

# **X9.100-187 Financial Institutions and Third Party Service Providers File Specifications**

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**Version 1.0**

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## I. Scope

This specification document describes the X9.100-187 standard format to be used when a depository institution sends an image cash letter file as a deposit to JPMorgan Chase. When sending image cash letters to JPMorgan Chase, your systems must use all the record fields defined in X9.100-187 standard and in this document. Only the fields that have values defined by JPMorgan Chase are specifically described in this document. If there are any difference between JPMC mini-companion and the X9.100-187, this document supersedes or takes precedence. (The full X9.100-187 standard is available through the Accredited Standards Committee website [www.X9.org](http://www.X9.org))

JPMorgan Chase supports the delivery and receipt of image cash letters using the X9.100-187 format in the following:

The JPMorgan Chase X9.100-187 field specifications are as follows:

<b>Image Format</b>	TIFF 6
<b>Image Compression</b>	CCITT G4 (200 dpi minimum or 240 dpi maximum resolution, black/white)
<b>Compressed Image</b>	Shall not exceed 200,000 bytes for a Single Image View
<b>Character Code</b>	8-bit EBCDIC except for binary image data
<b>View Descriptor</b>	Full view
<b>File Size</b>	2 GB maximum
<b>Image Quality</b>	IQA requirements are documented in section IV.F.
<b>Addendum Records</b>	Addendum records are expected as documented in section III. B.
<b>MICR Data</b>	All MICR data present on the MICR line of the original item are required.

TIFF Image Format related requirements (reference ANS X9.100-181 TIFF Standard for Image Exchange):

<b>Byte order</b>	Least significant byte to the most significant byte (Little Endian)
<b>View</b>	Image shall be single page – each TIFF image file shall contain a single view with one IFD (image file directory)
<b>Single Strip</b>	Images shall be single strip
<b>Orientation</b>	Image Orientation shall be '1'
<b>Others</b>	Valid EOFB (End of Facsimile Block) shall be present
	Photometric Interpretation shall be '0'

## II. Transmission Specifications

### A. Image Cash Letter File Deposit Time

ICL deposits sent to JPMorgan Chase prior to the targeted deposit deadline will receive same day Posting. Transmission of an image cash letter is considered complete 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 the file transmission. As a result, every effort should be made to send ICL 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. 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 has identified three primary connectivity options designed to meet the spectrum of customer needs. These options for transferring image cash letter files include: upload and download via SVPCO using the DTA, via direct network connection using the distributed file transfer service (DFTS) and customer-initiated manual upload and download via the Internet using the DFTS.

## **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. This requires 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 between JPMorgan Chase and the commercial customer. This solution is recommended if SVPCO is not an option. This connection will be required if files are 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 of circuit acquisition, circuit ownership and support responsibilities will be determined with the client.

#### E. Internet Connectivity to JPMorgan Chase

Secure Internet connection can be used, but has a 1GB file size limit. This option has certain limitations.

**Risk:** JPMorgan Chase will charge the client for virtual private network (VPN) access from the Internet. VPN is a network connection that provides a secure Internet connection between two companies. There are no guarantees that files sent by this method will get to their destination. The client's Internet connection type and speed 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. Client charges may include a monthly usage charge and a one-time setup charge.

**Note:** Assuming 25K image sizes, 40,000 images would result in a 1GB file, which is the per-client-per-day file size limit.

#### F. Duplicate ICL File Detection

The ICL 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 Routing 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 RT, File Creation Date and File Creation Time does not uniquely identify the file.)

### III. File Format

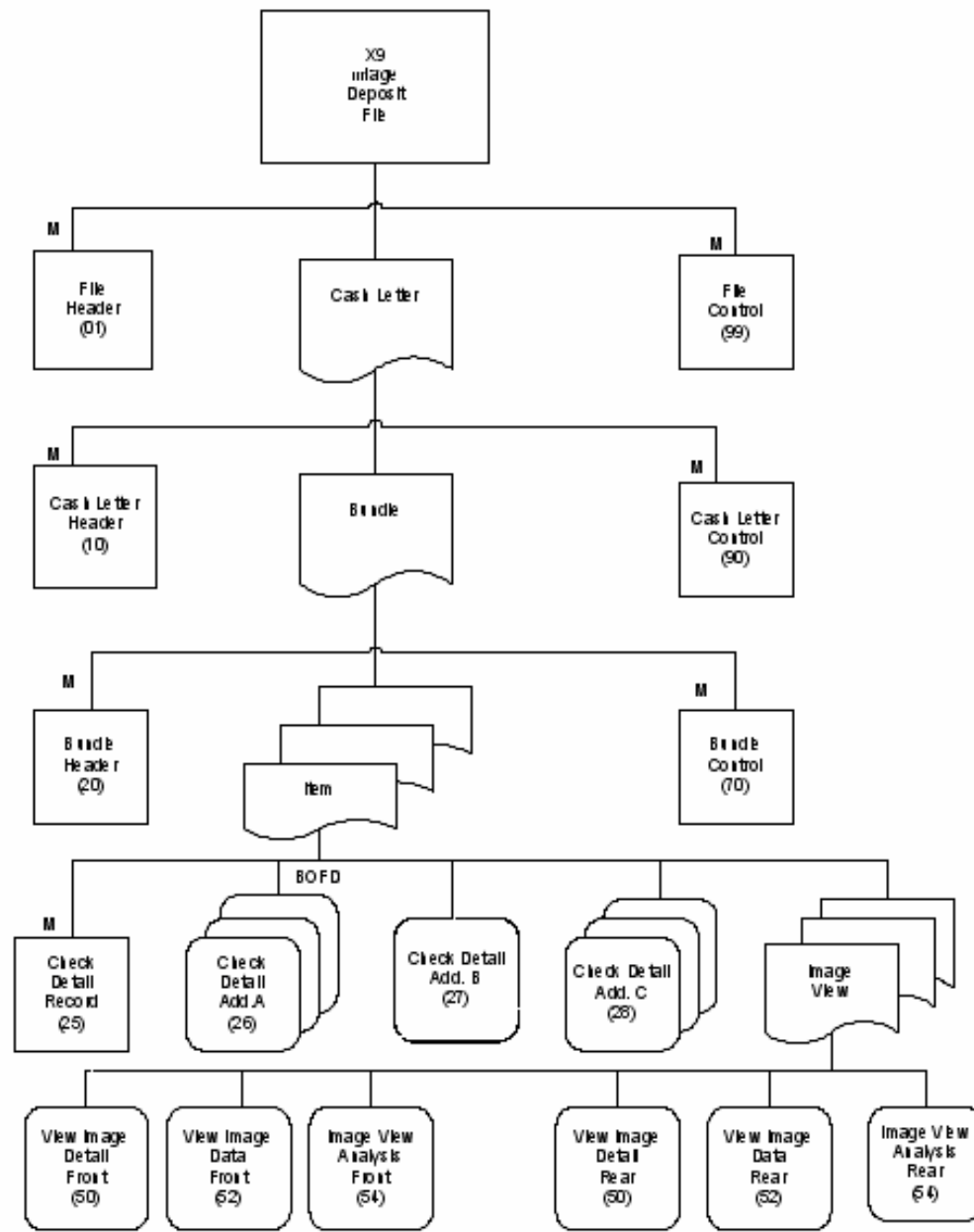
The X9.100-187 file is composed of variable-length records. All characters and symbols must be represented using 8-bit EBCDIC, with the exception of the Image Data (field 19) in the Image View Data Record (Type 52), which uses binary data.

- All fields in all records that are described in this document as being “conditional” or that are not used shall be filled with spaces and shall not be embedded with data elements, unless noted otherwise.
- TIFF image data must be in Little Endian (Intel) byte order.
- The format of all fields types shall follow what is defined in the X9.100-187 standard unless otherwise noted in this document. Failure to follow the data and field specifications could result in an item or file rejection. Refer to X9.100-187, Section 5 Data and Field Specifications.
- All Annexes in the X9.100-187 are critically important to the use of this document for interoperable image exchange.
- Eastern Time zone shall be used.

#### A. File Structure Requirements

An ICL file can contain one or more cash letters. Forward cash letters may not be mixed within the same file. Cash letters can contain one or more bundles that are destined for the institutions identified in the cash letter header records. Bundles within cash letters must contain check detail records and contain image records.

The following figures illustrate the X9.100-187 hierarchy for cash letter and bundle structures. This section should be taken in conjunction with section III.B. to determine JPMorgan Chase requirements.



## B. Record Type Requirements

	Image Cash Letter 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)	Required
Check Detail Addendum B Record (Type 27)	Not Required
Check Detail Addendum C Record (Type 28)	Required
Image View Detail Record (Type 50)	Mandatory
Image View Data Record (Type 52)	Mandatory
Image View Analysis Record (Type 54)	Optional
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 of the file. A rejection occurs when JPMorgan Chase is unable to process an incoming image cash letter file. The sending bank does not receive credit for a file that rejects until the problem with the file is fixed and the file is successfully processed. 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 X9.100-187 format
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 cash letter values and cash letter 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 X9.100-187. If a field or multiple fields within a record are invalid, that record will be counted against the 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. Items that fail critical edits may be rejected by JPMorgan Chase. If an image cash letter 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 cash letter date, cash letter total, bundle total, depositor item sequence number as well as the dollar amount of the items immediately before and after the item that is being rejected. The following item level exceptions will be considered fatal and may result in the rejection of item without credit being passed to the depositor.

Failure of an Image View Detail Record (Type 50) to have a corresponding Image View Data Record (Type 52)
Failure of an Check Detail Record (Type 25) to have at least one Type 26 or Type 28 Addendum record.
Failure due to more than one truncator indicator set to 'Y'. If there is a '4' in the EPC field in the Check Detail Record (Type 25) indicating an image of a substitute check, then ALL truncation indicators shall be set to 'N'.
Failure to have the Primary Image View (Front and Rear) as TIFF 6.0 Group 4 compressed, Little Endian (Intel) byte order, 200 or 240 dpi.

#### 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

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. All Check 21 items deposited as part of an image cash letter must meet the following criteria:

The item must have corresponding front and back image segments.
The data size for each image segment must fall within the range acceptable for image data (greater than 5K bytes and less than 80K bytes).
Image segments must be able to be decompressed
Image segments must have a minimum resolution of 200 dpi and a maximum of 240 dpi.
Image segments must be black and white and in the TIFF 6.0 CCITT Group 4 compression format.

#### F. 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:

<b>Missing/torn corners</b> – Analysis is performed to determine if any of the document's four corners are either folded or missing. Depending upon 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 each side, then the image may be suspect.
<b>Document length</b> – 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.
<b>Document height</b> – 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 9 inches, the image may be suspect.
<b>Document skew</b> – 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.
<b>Image brightness</b> – The black pixel count may indicate the image is too dark or too light.
<b>Noisy image</b> – If the black pixel distribution is outside of normal bounds, the image may be flagged. If any one image quality metric is flagged or suspect, that image fails to meet image quality requirements and it may be rejected by JPMorgan Chase. The individual items rejected will be processed back to the depositor, and the amount of the rejected items will be debited from the depositor's settlement account.

## V. JPMorgan Chase X9.100-187 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 X9.100-187 file. X9.100-187 Specifications for Electronic Exchange of Check and Image Data contains information regarding fields not included in this document. 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 institution sending the file, the immediate origin institution. For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
1	Record Type	M	01 – 02	N	'01' indicates a File Header Record
2	Standard Level	M	03 – 04	N	'03' indicates X9.100-187 '03' is a deviation from X9.100-187 and is the only value permitted for image exchange.
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.
5	Immediate Origin Routing Number	M	15 – 23	N	<b>If sent by a banking institution, that institutions RT number that identifies the institution or if being sent by a third party service provider on behalf of one or more depositors , JPMC will assign a unique number that will not encroach on another institutions existing RT.</b>
6	File Creation Date	M	24 – 31	N	The year, month, and day that the immediate origin institution creates the file. Format: YYYYMMDD, where: <div style="text-align: right;">           YYYY    year            MM      month            DD      day         </div> 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: <div style="text-align: right;">           hh            hour         </div>

					<div>mm minute</div> <i>Defined Values:</i> 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. <i>Defined Values:</i> '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	It shall the short name assigned to the institution the file is being sent to: "JPMorgan Chase". 'AN' is a deviation from X9.100-187 since special characters are not permitted for image exchange.
10	Immediate Origin Name	M	55 -- 72	AN	Field contents are as follows: <ul style="list-style-type: none"> <li>Positions 55 -- 59 – "ICL "</li> </ul> Positions 60 -- 72 – Customer Name 'AN' is a deviation from X9.100-187 since special characters are not permitted for image exchange.
11	File ID Modifier	C	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	A code that identifies the country in which the payor bank is located. Blank filled.
13	User Field	C	76-79	ANS	Not required, shall be blank filled
14	Companion Document Version Indicator	C	80 – 80	AN	NEW FIELD - '1' Indicates version 1 of the Universal Companion Document for the standard level stated in field 2 of this record.

## B. Cash Letter Header Record (Type 10)

The Cash Letter Header Record is mandatory. It follows the File Header Record (Type 01) unless the file contains multiple cash letters in which case the Cash Letter Header Record will follow the Cash Letter Control Record (Type 90) for the previous cash letter. The data in the fields are created by the ECE institution, which may or may not be the bank of first deposit (BOFD). For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
1	Record Type	M	01 – 02	N	'10' indicates a Cash Letter Header Record
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 nine-digit routing and transit number
4	ECE Institution Routing Number	M	14 – 22	N	A number that identifies the institution that creates the Cash Letter Header Record.
5	Cash Letter Business Date	M	23 – 30	N	The year, month, and day that designates the business date of the cash letter.
6	Cash Letter Creation Date	M	31 – 38	N	The year, month, and day that the cash letter is created.
7	Cash Letter Creation Time	M	39 – 42	N	Time (hhmm) cash letter was created (System time reported in ET)
8	Cash Letter Record Type Indicator	M	43 – 43	A	'I' Forward Image Cash Letter Deposit – 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. Must be unique within a Cash Letter Business Date.
11	Originator Contact Name	C	53-66	ANS	Not required; shall be blank filled.
12	Originator Contact Phone Number	M	67 – 76	N	The phone number of the contact at the institution that creates the cash letter.
13	Work Type	C	77 – 77	AN	Values valid for forward cash letters:  'C' Mixed 'D' High-Volume Mixed
14	Return Indicator	M	78-78	A	Shall be blank filled with spaces
15	User Field	C	79-79	ANS	Shall be blank filled with spaces
16	Reserved	M	80 – 80	B	Shall be blank filled with spaces

### C. Bundle Header Record (Type 20)

The Bundle Header Record is mandatory. The data in the fields are created by the ECE institution, which may or may not be the bank of first deposit (BOFD). Items in the Bundles will be in the same order in the ECP (Cash Letter Type Indicator = "E") file and the ECP with Image to Follow (Cash Letter Type Indicator = "F") file. For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
1	Record Type	M	01 – 02	N	'20' indicates a Bundle Header Record
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. Must be the same as the Destination RT (Field 3) in the Cash Letter Header Record (Type 10).
4	ECE Institution Routing Number	M	14 – 22	N	A number that identifies the institution that creates the Bundle Header Record. Must be the same as the values in the ECE Institution Routing Number (Field 4) in the Cash Letter Header Record (Type 10).
5	Bundle Business Date	M	23 – 30	N	The year, month, and day that designates the business date of the bundle.
6	Bundle Creation Date	M	31 – 38	N	The year, month, and day that the bundle is created.
7	Bundle ID	M	39 – 48	AN	A number that identifies the bundle, assigned by the institution that created the bundle. Must be unique within a Cash Letter business date.
8	Bundle Sequence Number	M	49 – 52	NB	Indicates the relative position of the bundle within the cash letter. This number usually starts with one and is incremented by one for each Bundle Header record in this cash letter. Combination of Bundle ID (field 7) and Bundle Sequence Number (field 8) must be unique within the cash letter.
9	Cycle Number	C			Not required; shall be blank filled.
10	Reserved	M	55 – 63	B	Field reserved for future use by the Accredited Standards Committee X9. Shall be blank filled.
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 the fields are created by the ECE institution, which may or may not be the bank of first deposit (BOFD). If JPMorgan Chase receives an ICL from a depositing bank, the Check Detail Records (Type 25) included in the ICL will be passed on to the paying bank as they were received by JPMorgan Chase. For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
1	Record Type	M	01 – 02	N	'25' indicates a Check Detail Record
2	Auxiliary On-Us	C	03 – 17	NBSM	<p>Mandatory if present on the MICR Line. (Dashes must be retained).</p> <p>The 15 digit Auxiliary On-Us field from the item MICR line (positions 48 – 62). This field is also known as field 7 or the serial number. Rules for formatting this field are:</p> <ul style="list-style-type: none"> <li>• Right-justify the data</li> <li>• Retain "dashes"</li> <li>• Spaces may be omitted</li> <li>• Blank fill any unused positions</li> <li>• If the field is not present on the item, the field must be formatted with spaces</li> <li>▪ On-Us symbols on the MICR line, shall not be included</li> </ul>
3	External Processing Code	C	18 – 18	NS	<p>Mandatory if present on the MICR Line</p> <p>The External Processing Code is position 44 or 45 of the MICR line. This field is located immediately to the left of the Routing Transit field. This field is also known as field 6. Rules for formatting this field are:</p> <ul style="list-style-type: none"> <li>▪ The ONLY valid values are '0','1', '4','6' and '9', if present.</li> <li>▪ Any other characters or numbers in this field are considered invalid.</li> </ul>
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. Must be a valid Mod-10 check digit .
6	On-Us	C	28 – 47	NBSMOS	<p>Mandatory if present on the MICR Line</p> <p>The On-Us field of the MICR document is located between positions 13 and 32 of the MICR Line of the item. It is also known as fields 2, 3, &amp; 4 of the MICR line, usually including the Process Control or Transaction Code, Account Number and field 4. Rules for formatting this field are:</p>

					<ul style="list-style-type: none"> <li>• Translate On-Ups symbols to forward slashes "/"</li> <li>• Right-justify the data</li> <li>• Retain "dashes"</li> <li>• Spaces MUST be suppressed, not included in this field (reference Annex A of the X9.100-187 standard)</li> </ul>
7	Item Amount	M	48 – 57	N	The US dollar value of the check.
8	Institution Item Sequence Number	M	58 – 72	NB	<p>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.</p> <p>Rules for formatting this field are:</p> <ul style="list-style-type: none"> <li>▪ Left justify the data Field must contain a numeric value. It cannot be all blanks.</li> </ul>
9	Documentation Type Indicator	C	73 – 73	AN	<p>This value will always be the same as the value in the Cash Letter Header Record (Type 10) Cash Letter Documentation Type Indicator (field 9).</p> <ul style="list-style-type: none"> <li>▪ Only valid values = 'G'</li> </ul>
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	C	75 – 75	N	A code that indicates whether any character in the MICR line is unreadable, or, the On-Ups field is missing from the Check Detail Record
12	BOFD Indicator	M	76 – 76	A	<p>'N' indicates ECE institution is not BOFD</p> <p>'Y' indicates ECE institution is BOFD</p> <p>'U' indicates ECE institution relationship to BOFD is undetermined.</p>
13	Check Detail Record Addendum Count	M	77 – 78	N	The number of Check Detail Record Addenda to follow. Value must represent sum of the number of Type 26 and Type 28 records and must be > '0' and match the number of addendum records included.
14	Correction Indicator	C	79 – 79	N	Indicator to identify whether and how the MICR line was repaired, for fields other than Payor Bank RT and Amount
15	Archive Type Indicator	C	80 – 80	AN	Code that identifies the type of archive that supports this Check Detail Record.



## E. Check Detail Addendum A Record (Type 26)

The Check Detail Addendum A Record is conditional, but required when the BOFD converts the physical item to an image. More than one Check Detail Addendum A Records is permitted. The data in the fields are created by the BOFD when the physical item is converted to an image. JPMorgan Chase will forward the Check Detail Addendum A Records, as they were received from the BOFD to the paying bank. JPMorgan Chase will typically not create a Check Detail Addendum A Record. For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
1	Record Type	M	01 – 02	N	'26' indicates a Check Detail Addendum A Record
2	Check Detail Addendum A Record Number	M	03 – 03	N	Number (beginning with '1') representing the chronological order in which each Check Detail Addendum A record was created. Check Detail Addendum A records shall be in sequential order according to this field.
3	Bank of First Deposit (BOFD) Routing Number	M	14 – 12	N	The nine-digit routing number for the bank of first deposit. Must be a valid 9-digit routing number which JPMC has indicated. <ul style="list-style-type: none"> <li>Right justify the data</li> <li>Cannot be zero or blank filled</li> </ul>
4	BOFD Business (Endorsement) Date	M	13 – 20	N	The date (yyyymmdd) of the endorsement that designates the business date of the BOFD. Cannot be future dated nor zeroes.
5	BOFD Items Sequence Number	M	21-35	NB	Number that identifies the item at the Bank of First Deposit. This information is required by a bank who might print an IRD or Substitute check.
6	Deposit Account Number at BOFD	C	36-53	ANS	Not required, shall be blank filled
7	BOFD Deposit Branch	C	54-58	ANS	Not required, shall be blank filled
8	Payee Name	C	59-73	ANS	Not required, shall be blank filled
9	Truncation Indicator  NOTE: Truncation indicator refers to the truncator of the ORIGINAL Check only	M	74 – 74	A	'Y' indicates BOFD is truncator of original check 'N' indicates BOFD is not truncator of original check
10	BOFD Conversion Indicator	C	75-75	AN	Not required, shall be blank filled
11	Endorsing Bank Identifier	C	76-76	N	NEW FIELD - A field used to identify the bank's role in the collection process. Value shall be '3'
12	User Field	C	77-77	ANS	Not required, shall be blank filled
13	Reserved	M	78 – 80	B	Shall be blank filled with spaces

#### F. Check Detail Addendum B Record (Type 27)

JPMorgan Chase will not create Check Detail Addendum B Records (Type 27). JPMorgan Chase will forward these records if received from a depositing institution.

#### G. Check Detail Addendum C Record (Type 28)

The Check Detail Addendum C Record is required when the item is sent electronically by an endorser subsequent to the BOFD. This record contains endorsement information that may not be present on the physical item. There may be multiple Check Detail Addendum C Records (Type 28), as each endorsing bank creates a new record and forwards all previous records. Data from this Check Detail Addendum C Record (Type 28) are transferred to the Return Addendum D Record (Type 35) when the item is returned. For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
1	Record Type	M	01 – 02	N	'28' indicates a Check Detail C Record
2	Check Detail Addendum C Record Number	M	03 – 04	N	Number (beginning with '1') representing the chronological order in which each Check Detail Addendum C record was created. If the item becomes a return this number is transferred to the Return Addendum D Record (Type 35) Return Addendum D Record Number (field 2)
3	Endorsing Bank Routing Number	M	05 – 13	N	9 digit routing number of the bank that endorsed the check. Rules for formatting this field are: <ul style="list-style-type: none"><li>▪ Right justify the data</li><li>▪ Must pass mod-check validation and end with a valid check digit.</li></ul>
4	Endorsing Bank Endorsement Date	M	14 – 21	N	The date (yyyymmdd) of the endorsement that designates the business date of the endorsing bank. Cannot be future dated
5	Endorsing Bank Item Sequence Number	M	22 – 36	NB	A number that identifies the item at the endorsing bank.
6	Truncation Indicator NOTE: This indicator only refers to the truncator of the ORIGINAL check	M	37 – 37	A	'Y' indicates this endorsing bank is truncator of original check 'N' indicates this endorsing bank is not truncator of original check
7	Endorsing Bank Conversion Indicator	M	38 – 38	AN	A code that indicates the conversion within the processing institution between original paper check, image and substitute check
8	Endorsing Bank Correction Indicator	C	39 – 39	N	Indicator to identify whether and how the endorsing bank repaired the MICR Line
9	Return Reason	C	40 – 40	AN	Spaces unless the item was returned and is being represented. If

					represented, the value will be the same as Return Record (Type 31) Return Reason (field 6). Refer to Annex A in X9.100-187 for valid return Reason Codes
10	User Field	C	41-59	ANS	Not required, shall be blank filled
11	Endorsing Bank Identifier	C	60-60	AN	NEW FIELD - A field used to identify the bank's role in the collection process. Values are: '1' = Other Collecting Bank '2' = Other Returning Bank '3' = Payor Bank
12	Reserved	M	61-80	B	Shall be blank filled with spaces

#### 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. When JPMorgan Chase receives an ICL from a depositing bank, the Image View Detail Records (Type 50) included in the ICL will be passed on to the paying bank as they were received by JPMorgan Chase. The front image will be provided first followed by the rear image of the item. For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
1	Record Type	M	01 – 02	N	'50 indicates an Image View Detail Record
2	Image Indicator	M	03 – 03	N	'0' indicates image view not present '1' indicates image view is actual check
3	Image Creator Routing Number	M	04 – 12	N	A number that identifies the financial institution that created the image view in the related Image View Data Record (Type 52) Image Data (Field 19). [The endorsement information conveyed in the applicable Addendum Record provides an electronic endorsement for the image creator.]
4	Image Creator Date	M	13 – 20	N	Date assigned by the image creator for the image view conveyed in the related Image View Data Record (Type 52) Image Data (Field 19).
5	Image View Format Indicator	M	21 – 22	N	Primary view shall only have a value of '00' which indicates TIFF 6
6	Image View Compression Algorithm Identifier	M	23 – 24	N	'00' indicates Group 4 Facsimile (G4)
7	Image View Data Size	C	25-31	N	Omit
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.  The only valid values are: '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	C	57 – 57	NB	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	66-66	AN	Field renamed, but not required, shall be blank filled with spaces
18	Override Indicator	C	67-67	AN	New field - Not required, shall be blank filled with spaces
19	Reserved	M	68-80	B	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. Bitonal (black/white) front and rear views are required, these are considered Primary Views. For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
1	Record Type	M	01 – 02	N	'52' indicates a Image View Data Record
2	ECE Institution Routing Number	M	03 – 11	N	A number that identifies the institution that creates the bundle header record. This number is imported from the Bundle Header Record (Clause 9.4) associated with the image view conveyed in this Image View Data Record. <b>(044000037)</b> <b>JPMorgan Chase RT</b>
3	Bundle Business Date	M	12 – 19	N	The year, month, and day that designates the business date of the bundle. This number is imported from the Bundle Header Record associated with the image view conveyed in this Image View Data Record. Must be a valid date in YYYYMMDD format.
4	Cycle Number	C	20-21	AN	Not required, shall be blank filled with spaces
5	ECE 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.  Field must contain a numeric value. It cannot be all blanks.
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	NB	Not required, shall be blank filled with spaces
12	Clipping Coordinate v1	C	94 – 97	NB	Not required, shall be blank filled with spaces
13	Clipping Coordinate v2	C	98 – 101	NB	Not required, shall be blank filled with spaces
14	Length of Image Reference Key	M	102 – 105	NB	'0' indicates Image Reference Key (field 15) is not present
15	Image Reference Key	C	106 –	ANS	Not required, shall be blank filled with spaces

			(105+X)		
16	Length of Digital Signature	M	(106+X) – (110+X)	NB	'0' indicates that a digital signature is not 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'  Images should not exceed 250,000 bytes
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 expected to be included in incoming files. JPMorgan Chase will create this record whenever paper is converted to image. When present, there is one Image View Analysis Record for each image view. When JPMorgan Chase receives an ICL from a depositing bank, the Image View Analysis Records (Type 54) included in the ICL will be passed on to the paying bank as they were received by JPMorgan Chase. For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
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)
	<b>Image Quality Information (fields 5 – 24)</b>				
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	Shall be blank filled with spaces
13	Reserved	C	14 – 14	NB	Shall be blank filled with spaces
14	Reserved	C	15 – 15	NB	Shall be blank filled with spaces
15	Reserved	C	16 – 16	NB	Shall be blank filled with spaces
16	Reserved	C	17 – 17	NB	Shall be blank filled with spaces
17	Reserved	C	18 – 18	NB	Shall be blank filled with spaces
18	Reserved	C	19 – 19	NB	Shall be blank filled with spaces
19	Reserved	C	20 – 20	NB	Shall be blank filled with spaces
20	Reserved	C	21 – 21	NB	Shall be blank filled with spaces
21	Reserved	C	22 – 22	NB	Shall be blank filled with spaces
22	Reserved	C	23 – 23	NB	Shall be blank filled with spaces
23	Reserved	C	24 – 24	NB	Shall be blank filled with spaces
24	Reserved	C	25 – 25	NB	Shall be blank filled with spaces
	<b>Image Usability Information (fields 25 – 44)</b>				
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	Shall be blank filled with spaces
40	Reserved	C	41 – 41	NB	Shall be blank filled with spaces
41	Reserved	C	42 – 42	NB	Shall be blank filled with spaces
42	Reserved	C	43 – 43	NB	Shall be blank filled with spaces
43	Reserved	C	44 – 44	NB	Shall be blank filled with spaces
44	Reserved	C	45 – 45	NB	Shall be blank filled with spaces
	<b>Image Analysis User Information (field 45)</b>				
45	User Field	C	46 – 65	ANS	Not required, shall be blank filled with spaces
46	Reserved	M	66 – 80	B	Shall be blank filled with 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). For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
1	Record Type	M	01 – 02	N	'70' indicates a Bundle Control Record
2	Items Within Bundle Count	M	03 – 06	N	The total number of items sent within a bundle, all Check Detail Records (Type 25) or all Return Records (Type 31).
3	Bundle Total Amount	M	07 – 18	N	The total US dollar value of the items within the bundle, all Check Detail Records (Type 25) or all Return Records (Type 31).
4	MICR Valid Total Amount	C	19 – 30	N	Total U.S. dollar value of all Check Detail Records (Type 25) which contain the Defined Value '1' in the MICR Valid Indicator
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.
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. Data in these fields were generated by the ECE institution that created the corresponding cash letter File Header Record. For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description.

FIELD	FIELD NAME	USAGE	POSITION	TYPE	DESCRIPTION
1	Record Type	M	01 – 02	N	'90' indicates a Cash Letter Control Record
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	ANS	Not required, shall be blank filled with spaces
7	Settlement Date	C	58 – 65	N	The year, month, and day that the institution that creates the cash letter expects settlement
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 institution sending the file, the immediate origin institution, creates the data in the fields. For fields listed with Number and Name only, refer to the X9.100-187 standard for usage, position type and description

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