBI Type-2 Record Specifications before being submitted to the OSBI. For more information on OSBI Type-2 Record Specifications, refer to the OSBI Type-2 Record Specifications on https://osbi.ok.gov/services/law-enforcement-programs/afis

2.7 Mug Shot Image Transmission

All mugshot and SMT (scars, marks, and tattoos) images transmitted must be NIST Type 10 facial & SMT image records as described in the ANSI/NIST-ITL 1-2011 NIST Special Publication 500-290 Edition 3.

2.8 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 1-2011 NIST Special Publication 500-290 Edition 3. Table 1 lists the types of transactions that are accepted by the OSBI.

Table 1

Transaction Type	Description
LV	Livescan Criminal
LVJ	Livescan Criminal Juvenile

2.9 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 1-2011 NIST Special Publication 500-290 Edition 3 section 8.10 Record Type-10: Photographic body part imagery (including face and SMT) record.

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=ALPAHNUMERIC; B=BINARY

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

2.10 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 1-2011 NIST Special Publication 500-290 Edition 3 for a complete description of SMT Descriptors.

2.11 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 1-2011 NIST Special Publication 500-290 Edition 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**

2.12 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 1-2011 NIST Special Publication 500-290 Edition 3. All SMTs are required when available.

2.13 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 1-2011 NIST Special Publication 500-290 Edition 3.

2.14 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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