



**Business-to-Business Electronic Payments**

**Straight Through Processing**

Implementation Guide

Issue 2.4

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## Change Summary

This enhancement to the STP 820 (STP 820) specification contains changes that:

1. Provide clarification to the RMR and DTM segments that apply when the document being paid is an invoice (RMRO1=IV).
2. Adds the characters "STP820" after the GS08 version 004010 for the purpose of identifying this transaction as an STP820 (**004010STP820**).

Note: This is not a new implementation specification; it is an update the existing STP 820 Implementation Guide.

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## PREFACE

As of this update significant progress has been made toward enabling Straight Through Processing in the financial chain. STP 820 has been and continues to be implemented in accounting software, cash management software, middleware packages and by financial institutions within their cash management offerings. Due to the simplicity it provides for the end-user, corporates continue to express their interest and excitement in being able to send and receive electronic payments with remittance information by selecting from accounts payable, or entering into cash management, the data elements that define each invoice or item to be paid (up to 10 elements).

## BACKGROUND

The Electronic Payments Network is working on an initiative to implement end-to-end straight through processing (STP) of electronic payments. The impetus for this initiative came from extensive research that uncovered a need in the business community and an opportunity for the banking industry.

### State of Business Transactions and Payments (2002)

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Extensive corporate research conducted by the Electronic Payments Network during 2001 and 2002 highlighted many variances in business transactions and payments, depending on the size of the business. Business remittance information requirements and system transaction processes vary considerably across industries, corporations and, in some cases, across distinct divisions of a single entity. As a result, the current business transaction and payment environment is fraught with inefficiency and complexity, with multiple payment models needing support while providing a huge business opportunity for banks to assist their customers with services that will make the initiation and receipt of electronic payments an efficient process.

Our research helped illustrate the opportunity associated with promoting electronic payments for business-to-business transactions:

- According to a recent study by the Federal Reserve Bank, 3.9 billion business-to-business remittance payments are generated in the United States on an annual basis.
- According to that same study, over 8.5 billion remittance payments from consumers-to-businesses are executed annually by paper check.
- 86% of business-to-business payments are executed via paper check.
- Only 14% of business-to-business payments are electronically executed. Of electronic payments 70% are ACH based, 17% are FEDI based and 9% are credit card based.
- The financial benefits to the banks and their customers of moving away from paper check processing to electronic payments are immense.

Our research observations also underscored the high degree of complexity and inefficiency associated with business transactions:

- Across industries, 32% of electronic payments cannot be applied automatically

- If remittance information is sent with an electronic payment, 58% provide ACH-based information, 17% provide separate data files, 14% provide FEDI/EDI-based information and 11% provide paper-based remittance information.

### Why Don't More Businesses Originate Electronic Payments?

Despite the capability to initiate and receive electronic payments with remittance information (e.g., CCD+ and CTX data formats), it is clear the vast majority of businesses continue to rely on the time proven paper check payment process. Corporations cite many reasons for why they do not originate electronic payments:

1. Seller does not disseminate account information required to make electronic payments. (e.g., invoices do not contain an electronic payment remittance address).
2. Buyer accounts payable/banking system cannot create electronic payments (ACH or wire). Many PC-based small and medium sized business accounting software packages do not have electronic payment initiation or receipt capabilities.
3. Perception of a loss of float.
4. Buyer cannot provide electronic remittance information.
5. Incompatibility of beneficiary accounts receivable system to handle electronic payments with remittance information.
6. Conflicting, multiple message formats and a lack of minimum remittance information standards.
7. Cash management systems available to small and medium sized businesses have either poor electronic payment capabilities and/or poor integration facilities to back-end AR/AP systems.
8. Banks may not have the capability to deliver (sufficient) electronic payment and remittance information.
9. Lack of confirmation (proof of payment) for electronic payments.
10. Execution of trading partner agreements are time consuming and costly.

## Business Opportunity

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Businesses are automating many of the paper processes that make up the business supply chain. Once the automation of the supply chain has been completed the focus will shift to the automation and integration of the financial chain. The demand for end-to-end straight-through processed (STP) payments is inevitable. With the demand from businesses growing, the

opportunity exists for the banking community to provide complete financial chain integration. This requires the ability to issue electronic payments that are secure, guaranteed and contain enough information for automated reconciliation.

Companies that are committed to increased profitability must better manage their payables and receivables, so they can improve cash forecasting, participate in investment opportunities, and manage liquidity. Straight-through processing allows for improved payables and receivables management. The payment process is an area where a company's operations can be streamlined to enhance competitiveness by achieving end-to-end links between a company and its suppliers for payment of goods and services. The goal of receivables management is to reduce days sales outstanding (DSO), a measure of sales to collection time. Companies in Europe have seen DSO reductions of three to 10 days, resulting in improvements of 5% to the company's overall bottom line. In addition faster reconciliation also frees client credit limits, resulting in increased business volumes.

We can see evidence that the banking industry has been behind the curve on check truncation at the lock box and at the point-of-sale. Merchants, government agencies and companies with large remittance operations have been driving the industry towards solutions that eliminate the paper check at the earliest moment and converting it to an electronic payment (ACH). Third-party companies have seized the opportunities for these new services leaving the banks on the sidelines losing their check deposit and processing revenue.

The movement to automate the payment process by companies will happen and banks can take a "wait and see" attitude or they can begin to find ways of capitalizing on the new tools that banks will be able to provide for cash management and information integration. Our approach for the elimination of electronic payment barriers will create a unique opportunity for banks to be at the center of electronic payment processing of the future.

## THE STP PLAN

The goal of this initiative is to enable Straight Through Processing (STP) for small and medium businesses. This will be accomplished by working with members from all parts of the financial chain, to facilitate automatic payment initiation by the buyer and automatic posting by the vendor.

Please note that much of the Plan detailed within this document has been accomplished. Many decisions have been made based on workgroup meetings with EPN member banks, solution providers and corporations. This part of the document, entitled The STP Plan, presents the roadmap including the methodology, goals, benefits, and tasks that have been instrumental in crafting this plan and will continue to be developed throughout the implementation. This Plan was derived by combining the following interrelated work plans:

- Define standardized remittance information requirements
- Enable electronic payment initiation and receipt capabilities in accounting software and cash management systems.

The standards to enable movement of payment information throughout the current ACH system and the required minimum remittance information have been determined and, as of this writing, have been submitted to ASC X12F for approval. Initial meetings with accounting package providers have begun and will continue. Much of this document is included to enable the reader to understand the process undertaken thus far.

Appendices A and B present the results of the initial tasks of this Plan. Appendix A provides the NACHA Electronic Payments Association Specifications and examples. Appendix B contains the X12 Remittance Information Specifications and examples.

Appendix C contains the current project plan including tasks, dates, and status. This will be updated throughout the rollout of this initiative.

### Define Standardized Remittance Information Requirements for STP

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This section presents the proposed activities for working with industry groups, software providers, and standards bodies to define standardized remittance requirements and rules to enable Straight Through Processing. Throughout this section “solution provider” is used as an inclusive term to

encompass accounting software providers, cash management software providers, home banking software providers, EIPP/EBPP providers, and proprietary cash management software provided by banks. Although the plan identifies specific standards bodies, industry groups and solution providers in the various categories, the lists are not comprehensive and may be amended as a result of meetings with the participating banks.

#### Methodology for Plan Development and Implementation Strategies

EPN has created this high-level plan as the basis for the detailed implementation plan to be finalized by EPN bank representatives and subject matter experts. This plan suggests goals, benefits, objectives, steps, timelines and resource requirements that will be modified and enhanced as the plan is implemented.

EPN will manage the implementation of the plan in a close partnership with all of the stakeholders.

#### Activities completed:

- Evaluation of existing standards
- Investigation of data requirements of solution providers to enable posting of payments to receivables systems
- Participation in defining “new minimum” data elements using existing standards and future standards
- Discussion with industry groups to understand specific requirements
- Discussion with lockbox providers to understand electronic formats produced
- Discussion with banks to understand the impact of enabling STP

The above activities have resulted in the selection, support, and enforcement of specific remittance data and placement within existing standard data format(s).

A workgroup performed the tasks required to define the minimum data elements that must be included in an electronic payment. Key findings learned throughout the process have been included as part of the specification to be delivered to the accounting software providers.

The standards workgroup defined the specific indicators of success for both near term activities and future goals, encompassing the lifecycle of the project. The criteria for evaluating the success of the plan include:

- Gaining agreement amongst the stakeholders (the banks, key service providers and key software vendors) as to a standard for minimum remittance information to enable STP

- A specified number of software vendors agreeing to implement the standard
- A specified number of corporations utilizing the standard

#### Goals

- Define minimum remittance data for inclusion in electronic payments
- Define rules for monitoring standards adherence (initially ACH Operators, NACHA compliance)
- Define standardized record types (e.g., CCD+, CTX, CIE, 820, BAI, XML: OFX/ IFX).
- Maintain awareness in the global arena

#### Benefits

- Working with various standards bodies will increase adoption of open standards:
  - Open standards are not controlled by one party to the exclusion of others
  - Open standards foster a marketplace where competition is encouraged
  - Increased competition leads to innovation, choices for end users and generally lower costs and better products
  - Adherence to a standard definition of minimum remittance information and record types will facilitate the ability to enable Straight Through Processing to send, receive and post secure electronic payments with remittance data and will drive up the volume of electronic payments
- By defining and enforcing standard remittance information and obtaining acceptance by software providers and banks, standard record types are generated and passed through automatically, eliminating the need for reformatting, and reducing errors in handling.
- Utilizing standards helps minimize risk. Defined formats and data elements created and edited at the point of origination and validated along the way greatly reduce chances of mistakes created by various handling mechanisms, including reformatting by intermediaries or misapplication by receivable systems.
- To the receiver, value is achieved in the increased ability to apply the payments to receivables systems automatically and correctly.
- Reducing the need for negotiating and reconciling payments achieves lower cost of processing for both the sender and receiver. This encourages the growth of electronic payments and leads to a decrease in the volume of check processing, further increasing savings. Initially we are trying to solve a systemic problem, to rationalize electronic payments and

mechanisms. This is equivalent to establishing a MICR line standard, which brought coherency, error processing reductions, and reduced costs to the check-processing environment.

- Insure that banks are an integral part of processing electronic payments with remittance information.
- Provide for cost reductions on the part of banks.
- Provide for future cost reductions for banking systems.
- Provide a platform or tools for banks to provide additional value added services to customers.

#### Plan for Defining Standardized Remittance Information

To define standardized remittance information, it is essential to:

- Gain consensus from the top solution providers, industry experts, and banks as to the minimum data requirement needed to enable electronic payment initiation, receipt, and posting.
- Gain consensus from the standards bodies as to the most feasible mechanisms and enforcement vehicles to enable adoption.

The tasks required to define standardized remittance information include:

1. Banks agree to goals and time-line, and participate in the process. [Completed]
2. Evaluate existing standards: research and understand the use of remittance information in existing formats (e.g. CCD+, CTX, CIE, 820, BAI, XML: OFX/ IFX. [Completed]
3. Work with and influence standards bodies and various working groups to determine short term and future payment formats and transport mechanisms (ASC X12, ASC X9, EBA, FED [US Treasury], IFX, ISOTC68-4, NACHA, OFX, SWIFT, OASIS, OAGI, Bolero, BITS). [Completed]
4. Meet with lockbox providers to understand electronic formats produced (e.g., BAI). [Completed]
5. Define minimum remittance requirements [Completed]:
  - Work with industry groups to identify specific data elements required to enable the direct posting of payments, eliminating the need for intermediaries or reconciliation specialists to review payments and detail.

- Work with solution providers to identify available data and currently utilized formats.
  - Work with payment providers (BankLink, Politzer & Haney, etc.)
6. Define rules for enforcement. Work with banks and payment systems operators to encourage adoption, including investigating methods and timing of issuing fines as a deterrent to non-adherence. Consider using discounted fees for compliance, to cover the costs for processing non-compliant payments.
  7. Assess the need for translation capability to provide interim facilitation as standards take hold, to enable STP.
  8. Work with accounting firms, consulting firms and trade associations to conduct educational programs to promote the benefits of standardized remittance information in electronic payments.
  9. Get commitment from all the groups and make public announcement.
  10. Distribute electronic payment remittance requirements standards to all invested parties.

## Electronic Payment Initiation and Receipt Capabilities

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This portion of the document presents the activities for working with solution providers and banks to implement the capability, within accounting systems, to initiate and receive electronic payments with standard remittance information. Throughout this section “solution provider” is used as an inclusive term to encompass software packages provided by accounting software providers, cash management software providers, ACH origination software, and proprietary software provided by banks.

Although the plan identifies specific solution providers in the various categories, the list is not all-inclusive and may be amended as a result of meetings with the participating banks. As of this writing, the accounting software providers include: Intuit, Peachtree, Great Plains and Oracle Small Business Suite (NetLedger).

### Methodology for Plan Development and Implementation Strategies

As a result of meetings attended by EPN and the bank subject matter experts, this implementation plan has evolved and is the basis for managing the development of the initiative toward the goal of promoting electronic

payment initiation and receipt capabilities in accounting software and cash management systems.

This plan identifies the goals, benefits and tasks, and tracks the tasks and resources that are being applied to move the initiative forward. EPN has updated the plan based on output of workgroup meetings and will manage the project in a close partnership with the participating banks.

The criteria for evaluating the success of the plan include:

- Gaining agreement on a standard
- A specified number of software companies agreeing to implement the standard
- A specified number of companies utilizing the enhanced capabilities to enable electronic payments and Straight Through Processing

#### Goals

- Enable the tools that small and medium businesses use to generate electronic payments from payables systems
- Enable the tools that small and medium businesses use to electronically receive these payments
- Coordinate A/P systems with bank cash management systems and cash management systems with A/R systems
- Include minimum remittance data in electronic payments
- Provide the ability to correctly post payments utilizing the minimum remittance information
- Provide the ability to maintain and present the minimum remittance information with the payment

#### Benefits

- Enabling the tools that small and medium size businesses use for payables and receivables opens up a large potential market for electronic payments and STP
- Banks can deliver payments faster to their participating corporate clients and eliminate checks processed
- Opportunity for banks to provide remittance consolidation and additional cash management services
- The ability to enable STP to send, receive, and post secure electronic payments with remittance data will drive volume of electronic payments

#### Plan for Enabling Electronic Payments

To enable electronic payments, it is essential to:

- Gain support from the top solution providers to enable electronic payment initiation and receipt using the minimum standard remittance information.

The tasks required to enable electronic payments include:

1. Banks agree to goals and time-line and participate in process. [Completed]
2. Work with top accounting solution providers for the small and medium corporate markets (Intuit, Peachtree, Great Plains, Oracle) [Completed]:
  - Determine whether providers create electronic payments and in what format
  - Generate electronic payments from A/P in a standard format
  - Determine the remittance information that providers need to post to A/R
  - A/R systems to provide standard file import and account posting, and reconciliation
  - Share findings and bank-endorsed electronic payment data requirements
3. Work with top cash management solution providers (Politzer & Haney, Fiserv, Fundtech):
  - Determine how providers generate electronic payment transactions today
  - Determine providers' capabilities for electronic payments generated from A/P systems
  - Determine how A/R is updated and the providers' file transfer capabilities and practices
  - Share findings and bank-endorsed electronic payment data requirements
4. Determine the capabilities of ACH origination packages. [Completed]
5. Review banks' proprietary cash management software products to:
  - Determine how the banks generate electronic payment transactions today
  - Determine the banks' integration capabilities for electronic payments generated from A/P systems
  - Determine how A/R is updated and determine the banks' file transfer capabilities
  - Inform the banks of the findings and bank-endorsed electronic payment data requirements

6. Work with the banks to ensure that their systems are ready to accept and send the remittance information to and from corporations' A/R and A/P.
7. Work with banks to insure their ability to accept ACH credits and, if necessary, revise the processes and procedures to facilitate credit initiation for their smaller customers.
8. Work with accounting firms, consulting firms and trade associations to conduct educational programs to promote the benefits of electronic payments.
9. Get commitment from all the groups and the owner banks to participate and make a public announcement.
10. Distribute electronic payment remittance requirements standards to all invested parties.
11. Banks, providers, and EPN to launch P/R campaign announcing electronic payment capabilities.

## Conclusion

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After a series of meetings, the workgroup met its goal to determine minimum remittance information for inclusion in the electronic payment. The workgroup determined the data elements that are required by small and medium businesses to enable automatic posting of the payment to the correct invoice. A relatively small subset of adjustment codes, that could be used to describe incomplete payments, was also included as part of the definition. The following data elements were determined to be necessary and must be included as minimum remittance information when appropriate:

- Customer Account Number (mandatory)
- Customer Name (mandatory)
- Invoice Gross Amount
- Amount Paid
- Purchase Order
- Invoice Number
- Invoice Date
- Discount
- Adjustment Amount
- Adjustment Code
- Description (optional)

The workgroup concluded that the current implementation should utilize existing standards to facilitate rapid implementation and assure adoption. Future implementations will incorporate evolving technologies, including XML specifications (when broadly adopted by financial institutions).

The decision was made to utilize the existing ACH network, specifically the NACHA standard CTX transaction, to carry payment information with addenda records with the minimum remittance information (**STP 820**). Each payment will always include an **STP 820**. This facilitates description of one or multiple invoices per payment. The **STP 820** will be the format generated from accounts payable and bank cash management packages.

The **STP 820** conforms to standard ANSI X12 EDI conventions. In addition to facilitating posting to accounts receivable packages utilized by the small and medium businesses, it will also be easily recognized by the more sophisticated packages that are used by larger corporations. The **STP 820** will be in the format used as input to accounts receivable packages.

## Next Steps

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The next steps toward implementation are:

- Submit **STP 820** data specification to ASC X12F for approval (approved April 2004)
- Work with industry groups to gain adoption (endorsed by NACHA/BITS – 2004; supported by AFP 2004)
- Meet with cash management and accounting software providers to review specifications (see Appendix A: NACHA Specifications and Appendix B: **STP 820** Specifications)
  - As of April 2005, 3 Cash Management providers have publicly announced their intention to implement the **STP 820** Specification. Two of these implementations are scheduled for the summer of 2005, and the third is scheduled for 2006. A fourth Cash Management provider has also notified EPN of its intention to implement STP.
  - As of April 2005, a reseller of Mid-Tier accounting packages has announced its intention to implement the **STP 820** specification in 3 packages that it resells. Implementation in the first package has begun. The Specification will be implemented in both payables and receivables.
- Work with banks to understand their capabilities and requirements to accept STP 820 formatted files from their corporate customers who use software packages enabled to create STP 820 formatted files.

- Several banks have tested their ability to translate the **STP 820** and provide the X12 datafile to their customers.
- Support the efforts of various players in the financial chain as they complete their respective implementations.
  - Work with adopters to test implementations of the **STP 820** in their payables and receivables software.
  - Work with corporates to test their ability to create the **STP 820** from participating payables software and to post to receivables from the **STP 820** remittance information.
  - Work with banks in support of their efforts to receive the **STP 820** from their corporates, create the **STP 820** in their cash management systems and deliver the **STP 820** remittance data file to their customers.
- Continue to work with all participants of the financial chain providing education and encouraging adoption of the **STP 820** standard.
- As of this writing 2 Cash Management Providers have implemented the STP 820 standard and their versions are in production at various financial institutions. Implementation is in process with several other Cash Management providers with delivery targeted for 4Q2008.
  - Several banks have begun implementing in their home grown cash management products.
  - Resellers of QuickBooks, Great Plains Dynamics and Sage Timberline have implemented in both payables and receivables.
  - Several middle-ware providers and banks have implemented the ability to translate flat files to and from the **STP 820** standard.
  - Banks have implemented the ability to translate data from their customers to the **STP 820** standard.

## APPENDIX A: STP NACHA SPECIFICATIONS

This STP implementation utilizes and complies with NACHA specifications. Appendix A provides information on the specific requirements for implementing STP including guidelines, record layouts, and a glossary of terms.

Appendix B provides the guideline for implementing the X12 **STP 820** remittance information that will travel within the NACHA file.

### Introduction

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The Electronic Payments Network (EPN), which is owned by 18 of the nations largest banks, is leading an initiative to enable Straight Through Processing (STP) of electronic payments. EPN is the only private-sector competitor to the Federal Reserve for processing ACH payments, and currently processes more than 30% of all ACH payments. EPN has continuously played a key role in developing the U.S. banking system.

The goal of STP is to enable electronic payments to flow seamlessly from the originating company's accounts payable system, through the existing banking infrastructure, to the receiving company's accounts receivable system, without human intervention.

As a result of well-defined National Automated Clearing House Association (NACHA) standards and rules, STP currently exists for the movement of funds from bank-to-bank. EPN owner banks now want to enable STP from accounts payables to accounts receivables. This will be accomplished by defining a standard format and standard remittance information that will flow with standard payment information. We have been working with A/P and A/R providers, standards bodies, and industry groups to define and standardize the information and format that will be required to enable STP from A/P to A/R.

With the goal of providing a complete yet not overly complex solution and knowledge that it is prohibitive in many ways to craft a solution that

will provide for posting 100% of all payments, the approach has been taken to provide sufficient remittance information to facilitate the automatic posting of a payment to the correct account and against the correct invoice. This specification provides the ability to define one payment for multiple invoices and includes a limited set of explanatory (adjustment) codes to define standard reasons for incomplete payments.

This initiative targets small and medium businesses. Therefore, EPN has worked with providers of accounting software whose packages support these businesses, and who will directly benefit by sending and receiving electronic payments with remittance information. It should be noted that this implementation supports credit payments only.

## Compliance with NACHA Standards

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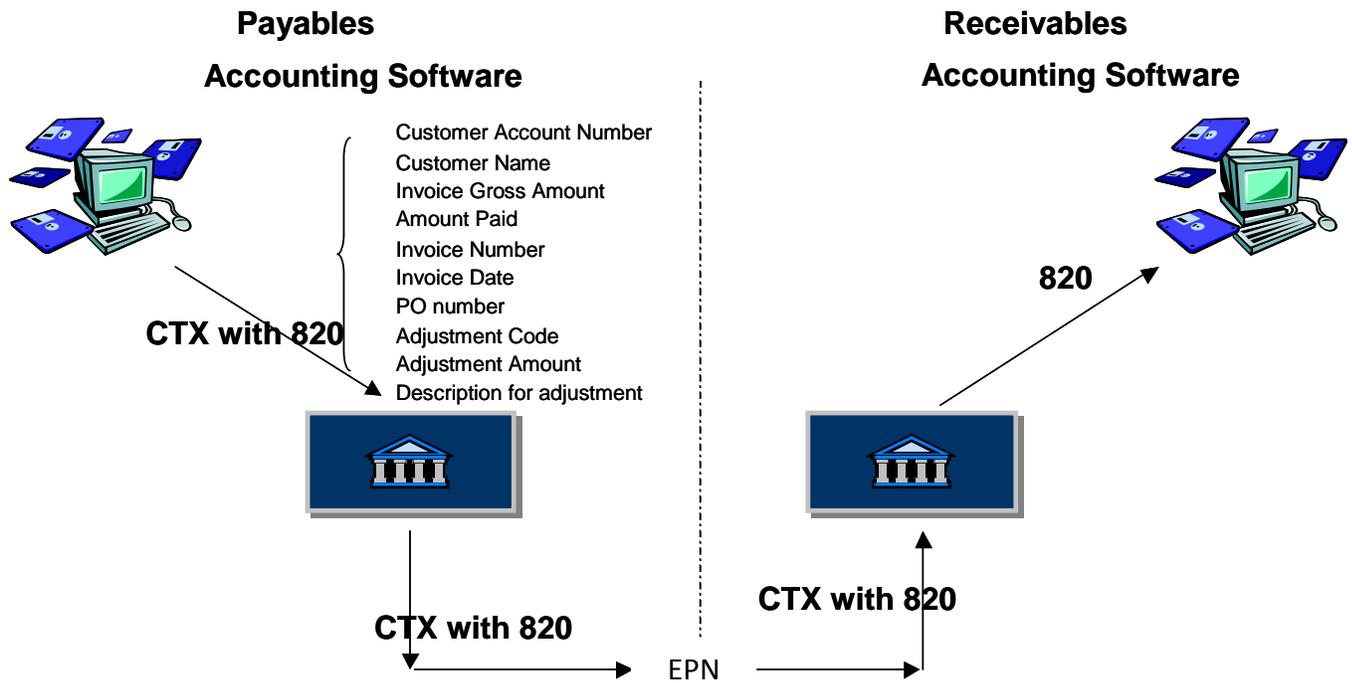
These specifications include the required data elements and formats to:

- Enable the minimum remittance information (**STP 820**) to be created from a payor's accounts payable system
- Define a standard format for transport (NACHA) to the vendor's bank.

The process utilizes the existing mechanism for transmission through the ACH payment system to the vendor's bank and enables automatic posting to the vendor's accounts receivables system with a standard input format (**STP 820**).

The following diagram depicts the payment flow.

## STP – with Minimum Remittance Information



Benefits of utilizing existing standards include:

- Adherence to a standard definition of minimum remittance information and record types facilitates enabling STP to send, receive, and post secure electronic payments with remittance data, and will drive up the volume of electronic payments.
- Utilizing standards helps minimize risk. Defined formats and data elements created and edited at the point of origination and validated along the way greatly reduce the chance of mistakes created by various handling mechanisms (i.e., reformatting by intermediaries or misapplication by receivable systems).

- To the receiver, value is achieved in the increased ability to apply the payments to receivables systems automatically and correctly.

Reducing the need for, and time to negotiate and reconcile payments will achieve lower cost of processing for both the sender and receiver. This will encourage the growth of electronic payments and lead to a decreased volume of check processing, further increasing savings. Initially we are trying to solve a systemic problem, to rationalize electronic payments and mechanisms. This is similar to establishing the MICR line standard that brought coherency, error processing reductions, and reduced costs to the check-processing environment.

This specification employs the use of the NACHA defined records for the movement of payment information and X12 EDI definition to describe remittance information. As a by-product of conforming to existing standards, large corporations that have implemented EDI conventions will also be able to utilize the remittance information contained in their ACH payments to automatically post payments to their receivables.

## General Specification Requirements

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The requirements for sending payments with remittance information from corporations to their banks include:

- The NACHA formats, which provide the information required to initiate the movement of funds from the payor's bank to the bank of the receiver (vendor) of the funds
- The ANSI X12 format, which describes the minimum remittance information (the **STP 820**) that travels within the NACHA addenda records in positions 4-83.

Accounting software providers will need to:

- Modify their applications, as necessary, to carry all required data elements to effect an electronic payment including:

- Vendor's assigned routing number and bank account number (DDA or Universal Payment Identification Code [UPIC]<sup>1</sup>)
- Payor's routing number and optional bank account number (DDA) plus additional identifying information
- Modify user interface, as necessary, to accommodate additional required data elements
- Assure that all fields are utilized properly
  - Customer account number (identifier assigned by the vendor) and customer name must be correct

The following sample A/P screen shows where the data elements, comprising the minimum remittance information, might be found on a typical business entity's A/P screen. These data elements will be incorporated into the **STP 820** described in Appendix B.

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<sup>1</sup> UPIC masks confidential banking information including bank account and bank routing number. The UPIC stays with a company regardless of whether the banking relationship changes. UPIC is a product of The Clearing House (see <https://www.theclearinghouse.org/payment-systems/ach>).

## Sample A/P Screen

**Accounts Payable - Invoice Entry (screen shot) - Microsoft Internet Explorer**

Address: [http://www.triad.com/systems/falcon/applications/screenshots/screenshot\\_ap00.html](http://www.triad.com/systems/falcon/applications/screenshots/screenshot_ap00.html)

**Name: ABC WHOLESALERS**  
 123 WASHINGTON AVE.  
 SAN DIEGO, CA 12345

Invoice #: 5307055  
 Adjust #: Pricing Error  
 Type: I

Status: Active  AP-PO  
 PC#: 1000  Posted  
 Terms: 1 NET 10

Entry Date: 08/03/98  
 Invoice Dt: 08/15/98  
 Pay Date: 08/15/98  
 Disc Date: 08/15/98  
 Acct Per: 08-1998  
 1099 Type: S

PO Number:   Sep. Check  
 Pay Vendor: ABC ABC WHOLES

**Invoice Totals**

Invoice \$:	800.00
Disc Type: S	Disc %: 0.00
Discount \$:	0.00
Net \$:	800.00
Distributed \$:	
PO Merch \$:	
PO Add On \$:	
Balance \$:	800.00
Paid To Date:	

Zoom F3 Restart F4 Misc F5 Next/Prev F6 Add F9 Save F2

"Please enter (N)one, (S)tandard, (%)ercent or (\$)ollar."

\* Notes input box – (not shown) could contain explanation of why payment differs from invoice amount

## NACHA Record Formats

---

NACHA is the association that is responsible for developing and maintaining the rules and regulations for the ACH network. The participants in the ACH network must agree to abide by the NACHA rules. NACHA records are a fixed length of 94 characters. Each record has a name and record type code. For purposes of this implementation, record types 1,5,6,7,8, and 9 will be utilized.

Much of the information provided in this document has been abstracted from *2003 ACH Rules: A Complete Guide to Rules and Regulations Governing the ACH Network*, copyright 2003 by NACHA. It provides the terms and definitions needed for the development and implementation of correctly formatted NACHA records.

The required records are described on the following pages:

- Record type 1 - File Header Record
- Record type 5 - Batch Header Record (CTX)
- Record type 6 - Corporate Entry Detail Record
- Record type 7 - Addenda Record (will contain remittance data in required format)
- Record type 8 - Batch Control Record
- Record type 9 - File Control Record

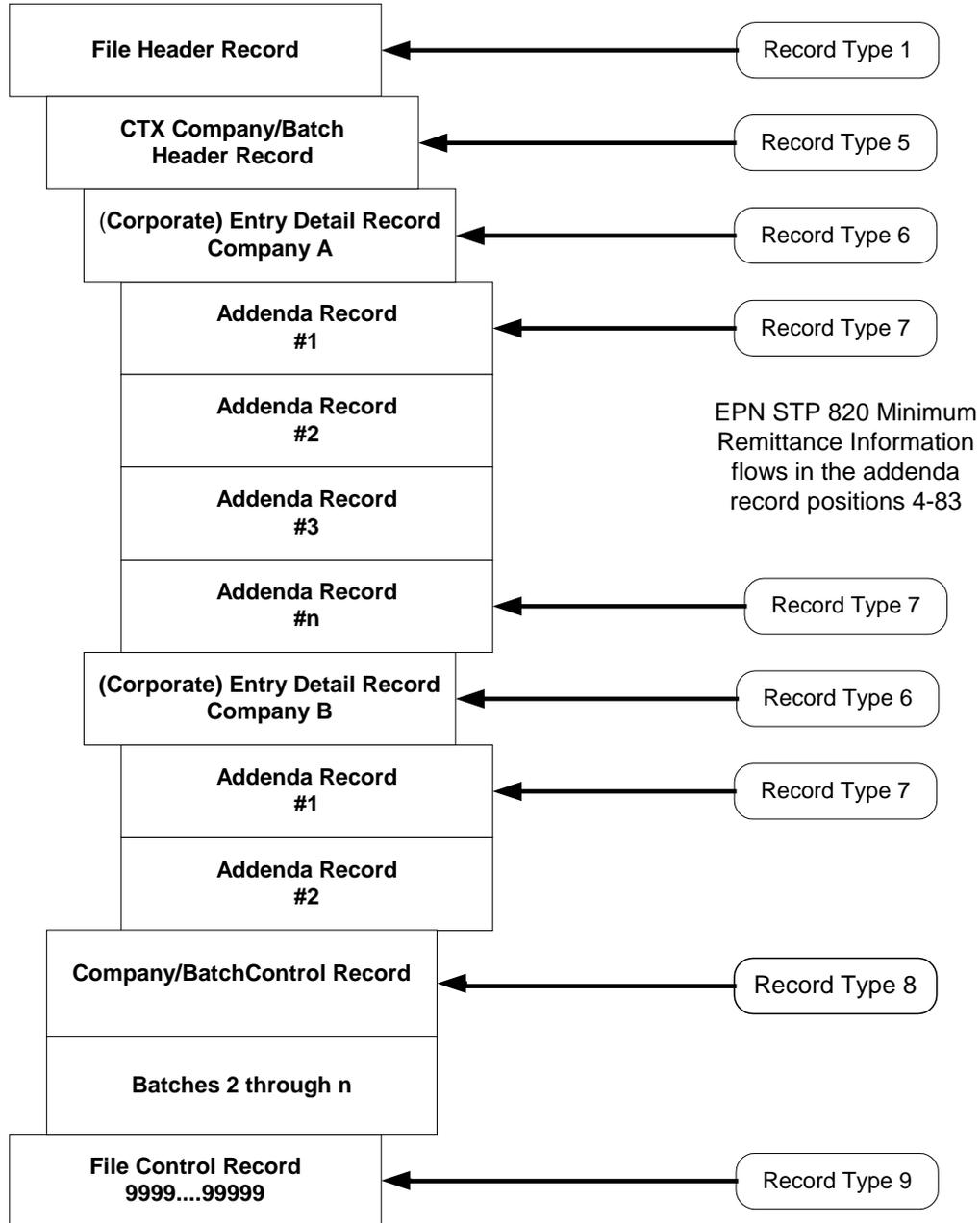
The ACH record format specifications are designed to assist ACH participants in properly formatting and retrieving transaction information. This section details the contents of the various record formats and defines the code values and data elements. The inclusion requirements, contents, and lengths of data elements are illustrated in the record formats, which are arranged according to their sequence in the file. The glossary defines and explains the application of each field.

### Sequence of Records in ACH Files

Each file begins with a File Header Record. After the File Header may be any number of batches. Each batch is identified by a Batch Header Record and contains one or more Corporate Entry Detail Records. The number of addenda records that accompany each Corporate Entry Detail Record is dependent upon the amount of remittance information, which accompanies the payment. At the end of each batch is a Batch Control Record. Each file is ended with a File Control Record.

The records in ACH files must in the following sequence. Any other sequence will cause the file to be rejected.

**Nacha Record Types 1, 5, 6, 7, 8, 9**



Record types 1, 5, 8 and 9 contain control information including the send points and receive points of the data, Originator of payment instructions, and batch and file totals including hash totals (which are included to facilitate checking the integrity of the file).

The 1 and 9 records are file control records containing information that describes the ACH file, including creation date and time, and the origination and destination of the file. The 9 record contains data elements that are used to validate the integrity of the file.

The 5 and 8 records are for batch initiation and control. They contain the information concerning the batch of payments that they surround. A batch may contain one or more payments, including information identifying the payor, the type of transaction, record counts, and dollar totals, to permit validation of the batch. A file may contain multiple batches. A type 5 and a type 8 record surround each batch.

Record types 6 and 7 contain payment information. The Corporate Entry Detail Record contains the payment information including the receiving institution, receiver's account number, amount of the payment, and number of addenda records to follow.

The type 7 Addenda record carries remittance information within positions 4-83. There may be up to 9,999 Addenda records (type 7) following each Corporate Entry Detail Record (type 6). These contain sufficient remittance information to provide for the automatic posting of a payment to the correct account and against the correct invoice, including the ability to apply one payment to multiple invoices.

Remittance information will be defined utilizing the ANSI X12 EDI 820 definition, and has been carefully crafted to include only the minimum fields needed to apply payments to the correct customer account and invoice. This definition is the **STP 820**. Its format and field description can be found in Appendix B.

## File Header Record

The file header record designates physical file characteristics and identifies the immediate origin/sending point (the initiating business entity's accounting software or cash management package or the accounting package vendor if acting in an ASP capacity) and the destination/receiving point (or ACH Operator) of the entries contained within the file or within the transmitted batched data. In addition this record includes date, time, and file identification fields, which can be used to uniquely identify the file.

## Company/Batch Header Record

The Company/Batch Header Record identifies the Originator of the payment transaction and briefly describes the purpose of the entry. For example, "PAYINVOICE" indicates the reason for the transaction originated by the Originator. The Company/Batch Header Record contains the routing number of the Originator's bank (ODFI), for settlement, routing of returns, and other control purposes. The information contained in the Company/Batch Header Record applies uniformly to all subsequent Entry Detail Records in the batch.

## Corporate Entry Detail Record (CTX)

The Corporate Entry Detail Record contains payment information sufficient to relate the entry to the Receiver, including the bank account number, identification number, name, and the credit amount.

The information in the Corporate/Batch Header Record must be incorporated with the Corporate Entry Detail Records to fully describe the entry and all participants in the transaction. The information in the Corporate/Batch Header Record identifies the Originator; the trace number identifies the Originator's bank (ODFI) by routing number; DFI account information identifies both the RDFI and the specific account.

## Addenda Record

Addenda records are used by the Originator to supply additional information about Corporate Entry Detail Records that will be passed from the ODFI through the payment system to the RDFI. Addenda record information may be used only for the purpose of transmitting payment related information. Any other use is prohibited.

## Company/Batch Control Record

The Company/Batch Control Record contains the total number of Corporate Entry Detail records and Addenda records, hash totals of the RDFI routing numbers, and total dollar amounts for the preceding Corporate Entry Detail records within the indicated batch.

## File Control Record

The File Control Record contains dollar, entry, and hash total accumulations from the Company/Batch Control Records in the file. This record also contains counts of the number of blocks and the number of batches within the file.

## Data Specifications

All alphanumeric and alphabetic fields must be left justified and space filled. All numeric fields must be right justified, unsigned, and zero filled. Characters used in ACH records are restricted to 0-9, A-Z (upper case letters), space, and those special characters that have an EBCDIC value greater than hexadecimal "3F" or an ASCII value greater than hexadecimal "1F". Occurrences of values EBCDIC "00" – "3F" are not valid.

## ACH Record Format Specifications

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The following pages provide the ACH record layouts. The records presented are a subset of the NACHA records that must be created to enable Straight Through Processing of payments with remittance information. All records are 94 characters in length. The record type is identified in position 1.

**FILE HEADER RECORD**

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

Example: 1 01 b021000018 b311234567 030128 0140 F 094 10 1 BANK OF U.S.A. JONES PLUMBING bbbbbbbx

**FILE CONTROL RECORD**

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
Field Inclusion Requirement	M	M	M	M	M	M	M	N/A
Contents	'9'	Numeric	Numeric	Numeric	Numeric	\$\$\$\$\$\$\$\$\$cc	\$\$\$\$\$\$\$\$\$cc	Blank
Length	1	6	6	8	10	12	12	39
Position	01-01	02-07	08-13	14-21	22-31	32-43	44-55	56-94

Example 9 000001 000002 0000009 000210002 00000000000 00000012001 X  
 \* will always be zero

**COMPANY/BATCH HEADER RECORD**

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
Field Inclusion Requirement	M	M	M	O/R	M	M	M	O	R	Inserted by ACH Operator	M	M	M
Contents	'5'	Numeric	Alphanumeric	Alphanumeric	Alphanumeric	Alphanumeric	Alphanumeric	Alphanumeric	YYMMDD	Numeric	'1'	TTTTAAA	Numeric
Length	1	3	16	20	10	3	10	6	6	3	1	8	7
Position	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

Example      5      220      JONES PLUMBING      1311234567      CTX      PAYINVOICE      030129      1      02100001      0000012

**COMPANY/BATCH CONTROL RECORD**

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
Field Inclusion Requirement	M	M	M	M	M	M	R	O	N/A	M	M
Contents	'8'	Numeric	Numeric	Numeric	\$\$\$\$\$\$\$\$\$e	\$\$\$\$\$\$\$\$\$e	Alphanumeric	Alphanumeric	Blank	TTTTAAA	Numeric
Length	1	3	6	10	12	12	10	19	6	8	7
Position	01-01	02-04	05-10	11-20	21-32	33-44	45-54	55-73	74-79	80-87	88-94

Example      8      220      000009      0002100002      000000000000      000000012001      1311234567      02100001      0000012

\* Will always be zero



### CTX ADDENDA RECORD

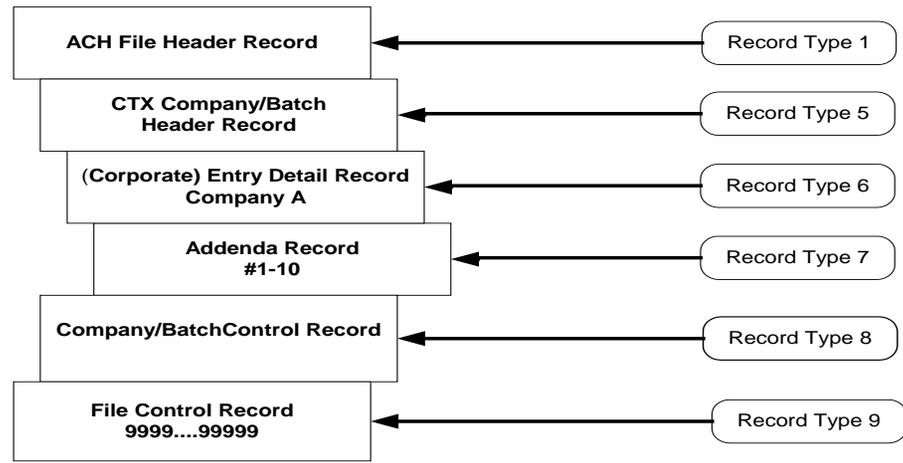
FIELD	1	2	3	4	5
DATA ELEMENT NAME	RECORD TYPE CODE	ADDENDA TYPE CODE	PAYMENT RELATED INFORMATION	ADDENDA SEQUENCE NUMBER	ENTRY DETAIL SEQUENCE NUMBER
Field Inclusion Requirement	M	M	O	M	M
Contents	'7'	'05'	Alphameric	Numeric	Numeric
Length	1	2	80	4	7
Position	01-01	02-03	04-83	84-87	88-94

**Example:**

7	05	ISA*00*	*00*	*30*311234567	*17*021000021	*030129*101	0001	0038729
7	05	1*U*00401*000000001*0*P*~\GS*RA*311234567*021000021*20030129*1615*1*X*004010STP8					0002	0038729
7	05	20\ST*820*0001\BPR*C*120.01*C*ACH*CTX*****1311234567**01*021000021*DA*182389281*					0003	0038729
7	05	20030129\TRN*1*EP10019\N1*PR*JONES PLUMBING*91*123456789012345\N1*PE*SMITH FAUCE					0004	0038729
7	05	TS\ENT*1\RMR*IV*3920394930203**30.01*40.01*2\REF*R7*3920394930203*DISCOUNT OK D					0005	0038729
7	05	SMITHE\DTM*003*20030123\ADX*-8*01*TD*USED CATALOG 199JAN2003\RMR*IV*254221222500					0006	0038729
7	05	**45*50.01*4\REF*PO*5722319*MARKETING DEPARTMENT ORDER\DTM*003*20030125\ADX*-1.0					0007	0038729
7	05	1*04\RMR*R7*21222500**45\SE*16*0001\GE*1*1\IEA*1*000000001\					0008	0038729



Record Sequence



## File Construction Rules

---

The following information defines the inclusion requirement of certain data fields in ACH entries. This involves the standardization of three definitions: Mandatory, Required, and Optional.

**Mandatory for ACH Processing:** A mandatory field is necessary to ensure the proper routing and/or posting of an ACH entry. Any mandatory field not included in an ACH record will cause that entry, batch, or file to be rejected by the ACH Operator. The ACH Operator will return a rejected entry to the ODFI. The ACH Operator will report a rejected batch or rejected file to the ODFI or sending point.

**Required:** The omission of a required field will not cause an entry to reject at the ACH Operator, but may cause a reject at the RDFI. An example is the DFI Account Number field in the Entry Detail Record. If this field is omitted by an ODFI, the RDFI may return the entry as non-postable. To avoid processing and control problems at the RDFI, the Originator and ODFI should include data classified as required.

**Optional:** The inclusion or omission of an optional data field is at the discretion of the Originator and ODFI.

**NOTE:** Many of the fields to be included have been predefined and will always contain information that is constant. These fields are indicated by the presence of “ ”.

## Glossary of NACHA Terms and Data Elements

---

This glossary includes definitions of common ACH terms as well as NACHA data element names (field descriptions). Items included for definition purpose are displayed in quotation marks. Items without quotation marks are NACHA data element names.

### **“ACH Operator” or “Automated Clearing House Operator”**

The primary function of the ACH Operator is to accept ACH files from ODFIs (or other ACH Operators), to sort and distribute ACH files to RDFIs (or other ACH Operators), and to effect settlement between the financial institutions that are parties to the specific transactions. All ACH Operators are linked together for transaction exchange in order to provide a nationwide ACH Network accessible to all DFIs.

### **Addenda Record Indicator**

1 Position - Corporate Entry Detail Record - Mandatory

This field indicates the existence of an Addenda Record.

A value of "1" indicates that one or more addenda records follow.

### **Addenda Sequence Number**

4 Positions - Addenda Record - Mandatory

This number is consecutively assigned to each Addenda Record following a Corporate Entry Detail Record.

The first addenda sequence number must always be a "1."

### **Addenda Type Code**

2 Positions - Addenda Record - Mandatory

The Addenda Type Code defines the specific interpretation and format for the addenda information contained in the same record.

For CTX, the addenda type code must always be a "05".

### **“Automated Clearing House” or “ACH”**

A funds transfer system governed by the Rules of the National Automated Clearing House Association, which provides for the interbank clearing of electronic entries for participating financial institutions.

**Batch Count**

6 Positions - File Control Record - Mandatory

The value of this field must be equal to the number of Company/Batch Header Records in the file.

**Batch Number**

7 Positions - Company/Batch Header Record and Company/Batch Control Record - Mandatory

This number is assigned in ascending order to each batch by the business entity in a given file of entries. The batch number in the Company/Batch Header Record and the Company/Batch Control Record is the same.

**Block Count**

6 Positions - File Control Record - Mandatory

The Block Count contains the number of physical blocks (a block is 940 characters) in the file, including both the File Header and File Control Records. Records should be filled with 9's to fill out the entire block. The block count is calculated by taking the total number of records divided by 10 and rounded up.

**Blocking Factor**

2 Positions - File Header Record - Mandatory

The Blocking Factor defines the number of physical records within a block (a block is 940 characters). For all files moving between a DFI and an ACH Operator (either way), the value "10" must be used. If the number of records within the file is not a multiple of ten, the remainder of the block must be nine filled.

**Check Digit**

Sub-field within individual DFI identification - Mandatory

The Check Digit is computed using Modulus 10 as follows:

1. Multiply each digit in the routing number by a weighting factor. The weighting factors for each digit are:
 

Position:	1	2	3	4	5	6	7	8
Weights:	3	7	1	3	7	1	3	7
2. Add the results of the eight multiplications.

3. Subtract the sum from the next highest multiple of 10. The result is the Check Digit.

Example:

Routing Number:	0	7	6	4	0	1	2	5									
Multiply by:	3	7	1	3	7	1	3	7									
Sum:	0	+	49	+	6	+	12	+	0	+	1	+	6	+	35	=	109

Check Digit = 1 (110 minus 109)

### Company Descriptive Date

6 Positions - Company/Batch Header Record - Optional

Except as otherwise noted below, the Originator establishes this field as the date it would like to see displayed to the Receiver for descriptive purposes. This field is never used to control timing of any computer or manual operation. It is solely for descriptive purposes. The RDFI should not assume any specific format. Examples of possible entries in this field are: 011392, 01 92, JAN 13, JAN 92.

### Company Discretionary Data

20 Positions - Company/Batch Header Record - Optional

This field in the Company/Batch Header Record allows Originators and/or ODFIs to include codes (one or more), of significance only to them, to enable specialized handling of all subsequent entries in that batch. There will be no standardized interpretation for the value of the field. This field must be returned intact on any return entry.

### Company Entry Description

Company Entry Description 10 Positions - Company/Batch Header Record - Mandatory

Will always be "PAYINVOICE".

The value of this field provides a description of the purpose of the entry to be displayed back to the Receiver.

### Company Identification

10 Positions - Company/Batch Header Record- Mandatory; Company/Batch Control Record - Required

The Company Identification is an alphanumeric code used to identify an Originator. The Company ID may begin with the ANSI one-digit Identification Code Designators

(ICD), followed by the identification number. The ANSI Identification Numbers and related Identification Code Designators (ICD) are:

- IRS Employer Identification Number (EIN)/Tax ID "1"
- Data Universal Numbering Systems (DUNS) "3"
- User Assigned Number "9".

**Company Name**

16 Positions - Company/Batch Header Record - Mandatory

Name of company initiating the payments

**“CTX entry”**

A credit entry initiated by an organization to affect a transfer of funds to the account of that organization, or another organization, and accompanied by addenda records that relay information formatted in accordance with the ANSI ASC X12 transaction set, containing a BPR data segment. A CTX entry can contain up to 9,999 addenda records.

**DFI Account Number**

17 Positions – Corporate Entry Detail Record – Required

The RDFI account number is the bank account number of the Receiver. Alphanumeric, left justified, leave unused spaces blank, and include dashes

The vendor must supply his its bank account number or UPIC number to the payor.

**Discretionary Data**

2 Positions - Corporate Entry Detail Record - Optional

Leave blank

**Effective Entry Date**

6 Positions - Company/Batch Header Record - Required

The date on which the payor’s funds are to be settled

**Entry/Addenda Count**

6 Positions - Batch Control Record -Mandatory; 8 Positions - File Control Record - Mandatory

This count is the number of Corporate Entry Detail Records and Addenda Records processed, within either the batch or file.

**Entry Detail Sequence Number**

7 Positions - Addenda Record - Mandatory

This field contains the last seven digits of the trace number (Field 13) of the related Corporate Entry Detail Record.

**Entry Hash**

10 Positions - Company/Batch Control Record and File Control Record - Mandatory

The RDFI routing number in each Corporate Entry Detail Record (Type 6 Record) is hashed to provide a check against inadvertent alteration of data contents due to hardware failure or program error.

**NOTE:** Addenda records are not hashed.

Company/Batch Control Record: The Entry Hash is the sum of the RDFI routing number field in all Corporate Entry Detail Records (Type 6 records, positions 4 - 11) in the batch. Each batch is enveloped by Type 5 and Type 8 records. The hashed fields contain the 8-digit routing number of the receiving depository institution. The hash is the arithmetic sum of the 8-digit routing numbers, with overflow out of the high order (leftmost) position ignored.

Example:	Routing Number:
	0 5 1 0 0 0 2
	8 4 1 0 0 0 9
	<u>9 3 1 0 0 0 2</u>
	8 2 3 0 0 0 1 3 = 0182300013

File Control Record: The Entry Hash in the file control record is the arithmetic sum of corresponding fields positions (entry hash) in the Company/Batch Control Records (Type 8 records) on the file.

**File Creation Date**

6 positions - File Header Record – Mandatory.

The File Creation Date is expressed in YYMMDD format. The File Creation Date is the date on which the file is created by the business entity's accounting software, cash management package or an ODFI.

**File Creation Time**

4 positions - File Header Record - Optional

The File Creation Time is expressed in an HHMM (24 hour clock) format.

**File ID Modifier**

1 Position - File Header Record - Mandatory

The File ID Modifier is provided in the File Header Record to uniquely identify a file to be processed. It permits identification of multiple files created by the business entity's accounting software or cash management package on the same date and sent to the same ODFI. Only upper case A-Z and numeric 0-9 are permitted.

**Format Code**

1 Position - File Header Record - Mandatory

As currently defined, this field will contain a value of "1".

**Identification Number**

15 Positions - Corporate Entry Detail Record - Optional

This field may be used by the business entity (Originator) to insert its own number for tracing purposes. This could be the payment's ID number.

**Immediate Destination**

10 Positions - File Header Record - Mandatory

This field contains the business entity's bank's routing number (receiving point) to which the file is being sent. The 10-character field begins with a blank in the first position, followed by the 9 digit routing number.

**Immediate Destination Name**

23 Positions - File Header Record - Optional

This field contains the business entity's bank's name.

**Immediate Origin**

10 Positions - File Header Record - Mandatory

Contains company tax id number preceded by "1", or other ten-digit number mutually agreed to by company and bank. Usually the same as Company ID Number in Batch Header Record

**Immediate Origin Name**

23 Positions - File Header Record - Optional

This field contains the name of the business entity (or sending point) that is sending the file.

**Message Authentication Code**

19 Positions - Company/Batch Control Record - Optional

Leave blank.

**Number of Addenda Records**

4 Positions - Corporate Entry Detail Record - Mandatory

**CTX:** This number represents the number of addenda records associated with the Corporate Entry Detail Record. There will always be at least one addenda record.

**"Originating Depository Financial Institution" or "ODFI"**

The Originating Depository Financial Institution (ODFI) is the depository financial institution (DFI) that has made an arrangement with an Originator to transmit entries into the ACH system on behalf of the Originator or transmits entries into the ACH system on its own behalf (where the ODFI is also the Originator).

**"Originator"**

A Business entity that has authorized an ODFI to transmit a credit entry to the account of a receiver with an RDFI.

**Originating DFI Identification**

8 Positions - Company/Batch Header Record and Company/Batch Control Record - Mandatory

The first 8 positions of the business entity's bank's routing number: also the first 8 positions in the Trace Number of the Corporate Entry Detail Record.

### **Originator Status Code**

1 Position - Company/Batch Header Record - Mandatory

This code should always be "1".

### **"Participating Depository Financial Institution" or "Participating DFI"**

Financial institution that (1) is authorized by law to accept deposits, (2) has been assigned a routing number by Thomson Financial Publishing, and (3) has agreed to be bound by "The ACH Rules". A Participating DFI of an Association is a Participating DFI, which is a member of such Association or authorized by such Association to transmit entries and receive entries from an ACH Operator. Only Participating DFIs may act as ODFIs or RDFIs.

### **Payment Related Information**

80 Positions - Addenda Record - Optional

This section allows for the transmission of information formatted in accordance with the syntax of ANSI ASC X12 transaction set. This specification can be found in Appendix B of this document.

### **Priority Code**

2 Positions - File Header Record - Required

This field is included to allow for future priority handling of files. At this time, a value of "01" should be used.

### **"Receiving Depository Financial Institution" or "RDFI"**

A Receiving Depository Financial Institution (RDFI) is a participating depository financial institution that receives entries directly or indirectly from its Automated Clearing House Operator for debit or credit to the accounts of its customers.

### **Receiving Company Name/ID Number**

16 Positions - Corporate Entry Detail Record -Required

This field identifies the Receiver and can be used for descriptive purposes. The field may

contain the Receiving Company's name or an identifying number for that Company. The field should be left justified.

### **Receiving DFI Identification**

8 Positions - Entry Detail Record - Mandatory

The first 8 positions of the routing number assigned by Thomson Financial Publishing. It is used to identify the bank in which the receiver maintains his account.

### **Record Size**

3 Positions - File Header Record - Mandatory

The Record Size field indicates the number of characters contained in each record. At this time, the value "094" must be used.

### **Record Type Code**

1 Position - All Record Formats - Mandatory

Record Format Location: The first position of all record formats. These codes are uniquely assigned for each type of record as follows:

- 1 File Header Record Format
- 5 Company/Batch Header Record Format
- 6 Corporate Entry Detail Record Format
- 7 Addenda Record Formats
- 8 Company/Batch Control Record Format
- 9 File Control Record Format

### **Reference Code**

8 Positions - File Header Record - Optional

Leave blank.

### **Service Class Code**

3 Positions - Company/Batch Header Record and Company/Batch Control Record - Mandatory

"220" ACH Credits only

**“Settlement Date”**

The date an exchange of funds with respect to an entry is reflected on the books of the Federal Reserve Bank(s).

**Settlement Date**

3 Positions - Company/Batch Header Record – Julian date format. Settlement date of entry. Inserted by Receiving ACH Operator

Leave blank

**Standard Entry Class**

3 Positions - Company/Batch Header - Mandatory

Distinguishes various kinds of entries. Use “CTX”.

**Total Amount**

10 Positions - Corporate Entry Detail Record -Mandatory

Total Payment Amount. \$\$\$\$\$\$cc no decimal point. Right justified

**Total Debit or Credit Entry Dollar Amount**

12 Positions - Company /Batch Control and File Controls Records - Mandatory

For the purposes of this implementation, only credit transactions will be permitted. The total debit field will always contain zeros.

These fields contain accumulated Corporate Entry Detail credit totals within a given batch (Company/Batch Control Record) and accumulated Company/Batch Control Record credit totals within a given file (File Control Record). Total debit fields will contain zeros.

**Trace Number**

15 Positions - Corporate Entry Detail Record and Addenda Records -Mandatory

The Trace Number is constructed as follows:

Positions 01—08 Routing number of the business entity’s bank (ODFI).

- 09—15      Entry Detail Sequence Number -- The item number assigned in ascending order to entries within each batch. Provisions should be made by the business entity to avoid duplication of Trace Numbers if multiple data files are prepared on the same day. Trace Numbers are not required to be contiguous.

**Transaction Code**

2 Positions – Corporate Entry Detail Record - Mandatory

"22" Automated Deposit to checking account

## NACHA Guidelines for CTX Specifications with Remittance Information

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NACHA has developed several payment formats that may be accompanied by addenda records utilizing payment related ANSI ASC X12 transaction sets and data segments. The CTX will be used for this implementation. The standards for the CTX transaction, the Payment Order/Remittance Advice known as the 820 transaction set, (see Appendix B), were developed by the ASC X12, a standards development committee formally chartered by ANSI. The ASC X12 Committee consists of corporations, financial institutions, trade associations, government agencies, and other organizations interested in the development and increased use of Electronic Data Interchange (EDI).

### Corporate Payments

This section is derived from the NACHA Operating Guidelines and describes the CTX Corporate ACH format, which may utilize ASC X12 standards in the Type 07 addenda record.

#### The Corporate Trade Exchange (CTX) Format

For the purposes of this implementation, a CTX relays information using the ANSI ASC X12 transaction set containing a BPR data segment within the 820 transaction set. Appendix B of this document describes the minimum remittance information (**STP 820**) format, or payment related syntax, necessary to convey payment related information to the Receiver. The **STP 820** transaction will be contained within the addenda records, which follow each Corporate Entry Detail Record (CTX). The addition of one or more addenda records allows a corporation to transmit payment related information. All payments must include addenda records. There is a limit of 9,999 addenda records per ACH payment.

For CTX entries with multiple addenda, the addenda are, in effect, chained together with each succeeding addenda record carrying the next 80 characters of the **STP 820** message.

An Addenda Sequence Number is provided in the Addenda record. The sequence number is "0001" for the first addenda record. Each succeeding addenda must contain a number greater than the previous addenda.

For information regarding the **STP 820** specification, see Appendix B.

### Wrapping of the Data

Once the **STP EPN 820** message record formats are constructed, the X12 message is divided into 80-character segments and inserted within the NACHA addenda records. The payment related area of the addenda should be fully utilized by "wrapping" the ASC X12 data. Wrapping is a procedure in which one segment immediately follows the preceding segment. If a data segment is longer than eighty characters, the payment related field of the first addenda record is completely filled and the data is "wrapped" to the payment related field in the next addenda record.

**Example:**

```

622021000021182389281          0000012001EP10019          0008SMITH FAUCETS          1021000010038729
705ISA*00*          *00*          *30*311234567          *14*021000021          *030129*10100010038729
7051*U*00401*000000001*0*P*~\GS*RA*311234567*021000021*20030129*1615*1*X*004010STP800020038729
70520\ST*820*0001\BPR*C*120.01*C*ACH*CTX*****1311234567**01*021000021*DA*182389281*00030038729
70520030129\TRN*1*EP10019\N1*PR*JONES PLUMBING*91*123456789012345\N1*PE*SMITH FAUCE00040038729
705TS\ENT*1\RMR*IV*3920394930203**30.01*40.01*2\REF*R7*3920394930203*DISCOUNT OK D 00050038729
705SMITHE\DTM*003*20030123\ADX*-8*01*TD*USED CATALOG 199JAN2003\RMR*IV*25422122250000060038729
705**45*50.01*4\REF*PO*5722319*MARKETING DEPARTMENT ORDER\DTM*003*20030125\ADX*-1.000070038729
7051*04\RMR*R7*21222500**45\SE*16*0001\GE*1*1\IEA*1*000000001\          00080038729

```

**STP 820** remittance information wrapped inside of a NACHA CTX Transaction

## APPENDIX B: STP 820 SPECIFICATIONS

Appendix B defines the ASC X12 conventions and provides formats, definitions, and the implementation suggestions for the **STP 820** (Minimum Remittance Information). This information can assist corporations in making business payments with remittance information, using the NACHA CTX format and the ANS X12 820 transaction. The elements of the **STP 820** described in this document are carried within the addenda records that travel with each CTX record (described in Appendix A).

### Basic ASC X12 Rules Convention in Support of the *STP 820*

---

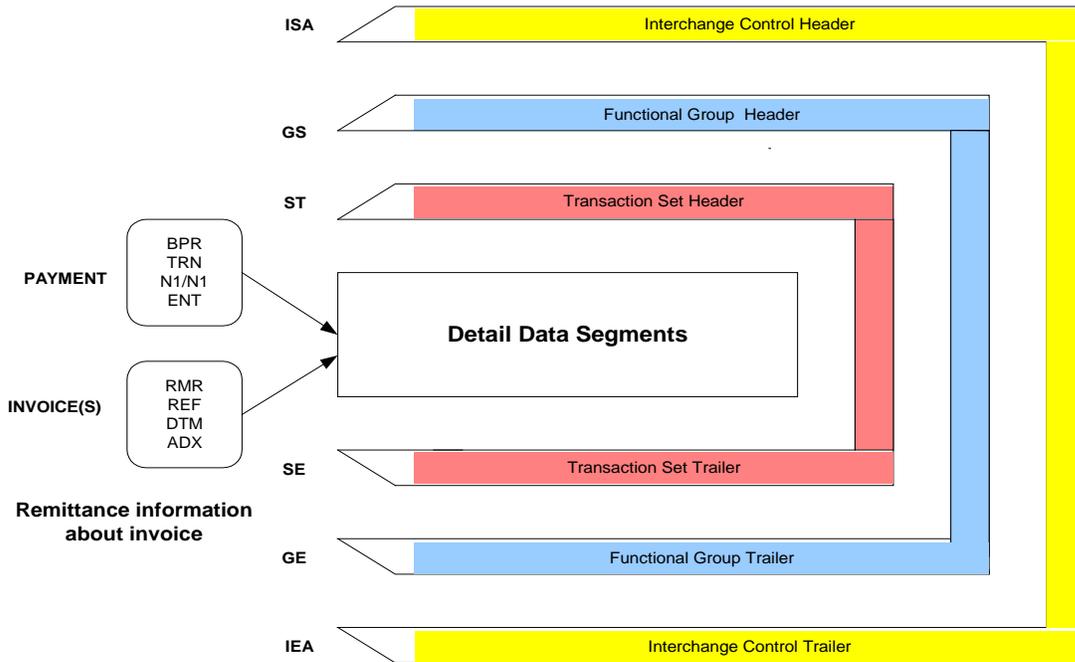
The **STP 820** is defined in accordance with the ASC X12 convention. The format of the ASC X12 message, contained within the addenda records of a NACHA CTX transaction, is referred to as "enveloping", since it is analogous to placing a message within an envelope and attaching it to a payment as it flows through the system. Every ASC X12 message includes the following components:

- Interchange Control Header and Trailer
- Functional Group Header and Trailer
- Transaction Set Header and Trailer
- Detail Data Segments
- Data Elements

The transaction set envelope of the message, carries the detailed data segments that define the payment and remittance information.

Pictorially, the relationship between these components is as follows:

## ASC X12 820 Envelope Structure



**NOTE:** This diagram illustrates the envelope structure of an X12 message. It depicts the 820 segment structures with specific attention to this STP implementation, which utilizes the guidelines for sending an ASC X12 820 within a NACHA CTX transaction.

The X12 message consists of three envelopes outside of the detailed data segments.

### ISA/IEA

The outermost envelope is an Interchange Control envelope, which consists of an Interchange Control Header (ISA) and an Interchange Control Trailer (IEA). The ISA/IEA interchange segments are used to identify the originator and the receiver of a physical transmission (point-to-point). The structure of this envelope is defined by the ASC X12 Interchange Control Structures.

**GS/GE**

Within the ISA/IEA envelope is a Functional Group envelope with a Functional Group Header (GS) and a Functional Group Trailer (GE). The identifications used in the GS/GE envelope are different from those in the ISA/IEA in that they identify the point of application at both the originating and receiving companies. The structure of this envelope is defined by the ASC X12 Application Control Structure. The headers and trailers of these two segments allow data to be segregated logically for easy interpretation by the receiver.

**ST/SE** (ASC X12 transaction sets containing both a BPR data segment and an RMR data segment - 820 Transaction Set)

The innermost envelope is the Transaction Set, which begins with the Transaction Set Header (ST) and ends with the Transaction Set Trailer (SE). The 820 Transaction Set contains detailed data segments that are used to define payment and remittance information.

The Transaction Set carries the data necessary to conduct business between trading partners. The Transaction Set envelope consists of three areas:

- Header
- Detail
- Summary

Each of the three areas of the ASC X12 820 Transaction Set consists of data segments that may be mandatory or optional. Data segments are made up of smaller components called data elements, which may be mandatory, optional, or relational. Data elements are fixed or variable length; minimum and maximum values are provided for variable-length elements.

Data elements are separated by a data element separator "\*" (delimiter character). Segments are terminated by a segment terminator "\". These conventions are designated by the NACHA Operating Rules for implementation of payment formats accompanied by addenda records utilizing ASC X12 standards and NACHA endorsed banking conventions.

Optional data elements not used must be flagged by a "\*" delimiter. The "~" will be utilized as the Component Element Separator.

The ASC X12 standard contains a Data Element Dictionary where the contents of all data elements are defined.

## X12 Data Segment Requirement

A **data segment** is the intermediate unit of information in the ASC X12 820 Transaction Set. Segments consist of logically related data elements in a defined sequence. Segments have a unique segment identifier that comprises the first characters of the segment. When segments are combined to form a transaction set, their relationship to the transaction set is defined by a segment requirement designator and a segment sequence (see Segment Diagram Key on page B-7).

Some segments and groups of segments may be repeated as loops. Data segments within the ASC X12 820 Transactions Set have one of the following designators:

- **Mandatory (M)** - This data segment must be present in the transaction set.
- **Optional (O)** - The appearance of this segment in the transaction set is either at the option of the sending party or is based on the mutual agreement of the interchange parties.

## Data Element Requirements

A data element is the smallest named unit of information in the ASC X12 820 Transaction Set. Each data element in a segment is assigned a structured code to indicate the segment in which it is used and its sequential position within the segment. This code is composed of the segment identifier followed by two digits indicating the position of the data element in the segment. For example, the reference designator N101 indicates the first element in the N1 segment. The counting of positions starts with 01 for the first data element and is incremented by one to the end of the segment.

Data elements within a particular data segment have one of the following designators, which define their requirement within the segment:

1. **Mandatory (M)** - The data element must be present in the segment (presence means a data element must not be empty).
2. **Optional (O)** - This element may or may not be used, depending on the requirements of the Originator. Optional fields not used will be flagged by an "\*".
3. **Relational (X)** - Relational conditions may exist among two or more data elements within the same data segment based on the presence or absence of one of those elements.

## Data Element Types

Data element types are:

### **DT - Date**

A date data element is used to express the ISO standard date in CCYYMMDD format in which CC is the century (19 to 99), YY is the year in the century (00 to 99), MM is the month (01 to 12), and DD is the day in the month (01 to 31).

### **R - Decimal Number**

A decimal data element contains an explicit decimal point and is used for numeric values that have a varying number of decimal positions. The decimal point always appears in the character stream if the decimal point is at any place other than the right end. If the value is an integer (decimal point at the right end), the decimal point should be omitted. For negative values, the leading minus sign (-) is used. Absence of a sign indicates a positive value. The plus sign (+) should not be transmitted. Leading zeros should be suppressed unless necessary to satisfy a minimum length requirement. Trailing zeros following the decimal point should be suppressed unless necessary to indicate precision. The use of triad separators (for example, the commas in 1,000,000) is expressly prohibited. The length of a decimal type data element does not include the optional leading sign or decimal point.

The following is an example of a \$100.00 positive integer value in the BPR data segment for the Monetary Amount data element (In this implementation, the amount data element is a variable length of one to ten characters):

\*100\*

The next example illustrates a \$100.02 fractional value in the same data segment and data element:

\*100.02\*

### **ID - Identifier**

An identifier data element always contains a value from a predefined list of values that is maintained by the ASC X12 Committee or some other body recognized by the X12 Committee. Trailing spaces should be suppressed unless necessary to satisfy minimum length.

**Nn - Numeric**

A numeric data element is represented by one or more digits with an optional leading sign representing a value in the normal base 10. The value of a numeric data element includes an implied decimal point. It is used when the position of the decimal point within the data is permanently fixed and is not to be transmitted with the data. The Data Element Dictionary defines the number of implied decimal positions. The representation for this data element type is Nn where N indicates that it is numeric and n indicates the number of decimal positions to the right of the fixed implied decimal point. For negative values, the leading minus sign (-) is used. Absence of a sign indicates a positive value. The plus sign (+) should not be transmitted. Leading zeros should be suppressed unless necessary to satisfy a minimum length requirement. The length of a numeric type data element does not include the optional sign.

**AN - String**

A string data element is a sequence of any characters. The characters shall be left justified and shall be space filled. Leading spaces, when they occur, are presumed to be significant characters. Trailing spaces should be suppressed unless they are necessary to satisfy minimum length.

All text fields should consist of uppercase letters.

**TM - Time**

A time data element is used to express the ISO standard time in HHMMSSd..d format in which HH is the hour for a 24 hour clock (00 to 23), MM is the minutes (00 to 59), SS is the seconds (00 to 59), and d..d is decimal seconds.

**Segment Terminator**

Designates the end of a segment. After the originator has provided all of the elements needed in a segment, the segment can be terminated. For example, the following is a remittance segment relating to an invoice, number 022. The total amount of the invoice is \$2,000.01.

```
RMR*IV*022**2000.01\
```

The following is the actual RMR segment to which the example can be compared:

```
RMR*Reference Number Qualifier*Reference Number*Payment Action  
Code*Monetary Amount*Total Invoice Amount*Discount Amount Taken\
```

**NOTE:** The addition of the second asterisk showing the omission of the Payment Action Code ASC X12 element (482) demonstrates a field not used. Rather than indicating the omission of the elements following the Monetary Amount (782), or \$2,000, the segment is terminated using a backslash.

**Data Element Length**

Each data element is assigned a minimum and maximum length. The length of the data element value is the number of character positions used except as noted for numeric and decimal elements.

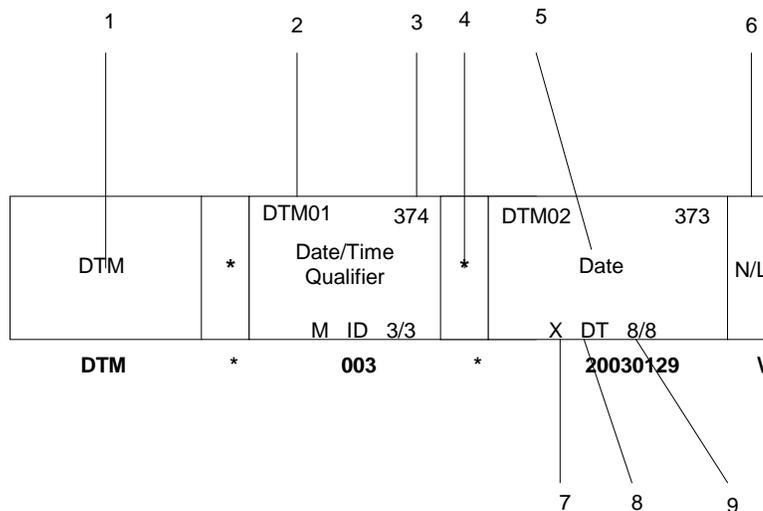
The STP 820 Implementation element attribute – Data Element Length may differ from the ANSI X12 Standard element attributes, to accommodate the field lengths of the corresponding fields in the NACHA formats.

**Segment Diagram Key**

---

The following diagram illustrates how a data segment provides references to codes and terms used in the ASC X12 standards. (Note that the actual interchange of information does not include all the reference characters shown in the diagram. Only the data segment identifier characters, the values for each data element, the data element separator, and the data segment terminator characters are actually transmitted.)

Segment Example: DTM\*003\*20030129\



- 1. Segment Identifier** - A unique combination of two or three letters or digits used to identify the segment.

2. **Data Element Reference Designator** - The structured code assigned to a data element to indicate the segment in which it is used and its sequential position within that segment. This code is made up of the Segment Identifier followed by a two-digit sequence number.
3. **Data Element Reference Number** - A unique reference number used to locate the data element definition and specifications in the Data Element Dictionary.
4. **Data Element Separator** - The character used by the sender which precedes every data element, whether the data element is used or not. The data element separator must be different from the segment terminator and must not appear in a data element value. In this implementation the value should always be “\*”.
5. **Data Element Name** - The name of the data element.
6. **Segment Terminator** - The character used by the sender to end each data segment. The segment terminator must be different from the data element separator and must not appear in a data element value.  
  
In this implementation, the value should always be “\”.
7. **Data Element Requirement Designator** - Defines the circumstances under which a data element must be present or not present in a particular data segment. The data element requirement designators are: Mandatory, Optional, or Relational.
8. **Data Element Type** - Describes the characters that may be used. N = Numeric, R = Decimal, ID = Identifier, AN = String, DT = Date, TM = Time
9. **Data Element Length** - The minimum and maximum length of the data element. The length of the data element value is the number of character positions used except as noted for numeric and decimal elements.

## Wrapping of the Data

The payment related field of each NACHA addenda record is used to provide up to 80 characters of payment-related remittance information. For CTX entries, there is a limit of 9,999 addenda records per CTX transaction.

Once the ASCII X12 message is constructed, the message is then divided into 80-character segments and inserted within the NACHA addenda records. The payment related area of the addenda should be fully utilized by "wrapping" the ASCII X12 data. Wrapping is a procedure in which one segment immediately follows the preceding segment. If a data segment is

longer than eighty characters, the payment related field of the first addenda record is completely filled and the data is "wrapped" to the payment related field in the next addenda record. (Fourteen characters of the addenda record contain the tracking and control information needed for ACH processing.) A maximum of 9,999 addenda records may be generated for any one CTX message, allowing a message totaling nearly 800,000 bytes.

# 820 Payment Order/Remittance Advice

Functional Group ID=**RA**

## Introduction

This Draft Standard for Trial Use contains the format and establishes the data contents of the Payment Order/Remittance Advice Transaction Set (820) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to make a payment, send a remittance advice, or make a payment and send a remittance advice. This transaction set can be an order to a financial institution to make a payment to a payee. It can also be a remittance advice identifying the detail needed to perform cash application to the payee's accounts receivable system. The remittance advice can go directly from payer to payee, through a financial institution, or through a third party agent.

## Heading:

<u>EPN/STP Impl. Use</u>	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
Must Use	005	ISA	Interchange Control Header	M	1		
Must Use	008	GS	Functional Group Header	M	1		
Must Use	010	ST	Transaction Set Header	M	1		
Must Use	020	BPR	Beginning Segment for Payment Order/Remittance Advice	M	1		
Must Use	035	TRN	Trace	M	1		
						LOOP ID - N1	1
Must Use	065	N1	Originator Name Identification	M	1		
						LOOP ID - N1	1
Must Use	070	N1	Receiver Name Identification	M	1		c1

## Detail:

<u>EPN/STP Impl. Use</u>	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
						LOOP ID - ENT	1
Must Use	010	ENT	Entity	M	1		n1
						LOOP ID - RMR	>1
Must Use	150	RMR	Remittance Advice Accounts Receivable Open Item Reference	M	1		c3
	170	REF	Reference Identification	O	1		
	180	DTM	Date/Time Reference	O	1		
						LOOP ID - ADX	1
	210	ADX	Adjustment	O	1		c4

## Summary:

<u>EPN/STP Impl. Use</u>	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
Must Use	010	SE	Transaction Set Trailer	M	1		
Must Use	020	GE	Functional Group Trailer	M	1		
Must Use	030	IEA	Interchange Control Trailer	M	1		

## Transaction Set Notes

1. The ENT loop is for vendor or consumer third party consolidated payments.

## Transaction Set Comments

1. The N1 loop allows for name/address information for the payer and payee which would be utilized to address remittance(s) for delivery.
3. Loop RMR is for open items being referenced or for payment on account.
4. This ADX loop can only contain adjustment information for the immediately preceding RMR segment and affects the amount (RMR04) calculation.

## Syntax Notes:

1. This STP implementation has designated the "\*" (asterisk) as the convention for the data element separator, referred to as the "delimiter," and the "\" (backslash) as the convention for the end of segment indicator, referred to as the "terminator."

## Comments:

1. The **STP 820** provides the ability to pay several invoices with one payment. The dollar amount of the payment is defined in the BPR segment.  
BPR02 maps to the NACHA 6 record fields 30-39 – total amount of payment.  
BPR02 = the sum of the RMR04 (invoice amount paid) entries within each RMR segment in the transaction.

The ability is provided for the payor to identify the reasons for making an adjustment to the payment by identifying differences between the invoice amount billed and the amount paid. The ADX segment can be used to provide this information.

In this implementation, only one ADX segment per invoice (RMR) may be used to define an adjustment code and dollar amount indicating the difference in the payment of the invoice. The ADX is not intended to provide a vehicle to define line item related differences but rather to identify an adjustment amount to either one item or the entire invoice.

It is acknowledged that the ADX segment may not fully define the reason for the difference between the invoice amount paid and amount billed.

2. For security reasons, to prevent identity theft of originating account information, BPR06-09 are not recommended in the STP initiative.

### Example of an STP 820

The following example demonstrates one payment of \$120.01 for which 3 items (2 invoices and 1 open item) are being paid and are defined by each grouping of RMR, REF, DTM and ADX segments. Only those segments and data elements, which are required for this implementation, are utilized to identify the items being paid. The sum total of the dollar amount paid in each RMR segment (RMR04 "Amount Paid") should equal the amount of the payment in the BPR segment (BPR02 "Payment Amount"). This amount should also equal the payment amount in the NACHA 6 record positions (30-39).

Further descriptive information for each segment in this example is provided on page B33-B36.

1. Represents a remittance item identified by an invoice #.
2. Represents a remittance item identified by an invoice # for which a PO was also included.
3. Represents a remittance item paying an Accounts Receivable Open Item for which the paid amount equals the invoiced amount.

```

ISA*00*                *00*                *30*311234567          *17*021000021
      *030129*1011*U*00401*000000001*0*P*~\
GS*RA*311234567*021000021*20030129*1615*1*X*004010STP820\
ST*820*0001\
BPR*C*120.01*C*ACH*CTX*****1311234567**01*021000021*DA*182389281*20030129\
TRN*1*EP10019\
N1*PR*JONES PLUMBING*91*123456789012345\
N1*PE*SMITH FAUCETS\
ENT*1\

```

1

```

RMR*IV*3920394930203**30.01*40.01*2\
REF*R7*3920394930203*DISCOUNT OK D SMITHE\
DTM*003*20030123\
ADX*-8*01*TD*USED CATALOG 199JAN2003\

```

2

```

RMR*IV*254221222500**45*50.01*4\
REF*PO*5722319*MARKETING DEPARTMENT ORDER\
DTM*003*20030125\
ADX*-1.01*04\

```

3

```

RMR*R7*21222500**45\

```

```

SE*16*0001\
GE*1*1\
IEA*1*000000001\

```

**Segment:** **ISA** Interchange Control Header  
**Position:** 005  
**Loop:**  
**Level:** Heading  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To start and identify an interchange of zero or more functional groups and interchange-related control segments

**Syntax Notes:**  
**Semantic Notes:** 1 The data interchange control number in ISA13 must be identical to the same data element in the associated interchange control trailer, IEA02.  
**Comments:** 1 In the NACHA standards, only 1 ISA/IEA, GS/GE, ST/SE envelopes are permitted.

**Example:**

```
ISA*00*      *00*      *30*311234567  *17*021000021  *030129*1011*
U*00401*000000001*0*P*~\
```

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	ISA01	I01	<b>Authorization Information Qualifier</b> Code to identify the type of information in the Authorization Information 00 No Authorization Information Present (No Meaningful Information in I02)	<b>M ID 2/2</b>
Must Use	ISA02	I02	<b>Authorization Information</b> 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) <b>Fill field with blanks</b>	<b>M AN 10/10</b>
Must Use	ISA03	I03	<b>Security Information Qualifier</b> Code to identify the type of information in the Security Information 00 No Security Information Present (No Meaningful Information in I04)	<b>M ID 2/2</b>
Must Use	ISA04	I04	<b>Security Information</b> This is used for identifying the security information about the interchange sender or the data in the interchange; the type of information is set by the Security Information Qualifier (I03) <b>Fill field with blanks</b>	<b>M AN 10/10</b>
Must Use	ISA05	I05	<b>Interchange ID Qualifier</b> Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified <b>Mutually agreed identifier code between the sender and receiver of the message</b> 01 Duns (Dun & Bradstreet) 14 Duns Plus Suffix 17 American Bankers Association (ABA) Transit Routing Number (Including Check Digit, 9Digit) 30 U.S. Federal Tax Identification Number	<b>M ID 2/2</b>

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	ISA06	I06	<b>Interchange Sender ID</b> Identification code published by the sender for other parties to use as the receiver ID to route data back to them; the sender always codes this value in the sender ID element <b>Mutually agreed identifier between the sender and receiver of the message identifying the sender</b>	M AN 15/15
Must Use	ISA07	I05	<b>Interchange ID Qualifier</b> Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified 01 Duns (Dun & Bradstreet) 14 Duns Plus Suffix 17 American Bankers Association (ABA) Transit Routing Number (Including Check Digit, 9Digit) 30 U.S. Federal Tax Identification Number	M ID 2/2
Must Use	ISA08	I07	<b>Interchange Receiver ID</b> 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 <b>Mutually agreed identification number between the sender and receiver, identifying the receiver</b>	M AN 15/15
Must Use	ISA09	I08	<b>Interchange Date</b> Date of the interchange <b>Mapped to the file creation date field in the NACHA 1 Record 24-29</b>  <b>Use format YYMMDD</b>	M DT 6/6
Must Use	ISA10	I09	<b>Interchange Time</b> Time of the interchange <b>Mapped to the file creation time field in the NACHA 1 Record 30-33</b>  <b>Use format HHMM - 24 hour clock</b>	M TM 4/4
Must Use	ISA11	I10	<b>Interchange Control Standards Identifier</b> Code to identify the agency responsible for the control standard used by the message that is enclosed by the interchange header and trailer  U U.S. EDI Community of ASC X12	M ID 1/1
Must Use	ISA12	I11	<b>Interchange Control Version Number</b> This version number covers the interchange control segments 00401 Draft Standards for Trial Use Approved for Publication by ASC X12 Procedures Review Board through October 1997	M ID 5/5
Must Use	ISA13	I12	<b>Interchange Control Number</b> A control number assigned by the sender <b>Must match IEA02</b>	M N0 9/9
Must Use	ISA14	I13	<b>Acknowledgment Requested</b> Code sent by the sender to request an interchange acknowledgment (TA1) 0 No Acknowledgment Requested	M ID 1/1

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	ISA15	I14	<b>Usage Indicator</b> Code to indicate whether data enclosed by this interchange envelope is test, production or information P                                  Production Data	M    ID 1/1
Must Use	ISA16	I15	<b>Component Element Separator</b>  This element will always contain "~"	M    AN 1/1

**Segment:** **GS** **Functional Group Header**  
**Position:** 008  
**Loop:**  
**Level:** Heading  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To indicate the beginning of a functional group and to provide control information  
**Syntax Notes:**  
**Semantic Notes:**  
 1 GS04 is the group date.  
 2 GS05 is the group time.  
 3 The data interchange control number GS06 in this header must be identical to the same data element in the associated functional group trailer, GE02.  
**Comments:**  
 1 A functional group of related transaction sets, within the scope of X12 standards, consists of a collection of similar transaction sets enclosed by a functional group header and a functional group trailer.  
 2 In the NACHA standards, only 1 ST/SE transaction set is permitted within a GS/GE envelope.

**Example:** GS\*RA\*311234567\*021000021\*20030129\*1615\*1\*X\*004010STP820\

**Data Element Summary**

<u>EPN/STP</u> <u>Impl. Use</u> Must Use	<u>Ref.</u> <u>Des.</u> GS01	<u>Data</u> <u>Element</u> 479	<u>Name</u> <b>Functional Identifier Code</b> Code identifying a group of application related transaction sets RA Payment Order/Remittance Advice (820)	<u>Attributes</u> <b>M ID 2/2</b>
Must Use	GS02	142	<b>Application Sender's Code</b> Code identifying party sending transmission; codes agreed to by trading partners <b>Use ISA06</b>	<b>M AN 2/15</b>
Must Use	GS03	124	<b>Application Receiver's Code</b> Code identifying party receiving transmission; codes agreed to by trading partners <b>Use ISA08</b>	<b>M AN 2/15</b>
Must Use	GS04	373	<b>Date</b> Date expressed as CCYYMMDD	<b>M DT 8/8</b>
Must Use	GS05	337	<b>Time</b> Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)	<b>M TM 4/8</b>
Must Use	GS06	28	<b>Group Control Number</b> Assigned number originated and maintained by the sender <b>Must match GE02</b>	<b>M N0 1/9</b>
Must Use	GS07	455	<b>Responsible Agency Code</b> Code used in conjunction with Data Element 480 to identify the issuer of the standard X Accredited Standards Committee X12	<b>M ID 1/2</b>
Must Use	GS08	480	<b>Version / Release / Industry Identifier Code</b> Code indicating the version, release, subrelease, and industry identifier of the EDI standard being used, including the GS and GE segments; if code in DE455 in GS segment is X, then in DE 480 positions 1-3 are the version number; positions 4-6 are the release and subrelease, level of the version; and positions 7-12 are the industry or trade association identifiers (optionally assigned by user) STP820 defining remittance information standard; if code in DE455 in GS segment is T, then other formats are allowed <b>004010STP820</b> Draft Standards Approved for Publication by ASC X12 Procedures Review Board through October 1997	<b>M AN 1/12</b>

- Segment:** **ST** Transaction Set Header  
**Position:** 010  
**Loop:**  
**Level:** Heading  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To indicate the start of a transaction set and to assign a control number  
**Syntax Notes:**  
**Semantic Notes:** 1 The transaction set identifier (ST01) is used by the translation routines of the interchange partners to select the appropriate transaction set definition (e.g., 810 selects the Invoice Transaction Set).  
**Comments:** 1 In the NACHA standards, only 1 ST/SE transaction set is permitted within a GS/GE envelope.

**Example:** ST\*820\*0001\

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	ST01	143	<b>Transaction Set Identifier Code</b> Code uniquely identifying a Transaction Set 820 Payment Order/Remittance Advice	M ID 3/3
Must Use	ST02	329	<b>Transaction Set Control Number</b> Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set. <b>Must match SE02</b>	M AN 4/9

- Segment:** **BPR** Beginning Segment for Payment Order/Remittance Advice
- Position:** 020
- Loop:**
- Level:** Heading
- Usage:** Mandatory
- Max Use:** 1
- Purpose:** To indicate the beginning of a Payment Order/Remittance Advice Transaction Set and total payment amount, or to enable related transfer of funds and/or information from payer to payee to occur
- Syntax Notes:**
- 1 If either BPR06 or BPR07 is present, then the other is required.
  - 2 If BPR08 is present, then BPR09 is required.
  - 3 If either BPR12 or BPR13 is present, then the other is required.
  - 4 If BPR14 is present, then BPR15 is required.
- Semantic Notes:**
- 1 BPR02 specifies the payment amount.
  - 2 When using this transaction set to initiate a payment, all or some of BPR06 through BPR16 may be required, depending on the conventions of the specific financial channel being used.
  - 3 BPR06 and BPR07 relate to the originating depository financial institution (ODFI).
  - 4 BPR08 is a code identifying the type of bank account or other financial asset.
  - 5 BPR09 is the account of the company originating the payment. This account may be debited or credited depending on the type of payment order.
  - 6 BPR12 and BPR13 relate to the receiving depository financial institution (RDFI).
  - 7 BPR14 is a code identifying the type of bank account or other financial asset.
  - 8 BPR15 is the account number of the receiving company to be debited or credited with the payment order.
  - 9 BPR16 is the date the originating company intends for the transaction to be settled (i.e., Payment Effective Date).
- Comments:**
- 1 For security reasons, to prevent identify theft of originating account information, BPR06-09 are not recommended in the STP initiative.

**Example:**

BPR\*C\*120.01\*C\*ACH\*CTX\*\*\*\*\*1311234567\*\*01\*021000021\*DA\*182389281\*20030129\

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	BPR01	305	Transaction Handling Code Code designating the action to be taken by all parties C Payment Accompanies Remittance Advice	M ID 1/2
Must Use	BPR02	782	Monetary Amount Monetary amount The NACHA rules permit dollar amount values from .01 to a maximum of 99,999,999.99.	M R 1/10

The X12 standard specifies that the decimal point must be included only if there are cent values. The use of triad separators (commas) is expressly prohibited in the NACHA formats and X12 Standard. For further explanation, refer to Decimal Number - Data Element Types.

Maps to NACHA 6 Record 30-39 (Total Amount).  
Note: The NACHA amount field does not include commas or a decimal point. The rightmost two positions of the NACHA amount field represent cent values.



<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Not Used	BPR11	510	Originating Company Supplemental Code A code defined between the originating company and the originating depository financial institution (ODFI) that uniquely identifies the company initiating the transfer instructions  Use "*" as place holder	O AN 9/9
Required	BPR12	506	(RDFI) ID Number Qualifier  Code identifying the type of identification number of Depository Financial Institution (DFI) 01 ABA Transit Routing Number Including Check Digits (9 digits)  In the STP 820 Specification the inclusion of this field is recommended.	X ID 2/2
Required	BPR13	507	(RDFI) Identification Number Depository Financial Institution (DFI) identification number Transit ABA number and check digit of the Receivers bank (RDFI)  Maps to NACHA 6 record 4-12 (Receiving DFI Identification)  In the STP 820 Specification the inclusion of this field is recommended.	X AN 9/9
Required	BPR14	569	Account Number Qualifier Code indicating the type of account Code values 22 for Demand Deposit DA Demand Deposit  Maps to NACHA 6 record 02-03 (Transaction Code)  In the STP 820 Specification the inclusion of this field is recommended	O ID 1/3
Required	BPR15	508	Account Number Account number assigned Receivers Account Number  Maps to NACHA 6 record 13-29 (DFI Account Number)  In the STP 820 Specification the inclusion of this field is recommended	X AN 1/17
	BPR16	373	Date Date expressed as CCYYMMDD Transaction Value Date  Mapped to NACHA 5 record 70-75 (Effective Entry Date in the format YYMMDD)	O DT 8/8

**Segment:** **TRN Trace**  
**Position:** 035  
**Loop:**  
**Level:** Heading  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To identify a transaction to an application  
**Syntax Notes:**  
**Semantic Notes:** 1 TRN02 provides unique identification for the transaction.  
 Electronic Payment reference number may be equivalent to a check serial number.  
**Comments:**  
**Notes:** The purpose of this segment is to uniquely identify this transaction.  
**Examples:** TRN\*1\*EP10019\

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	TRN01	481	<b>Trace Type Code</b> Code identifying which transaction is being referenced 1 Current Transaction Trace Number	M ID 1/2
Must Use	TRN02	127	<b>Reference Identification Number</b>  Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier  <b>To be used to identify the electronic payment reference number – equivalent to a check serial number.</b>	M AN 1/30

**Segment:** **N1** **Originator Name Identification**  
**Position:** 065  
**Loop:** N1 Optional  
**Level:** Heading  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To identify a party by type of organization, name, and code  
**Syntax Notes:** 1 N101 and N102 are required.

**Semantic Notes:**

**Comments:** 1 This segment, used alone, provides the most efficient method of providing organizational identification.

**Notes:** The first N1 loop is used to identify the Originator of the payment.

**Example:** N1\*PR\*JONES PLUMBING\*91\*123456789012345\

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	N101	98	<b>Entity Identifier Code</b> Code identifying an organizational entity, a physical location, property or an individual PR Payer	M ID 2/3
Must Use	N102	93	<b>Name</b> Free-form name <b>Originating Company Name</b> Mapped to NACHA 5 Record 5-20 (Company Name)	X AN 1/16
Must Use	N103	66	<b>Identification Code Qualifier</b> Code designating the system/method of code structure used for Identification Code (67) 91 Assigned by Seller or Seller's Agent	X ID 1/2
Must Use	N104	67	<b>Identification Code</b> <b>Unique ID assigned by seller</b> Code identifying a party Assigned by Receiver (vendor) to identify the originator (buyer) <i>E.g. buyers account number at the receiver - Customer Account Number</i>	X AN 2/80

**Segment:** **N1 Receiver Name Identification**  
**Position:** 070  
**Loop:** N1 Mandatory  
**Level:** Heading  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To identify a party by type of organization, name, and code  
**Syntax Notes:** 1 N101 and N102 are required.  
**Semantic Notes:**  
**Comments:** 1 This segment, used alone, provides the most efficient method of providing organizational identification.

**Notes:** The second N1 loop is used to identify the Receiver of the Payment.

**Example:** N1\*PE\*SMITH FAUCETS\

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	N101	98	Entity Identifier Code Code identifying an organizational entity, a physical location, property or an individual PE Payee	M ID 2/3
Must Use	N102	93	Name Free-form name Receiver Name  Mapped to NACHA 6 Record 59-74 (Receiving Company Name/ID Number)	X AN 1/16

**Segment:** **ENT** Entity  
**Position:** 010  
**Loop:** ENT Mandatory  
**Level:** Detail  
**Usage:** Optional  
**Max Use:** >1  
**Purpose:** To designate the entities which are parties to a transaction and specify a reference meaningful to those entities

**Syntax Notes:**  
**Semantic Notes:**  
**Comments:** In this implementation, subsidiary accounting will not be utilized.

**Example :** ENT\*1 \

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	ENT01	554	Assigned Number Number assigned for differentiation within a transaction set	O N0 1/6

**This element will always contain a sequential number starting with 1 and incremented by 1.**

**Segment:** **RMR** Remittance Advice Accounts Receivable Open Item Reference

**Position:** 150

**Loop:** RMR Mandatory

**Level:** Detail

**Usage:** Mandatory

**Max Use:** 1

**Purpose:** To specify the accounts receivable open item(s) to be included in the cash application and to convey the appropriate detail

**Syntax Notes:** 1 If either RMR01 or RMR02 is present, then the other is required.

**Semantic Notes:**

- 1 RMR04 is the amount paid.
- 2 RMR05 is the amount of invoice (including charges, less allowance) before terms discount (if discount is applicable) or debit amount or credit amount of referenced items.
- 3 RMR06 is the amount of discount or adjustment taken, if the adjustment segment is not used.

**Comments:**

- 1 RMR04 is the net amount being paid inclusive of discounts and adjustments. When paying an original invoice the calculation of the RMR04 is: (RMR05 - RMR06 (Discounts) + (ADX01 (Adjustment))). For this implementation, adjustments (ADX01) are always signed negative.
- 2 Additional explanatory notes can be added in the REF segment REF03. ADX04 may also be utilized to provide additional comments. The explanatory notes will not be automatically processed by the AR application.
- 3 The sum of all RMR04 data elements should equal BPR02.

**Notes:**

- 1 **If no invoice number can be provided, the RMR segment may include the PO or other identifier, which identifies the item being paid.**
- 2 **If both invoice and PO are provided, put the invoice in the RMR and PO in the REF segment.**
- 3 **If RMR04 = RMR05, only use RMR04.**
- 4 **RMR06 is the amount of discount or adjustment taken, if the adjustment segment is not used.**
- 5 **RMR04 is the net amount being paid inclusive of discounts and adjustments.**

**When paying an original invoice, the calculation of the RMR04 is:  
(RMR05 - RMR06 (Discounts) + (ADX01 (Adjustment))). For this implementation,  
adjustments (ADX01) are always signed negative.**

6. **Additional explanatory notes can be added in the REF segment REF03. ADX04 may also be utilized to provide additional comments. The explanatory notes will not be automatically processed by the AR application.**
- 7 **The sum of all RMR04 data elements should equal BPR02.**
- 8 **When RMR01 = IV, RMR05 and the DTM segment is required, DTM01 should be 003 (invoice) and the DTM02 is required.**

**Example:**

```
RMR*IV*3920394930203**30.01*40.01*2\  
RMR*IV*254221222500**45*50.01*4\  
RMR*R7*21222500**45\  

```

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Required	RMR01	128	<b>Reference Identification Qualifier</b> Code qualifying the Reference Identification IV Seller's Invoice Number If used the DTM01 and DTM02 are required. PO Purchase Order Number R7 Accounts Receivable Open Item	X ID 2/3
Required	RMR02	127	<b>Reference Identification</b> Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier  <b>Seller's Invoice Number, PO or any other document identified.</b>	X AN 1/30
Not Used	RMR03	482	<b>Payment Action Code</b> Code specifying the accounts receivable open item(s), if any to be included in the cash application Use "*" as place holder	
Required	RMR04	782	<b>Monetary Amount</b> Monetary amount <b>Amount Paid</b> The dollar amount must be from .01 to a maximum of 99,999,999.99.  The X12 standard specifies that the decimal point must be included only if there are cent values. <i>The use of triad separators (commas) is expressly prohibited in the X12 Standard.</i> For further explanation, refer to Decimal Number - Data Element Types.	M R 1/10
Optional	RMR05	782	<b>Monetary Amount</b> Monetary amount <b>Invoice Amount</b> including charges (less allowance), before terms discounts or debit amount of referenced items.  The dollar amount must be from .01 to a maximum of 99,999,999.99.  The X12 standard specifies that the decimal point must be included only if there are cent values. <i>The use of triad separators (commas) is expressly prohibited in the X12 Standard.</i> For further explanation, refer to Decimal Number - Data Element Types.	O R 1/10
Optional	RMR06	782	<b>Monetary Amount</b> Monetary amount <b>Amount of discount taken</b> This field is used to indicate dollar discount taken when no further explanation is required. The ADX segment may be used if further explanation of adjustment is required.  This value is a positive number and will be subtracted from the Invoice Amount (RMR05.)  The dollar amount must be from .01 to a maximum of 99,999,999.99.	O R 1/10

<b><u>EPN/STP Impl. Use</u></b>	<b><u>Ref. Des.</u></b>	<b><u>Data Element</u></b>	<b><u>Name</u></b>	<b><u>Attributes</u></b>
-------------------------------------	-----------------------------	--------------------------------	--------------------	--------------------------

The X12 standard specifies that the decimal point must be included only if there are cent values. *The use of triad separators (commas) is expressly prohibited in the X12 Standard.* For further explanation, refer to Decimal Number - Data Element Types.



**Segment:** **DTM** Date/Time Reference  
**Position:** 180  
**Loop:** RMR Optional  
**Level:** Detail  
**Usage:** Optional  
**Max Use:** 1  
**Purpose:** To specify pertinent dates and times  
**Syntax Notes:**  
**Semantic Notes:**  
**Comments:**  
**Notes:**

- 1 May be used to specify date of invoice or document specified as referenced in RMR02.
- 2 When RMR01 = IV, RMR05, DTM01 and DTM02 are required. DTM01 should be 003 (invoice).

**Example:** DTM\*003\*20030123\  
 DTM\*003\*20030125\  
 DTM\*003\*20030129\  
 \

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	DTM01	374	<b>Date/Time Qualifier</b> Code specifying type of date or time, or both date and time 003 Invoice 004 Purchase Order 092 Contract Effective	M ID 3/3
Optional	DTM02	373	<b>Date</b> Date expressed as CCYYMMDD <b>Seller's Invoice Date, PO Date or date of document specified as referenced in RMR02</b>	X DT 8/8

**Segment:** **ADX** Adjustment

**Position:** 210

**Loop:** ADX Optional

**Level:** Detail

**Usage:** Optional

**Max Use:** 1

**Purpose:** To convey accounts-payable adjustment information for the purpose of cash application, including payer-generated debit/credit memos

**Syntax Notes:** 1 If either ADX03 or ADX04 is present, then the other is required.

**Semantic Notes:** 1 ADX01 specifies the amount of the adjustment and must be signed if negative. If negative, it reduces the payment amount; if positive, it increases the payment amount.  
 2 ADX02 specifies the reason for claiming the adjustment.  
 3 ADX03 and ADX04 specify the identification of the adjustment.

**Comments:** 1 The ADX segment is provided to enable invoices or POs not fully paid to be processed electronically by AR applications by providing a level of automation with a small set of adjustment codes.  
 2 Only one ADX is permitted per RMR.

**Notes:** 1 Only one ADX segment per RMR may used to define an adjustment code and dollar amount indicating a difference in the payment of the invoice or PO or other open item.  
 2 This ADX loop contains an adjustment that is netted to the preceding RMR segment in this transaction, for example an allowance taken for missing items pertaining to this remittance item (invoice or PO or open item).  
 3 In the STP 820 Implementation, the ADX is not intended to provide a vehicle to define line item related differences but rather to identify one adjustment amount to one or more items in the associated invoice or open item. Select and use one adjustment reason code to represent the sum of all adjustments. Use ADX04 to provide additional explanation if desired.

**Example:** ADX\*-8\*01\*TD\*USED CATALOG 199JAN2003\  
 ADX\*-1.01\*04\  
 \

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	ADX01	782	Monetary Amount	M R 1/10

**For this implementation, this field will always be negative.**

The dollar amount **must be from .01 to a maximum of 99,999,999.99.**

The X12 standard specifies that the decimal point must be included only if there are cent values. *The use of triad separators (commas) is expressly prohibited in the X12 Standard.* For further explanation, refer to Decimal Number - Data Element Types.

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>		
Must Use	ADX02	426	<b>Adjustment Reason Code</b>	<b>M ID 2/2</b>		
			Code indicating reason for debit or credit memo or adjustment to invoice, debit or credit memo, or payment			
			01	Pricing Error		
			03	Extension Error		
			04	Item Not Accepted - Damaged		
			05	Item Not Accepted - Quality		
			06	Quantity Contested		
			07	Incorrect Product		
			11	Returns - Damage		
			12	Returns - Quality		
			59	Item not received		
			75	Total order not received		
			81	Credit as Agreed		
			CM	Covered by Credit Memo		
	ADX03	128	<b>Reference Identifier Qualifier</b>	<b>X ID 2/3</b>		
Code qualifying the Reference Identification						
		TD	Reason for Change			
	ADX04	127	<b>Reference Identification</b>	<b>X AN 1/30</b>		
Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier						
Used to provide additional descriptive information regarding adjustments taken						

**Segment:** **SE** Transaction Set Trailer  
**Position:** 010  
**Loop:**  
**Level:** Summary  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments)

**Syntax Notes:**

**Semantic Notes:**

- Comments:**
- 1 SE is the last segment of each transaction set.
  - 2 The use of identical data interchange control numbers in the associated transaction set header and trailer is designed to maximize functional group integrity. The control number is the same as that used in the corresponding header.

**Example:** SE\*16\*0001\

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	SE01	96	<b>Number of Included Segments</b> Total number of segments included in a transaction set including ST and SE segments	M N0 1/10
Must Use	SE02	329	<b>Transaction Set Control Number</b> Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set. <b>Must match ST02</b>	M AN 4/9

**Segment:** **GE** Functional Group Trailer  
**Position:** 020  
**Loop:**  
**Level:** Summary  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To indicate the end of a functional group and to provide control information  
**Syntax Notes:**  
**Semantic Notes:** 1 The data interchange control number GE02 in this trailer must be identical to the same data element in the associated functional group header, GS06.  
**Comments:** 1 The use of identical data interchange control numbers in the associated functional group header and trailer is designed to maximize functional group integrity. The control number is the same as that used in the corresponding header.

**Example:** GE\*1\*1\

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	GE01	97	<b>Number of Transaction Sets Included</b> Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element. In this implementation this value should always be "1".	M N0 1/6
Must Use	GE02	28	<b>Group Control Number</b> Assigned number originated and maintained by the sender <b>Must match GS06</b>	M N0 1/9

**Segment:** **IEA** Interchange Control Trailer  
**Position:** 030  
**Loop:**  
**Level:** Summary  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To define the end of an interchange of zero or more functional groups and interchange-related control segments

**Syntax Notes:**

**Semantic Notes:**

**Comments:**

**Comments:** 1 The use of identical data interchange control numbers in the associated interchange control header and trailer is designed to maximize functional group integrity. The control number is the same as that used in the corresponding header.

**Example:** IEA\*1\*00000001\

**Data Element Summary**

<u>EPN/STP Impl. Use</u>	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	IEA01	I16	<b>Number of Included Functional Groups</b> A count of the number of functional groups included in an interchange. In this implementation this value should always be "1".	M N0 1/5
Must Use	IEA02	I12	<b>Interchange Control Number</b> A control number assigned by the interchange sender <b>Must match ISA13</b>	M N0 9/9

### Example of an STP 820

EDI Remittance Data	Explanation
<pre>ISA*00*          *00*          *30*311234567 *17*021000021    *030129*1011*U*00401*000000001*0*P*~\</pre>	<p>The <b>ISA</b> is the Interchange Control Header, used to identify the send and receive points of the information. In this example, the Financial Institution required that the send point and receive point are to be specified by the Duns plus suffix numbers of the sender and receiver of the information. (Reference: <a href="#">Envelope Structure page B2</a>)</p> <p>The first 4 fields are specified as follows (<b>default values</b>):  <b>00*</b>            <b>*00*</b>            <b>*</b> as specified in this document.  The code <b>30</b> specifies that the next field is a Tax ID <b>311234567</b> (identifies the sender).  The code <b>17</b> specifies that the next field is an ABA Transit Routing Number <b>021000021</b>            <b>*</b> (identifies the receiver).  <b>030129</b> maps to the file creation date field in the NACHA 1 record positions (24-29) YYMMDD.  <b>1011</b> maps to the file creation time in the NACHA 1 record positions (30-33) HHMM.  <b>U</b> (default value)  <b>0401</b> (default value)  <b>000000001</b> is the interchange control number, assigned by the sender to uniquely identify the message that follows and must match element IEA02.  The last 3 fields are default values: <b>0*P*~</b></p>
<pre>GS*RA*311234567*021000021*20030129*1615*1*X*004010STP820\</pre>	<p>This <b>GS</b> segment is the Functional Group Header, used to indicate the beginning of a functional group (type of transaction), which follows, and to provide control information. (Reference: <a href="#">Envelope Structure page B2</a>)</p> <p><b>RA</b> (default value) identifies the type of transaction as a payment Order/Remittance Advice (820).  The next 2 fields are <b>311234567</b> (Tax ID) identifying the sender and <b>021000021</b> (ABA Transit Routing Number) identifying the receiver as in the ISA segment above.  <b>20030129</b> is the date the file is created.  <b>1615</b> is the time the file is created.  <b>1</b> is the Group Control Number and must match element GE02  <b>X</b> (default value), <b>004010</b> (default value), is the X12 EDI version being used STP820 identifies the STP820 standard.</p>
<pre>ST*820*0001\</pre>	<p>This <b>ST</b> segment identifies this transaction as an 820 formatted transaction. (Reference: <a href="#">Envelope Structure page B2</a>)</p> <p><b>0001</b> is the transaction set control number, which is user assigned and must match element SE02.</p>

<p>BPR*C*120.01*C*ACH*CTX*****1311234567**01*02100021*DA*18238 9281*20030129\</p>	<p>This <b>BPR</b> segment defines this payment: The first element <b>C</b> (default value) specifies that the payment accompanies the remittance information, <b>120.01</b> is the payment amount for \$120.01 The second <b>C</b> (default value) identifies a credit transaction. <b>ACH</b> (default value) indicates ACH payment method <b>CTX</b> (default value) specifies that the payment format to be used is a CTX. <b>*****</b> indicates the next 4 fields are not used. Use <b>""</b> as a placeholder. <b>1311234567</b> is the Originating Company's Identifier. The next field is not used. Use <b>""</b> as a placeholder. <b>01</b> (default value) specifies the next field will be an ABA/RT. <b>02100021</b> is the ABA /RT of the Receiving DFI, <b>DA</b> (default value) indicates the type of bank account, which is a Demand Account. <b>182389281</b> is the account number at the receiving bank. <b>20030129</b> is the date of transaction.</p>
<p>TRN*1*EP10019\</p>	<p>This <b>TRN</b> segment identifies the transaction: <b>1</b> is a default. <b>EP10019</b> identifies the specific transaction as it might be identified in a check register.</p>
<p>N1*PR*JONES PLUMBING*91*123456789012345\</p>	<p>This <b>N1</b> segment identifies the payor: <b>JONES PLUMBING</b> is the Payor's name (company name). <b>91</b> (default value) <b>123456789012345</b> is the Customer Account Number assigned by the vendor.</p>
<p>N1*PE*SMITH FAUCETS\</p>	<p>This second <b>N1</b> segment identifies the payee: <b>SMITH FAUCETS</b> is the Payee's name (company name).</p>
<p>ENT*1\</p>	<p>This <b>ENT</b> segment specifies the entities which are parties to a transaction. In this implementation subsidiary accounting will not be utilized. Therefore the suggested value is <b>1</b>.</p>

1	RMR*IV*3920394930203**30.01*40.01*2\ 	This <b>RMR</b> segment specifies payment of: <b>IV</b> identifies invoice <b>3920394930203</b> invoice number The next field is not used. Use "*" as a placeholder. <b>\$30.01</b> is the amount paid. <b>\$40.01</b> is the amount invoiced. <b>\$2.00</b> is the amount of discount taken.
	REF*R7*3920394930203*DISCOUNT OK D SMITHE\ 	This <b>REF</b> segment provides additional informaiton regarding the RMR segment above: <b>R7</b> identifies an accounts payable open item: in this case it is the invoice # <b>3920394930203</b> referenced in RMR above. Additional descriptive information is provided: DISCOUNT OK D SMITHE.
	DTM*003*20030123\ 	This <b>DTM</b> segment provides date of the invoice identified in RMR segment: <b>03</b> (default value) - indicates invoice date. <b>20030123</b> is the date of the invoice.
	ADX*-8*01*TD*USED CATALOG 199JAN2003\ 	This <b>ADX</b> segment provides adjustment information: <b>-8</b> indicates \$8.00 adjustment to the invoiced amount (must always be negative). <b>01</b> is selected from a table of adjustment reason codes: <b>01 = Pricing Error.</b> <b>TD</b> (default value) used when additional explanatory information regarding and adjustment is provided: USED CATALOG 199JAN2003.
2	RMR*IV*254221222500**45*50.01*4\ 	This <b>RMR</b> segment specifies payment of: <b>IV</b> identifies invoice, <b>254221222500</b> invoice number The next field is not used. Use "*" as a placeholder. <b>\$45.00</b> is the amount paid. <b>\$50.01</b> is the amount invoiced. <b>\$4.00</b> is the amount of discount taken.
	REF*PO*5722319*MARKETING DEPARTMENT ORDER\ 	This <b>REF</b> segment provides additional informaton regarding RMR segment above: <b>PO</b> identifies <b>PO number #5722319</b> which was supplied in addition to the invoice# in the associated RMR above. It also provides additional description regarding damaged shipment - MARKETING DEPARTMENT ORDER.
	DTM*003*20030125\ 	This <b>DTM</b> segment provides date of the invoice identified in RMR segment: <b>03</b> (default value)- indicates invoice date. <b>20030125</b> is the date of the invoice.
	ADX*-1.01*04\ 	This <b>ADX</b> segment provides adjustment information: <b>-1.01</b> indicates an adjustment of \$1.01 to the invoiced amount (must always be negative). <b>04</b> selected from a table of adjustment reason codes: <b>04 = Item Not Accepted - Damaged.</b>

<p>3</p>	<p>RMR*R7*21222500**45\</p>	<p>This <b>RMR</b> segment specifies payment of:  <b>R7</b> Accounts Receivable Open Item  <b>21222500</b> Open Item number  The next field is not used. Use <b>***</b> as a placeholder.  <b>\$45.00</b> is the amount paid, which is exactly the amount due, no further fields are required.</p>
	<p>SE*16*0001\</p>	<p>This SE segment specifies that there are <b>16</b> segments counted from segment ST through SE. (Reference: <a href="#">Envelope Structure page B2</a>).  <b>0001</b> is a control number that uniquely identifies this transaction set. Must match element ST02</p>
	<p>GE*1*1\</p>	<p>This GE segment indicates the end of the functional group and provides control information. (Reference: <a href="#">Envelope Structure page B2</a>)  <b>1</b> (default value)  <b>1</b> is assigned by the sender, must match element GS06.</p>
	<p>IEA*1*000000001\</p>	<p>This IEA segment defines the end of the interchange of the preceding functional group and is used to check the integrity of the transaction. (Reference: <a href="#">Envelope Structure page B2</a>)  <b>1</b> (default value) - in this implementation there will always be one functional group.  <b>000000001</b> is assigned by the sender and must match element ISA13.</p>

# APPENDIX C: STP PROJECT PLAN

Following is the project plan for the implementation of STP.

ID	Task Name	% Complete	Start	Finish
0	<b>Straight Through Processing Project Plan</b>	<b>70%</b>	<b>Mon 6/3/02</b>	<b>Mon 9/15/08</b>
1				
2	<b>Determine STP Payment data and Remittance Information requirements</b>	<b>93%</b>	<b>Tue 7/2/02</b>	<b>Mon 4/25/05</b>
3	✓  Determine Vendor list of AP/AR packages to assess	100%	Mon 7/8/02	Wed 7/10/02
4	✓ <b>Determine Vendor list of Cash Management Packages to assess</b>	<b>100%</b>	<b>Mon 12/16/02</b>	<b>Fri 12/20/02</b>
5	✓ Receive results of Global Concepts Survey for Cash Management packages	100%	Mon 12/16/02	Fri 12/20/02
6	✓  Determine list of ACH Origination packages to assess	100%	Mon 12/2/02	Wed 12/4/02
7	<b>Determine Accounting Package providers STP capabilities</b>	<b>95%</b>	<b>Tue 7/2/02</b>	<b>Mon 4/25/05</b>
8	✓ Jefferson Wells prepares 'STP Capabilities of Accounting Packages' report	100%	Tue 7/2/02	Mon 8/12/02
9	✓ Review results of Jefferson Wells STP Capabilities document	100%	Mon 8/19/02	Wed 8/21/02
10	✓ Prepare questionnaire for vendor payment and remittance reporting capabilities	100%	Thu 8/22/02	Tue 8/27/02
11	✓ Create UPIC/STP presentation for Vendors	100%	Mon 9/2/02	Thu 9/5/02
12	✓ Create Vendor contact lists	100%	Mon 9/2/02	Tue 9/3/02
13	Contact Accounting Package providers	85%	Mon 9/2/02	Mon 4/25/05
14	Schedule meeting with Accounting Package providers	85%	Mon 9/16/02	Mon 4/25/05
15	Meet with Vendors	85%	Mon 9/16/02	Mon 4/25/05
16	✓ <b>Determine AP/AR Vendor payment capabilities</b>	<b>100%</b>	<b>Mon 9/16/02</b>	<b>Wed 4/30/03</b>
17	✓ Define AP Payment method output formats	100%	Mon 9/16/02	Wed 4/30/03
18	✓ Define Payment method import formats for cash application to AR	100%	Mon 9/16/02	Wed 4/30/03
19	✓ Determine file transfer methods utilized	100%	Mon 9/16/02	Wed 4/30/03
20	✓ <b>Determine Vendor electronic payment capabilities</b>	<b>100%</b>	<b>Mon 9/16/02</b>	<b>Wed 4/30/03</b>
21	✓ Determine electronic payment output capabilities from AP packages	100%	Mon 9/16/02	Wed 4/30/03
22	✓ Determine electronic payment input capabilities to AR packages	100%	Mon 9/16/02	Wed 4/30/03
23	✓ Determine AP/AR Vendor information required to process a payment transaction	100%	Mon 9/16/02	Wed 4/30/03
24	✓ <b>Determine AP/AR Vendor invoice adjustments process</b>	<b>100%</b>	<b>Mon 9/16/02</b>	<b>Wed 4/30/03</b>
25	✓ Determine AP/AR Adjustment information included with payment	100%	Mon 9/16/02	Wed 4/30/03
26				
27	✓ Map AP Vendor required payment fields to ACH CTX payment required fields	100%	Mon 9/16/02	Wed 4/30/03
28	✓ Map AP Vendor required payment fields to ANSI X12 820 payment required fields	100%	Mon 9/16/02	Wed 4/30/03
29				
30	✓ <b>AR reconciliation process</b>	<b>100%</b>	<b>Mon 9/16/02</b>	<b>Wed 4/30/03</b>
31	✓ Determine data requirements to enable posting of a payment	100%	Mon 9/16/02	Wed 4/30/03
32	✓ <b>Determine process to reconcile payments</b>	<b>100%</b>	<b>Mon 9/16/02</b>	<b>Wed 4/30/03</b>
33	✓ Determine ability to accept remittance information in X12 820 format	100%	Mon 9/16/02	Wed 4/30/03
34	✓ Determine payment adjustment information required by AR	100%	Mon 9/16/02	Wed 4/30/03
35	✓  Determine ability to accept UPIC within X12 820 and perform cash application	100%	Mon 9/16/02	Wed 4/30/03
36				
37	✓ Determine AR ability to create a payment posting acknowledgment and send to originator	100%	Mon 9/16/02	Wed 4/30/03
38	✓ Determine AR ability to create ACH ATX transaction as a payment acknowledgment	100%	Mon 9/16/02	Wed 4/30/03
39	✓ <b>Document Accounting Package providers STP capabilities:</b>	<b>100%</b>	<b>Mon 9/16/02</b>	<b>Fri 11/7/03</b>
40	✓ Intuit	100%	Mon 9/16/02	Fri 11/7/03
41	✓ Peachtree	100%	Mon 9/16/02	Fri 11/7/03
42	✓ Great Plains	100%	Mon 9/16/02	Fri 11/7/03
43	✓ NetLedger	100%	Mon 9/16/02	Fri 11/7/03
44				
45	✓ <b>Determine ACH Origination Packages STP capabilities</b>	<b>100%</b>	<b>Tue 12/10/02</b>	<b>Fri 2/21/03</b>
46	✓ Prepare STP Payment capabilities questionnaire	100%	Tue 12/10/02	Mon 12/16/02
47	✓ Distribute questionnaire to ACH Origination Package providers	100%	Wed 12/18/02	Mon 1/27/03
48	✓ Compile results of ACH Origination Packages STP capabilities	100%	Mon 1/6/03	Fri 2/21/03

ID	Task Name	% Complete	Start	Finish
49				
50	<b>Determine Cash Management Packages STP capabilities</b>	<b>90%</b>	<b>Mon 10/14/02</b>	<b>Tue 4/12/05</b>
51	Review Global Concepts report	100%	Thu 1/2/03	Wed 1/8/03
52	Contact Global Concepts to obtain additional information	100%	Tue 2/11/03	Tue 2/11/03
53	Schedule meeting with Cash Management Package providers	95%	Mon 8/11/03	Tue 4/12/05
54	<b>Determine Cash Management integration capabilities with AP/AR packages</b>	<b>100%</b>	<b>Mon 8/11/03</b>	<b>Fri 10/24/03</b>
55	Determine Cash Management package ability to import ACH CTX with X12 820 from AP pack	100%	Mon 8/11/03	Fri 10/24/03
56	Determine Cash Management package ability to export X12 820 to AR package	100%	Mon 8/11/03	Fri 10/24/03
57				
58	<b>Determine Cash Management Payment capabilities</b>	<b>96%</b>	<b>Mon 8/11/03</b>	<b>Fri 10/24/03</b>
59	Determine Cash Management payment methods ability to create CTX with X12 820	100%	Mon 8/11/03	Fri 10/24/03
60	Determine if AP system gets opening day account balances from Cash Management system	95%	Mon 8/11/03	Fri 10/24/03
61	Determine File import methods utilized	95%	Mon 8/11/03	Fri 10/24/03
62	Determine File output methods utilized	95%	Mon 8/11/03	Fri 10/24/03
63				
64	<b>Determine Cash Management system Remittance Reporting services</b>	<b>100%</b>	<b>Mon 8/11/03</b>	<b>Fri 10/24/03</b>
65	Does Cash Management system deliver the remittance information in a suitable format for cu.	100%	Mon 8/11/03	Fri 10/24/03
66	Determine payment information maintained on Cash Management database	100%	Mon 8/11/03	Fri 10/24/03
67				
68	<b>Review STP initiative with Cash Management Vendors</b>	<b>95%</b>	<b>Mon 8/11/03</b>	<b>Mon 4/11/05</b>
69	Get STP initiative feedback from Cash Management Vendors	95%	Mon 8/11/03	Mon 4/11/05
70	<b>Document Cash Management packages STP capabilities:</b>	<b>85%</b>	<b>Fri 9/12/03</b>	<b>Mon 4/11/05</b>
71	P&H	100%	Fri 9/12/03	Mon 1/12/04
72	Fundtech	100%	Fri 9/12/03	Fri 10/8/04
73	Banklink/Fiserv	100%	Fri 9/12/03	Thu 1/29/04
74	Metavante	80%	Fri 9/12/03	Mon 4/11/05
75	Bank Proprietary systems	70%	Fri 9/12/03	Mon 1/10/05
76				
77	Review AP/AR/Cash Management STP assessment results with selected EPN Banks	80%	Mon 10/27/03	Mon 4/11/05
78				
79	<b>Document STP payment data and remittance information data requirements</b>	<b>100%</b>	<b>Mon 10/14/02</b>	<b>Fri 11/21/03</b>
80	Produce STP requirements document	100%	Mon 10/14/02	Fri 11/21/03
81				
82	<b>Minimum Payment and Remittance Information data requirements defined</b>	<b>100%</b>	<b>Fri 11/21/03</b>	<b>Fri 11/21/03</b>
83				
84	<b>Define Payment Data and Remittance Format specifications</b>	<b>100%</b>	<b>Mon 2/10/03</b>	<b>Tue 1/2/07</b>
85	<b>Document ACH CTX transaction for payment method</b>	<b>100%</b>	<b>Mon 2/10/03</b>	<b>Fri 4/18/03</b>
86	Document ACH CTX payment format specifications	100%	Mon 2/10/03	Fri 4/18/03
87	Document ACH CTX payment required fields	100%	Mon 2/10/03	Fri 4/18/03
88	<b>Document ANSI X12 820 transaction for payment method</b>	<b>100%</b>	<b>Mon 3/10/03</b>	<b>Fri 5/9/03</b>
89	Document ANSI X12 820 payment format specifications	100%	Mon 3/10/03	Fri 5/9/03
90	Document ANSI X12 820 required fields	100%	Mon 3/10/03	Fri 5/9/03
91				
92	<b>Obtain ANSI X12F approval of EPH STP 820</b>	<b>100%</b>	<b>Tue 6/3/03</b>	<b>Mon 4/5/04</b>
93	Submit ACH CTX with ANSI X12 820 payment specifications to ASC X12F for approval	100%	Tue 6/3/03	Tue 6/3/03
94	ANSI X12F Review with participating Banks 820	100%	Tue 6/3/03	Fri 10/3/03
95				
96	<b>ANSI X12F Approve EPH STP</b>	<b>100%</b>	<b>Fri 10/3/03</b>	<b>Mon 4/5/04</b>
97				
98	Review ACH CTX with ANSI X12 820 payment spec. with selected EPN Banks	100%	Fri 10/3/03	Tue 1/2/07
99	<b>Submit to IACHA for review</b>	<b>100%</b>	<b>Wed 7/23/03</b>	<b>Fri 8/22/03</b>
100				
101	Finalize ACH CTX with ANSI X12 820 payment specifications document	100%	Mon 10/27/03	Mon 4/5/04
102	Publish ACH CTX with ANSI X12 820 payment specifications document	100%	Mon 10/27/03	Mon 4/5/04
103				
104	<b>STP Payment formats defined with ACH CTX and ANSI X12 820 transactions</b>	<b>100%</b>	<b>Fri 11/21/03</b>	<b>Fri 11/21/03</b>
105				

ID	Task Name	% Complete	Start	Finish
106	<b>Understand Current Transport Mechanism for AP output and AR input to and from Banks</b>	90%	Thu 5/1/03	Fri 12/3/04
107	<b>Understand Current Transport mechanisms for payment data</b>	90%	Thu 5/1/03	Fri 12/3/04
108	Flat file transfer capability via email, FTP, or Bank proprietary transport mechanism	90%	Thu 5/1/03	Fri 12/3/04
109				
110	<b>Convince AP, AR, CM Vendors to implement STP specifications</b>	93%	Tue 1/14/03	Fri 12/3/04
111	<b>Create letter for AP, AR, Cash Management Vendors to encourage implementation of STI</b>	100%	Fri 8/1/03	Fri 12/3/04
112	Draft letter to Vendors to encourage implementation of STP payment specifications	100%	Fri 8/1/03	Fri 12/3/04
113	Review Vendor letter with selected Banks	100%	Fri 8/1/03	Fri 12/3/04
114	Finalize letter to Vendors to encourage implementation of STP specifications	100%	Fri 8/1/03	Fri 12/3/04
115	Distribute Electronic Payment Method Document to AP, AR, Cash Management Vendors	90%	Mon 11/24/03	Fri 12/3/04
116				
117	<b>Create Bank relationships with Accounting Package Vendors</b>	80%	Tue 1/14/03	Fri 12/3/04
118	Determine Bank relationships	80%	Tue 1/14/03	Fri 12/3/04
119	Determine if Accounting Package Vendor requires payment to implement STP specifications	90%	Fri 8/1/03	Fri 12/3/04
120				
121	<b>CM Vendors agree to implement STP specifications</b>	85%	Mon 8/6/07	Tue 9/2/08
122	<b>CM Vendors implement STP specifications</b>	65%	Mon 7/2/07	Mon 9/15/08
123	<b>AP, AR, Vendors agree to implement STP specifications</b>	45%	Mon 1/3/05	Fri 12/2/05
124	<b>AP, AR Vendors implement STP specifications</b>	45%	Mon 3/28/05	Mon 4/3/06
125				
126	<b>Define alternatives to Accounting Package/CM implementation of STP payment specifications</b>	68%	Mon 6/2/03	Mon 11/20/06
127	Identify potential Thrid Party software Providers (BCEmergis, Vector, Payformance, Ezdirect)	100%	Mon 6/2/03	Tue 10/5/04
128	<b>Convince 3rd Party software providers of Electronic Payment modules for AP, and AR sys</b>	80%	Mon 1/12/04	Fri 2/6/04
129	Meet with 3rd party software providers	80%	Mon 1/12/04	Fri 2/6/04
130	Distribute STP Payment Specifications document to 3rd Party software providers	80%	Mon 1/12/04	Fri 2/6/04
131	3rd Party software providers agree to implement STP specifications	70%	Fri 2/6/04	Mon 8/15/05
132	3rd Party Software providers implement STP specifications	30%	Tue 8/16/05	Mon 11/20/06
133				
134				
135	<b>Assess Bank effort required to process STP Payment Data</b>	81%	Mon 2/2/04	Mon 8/1/05
136	Define changes necessary to current Bank processes	60%	Mon 2/2/04	Mon 8/1/05
137	<b>STP Payment Origination from Customer</b>	90%	Mon 2/2/04	Mon 4/18/05
138	Determine ability to import STP payment data into ACH System	90%	Mon 2/2/04	Mon 4/18/05
139	Determine ability to import STP payment data into Cash Management System	90%	Mon 2/2/04	Mon 4/18/05
140	Determine ability to process STP payment data in ACH CTX format with embedded ANSI 820 in A	90%	Mon 2/2/04	Mon 4/18/05
141	Determine ability to process STP payment data in ACH CTX format with embedded ANSI 820 in C	90%	Mon 2/2/04	Mon 4/18/05
142	<b>STP Payment Receipt by Customer</b>	80%	Mon 2/2/04	Fri 5/27/05
143	Determine ability to process STP payment data and produce ANSI 820 from ACH or EDI System	80%	Mon 2/2/04	Fri 5/27/05
144	Determine ability to process STP payment data and produce ANSI 820 from Cash Management or	80%	Mon 2/2/04	Fri 5/27/05
145	Determine ability to export STP X12 820 payment data from ACH System or EDI System	80%	Mon 2/2/04	Fri 5/27/05
146	Determine ability to export STP X12 820 payment data from Cash Management System or EDI Sys	80%	Mon 2/2/04	Fri 5/27/05
147	Determine ability to provide remittance reporting services for STP payment data	80%	Mon 2/2/04	Fri 5/27/05
148	Determine ability to produce flat file containing X12 820 data from ACH, CM, or EDI system	80%	Mon 2/2/04	Fri 5/27/05
149				
150	<b>Banks Implement changes necessary to process STP payments</b>	50%	Mon 10/4/04	Fri 12/2/05
151				
152	<b>Bank changes completed - enabled to accept and process STP payment data</b>	50%	Mon 12/5/05	Mon 12/5/05
153		0%	Mon 6/3/02	Mon 6/3/02
154	<b>Testing Phase for Bank partnerships with AP, AR, and Cash Management packages *1</b>	4%	Mon 3/7/05	Mon 3/5/07
155	<b>Define Test Environment</b>	48%	Mon 3/7/05	Mon 6/6/05
156	AP Test Environment	30%	Mon 3/7/05	Mon 6/6/05
157	AR Test Environment	30%	Mon 3/7/05	Mon 6/6/05
158	Bank Test Environment	30%	Mon 3/7/05	Mon 6/6/05
159	EPN Test Environment	100%	Mon 3/7/05	Mon 6/6/05
160	<b>Test all component interfaces</b>	0%	Mon 6/6/05	Mon 3/5/07
161	AP	0%	Mon 6/6/05	Fri 12/1/06
162	AR	0%	Mon 6/6/05	Mon 3/5/07

ID	Task Name	% Complete	Start	Finish
163	ACH system	0%	Mon 6/6/05	Mon 3/5/07
164	Cash Management processes	0%	Mon 6/6/05	Mon 3/5/07
165	Track STP Test Phase progress	0%	Mon 6/6/05	Mon 3/5/07
166	Report STP Test Phase progress to Banks	0%	Mon 6/6/05	Mon 3/5/07
167				
168	<b>Test Phase completed</b>	0%	Mon 6/5/06	Mon 6/5/06
169				
170	<b>Rollout of STP</b>	50%	Thu 4/1/04	Fri 2/1/08
171				
172	<b>Future Initiatives / Industry Direction *2</b>	<b>11%</b>	<b>Fri 2/20/04</b>	<b>Mon 12/19/05</b>
173	<b>Determine XML standard to be used for Account Payables output, and Account Receivabl</b>	<b>13%</b>	<b>Fri 2/20/04</b>	<b>Mon 12/19/05</b>
174	Review current/future XML STP initiatives with Bits, NACHA and AFP	70%	Fri 2/20/04	Mon 4/25/05
175	<b>Review current XML Standards</b>	<b>0%</b>	<b>Mon 2/7/05</b>	<b>Mon 12/19/05</b>
176	Determine XML Standard for transport of STP payment data	0%	Mon 2/7/05	Mon 12/19/05
177	Determine XML Standard for STP payment with remittance information	0%	Mon 2/7/05	Mon 12/19/05
178	Create XML Payment document	0%	Mon 2/7/05	Mon 12/19/05
179	Review XML Payment Document with Banks	0%	Mon 2/7/05	Mon 12/19/05
180	Banks agree upon XML standard for STP payment data	0%	Mon 2/7/05	Mon 12/19/05
181	Finalize XML Payment document	0%	Mon 2/7/05	Mon 12/19/05
182	<b>Publish XML payment specifications document</b>	0%	Mon 2/7/05	Mon 12/19/05
183				
184	Note *1 Software providers have been working individually testing with their banks to implement the STP 8	0%	Fri 2/1/08	Fri 2/1/08
185	Note *2 as of Feb 2008 there is no prevailing XML standard and XML can not flow in the ACH	0%	Fri 2/1/08	Fri 2/1/08