X9.37 File Specifications

Merchant ICL Deposits

Version 18

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JPMorganChase

I. Scope

This specification document describes at a high-level the X9.37 standard used when a merchant sends an Image deposit file to JPMorgan Chase. When you send image deposits to JPMorgan Chase, your systems must be prepared to work with all the records and all the fields defined in X9.37 standard and in this document. Only the fields that have values defined by JPMorgan Chase are specifically described in this document. It is recommended that you have a copy of the complete X9.37 standard to go along with this specification document. For a copy of the X9.37 standard, please visit to www.X9.org.

JPMorgan Chase supports the delivery and receipt of image deposits using the X9.37 format in the following:

The X9.37 field specifications are as follows:

IMAGE FORMAT:	TIFF 6
IMAGE COMPRESSION:	CCITT G4 (black/white) (200 dpi OR 240 dpi resolution only)
CHARACTER CODE	ASCII or 8-bit EBCDIC, except for binary image data
VIEW DESCRIPTOR:	Full view
FILE SIZE:	2 GB maximum
IMAGE QUALITY:	IQA requirements are documented in section IV.F.
ADDENDUM RECORDS:	Addendum Records are expected as documented in section III.B
MICR DATA:	All MICR data present on the MICR line of the original item are required.

II. Transmission Specifications

A. Image Deposit File Time

Image deposits sent to JPMorgan Chase prior to the targeted deposit deadline will receive same-day posting. An image deposit has been sent to JPMorgan Chase only when the entire file has been transmitted and delivered to the JPMorgan Chase validation process. Transmission of an image deposit is completed when the entire file has been written onto the JPMorgan Chase system and cleared its validation process. Based on the size of the file, there may be a significant delay between the time you begin to send a file and the completion of file transmission. As a result, every effort should be made to send image deposits as early as possible. Files that are received by JPMorgan Chase after the deposit deadline will be considered deposited for the next deposit deadline. Processing fees and funds availability will be assessed based on the deposit deadline that is met.

B. Connectivity Options for File Transfers: SVPCO, Direct Network Connectivity and Internet

JPMorgan Chase will provide connectivity solutions as part of the implementation process. Your Systems Implementation manager will work with you to help choose the best solution. Point C, D and E. touch on some of the solutions at a high level.

C. Secure Connection Through SVPCO to JPMorgan Chase

This is the easiest, most reliable and most secure connectivity that can be established through SVPCO. If a commercial customer has connectivity to SVPCO then it requires less effort to set up the file transfers. Security and fail over are built into the SVPCO service.

Risk: The commercial customer's connection to SVPCO must be verified. Will require SVPCO interaction and cost to configure the file transfers. If customer does not have this connectivity, it could be costly to establish.

D. Direct Network Connectivity to JPMorgan Chase

Connection requires a direct secure network circuit connected from JPMorgan Chase to the commercial customer. This solution is recommended if SVPCO is not an option. This connection will be required if files were over 1GB in size or if concurrent file transfers are required. Connect:Direct® and GTI distributed file transfer service can be utilized with this option.

Risk: Direct circuit connection requires 60-90 days to establish connectivity. The project timeline or amount of time to bring new customer online will be impacted. The cost for the commercial customer and JPMorgan Chase will increase, as well. Who owns the connection and the associated cost?

E. Internet Connectivity to JPMorgan Chase

Secure Internet connection can be used, but has a 1GB file size limit per transmission. This option has certain limitations. Clients should investigate the choices provided by your Systems Implementation manager.

Note: JPMorgan Chase will charge customer for VPN access from the Internet. VPN (Virtual Private Network) is a network connection that provides a secure connection between two companies utilizing the Internet. There are no guarantees that files sent by this method will get to their destination. Customer's Internet connection size will also impact the transfer time. There is no throughput management of file transfers in this environment. Any SLA would not be manageable using this transfer method. Basic sample costs are as follows: There is an Internal LOB monthly charge for a VPN. This includes all equipment. The hours for the engineer to build and implement the solution is approximately 30 hours. Please contact your Systems implementation manager for details.

F. Duplicate Image Deposit Files

The image deposit processing systems prevent duplicate files or retransmission of the same file from being processed. Each file is tested for duplication by comparing the fields within the file listed below.

Immediate Destination Routing Number from File Header Record
Immediate Origin Account Number from File Header Record
File Creation Date from File Header Record
File Creation Time from File Header Record
File ID Modifier from File Header Record (used when Immediate Destination RT, Immediate Origin Account number, File Creation Date and File Creation Time does not uniquely identify the file.)

III. File Format

The X9.37 file is composed of variable-length records. All characters and symbols must be represented using 8-bit EBCDIC, with the exception of the Image Data (field 19) in the Image View Data Record (Type 52), which is binary data.

All fields in all records that are described in this document as being conditional and are not used shall be filled with spaces unless noted otherwise.

A. File Structure Requirements

An image deposit file can contain one or more deposits. Deposits may not be mixed within the same file. Deposits can contain one or more bundles that are destined for the institutions identified in the Cash Letter Header Records. Bundles within deposits must contain Check Detail Records and contain image records.

The following diagram illustrates the X9.37 hierarchy for image deposit structures. This section should be taken in conjunction with section III. B. to determine JPMorgan Chase requirements.

B. Field Definitions

A=alphabetic
N=numeric
B=blank
S=special characters
AN=alphameric
ANS=alphameric/special
NB=numericblank
NS=numeric/special
NBSM=numericblank/special MICR
NBSMOS=numericblank/special MICR onus

I) a field defined as alphameric, alphabetic, alphameric/special or numericblank shall be left justified and blank filled

II) a field defined as numeric shall be right justified and zero filled

III) a field defined as numericblank/special MICR or numericblank/special MICR On-Us shall be right justified and blank filled

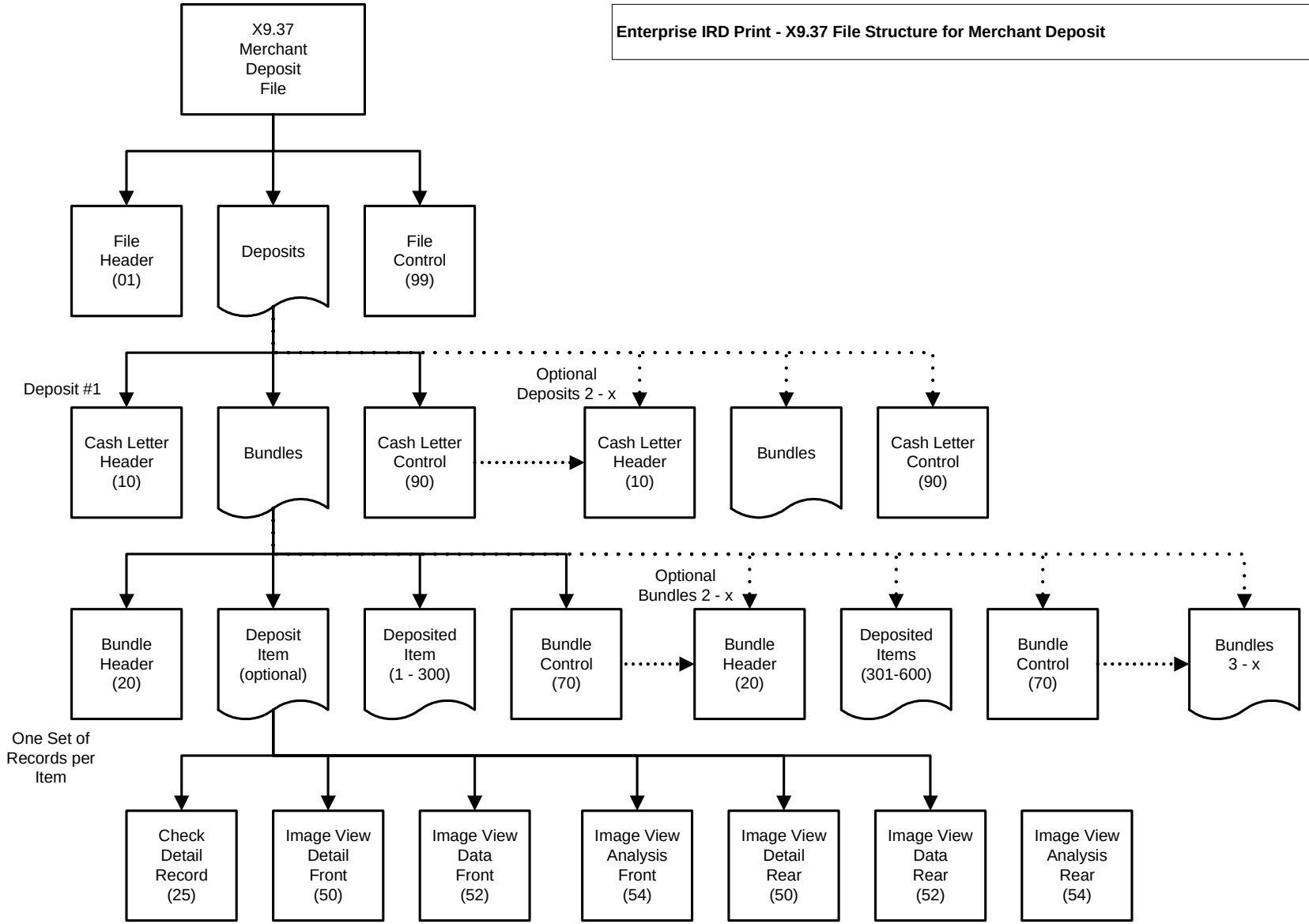
IV) a field defined as numeric/special or special shall be left justified and blank filled

V) All fields that are conditional and are not used shall be filled with blanks

C. Usage

M=mandatory
C=conditional

Enterprise IRD Print - X9.37 File Structure for Merchant Deposit



B. Record Type Requirements

	Image Deposit Sent to JPMorgan Chase
File Header Record (Type 01)	Mandatory
Cash Letter Header Record (Type 10)	Mandatory
Bundle Header Record (Type 20)	Mandatory
Check Detail Record (Type 25)	Mandatory
Check Detail Addendum A Record (Type 26)	Not Required
Check Detail Addendum B Record (Type 27)	Not Required
Check Detail Addendum C Record (Type 28)	Not Required
Image View Detail Record (Type 50)	Mandatory - for image deposits
Image View Data Record (Type 52)	Mandatory - for image deposits
Bundle Control Record (Type 70)	Mandatory
Cash Letter Control Record (Type 90)	Mandatory
File Control Record (Type 99)	Mandatory

IV. File Integrity and Quality Requirements

A. File-Level Fatal Exception Information

Conditions Identified for File or Transaction Rejection: In some cases, a depositor's failure to include mandatory information or adhere to the identified file format may result in the rejection of an incoming file or the depositor assuming the risk of our processing the file. A rejection occurs when JPMorgan Chase is unable to process an incoming image deposit file. The sender does not receive credit for a file that rejects until the problem with the file is fixed and the file is processed successfully. The following file level exceptions will be considered fatal and may result in the rejection of file without credit being passed to the depositor:

Failure by the File Header Record to identify the file as being in X9.37 format as used by JPMorgan Chase
Failure to include and/or properly sequence any mandatory record types
Failure to include and/or properly sequence any conditional record types (e.g., the Detail/Return Detail Addenda Records), when required
Failure to balance item counts or dollar amounts in the Control Records (bundle values must balance to the deposit values and the deposit values must balance to the file values)

B. Record-Level Threshold and Item-Level Exception Information

Conditions Identified for File or Transaction Rejection: In addition to the above requirements, JPMorgan Chase has also identified certain record- or item-level exceptions that will cause a file to reject if the number of such exception records or items within a file exceeds a threshold established by JPMorgan Chase. These exceptions would occur at the individual record or item level. All mandatory fields within the records that are present within a file must contain valid values as identified in this document in conjunction with X9.37. If a field or multiple fields within a record are invalid, that record will be counted against JPMorgan Chase file rejection threshold. When this threshold has been exceeded (i.e., the percentage of invalid records within the file exceeds the file rejection threshold), the file will experience a fatal exception, resulting in the rejection of the file without credit being passed to the depositor.

C. Item-Level Exceptions

Conditions Identified for Item Rejection: In some case, individual items deposited to JPMorgan Chase may fail to meet minimum requirements for image items, such as complete and valid MICR data or acceptable image quality (see Detailed Image Quality, next section). Items that fail critical edits may be rejected by JPMorgan Chase. If an image deposit file has passed the file-level edits, but items within that file fail critical item-level edits, the individual items will not be processed by JPMorgan Chase. Instead, they will be rejected. The individual items will be processed back to the depositor, and the amount of the rejected items will be debited from the depositor's settlement account. Depositors will receive an advice (detail under development) from JPMorgan Chase detailing the amount of the item(s) debited back. In addition, the advice will list the basic reference information available, including the deposit date, deposit total, bundle total and depositor item sequence number, as well as the dollar amount of the items immediately before and after the item that is being rejected.

D. Detailed Image Quality Information

First-phase image quality will be determined based on a preliminary assessment of gross-level metrics and an overall quality assessment performed by an image quality engine.

E. Baseline Image Quality

Baseline image quality checks will be performed for each set of Image View Records (Type 50, Type 52 & Type 54). If a mandatory field or fields within an Image View Record are invalid, that record will be counted against JPMorgan Chase's File Rejection Threshold (see Record-Level Threshold and Item-Level Exception Information, item B. above). All Check 21 items deposited as part of an image deposit must meet the following preliminary criteria:

An individual item must have corresponding front and back image segments.
Each image segment must be able to be decompressed.
Each image segment must have a minimum resolution of 200 dpi and a maximum of 240 dpi.
Each segment must be black and white and in the TIFF 6.0 CCITT Group 4 compression format.

D. Detailed Image Quality

Items that meet the preliminary quality criteria will be passed through an image quality engine. This engine will assess the overall quality of each segment based on particular quality metrics. These metrics include:

Missing/torn corners – Analysis is performed to determine if any of the document's four corners are either folded or missing. Depending on the particular document layout, a corner that is either folded or is torn away may cause vital information to be missing from the image. If a corner is missing from the document image and the area missing is larger than a square 0.75 inch on a side, then the image may be suspect.
Document length – The length of the document may be above or below expected values. Ideally, the length, as calculated by dividing the horizontal pixel count by the pixel density (dots per inch), is within standard check length specifications. If the length of the document image is not within 4 to 9 inches, the image may be suspect.
Document height – The height of the document may be above or below expected values. Ideally, the height, as calculated by dividing the vertical pixel count by the pixel density (dots per inch), is within standard check height specifications. If the height of the document image is not within 2 to 4 inches, the image may be suspect.
Document skew – The document skew, defined as the measure of the angle formed between the horizontal edge of the physical document being scanned and the horizontal edge of the front of the document image, may be too great.
Image brightness – The black pixel count may indicate the image is too dark or too light.
Noisy image – If the black pixel distribution is outside of normal bounds, the image may be flagged

V. JPMorgan Chase Bank X9.37 Field Specifications

Only the fields that have a value defined by JPMorgan Chase are included in this documentation. All fields in all records (unless noted otherwise) must be included in the X9.37 file. The tables below specify values for files sent to JPMorgan Chase.

A. File Header Record (Type 01)

The File Header Record is mandatory. It is the first record of the file. If a corresponding File Control Record (Type 99) is not present as the last record in this file, the file will be rejected. The data in the fields are created by the depositor sending the file, the immediate origin depositor.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	SENT TO JPMORGAN CHASE
1	Record Type	M	01 – 02	N	'01' indicates a File Header Record
2	Standard Level	M	03 – 04	N	'03' indicates DSTU X9.37-2003
3	Test File Indicator	M	05 – 05	A	A code that indicates whether the file being transmitted is a test file or a production file. "P" – production file, "T" – test file. Once on-boarding testing is approved, the file sent in production will need to have this field populated with a "P: indicating a production file.
4	Immediate Destination Routing Number	M	06 – 14	N	Must be JPMorgan Chase actual nine-digit routing and transit number (044000037)
5	Immediate Origin Identifier	M	15 – 23	N	Field contents will be specified by JPMorgan Chase and provided to customer.
6	File Creation Date	M	24 – 31	N	The year, month, and day that the immediate origin institution creates the file. Format: YYYYMMDD, where: YYYY year MM month DD day Defined Values: YYYY '1993' through '9999' MM '01' through '12' DD '01' through '31'
7	File Creation Time	M	32 – 35	N	The time the immediate origin institution creates the file. Must be military time. Format: hhmm, where: hh hour mm minute Defined Values: hh '00' through '23' mm '00' through '59'

8	Resend Indicator	M	36 – 36	A	A code that indicates whether the file has been previously transmitted in its entirety. Defined Values: 'Y' resend file – File contains the same data as a previously sent file. 'N' original file – This is the original file.
9	Immediate Destination Name	C	37-54	AN	Not required; shall be blank filled
10	Immediate Origin Name	M	55 -- 72	AN	Field contents are as follows: Positions 55 -- 59 – "ICL " Positions 60 -- 72 – Customer Name
11	File ID Modifier	M	73 – 73	AN	Set to ' ' (space), unless the data contained in fields 4,5,6 and 7 are equal. Then the field will contain a value 1 greater than the highest File ID Modifier created for the customer. Lower case letters are not valid.
12	Country Code	C	74 - 75	A	Not required, shall be blank filled
13	User Field	C	76-79	ANS	Not required, shall be blank filled
14	Reserved	M	80 – 80	B	Not required, shall be blank filled

B. Cash Letter Header Record (Type 10)

The Cash Letter Header Record is mandatory. It follows the File Header Record (Type 01). The data in these fields will be created by the depositor.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	SENT TO JPMORGAN CHASE
1	Record Type	M	01 – 02	N	Value (10)
2	Collection Type Indicator	M	03 – 04	N	'01' indicated Forward Presentment (within an individual file this value must be consistent from Cash Letter to Cash Letter)
3	Destination Routing Number	M	05 – 13	N	Must be JPMorgan Chase actual 9 digit routing and transit number (044000037)
4	Unique Customer Identifier	M	14 – 22	N	Must be the unique customer number assigned and provided by JPMorgan Chase
5	Cash Letter Business Date	M	23 – 30	N	The year, month, and day that designates the business date of the cash letter (deposit). Format yyyymmdd, where yyyy=year, mm=month, dd=day
6	Cash Letter Creation Date	M	31 – 38	N	The year, month, and day that the cash letter is created. Format yyyymmdd Where yyyy=year, mm=month, dd=day
7	Cash Letter Creation Time	M	39 -- 42	N	The time the immediate origin institution creates the file. hhmm cash letter was created
8	Cash Letter Record Type Indicator	M	43 – 43	A	'I' – indicates the deposit of electronic Check Records with image records
9	Cash Letter Documentation Type Indicator	C	44 – 44	AN	'G' Forward Image Cash Letter Deposit – indicates images are included, no paper
10	Cash Letter ID	C	45 – 52	AN	Code that uniquely identifies the cash letter (deposit). Must be unique within a Cash Letter Business Date.
11	Originator Contact Name	C	53-66	ANS	Not required; shall be blank filled.
12	Phone Number or Unique Location Identifier (ULID)	M	67 – 76	N	Must include the customer phone number unless the customer desires ULID based reporting. Field is an optional customer deposit location identifier field mutually defined by customer and JPMorgan Chase – up to 6 digits right justified with preceding blanks. If customer desires ULID based reporting, customer must

					request JPMorgan Chase use the information contained in this field. JPMorgan Chase will register the field content in our database and key off this information for ULID reporting.
13	Fed Work Type	C	77 – 77	AN	Not required; shall be blank filled
14	User Field	C	78 - 79	ANS	Shall be blank filled with spaces
15	Reserved	M	80 – 80	B	Shall be blank filled with spaces

C. Bundle Header Record (Type 20)

The Bundle Header Record is mandatory. It follows the File Header Record (Type 10). The data in these fields will be created by the depositor.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	SENT TO JPMORGAN CHASE
1	Record Type	M	01 – 02	N	Value (20)
2	Collection Type Indicator	M	03 – 04	N	'01' Indicates Forward Presentment (within an individual file, this value must be consistent from Bundle to Bundle)
3	Destination Routing Number	M	05 – 13	N	Must be JPMorgan Chase actual nine-digit routing and transit number (044000037)
4	Unique Customer Identifier	M	14 – 22	N	Must be the unique customer identifier assigned and provided by JPMorgan Chase
5	Bundle Business Date	M	23 – 30	N	The year, month, and day that designates the business date of the bundle. Format = yyyymmdd, where yyyy= year, mm= month, dd= day
6	Bundle Creation Date	M	31 – 38	N	The year, month, and day that the bundle is created. Format = yyyymmdd, where yyyy= year, mm= month, dd= day
7	Bundle ID	M	39 – 48	AN	A number that identifies the bundle, assigned by the depositor that created the bundle
8	Bundle Sequence Number	M	49 – 52	NB	Indicates the relative position of the bundle within the deposit. This number usually starts with one and is incremented by one for each Bundle Header Record in this deposit.
9	Cycle Number	C	53 - 54	AN	Not required; shall be blank filled
10	Return Location Routing Number	C	55 – 63	N	Customer shall leave field empty. (Routing number of the bank of first deposit (BOFD) institution, indicating where returns should be sent.)
11	User Field	C	64 - 68	ANS	Not required, shall be blank filled
12	Reserved	M	69 – 80	B	Shall be blank filled with spaces

D. Check Detail Record (Type 25)

The Check Detail Record is mandatory. The data in these fields will be created by the depositor. If JPMorgan Chase receives an image deposit file from a merchant, the Check Detail Records (Type 25) included in the image deposit file will be passed on to the paying bank as they were received by JPMorgan Chase.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	SENT TO JPMORGAN CHASE
1	Record Type	M	01 – 02	N	Value (25)
2	Auxiliary On-Us	C	03 -- 17	NBSM	A code used on commercial checks at the discretion of the payor bank. Mandatory if present on the MICR line • On-Us symbols on MICR line should not be included • Dashes must be retained • Right-justify the data
3	External Processing Code	C	18 – 18	NS	A code used for special purposes, also known as Position 44. Mandatory if present on the MICR line.
4	Payor Bank Routing Number	M	19 – 26	N	A number that identifies the institution by or through which the item is payable. Shall represent the first 8 digits of the routing number
5	Payor Bank Routing Number Check Digit	M	27 -- 27	N	A digit used with a modular check digit routine to validate the Routing Number.
6	On-Us	C	28 – 47	NBSMOS	Mandatory if present on the MICR Line The On-Us field of the MICR document is located between positions 14 and 31 of the MICR line of the item. • Translate On-Us symbols to forward slashes "/" • Right-justify the data • Retain "dashes" • May omit spaces • Blank-fill any unused positions Format: NBSMOS Numericblank/special MICR On-Us
7	Item Amount	M	48 – 57	N	The US dollar value of the check.
8	Institution Item Sequence Number	M	58 – 72	NB	This field is the depositing institution tracer information and should be supplied when making inquiries. This number should match the number endorsed on the

					check. Rules for formatting this field are: • Left-justify the data • Blank fill any unused positions
9	Documentation Type Indicator	C	73 – 73	AN	Not required, shall be blank filled
10	Electronic Return Acceptance Indicator	C	74 – 74	AN	A code that indicates whether the institution that creates the Check Detail Record will or will not support electronic return processing
11	MICR Valid Indicator	M	75 – 75	N	A code that indicates whether any character in the MICR line is unreadable, or, the On-Us field is missing from the Check Detail Record
12	BOFD Indicator	M	76 – 76	A	Value of "N".
13	Check Detail Record Addendum Count	M	77 – 78	N	Value of "0".
14	Correction Indicator	M	79 – 79	N	Indicator to identify whether and how the MICR line was repaired, for fields other than Payor Bank RT and Amount **0=no repair** **1=repaired**
15	Archive Type Indicator	C	80-80	AN	Not required, shall be blank filled

E. Check Detail Addendum A Record (Type 26)

Record (Type 26) Not Required – do not send. JPMorgan Chase will create a Check Detail Addendum A Record (Type 26).

F. Check Detail Addendum B Record (Type 27)

Record (Type 27) Not Required – do not send. Future use only.

G. Check Detail Addendum C Record (Type 28)

Record (Type 28) Not Required – do not send. JPMorgan Chase will not create Check Detail Addendum C Records (Type 28)

H. Image View Detail Record (Type 50)

The Image View Detail Record is mandatory when the Cash Letter Documentation Type Indicator (Field 9) in the Cash Letter Header Record (Type 10) is 'G' or 'H'. The Image View Detail Record is one of two records (Type 50 and Type 52) that shall be used together to convey an image view associated with the related Check Detail Record (Type 25). If an Image View Detail Record is present, then an Image View Data Record (Type 52) shall be present. JPMorgan Chase requires both the front image and back image of the item. The front image will be provided first followed by the rear image of the item.

When JPMorgan Chase receives an image deposit, the Image View Detail Records (Type 50) included in the image deposit will be passed on to the paying bank as they were received by JPMorgan Chase.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	SENT TO JPMORGAN CHASE
1	Record Type	M	01 – 02	N	Value (50)
2	Image Indicator	M	03 – 03	N	'1' indicates Image view is actual check
3	Image Depositor's Routing Number	M	04 – 12	N	(044000037) JPMorgan Chase Routing Number
4	Image Depositor's Date	M	13 – 20	N	Scan Date
5	Image View Format Indicator	M	21 – 22	NB	Primary view shall only have a value of '00' which ' indicates TIFF 6
6	Image View Compression Algorithm Identifier	M	23 – 24	NB	'00' indicates Group 4 Facsimile (G4)
7	Image View Data Size	M	25 – 31	N	A code that identifies whether the image is black and white, grayscale color or other representation. Defined value: '0' Black and White
8	View Side Indicator	M	32 – 32	N	A code that indicates the image view conveyed in the related Image View Data Record (Type 52) Image Data (Field 19). An image view may be a full view of the item (i.e., the entire full face of the document) or may be a partial view (snippet) as determined by the value of the View Descriptor field. **0=front image view** **1=rear image view**
9	View Descriptor	M	33 – 34	N	'00' indicates Full View
10	Digital Signature Indicator	M	35 - 35	N	'0' indicates Digital Signature is not present.

11	Digital Signature Method	C	36 – 37	NB	Not required, shall be blank filled with spaces
12	Security Key Size	C	38 – 42	NB	Not required, shall be blank filled with spaces
13	Start of Protected Data	C	43 – 49	NB	Not required, shall be blank filled with spaces
14	Length of Protected Data	C	50 – 56	NB	Not required, shall be blank filled with spaces
15	Image Recreate Indicator	M	57 – 57	N	Indicates whether the sender has the ability to recreate the image view conveyed in the related Image View Data Record (Type 52) Image Data (field 19)
16	User Field	C	58-65	ANS	Not required, shall be blank filled with spaces
17	Reserved	M	66-80	B	Not required, shall be blank filled with spaces

I. Image View Data Record (Type 52)

The Image View Detail Record is mandatory when the Cash Letter Documentation Type Indicator (Field 9) in the Cash Letter Header Record (Type 10) is 'G' or 'H'. The Image View Detail Record is one of two records (Type 50 and Type 52) that shall be used together to convey an image view associated with the related Check Detail Record (Type 25). If an Image View Detail Record is present, then an Image View Data Record shall be present.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	SENT TO JPMORGAN CHASE
1	Record Type	M	01 – 02	N	Value (52)
2	Depositor Routing Number	M	03 – 11	N	(044000037) JPMorgan Chase RT
3	Bundle Business Date	M	12 – 19	N	From Bundle Header Record
4	Cycle Number	C	20-21	AN	Not required, shall be blank filled with spaces
5	Institution Item Sequence Number	M	22 – 36	NB	A number assigned by the institution that creates the Check Detail Record (Type 25). This number is imported from the Check Detail Record (Clause 10.8) associated with the image view conveyed in this Image View Data Record. The ECE institution must construct the sequence number to guarantee uniqueness for a given routing number, business day, and cycle number.
6	Security Originator Name	C	37 – 52	ANS	Not required, shall be blank filled with spaces
7	Security Authenticator Name	C	53 - 68	ANS	Not required, shall be blank filled with spaces
8	Security Key Name	C	69 – 84	ANS	Not required, shall be blank filled with spaces

9	Clipping Origin	M	85 – 85	NB	'0' indicates clipping information is not present. Primary front and rear views shall only have a value of '0'.
10	Clipping Coordinate h1	C	86 – 89	NB	Not required, shall be blank filled with spaces
11	Clipping Coordinate h2	C	90 – 93	N	Not required, shall be blank filled with spaces
12	Clipping Coordinate v1	C	94 – 97	N	Not required, shall be blank filled with spaces
13	Clipping Coordinate v2	C	98 – 101	N	Not required, shall be blank filled with spaces
14	Length of Image Reference Key	M	102 – 105	NB	The number of characters in the Image Reference Key (Field 15) in this Image View Data Record. Defined Values: '0' Image Reference Key (Field 15) is not present '1' through '9999' Valid when Image Reference Key (Field 15) is present
15	Image Reference Key	C	106 – (105+X)	ANS	Not required, shall be blank filled with spaces
16	Length of Digital Signature	M	(106+X) – (110+X)	NB	The number of bytes in the Digital Signature field (Field 17) in this Image View Data Record. Defined Values: '0' Digital Signature field is not present '1' through '99999' (valid when Digital Signature field is present)
17	Digital Signature	C	(111+X)- (110+X+Y)	Binary	Omit field
18	Length of Image Data	M	(111+X+Y) – (117+X+Y)	NB	The number of bytes in the Image Data (Field 19) in this Image View Data Record. Defined Values: '1' through '9999999'
19	Image Data	M	(118+X+Y) – (117+X+Y+Z)	Binary	The Image Data field contains the image view. The Image Data generally consists of an image header and the image raster data. The image header provides information that is required to interpret the image raster data. The image raster data contains the scanned image of the physical item in raster (line by line) format. Each scan line comprises a set of concatenated pixels. The image comprises a set of scan lines. The image raster data is typically compressed to reduce the number of bytes needed to transmit and store the

					image. The header/image format type is defined by the Image View Format Indicator (Field 5) in the corresponding Image View Detail Record (Type 50). The syntax and semantics of the image header/image format are understood by referring to the appropriate image format specification. The compression scheme used to compress the image raster data is specified in the Image View Compression Algorithm Identifier (Field 6) of the associated Image View Detail Record (Type 50), and in the image header portion of the Image Data or by association with the selected image format.

J. Image View Analysis Record (Type 54)

This record is optional. It is highly recommended, when available, and expected to be included in incoming files. When present, there is one Image View Analysis Record for each image view.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	SENT TO JPMORGAN CHASE
1	Record Type	M	01 – 02	N	'54' indicates Image View Analysis Record
2	Global Image Quality	M	03 – 03	N	'0' indicates image was not tested for image quality conditions '1' indicates image was tested and one or more image quality conditions were reported '2' indicates image was tested and no image quality conditions were reported
3	Global Image Usability	M	04 – 04	N	'0' indicates image was not tested for image usability conditions '1' indicates image was tested and one or more image usability conditions were reported '2' indicates image was tested and no image usability conditions were reported
4	Imaging Bank Specific Test	M	05 – 05	N	'0' indicates there are no user defined tests '1' indicates that other image conditions were tested and one or more are reported in User Field (field 45) '2' indicates that other image conditions were tested and none are reported in User Field (field 45)
	Image Quality Information (fields 5 – 24)				
5	Partial Image	C	06 – 06	N	'0' indicates test not done '1' indicates condition present '2' indicates condition not present
6	Excessive Image Skew	C	07 – 07	N	'0' indicates test not done '1' indicates condition present '2' indicates condition not present
7	Piggyback Image	C	08 – 08	N	'0' indicates test not done '1' indicates condition present '2' indicates condition not present
8	Too Light Or Too Dark	C	09 – 09	N	'0' indicates test not done

					'1' indicates condition present '2' indicates condition not present
9	Streaks And Or Bands	C	10 – 10	N	'0' indicates test not done '1' indicates condition present '2' indicates condition not present
10	Below Minimum Image Size	C	11 – 11	N	'0' indicates test not done '1' indicates condition present '2' indicates condition not present
11	Exceeds Maximum Image Size	C	12 – 12	N	'0' indicates test not done '1' indicates condition present '2' indicates condition not present
12	Reserved	C	13 – 13	NB	Spaces
13	Reserved	C	14 – 14	NB	Spaces
14	Reserved	C	15 – 15	NB	Spaces
15	Reserved	C	16 – 16	NB	Spaces
16	Reserved	C	17 – 17	NB	Spaces
17	Reserved	C	18 – 18	NB	Spaces
18	Reserved	C	19 – 19	NB	Spaces
19	Reserved	C	20 – 20	NB	Spaces
20	Reserved	C	21 – 21	NB	Spaces
21	Reserved	C	22 – 22	NB	Spaces
22	Reserved	C	23 – 23	NB	Spaces
23	Reserved	C	24 – 24	NB	Spaces
24	Reserved	C	25 – 25	NB	Spaces
	Image Usability Information (fields 25 – 44)				
25	Image-Enabled POD	C	26 – 26	N	'0' indicates it is unknown whether image was used in an image-enabled POD application '1' indicates image was not used in an image enabled POD application '2' indicates image was used in image-enabled POD application
26	Source Document Bad	C	27 – 27	N	'0' indicates test not done '1' indicates Image unusable, source doc unusable '2' indicates Image unusable, source doc may be usable

27	Date Usability	C	28 – 28	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
28	Payee Usability	C	29 – 29	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
29	Convenience Amount Usability	C	30 – 30	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
30	Amount in Words (Legal Amount) Usability	C	31 – 31	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
31	Signature Usability	C	32 – 32	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
32	Payor Name And Address Usability	C	33 – 33	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
33	MICR Line Usability	C	34 – 34	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
34	Memo Line Usability	C	35 - 35	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
35	Payor Bank Name And Address Usability	C	36 – 36	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
36	Payee Endorsement Usability	C	37 – 37	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
37	Bank Of First Deposit Endorsement Usability	C	38 – 38	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable
38	Transit Endorsement Usability	C	39 – 39	N	'0' indicates test not done '1' indicates area unusable '2' indicates area usable

39	Reserved	C	40 – 40	NB	Spaces
40	Reserved	C	41 – 41	NB	Spaces
41	Reserved	C	42 – 42	NB	Spaces
42	Reserved	C	43 – 43	NB	Spaces
43	Reserved	C	44 – 44	NB	Spaces
44	Reserved	C	45 – 45	NB	Spaces
	Image Analysis User Information (field 45)				
45	User Field	C	46 – 65	ANS	Spaces
46	Reserved	M	66 – 80	B	Spaces

K. Bundle Control Record (Type 70)

This record is mandatory. It shall be present to complete a bundle that began with a Bundle Header Record (Type 20).

FIELD	FIELD NAME	USAGE	POSITION	TYPE	SENT TO JPMORGAN CHASE
1	Record Type	M	01 - 02	N	Value (70)
2	Items within Bundle Count	M	03 - 06	N	Maximum of 300 per bundle
3	Bundle Total Amount	M	07 - 18	N	Total dollar amount of the bundle
4	MICR Valid Total Amount	C	19 – 30	N	Not required, shall be blank filled with spaces
5	Images Within Bundle Count	M	31 - 35	N	The total number of Image View Detail record pairs within a bundle regardless of whether image data is actually present. Each image view is represented by an Image View Detail Record (Type 50) and an Image View Data Record (Type 52) pair
6	User Field	C	36-55	ANS	Not required, shall be blank filled with spaces
7	Reserved	M	56 – 80	B	Shall be blank filled with spaces

L. Cash Letter Control Record (Type 90)

This record is mandatory. There must be one Cash Letter Record (Type 90) for each Cash Letter Header Record (Type 10). This record must be the last record in the cash letter. The data in the fields is generated by the depositor that created the corresponding Cash Letter Header Record.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	SENT TO JPMORGAN CHASE
1	Record Type	M	01 – 02	N	Value (90)
2	Bundle Count	M	03 – 08	N	The total number of bundles within the cash letter
3	Items within Cash Letter Count	M	09 – 16	N	The total number of items sent within the cash letter, all Check Detail Records (Type 25) or all Return Records (Type 31).
4	Cash Letter Total Amount	M	17 – 30	N	The total US dollar value of the cash letter, all Check Detail Records (Type 25) or all Return Records (Type 31).
5	Images Within Cash Letter Count	M	31 - 39	N	The total number of image view record pairs within a cash letter regardless of whether image data is actually present. Each image is represented by an Image View Detail Record (Type 50) and an Image View Data Record (Type 52) pair.
6	ECE Institution Name	C	40 - 57	A	Not required, shall be blank filled with spaces
7	Settlement Date	C	58 – 65	N	Not required, shall be blank filled with spaces
8	Reserved	M	66 – 80	B	Shall be blank filled with spaces

M. File Control Record (Type 99)

The File Control Record is mandatory. It is the final record of an electronic exchange file. The data in the fields is created by the depositor sending the file – the immediate-origin depositor.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	SENT TO JPMORGAN CHASE
1	Record Type	M	01 - 02	N	Value (99)
2	Cash Letter Count	M	03 - 08	N	The total number of cash letters within the file.
3	Total Record Count	M	09 – 16	N	The total number of records of all types sent in the file, including the File Control Record.
4	Total Item Count	M	17 – 24	N	The total number of items sent within the file, all Check Detail Records (Type 25) and all Return Records (Type 31).
5	File Total Amount	M	25 – 40	N	The total US dollar value of the complete file, all Check Detail Records (Type 25) and all Return Records (Type 31).
6	Immediate Origin Contact	C	41 – 54	ANS	Not required, shall be blank filled with spaces
7	Immediate Origin Contact Phone Number	C	55 – 64	N	Omit
8	Reserved	M	65 – 80	B	Shall be blank filled with spaces