



ACH File Formatting Module 12



Disclaimer

This material is derived from collaborative work product developed by NACHA – The Electronic Payments Association and its member Regional Payments Associations.

This material is not intended to provide any warranties or legal advice, and is intended for educational purposes only. NACHA owns the copyright for the *NACHA Operating Rules & Guidelines*.

The information in this document and discussed during this presentation is the exclusive property of PaymentsFirst. It may not be copied, disclosed, or distributed, in whole, or part, without the express, written permission of PaymentsFirst.

Anti-Trust Laws

- PaymentsFirst is a not-for-profit organization and we closely adhere to all applicable laws and regulations.
- In accordance with Anti-Trust laws, we may not play any role in competitive decisions of members or their employees.
- During discussions with competitors and within the presentation materials we will and we ask participants to refrain from any discussion regarding pricing of products and services.

File Structure Specifics

- Only 1 File Header Record per ACH File
- Only 1 File Control Record per ACH File
 - Within each ACH File, can be multiple batches
- Only 1 Batch Header Record per batch
- Only 1 Batch Control Record per batch
 - Within each batch, there can be multiple Entry Detail and Addenda Records
- Some batches may have only Entry Detail Records and others may have Entry Detail and Addenda Records

Overview

- Each ACH Record contains 94 characters
 - These characters are divided into “fields” within each record of the ACH File
- Alphameric and alphabetic fields
 - Left-justified and space filled
- Numeric fields
 - Right-justified, unsigned and zero filled
- Characters used are restricted to
 - 0-9, A-Z, a-z, space, special characters
- Field specific
 - Require specific data in them or a requirement to be left ‘blank’ (these fields are identified by ‘ ’)

Overview

Data Specifications

- Upper case characters **MUST** be used for
 - Standard Entry Class (SEC) Code field
 - File ID modifier field (alphabetic characters)
 - Change Code field and Refused COR Change field (alphabetic characters)
 - Return Reason Code fields (all types of returns) – (alphabetic characters)
 - Company Name field = CHECK DESTROYED (XCK Entries)
 - IAT Indicator Field = IATCOR (IAT Notification of Change)

Overview

Data Specifications

- Upper case characters **MUST** be used for
 - Company Entry Description fields containing any of these words
 - REVERSAL (Reversal Entries)
 - RECLAIM (Commercial Reclamation Entries)
 - NONSETTLED (Entries where settlement can't be completed)
 - AUTOENROLL (ENR Entries)
 - REDEPCHECK (RCK Entries)
 - NO CHECK (XCK Entries)
 - RETURN FEE (Return Fee Entries)
 - HCCLAIMPMT (Healthcare EFT Transaction)
 - RETRY PYMT (Reinitiation Entries)

Data Specifications for Same Day ACH Entries

Field name	Format	Location	Purpose
File Creation Date	YYMMDD	File Header record (mandatory)	Indicates date file created by ODFI to Operator, Operator to Operator, or Operator to RDFI
Company Descriptive Date	Alphameric	Batch Header record (optional)	Originator inputs this date that it would like Receiver to see for description, never used to control timing <i>For Same-Day ACH Originator may indicate intent to ODFI by populating with either SD1300 or SD1700</i>
Effective Entry Date	YYMMDD	Batch Header record (required)	Date specified by Originator as date it would like Entries to settle <i>For Same-Day ACH date must be either current day, stale or invalid</i>
Settlement Date	3 digit Julian numeric	Batch Header record	Inserted by Receiving Operator as date DFI will be debited/credited by the Federal Reserve
Note			
Stale date: a date that is in the past		Invalid date: blank, zero, partially blank, partially non-numeric, incomplete, day number higher than 31, month number higher than 12	

What is the Block Count?

- A “block” consists of 10 Records, each Record is 94 characters, which equals 940 characters (94 character Record x 10 Records)
- If the last block has less than 940 characters of information, the remainder of the block must be filled with 9s

ACH Record Format Specifications

M

- Omission will cause the File, batch, or Entry to be rejected by the ACH Operator

R

- Omission of this field may cause the Entry to reject at the RDFI

O

- Inclusion of data in this field is at the discretion of the ODFI and the Originator

Example

```
101 101000048 1032225949504140050A094101FRB KANSAS CITY ABC BANK ANYTOWN
5220ABC TEST COMPANYPAYROLL 900000625PPDPAYROLL 041587870415 1103112590000001
6220818100021326 0000025600245366 MICKEY THOMPSON 020113112590000001
6220818100021442 0000031000243628 JOE DOKES 020113112590000002
6220818100021146 0000042500243699 LANA TURNER 020113112590000003
6220818100021722 0000021600243565 MIKE A WILLIAMS 020113112590000004
6220818100021458 0000031200243571 SAMUEL SLADE 021103112590000005
701OR JUANITA SLADE
8220000006000819038600000000000000000001519009000000625 103112590000001
5225CENTRAL LIFE INS PREMS 1745722725PPDINS PREMS 041587870415 1103112590000002
6270818100021667 00000024003452233254 HARRIET FRODENHAUSEN 020113112590000006
6270818100021221 00000027003454577244 MAXWELL SANDUSKI 010103112590000007
6270818100021338 00000026003445649954 JOHN DILLINGER 020113112590000008
6270818100021229 00000024003434577893 MARK HARRISON 020113112590000009
6270818100021770 00000028003451117642 BILLY WATUSI 020113112590000010
6270818100021898 00000022003455425886 FRED LANGSTON 020113112590000011
6270818100021333 00000023563452569841 MARION QUEST 020113112590000012
6270818100021880 00000027453451235731 ANNI FRANKEN 020113112590000013
82250000080008190386000000020201100000000001745722725 103112590000002
9000002000003000000140040951930000000020201100000151900
```

~Representative view, not real data~

File Header Record 1

- The first logical Record in an ACH File
 - One File Header Record per ACH File
- What does a File Header Record tell us?
 - Who is sending the File
 - Where the File is going
 - File creation date and time

Batch Header Record 5

- Contains information about the Company/Originator and the type of detail records to follow
 - One Batch Header Record per batch
 - Can be multiple batches within File
- Service Class Code
 - Identifies that batch has debit/credit Entries or both
- Company Name & Company Identification
 - Identifies the Originator who secured authorization
- Standard Entry Class (SEC) Code
 - Type of Entry/product – Rules that apply
- Company Entry Description
 - Describes purpose of Entry, i.e. gas bill, payroll, mortgage
- Company Descriptive Date
 - Describes date the Originator would like to see displayed to the Receiver for descriptive purposes (for MTE, POS, SHR – it is the actual date the transfer was initiated by Receiver, for TRC – it contains the date established by the keeper (ODFI) for checks truncated)

Batch Header Record 5

- Effective Entry Date (wish date)
 - The date the Originator would like settlement
- Settlement Date (inserted by ACH Operator)
 - Based on Effective Entry Date and process date
- Originator Status Code (ACH Operator edits)
 - 0 - ADV file is prepared by an ACH Operator
 - 1 - Originator is an FI (from the Operator's point of view)
 - 2 - Originator is a Federal Government agency or other agency not subject to the NACHA Operating Rules
- Originating DFI Identification
 - ODFI's ABA number (first 8-digits) - FI transmitting Entry
- Batch Number
 - ODFI's ascending sequence number for each batch

Entry Detail Record 6

- Identifies Receiver's account information
 - Can be multiple detail Records in each batch
- Transaction Code
 - Identifies whether Entry is a debit, credit or Non-Monetary (prenote, return or NOC)
 - Identifies what type of account (demand, savings, loan or general ledger)
- RDFI ABA #
 - The routing number of the Receiver's FI
- Individual DFI Account Number
 - Receiver's account number at their FI

Entry Detail Record 6

- Individual Identification Number
 - Field name and requirements/rules change, based on SEC Code
 - Individual ID optional for PPD; becomes Check Serial Number field for ARC, POP, BOC and RCK (mandatory) – contains Check Serial Number
- Individual Name
 - Receiver's name (Optional for ARC, BOC and POP)
 - Can be Receiving Company Name (Optional for ARC, BOC and POP)
- Amount
 - Debit or Credit amount to be posted to Receiver's account – details are indicated by Transaction Code in Entry Detail Record
- Addenda Record Indicator
 - Indicates whether an Addenda Record will follow
 - 0 = none; 1 = 1 or more based on SEC Code (including up to 9,999)
- Trace Number
 - 15-digit number (first 8-digits identify the ODFI and remaining 7 are unique)

Addenda Record 7

- Addenda Records
 - Additional Payment Related Information pertaining to the Entry Detail Record to which they are attached
- Addenda Record requirement
 - Mandatory, optional or not allowed
 - Determined by Standard Entry Class (SEC) Code
- Number of Addenda Record(s)
 - Determined by SEC Code
 - 1 Addenda Record
 - Up to 9,999 Addenda Records

Addenda Record 7

- Can be multiple Addenda Records
 - Based on SEC Code found in Batch Header Record
- Addenda Type Code
 - Defines the specific interpretation and format for the addenda information contained in the Entry
- Addenda Sequence Number
 - Sequence number assigned to each Addenda Record consecutively
 - The first Addenda Record must always be a “1” (0001)
- Entry Detail Sequence Number
 - Number matches the last seven digits of the unique trace number (field 13) of the Entry Detail or Corporate Entry Detail Record to which it belongs

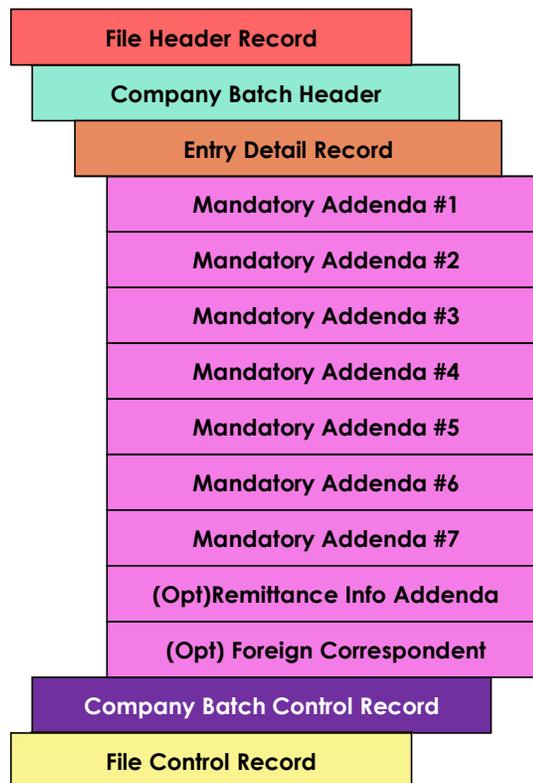
Batch Control Record 8

- Summarizes Entry Detail Records (Entries) within each batch
- One Batch Control Record per batch
 - Can be multiple batches in each ACH File
- Entry/Addenda Count
 - Entry Detail Records (6) and Addenda Records (7) are counted to receive a total within that specific batch (Batch Header/Batch Control Records are NOT included as part of this total)
- Entry Hash
 - Hash is the arithmetic sum of the 8-digit routing number of each RDFI within each Entry Detail Record (6) - if sum is more than 10 characters in length, the digits on the left are removed
- Total Debit or Credit Entry Dollar Amount
 - Sum of debit and credit totals of all Entry Detail Records in batch

File Control Record 9

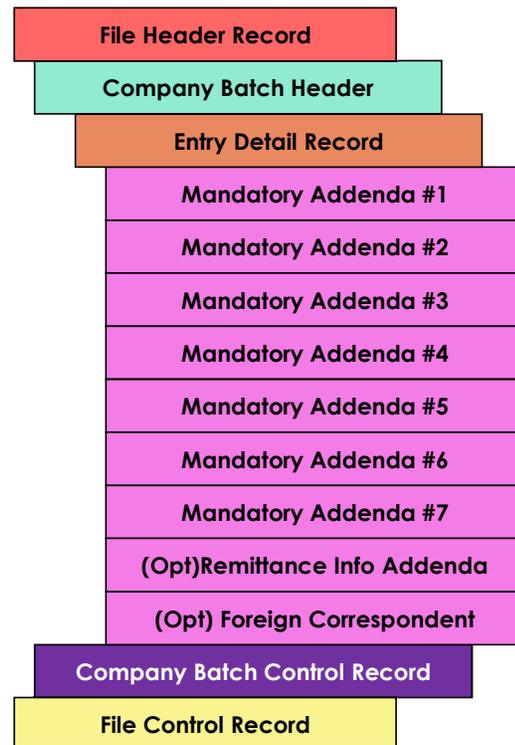
- The last logical record in an ACH File
 - Only one File Control Record per ACH File
- Batch Count
 - Total number of batches within File
- Block Count
 - A block consists of 10 Records, each Record is 94 characters, which equals 940 characters (94 character Records x 10 Records)
 - Sum of all physical blocks within the File (10 Records = 1 Block)
- Entry/Addenda Count
 - Sum of Entry/Addenda Count totals from all Batch Control Records
- Entry Hash
 - Arithmetic sum of Entry Hash totals from all Batch Control Records
- Total Dollar Controls
 - Sum of all debit and credit totals from all Batch Control Records

IAT



- Up to 12 Addenda Records per Entry
 - Seven are mandatory
 - All information related to a particular ACH participant (Originator, ODFI, RDFI, Receiver/Beneficiary)
 - Five Addenda Records may include
 - Combination of remittance information
 - Foreign Correspondent Bank Information depending on the specific item
 - Remittance information addenda
 - Maximum of two (optional)
 - Each remittance Addenda Record provides 80 characters
 - Specific formats required

IAT



- Foreign Correspondent Bank Information Addenda
 - A separate Addenda Record is required for each Foreign Correspondent Bank involved in the transmission or exchange of an IAT Entry
 - Addenda provides the necessary information to identify and to react to unlawful transactions
 - Maximum of five Foreign Correspondent Bank Information Addenda Records

You Build It!

Employees

Name	Amount	Account	Routing	Checking	Savings	Individual ID		
JOHNSON, MIKE	\$989.12	89475124512	031176110	X		722155N		
SMITH, MARY	\$1,115.85	97342168452136	211274450	X		719511N		
ELDER, JOHN	\$1501.57	114976458214	325070760	X		719407N		
ALLAN, NOAH	\$2,145.87	197645	091000019		X	709114N		
ELIASEN, JACKIE	\$1,756.34	66428961245	091000022		X	719311N		
TUCKER, MARK	\$1,217.77	7874512998	051000017	X		719238N		
MERELL, JUSTIN	\$1,358.50	446678-7	211274450	X		727451N		
KRAY, KASTON	\$2,248.76	00477944953	031176110	X		733421N		
WASHINGTON, JONES	\$998.74	A-115479821145	091000019	X		799861N		

101 091000019 9876543211605201200A094101NACHA BANK

ORIGIN BANK

12345678

FIELD	1	2	3	4	5	6	7	8	9	10	11	12	13
DATA ELEMENT NAME	RECORD TYPE CODE	PRIORITY CODE	IMMEDIATE DESTINATION	IMMEDIATE ORIGIN	FILE CREATION DATE	FILE CREATION TIME	FILE ID MODIFIER	RECORD SIZE	BLOCKING FACTOR	FORMAT CODE	IMMEDIATE DESTINATION NAME	IMMEDIATE ORIGIN NAME	REFERENCE CODE
<i>Field Inclusion Requirement</i>	M	R	M	M	M	O	M	M	M	M	O	O	O
<i>Contents</i>	'1'	Numeric	bTTTTAAAC	bTTTTAAAC	YYMMDD	HHMM	UPPER CASE A-Z NUMERIC 0-9	'094'	'10'	'1'	Alphameric	Alphameric	Alphameric
<i>Length</i>	1	2	10	10	6	4	1	3	2	1	23	23	8
<i>Position</i>	01-01	02-03	04-13	14-23	24-29	30-33	34-34	35-37	38-39	40-40	41-63	64-86	87-94

5225ABC COMPANY

1234567054PPDPAYROLL

160523

1091000010000001

FIELD	1	2	3	4	5	6	7	8	9	10	11	12	13
DATA ELEMENT NAME	RECORD TYPE CODE	SERVICE CLASS CODE	COMPANY NAME	COMPANY DISCRETIONARY DATA	COMPANY IDENTIFICATION	STANDARD ENTRY CLASS CODE	COMPANY ENTRY DESCRIPTION	COMPANY DESCRIPTIVE DATE	EFFECTIVE ENTRY DATE	SETTLEMENT DATE (JULIAN)	ORIGINATOR STATUS CODE	ORIGINATING DFI IDENTIFICATION	BATCH NUMBER
<i>Field Inclusion Requirement</i>	M	M	M	O	M	M	M	O	R	Inserted by ACH Operator	M	M	M
<i>Contents</i>	'5'	Numeric	Alphameric	Alphameric	Alphameric	Alphameric	Alphameric	Alphameric	YYMMDD	Numeric	Alphameric	TTTTAAA	Numeric
<i>Length</i>	1	3	16	20	10	3	10	6	6	3	1	8	7
<i>Position</i>	01-01	02-04	05-20	21-40	41-50	51-53	54-63	64-69	70-75	76-78	79-79	80-87	88-94

6271210002481472589

0000027600722155N

JOHNSON, MIKE

0091000010000010

FIELD	1	2	3	4	5	6	7	8	9	10	11
DATA ELEMENT NAME	RECORD TYPE CODE	TRANSACTION CODE	RECEIVING DFI IDENTIFICATION	CHECK DIGIT	DFI ACCOUNT NUMBER	AMOUNT	INDIVIDUAL IDENTIFICATION NUMBER	INDIVIDUAL NAME	DISCRETIONARY DATA	ADDENDA RECORD INDICATOR	TRACE NUMBER
<i>Field Inclusion Requirement</i>	M	M	M	M	R	M	O	R	O	M	M
<i>Contents</i>	'6'	Numeric	TTTTAAA	Numeric	Alphameric	\$\$\$\$\$\$\$¢¢	Alphameric	Alphameric	Alphameric	Numeric	Numeric
<i>Length</i>	1	2	8	1	17	10	15	22	2	1	15
<i>Position</i>	01-01	02-03	04-11	12-12	13-29	30-39	40-54	55-76	77-78	79-79	80-94

705ISA*00*0000000000*00*0000000000*ZZ*012345678912345*ZZ*578912546328*980415*1136*U00010000055

Field	1	2	3	4	5
DATA ELEMENT NAME	RECORD TYPE CODE	ADDENDA TYPE CODE	PAYMENT RELATED INFORMATION	ADDENDA SEQUENCE NUMBER	ENTRY DETAIL SEQUENCE NUMBER
<i>Field Inclusion Requirement</i>	M	M	O	M	M
<i>Contents</i>	'7'	'05'	Alphameric	Numeric	Numeric
<i>Length</i>	1	2	80	4	7
<i>Position</i>	01-01	02-03	04-83	84-87	88-94

822500001001702273250000007050000000007050001234567054

091000010000001

FIELD	1	2	3	4	5	6	7	8	9	10	11
DATA ELEMENT NAME	RECORD TYPE CODE	SERVICE CLASS CODE	ENTRY/ADDENDA COUNT	ENTRY HASH	TOTAL DEBIT ENTRY DOLLAR AMOUNT	TOTAL CREDIT ENTRY DOLLAR AMOUNT	COMPANY IDENTIFICATION	MESSAGE AUTHENTICATION CODE	RESERVED	ORIGINATING DFI IDENTIFICATION	BATCH NUMBER
<i>Field Inclusion Requirement</i>	M	M	M	M	M	M	R	O	N/A	M	M
<i>Contents</i>	'8'	Numeric	Numeric	Numeric	\$\$\$\$\$\$\$\$\$¢¢	\$\$\$\$\$\$\$\$\$¢¢	Alphanumeric	Alphanumeric	Blank	TTTTAAA	Numeric
<i>Length</i>	1	3	6	10	12	12	10	19	6	8	7
<i>Position</i>	01-01	02-04	05-10	11-20	21-32	33-44	45-54	55-73	74-79	80-87	88-94

9000001000001000000100001702273000001333252000001333252

FIELD	1	2	3	4	5	6	7	8
DATA ELEMENT NAME	RECORD TYPE CODE	BATCH COUNT	BLOCK COUNT	ENTRY/ADDENDA COUNT	ENTRY HASH	TOTAL DEBIT ENTRY DOLLAR AMOUNT IN FILE	TOTAL CREDIT ENTRY DOLLAR AMOUNT IN FILE	RESERVED
<i>Field Inclusion Requirement</i>	M	M	M	M	M	M	M	N/A
<i>Contents</i>	'9'	Numeric	Numeric	Numeric	Numeric	\$\$\$\$\$\$\$\$\$\$çç	\$\$\$\$\$\$\$\$\$\$çç	Blank
<i>Length</i>	1	6	6	8	10	12	12	39
<i>Position</i>	01-01	02-07	08-13	14-21	22-31	32-43	44-55	56-94

101 091000019 9876543211605201200A094101NACHA BANK		ORIGIN BANK	12345678
5225ABC COMPANY	1234567054	160523	1987654320000001
62703117611089475124512	0000098912722155N	JOHNSON, MIKE	987654320000010
62721127445097342168452136	0000111585719511N	SMITH, MARY	987654320000011
627325070760114976458214	0000150157719407N	ELDER, JOHN	987654320000012
627091000019197645	0000214587709114N	ALLAN, NOAH	987654320000013
63709100002266428961245	0000175634719311N	ELIASSEN, JACKIE	987654320000014
6370510000177874512998	0000121777719238N	TUCKER, MARK	987654320000015
627211274450446678-7	0000135850727451N	MERELL, JUSTIN	987654320000016
62703117611000477944953	0000224876733421N	KRAY, KASTON	987654320000017
627091000019A-115479821145	0000099874799861N	WASHTINGTON, JONES	987654320000018
623987654321124578963	0001333252767676N	ABC COMPANY	987654320000019
822500001001702273250000013332520000013332521234567054			987654320000001
9000001000001000000100001702273000001333252000001333252			

FEDERAL RESERVER

1 01 091000019 987654320 170528 1200 A 094 10 1 ANY BANK ACH PROCESS

FIELD	1	2	3	4	5	6	7	8	9	10	11	12	13
DATA ELEMENT NAME	RECORD TYPE CODE	PRIORITY CODE	IMMEDIATE DESTINATION	IMMEDIATE ORIGIN	FILE CREATION DATE	FILE CREATION TIME	FILE ID MODIFIER	RECORD SIZE	BLOCKING FACTOR	FORMAT CODE	IMMEDIATE DESTINATION NAME	IMMEDIATE ORIGIN NAME	REFERENCE CODE
Field Inclusion Requirement	M	R	M	M	M	O	M	M	M	M	O	O	O
Contents	'1'	Numeric	bTTTTAAAC	bTTTTAAAC	YYMMDD	HHMM	UPPER CASE A-Z NUMERIC 0-9	'094'	'10'	'1'	Alphameric	Alphameric	Alphameric
Length	1	2	10	10	6	4	1	3	2	1	23	23	8
Position	01-01	02-03	04-13	14-23	24-29	30-33	34-34	35-37	38-39	40-40	41-63	64-86	87-94

- **Company Name**
 - Prefish Telecom
- **COID**
 - 1974854719
- **SEC Code**
 - PPD
- **Company Entry Description**
 - PAYROLL
- **Effective Entry Date**
 - May 29, 20XX
- **Settlement Date**
 - TBD
- **Originator Status Code**
 - 1
- **Originating DFI Identification**
 - 987654320
- **Batch Number**
 - 1

Questions?



www.paymentsfirst.org

866-993-3753