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## Automated Clearing House (ACH)

**CLIENT SUPPORT MANUAL**

## **ACH Client Support Manual from U.S. Bank®**

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## **Introduction**

Welcome to U.S. Bank Corporate Payment Systems Automated Clearing House (ACH) Remittance Processing Services.

You've chosen to streamline your company's account management by routing funds and remittance information through your cash management bank directly to U.S. Bank via the ACH network. This manual is intended to be your guide as your company implements ACH. Your Relationship Manager and our staff of ACH experts will work with you and your ACH originating bank representative to guide you through the format selection and certification process.

To set-up ACH transmissions to U.S. Bank, these preliminary steps should be followed:

1. Identify your ACH originator. This can be your current cash management bank, or U.S. Bank can provide these services.
2. Choose either the Cash Concentration or Disbursement (CCD) format or Corporate Trade Exchange (CTX) file format. See p. 8 for an overview of CCD and p. 15 for an overview of CTX. If you're not sure which format would be best, please consult with your Relationship Manager.

Once you have identified your ACH originator and chosen either CCD or CTX, the ACH set-up, testing and certification process can begin. Certification helps ensure accurate and efficient ACH transactions. Your Relationship Manager will work with you, your origination bank and your internal technical consultants to coordinate the certification process. See p. 4 for a chart of the ACH set-up, testing and certification process flow. After certification is complete, your company can launch ACH processing.

Thank you for choosing U.S. Bank Corporate Payment Systems and remitting payment via ACH. If you have any questions or need any help, please contact your Relationship Manager.

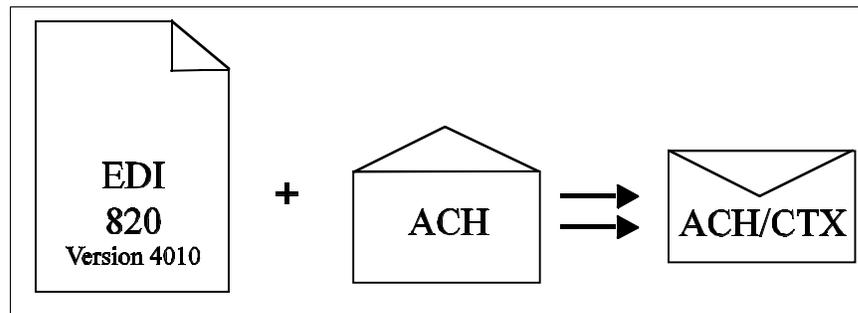
## **ACH Summary**

ACH is a nationwide electronic payment system and is regulated by the National Automated Clearing House Association (NACHA). It is used by more than 15,000 participating financial institutions and over 750,000 corporations. The choice of ACH supports electronic clearing and settlement of electronic debits and credits among financial institutions. Using ACH, funds and remittance information are routed through your ACH originating bank to U.S. Bank and applied directly to the U.S. Bank account(s) via the ACH network.

When determining what type of ACH format best suits your company's needs, several factors should be considered including ease of implementation, technical components, cost and convenience.

There may be areas within your organization currently using ACH as a way to electronically move funds and account number information. Optimizing existing processes can streamline the payment process and the work necessary to get started. For example, payroll processing is typically done via ACH using the PPD format. This format is similar to CCD forms and thus may be used for commercial card payments if the format replicates our CCD specifications. CCD is straightforward and easy to use.

If your organization already uses Electronic Data Interchange (EDI) to exchange data and financial information with other trading partners, taking advantage of EDI may be preferred. Once there is an EDI infrastructure established, your organization may be well prepared to remit payment for your commercial card products via the ACH CTX format, which supports EDI 820 standards. For example:

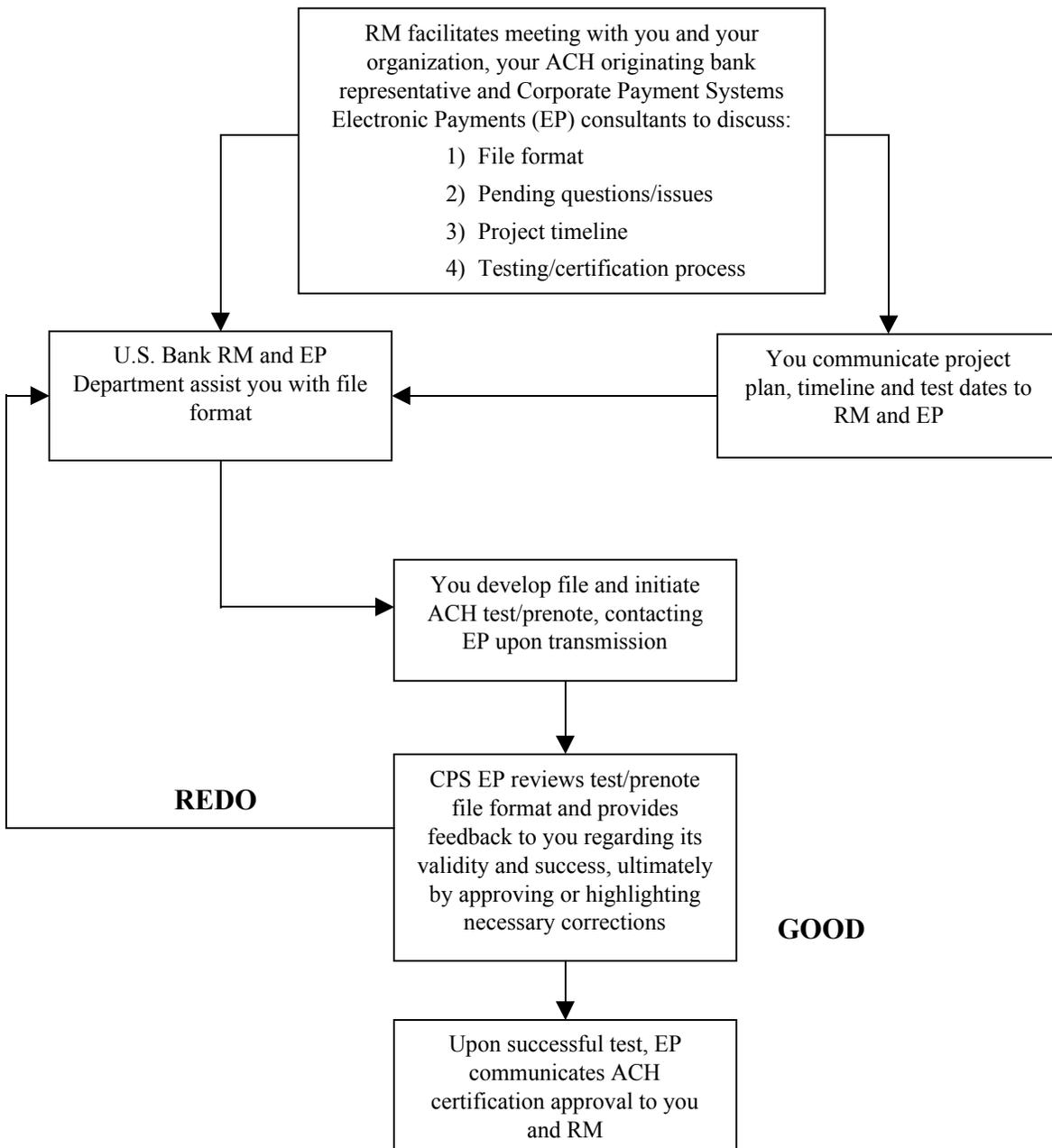


Useful resources include financial contacts within your organization, Treasury Management contacts at the bank servicing your company and your U.S. Bank Relationship Manager. Costs of transmitting ACH vary from bank to bank and depend on the number of items and frequency of payment. Most banks also offer PC-based ACH origination software that can support ACH payments from the desktop. For a complete understanding of these costs, you will want to communicate with your originating financial institution.

## ACH Set-up, Testing and Certification Process Flow

### ACH Summary

Your Relationship Manager (RM) will lead your company through this certification process. The process has been developed to ensure accurate and efficient ACH transactions. After your company is certified, ACH processing can begin.



## **ACH Common Questions**

**1. *Where do I provide the U.S. Bank checking account number?***

The U.S. Bank 16-digit Visa account number replaces the need for a checking account number. This number is provided on the Detail Record and if using the CTX format, in the addenda records also. If your file contains the U.S. Bank checking account number, rather than a valid 16-digit U.S. Bank account number, posting delays will result. The funds will be treated as a deposit rather than a payment and the file will not be passed through our automated file delivery and posting process.

**2. *How much time does U.S. Bank need for processing ACH?***

U.S. Bank recommends the ACH file be initiated two (2) business days prior to the ACH effective date. This will allow time for the file to move from the originating bank, between Federal Reserve Banks, and arrive at U.S. Bank prior to the effective date. This will also allow enough time to ensure that payments are posted on the requested effective date.

**3. *Am I able to send more than one ACH file per month?***

Yes. You may send as many ACH files as you like.

**4. *Is there any limit to the number of payments which can be listed within an ACH file?***

No. You may list as many payments as you need.

**5. *Is it possible to have more than one payment for an account within the same ACH file?***

Yes.

**6. *If more than one payment for an account is put on an ACH file, does the cardholder's statement reflect each payment or does it provide a sum?***

The cardholder's statement will reflect each payment. For example, you may send U.S. Bank an ACH file where it lists the same account number twice — the first entry for \$10 (1000) and the second entry for \$132 (13200). When the cardholder receives his/her statement, they will see two payments listed — one for \$10 and one for \$132.

**7. *If the ACH file does not contain the full 16-digit account number(s), what will happen?***

If the detail record of the ACH file does not contain a valid 16-digit U.S. Bank account number, posting delays will result, due to the necessary manual intervention that this creates. If your file contains the U.S. Bank deposit account number rather than a valid 16-digit U.S. Bank account number, the funds will be treated as a deposit, rather than a payment. The remittance data will not be passed on for processing.

It is also possible that an invalid account number (an account number that is 16-digits in length and has a valid bin number but is not established for a specific cardholder) could exist in the remittance detail. In this case, the payment rejects at U.S. Bank Corporate Payment Systems. U.S. Bank will review the rejected payment and immediately notify the designated contact at your company.

**8. *If the ACH file contains an invalid 16-digit account number, do all individual payments reject or just the payment for the invalid account number?***

Only the payment for the invalid account number is rejected.

**9. *Am I able to send through debit amounts for an ACH file?***

Yes, you can send through debit amounts (payments, reversals, credit balance, refunds) as long as the total ACH file is a credit balance.

**10. *Can credits be utilized on cardholder accounts from other cardholders?***

Yes, existing cardholder credit balances can be offset using "debit" amounts.

**11. *What happens if the ACH payment amount in the Detail Record(s) does not balance with the “Debit and Credit Entry Dollar Amounts” in the Batch Trailer and File Trailer records?***

If an ACH payment amount listed in the Detail Record(s) does not balance with the “Debit and Credit Entry Amounts” in the Batch Trailer and File Records, the difference is posted to the account listed in the Detail Record.

**12. *How will my company maintain our ACH file for lost, stolen or new cardholders on a monthly basis?***

You should request an electronic Account Change Update Report from your Account Coordinator or Relationship Manager.

**13. *What account number should I use in the Detail Record?***

CCD Format — When using the CCD format, the 16-digit U.S. Bank account number(s) should be input. This is the account(s) where the payment will post.

CTX Format — When using the CTX format, the 16-digit U.S. Bank corporate account number should be input. In the CTX format, the addenda records will contain the 16-digit account number(s) where payments are to post. The corporate account number can be obtained from your Relationship Manager.

**14. *What version of EDI 820 does U.S. Bank support for ACH CTX payments?***

The preferred version is 4010. Specifications are provided in this manual. If you have questions about an older EDI 820 version, ask your Relationship Manager to provide you with the Remittance Processing File Specification for that version.

**15. *When testing ACH, will my company receive a confirmation?***

U.S. Bank does not electronically send a confirmation for a test. However, because you are expected to communicate with EP when a test or prenote is transmitted, they will track the test process and provide you with a verbal confirmation.

**16. *Will my company receive confirmation of the payments posting?***

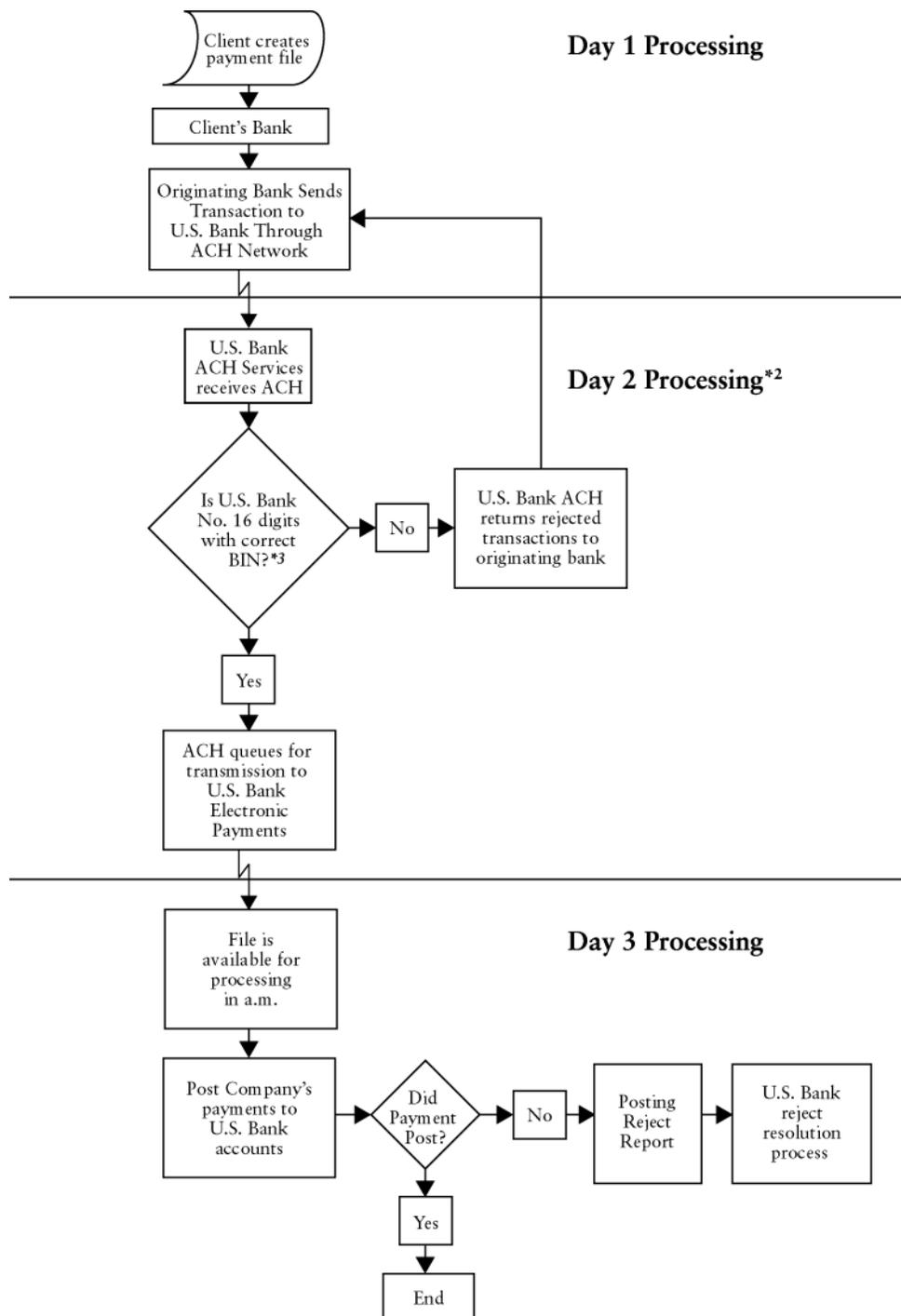
The U.S. Bank statement serves as payment confirmation.

**17. *Who do I contact if I have questions?***

You should contact your Relationship Manager.

## ACH Payment Process Flow

### How It Works



\*1 Flowchart is applicable when U.S. Bank is not the originating bank.

\*2 Posting days are U.S. Bank workdays (does not include weekends or holidays).

\*3 If the Detail Record contains a U.S. Bank checking account number rather than a 16-digit U.S. Bank Visa account number, posting delays will result, but file is not returned.

## **ACH CCD (Cash Concentration or Disbursement) File Specification**

### **What Is CCD?**

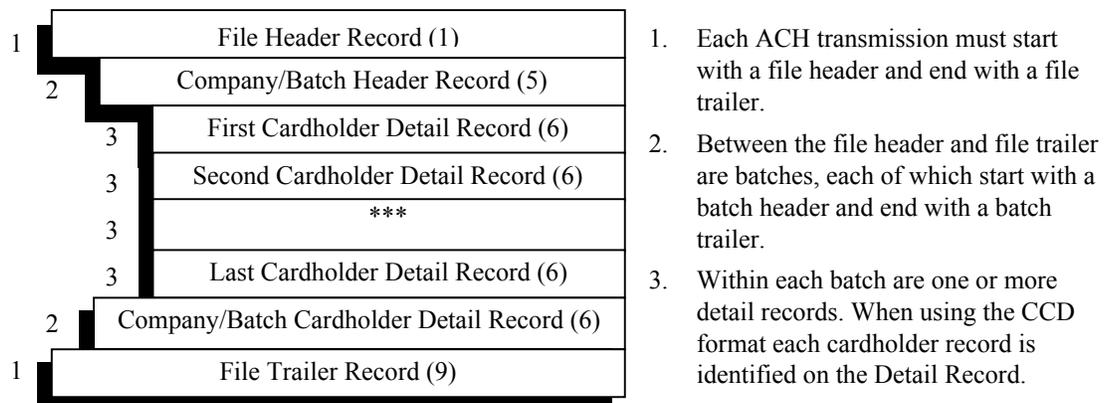
The CCD format is a straightforward, easy to use ACH payment format. It provides the opportunity to include remittance data using the Detail Record. The remittance data includes U.S. Bank 16-digit account numbers and associated payment. It is required that the ACH CCD format follow NACHA (National Automated Clearing House Association) standards. For convenience, detail information about expense reporting can appear on the U.S. Bank statement.

### **Formatting Highlights**

- The 16-digit account number is required on each Detail Record of the ACH CCD file. It is placed in positions 13–29 and replaces the need for a checking account number.
- The U.S. Bank Routing Transit Number is 091000022.
- The originating bank provides the originating bank’s Routing Transit number.
- Statement Narrative: Use the Identification Number field of the Detail Record (positions 40–54) on the CCD file if you wish to include expense-reporting narrative on the U.S. Bank statement. Up to 15 alphanumeric characters are available.

(If narrative is not designated, a payment will read Electronic Payment and a debit will read Crdt Bal Rev Thank You.)

### **ACH CCD Diagram**



## ACH CCD Sample File

101 091000022 1130006090208240516A094101US BANK CORP PAY SYS CHASE OF TX  
5200BEST WIDGETS USA 1234567890CCDPAYMENT 020828240111300060000066  
6220910000224246044555599999 0007600050VOUCHER756028 US BANK CPS 0072000323285012  
6220910000224246044555512345 0000350000 US BANK CPS 0073000323285012  
82000000020009100002000000000000000079500503622076008 0000000113000600000066  
900000100000100000002000910000200000000000000007950050

## **ACH CCD File Specification**

### **NACHA CCD Format: File Header (1 Record)**

<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	1	Record Type Code	Mandatory
2	02-03	2	01	Priority Code	Mandatory
3	04-13	10	b091000022	Immediate Destination: Routing and transit number (RT) of receiving bank i.e. U.S. Bank routing-transit number as shown, right justify, (b=blank)	Mandatory
4	14-23	10	bnnnnnnnnn	Immediate Origin: RT assigned by originating bank	Mandatory
5	24-29	6	YYMMDD	File Creation Date; assists in uniquely identifying file	Mandatory
6	30-33	4	HHMM	File Creation Time; assists in uniquely identifying file	Recommended
7	34-34	1	A-Z, 0-9	File ID Modifier: Using either numbers or letters, indicate sequentially the individual files submitted the same day; assists in uniquely identifying the file	Mandatory
8	35-37	3	094	Record Size	Mandatory
9	38-39	2	10	Blocking Factor; Typically a value of "10" is used.	Mandatory
10	40-40	1	1	Format Code; Must be "1"	Mandatory
11	41-63	23	U.S. Bank Corp Pay Sys	Immediate Destination Name: Name of receiving point; left justify	Optional
12	64-86	23	Alphanum	Immediate Origin Name: Name of Sending Point ACH, e.g. Bank of America; left justify, blank fill	Optional
13	87-94	8	Alphanum	Reference Code: Reserved for information pertinent to the originator	Optional

## **ACH CCD File Specification**

### **NACHA CCD Format: Batch Header (5 Record)**

<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	5	Record Type Code	Mandatory
2	02-04	3	200 or 220	Service Class Code: 200 – Mixed Debits and Credits 220 – Credits (Payments) only	Mandatory
3	05-20	16	Alphanum	Company Name: Your company’s name, left justify, blank fill	Mandatory
4	21-40	20	Alphanum	Discretionary Data: Company information, left justify, blank fill	Optional
5	41-50	10	Alphanum	Company’s Identification provided to originating bank	Mandatory
6	51-53	3	CCD	Standard Entry Class Code for Cash Concentration	Mandatory
7	54-63	10	Alphanum	Company Entry Description: Company’s description of entries, left justify, blank fill	Mandatory
8	64-69	6	Alphanum	Company Descriptive Date: provided by company for description only, not used for transaction timing	Optional
9	70-75	6	YYMMDD	Effective Entry Date: Date transactions are to post to the receiving account	Mandatory
10	76-78	3	Numeric (Julian)	Settlement Date: Inserted by receiving ACH processor; typically the same as effective entry date when it is a bank work day & represents settlement with the Federal Reserve	
11	79-79	1	Alphanum	Originator Status Code; must be “1.”	Mandatory
12	80-87	8	Numeric	Originating Depository Financial Institution (ODFI) Identification: Routing Number of originating (sending) bank	Mandatory
13	88-94	7	Numeric	Batch Number: assigned in ascending sequence to each batch by the ODFI (sending bank); right justify, zero fill	Mandatory

## **ACH CCD File Specification**

### **NACHA CCD Format: Detail Record (6 Record)**

<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	5	Record Type Code	Mandatory
2	02-03	2	Numeric	Transaction Code: 22 Checking Credit (Payment) 23 Checking Credit Prenote (Zero-Dollar test transaction) 27 Checking Debit *	Mandatory
3	04-11	8	09100002	Receiving Bank (U.S. Bank) Routing- Transit Number	Mandatory
4	12-12	1	2	Receiving Bank (U.S. Bank) Routing- Transit Check Digit	Mandatory
5	13-29	17	Alphanum	DFI Account Number: left justify, blank fill. Insert 16 digit U.S. Bank commercial account number to be credited or debited	Mandatory
6	30-39	10	\$\$\$\$\$\$Sc	Amount; Credit/Debit dollar amount; right justify, zero fill	Mandatory
7	40-54	15	Alphanum	Identification Number: *Information in this field will be printed on the U.S. Bank statement	Optional
8	55-76	22	Alphanum	Receiving Company Name: Mandatory field used for account holder Name e.g. Employee or Company Name	Mandatory
9	77-78	2	Alphanum	Discretionary Data: Optional company description code	Optional
10	79-79	1	0	Addenda Record Indicator: Set to Ø to indicate no addenda records. Addenda are not supported for commercial card payments**	Mandatory
11	80-94	15	Numeric	Trace Number: Assigned by ODFI in ascending sequence to uniquely identify each entry within a batch	Mandatory

\*Debits and credits (payments) are allowed as long as total credits are greater than total debits.

\*\*The NACHA CCD+ format includes an addenda record. This addenda is allowed but must be formatted per CTX 7 record specifications (EDI 820, page 21).

## **ACH CCD File Specification**

### **NACHA CCD Format: Batch Trailer (8 Record)**

<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	8	Record Type Code	Mandatory
2	02-04	3	200 or 220	Service Class Code: 200 – Mixed Debits and Credits 220 – Credits (Payments) only	Mandatory
3	05-10	6	Numeric	Entry/Addenda Count: Number of Detail Records supported in batch	Mandatory
4	11-20	10	Numeric	Entry Hash: Sum of the first 8 digits of the routing-transit number(s) located on the Detail Record(s) within the batch; right justify, left truncate	Mandatory
5	21-32	12	\$\$\$\$\$\$\$\$\$cc	Total Debit Entry Dollar Amount: Sum of the debit entry dollar amounts in batch	Mandatory
6	33-44	12	\$\$\$\$\$\$\$\$\$cc	Total Credit Entry Dollar Amount: Sum of the credit entry dollar amounts in batch	Mandatory
7	45-54	10	Alphanum	Company Identification provided by originating bank	Mandatory
8	55-73	19	Alphanum	Message Authentication Code; used to validate the authenticity of ACH entries	Optional
9	74-79	6	Blank	Reserved	
10	80-87	8	Numeric	Originating Depository Financial Institution (ODFI) Identification: Routing Number of originating (sending) bank	Mandatory
11	88-94	7	Numeric	Batch Number: assigned in ascending sequence to each batch by the ODFI (sending bank); right justify, zero fill	Mandatory

## **ACH CCD File Specification**

### **NACHA CCD Format: File Trailer (9 Record)**

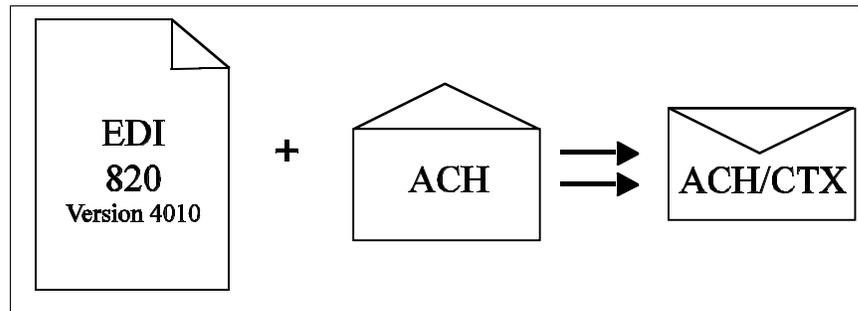
<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	9	Record Type Code	Mandatory
2	02-07	6	Numeric	Batch Count: Count of batches (8 records) that are present in the file	Mandatory
3	08-13	6	Numeric	Block Count: Sum of all 1, 5, 6 and 8 records divided by 10 and rounded to the next highest integer	Mandatory
4	14-21	8	Numeric	Entry Count: Tally of all detail records	Mandatory
5	22-31	10	Numeric	Entry Hash: Sum of the first 8 digits of the Routing-Transit number(s) located on the Detail Record(s) within the batch; right justify, left truncate	Mandatory
6	32-43	12	\$\$\$\$\$\$\$\$\$cc	Total Debit Entry Dollar Amount: Sum of the debit entry dollar amounts in file	Mandatory
7	44-55	12	\$\$\$\$\$\$\$\$\$cc	Total Credit Entry Dollar Amount: Sum of the credit entry dollar amounts in file	Mandatory
8	56-94	39	Blank	Reserved	

## ACH CTX (Corporate Trade Exchange) File Specification

### What Is CTX?

The CTX format requires that NACHA standards and the ANSI ASC X12.5 or X12.6 EDI specifications be supported as part of the ACH file. U.S. Bank prefers EDI 820 version 4010 as specified in the manual, but also supports older versions. EDI-capable companies provide remittance data in an EDI or ACH format to their originating bank, who passes it through the ACH network. (The EDI data becomes the Addenda Record of the ACH CTX).

For Example:



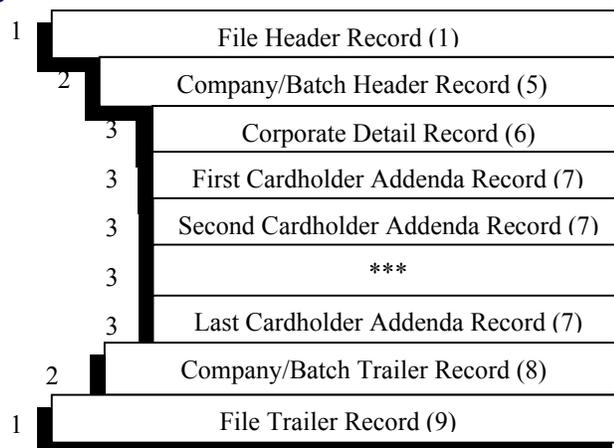
*The EDI information must follow ANSI formatting standards and include account numbers and how much is to be paid to each U.S. Bank account. The ability to pass statement narrative through to the statement is supported using the CTX format. See the CTX format details for more information.*

### Formatting Highlights

- The U.S. Bank Routing Transit Number is 091000022.
- The originating bank provides the originating bank's Routing Transit number.
- A 16-digit U.S. Bank account number is required on the Detail Record of the ACH CTX file in the DFI Account Number field. It is placed in positions 13–29 and ensures that the file is directed appropriately. (This replaces the need for the U.S. Bank checking account number which, if provided, will misdirect funds and delay payment)
- All U.S. Bank 16-digit account numbers must be included in the RMR segment of the EDI record.
- Statement Narrative: Use the RMR REF segment with a CR Reference Number Qualifier if you wish to include expense reporting narrative on the statement. Up to 15 alphanumeric characters are available.

(If narrative is not designated, a payment will read Payment — Thank You and a debit will read Crdt Bal Rev Thank You.)

### CTX Diagram



1. Each ACH transmission must start with a file header and end with a file trailer.
2. Between the file header and file trailer are batches, each of which starts with a batch header and ends with a batch trailer.
3. Within each batch are one or more detail records. When using the CTX format each cardholder record is identified on the EDI portion of the ACH file (the Addenda Record).

## ACH CTX File Specification

### ACH CTX Sample File (with EDI 820 version 4010)

```
01 091000022 1130006090001030516A094101US BANK CORP PAY SYS CHASE OF TX
5200BEST WIDGETS USA 1234567890CTXPAYMENT 0001060061113000600000066
6220910000224246044555511111 0007950050 0009US BANK CPS 1072000323285012
705ISA*00* *00* *ZZ*113000609 *ZZ*091000022 *000103*19400013285012
7058*U*00304*200103129*0*P^^\GS*RA*3622076009*113000609*20000103*1948*200103129*X*000023285012
70504010\ST*820*0030900\BPR*C*79500.50*C*ACH*CTX*01*071000013*DA*1122333*362207600800033285012
705**01*091000022*DA*4246044555511111*20000106\TRN*1*3800913800105AUSA\REF*FC*1D\DT00043285012
705M*097*20000103\N1*PR*BEST WIDGETS USA*1*149258888\N3*PO BOX 1234\N4*SAINT LOUISO00053285012
705*M*571175403*US\N1*PE*U S BANK CORPORATE PAYMENT SYSTEMS \ENT*1\RMR*IV*42460445500063285012
705559999*76011.29*76000.50\REF*CR*VOUCHER756028\DTM*003*19991224\ENT*2\RMR*IV*42400073285012
7056044555512345**3500.00\DTM*003*19991224\SE*18*0030900\GE*1*200103129\IEA*1*2001000083285012
7053129\ 00093285012
820000001000091000020000000000000000000079500503622076008 113000600000066
9000001000001000000100009100002000000000000000007601129
```

Note: shading is intended to highlight field separations

## **ACH CTX File Specification**

### **EDI Specification Overview**

The ACH CTX file format supports the EDI 820 within its Addenda Record. The chart below represents an overview of the EDI 820 version 4010 segments needed by U.S. Bank within the ACH CTX file. Detailed specifications follow.

#### Transaction Set Header

ISA.....Interchange Control Header  
GS .....Functional Group Header  
ST .....Transaction Set Header; “820”  
BPR .....Beginning Payment Remittance Advice Segment  
N1 .....Name: Payer Company Name  
N1 .....Name: Payee Company Name

#### Entity and Remittance Advice Loop

ENT .....Entity: Designate entities for the payment  
N1 .....Name: Cardholder Name  
RMR .....Remittance Advice: U.S. Bank 16-digit account number and payment amount  
REF .....Statement Narrative (optional)

#### Transaction Set Trailer

SE .....Transaction Set Trailer  
GE .....Functional Group Trailer  
IEA .....Interchange Control Trailer

*Note: Segments listed above as optional are useful, but not required by Corporate Payment Systems. Additional EDI elements are allowed, but not read by Corporate Payment Systems. Check your originating bank’s EDI specifications for any additional elements they may require.*

## **ACH CTX File Specification**

### **NACHA CTX Format: File Header (1 Record)**

<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	1	Record Type Code	Mandatory
2	02-03	2	01	Priority Code	Mandatory
3	04-13	10	b091000022	Immediate Destination: Routing and transit number (RT) of receiving bank i.e. U.S. Bank routing-transit number as shown, right justify, (b=blank)	Mandatory
4	14-23	10	bnnnnnnnnn	Immediate Origin: RT assigned by originating (sending) bank	Mandatory
5	24-29	6	YYMMDD	File Creation Date; assists in uniquely identifying file	Mandatory
6	30-33	4	HHMM	File Creation Time; assists in uniquely identifying file (U.S. Bank Recommended)	Optional
7	34-34	1	A-Z, 0-9	File ID Modifier: Using either numbers or letters, indicate sequentially the individual files submitted the same day; assists in uniquely identifying the file	Mandatory
8	35-37	3	094	Record Size	Mandatory
9	38-39	2	10	Blocking Factor; Typically a value of "10" is used	Mandatory
10	40-40	1	1	Format Code; Must be "1"	Mandatory
11	41-63	23	U.S. Bank Corp Pay Sys	Immediate Destination Name: Name of receiving point; left justify	Optional
12	64-86	23	Alphanum	Immediate Origin Name: Name of Sending Point ACH (e.g. Bank of America), left justify, blank fill	Optional
13	87-94	8	Alphanum	Reference Code: Reserved for information pertinent to the originator	Optional

## **ACH CTX File Specification**

### **NACHA CTX Format: Batch Header (5 Record)**

<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	5	Record Type Code	Mandatory
2	02-04	3	200 or 220	Service Class Code: 200 – Mixed Debits and Credits 220 – Credits (Payments) only	Mandatory
3	05-20	16	Alphanum	Company Name: Your company’s name, left justify, blank fill	Mandatory
4	21-40	20	Alphanum	Discretionary Data: Company information, left justify, blank fill	Optional
5	41-50	10	Alphanum	Company Identification provided to originating bank	Mandatory
6	51-53	3	CTX	Standard Entry Class Code for Corporate Trade Exchange	Mandatory
7	54-63	10	Alphanum	Company Entry Description: Company description of entries, left justify, blank fill	Mandatory
8	64-69	6	Alphanum	Company Descriptive Date: provided by company for description only, not used for transaction timing	Optional
9	70-75	6	YYMMDD	Effective Entry Date: Date transactions are to post to the receiving account(s)	Mandatory
10	76-78	3	Numeric (Julian)	Settlement Date: Inserted by receiving ACH processor; typically the same as effective entry date when it is a bank work day & represents settlement with the Federal Reserve	
11	79-79	1	Alphanum	Originator Status Code; must be “1”	Mandatory
12	80-87	8	Numeric	Originating Depository Financial Institution (ODFI) Identification: Routing Number of originating (sending) bank	Mandatory
13	88-94	7	Numeric	Batch Number: assigned in ascending sequence to each batch by the ODFI (sending bank); right justify, zero fill	Mandatory

## **ACH CTX File Specification**

### **NACHA CTX Format: Detail Record (6 Record)**

<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	6	Record Type Code	Mandatory
2	02-03	2	Numeric	Transaction Code: 22 Checking Credit (Payment) 23 Checking Credit Prenote (Zero-Dollar test transaction) 27 Checking Debit*	Mandatory
3	04-11	8	09100002	Receiving Bank (U.S. Bank) Routing- Transit Number	Mandatory
4	12-12	1	2	Receiving Bank (U.S. Bank) Routing- Transit Check Digit	Mandatory
5	13-29	17	Numeric	DFI Account Number: left justify, blank fill. Insert the 16-digit U.S. Bank corporate account number associated with the payment. Relationship Manager will supply company with the correct account number	Mandatory
6	30-39	10	\$\$\$\$\$\$Sc	Sum of addenda credit/debit amounts; right justify, zero fill	Mandatory
7	40-54	15	Alphanum	Identification Number	Optional
8	55-58	4	Numeric	Number of Addenda Records	Mandatory
9	59-74	16	Alphanum	Receiving Company Name/ID Number; Identifies the receiver for descriptive purposes; left justify (e.g. U.S. Bank CPS)	Mandatory
10	75-76	2	Blank	Reserved	
11	77-78	2	Alphanum	Discretionary Data: Optional company description code	Optional
12	79-79	1	1	Addenda Record Indicator; 1=Addenda records follow Ø=No Addenda records follow	Mandatory
13	80-94	15	Numeric	Trace Number: Assigned by ODFI in ascending sequence to uniquely identify each entry within a batch	Mandatory

\*Debits and credits (payments) are allowed as long as total credits are always greater than total debits.

## **ACH CTX File Specification**

### **NACHA FORMAT: CTX Addenda Record (7 Record)**

<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	7	Record Type Code	Mandatory
2	02-03	3	05	Addenda Type Code	Mandatory
3	04-83	80	Alphanum	Payment remittance advice related information; Used with syntax of ANSI ASC X12.5 820 and X12.6 820. See EDI 820 specifications (pages 24–29)	Mandatory
4	84-87	4	Numeric	Addenda Sequence Number; Sequence of addenda records always beginning with ‘0001’	Mandatory
5	88-94	7	Numeric	Entry Detail Sequence Number; Same as the last 7 digits of the related Detail Record	Mandatory

## **ACH CTX File Specification**

### **NACHA CTX Format: Batch Trailer (8 Record)**

<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	8	Record Type Code	Mandatory
2	02-04	3	200 or 220	Service Class Code: 200 – Mixed Debits and Credits 220 – Credits (Payments) only	Mandatory
3	05-10	6	Numeric	Entry/Addenda Count: Number of Detail Records (6 records) and Addenda Records (7 records) in batch	Mandatory
4	11-20	10	Numeric	Entry Hash: Sum of the first 8 digits of the Routing-Transit number(s) located on the Detail Record(s) within the batch; right justify, left truncate	Mandatory
5	21-32	12	\$\$\$\$\$\$\$\$\$cc	Total Debit Entry Dollar Amount: Sum of the debit entry dollar amounts in the batch	Mandatory
6	33-44	12	\$\$\$\$\$\$\$\$\$cc	Total Credit Entry Dollar Amount: Sum of the credit entry dollar amounts in batch	Mandatory
7	45-54	10	Alphanum	Company Identification provided by originating bank	Mandatory
8	55-73	19	Alphanumeric	Message Authentication Code; used to validate the authenticity of ACH entries	Optional
9	74-79	6	Blank	Reserved	
10	80-87	8	Numeric	Originating Depository Financial Institution (ODFI) Identification: Routing Number of originating (sending) bank	Mandatory
11	88-94	7	Numeric	Batch Number: Assigned in ascending sequence to each batch by the ODFI (sending bank); right justify, zero fill	Mandatory

## **ACH CTX File Specification**

### **NACHA CTX Format: File Trailer (9 Record)**

<b>Field</b>	<b>Position</b>	<b>Size</b>	<b>Contents</b>	<b>Description</b>	<b>Requirement</b>
1	01-01	1	9	Record Type Code	Mandatory
2	02-07	6	Numeric	Batch Count: Count of batches (8 records) that are present in the file	Mandatory
3	08-13	6	Numeric	Block Count: Sum of all 1, 5, 6 and 8 records divided by 10 and rounded to the next higher integer	Mandatory
4	14-21	8	Numeric	Entry/Addenda Count: Number of all detail and addenda records in file	Mandatory
5	22-31	10	Numeric	Entry Hash: Sum of the first 8 digits of the Routing-Transit number(s) located on the Detail Record(s) of the file, right justify, left truncate	Mandatory
6	32-43	12	\$\$\$\$\$\$\$\$\$cc	Total Debit Entry Dollar Amount: Sum of the debit entry dollar amounts in file	Mandatory
7	44-55	12	\$\$\$\$\$\$\$\$\$cc	Total Credit Entry Dollar Amount: Sum of the credit entry dollar amounts in file	Mandatory
8	56-94	39	Blank	Reserved	

## ACH EDI Specification • ANSI X12.5, Transaction Set 820, Version 4010

Segment	Element ID	ANSI No.	Segment/Element Name	Explanation/ Specifications	EDI Usage	CPS Usage	Data Type	Min Max
<b>Transaction Set Header</b>								
<b>ISA</b>			<b>Interchange Control Header</b>	<b>To start and identify an interchange of zero or more functional groups and interchange-related control segments</b>	<b>M</b>	<b>M</b>		<b>1</b>
	ISA01	I01	Authorization Information Qualifier	Code to identify the type of information in the Authorization Information 00 – No Authorization Information Present (No Meaningful Information in I02)	M	M	ID	2/2
	ISA02	I02	Authorization Information	Information used for additional identification or authorization of the interchange sender or the data in the interchange; the type of information is set by the Authorization Information Qualifier (I01) Usually left blank	M	M	AN	10/10
	ISA03	I03	Security Information Qualifier	Code to identify the type of information in the security information 00 – No Security Information Present (No Meaningful Information in I04)	M	M	ID	2/2
	ISA04	I04	Security Information	This is used for identifying the security information about the interchange sender in the Security Information or the data in the interchange; the type of information is set by the Security Information Qualifier (I03) Usually left blank	M	M	AN	10/10
	ISA05	I05	Interchange ID Qualifier	Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified ZZ – Mutually Defined	M	M	ID	2/2
	ISA06	I06	Interchange Sender ID	Identification code published by the sender for other parties to use as the receiver ID to route data to them; the sender always codes this value in the sender ID element	M	M	AN	15/15
	ISA07	I05	Interchange ID Qualifier	Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified If ISA08 is DUNS number, this element should reflect '01'. If ISA08 reflects any other ID this element would generally contain 'ZZ'. 01 – Duns (Dun & Bradstreet) ZZ – Mutually defined	M	M	ID	2/2
	ISA08	I07	Interchange Receiver ID	Identification code published by the receiver of the data; when sending, it is used by the sender as their sending ID, thus other parties sending to them will use this as a receiving ID to route data to them	M	M	AN	15/15
	ISA09	I08	Interchange Date	Date of the interchange	M	M	DT	6/6
	ISA10	I09	Interchange Time	Time of the interchange	M	M	TM	4/4

## ACH EDI Specification

Segment	Element ID	ANSI No.	Segment/Element Name	Explanation/ Specifications	EDI Usage	CPS Usage	Data Type	Min Max
<b>Transaction Set Header (continued)</b>								
ISA11	I10		Interchange Control Standards Identifier	Code to identify the agency responsible for the control standard used by the message that is enclosed by the interchange header and trailer. Refer to 004010 Data Element Dictionary for acceptable code values.	M	M	ID	1/1
ISA12	I11		Interchange Control Version Number	This version number covers the interchange and control segments 00401 – Draft Standards for Trial Use Approved for Publication by ASC X12 Procedures Review Board through October 1997	M	M	ID	5/5
ISA13	I12		Interchange Control Number	A control number assigned by the interchange sender A sequentially-assigned Interchange Control Number will be entered here.	M	M	N0	9/9
ISA14	I13		Acknowledgment Requested	Code sent by the sender to request an interchange acknowledgment 0 – No Acknowledgment	M	M	ID	1/1
ISA15	I14		Usage Indicator	Code to indicate whether data enclosed by this interchange envelope is test, production or information P – Production Data T – Test Data	M	M	ID	1/1
ISA16	I15		Component Element Separator	Type is not applicable; the component element separator is a delimiter and not data element; this field provides the delimiter used to separate component data elements within a composite data structure; this value must be different than the data element separator and the segment terminator A subelement separator (composite delimiter), such as a colon ':' or back slash '\' will be entered here.	M	M	AN	1/1

## ACH EDI Specification

Segment	Element ID	ANSI No.	Segment/Element Name	Explanation/ Specifications	EDI Usage	CPS Usage	Data Type	Min Max
<b>Transaction Set Header (continued)</b>								
<b>GS</b>			<b>Functional Group Header</b>	<b>To indicate the beginning of a functional group and to provide control information</b>	<b>M</b>	<b>M</b>		<b>1</b>
	GS01	479	Functional Identifier Code	Code identifying a group of application related transaction sets RA – Payment Order/Remittance Advice (820)	M	M	ID	2/2
	GS02	142	Application Sender's Code	Code identifying party sending transmission; codes agreed to by trading partners	M	M	AN	2/15
	GS03	124	Application Receiver's Code	Code identifying party receiving transmission; codes agreed to by trading partners The Receiver's DUNS number or a unique code that identifies the receiving company	M	M	AN	2/15
	GS04	373	Date	Date expressed as CCYYMMDD	M	M	DT	8/8
	GS05	337	Time	Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or JJMMSSDD, where H=hours; M=minutes	M	M	TM	4/8
	GS06	28	Group Control Number	Assigned number originated and maintained by the sender A sequentially-assigned Group (Batch) Control Number will be entered here.	M	M	N0	1/9
	GS07	455	Responsible Agency Code	Code used in conjunction with Data Element 480 to identify the issuer of the standard X – Accredited Standards Committee X12	M	M	ID	1/2
	GS08	480	Version/Release/ Industry Identifier Code	Code indicating the version, release, subrelease, and industry identifier of the EDI standard being used, including the GS and GE segments; 004010 – Draft Standards Approved for Publication by ASC X12 Procedures Review Board through October 1997	M	M	AN	1/12
<b>ST</b>			<b>Transaction Set Header</b>	<b>Indicates start of a transaction set and assigns a control number</b>	<b>M</b>	<b>M</b>		<b>1</b>
	ST01	143	Transaction Set ID	“820”	M	M	ID	3/3
	ST02	329	Transaction Set Control Number	A unique number company assigns to each transaction set within a functional group. This number must match the value in SE.	M	M	AN	4/9

## ACH EDI Specification

Segment	Element ID	ANSI No.	Segment/Element Name	Explanation/ Specifications	EDI Usage	CPS Usage	Data Type	Min Max
<b>Transaction Set Header (continued)</b>								
<b>BPR</b>			<b>Beginning Payment Remittance Segment</b>	<b>Beginning of remittance and total payment amount</b>	<b>M</b>	<b>M</b>		<b>1</b>
	BPR01	305	Transaction Handling	'C' for Payment Accompanies Remittance Advice	M	M	ID	1/2
	BPR02	782	Monetary Amount	Total Payment Amount for all cardholders on ACH file	M	M	R	1/18
	BPR03	478	Credit/Debit Flag Code	'C' for Credit	M	M	ID	1/1
	BPR04	591	Payment Method Code	'ACH' for ACH; 'DXC' for CTX Credit	M	M	ID	3/3
	BPR05	812	Payment Format Code	Must be 'CTX'	O	O	ID	1/10
	BPR06	506	(DFI) ID Number Qualifier	Must be '01'	X/Z	O	ID	2/2
	BPR07	507	(DFI) Identification Number	Sending Bank's Transit Routing Number	X	O	AN	3/12
	BPR08	569	Account Number Qualifier Code	Must be 'DA'	O	O	ID	1/3
	BPR09	508	Account Number	Bank Account Number from which payment will be drawn	X	O	AN	1/35
	BPR10	509	Originating Company Identifier	Not Used	O	O	AN	10/10
	BPR11	510	Originating Company Supplemental Code	Not Used	O	O	AN	9/9
	BPR12	506	(DFI) ID Number Qualifier	Must be '01'	X/Z	O	ID	2/2
	BPR13	507	(DFI) Identification Number	Receiving Bank (U.S. Bank) Transit Routing Number (091000022)	X	O	AN	3/12
	BPR14	569	Account Number Qualifier Code	Must be 'DA'	O	O	ID	1/3
	BPR15	508	Account Number	U.S. Bank 16-digit Account Number	X	O	AN	1/35
	BPR16	373	Effective Entry Date	Settlement date requested by originating Company (CCYYMMDD)	O	O	DT	8/8
<b>N1</b>			<b>Name: Payer</b>	<b>One per Payment File</b>	<b>O</b>	<b>M</b>		<b>1</b>
	N101	98	Entity ID Code	PR – Payer	M	M	ID	2/3
	N102	93	Name	Your Company Name	X	M	AN	1/60
<b>N1</b>			<b>Name: Payee</b>	<b>One per Payment File</b>	<b>O</b>	<b>M</b>		<b>1</b>
	N101	98	Entity ID Code	PE – Payee	M	M	ID	2/3
	N102	93	Name	U.S. Bank Corporate Payment Systems	X	M	AN	1/60

## ACH EDI Specification

Segment	Element ID	ANSI No.	Segment/Element Name	Explanation/Specifications	EDI Usage	CPS Usage	Data Type	Min Max
<b>Entity and Remittance Advice Loop</b>								
<b>ENT</b>			<b>Entity</b>	<b>Designate Cardholder Entities</b>	<b>O</b>	<b>M</b>		<b>&gt;1</b>
	ENT01	554	Assigned Number	Sequential number for each ENT Loop	O	O	N0	1/6
<b>RMR</b>			<b>Remittance Advice</b>	<b>U.S. Bank Account Number&amp; Payment Amt</b>	<b>O</b>	<b>M</b>		<b>&gt;1</b>
	RMR01	128	Reference Num. Qualifier	E4—Charge Card Number; IV—Invoice etc.	X	M	ID	2/3
	RMR02	127	Reference Number	16-digit U.S. Bank Account Number	X	M	AN	1/30
	RMR03	482	Payment Action Code	Not Used	O/Z	O	ID	2/2
	RMR04	782	Monetary Amount	Remittance Amount to U.S. Bank Account (Absence of a minus sign before monetary amount indicates a positive value; use explicit decimal)	O	M	R	1/18
	RMR05	782	Monetary Amount	Gross Amount; Not Needed	O	O	R	1/18
	RMR06	782	Monetary Amount	Discount Taken; Not Applicable	O	O	R	1/18
<b>REF</b>			<b>Reference: Statement Narrative</b>		<b>O</b>	<b>O</b>		<b>&gt;1</b>
	REF01	128	Reference Number Qualifier	CR—Customer Reference Number (Required for statement narrative)	M	O	ID	2/3
	REF02	127	Reference Number	15 characters of data to appear on cardholder statement when REF01=CR	X	O	AN	1/30
<b>End of Remittance Loop</b>								

## ACH EDI Specification

Segment	Element ID	ANSI No.	Segment/Element Name	Explanation/ Specifications	EDI Usage	CPS Usage	Data Type	Min Max
<b>Transaction Set Trailer</b>								
<b>SE</b>			<b>Transaction Set Trailer</b>	<b>Ending of each transmission</b>	<b>M</b>	<b>M</b>		<b>1</b>
	SE01	96	Number of Included Segments	Number of Segments (ST through SE)	M	M	N0	1/10
	SE02	329	Transaction Set Control Number	Same as 'ST02'	M	M	AN	4/9
<b>Functional Group Trailer</b>								
<b>GE</b>			<b>Functional Group Trailer</b>	<b>To indicate the end of a functional group and to provide control information</b>	<b>M</b>	<b>M</b>		<b>1</b>
	GE01	97	Number of Transaction Sets Included	Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element	M	M	N0	1/6
	GE02	28	Group Control Number	Assigned number originated and maintained by the sender The sequentially-assigned Group Control Number which should agree with the GS06, will be entered here.	M	M	N0	1/9
<b>Interchange Control Trailer</b>								
<b>IEA</b>			<b>Interchange Control Trailer</b>	<b>To define the end of an interchange of zero or more functional groups and interchange-related control segments</b>	<b>M</b>	<b>M</b>		<b>1</b>
	IEA01	116	Number of Included Functional Groups	A count of the number of functional groups included in an interchange	M	M	N0	1/5
	IEA02	112	Interchange Control Number	A control number assigned by the interchange sender The sequentially-assigned Interchange Control Number which should agree with the ISA13, will be entered here.	M	M	N0	9/9

### Key to ASC X12 Codes

Usage Code	Description
C	Conditional
M	Mandatory
O	Optional
X	Relational – conditions may exist between 2 or more data elements. See ANSI X12 Standard.
Z	Semantic Note. See ANSI X12 Standard.

Data Type Code	Description
ID	Identifier (ASC X12 pre-defined value)
AN	Character sequence (string)
R	Decimal Number (123.50)
DT	Date
N0	Number with zero decimal positions
TM	Time